



53C13SE0053 2.13664 SETTING NET LAKE

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2.13664

BERENS RIVER EAST PROPERTY

Diamond Drill Logs

**Diamond Drill Log - Exploration**

HOLE NO.	BRE-90-01
CLAIM	KRL 944106
GRID	L14+00E, 10+77N
NTS.	53 C/13
LOGGED BY	C. Suchanek

PROPERTY	Berens River East
ANOM./ZONE	I.P. #1
LATITUDE	Not Surveyed
DEPARTURE	Not Surveyed
ELEVATION	Approx. 280 m
CORE SIZE	B.Q.

DEPTH	151.2 m
ASSAY FOR	Au
ASSAY UNITS	oz/t. and g/t
STARTED	June 02, 1990
COMPLETED	June 03, 1990

TESTS		
DEPTH	AZIM.	ANGLE
COLLAR	180°	-45°
76	-	-41°
149	-	-32°

COMMENTS To test I.P. Anomaly #1 and green mica zone outcropping at surface. I.P. responds to Felsic Debris Flow containing up to 5% pyrite in the matrix.

FROM	TO	RECOVERY (%)	ROCK AND DESCRIPTION
0.0	1.35		Casing
1.35	1.51		Biotite Granite Boulder
1.51	21.11	100	Felsic to Intermediate Tuff

STRUCTURE TO C.A.	MINERALIZATION (%)	ALTERATION
		W-Weak
		M-Moderate
		S-Strong

Fol. - 65°

A light to medium grey, fine to medium grained unit which is largely tuffaceous in character. A general fining from lapilli sized fragments to ash occurs toward lower contact with local lapilli sized sections throughout. Lapilli are defined by angular to rounded grey to blue quartz and altered felspar fragments. More felsic intercalations occur locally and finely bedded generally thin, intercalations occur near the top of the hole. Narrow fuchsitic bands occur in association with the more felsic intercalations. A large silicified zone occurs near the lower contact with local hematitic alteration. Finely banded, narrow argillaceous beds occur near the top of the hole with two significant beds occurring from 2.82-3.26 and 6.0-6.67. Upper and lower contacts are sharp in the former and gradational in the latter.

The following represent subdivisions of the main unit:

Felsic Tuff:

- 7.5 - 9.2 - a crudely bedded medium grained intercalation displaying irregular fine grained bands locally. Minor chlorite infills fine fractures.
- 10.74 - 11.43 - a finely banded locally apple green (fuchsitic) fine to medium grained section. Rare narrow siliceous hematitic bands.
- 12.65 - 13.67 - a poorly bedded medium grained, locally fuchsitic, section with local highly siliceous sections.

Fsh-W

Fsh-W

Sil-S

(local)

FROM	TO	RECOVERY (%)	ROCK AND DESCRIPTION	STRUCTURE TO C.A.	MINERALIZATION (%)	ALTERATION W-Weak M-Moderate S-Strong
	14.68 - 15.34		a moderately well bedded unit showing fining from lapilli to finely laminated ash toward lower contact. Section is locally fuchsitic and shows a hematitic to buff coloured layer near lower contact.			Fsh-W Sil-W
			<u>Silicified Zone</u>			
	16.1 - 20.4		a zone showing weak diffuse silicification along irregular cracks and fractures to wholesale silicification of the host. Semi-massive, 1-3 mm pyrite bands occur from 18.34-18.41 where pyrite is fine to medium grained. Above and below this section moderate fuchsitic alteration occurs over several cm's. Fuchsitic alteration also shows moderate development toward lower contact. Trace pyrite and arsenopyrite are associated with the intensely silicified zones from 18.06-18.22 and 19.10-19.40.			Sil-W-S Fsh-W-M Hem-W
			1-5 mm pyrite bands occur conformably from 13.81-13.83 with minor fuchsitic wisps at the hanging wall.			
21.11	42.34	100	<b>Felsic Volcanic</b>		Fol-65°-70°	
			A predominantly, light grey fine to medium grained unit with numerous intercalations of more intermediate material, fuchsitic zones and silicified zones. Near the upper contact the unit shows massive flow characteristics with sharp contacted narrow intermediate tuff intercalations. Flow banding occurs in felsics from 24.1-24.3 where undulating bands are defined by narrow interbanded dark chloritic material. Further downhole, textures become obscured by silicification and fuchsitic alteration. Two competent sections of very light grey intercalations appear to represent coarse welded fragmental felsic unit with minor felsic matrix from 30.75-31.98 and 36.78-37.2 respectively. Fragment boundaries appear to co-alesce in some areas. Fragments are angular to rounded and range from lapilli size to > 2 cm. Felsic to intermediate tuffaceous horizons envelop these fragmental units over approx. 1.0 m at their contacts.			
			<u>Silicified Zone</u>			
	25.05 - 28.0		A zone of moderate grey silicification showing moderate fuchsitic alteration within 0.5 m of either contacts. Minor fuchsitic partings occur throughout.			Sil-M Fsh-W
	33.01 - 36.50		A zone of moderate to strong grey silicification locally containing rounded quartz fragments with diffuse boundaries. Weak fuchsitic alteration occurs over 1.0 m of upper contact while lower contact shows more intense fuchsite over 0.5 m.			Sil-M-S Fsh-W

FROM	TO	RECOVERY (%)	ROCK AND DESCRIPTION	STRUCTURE TO C.A.	MINERALIZATION (%)	ALTERATION W-Weak M-Moderate S-Strong
			<u>Fuchsitic Zone</u>			
			37.36 - 37.53 - finely laminated zone of sericite quartz and fuchsite with sharp contacts at 45° to c.a.			Fsh-W
			37.83 - 38.37 - as above			
			39.68 - 39.84 - as above			
42.34	46.83	100	<b>Heterolithic Felsic Debris Flow</b>			
			<p>A distinctive dark grey-green unit containing abundant coarse flattened, rounded to angular fragments of grey cherty quartz; felsic volcanic and cherty beige material within a fine grained chloritic matrix. Fragmental debris ranges in size from lapilli size to sizes exceeding core diameter. Fragments are fairly tightly packed and show local aberrations in orientation of their generally uniform stratification.</p> <p>Unit shows up to 5% fine to medium grained pyrite in the matrix in association with chlorite. This is likely the cause of the I.P. anomaly. Local trace fine to medium grained arsenopyrite and chalcopyrite also occur.</p> <p>Medium grained opalescent blue quartz eyes occur locally in the unit. Local narrow tuffaceous interbeds occur randomly which define fabric at 80° to c.a.</p> <p>Upper contact is gradational over 10 cm while lower contact is sharp where a fine grained argillaceous bed extends for 10 cm which interfingers with lower unit over 2 cm.</p>	Fol-80° (tuff interbeds)	Py-5%	
46.83	54.52	100	<b>Heterolithic Felsic Flow Breccia</b>			
			<p>A medium to coarse grained grey green unit commonly displaying a massive texture with an abundance of rounded to angular dark grey quartz fragments with lesser amounts of commonly stretched beige cherty and felsic fragments. Tight packing of these fragments occur locally. The matrix varies from fine to medium grained and is quartz rich with lesser amounts of sericite and local chlorite with rare flecks of fuchsite. 1-3% fine grained pyrite is commonly associated with sections containing an increase in fragment abundance. Fine chloritic fractures occur locally, commonly at low angles to c.a. Smeared fracture plane pyrite also occurs locally.</p>		Py-1-3%	
54.52	61.7	100	<b>Felsic to Intermediate Flow</b>			
			<p>A massive medium grained light green-grey unit containing several sections of interflow fine grained mafic sediment bearing scattered medium-grained garnets. Interflow sediment occurs from 54.52-55.20, 57.0-57.32 and 57.9-58.09. Lower contact is silicified over 20 cm culminating in massive pyrrhotite mineralization at the contact.</p>	Fol-65° (interflows)		

FROM	TO	RECOVERY (%)	ROCK AND DESCRIPTION	STRUCTURE TO C.A.	MINERALIZATION (%)	ALTERATION
						W-Weak M-Moderate S-Strong
61.7	65.6	98	<b>Argillite</b>  A very fine grained, dark grey, thinly bedded unit of alternating medium to dark grey well defined beds which range in thickness from 1-5 mm. At 64.82, delicate flame structures occur which indicate tops up-hole. Massive pyrrhotite mineralization is associated with minor grey-white quartz flooding from 64.15-64.20 and at lower contact. Lower contact shows ground core.	Fol-50°		
65.6	151.2	100	<b>Massive Mafic Volcanic</b>  An extensive, dominantly massive fine to medium grained unit which becomes subtly more mafic toward the end of the hole. Narrow tuffaceous horizons are scattered throughout the unit. Quartz-carbonate infilled fractures are ubiquitous throughout with increasing intensity toward the end of the hole. Epidote occurs rarely with quartz-carbonate. Large accidental fragments of quartz and felsic volcanic are scattered very locally in unit. A bull white quartz vein is saddled in the core (i.e. low core angle) from 81.42-82.65. A zone of brecciation at 20° to c.a. occurs from 113.3-114.63 where quartz-carbonate flooding exhibits a hydrofracturing character. Acicular actinolite occurs locally near upper contact in narrow tuff interbeds. Indication of pillow basalt is suggested by the occurrence of hyaloclastite from 132.1-132.3. Medium grained garnet occurs within muddy interflows toward end of hole.			
END OF HOLE 151.2 M						

**Diamond Drill Log - Exploration**

HOLE NO.	BRE-90-02
CLAIM	KRL-944110
GRID	L28+00E, 6+58N
N.T.S.	53 C/13
LOGGED BY	C. Suchanek

PROPERTY	Berens River East
ANOM./ZONE	I.P. #4
LATITUDE	Not Surveyed
DEPARTURE	Not Surveyed
ELEVATION	Approx. 290 m
CORE SIZE	B.Q.

DEPTH	161.87
ASSAY FOR	Au
ASSAY UNITS	oz/ton and g/t
STARTED	June 4, 1990
COMPLETED	June 5, 1990

TESTS		
DEPTH	AZIM.	ANGLE
COLLAR	180°	-45°
76	-	-38°
152	-	-37°

COMMENTS To test I.P. Anomaly #4 which did not represent a strong I.P. response. A suitable explanation for this anomaly was not realized in core while talc alteration was widespread in lower portion of hole.

FROM	TO	RECOVERY (%)	ROCK AND DESCRIPTION
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ALTERATION
W-Weak
M-Moderate
S-Strong

0.0	2.29		Casing
2.29	10.82	100	Felsic to Intermediate Flow

A medium grey generally fine grained massive unit displaying strong grey silicification at the top of the hole (2.29 - 3.54) with an associated 2-3% very fine grained disseminated pyrite. Remainder of unit contains tr-1% fine grained disseminated pyrite. Patches of sericite alteration and diffuse quartz stringers occur locally. Two brecciated zones with quartz-carbonate matrix occur from 9.55-9.67 and 10.56-10.76.

Fol-50°  
(sericite partings) Py-Tr-1%

10.82	16.38	100	Intermediate to Mafic Tuff
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A fine to medium grained grey-green unit displaying a crude fabric of diffuse bedding with several narrow intercalations of felsic tuff with commonly non planar erratic interbed contacts. Unit is locally erratically folded without any apparent sense of folding. Quartz-carbonate stringers are common in unit, particularly near felsic intercalations.

Fol-65° Qtz-cc-M

16.38	19.38	100	Silicified Felsic Volcanic
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A moderately silicified light green to light grey unit which shows local brecciation. Light green sections show weak to moderate sericite development. Silicification is light to medium grey in colour. Trace fine grained pyrite occurs at lower contact.

Sil-M  
Ser-W

FROM	TO	RECOVERY (%)	ROCK AND DESCRIPTION	STRUCTURE TO C.A.	MINERALIZATION (%)	ALTERATION W-Weak M-Moderate S-Strong
19.38	27.2	100	<b>Intermediate to Felsic Tuff</b>  A green to grey medium green, fine to medium grained unit which shows silicified, sericitized sections near upper contact with minor fuchsite which yields to a hybrid mixture of carbonatized intermediate tuff with erratic biotitic, chloritic wisps and interlayers. Local rounded to angular mafic fragments occur in this hybrid zone. Unit may be a mafic fragmental unit with a highly altered matrix.	Fol-65 <sup>o</sup>		Sil-M Ser-M CC-M
27.2	59.8	100	<b>Felsic Flow</b>  A predominantly massive fine to medium grained light grey unit containing several narrow sericitized and/or silicified zones. One significant zone at silicification occurs from 38.09-42.63 where a dull grey-brown colour is displayed. This zone shows 1-2% fine grained disseminated pyrite. Acicular blades of dark green to black actinolite occur locally. Upper contact shows quartz-carbonate inflooded brecciation over 1.5m. Vitreous flecks of white mica occur commonly near upper contact. Minor biotitic wisps occur throughout. One section showing a slightly darker grey colour is highly magnetic from 57.0-58.0. Trace-1% very fine grained disseminated pyrite occurs enveloping this section over 0.5m. 5% fine grained pyrite occurs from 30.07-30.73.		Py-1-2%	
59.8	73.37	100	<b>Mafic Flow</b>  A predominantly massive fine to medium grained brown-green unit displaying local schistose tuffaceous interflows. The brownish colouration is imparted by an abundance of biotite in the unit. Local fine to medium grained garnetiferous sections occur. Quartz-carbonate xenoliths and stringers occur locally. Trace pyrite aggregates occur locally.	Fol-60 <sup>o</sup>	Py-Tr	Gt-M Bte-M Qtz-cc-W
73.73	107.0	100	<b>Talc-Carbonate Schist</b>  A predominantly massive medium to light grey, fine to medium grained unit which is randomly riddled with coarse grained talcose and calcitic zones. Acicular actinolite is scattered randomly adjacent to these sections. Clots and patches of biotite and chlorite occur in the centre of the unit. Minor fine grained pyrite occurs locally throughout.	Fol-60 <sup>o</sup>		Tc-S cc-S

FROM	TO	RECOVERY (%)	ROCK AND DESCRIPTION	STRUCTURE TO C.A.	MINERALIZATION (%)	ALTERATION W-Weak M-Moderate S-Strong
107.0	108.54	98	<p><b>Coarse Talc-Carbonate Schist</b></p> <p>A coarse grained mottled grey-green unit containing an appreciable amount of coarse grained talc (10%) with the remainder of the unit comprising 40% euhedral plagioclase, 45% fine grained quartz, and accessory biotite (5%). Talcose sections occur as patches of grey within the unit. Upper contact is ground while lower contact is erratically defined by a thin chloritic suturing seam.</p>			Tc-S
108.54	137.86	99	<p><b>Talc-Carbonate Schist</b></p> <p>An extensive light to medium gray, medium grained, mottled, generally massive unit containing numerous transitional darker grey talcose zones while entire unit contains some amount of talc (2-5%). Within 1.0 m of upper contact, several narrow coarse grained bodies of above intrusive occur.</p> <p>This unit may in fact be of intrusive origin however, it shows transitional contact relationships as well as sharp ones. Toward lower contact, quartz-feldspar veinlets and rounded fragments are common.</p>			Tc-S
137.86	141.76	100	<p><b>Mafic Dyke</b></p> <p>A medium grained dark grey homogenous mafic with sharp chilled contacts over 10 cm. Contacts occur at 70° to c.a. Unit is non-magnetic. Rounded to angular medium grained porphyritic plagioclase occurs in the centre of the unit.</p>			
141.76	161.87	99	<p><b>Talc-Carbonate Schist</b></p> <p>Same as unit 108.54 - 137.86.</p> <p>Unit shows an increased abundance of quartz-feldspar veinlets and rounded fragments. A transition to a darker unit occurs from 151.30 to 156.3 where both contacts are transitional. Large rounded more intermediate fragments occur locally in this unit suggesting a flow rock containing rounded debris. Ground core (1.0 ft.) starting 156.3.</p>			
END OF HOLE 161.87						



**Diamond Drill Log - Exploration**

HOLE NO.	BRE-90-03
CLAIM	KRL-944113
GRID	L29+00E, 2+00N
NTS	53 C/13
LOGGED BY	C. Suchanek

PROPERTY	Berens River East
ANOM./ZONE	I.P. #6
LATITUDE	Not Surveyed
DEPARTURE	Not Surveyed
ELEVATION	approx. 320 m
CORE SIZE	B.Q.

DEPTH	151.18
ASSAY FOR	Au
ASSAY UNITS	oz/ton and g/t
STARTED	June 6, 1990
COMPLETED	June 7, 1990

TESTS		
DEPTH	AZIM.	ANGLE
COLLAR	180°	-45°
76	-	-43°
150	195°	-36°

COMMENTS Test I.P. Anomaly #6 which corresponds oxide facies iron formation containing 5-10% pyrrhotite and trace pyrite.

FROM	TO	RECOVERY (%)	ROCK AND DESCRIPTION
0.0	9.2		Casing
9.2	21.40	100	Banded Mafic Tuff
21.40	30.93	100	Iron Formation

A generally fine grained, banded, grey-green unit where bands of alternating light grey and darker grey-green ash range from 1mm to 1cm in thickness. White to grey qtz eyes/boudins occur locally as medium to coarse grained. Fine grained pyrite bands (1-2 mm) occur from 18.34-18.50. Numerous narrow brecciated white-grey brecciated quartz stringers and veinlets occur, particularly near lower contact. Narrow 1-5 mm magnetite bands occur infrequently within the unit.

A highly magnetic, diffusely to well banded, generally fine grained unit within local coarse grained garnet accumulations and sporadic stretched cobbles of cherty quartz. Magnetic minerals comprise mainly magnetite (20-30%) which occur as fine grained bands of 1mm-1cm while pyrrhotite occurs as fine grained disseminations and 1-5 mm bands throughout (5-10%). Minor fine grained pyrite is associated with pyrrhotite. The matrix to the unit comprises predominantly muddy mafic material with local quartz rich layers while chert is virtually absent with the exception of the cobbles.

A massive fine-grained mafic unit occurs from 24.8-25.61. Minor quartz-carbonate (cc) bands develop toward lower contact where banding becomes more diffuse.

*[Signature]*

STRUCTURE TO C.A.	MINERALIZATION (%)	ALTERATION
		W-Weak
		M-Moderate
		S-Strong

Fol-70°

Fol-70°

Mt-20-30%  
Po-5-10%  
Py-tr

FROM	TO	RECOVERY (%)	ROCK AND DESCRIPTION	STRUCTURE TO C.A.	MINERALIZATION (%)	ALTERATION W-Weak M-Moderate S-Strong
30.93	43.8	100	<b>Banded Mafic Tuff</b>  A generally banded grey-green fine-grained unit commonly containing fine grained xenoblastic to coarse grained subidioblastic garnets throughout. Mafic tuff bands range from mm's to several cm's and are commonly interbanded within narrow more quartz-rich grey bands. Narrow magnetite rich bands occur very locally. A moderately grey cherty zone occurs from 32.0-32.75. A narrow felsic tuff intercalation occurs from 37.3-37.61 where both contacts are transitional over several cm's.  Unit shows widespread alteration to biotite and lesser chlorite. Pyrrhotite is dominantly restricted to smeared sheets along infrequent fractures while minor disseminated pyrrhotite occurs as fine grained disseminations throughout. Very narrow thin discontinuous trains of fine grained pyrite are noted in a well banded section from 38.25-38.31. Lenticular felsic fragments occur locally within unit. Unit becomes increasingly chloritic toward lower contact.	Fol-65 <sup>0</sup>	Po-minor Py-trace	
43.8	45.20	100	<b>Felsic Tuff</b>  A fine grained, thinly banded, light grey unit containing local pyrite-garnet bearing narrow interbands. Both contacts are transitional.	Fol-70 <sup>0</sup>		
45.20	49.07	95	<b>Mafic Tuff</b>  A fine grained diffusely to moderately banded grey-green to brown green unit where brownish sections represent muddy sections altered to biotite. Medium grained sub-idioblastic garnet is associated with these sections. Unit shows narrow interbeds of fine grained grey felsic tuff mainly near upper contact. Local fractured blocky sections are responsible for reduced core recovery.			
49.07	52.44	95	<b>Intermediate to Felsic Volcanic</b>  A fine grained, massive to diffusely banded, light to medium grey unit containing local narrow garnetiferous mafic intercalations. Weak, grey silicification occurs locally in unit. Minor pyrite is scattered throughout unit.	Fol-65 <sup>0</sup>	Py-trace	Sil-W
52.44	56.62	100	<b>Mafic to Intermediate Volcanic</b>  A fine grained, massive to banded grey to brownish-green unit containing local intercalations of highly banded lower unit. Massive portions likely represent fine grained flows since contacts with banded sections are sharp.	Fol-65 <sup>0</sup>		

FROM	TO	RECOVERY (%)	ROCK AND DESCRIPTION	STRUCTURE TO C.A.	MINERALIZATION (%)	ALTERATION W-Weak M-Moderate S-Strong
56.62	81.50	97	<b>Talc-Carbonate Schist</b>  <p>An extensive polymorphic unit displaying narrow leucocratic to melanocratic banding throughout giving the unit almost a gneissic appearance. Leucocratic bands are commonly fine grained, talcose calcitic bands commonly revealing coarse fibrous amphibole (actinolite). Melanocratic bands are generally biotitic giving an overall brownish tinge to these bands showing local fibrous actinolite. Some of the banding may represent stretched fragments since discontinuity occurs locally or this may simply be a function of deformation.</p> <p>Unit is highly schistose breaking commonly into narrow slivers which accounts for reduced core recovery as some of these slivers were ground.</p> <p>Lower contact is transitional over 30 cm into next unit.</p>	Fol-60 <sup>0</sup>		
81.5	100.76	100	<b>Massive Mafic Flow</b>  <p>A predominantly massive fine to medium grained grey-green unit containing narrow tuffaceous interflows near upper and lower contacts. Biotitic fragments parallel to fabric occur commonly in the centre of the unit. Narrow quartz carbonate (cc) stringers occur as interfolial and fracture filling. 5% fine grained cpy is associated with these stringers at 90.7.</p>	Fol-65 <sup>0</sup>	Cpy-Tr	Qtz-cc stringers-W
100.76	102.20	100	<b>Silicified Quartz Porphyry</b>  <p>A light to medium grey silicified unit containing medium grained to coarse grained rounded to angular Qtz phenocrysts in a fine grained matrix of dominantly grey quartz and light green chlorite.</p>	Ctc-80 <sup>0</sup>		Sil-S
102.2	106.75	100	<b>Mafic Tuff</b>  <p>A finely diffusely banded fine grained green unit comprising narrow medium grey and darker green-grey bands with local narrow Qtz rich bands. Mineralogy is mainly chlorite and biotite. Narrow interfolial Qtz-carb (cc) occur minorly throughout.</p>	Fol-70 <sup>0</sup>		Qtz-cc stringers-W
106.75	113.30	100	<b>Quartz Porphyry</b>  <p>A medium to dark grey unit displaying rounded to angular medium to coarse grained white Qtz phenocrysts abundantly throughout unit in a fine grained chloritic siliceous matrix. Unit may represent an extrusive porphyry since contacts are gradational over several cm's and narrow</p>	Ctc-75 <sup>0</sup>		Qtz-cc stringers-W

FROM	TO	RECOVERY (%)	ROCK AND DESCRIPTION	STRUCTURE TO C.A.	MINERALIZATION (%)	ALTERATION W-Weak M-Moderate S-Strong
			fine grained chloritic intercalations occur locally which may be tuffaceous horizons or alternatively sheared equivalents of the porphyry. Stretched medium grained fragments of mica (chlorite) occur in the matrix throughout the unit. Qtz-carb (cc) stringers occur randomly in unit.			
113.3	126.07	100	<b>Mafic Tuff</b>  The typical fine grained finely to diffusely banded green-grey mafic tuff unit. A subtle intermediate tuff component occurs throughout. Qtz-carb (cc) stringers occur rarely. The mica component of the unit is dominantly green chlorite.	Fol-85°		
126.07	129.64	100	<b>Silicified, Quartz Porphyry</b>  A light to medium grey silicified unit similar to the Quartz Porphyry from 100.76-102.0 in that the matrix is silicified and locally chloritic however the density of qtz phenocrysts is somewhat less. Toward the lower contact, the development of stretched chloritic fragments occur imparting a schistose fabric. Minor sericite development occurs locally.	Ctc-85°		Sil-S Ser-W
129.64	151.22	100	<b>Mafic Volcanic Flow</b>  A fine to medium grained generally massive grey-green monotonous unit which is only disrupted by the occurrence of small pillows from 145.52-145.62. The small size of these pillows shows tops downhole indicating an overturned sequence. Additional selvages or hyaloclastite in the unit is not readily apparent. Minor stretched chlorite fragments occur locally in the unit. Tuffaceous interflow material occurs toward the end of the hole. Randomly oriented qtz-carb (cc) stringers infill fractures locally.	Fol-80°		

END OF HOLE - 151.22

**Diamond Drill Log - Exploration**

HOLE NO.	BRE-90-04
CLAIM	KRL 943999
GRID	L44+00E, 0+30S
NTS.	53 C/13
LOGGED BY	C. Suchanek

PROPERTY	Berens River East
ANOM./ZONE	I.P. #8
LATITUDE	Not Surveyed
DEPARTURE	Not Surveyed
ELEVATION	Approx. 300 m
CORE SIZE	B.O.

DEPTH	151.22
ASSAY FOR	Au
ASSAY UNITS	oz/ton and g/t
STARTED	June 8, 1990
COMPLETED	June 9, 1990

TESTS		
DEPTH	AZIM.	ANGLE
COLLAR	192°	-45°
76	-	-41°
150	185°	-38°

COMMENTS Test I.P. Anomaly #8 which corresponds to sulfide facies iron formation containing 10-20% pyrrhotite. A second oxide facies iron formation was intersected which corresponds to unit uncovered at surface by C.J. Bradbrook.

ALTERATION  
W-Weak  
M-Moderate  
S-Strong

FROM	TO	RECOVERY (%)	ROCK AND DESCRIPTION
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STRUCTURE TO C.A.	MINERALIZATION (%)
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0.0	1.27		Casing
1.27	21.23	100	Massive Amphibolitized Mafic Flow

A massive medium to coarse grained dark-grey-green unit showing numerous sections of coarse grained subidiomorphic hornblende. Unit shows moderate qtz-carb (cc) flooding near top of hole as randomly oriented stringers. A discrete glassy qtz vein containing trace fine grained pyrite occurs from 12.47-12.63. The vein shows chloritic fractures.

5% medium grained py occurs at 17.30 while a narrow seam of massive cpy with lesser po and py occurs at 17.47.

A narrow fine grained section contained stretched rounded grey qtz clasts occurs from 16.16-16.22.

The unit shows a biotitic component locally. Fine grained disseminated po develops to 1% toward lower contact.

21.23	25.72	98	Banded Iron Formation
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A discretely banded dark to light grey unit which is fine grained and highly magnetic. Light bands comprise qtz rich felsic material but not chert while dark bands comprise muddy chloritic material commonly hosting garnet porphyroblasts. Banding ranges from mm's to 2 cm's. Dragfolding occurs minorly locally and reworking is locally evidenced by micro unconformities truncating banding.

Upper 0.5 m of unit shows qtz-carb (cc) banding.

Massive po accumulations occur at 22.23, 22.27, 22.98-23.05, 23.20, 23.76, 25.36, 25.45, 25.57. These massive accumulations appear to be largely fracture filling (remobilized) while the unit as a whole contains abundant fine grained disseminated pyrrhotite. Magnetite occurs as very fine grains within the muddy layers. Coarse grained arsenopyrite subhedra is scattered from 23.13 to 23.30 (1%).

Po-10-20%  
Mt-5%  
Asp-Tr  
Py-Tr

FROM	TO	RECOVERY (%)	ROCK AND DESCRIPTION	STRUCTURE TO C.A.	MINERALIZATION (%)	ALTERATION W-Weak M-Moderate S-Strong
			Fine grained pyrite occurs as subordinate amounts to pyrrhotite (tr-1%) as part of the massive pyrrhotite sections.			
25.72	27.21	100	<b>Mafic Tuff</b>  A fine grained grey-green unit displaying diffuse banding. Brecciated magnetite seams containing 2% medium grained pyrrhotite occur from 26.80-29.21. Lower contact is gradational in following unit over 0.5 m.	Fol.-80°		Mt-seams with Po
27.21	37.27	100	<b>Massive Amphibolitized Mafic Flow</b>  Same as unit from 1.27-21.23 with a marked increase in pyrrhotite (3-5%) which occurs as fine grained disseminations and local massive patches and stringers commonly but not exclusively associated with qtz-carb (cc) stringers and patches. Fine grained pyrite occurs as disseminations up to 1%. Accessory magnetite is suspected in some sections where pyrrhotite is absent since magnetic attraction occurs yet the abundance of dark amphibole obscures exact identification of magnetite.  Two narrow glassy smoky qtz veins occur from 29.47-29.55 and 29.63-29.71. Veins occur at 80° to c.a. Trace cpy is associated with the host proximal to these veins. Minor cpy is associated with pyrrhotite locally.  Fibrous amphibole (actinolite?) is locally associated with po-rich section associated with qtz-carb.			Po-3-5% Py-tr
37.27	43.75	100	<b>Mafic Tuff Interbedded with Iron Formation</b>  A generally banded fine grained light to dark green unit where lighter bands represent narrow magnetic po-py rich bands of iron formation while darker bands represent muddy biotitic-chloritic, locally garnet-bearing material. Evidence of folding occurs from 41.0-41.6 where ellipsoidal fold noses show axial traces at 65° to c.a. Fractures parallel to these traces show minor offset locally ranging from 1 cm to > core diameter.			
43.75	51.50	100	<b>Banded Iron Formation</b>  A well banded highly folded light to dark grey-green unit reminiscent of the iron formation interbands in the above unit. The majority of the bands are magnetic comprising fine grained magnetite (20%) and pyrrhotite (10%). Muddy garnet bearing chloritic interbeds occur locally which are generally non-magnetic. Discernable ellipsoidal fold noses show axial traces at	Fol-75° Axial Trace of Folds 10-20°	Mt-20% Po-10%	Gt-M Bte-S Chl-S

FROM	TO	RECOVERY (%)	ROCK AND DESCRIPTION	STRUCTURE TO C.A.	MINERALIZATION (%)	ALTERATION W-Weak M-Moderate S-Strong
			<p>10-20° to c.a. however fractures ranging from 70 to 90° to c.a. chop up these fold noses. Unit becomes magnetite-pyrrhotite lean toward lower contact.</p> <p>Light grey bands appear to represent qtz-rich felsic material while minor chert occurs toward lower contact.</p>			
51.50	71.00	100	<p><b>Mafic Tuff</b></p> <p>A fine grained dark grey to brownish green unit which displays a subtle bedded fabric locally throughout. Unit shows slightly more intermediate composition over 1.0 m from upper contact. One section shows abundant interfolial narrow qtz-carb (cc) (54.90-56.0) while narrow stringers and patches occur locally elsewhere in the unit.</p> <p>Massive pyrrhotite is associated with a narrow qtz-vein at 66.70.</p> <p>2% coarse grained pyrite is associated with a fracture at 70.87.</p> <p>Trace fine grained pyrite occurs throughout the unit. Chlorite and biotite are the dominant micas.</p>	Fol-70°	Py-Tr	Qtz-cc-W Bte Chl
71.0	123.4	100	<p><b>Pillow Basalt</b></p> <p>An extensive fine to medium grained dark grey-green unit displaying fine grained pillow selvages ranging from 2-5 cm wide. The unit shows moderate to intense qtz-carb (cc) flooding where locally the injection has brecciated the host, incorporating angular mafic fragments. Locally the qtz-carb occurs as stretched lapilli sized fragments associated with stretched qtz-eyes. Biotitic alteration is common adjacent to pillow selvages. The size of the selvages and their distribution suggest large 0.5 to 1.0 m pillows (in short direction).</p> <p>Unit appears to grade into a pillow breccia toward lower contact as indicated by fragmented mafic debris and selvages.</p> <p>Medium grained disseminated pyrite occurs from 113.52-113.62.</p>			Qtz-cc-S Bte-M
123.4	132.37	100	<p><b>Massive Mafic Flow with Muddy Interflows</b></p> <p>An intercalated sequence of fine grained massive grey-green flows with fine grained dull green, coarse garnet bearing interflow muddy sediment. Minor flow breccia occurs locally. Unit shows minor stringers and patches of qtz carb (cc) primarily in flow rocks. Tr fine to medium grained pyrite occurs throughout both units.</p> <p>A felsic lapilli tuff intercalation occurs from 131.72-131.90.</p>	Fol-80°	Py-tr	Qtz-cc-W Gt-W

FROM	TO	RECOVERY (%)	ROCK AND DESCRIPTION	STRUCTURE TO C.A.	MINERALIZATION (%)	ALTERATION W-Weak M-Moderate S-Strong
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132.37    151.22    100

**Massive Mafic Flow**

A massive fine grained grey-green unit which is essentially identical to the above unit with the absence of interflow material. Narrow zones of brecciated fragments may represent flow breccia. An intense zone of qtz-carb (cc) flooding occurs from 142.07 to 144.42. This zone shows local coarse grained amphibole development and 2-3% medium grained pyrite. Elsewhere in the unit qtz-carb (cc) occur locally as randomly oriented stringers and fracture fills.

END OF HOLE - 151.22



**Diamond Drill Log - Exploration**Hole No.: BRE-90-05Page 1 of 3Measured In — Feet  Meters 

HOLE NO.	BRE-90-05
CLAIM	KRL 944113
GRID	L30+00E, 1+70N
N.T.S.	52 C/13
LOGGED BY	C. Suchanek

PROPERTY	Berens River East
ANOM./ZONE	I.P. #6
LATITUDE	Not Surveyed
DEPARTURE	Not Surveyed
ELEVATION	Approx. 320 m
CORE SIZE	B.Q.

DEPTH	120.73 m
ASSAY FOR	Au
ASSAY UNITS	oz/ton and g/t
STARTED	June 10, 1990
COMPLETED	June 11, 1990

TESTS		
DEPTH	AZIM.	ANGLE
COLLAR	180°	-45°
22 casing	-	-45°
61	-	-43°
120	185°	-38°

COMMENTS Test east extension of I.P. anomaly #6. Significant overburden (20.2 m) caused the hole to collar in the zone of sulfide iron formation containing 30% pyrrhotite. 1-3% arsenopyrite develops toward lower contact.

ALTERATION  
W-Weak  
M-Moderate  
S-Strong

FROM	TO	RECOVERY (%)	ROCK AND DESCRIPTION
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STRUCTURE TO C.A.	MINERALIZATION (%)
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0.0	19.38		Casing
19.38	20.20	50	Granodiorite Boulder and assorted glacial debris
20.20	27.02	100	Sulphide Iron Formation

A medium to light grey fine grained banded unit containing abundant pyrrhotite as semi-massive to massive bands where the most notable occur within the upper metre of the hole. Minor fine to medium grained pyrite occurs in tr-1% amounts associated with the pyrrhotite. Intersulfide bands comprise predominantly grey chert which appears to have been recrystallized to some degree. A dull green mica (altered greenalite) crosscuts these cherty interbands locally. Magnetite occurs as thin bands as well as discrete medium grained subhedral crystals in chert. The unit becomes magnetite and pyrrhotite lean within 1.0 m of lower contact.

Fol-75°  
Po-30%  
Py-tr-1%  
Mt-7%

27.02	31.04	98	Talc-Carbonate Schist
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Talc-S

A medium grey to grey, fine to medium grained unit displaying abundant narrow white talcose partings throughout. This imparts a banded appearance through most of the unit while locally lapilli sized fragments of qtz and talc occur. Narrow bands of magnetite occur locally within the unit. Trace to 1% fine grained pyrite and pyrrhotite occur disseminated through the unit.

31.04	36.50	100	Sulfide Iron Formation
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This unit is similar to the iron formation from 20.20 - 27.02 while it shows a higher abundance of cherty bands and relative paucity of magnetite. Pyrrhotite again occurs as massive bands but

Fol-80°  
Po-15%  
Asp-1-3%  
Ser-W

FROM	TO	RECOVERY (%)	ROCK AND DESCRIPTION	STRUCTURE TO C.A.	MINERALIZATION (%)	ALTERATION W-Weak M-Moderate S-Strong
			<p>they are generally narrower (2mm to 1cm). Fine to medium grained arsenopyrite is commonly associated with pyrrhotite and also occurs as disseminated grains in chert locally reaching up to 10% but generally occurring from 1-3%. Where magnetite occurs, it is narrowly banded. Fine grained pyrite is associated with pyrrhotite reaching up to 2%.</p> <p>Local sericitic alteration occurs subtly with chert bands.</p> <p>Sulfide abundance yields to mainly pyrite over the last metre of the unit with an associated abundance of chert. Lower contact is marked by qtz carb (cc) flooding over 20 cm.</p>		<p>Mt-2% Py-tr-2%</p>	
36.5	46.67	98	<p><b>Muddy Mafic Tuff</b></p> <p>A generally fine grained green-brown unit displaying thin moderately developed banding. Local stretched cherty grey lapilli occur which may be boudinaged chert interbands since several are thinly connected. Similar qtz-carb(cc) lapilli/boudined stringers also occur in this unit. Unit shows biotitic and chloritic alteration.</p> <p>A narrow felsic fragmental occurs from 43.36-43.78. Trace fine-grained disseminated pyrite is scattered throughout unit.</p>	Fol-80°	Py-tr	<p>Bte-M Chl-M Qtz-cc-M</p>
46.67	57.16	100	<p><b>Banded Mafic Tuff</b></p> <p>Similar to above unit (36.5-46.67) with a general absence of the muddy component thus rendering a more grey green colour typical of the mafic tuff. The unit is well banded and shows a greater abundance of stretched qtz-carb (cc) lapilli/boudins. A felsic tuff, with sharp contacts occurs from 53.69-53.85. Pyrrhotite trains are commonly associated with qtz-carb (cc) stringers while its abundance seldom exceeds 1%.</p> <p>Biotite seams develop locally in unit. Medium grained garnet occurs rarely in localized bands.</p>	Fol-80°	Po-tr-1%	<p>Qtz-cc-S Bte-W Gt-W</p>
57.16	67.02	100	<p><b>Ferruginous Garnetiferous Mafic Tuff</b></p> <p>Again this unit is similar to above mafic tuff with the addition of abundant medium grained garnet scattered throughout as well as magnetite dominant bands with subordinate pyrrhotite. Garnet development disrupts banding clearly indicating its post-tectonic character. Narrow felsic bands occur locally. Qtz-carb (cc) stringers occur only locally in this unit.</p>	Fol-80°	<p>Mt-5% Po-1%</p>	Gt-S

FROM	TO	RECOVERY (%)	ROCK AND DESCRIPTION	STRUCTURE TO C.A.	MINERALIZATION (%)	ALTERATION
						W-Weak M-Moderate S-Strong
67.02	78.54	100	<b>Intermediate Flow</b>  A medium grey fine grained massive unit which shows a large transition zone at upper contact over several metres where above tuff is intercalated with unit. Massive portion of unit is homogeneous and mildly silicified. Fracture plane pyrite occurs locally. Qtz-carb (cc) is restricted to transition zone.			Sil-W
78.54	96.95	100	<b>Mafic to Intermediate Tuff</b>  A diffusely banded grey to grey-green, generally fine grained unit which transitions back and forth from mafic to intermediate composition. Grain size increases toward lower contact. Several narrow sucrosic unmineralized white qtz veins occur locally in the unit. A sharply contacted felsic intercalation (which may be intrusive) occurs conformably from 93.91 - 93.99. Unit becomes highly chloritic over 30 cm of lower contact.	Fol-85 <sup>o</sup>		
96.95	111.49	75	<b>Talc-Carbonate Schist</b>  The typically fine grained well banded medium grey-green unit displaying ubiquitous white talcose interbands. The unit shows moderate deformation represented by flexuring in banding. Highly ground core occurs from 109.9-111.23. This unit is comparable to that which occurs in hole BRE-90-03.	Fol-70 <sup>o</sup>		Tc-S
111.49	120.73	100	<b>Intermediate Tuff</b>  A fine to medium grained medium grey unit where fabric is defined by the parallel discontinuous alignment of mica (chlorite and minor sericite). Fracture filled qtz-carb (cc) occurs locally. A banded mafic tuff ends the hole from 120.12-120.73 where a narrow qtz stringer occurs from 120.33-120.73. Trace py occurs in this stringer.	Fol-80 <sup>o</sup>		
			END OF HOLE	120.73 M		



# Diamond Drill Log - Exploration

Hole No.: BRE-90-06

Page 1 of 2

Measured In — Feet  Meters

HOLE NO.	BRE-90-06
CLAIM	KRL-94113
GRID	L28+00E, 2+95N
N.T.S.	53 C/13
LOGGED BY	C. Suchanek

PROPERTY	Berens River East
ANOM./ZONE	I.P. #6
LATITUDE	Not Surveyed
DEPARTURE	Not Surveyed
ELEVATION	Approx. 300 m
CORE SIZE	B.Q.

DEPTH	108.54
ASSAY FOR	Au
ASSAY UNITS	oz/ton and g/t
STARTED	June 11, 1990
COMPLETED	June 12, 1990

TESTS		
DEPTH	AZIM.	ANGLE
COLLAR	180°	-45°
19 casing	-	-45°
53	-	-41°
110	184°	-39°

COMMENTS Test west extension of I.P. Anomaly #6 which corresponds to oxide facies iron formation containing pyrite (3-5%), pyrrhotite (3-5%), arsenopyrite (tr) and 1% sphalerite locally.

FROM	TO	RECOVERY (%)	ROCK AND DESCRIPTION
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0.0	18.63		Casing
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18.63	27.83	100	Intermediate to felsic Tuff
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A fine grained, medium to pale grey-green unit displaying diffusely banded to massive sections. The unit is moderately silicified and shows local sericitic fuchsitic sections. Local fine grained accumulations of pyrite, pyrrhotite ± magnetite occur disseminated in unit particularly in sericitic sections. Grey cherty cobbles occur rarely. Lower contact is transitional over 30 cm.

27.83	32.4	100	Garnetiferous Muddy Mafic Tuff (Transition Unit)
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A highly garnetiferous brown green, unit with intercalations of the above intermediate to felsic tuff unit rendering it a transitional package to the lower iron formation unit. Unit is generally well banded with disruption caused by the garnet porphyroblasts. Magnetite is commonly associated with these garnet accumulations. Pyrite and pyrrhotite are generally associated with int-felsic tuff bands in same manner as above unit. Stretched grey cherty fragments occur locally in garnet bearing sections.

32.4	40.93	100	Iron Formation
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A moderately to well banded fine grained grey to whitish unit where whitish bands are represented by qtz-rich (recrystallized chert) bands which were not observed in holes 90-03 nor 90-05. These bands tend to show co-existence of fine grained pyrite and pyrrhotite (3-5%) with coarser grained magnetite. The grey bands represent cherty magnetite rich bands which also contain pyrite and pyrrhotite (2-4%) and local coarse garnet porphyroblasts. Bands (1-3mm) of pyrite as well as

STRUCTURE TO C.A.	MINERALIZATION (%)	ALTERATION
		W-Weak M-Moderate S-Strong

Fol-65°	Py-tr	Sil-M
	Mt-tr	Ser-W
	Po-tr	Fsh-W

Fol-70°	Mt-2-5%	Gt-S
	Py-tr	
	Po-tr	

Fol-65°	Mt-20%	Gt-M
	Py-3-5%	Qtz-cc-W
	Po-3-5%	
	Asp-tr-?	
	Sph-1% (local)	

FROM	TO	RECOVERY (%)	ROCK AND DESCRIPTION	STRUCTURE TO C.A.	MINERALIZATION (%)	ALTERATION W-Weak M-Moderate S-Strong
			pyrrhotite occur locally which has not been very pronounced in previous holes as pyrrhotite has been generally dominant. Qtz-carb (cc) stringers occur toward lower contact. Arsenopyrite may occur in trace amounts in the Qtz-rich bands but the very fine grained disseminated nature of its occurrence renders ambiguity with very fine grained pyrite. 1% sphalerite (c.g.) in calcite vein from 39.73-39.8.			
40.93	46.67	100	Intermediate to Felsic Tuff	Fol-70 <sup>0</sup>	Py-2-3% Po-3% Asp-1% (local) Sph- 10%(local)	Qtz-cc-W
			Similar to unit on hanging wall side of iron formation containing local muddy intercalations of mafic tuff yet a paucity of garnet. The unit commonly contains 2-3% pyrite and 3% pyrrhotite as fine grained disseminated grains. Arsenopyrite occurs as highly metallic fine grained disseminations from 43.10-43.60. Qtz-carb (cc) is associated with muddy sections which also show stretched Qtz fragments. Up to 10% sphalerite occurs as bands from 42.5-43.5.			
46.67	53.04	100	Mafic to Intermediate Tuff	Fol-70 <sup>0</sup>		Gt-W Qtz-cc-W
			A transitional brown green to medium grey fine grained banded unit which grades from a porphyroblastic garnet bearing muddy mafic unit to a moderately siliceous intermediate unit. The unit contains only trace amounts of pyrite and pyrrhotite. Coarse grained biotite was noted near lower contact. Qtz-carb (cc) occurs in banded intermediate tuff sections with associated stretched fragments.			
53.04	60.64	100	Intermediate to Felsic Tuff	Fol-70 <sup>0</sup>		
			A medium to light grey-green generally fine grained diffusely banded unit containing several intercalations of muddy garnetiferous material. This unit is similar to that from 49.93-46.76 while it shows a slightly more felsic composition. No appreciable sulfides occur in unit. Qtz-carb (cc) stringers occur rarely.			
60.64	65.45	100	Felsic Flow	Fol-70 <sup>0</sup>		Ser-W
			A light to grey-green massive fine grained unit showing mild to moderate sericitization. This unit is very competent. Mafic intercalations occur near upper contact. A schistose fabric is subtly defined by sericite.			

FROM	TO	RECOVERY (%)	ROCK AND DESCRIPTION	STRUCTURE TO C.A.	MINERALIZATION (%)	ALTERATION W-Weak M-Moderate S-Strong
65.45	79.13	100	<p><b>Mafic Tuff</b></p> <p>A dark grey green fine to medium grained fairly homogenous unit which shows abundant narrow generally conformable qtz stringers over upper 6.0 metres of upper contact. Unit shows subtle compositional variation to intermediate tuff locally. Fabric is defined by moderate mica (chl.) development. No appreciable sulfides are evident.</p>			
79.13	83.63	70	<p><b>Talc-Carbonate Schist</b></p> <p>A highly fissile banded talcose fine grained unit displaying ubiquitous narrow white talc bands. Unit is highly crumbly which accounts for reduced recovery. Foliation planes are highly greasy. Biotite development occurs in mafic bands.</p>			Tc-S Bte-W
83.63	108.54	100	<p><b>Massive Mafic Flow</b></p> <p>A predominantly massive dark grey fine to medium grained unit which locally displays schistose interflow tuffs. The unit is quite monotonous showing only local qtz-carb (cc) stringers and a paucity of sulfides. Medium grained sections show incipient amphibolitization.</p>			
<p>END OF HOLE - 108.54 m.</p>						



## Diamond Drill Log - Exploration

Hole No.: BRE-90-07Page 1 of 3Measured In - Feet  Meters 

HOLE NO.	BRE-90-07
CLAIM	KRL 944117
GRID	L15+00E, 7+20N
N.T.S.	53 C/13
LOGGED BY	C. Suchanek

PROPERTY	Berens River East
ANOM./ZONE	I.P. #7
LATITUDE	Not Surveyed
DEPARTURE	Not Surveyed
ELEVATION	Approx. 120 m
CORE SIZE	B.Q.

DEPTH	139.02
ASSAY FOR	Au
ASSAY UNITS	oz/ton and g/t
STARTED	June 13, 1990
COMPLETED	June 14, 1990

TESTS		
DEPTH	AZIM.	ANGLE
COLLAR	180°	-45°
61	-	-43°
138	030°	-45°
	(bad)	

COMMENTS Test I.P. Anomaly #3 which corresponds to a sulfide facies iron formation containing 10% pyrrhotite. A second iron formation (oxide facies) was intersected lower in the hole.

ALTERATION  
W-Weak  
M-Moderate  
S-Strong

FROM	TO	RECOVERY (%)	ROCK AND DESCRIPTION
0.0	6.0		Casing
6.0	7.62		Biotite Granite - Boulder
7.62	20.04	100	Porphyritic Mafic Flow

A massive dark grey-green homogenous unit containing abundant stretched qtz phenocrysts ranging from 0.25-1.0 mm in long dimension. A preferred alignment of 70° to c.a. occurs with these grains. The mafic matrix is finer grained comprising dominantly chlorite. Minor narrow qtz-carb infilled fractures occur locally. Trace pyrite occurs in unit. Lower contact show siliceous banding over 30 cm.

20.04	22.0	100	Cherty Exhalite
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A very finely laminated, very fine grained alternating light to medium grey cherty unit displaying numerous fine fractures crosscutting fabric. Minor narrow tuffaceous felsic units occur locally. Narrow magnetite bands are scattered throughout unit. Minor flexuring of banding and drag folding occur in the centre of unit. Pyrrhotite occurs as narrow trains and patches throughout (1%). Unit lies unconformably over lower unit.

Fol-45° Po-1%

22.0	37.7	100	Banded Iron Formation
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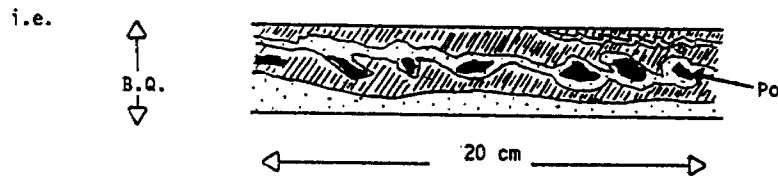
A highly folded, banded, fine grained, alternating light and dark green unit. The darker bands tend to be weakly magnetic suggesting that they represent chloritic argillaceous material weakly mineralized with magnetite rather than the magnetite bands common to banded iron formation. Pyrrhotite appears to

Folded Po-10%  
Mt-4%  
Cpy-tr

STRUCTURE TO C.A. MINERALIZATION (%)

FROM	TO	RECOVERY (%)	ROCK AND DESCRIPTION	STRUCTURE TO C.A.	MINERALIZATION (%)	ALTERATION	
						W-Weak	M-Moderate

be the dominant magnetic mineral occurring as fine grained disseminations throughout, bands, patches and fracture infills. Local areas show coarse patches of pyrrhotite suspended in bands as if they were reworked clasts. Cpy is locally associated with pyrrhotite.



Folding varies from ptygmatic small scale folds to larger folds where limbs trend parallel to c.a. axis over several 10's of cm's. Truncation of fold limbs occur commonly along slip planes which are locally qtz-carbonate infilled. Pyrite occurs in only minor amounts. Unit becomes less banded and more muddy toward lower contact.

Light grey bands vary from chert to fine grained qtz-rich material. The thickness of this iron formation is likely exaggerated by folding.

37.7 41.9 100

**Mafic Tuff**

A fine to medium grained grey-green unit displaying diffuse banding throughout. Minor patches of pyrrhotite occur locally. Minor qtz-carb (cc) occurs along fractures. Narrow grey qtz stringers occur rarely.

Fol-45° Po-Tr

41.9 84.98 100

**Banded Iron Formation**

A highly folded alternating light to dark grey fine to medium grained unit very similar, yet much more extensive, to the iron formation from 22.0-37.7. Folding appears to be largely drag-folding while ellipsoidal fold noses show axial traces varying from 0 to 90° to c.a. Many limbs trend subparallel to c.a. Again, this extensive folding has exaggerated the unit's thickness.

Folded Mt-20% Gt-W  
 Po-7% local  
 Py-1%

Magnetite appears to dominate pyrrhotite in this unit by a ratio of approx. 3:1 while pyrite again is minor. Buff to pale green patchy alteration occurs locally with cherty bands - (greenalite?)

Clastic interbeds of qtz-rich wacke occur at several locations. (44.74-46.08, 46.55-46.85, 47.56-48.69, 77.5-77.84). Well preserved graded bedding indicates fining downhole suggesting an overturned sequence but the abundance of folding may suggest that this is just a local phenomenon.

Minor garnet development occurs locally in argillaceous bands.



FROM	TO	RECOVERY (%)	ROCK AND DESCRIPTION	STRUCTURE TO C.A.	MINERALIZATION (%)	ALTERATION W-Weak M-Moderate S-Strong
84.98	89.43	99	<b>Mafic Tuff</b>  A fine grained dark grey-green unit displaying a subtle finely banded fabric. Fine grained disseminated pyrite is streaked along foliation throughout unit (2%) while locally it occurs as more massive patches along fractures with minor arsenopyrite. Unit shows minor thin Qtz-carb (cc) stringers parallel to foliation.	Fol-50 <sup>o</sup>	Py-2% Asp-tr	Qtz-cc-W
89.43	99.40	99	<b>Ambibolitized Mafic Flow</b>  A medium grained, grey green faintly schistose unit displaying aligned tremolite grains throughout. Absence of this hydrous amphibole would render the unit massive. Qtz-carb (cc) stringers occur locally within unit. Cherty magnetite iron formation shows up as interflow sediment within 1.5 metres of lower contact where pyrrhotite patches and stringers occur locally. Unit contains minor pyrite.	Fol-65 <sup>o</sup>		
99.4	139.02	100	<b>Interbedded Chert and Mafic Tuff</b>  A complex succession of white to grey to light green chert interbedded with dark grey-green ash to lapilli mafic tuff. Cherts are moderately brecciated while local folding occurs in tuffs. Local magnetite rich bands occur sporadically but not in amounts to indicate iron formation. Pyrrhotite is ubiquitous occurring as infilling fractures in chert, stringers and patches in tuff and as disseminated throughout amounting to about 2% in total. Arsenopyrite is generally scattered through cherts as medium euhedral grains (1%) while coarse grained aggregates occur from 110.49-110.52 and at 129.84. Pyrite is not readily evident but may occur as fine grained in pyrrhotite masses.	Folded	Po-2% Asp-1% local	
END OF HOLE - 139.02						

**Diamond Drill Log - Exploration**

HOLE NO.	BRE-90-08
CLAIM	KRL-944115
GRID	L21+00E, 4+45N
NTS	53 C/13
LOGGED BY	C. Suchanek

PROPERTY	Berens River East
ANOM./ZONE	I.P. #7
LATITUDE	Not Surveyed
DEPARTURE	Not Surveyed
ELEVATION	Approx. 290 m
CORE SIZE	B.Q.

DEPTH	123.78 m
ASSAY FOR	Au
ASSAY UNITS	oz/ton and g/t
STARTED	June 15, 1990
COMPLETED	June 16, 1990

TESTS		
DEPTH	AZIM.	ANGLE
COLLAR	180°	-45°
61	-	-44°
122	023°	-40°
	(bad)	

COMMENTS Test I.P. anomaly #7 which corresponds to highly folded oxide facies iron formation containing 5% pyrrhotite and 2% pyrite.

FROM	TO	RECOVERY (%)	ROCK AND DESCRIPTION
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0.0	1.5		Casing
1.5	31.46	100	Mafic Volcanic Flow

A predominantly massive grey-green medium grained unit locally showing an aligned fabric defined by fibrous dark green amphibole (actinolite). Trace fine grained pyrite and pyrrhotite is scattered throughout unit. Qtz-carb (cc) stringers are scattered throughout unit generally parallel to fabric.

31.46	52.80	100	Banded Iron Formation
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A highly folded, fine grained, alternating light to dark grey banded unit. This unit is very similar to the folded iron formations in hole 90-07. The unit shows chloritic ash tuff at both, upper and lower contacts over several metres. At the upper contact, angular fragments of qtz and chert suggest some degree of reworking.

The unit is well banded comprising alternating bands of dark grey to black magnetite-chlorite bands and white to grey chert bands where chert generally dominates. Pyrrhotite (5%) and associated pyrite (2%) occur as narrow interbands and as patches and infilled fractures suggesting some remobilization. A significant amount of qtz-carb (cc) occurs associated with the lighter coloured chert bands. Toward lower contact, narrow bands containing coarse grained blades of magnetite in a brown grey fine grained matrix occurs.

Folding shows highly variable character with axial traces varying from 0 to 90° to c.a. Truncation of fold limbs showing minor offset is fairly common. In unfolded sections, banding occurs at 70° to c.a.

ALTERATION  
W-Weak  
M-Moderate  
S-Strong

STRUCTURE TO C.A. MINERALIZATION (%)

70° to c.a. Py-tr Qtz-cc-W  
Po-tr

Folded (local) Mt-25% Qtz-cc-M  
Po-5%  
Banding Fol-70° locally in unfolded sections  
Py-2%

FROM	TO	RECOVERY (%)	ROCK AND DESCRIPTION	STRUCTURE TO C.A.	MINERALIZATION (%)	ALTERATION W-Weak M-Moderate S-Strong
52.80	88.33	100	<p><b>Massive Mafic Flow</b></p> <p>A predominantly massive green grey unit which is similar to that which occurs from 1.50-31.46. The unit varies from fine grained and homogenous to medium to coarse grained where fibrous amphibole (actinolite) is present. Qtz carb (cc) occurs as stringers parallel to weak fabric and as fracture infilling throughout unit but more commonly toward lower contact. Trace accumulations of pyrrhotite and pyrite are locally found in associate with qtz-carb.</p>	Fol-70 <sup>0</sup>	Po-tr Py-tr	Qtz-cc-W,M
88.33	90.07	100	<p><b>Feldspar Porphyry</b></p> <p>A medium grey unit displaying abundant subhedral to euhedral plagioclase phenocryst, particularly near upper contact, within a medium grey siliceous matrix. Upper contact truncates fabric of above unit while lower contact is sharp and conformable. A brownish colouration develops toward lower contact, presumably biotitic alteration.</p>	Ctc-70 <sup>0</sup>		
90.07	96.34		<p><b>Carbonatized Mafic Tuff</b></p> <p>A fine grained, dark grey, subtly banded unit which shows intense qtz-carb (cc) flooding along foliation as well as within fractures. Biotite develops as coarse grains in the more heavily qtz-carb sections, and commonly as fine grained micaceous folia. Pyrite occurs in trace amounts as fine disseminations throughout.</p>	Fol-65 <sup>0</sup>	Py-tr	Qtz-cc-S
96.34	123.78	100	<p><b>Massive Mafic Flow</b></p> <p>A predominantly massive fine grained grey-green homogenous unit containing only narrow tuffaceous horizons locally. Unit becomes slightly coarser grained toward end of hole marked by increase in fibrous amphibole. Qtz-carb (cc) stringers occur mainly as randomly oriented fracture infilling locally throughout. Sulfide content is negligible.</p>			

END OF HOLE - 123.78

**Diamond Drill Log - Exploration**

HOLE NO.	BRE-90-09
CLAIM	KRL 944123
GRID	L34+00E, 0+15N
N.T.S.	53 C/13
LOGGED BY	C. Suchanek

PROPERTY	Berens River East
ANOM/ZONE	I.P. #6
LATITUDE	Not Surveyed
DEPARTURE	Not Surveyed
ELEVATION	
CORE SIZE	B.Q.

DEPTH	172.56
ASSAY FOR	Au
ASSAY UNITS	oz/ton and g/t
STARTED	June 16, 1990
COMPLETED	June 17, 1990

TESTS		
DEPTH	AZIM.	ANGLE
COLLAR		
200	-	-44°
491	181°	-38°

COMMENTS To test extension of I.P. Anomaly #6 which showed significant arsenopyrite mineralization in hole 90-05. Iron formation intersected deep and several silicified zones containing pyrrhotite, chalcopyrite, galena, sphalerite and pyrite occurred throughout.

FROM	TO	RECOVERY (%)	ROCK AND DESCRIPTION	STRUCTURE TO C.A.	MINERALIZATION (%)	ALTERATION
						W-Weak M-Moderate S-Strong
0.0	2.28		Casing			
2.28	7.34	99	Qtz-flooded Felsic Volcanic			
			An extremely qtz flooded mineralized, light grey to pale creamy coloured, fine grained unit whereby the intensity of the flooding has almost completely obscured the host. The qtz flooding varies in colour from white to cream (ankerite) to pale green (sericite) to grey (host assimilation). Sulfide occurs primarily as isolated patches of medium to coarse grains. Pyrrhotite masses are dominant at approx. 1% with associated cpy (tr). Sphalerite is observed at 4.57 where it is medium grained and dark grey to black.	Ctc-80°	Po-1% Cpy-tr Gn-tr Sph-tr Py-tr	Qtz flooding-S Ser-S Ank-M
7.34	15.15	100	Silicified Felsic Volcanic			
			A highly silicified, mineralized light to medium grey fine grained unit. Unit is brecciated and highly fragmented in a 'sea' of grey qtz silicification. Pyrrhotite occurs as massive fine grained stringers and locally as semi-massive sections; (13.4-13.52 and 14.44-14.70). In the semi massive sections, two generations of crystal growth occur where fine grained massive pyrrhotite host coarse grained euhedral pyrrhotite. Chalcopyrite is associated with pyrrhotite in trace amounts locally. Magnetite is associated with numerous narrow <10 cm bands of dull green mica where the magnetite forms fine to medium grained disseminated euhedral grains. A patch of coarse grain galena occur at 10.92.		Po-5% Mt-5% Cpy-Tr Gn-Tr (local)	Sil-S

FROM	TO	RECOVERY (%)	ROCK AND DESCRIPTION	STRUCTURE TO C.A.	MINERALIZATION (%)	ALTERATION W-Weak M-Moderate S-Strong
15.15	39.34	98	<b>Talc-Carbonate Schist</b>  A highly schistose, talcose light to medium grey fine to medium grained unit. Talcose alteration has obscured much of the primary fabric however a tuffaceous character is discernible while narrow more massive sections may represent flows. Several sections show remnant porphyroblastic garnet which suggests local mafic precursors much like the muddy garnetiferous sediments which occur proximal to iron formations in holes 90-03, -05 and -06. Magnetite is not observed in this unit. Remnant medium grained aligned mica appear to represent remnant fibrous amphibole locally which also commonly occur in mafics in the above holes. Sulfide mineralization is negligible in the unit.  This unit represents the schistose variety of the extensive talcose unit encountered in hole 90-02 as well as the talcose marker horizon observed in holes 90-03, -04 and -06.	Fol-55 <sup>0</sup>		Tc-S
39.34	42.65	100	<b>Sericitized Felsic Tuff</b>  A fine grained, light grey to green finely to diffusely laminated unit which locally appears exhalative. The unit is strongly silicified. Narrow biotite-chlorite rich bands are scattered throughout unit. Pyrrhotite is disseminated and patchy (3%) as fine grained throughout unit while more massive trains develop within 1 metre of lower contact. Magnetite (3%) occurs associated with olive green mica bands (sericite?) where it is fine to medium grained disseminated euhedra.	Fol-50 <sup>0</sup>	Po-3% Mt-3%	Ser-S Sil-S
42.65	45.77	100	<b>Intermediate Tuff</b>  A fine to medium grained, light to medium grey schistose to massive unit showing progressive talc development toward and lower contact. A semi massive network of pyrrhotite and sphalerite (10%) occurs at upper contact from 42.66-42.77. Elsewhere in unit, they occur as narrow trains reaching up to 5%. Unit is weakly magnetic. Unit shows moderate carbonatization in sulfide poor areas.	Fol-50 <sup>0</sup>	Po-2-5% Sph-1%	Tc-M Carb-M
45.77	84.10	100	<b>Talc-Carbonate Schist</b>  Similar to the unit from 15.15-39.34 in that talc alteration is very strong however much of the unit appears to have been massive resembling flow rock with the exception of both contacts where unit appears tuffaceous over several metres. Upper contact is tuffaceous over 5.0 metres where up to 5% pyrrhotite and sphalerite trains occur locally. Over this extent fabric changes from 40 <sup>0</sup> to 70 <sup>0</sup> to c.a. downhole. Medium grained fibrous amphibole occurs oriented crudely parallel to fabric locally in this area.  A highly crenulated section occurs from 63.0-63.2. Remnant garnet is not observed in this unit.	Fol-70 <sup>0</sup>	Po&Sph-5% (local)	Tc-S

FROM	TO	RECOVERY (%)	ROCK AND DESCRIPTION	STRUCTURE TO C.A.	MINERALIZATION (%)	ALTERATION W-Weak M-Moderate S-Strong
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Lower contact displays local tuffaceous horizons containing felsic lapilli within 2 metres of lower contact.

84.01 103.92 100

**Silicified Felsic to Intermediate Tuff**

A light to medium grey to light green moderately well to diffusely banded highly silicified unit. Sericite and ankerite occur along hairline fractures throughout unit. Euhedral fine to medium grained disseminated magnetite occurs up to 5% within sericitic bands in similar fashion to that in felsic tuff from 85.34-86.65. A zone of semi massive pyrrhotite containing second generation pyrrhotite megacrysts occurs from 85.4-86.75. Minor chalcopyrite is associated with pyrrhotite. Pyrrhotite also occurs as local trains and patches throughout unit. Medium to coarse grained arsenopyrite euhedra (2%) occurs from 98.75-98.85. Minor sphalerite occurs locally as patches and fine trains.

Fol-65<sup>o</sup>  
 Po-2% (10% local)  
 Mt-5% (local)  
 Cpy-tr-1%  
 Asp-2%(local)  
 Sph-tr  
 Sil-S  
 Ser-M  
 Ank-W

Unit develops argillaceous interbands toward local contact.

103.92 110.70 100

**Silicified Felsic Flow (Rhyolite)**

A fine grained massive bleached white to pale grey and green unit displaying minor ankerite, moderate sericite and strong grey silicification toward lower contact. Minor pyrrhotite patches and trains are associated with this silicification and along fractures.

Po-tr  
 Sil-S  
 Ank-W

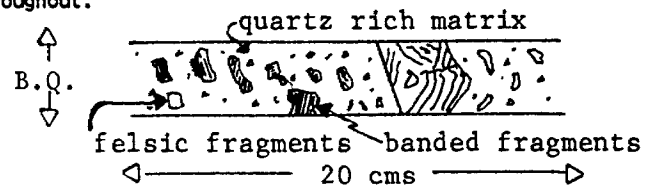
110.70 131.34 100

**Qtz-Flooded Felsic Volcanic**

A highly qtz flooded fine grained light to medium grey unit which is locally brecciated. Unflooded sections are generally completely sericitized. Unit is highly fractured. A zone of tourmalinized brecciation occurs from 124.30-126.03. Upper contact show felsic fragmental over 1.0 metre and narrow intercalations occur randomly in less flooded sections.

Po-1% (local)  
 Cpy-1% (local)  
 Qtz  
 flooding-S  
 Ser-M

An additional zone of brecciation occurs from 126.88-127.60 where numerous angular banded fragments occur throughout.



Semi massive pyrrhotite and chalcopyrite is noted along a fracture at 124.5. Elsewhere pyrrhotite occurs as fine disseminations and locally as patches.

FROM	TO	RECOVERY (%)	ROCK AND DESCRIPTION	STRUCTURE TO C.A.	MINERALIZATION (%)	ALTERATION W-Weak M-Moderate S-Strong
131.34	136.0	100	<p><b>Mafic Tuff</b></p> <p>A generally fine grained schistose, grey to brown unit containing local qtz fragments and boudinaged stringers. Medium grained biotite is aligned parallel to fabric in several areas. Qtz carbonate stringers and patches occur locally. Sulfide content is negligible.</p>	Fol-70 <sup>0</sup>		Bte-M Qtz-cc-W
136.0	146.95	100	<p><b>Garnetiferous Mafic Tuff</b></p> <p>A fine grained diffusely banded grey unit containing abundant fine to medium grained garnet throughout. Locally garnet coalesce along foliation planes. Trace fine grained pyrrhotite and chalcopyrite occur rarely in unit. Qtz-carb stringers are minor in unit. Unit shows coarser tuffaceous texture over 3.0 metres of lower contact defined by coarse stretched biotitic fragments and accidental felsic debris. A narrow pyrrhotite bearing qtz vein occurs from 146.10-146.20 with conformable contacts.</p>	Fol-75 <sup>0</sup>		Gt-M
146.95	151.96	100	<p><b>Felsic Flow (Rhyolite)</b></p> <p>A bleached white to pale grey fine grained massive unit containing local more intermediate tuffaceous narrow horizons. Unit is very competent. Occasional fine chloritic fractures occur locally. Only trace fine grained pyrite occurs. Brecciation with the appearance of grey angular qtz fragment occurs within 60 cm of lower contact. In this area, up to 3% fine grained disseminated pyrite occurs. Weak sericitization occur locally in tuffaceous sections.</p>	Fol-80 <sup>0</sup>	Py-tr-3% Local	Ser-W
151.96	156.08	100	<p><b>Iron Formation</b></p> <p>A grey-green to black banded fine grained unit comprising reworked chert and magnetite fragments in a sericitized matrix which yields to a well defined banded succession of magnetite bands alternating with moderately sericitized light grey bands. A mafic tuff occurs over 90 cm of upper contact. Trains of pyrrhotite, pyrite and arsenopyrite (1% each) occur within 50 cm of lower contact.</p>	Fol-80 <sup>0</sup>	Po-1% Py-1% Asp-1% (local) Mt-15%	Ser-M
156.08	163.45	100	<p><b>Felsic Flow (Rhyolite)</b></p> <p>A white, fine grained massive, competent unit similar to that which occurs from 146.95-151.96. Local grey qtz slivers occur randomly throughout unit which likely represent tension gashes. Trace fine grained pyrite occur throughout unit. Local, banding occurs near lower contact.</p>			

FROM	TO	RECOVERY (%)	ROCK AND DESCRIPTION	STRUCTURE TO C.A.	MINERALIZATION (%)	ALTERATION W-Weak M-Moderate S-Strong
163.45	172.56	100	<p><b>Mafic Tuff</b></p> <p>A generally fine grained green grey diffusely banded unit showing abundant medium grained garnet and magnetite bands with associated pyrrhotite patches over 1.0 metre of upper contact. Qtz-carb (cc) stringers and wispy patches occur throughout unit.</p> <p>END OF HOLE - 172.56</p>	Fol-85°	Po-2% (local) Mt-5% (local)	Gt-M



**Diamond Drill Log - Exploration**Hole No.: BRE-90-10Page 1 of 3Measured In — Feet  Meters 

HOLE NO	BRE-90-10
CLAIM	KRL 944114
GRID	26+50E, 3+87N
NTS	53 C/13
LOGGED BY	C. Suchanek

PROPERTY	Berens River East
ANOM./ZONE	I.P. #6
LATITUDE	Not Surveyed
DEPARTURE	Not Surveyed
ELEVATION	Approx. 300 m
CORE SIZE	B.Q.

DEPTH	120.73
ASSAY FOR	Au
ASSAY UNITS	oz/ton and g/t
STARTED	June 19, 1990
COMPLETED	June 20, 1990

TESTS		
DEPTH	AZIM.	ANGLE
COLLAR	188°	-45°
61	-	-42°
117	305°	-37°
	(bad)	

COMMENTS To test west extension of Anomaly #6 and sphalerite mineralization intersected in hole 90-06. Iron formation not intersected however a large qtz flooded zone containing arsenopyrite, pyrrhotite, pyrite, sphalerite, galena and magnetite occur in the centre of the hole.

ALTERATION

W-Weak

M-Moderate

S-Strong

FROM	TO	RECOVERY (%)	ROCK AND DESCRIPTION
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STRUCTURE TO C.A.	MINERALIZATION (%)	ALTERATION
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0.0	14.51		Casing
14.51	22.50		Qtz flooded Felsic Tuff

A heavily grey qtz flooded, grey to light green coarse ash tuff showing appreciable sericite in non flooded sections. Qtz flooded zones are highly fractures and contain 2-3% fine-medium grained dull coloured pyrite throughout with lesser local pyrrhotite (1%) and arsenopyrite (tr). Ankerite fills fine fractures in the qtz which has weathered to at typical brown ankerite stain near the top of the hole. The tuff sections show a crude bedded fabric.

Fol-75°	Py-2-3% Po-1%(local) Asp-Tr(local)	Ser-M
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22.50	35.10	99	Felsic Tuff
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A predominantly fine grained light to medium grey finely schistose unit showing local narrow sections containing moderately stretched felsic lapilli. Minor sericite development occurs locally. Unit shows a preferred carbonate fracture fill alignment parallel to c.a. A second less pronounced fracture set occurs at 45° to c.a. where fracture smeared pyrite reaches 5%. Pyrite and pyrrhotite occur as fine grained patches in lower part of unit reaching 1% locally.

Fol-70°	Py-1% (local) Po-1% (local)	Ser-W
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35.10	43.60	100	Felsic Tuff (coarse)
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A similar coarse ash tuff to that from 14.51-22.5 with the addition of a moderate fuchsitic component rendering local green sections. A crudely developed bedded fabric occurs throughout. Subtle hematitic alteration occurs rarely in unit as narrow bands. Fine grained dull coloured pyrite occurs as disseminations up to 5% locally. Ankerite fills fractures on rare occasion. *Narrow randomly oriented black qtz stringers occur sporadically in unit.*

Fol-70°	Py-5% (local)	Fsh-M Hem-W Ank-W
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FROM	TO	RECOVERY (%)	ROCK AND DESCRIPTION	STRUCTURE TO C.A.	MINERALIZATION (%)	ALTERATION
						W-Weak M-Moderate S-Strong
43.6	65.12		<b>Quartz flooded Felsic Volcanic</b>			
			<p>Similar to unit at the top of the hole while much more extensive. Grey qtz flooding is intense throughout the majority of the unit. Upper 5.0 metres show a finely laminated exhalative texture which is locally discernible through flooding. Local unflooded sections are generally completely sericitized. Lower 3.0 metres of unit show only mild qtz flooding where a felsic ash tuff fabric is discernible.</p> <p>Within the large flooded, zone disseminated sulfide mineralization as well as trains along fractures occur throughout. Subhedral to euhedral, fine to medium grained arsenopyrite is most prevalent (1%) as disseminated grains while local medium grained trains occur. Pyrrhotite (1%) occurs more commonly as patches and infilled fracture trains. Pyrite (1%) occurs as fracture infilling as well as disseminated grains with arsenopyrite and pyrrhotite. Sphalerite develops from 59.76 to lower contact where it occurs mainly as bands and is locally associated with late qtz filled fine erratic fractures. Galena occurs up to 5% as disseminated grains from 59.76 to 60.07. Very narrow magnetic bands occur in upper portion of unit. Fine to medium grained magnetite euhedral grains are scattered through narrow sericite sections near upper contact similar to that which occurred in hole 90-09 (Silicified Felsic-Int Tuff - 84.10-103.92)</p>	Fol-70 <sup>o</sup>	Asp-1% Po-1% Py-1% Sph-1% (local) Gn-5% (local) Mt-1%	Qtz flooding -S Ser-S
65.12	77.91	99	<b>Carbonatized Mafic Tuff</b>			
			<p>A fine grained, dark grey green unit which is imprinted with intense qtz-carb (cc) and qtz stringers throughout which gives a banded appearance. Toward the lower contact, the qtz and qtz-carb dominate giving the unit a more felsic appearance. A homogenously medium grained mafic intrusive occurs from 74.3-76.1 where minor qtz-carb patches and stringers occur locally. Upper contact occurs at 55<sup>o</sup> to c.a. while lower contact is ground.</p> <p>Trace to 1% medium to coarse grained pyrite is associated mainly with qtz-stringers.</p>	Fol-70 <sup>o</sup>	Py-tr-1%	Qtz-cc Qtz-str- S
77.91	89.8	100	<b>Talc-Carbonate Schist</b>			
			<p>The typical talcose banded alternating grey-green to white unit where abundant talcose bands occur throughout. Fabric ranges from 45 to 70<sup>o</sup> to c.a. and show local crenulated sections and flexuring in banding. Core angles tend to flatten in more talcose sections which has been observed in several other holes where talcose units appear discordant with surrounding units however the plasticity of the units may account for this.</p>	Fol-45-70 <sup>o</sup> variable		Tc-S

FROM	TO	RECOVERY (%)	ROCK AND DESCRIPTION	STRUCTURE TO C.A.	MINERALIZATION (%)	ALTERATION
						W-Weak M-Moderate S-Strong
89.8	107.0	100	<b>Mafic to Intermediate Tuff</b>  A fairly uniform fine grained grey-green unit displaying a subtle schistose fabric. Aligned biotite fragments develop toward lower contact over 2.0 metres. A qtz rich section containing local accumulations of fine grained pyrite occurs from 101.7-102.16. Qtz carb (cc) stringers occur randomly throughout unit. A narrow feldspar porphyry (siliceous mafic matrix) occurs from 105.87-106.22.	Fol-70°		
107.0	108.26	100	<b>Qtz Porphyry</b>  A massive dark grey siliceous unit containing numerous rounded qtz phenocrysts. The unit is locally fractured and filled with qtz veinlets. The unit appears concordant with contacts at 70° to c.a. An increase in biotite occurs at the host rock contacts.	Ctc-70°		
108.26	120.73	100	<b>Intermediate Tuff</b>  A fine to medium grained grey-green unit commonly displaying aligned medium grained biotite mica which defines a moderately schistose fabric. The unit is fairly uniform and hosts negligible sulfide content. Conformable narrow qtz carb (cc) stringers are locally scattered throughout unit.	Fol-70°		
END OF HOLE - 120.73						

BERENS RIVER EAST PROPERTY

Diamond Drill Hole Assays







ECHO BAY MINES LTD.  
 BERENS RIVER EAST PROPERTY  
 DRILL HOLE ASSAYS

DRILL HOLE NO.: BRE-90-02  
 \_\_\_\_\_ m \_\_\_\_\_ ft

Sample No.	From	To	Length	AU ASSAYS				OTHER ASSAYS (CHEMEX)										
				oz/t		ppb		ppm										
				PAUL'S	CUSTOM	Pulp	Check	Ag	As	Cu	Pb	Zn	Mo	Sb				
BE2-73.37	72.37	73.37	1.00	tr														
BE2-74.07	73.37	74.00	0.63	tr														
BE2-75.0	74.00	75.00	1.00	tr														
BE2-76.0	75.00	76.00	1.00	tr														
BE2-77.0	76.00	77.00	1.00	tr														
BE2-78.0	77.00	78.00	1.00	tr														
BE2-79.0	78.00	79.00	1.00	tr														
BE2-80.0	79.00	80.00	1.00	tr														
BE2-81.0	80.00	81.00	1.00	tr														
BE2-82.0	81.00	82.00	1.00	tr														
BE2-83.0	82.00	83.00	1.00	tr														
BE2-84.0	83.00	84.00	1.00	tr														
BE2-85.0	84.00	85.00	1.00	tr														
BE2-86.0	85.00	86.00	1.00	tr														
BE2-87.0	86.00	87.00	1.00	tr														
BE2-88.0	87.00	88.00	1.00	tr														
BE2-89.0	88.00	89.00	1.00	tr														
BE2-90.0	89.00	90.00	1.00	tr														
BE2-91.0	90.00	91.00	1.00	tr														
BE2-92.0	91.00	92.00	1.00	tr														
BE2-93.0	92.00	93.00	1.00	tr														
BE2-94.0	93.00	91.00	1.00	tr														
BE2-95.0	91.00	95.00	1.00	tr														
BE2-96.0	95.00	96.00	1.00	tr														
BE2-97.0	96.00	97.00	1.00	tr														
BE2-98.0	97.00	98.00	1.00	tr														
BE2-99.0	98.00	99.00	1.00	tr														
BE2-100.0	99.00	100.00	1.00	tr														
BE2-101.0	100.00	101.00	1.00	tr														
BE2-102.0	101.00	102.00	1.00	tr														
BE2-103.0	102.00	103.00	1.00	tr														
BE2-104.0	103.00	104.00	1.00	tr														
BE2-105.0	104.00	105.00	1.00	tr														
BE2-106.0	105.00	106.00	1.00	tr			< 5	< 0.2	200	20	< 2	21	2	1.2				
BE2-107.0	106.00	107.00	1.00	tr			< 5	< 0.2	152	20	< 2	16	3	1.2				
BE2-108.54	107.00	108.54	1.54	tr			< 5	< 0.2	800	6	< 2	14	< 1	2.0				
BE2-109.54	108.54	109.54	1.00	tr			< 5	< 0.2	2300	16	< 2	16	< 1	12.4				
BE2-110.54	109.54	110.54	1.00	tr			< 5	< 0.2	910	6	< 2	16	< 1	8.6				









ECHO BAY MINES LTD.  
 BERENS RIVER EAST PROPERTY  
 DRILL HOLE ASSAYS

DRILL HOLE NO.: BRE-90-04  
 X m \_\_\_\_\_ ft

Sample No.	From	To	Length	AU ASSAYS				OTHER ASSAYS (CHEMEX)												
				oz/t		ppb		ppm												
				PAUL'S	CUSTOM	Pulp	Check	Ag	As	Cu	Pb	Zn	Mo	Sb						
BE4-12.8	1.51	2.61	1.0																	
BE4-17.1	16.1	17.1	1.0																	
BE4-17.6	17.1	17.6	0.5																	
BE4-18.6	17.6	18.60	1.00																	
BE4-19.6	18.60	19.60	1.00																	
BE4-20.6	19.60	20.60	1.00																	
BE4-21.23	20.60	21.23	0.63																	
BE4-22.0	21.23	22.00	0.77					30	< 0.2	8	180	4	53	4	1.6					
BE4-23.0	22.00	23.00	1.00					55	< 0.2	18	940	< 2	75	2	< 0.2					
BE4-23.5	23.00	23.50	0.50					75	< 0.2	1350	300	< 2	21	2	< 0.2					
BE4-24.0	23.50	24.00	0.50					50	< 0.2	5	360	< 2	21	2	< 0.2					
BE4-25.0	24.00	25.00	1.00					35	< 0.2	10	190	< 2	44	1	< 0.2					
BE4-25.72	25.00	25.72	0.72					110	< 0.2	4	950	< 2	68	4	< 0.2					
BE4-26.50	25.72	26.50	0.78																	
BE4-27.21	26.50	27.21	0.71																	
BE4-28.0	27.21	28.00	0.79																	
BE4-29.0	28.00	29.00	1.00																	
BE4-30.0	29.00	30.00	1.00																	
BE4-31.0	30.00	31.00	1.00																	
BE4-32.0	31.00	32.00	1.00																	
BE4-33.0	32.00	33.00	1.00																	
BE4-34.0	33.00	34.00	1.00																	
BE4-35.0	34.00	35.00	1.00																	
BE4-36.0	35.00	36.00	1.00																	
BE4-37.27	36.00	37.27	1.27																	
BE4-38.0	37.27	38.00	0.73																	
BE4-39.0	38.00	39.00	1.00																	
BE4-40.0	39.00	40.00	1.00																	
BE4-41.0	40.00	41.00	1.00																	
BE4-42.0	41.00	42.00	1.00																	
BE4-43.0	42.00	43.00	1.00																	
BE4-43.75	43.00	43.75	0.75																	
BE4-45.0	43.75	45.00	1.25					65	< 0.2	8	200	8	28	1	0.2					
BE4-46.0	45.00	46.00	1.00					35	< 0.2	3	76	< 2	26	1	0.4					
BE4-47.0	46.00	47.00	1.00					25	< 0.2	64	180	< 2	29	1	0.2					
BE4-48.0	47.00	48.00	1.00					20	< 0.2	2	200	< 2	38	1	< 0.2					
BE4-49.0	48.00	49.00	1.00					10	< 0.2	60	144	< 2	193	2	< 0.2					
BE4-50.0	49.00	50.00	1.00					5	< 0.2	31	196	< 2	118	1	< 0.2					
BE4-51.5	50.00	51.50	1.50					310	< 0.2	35	150	< 2	92	4	< 0.2					



ECHO BAY MINES LTD.  
BERENS RIVER EAST PROPERTY  
DRILL HOLE ASSAYS

DRILL HOLE NO.: BRE-90-05  
X\_m ft

Sample No.	From	To	Length	AU ASSAYS				OTHER ASSAYS (CHEMEX)						
				oz/t		ppb		ppm						
				PAUL'S	CUSTOM	Pulp	Check	Ag	As	Cu	Pb	Zn	Mo	Sb
BE5-20.7	20.20	20.70	0.50	tr		70		3.0	140	116	60	335	3	1.4
BE5-21.2	20.70	21.20	0.50	tr		30		3.0	25	160	77	530	2	0.4
BE5-21.7	21.20	21.70	0.50	tr		5		1.3	1	94	41	4000	1	0.4
BE5-22.2	21.70	22.20	0.50	tr		< 5		< 0.2	1	22	2	1800	< 1	0.2
BE5-22.7	22.20	22.70	0.50	tr		< 5		< 0.2	2	34	< 2	500	< 1	0.4
BE5-23.2	22.70	23.20	0.50	tr		15		< 0.2	1	40	< 2	158	< 1	0.2
BE5-23.7	23.20	23.70	0.50	tr		585		< 0.2	2	42	< 2	90	< 1	2.4
BE5-24.2	23.70	24.20	0.50	tr		< 5		< 0.2	2	20	< 2	63	1	0.6
BE5-24.7	24.20	24.70	0.50	tr		5		< 0.2	3	16	< 2	85	< 1	0.6
BE5-25.2	24.70	25.20	0.50	tr		5		< 0.2	52	30	< 2	84	< 1	0.6
BE5-25.7	25.20	25.70	0.50	tr		35		< 0.2	48	36	< 2	133	< 1	1.6
BE5-26.2	25.70	26.20	0.50	tr		< 5		< 0.2	4	40	< 2	65	< 1	1.6
BE5-27.02	26.20	27.02	0.82	tr		5		< 0.2	72	50	< 2	58	< 1	0.4
BE5-28.0	27.02	28.00	0.98	tr		< 5		< 0.2	80	34	< 2	30	< 1	0.4
BE5-29.0	28.00	29.00	1.00	tr		< 5		< 0.2	360	8	< 2	27	< 1	1.8
BE5-30.0	29.00	30.00	1.00	tr		< 5		< 0.2	5	54	< 2	44	< 1	< 0.2
BE5-31.04	30.00	31.04	1.04	tr		< 5		< 0.2	1020	26	< 2	54	< 1	2.8
BE5-31.5	31.04	31.50	0.46	tr		25		2.0	1580	420	9	200	2	0.6
BE5-32.0	31.50	32.00	0.50	tr		520		1.7	>10000	400	12	65	1	2.8
BE5-32.5	32.00	32.50	0.50	0.08		5470		4.8	>10000	420	9	70	< 1	4.8
BE5-33.0	32.50	33.00	0.50	tr		500		0.7	3100	250	2	47	< 1	2.6
BE5-33.5	33.00	33.50	0.50	tr		370		0.5	900	180	2	26	< 1	3.0
BE5-34.0	33.50	34.00	0.50	tr		610		0.9	6700	194	8	34	2	3.6
BE5-34.5	34.00	34.50	0.50	tr		490		1.4	4300	430	8	155	< 1	4.6
BE5-35.0	34.50	35.00	0.50	tr		210		0.7	1400	330	< 2	35	< 1	3.8
BE5-35.5	35.00	35.50	0.50	tr		590		0.6	2050	110	16	26	< 1	2.8
BE5-36.0	35.50	36.00	0.50	0.01		765		< 0.2	2070	160	12	58	< 1	3.2
BE5-36.5	36.00	36.50	0.50	0.04		755		< 0.2	400	100	143	31	< 1	1.0
BE5-37.5	36.50	37.50	1.00	tr		20		0.8	100	100	165	96	3	0.4
BE5-38.5	37.50	40.00	1.00	tr										
BE5-40.0	38.50	40.00	1.50	tr										
BE5-41.0	40.00	41.00	1.00	tr										
BE5-42.0	41.00	42.00	1.00	tr										
BE5-43.35	42.00	43.35	1.35	tr										
BE5-43.8	43.30	43.80	0.50	tr		10		0.3	10	184	< 2	42	3	0.2
BE5-45.00	43.80	45.00	1.20	tr										
BE5-46.66	45.00	46.66	1.66	tr										
BE5-47.7	46.66	47.70	1.04	tr										
BE5-48.7	47.70	48.70	1.00	tr		< 5		0.3	3	40	2	44	5	0.6









ECHO BAY MINES LTD.  
 BERENS RIVER EAST PROPERTY  
 DRILL HOLE ASSAYS

DRILL HOLE NO.: BRE-90-07  
 \_\_\_X\_m \_\_\_ft

Sample No.	From	To	Length	AU ASSAYS				OTHER ASSAYS (CHEMEX)										
				oz/t		ppb		ppm										
				PAUL'S CUSTOM Pulp	Check	Pulp	CHEMEX Check	Ag	As	Cu	Pb	Zn	Mo	Sb				
BE7-20.04	19.04	20.04	1.00			15												
BE7-21.0	20.04	21.00	0.96			< 5												
BE7-22.0	21.00	22.00	1.00			< 5												
BE7-23.0	22.00	23.00	1.00			10		0.5	128	110	< 2	60	4	1.0				
BE7-24.0	23.00	24.00	1.00			15		0.6	60	104	4	50	5	1.4				
BE7-25.0	24.00	25.00	1.00			15		0.6	76	130	3	46	4	1.4				
BE7-26.0	25.00	26.00	1.00			10		0.4	36	80	10	50	7	4.2				
BE7-27.0	26.00	27.00	1.00			20		0.7	40	110	6	60	7	3.6				
BE7-28.0	27.00	28.00	1.00			< 5		0.5	10	88	2	74	5	1.4				
BE7-29.0	28.00	29.00	1.00			15		0.5	54	170	10	60	7	2.8				
BE7-30.0	29.00	30.00	1.00			10		0.5	31	100	14	56	7	2.6				
BE7-31.0	30.00	31.00	1.00			10		0.4	18	66	11	64	6	2.8				
BE7-32.0	31.00	32.00	1.00			25		0.9	410	180	3	58	7	2.8				
BE7-33.0	32.00	33.00	1.00			20		0.9	72	220	2	70	5	1.6				
BE7-34.0	33.00	34.00	1.00			60		1.6	58	160	< 2	56	6	1.2				
BE7-35.0	34.00	35.00	1.00			10		0.6	16	100	< 2	58	8	1.6				
BE7-36.0	35.00	36.00	1.00			35		0.9	64	140	< 2	84	5	1.6				
BE7-37.0	36.00	37.00	1.00			10		0.7	28	190	< 2	106	6	1.0				
BE7-37.7	37.00	37.70	0.70			15		0.7	44	270	< 2	186	10	0.6				
BE7-39.0	37.70	39.00	1.30			< 5												
BE7-40.0	39.00	40.00	1.00			< 5												
BE7-41.0	40.00	41.00	1.00			< 5												
BE7-41.9	41.00	41.90	0.90			< 5												
BE7-43.0	41.90	43.00	1.10			50		0.3	3	160	< 2	140	8	0.2				
BE7-44.0	43.00	44.00	1.00			25		0.4	3	174	< 2	130	3	0.2				
BE7-45.0	44.00	45.00	1.00			40		0.4	84	180	< 2	140	3	0.4				
BE7-46.0	45.00	46.00	1.00			15		< 0.2	14	94	< 2	126	2	1.0				
BE7-47.0	46.00	47.00	1.00			15		< 0.2	24	350	< 2	112	2	1.2				
BE7-48.0	47.00	48.00	1.00			< 5		< 0.2	8	48	< 2	106	2	1.8				
BE7-49.0	48.00	49.00	1.00			10		0.2	23	184	< 2	104	3	1.0				
BE7-50.0	49.00	50.00	1.00			40		0.3	20	96	< 2	60	2	1.8				
BE7-51.0	50.00	51.00	1.00			205		0.4	2430	130	< 2	58	3	4.2				
BE7-52.0	51.00	52.00	1.00			15		0.7	420	120	< 2	70	5	1.8				
BE7-53.0	52.00	53.00	1.00			10		0.4	58	100	< 2	68	6	1.8				
BE7-54.0	53.00	54.00	1.00			70		0.4	28	130	< 2	24	3	3.6				
BE7-55.0	54.00	55.00	1.00			15		0.8	40	230	4	60	2	2.0				







ECHO BAY MINES LTD.  
 BERENS RIVER EAST PROPERTY  
 DRILL HOLE ASSAYS

DRILL HOLE NO.: BRE-90-09  
 X m \_\_\_\_\_ ft

Sample No.	From	To	Length	AU ASSAYS				OTHER ASSAYS (CHEMEX)						
				oz/t		ppb		ppm						
				PAUL'S CUSTOM Pulp	Check	Pulp	CHEMEX Check	Ag	As	Cu	Pb	Zn	Mo	Sb
BE9-2.9	2.28	2.90	0.52			15		1.1	40	100	50	1100	1	1.8
BE9-3.5	2.90	3.50	0.60			30		0.8	21	275	3	40	1	0.6
BE9-4.0	3.50	4.00	0.50			< 5		0.3	6	4	< 2	24	2	0.8
BE9-4.5	4.00	4.50	0.50			< 5		0.5	7	24	< 2	30	2	0.6
BE9-5.0	4.50	5.00	0.50			< 5		0.3	5	9	< 2	28	2	1.0
BE9-5.5	5.00	5.50	0.50			< 5		0.2	5	6	< 2	30	2	0.4
BE9-6.0	5.50	6.00	0.50			< 5		0.2	3	8	< 2	40	3	0.8
BE9-6.5	6.00	6.50	0.50			< 5		0.2	15	6	< 2	30	2	0.6
BE9-7.34	6.50	7.34	0.84			< 5		0.4	15	4	4	44	3	0.8
BE9-8.0	7.34	8.00	0.66			80		6.3	76	410	400	3900	2	4.2
BE9-9.0	8.00	9.00	1.00			< 5		1.1	10	300	21	210	1	1.2
BE9-10.0	9.00	10.00	1.00			15		0.6	52	50	4	70	3	0.8
BE9-11.0	10.00	11.00	1.00			60		1.4	12	64	152	680	1	1.6
BE9-12.0	11.00	12.00	1.00			5		4.0	18	80	650	>10000	1	1.2
BE9-13.0	12.00	13.00	1.00			5		3.2	100	260	340	4600	2	2.2
BE9-13.5	13.00	13.50	0.50			< 5		7.6	5	230	1000	3000	3	3.4
BE9-14.0	13.50	14.00	0.50			< 5		5.0	1	90	1180	2100	1	2.2
BE9-14.5	14.00	14.50	0.50			< 5		5.8	1	184	1260	>10000	2	2.2
BE9-15.15	14.50	15.15	0.65			< 5		5.1	3	430	80	430	3	0.4
BE9-40.0	39.34	40.00	0.66			35		0.6	74	70	< 2	90	1	< 0.2
BE9-41.0	40.00	41.00	1.00			10		0.5	80	20	< 2	22	1	< 0.2
BE9-42.0	41.00	42.00	1.00			35		17.0	270	180	7	1600	2	0.4
BE9-42.65	42.00	42.65	0.65			15		4.0	132	46	48	2200	1	< 0.2
BE9-43.30	42.65	43.50	0.85			< 5		8.9	332	350	90	140	1	1.2
BE9-44.5	43.50	44.50	1.00			< 5		4.4	2	110	8	46	3	0.2
BE9-45.77	44.50	45.77	1.27			< 5		1.6	< 1	50	< 2	46	4	< 0.2
BE9-47.0	45.77	47.00	1.23			< 5		0.8	< 1	32	< 2	80	2	< 0.2
BE9-48.0	47.00	48.00	1.00			< 5		0.7	< 1	44	< 2	50	3	< 0.2
BE9-49.0	48.00	49.00	1.00			< 5		1.8	1	40	< 2	150	3	0.2
BE9-50.0	49.00	50.00	1.00			< 5		1.4	< 1	40	< 2	44	1	0.6
BE9-51.5	50.00	51.50	1.50			< 5		3.6	< 1	74	< 2	46	3	< 0.2
BE9-85.0	84.10	85.00	1.00			< 5		1.1	< 1	58	< 2	78	< 1	0.2
BE9-86.0	85.00	86.00	1.00			10		8.1	1	230	8	350	3	9.6
BE9-87.0	86.00	87.00	1.00			20		24.0	2	160	1100	2000	2	7.6
BE9-88.0	87.00	88.00	1.00			15		1.9	2	58	27	1750	< 1	0.8

ECHO BAY MINES LTD.  
 BERENS RIVER EAST PROPERTY  
 DRILL HOLE ASSAYS

DRILL HOLE NO.: BRE-90-09

     m      ft

Sample No.	From	To	Length	AU ASSAYS				OTHER ASSAYS (CHEMEX)						
				oz/t		ppb		ppm						
				PAUL'S Pulp	CUSTOM Check	CHEMEX Pulp	CHEMEX Check	Ag	As	Cu	Pb	Zn	Mo	Sb
BE9-89.0	88.00	89.00	1.00			< 5		0.3	2	10	4	70	< 1	1.0
BE9-90.0	89.00	90.00	1.00			< 5		0.3	40	18	< 2	104	< 1	0.8
BE9-91.0	90.00	91.00	1.00			5		0.2	3	24	< 2	174	< 1	0.8
BE9-92.0	91.00	92.00	1.00			35		1.9	3	44	52	960	1	1.8
BE9-93.0	92.00	93.00	1.00			90		9.8	280	1000	< 2	720	< 1	1.6
BE9-94.0	93.00	94.00	1.00			< 5		1.9	120	58	51	150	2	3.0
BE9-95.0	94.00	95.00	1.00			140		1.2	26	110	70	72	2	2.0
BE9-96.0	95.00	96.00	1.00			35		1.3	10	100	5	22	2	1.4
BE9-97.0	96.00	97.00	1.00			420		1.6	100	168	4	24	< 1	2.2
BE9-98.0	97.00	98.00	1.00			310		1.6	1600	46	21	30	< 1	4.8
BE9-99.0	98.00	99.00	1.00			15		0.9	2620	44	3	28	< 1	6.6
BE9-100.0	99.00	100.00	1.00			20		0.9	9	56	< 2	48	< 1	6.4
BE9-101.0	100.00	101.00	1.00			< 5		0.7	26	28	5	68	< 1	3.6
BE9-102.0	101.00	102.00	1.00			< 5		0.4	15	12	< 2	102	< 1	3.0
BE9-103.0	102.00	103.00	1.00			< 5		1.2	40	40	56	350	< 1	2.2
BE9-103.92	103.00	103.92	0.92			5		7.5	60	100	104	280	1	3.6
BE9-105.0	103.92	105.00	1.18			< 5		0.3	16	6	5	140	2	< 0.2
BE9-106.0	105.00	106.00	1.00			< 5		< 0.2	2	6	< 2	18	2	< 0.2
BE9-107.0	106.00	107.00	1.00			< 5		< 0.2	< 1	4	8	32	2	0.4
BE9-108.0	107.00	108.00	1.00			5		< 0.2	1	10	8	50	2	0.2
BE9-109.0	108.00	109.00	1.00			< 5		0.4	15	10	2	28	1	0.2
BE9-110.0	109.00	110.00	1.00			< 5		0.9	10	20	3	60	< 1	< 0.2
BE9-110.7	110.00	110.70	0.70			< 5		0.8	9	28	6	118	< 1	1.4
BE9-112.0	110.70	112.00	1.30			< 5		2.6	58	106	134	830	2	2.8
BE9-113.0	112.00	113.00	1.00			< 5		0.3	8	12	4	170	< 1	< 0.2
BE9-114.0	113.00	114.00	1.00			35		0.6	11	14	22	530	< 1	0.2
BE9-115.0	114.00	115.00	1.00			< 5		< 0.2	52	18	< 2	300	2	0.4
BE9-116.0	115.00	116.00	1.00			< 5		< 0.2	22	80	< 2	48	2	1.0
BE9-117.0	116.00	117.00	1.00			< 5		< 0.2	12	14	< 2	36	2	1.0
BE9-118.0	117.00	118.00	1.00			< 5		< 0.2	19	12	< 2	24	1	0.6
BE9-119.0	118.00	119.00	1.00			< 5		0.6	5	16	< 2	34	1	0.6
BE9-120.0	119.00	120.00	1.00			< 5		0.2	5	12	< 2	18	2	0.6
BE9-121.0	120.00	121.00	1.00			< 5		< 0.2	6	18	< 2	22	1	0.6
BE9-122.0	121.00	122.00	1.00			< 5		0.2	3	8	< 2	26	1	0.2
BE9-123.0	122.00	123.00	1.00			< 5		0.3	18	12	< 2	26	1	1.8
BE9-124.0	123.00	124.00	1.00			< 5		0.2	10	4	< 2	38	< 1	0.4
BE9-125.0	124.00	125.00	1.00			860		>100.0	194	176	19	56	3	3.6
BE9-126.0	125.00	126.00	1.00			5		2.9	36	30	< 2	56	2	0.4





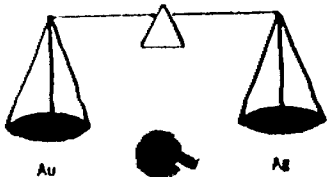
ECHO BAY MINES LTD.  
 BERENS RIVER EAST PROPERTY  
 DRILL HOLE ASSAYS

DRILL HOLE NO.: BRE-90-10  
 \_\_\_X\_\_\_m \_\_\_ft

Sample No.	From	To	Length	AU ASSAYS				OTHER ASSAYS (CHEMEX)						
				oz/t		ppb		ppm						
				PAUL'S Pulp	CUSTOM Check	CHEMEX Pulp	CHEMEX Check	Ag	As	Cu	Pb	Zn	Mo	Sb
BE10-15.5	14.51	15.50	0.99			< 5		0.6	66	66	35	108	1	3.0
BE10-16.5	15.50	16.50	1.00			5		1.0	340	70	27	370	1	5.4
BE10-17.5	16.50	17.50	1.00			10		1.8	146	90	21	1100	< 1	6.0
BE10-18.5	17.50	18.50	1.00			< 5		0.4	76	40	4	90	2	1.2
BE10-19.5	18.50	19.50	1.00			45		0.4	84	50	4	16	< 1	0.8
BE10-20.5	19.50	20.50	1.00			70		0.4	224	24	5	500	< 1	3.4
BE10-21.5	20.50	21.50	1.00			1740		2.0	150	22	8	200	< 1	3.0
BE10-22.5	21.50	22.50	1.00			630		2.1	260	190	12	4800	2	7.2
BE10-23.5	22.50	23.50	1.00			30		1.6	360	240	20	1300	1	14.2
BE10-24.5	23.50	24.50	1.00			< 5		1.6	220	160	300	3000	< 1	17.4
BE10-25.5	24.50	25.50	1.00			< 5		0.8	70	80	190	420	< 1	10.8
BE10-26.5	25.50	26.50	1.00			< 5		2.5	70	120	290	450	< 1	9.0
BE10-27.5	26.50	27.50	1.00			< 5		0.5	30	96	6	170	< 1	4.0
BE10-28.5	27.50	28.50	1.00			< 5		0.5	16	100	4	300	< 1	3.8
BE10-29.5	28.50	29.50	1.00			< 5		0.8	12	60	6	440	< 1	8.8
BE10-30.5	29.50	30.50	1.00			< 5		0.6	60	80	4	104	< 1	5.6
BE10-31.5	30.50	31.50	1.00			< 5		0.7	38	70	< 2	450	< 1	4.0
BE10-32.5	31.50	32.50	1.00			< 5		0.6	410	66	12	1400	< 1	16.4
BE10-33.5	32.50	33.50	1.00			45		1.4	860	110	380	4000	1	26.0
BE10-35.1	33.50	35.10	1.60			< 5		0.5	336	20	12	70	< 1	13.0
BE10-36.0	35.10	36.00	0.90			15		0.4	266	52	< 2	22	2	6.8
BE10-37.0	36.00	37.00	1.00			< 5		0.3	160	16	< 2	30	1	4.4
BE10-38.0	37.00	38.00	1.00			< 5		0.4	50	48	< 2	70	< 1	2.8
BE10-39.0	38.00	39.00	1.00			< 5		0.4	40	34	< 2	36	< 1	2.4
BE10-40.0	39.00	40.00	1.00			< 5		0.6	70	56	< 2	58	< 1	3.2
BE10-41.0	40.00	41.00	1.00			< 5		0.9	190	174	< 2	20	< 1	1.8
BE10-42.0	41.00	42.00	1.00			5		0.9	60	168	< 2	40	< 1	15.4
BE10-43.0	42.00	43.60	1.60			< 5		< 0.2	56	10	< 2	70	2	2.2
BE10-45.0	43.60	45.00	1.40			15		0.8	360	50	12	3600	< 1	8.2
BE10-46.0	45.00	46.00	1.00			20		1.1	520	60	28	2800	< 1	14.6
BE10-47.0	46.00	47.00	1.00			15		0.3	740	20	6	1200	< 1	3.8
BE10-48.0	47.00	48.00	1.00			30		2.0	>10000	70	12	1900	< 1	12.8
BE10-49.0	48.00	49.00	1.00			100		1.7	4150	96	16	1100	1	6.8
BE10-50.0	49.00	50.00	1.00			75		2.3	3420	148	14	1800	< 1	11.0
BE10-51.0	50.00	51.00	1.00			25		1.1	1850	54	9	780	1	29.0
BE10-52.0	51.00	52.00	1.00			30		0.6	920	40	2	146	< 1	4.4
BE10-53.0	52.00	53.00	1.00			20		0.6	300	40	6	170	< 1	4.0



ASSAY CERTIFICATES



# PAUL'S CUSTOM FIRE ASSAYING LTD.

Phone: Bus. (807) 662-8171  
Res. (807) 662-3361  
Fax: (807) 662-1155

PAUL OKANSKI, Assayer  
Box 253, Cochenour, Ontario P0V 1L0

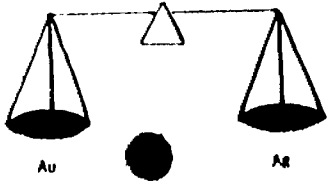
Chico Bay Mines Limited

## ASSAY CERTIFICATE

Date: June 11, 1990.

Sample No.	Description	oz/ton Au	oz/ton Ag
BE1-2.61		Trace	
3.26		"	
4.26		"	
5.26		"	
6.00		"	
6.67		"	
7.50		"	
8.35		"	
9.20		"	
10.20		"	
10.74		"	
11.43	Approved For Payment 12/6/90.	"	
12.65		"	
13.67		"	
14.68		"	
15.34		"	
16.10		"	
17.10		"	
18.10		"	
19.10		"	
19.75		"	
20.40		"	
21.11		"	
22.11		"	
23.11		"	

Assayer: Paul Okanski



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PAUL OKANSKI, Assayer  
Box 253, Cochenour, Ontario P0V 1L0

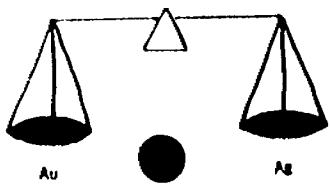
## ASSAY CERTIFICATE

Date: June 11, 1990.

Echo Bay Mines Limited

Sample No.	Description	oz/ton Au	oz/ton Ag
BE1-24.11		Trace	
25.05		"	
26.05		"	
27.05		"	
28.00		"	
29.00		"	
30.00		"	
30.75		"	
31.98		"	
33.01		"	
34.01		"	
35.01		"	
35.76		"	
36.50		"	
37.20		"	
38.20		"	
39.20		"	
40.20		"	
41.20		"	
42.34		"	
43.34		"	
43.84		"	
44.34		"	
44.84		"	
45.34		"	

Assayer: Paul Okanski



# PAUL'S CUSTOM FIRE ASSAYING LTD.

Phone: Bus. (807) 662-8171

Res. (807) 662-3361

Fax: (807) 662-1155

PAUL OKANSKI, Assayer  
Box 253, Cochenour, Ontario P0V 1L0

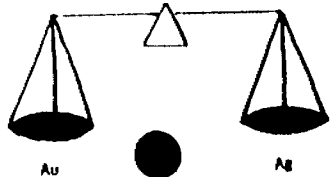
## ASSAY CERTIFICATE

Date: June 11, 1990/

cho Bay Mines Limited

Sample No.	Description	oz/ton Au	oz/ton Ag
BE1-46.00		Trace	
46.83		"	
47.83		"	
48.83		.01	
49.83		Trace	
50.83		"	
51.83		"	
52.83		"	
53.83		"	
54.52		"	
61.70		"	
62.20		"	
64.40		"	
65.60		"	
82.65		"	
114.63		"	
BE2-3.00		Trace	
3.54		"	
4.54		"	
5.54		"	
6.54		"	
7.54		"	
8.54		"	
9.54		"	
10.82		"	

Assayer:



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Res. (807) 662-3361  
Fax: (807) 662-1155

PAUL OKANSKI, Assayer  
Box 253, Cochenour, Ontario POV 1L0

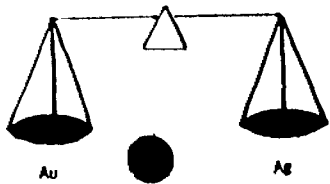
## ASSAY CERTIFICATE

Date: June 11, 1990.

Chico Bay Mines Limited

Sample No.	Description	oz/ton Au	oz/ton Ag
BE2-17.38		Trace	
18.38		"	
19.38		"	
20.38		"	
21.38		"	
22.38		"	
23.38		"	
24.38		"	
25.38		"	
26.38		"	
27.20		"	
28.20		"	
29.20		"	
30.20		"	
31.20		"	
39.09		"	
40.09		"	
41.09		"	
42.09		"	
42.63		"	
56.00		"	
57.00		"	
58.00		"	
59.00		"	
BE2-60.80		"	

Assayer:



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Box 253, Cochenour, Ontario P0V 1L0

Echo Bay Mines Limited

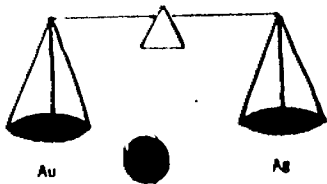
## ASSAY CERTIFICATE

Date: June 11, 1990.

Sample No.	Description	oz/ton Au	oz/ton Ag
BE2-59.80		Trace	
BE2-62.00		"	
63.00		"	
64.00		"	
65.00		"	
66.00		"	
67.00 <del>50</del>		"	
68.00		"	
69.00		"	
70.00		"	
71.00		"	
72.37		"	
73.37		"	
74.00		"	
75.00		"	
76.00		"	
77.00		"	
78.00		"	
79.00		"	
80.00		"	
81.00		"	
82.00		"	
83.00		"	

Assayer: Paul Okanski





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PAUL OKANSKI, Assayer  
Box 253, Cochenour, Ontario P0V 1L0

## ASSAY CERTIFICATE

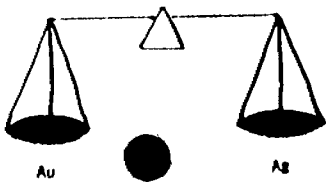
Date: June 14, 1990.

Echo Bay Mines Limited

Sample No.	Description	oz/ton Au	oz/ton Ag
84.00	BE2-	Trace	
85.00		"	
86.00		"	
87.00		"	
88.00		"	
89.00		"	
90.00		"	
91.00		"	
92.00		"	
93.00		"	
94.00		"	
95.00		"	
96.00		"	
97.00		"	
98.00		"	
99.00		"	
100.00		"	
101.00		"	
102.00		"	
103.00		"	
104.00		"	
105.00		"	
106.00		"	
107.00		"	
108.54		"	

*Approved for Payment 19/6/90*

Assayer: *Paul Okanski*



**PAUL'S CUSTOM FIRE ASSAYING LTD.**

Phone: Bus. (807) 662-8171  
 Res. (807) 662-3361  
 Fax: (807) 662-1155

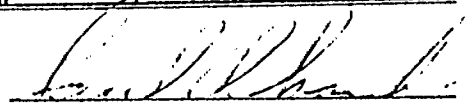
PAUL OKANSKI, Assayer  
 Box 253, Cochenour, Ontario POV 1L0

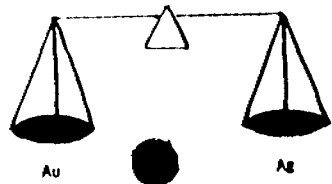
cho Bay Mines Limited

**ASSAY CERTIFICATE**

Date: June 14, 1990.

Sample No.	Description	oz/ton Au	oz/ton Ag
109.54	BE2-	Trace	
110.54		"	
136.86		"	
137.86		"	
142.76		"	
143.76		"	
144.76		"	
18.95	BE3-	Trace	
22.40		"	
23.40		"	
24.40		"	
25.40		"	
26.40		"	
27.40		"	
28.40		"	
29.40		"	
30.40		"	
30.93		"	
32.00		"	
33.00		"	
39.00		"	
45.20		"	
50.00		"	
51.00		"	
52.00		"	

Assayer: 



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 Fax: (807) 662-1155

PAUL OKANSKI, Assayer  
 Box 253, Cochenour, Ontario POV 1L0

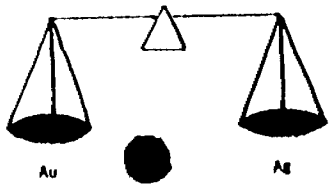
cho Bay Mines Limited

**ASSAY CERTIFICATE**

Date: June 14, 1990.

Sample No.	Description	oz/ton Au	oz/ton Ag
52.44	BE3-	Trace	
72.00		"	
73.00		"	
74.00		"	
75.00		"	
76.00		"	
77.00		"	
91.00		"	
102.20		"	
110.00		"	
127.00		"	
128.00		"	
129.00		"	
129.64		"	
12.80	BE4-	Trace	
17.10		"	
17.60		"	
18.60		"	
19.60		"	
19.60		"	
20.60		"	
21.23		"	
22.00		"	
23.00		"	
23.52		"	
24.00		"	

Assayer: Paul Okanski



# PAUL'S CUSTOM FIRE ASSAYING LTD.

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Res. (807) 662-3361

Fax: (807) 662-1155

PAUL OKANSKI, Assayer  
Box 253, Cochenour, Ontario P0V 1L0

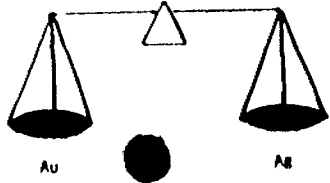
Date: June 14, 1990.

Echo Bay Mines Limited

## ASSAY CERTIFICATE

Sample No.	Description	oz/ton Au	oz/ton Ag
25.00	BE4-	Trace	
25.72		"	
26.50		"	
27.21		"	
28.00		"	
29.00		"	
30.00		"	
31.00		"	
32.00		"	
33.00		"	
34.00		"	
35.00		"	
36.00		"	
37.27		"	
38.00		"	
39.00		"	
40.00		"	
41.00		"	
42.00		"	
43.00		"	
43.75		"	
45.00		"	
46.00		"	
47.00		"	
48.00		"	

Assayer:



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Phone: Bus. (807) 662-8171  
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PAUL OKANSKI, Assayer  
 Box 253, Cochenour, Ontario P0V 1L0

Echo Bay Mines Limited

**ASSAY CERTIFICATE**

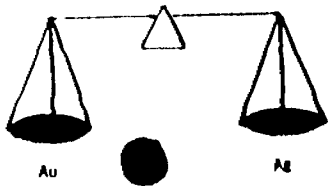
Date: June 14, 1990.

Sample No.	Description	oz/ton Au	oz/ton Ag
49.00	BE4-	Trace	
50.00		"	
51.50		"	
56.00		"	
67.00		"	
71.20		"	
94.30		"	
95.30		"	
113.90		"	
124.00		"	
125.00		"	
126.00		"	
127.00		"	
131.00		"	
132.37		"	
143.30		"	
144.42		"	
20.70.	BE5-	"	
21.20		"	
21.70		"	
22.20		"	
22.270		"	
23.20		"	
23.70		"	
24.20		"	

24

Assayer: *Paul Okanski*





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PAUL OKANSKI, Assayer  
 Box 253, Cochenour, Ontario P0V 1L0

Echo Bay Mines Limited

**ASSAY CERTIFICATE**

Date: June 18, 1990.

Sample No.	Description	oz/ton Au	oz/ton Ag
132.37-B	BE4-	Trace	
37.50	BE5-	"	
38.50		"	
43.80		"	
48.70		"	
51.00		"	
62.00		"	
63.00		"	
64.00		"	
65.00		"	
120.73		"	
20.00	BE6-	"	
21.00		"	
22.00		"	
23.00		"	
24.00		"	
25.00		"	
26.00		" "	
27.00		"	
27.83		"	
29.00		"	
30.00		"	
31.00		"	
32.40		"	
33.00		"	

*Approved for Payment 29/6/90*

Assayer: *Paul Okanski*









# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers  
450 Matheson Blvd., E., Unit 54, Mississauga,  
Ontario, Canada L4Z 1R5  
PHONE: 416-890-0310

To: ECHO BAY MINES LTD.

181 UNIVERSITY AVE., STE. 1422  
TORONTO, ON  
M5H 3M7

Page Number : 2  
Total Pages : 2  
Invoice Date : 04-JUL-90  
Invoice No. : I-89-7763  
P.O. Number :

Project : ZAHAVY MINE  
Comments : ATTN: C. BRADBROOK CC: C. SUCHANEK

## CERTIFICATE OF ANALYSIS

A9017763

SAMPLE DESCRIPTION	PREP CODE	Au ppb FA+AA										
BE 5- 68.00	205	294	<	5								
BE 5- 69.00	205	294	<	5								
BE 5- 70.00	205	294	<	5								
BE 5- 71.00	205	294	<	5								
BE 5- 72.00	205	294	<	5								
BE 5- 73.00	205	294	<	5								
BE 5- 74.00	205	294	<	5								
BE 5- 75.00	205	294	<	5								
BE 5- 76.00	205	294	<	5								
BE 5- 77.00	205	294	<	5								
BE 5- 78.60	205	294	<	15								
BE 5- 80.00	205	294	<	5								
BE 5- 81.00	205	294	<	5								
BE 5- 82.00	205	294	<	5								
BE 5- 83.00	205	294	<	5								
BE 5- 84.00	205	294	<	5								
BE 5- 85.00	205	294	<	5								
BE 5- 86.00	205	294	<	5								
BE 5- 87.00	205	294	<	5								
BE 5- 88.00	205	294	<	5								
BE 5- 89.00	205	294	<	5								
BE 5- 90.00	205	294	<	5								
BE 5- 91.00	205	294	<	5								
BE 5- 92.00	205	294	<	5								
BE 5- 93.00	205	294	<	5								
BE 5- 94.00	205	294	<	5								
BE 5- 95.00	205	294	<	5								
BE 5- 96.00	205	294	<	5								
BE 5- 96.95	205	294	<	5								
BE 5- 98.00	205	294	<	5								
BE 5- 99.00	205	294	<	5								
BE 5-100.00	205	294	<	5								
BE 5-101.00	205	294	<	5								
BE 5-102.00	205	294	<	5								
BE 5-103.00	205	294	<	5								
BE 5-104.00	205	294	<	5								
BE 5-105.60	205	294	<	5								
BE 5-107.00	205	294	<	5								
BE 5-108.00	205	294	<	5								
BE 5-109.00	205	294	<	5								

CERTIFICATION:



# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers  
450 Matheson Blvd., E., Unit 54, Mississauga,  
Ontario, Canada L4Z 1R5  
PHONE: 416-890-0310

To: ECHO BAY MINES LTD.

181 UNIVERSITY AVE., STE. 1422  
TORONTO, ON  
M5H 3M7

Page Number : 1  
Total Pages : 2  
Invoice Date: 04-JUL-90  
Invoice No. : I-764  
P.O. Number :

Project : ZAHAVY MINE  
Comments: ATTN: C. BRADBROOK CC: C. SUCHANEK

## CERTIFICATE OF ANALYSIS

A9017764

SAMPLE DESCRIPTION	PREP CODE	Au ppb FA+AA											
BE 5-110.00	205 294	< 5											
BE 5-111.50	205 294	< 5											
BE 5-113.00	205 294	< 5											
BE 5-114.00	205 294	< 5											
BE 5-115.00	205 294	< 5											
BE 5-116.00	205 294	< 5											
BE 5-117.00	205 294	< 5											
BE 5-118.00	205 294	< 5											
BE 5-119.00	205 294	< 5											
BE 5-120.00	205 294	< 5											
BE 6- 48.00	205 294	< 5											
BE 6- 49.00	205 294	< 5											
BE 6- 50.00	205 294	20											
BE 7- 20.04	205 294	15											
BE 7- 21.00	205 294	< 5											
BE 7- 22.00	205 294	< 5											
BE 7- 23.00	205 294	10											
BE 7- 24.00	205 294	15											
BE 7- 25.00	205 294	15											
BE 7- 26.00	205 294	10											
BE 7- 27.00	205 294	20											
BE 7- 28.00	205 294	< 5											
BE 7- 29.00	205 294	15											
BE 7- 30.00	205 294	10											
BE 7- 31.00	205 294	10											
BE 7- 32.00	205 294	25											
BE 7- 33.00	205 294	20											
BE 7- 34.00	205 294	60											
BE 7- 35.00	205 294	10											
BE 7- 36.00	205 294	35											
BE 7- 37.00	205 294	10											
BE 7- 37.70	205 294	15											
BE 7- 39.00	205 294	< 5											
BE 7- 40.00	205 294	< 5											
BE 7- 41.00	205 294	< 5											
BE 7- 41.90	205 294	< 5											
BE 7- 43.00	205 294	50											
BE 7- 44.00	205 294	25											
BE 7- 45.00	205 294	40											
BE 7- 46.00	205 294	15											

CERTIFICATION:

*Theresa Vink*



# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers  
 450 Matheson Blvd., E., Unit 54, Mississauga,  
 Ontario, Canada L4Z 1R5  
 PHONE: 416-890-0310

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Project : ZAHAVY MINE  
 Comments : ATTN: C. BRADBROOK CC: C. SUCHANEK

## CERTIFICATE OF ANALYSIS A9017764

SAMPLE DESCRIPTION	PREP CODE	Au ppb FA+AA										
MX 7- 47.00	205	294	15									
BE 7- 48.00	205	294	< 5									
BE 7- 49.00	205	294	10									
BE 7- 50.00	205	294	40									
BE 7- 51.00	205	294	205									
BE 7- 52.00	205	294	15									
BE 7- 53.00	205	294	10									
BE 7- 54.00	205	294	70									
BE 7- 55.00	205	294	15									
BE 7- 56.00	205	294	15									
BE 7- 57.00	205	294	15									
BE 7- 58.00	205	294	25									
BE 7- 59.00	205	294	30									
BE 7- 60.00	205	294	25									
BE 7- 61.00	205	294	65									
BE 7- 62.00	205	294	30									
BE 7- 63.00	205	294	30									
BE 7- 64.00	205	294	10									
BE 7- 65.00	205	294	10									
BE 7- 66.00	205	294	35									
BE 7- 67.00	205	294	25									
BE 7- 68.00	205	294	40									
BE 7- 69.00	205	294	30									
BE 7- 70.00	205	294	20									
BE 7- 71.00	205	294	25									
BE 7- 72.00	205	294	35									
BE 7- 73.00	205	294	25									
BE 7- 74.00	205	294	10									
BE 7- 75.00	205	294	10									
BE 7- 76.00	205	294	20									
BE 7- 77.00	205	294	25									
BE 7- 78.00	205	294	10									
BE 7- 79.00	205	294	15									
BE 7- 80.00	205	294	10									
BE 7- 81.00	205	294	10									
BE 7- 82.00	205	294	10									
BE 7- 83.00	205	294	60									
BE 7- 84.00	205	294	55									
BE 7- 84.98	205	294	40									
BE 7- 86.00	205	294	15									

CERTIFICATION:

*[Signature]*



# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers  
 450 Matheson Blvd., E., Unit 54, Mississauga,  
 Ontario, Canada L4Z 1R5  
 PHONE: 416-890-0310

To: ECHO BAY MINES LTD.

181 UNIVERSITY AVE., STE. 1422  
 TORONTO, ON  
 M5H 3M7

Page Number : 1  
 Total Pages : 3  
 Invoice Date : 13-JUL-90  
 Invoice No. : 18151  
 P.O. Number :

Project : ZAHAVY MINE  
 Comments : ATTN: C. BRADBROOK CC: C. SUCHANEK

## CERTIFICATE OF ANALYSIS A9018151

SAMPLE DESCRIPTION	PREP CODE	Au ppb FA+AA	Ag ppm Aqua R	As ppm	Cu ppm	Mo ppm	Pb ppm	Sb ppm	Zn ppm		
BE1- 43.34	214 238	< 5	< 0.2	28	130	2	< 2	0.2	8		
BE1- 43.84	214 238	10	< 0.2	15	184	3	5	0.8	4		
BE1- 44.34	214 238	10	< 0.2	15	160	2	2	1.0	7		
BE1- 44.84	214 238	15	< 0.2	12	140	4	< 2	0.2	10		
BE1- 45.34	214 238	20	< 0.2	2	120	4	< 2	< 0.2	11		
BE1- 46.00	214 238	35	< 0.2	3	100	4	6	0.2	54		
BE1- 46.83	214 238	15	< 0.2	13	84	3	< 2	1.4	8		
BE1- 47.83	214 238	5	< 0.2	106	58	2	< 2	< 0.2	3		
BE1- 48.83	214 238	< 5	< 0.2	80	60	2	< 2	< 0.2	2		
BE1- 49.83	214 238	< 5	< 0.2	30	106	3	< 2	0.4	3		
BE1- 50.83	214 238	5	< 0.2	40	96	2	< 2	< 0.2	4		
BE1- 51.83	214 238	< 5	< 0.2	80	90	2	< 2	0.4	3		
BE1- 52.83	214 238	< 5	< 0.2	84	100	3	< 2	< 0.2	5		
BE1- 53.83	214 238	< 5	< 0.2	68	110	2	< 2	0.6	5		
BE1- 54.52	214 238	5	< 0.2	170	62	6	< 2	0.2	6		
BE2- 17.38	214 238	< 5	< 0.2	5	26	2	< 2	1.0	2		
BE2- 18.38	214 238	< 5	< 0.2	2	20	3	< 2	0.8	2		
BE2- 19.38	214 238	< 5	< 0.2	4	14	3	< 2	< 0.2	3		
BE2- 31.20	214 238	15	< 0.2	100	280	3	< 2	260	11		
BE2- 39.09	214 238	< 5	< 0.2	16	50	3	< 2	3.8	2		
BE2- 40.09	214 238	5	< 0.2	3	300	< 1	< 2	2.2	2		
BE2- 41.09	214 238	35	1.4	5	1900	< 1	< 2	2.2	5		
BE2- 42.09	214 238	< 5	< 0.2	5	104	< 1	< 2	2.2	6		
BE2- 42.63	214 238	< 5	< 0.2	16	40	< 1	< 2	2.4	4		
BE2- 106.00	214 238	< 5	< 0.2	200	20	2	< 2	1.2	21		
BE2- 107.00	214 238	< 5	< 0.2	152	20	3	< 2	1.2	16		
BE2- 108.54	214 238	< 5	< 0.2	800	6	< 1	< 2	2.0	14		
BE2- 109.54	214 238	< 5	< 0.2	2300	16	< 1	< 2	12.4	16		
BE2- 110.54	214 238	< 5	< 0.2	910	6	< 1	< 2	8.6	16		
BE3- 22.40	214 238	< 5	0.5	12	90	4	9	0.6	116		
BE3- 23.40	214 238	5	0.5	17	100	5	4	0.4	125		
BE3- 24.40	214 238	< 5	< 0.2	5	56	4	4	0.2	100		
BE3- 25.40	214 238	< 5	0.3	5	78	5	12	0.4	65		
BE3- 26.40	214 238	< 5	< 0.2	3	110	3	< 2	< 0.2	63		
BE3- 27.40	214 238	< 5	0.8	1	84	3	< 2	< 0.2	81		
BE3- 28.40	214 238	< 5	0.9	3	80	2	< 2	< 0.2	74		
BE3- 29.40	214 238	< 5	0.2	92	48	1	< 2	0.4	23		
BE3- 30.40	214 238	< 5	< 0.2	5	56	< 1	< 2	0.2	41		
BE3- 30.93	214 238	< 5	0.4	4	110	1	< 2	0.4	110		
BE3- 32.00	214 238	< 5	0.6	530	130	< 1	< 2	1.0	130		

CERTIFICATION:

*Hart Bickler*



# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers  
 450 Matheson Blvd., E., Unit 54, Mississauga,  
 Ontario, Canada L4Z 1R5  
 PHONE: 416-890-0310

To: ECHO BAY MINES LTD.

181 UNIVERSITY AVE., STE. 1422  
 TORONTO, ON  
 M5H 3M7

Page Number : 2  
 Total Pages : 3  
 Invoice Date : 13-JUL-90  
 Invoice No. : I-9018151  
 P.O. Number :

Project : ZAHAVY MINE  
 Comments : ATTN: C. BRADBROOK CC: C. SUCHANEK

## CERTIFICATE OF ANALYSIS A9018151

SAMPLE DESCRIPTION	PREP CODE	Au ppb FA+AA	Ag ppm Aqua R	As ppm	Cu ppm	Mo ppm	Pb ppm	Sb ppm	Zn ppm		
BE4- 22.00	214 238	30	< 0.2	8	180	4	4	1.6	53		
BE4- 23.00	214 238	55	< 0.2	18	940	2	< 2	< 0.2	75		
BE4- 23.50	214 238	75	< 0.2	1350	300	2	< 2	< 0.2	21		
BE4- 24.00	214 238	50	< 0.2	5	360	2	< 2	< 0.2	21		
BE5- 25.00	214 238	35	< 0.2	10	190	1	< 2	< 0.2	44		
BE5- 25.72	214 238	110	< 0.2	4	950	4	< 2	< 0.2	68		
BE5- 45.00	214 238	65	< 0.2	8	200	1	8	0.2	28		
BE5- 46.00	214 238	35	< 0.2	3	76	1	< 2	0.4	26		
BE5- 47.00	214 238	25	< 0.2	64	180	1	< 2	0.2	29		
BE5- 48.00	214 238	20	< 0.2	2	200	1	< 2	< 0.2	38		
BE5- 49.00	214 238	10	< 0.2	60	144	2	< 2	< 0.2	193		
BE5- 50.00	214 238	5	< 0.2	31	196	1	< 2	< 0.2	118		
BE5- 51.50	214 238	310	< 0.2	35	150	4	< 2	< 0.2	92		
BE5- 20.70	214 238	70	3.0	140	116	3	60	1.4	335		
BE5- 21.20	214 238	30	3.0	25	160	2	77	0.4	530		
BE5- 21.70	214 238	5	1.3	1	94	1	41	0.4	4000		
BE5- 22.20	214 238	< 5	< 0.2	1	22	< 1	2	0.2	1800		
BE5- 22.70	214 238	< 5	< 0.2	2	34	< 1	< 2	0.4	500		
BE5- 23.20	214 238	15	< 0.2	1	40	< 1	< 2	0.2	158		
BE5- 23.70	214 238	585	< 0.2	2	42	< 1	< 2	2.4	90		
BE5- 24.20	214 238	< 5	< 0.2	2	20	< 1	< 2	0.6	63		
BE5- 24.70	214 238	5	< 0.2	3	16	< 1	< 2	0.6	85		
BE5- 25.20	214 238	5	< 0.2	52	30	< 1	< 2	0.6	84		
BE5- 25.70	214 238	35	< 0.2	48	36	< 1	< 2	1.6	133		
BE5- 26.20	214 238	< 5	< 0.2	4	40	< 1	< 2	1.6	65		
BE5- 27.02	214 238	< 5	< 0.2	72	50	< 1	< 2	0.4	58		
BE5- 28.00	214 238	< 5	< 0.2	80	34	< 1	< 2	0.4	30		
BE5- 29.00	214 238	< 5	< 0.2	360	8	< 1	< 2	1.8	27		
BE5- 30.00	214 238	< 5	< 0.2	5	54	< 1	< 2	< 0.2	44		
BE5- 31.04	214 238	< 5	< 0.2	1020	26	< 1	< 2	2.8	54		
BE5- 31.50	214 238	25	2.0	1580	420	2	9	0.6	200		
BE5- 32.00	214 238	520	1.7	>10000	400	1	12	2.8	65		
BE5- 32.50	214 238	5470	4.8	>10000	420	< 1	9	4.8	70		
BE5- 33.00	214 238	500	0.7	3100	250	< 1	2	2.6	47		
BE5- 33.50	214 238	370	0.5	900	180	< 1	2	3.0	26		
BE5- 34.00	214 238	610	0.9	6700	194	2	8	3.6	34		
BE5- 34.50	214 238	490	1.4	4300	430	< 1	8	4.6	155		
BE5- 35.00	214 238	210	0.7	1400	330	< 1	< 2	3.8	35		
BE5- 35.50	214 238	590	0.6	2050	110	< 1	16	2.8	26		
BE5- 36.00	214 238	765	< 0.2	2070	160	< 1	12	3.2	58		

CERTIFICATION:

*Hank Buchler*



# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers  
 450 Matheson Blvd., E., Unit 54, Mississauga,  
 Ontario, Canada L4Z 1R5  
 PHONE: 416-890-0310

To: ECHO BAY MINES LTD.

181 UNIVERSITY AVE., STE. 1422  
 TORONTO, ON  
 M5H 3M7

Page Number : 3  
 Total Pages : 3  
 Invoice Date: 13-JUL-90  
 Invoice No. : 19018151  
 P.O. Number :

Project : ZAHAVY MINE  
 Comments: ATTN: C. BRADBROOK CC: C. SUCHANEK

## CERTIFICATE OF ANALYSIS A9018151

SAMPLE DESCRIPTION	PREP CODE	Au ppb FA+AA	Ag ppm Aqua R	As ppm	Cu ppm	Mo ppm	Pb ppm	Sb ppm	Zn ppm		
BE5- 36.50	214 238	755	< 0.2	400	100	< 1	143	1.0	31		
BE5- 37.50	214 238	20	0.8	100	100	3	165	0.4	96		
BE5- 43.80	214 238	10	0.3	10	184	3	< 2	0.2	42		
BE5- 48.70	214 238	< 5	0.3	3	40	5	2	0.6	44		
BE5- 51.00	214 238	< 5	0.5	2	110	3	< 2	0.6	35		
BE6- 20.00	214 238	< 5	< 0.2	82	100	1	< 2	2.2	61		
BE6- 21.00	214 238	< 5	0.3	76	80	1	4	1.0	21		
BE6- 22.00	214 238	< 5	< 0.2	52	40	< 1	< 2	1.0	76		
BE6- 23.00	214 238	< 5	< 0.2	70	70	1	10	1.0	156		
BE6- 24.00	214 238	< 5	0.3	60	44	1	51	1.6	71		
BE6- 25.00	214 238	< 5	< 0.2	36	54	< 1	3	2.4	43		
BE6- 26.00	214 238	10	1.4	70	130	1	200	12.4	170		
BE6- 27.00	214 238	15	0.7	260	174	2	10	5.6	32		
BE6- 27.83	214 238	30	0.6	750	40	< 1	62	14.2	1000		
BE6- 29.00	214 238	< 5	0.6	42	70	< 1	< 2	1.2	172		
BE6- 30.00	214 238	< 5	0.4	52	66	1	< 2	0.8	258		
BE6- 31.00	214 238	< 5	0.3	108	52	1	< 2	1.6	690		
BE6- 32.40	214 238	< 5	0.6	84	80	1	< 2	0.6	700		
BE6- 33.00	214 238	10	0.7	3	50	1	< 2	0.4	300		
BE6- 34.00	214 238	< 5	1.1	3	60	2	< 2	0.2	570		
BE6- 35.00	214 238	15	0.6	32	60	3	< 2	0.6	160		
BE6- 36.00	214 238	10	0.4	176	42	1	< 2	0.8	122		
BE6- 37.00	214 238	30	0.9	128	60	2	< 2	0.6	850		
BE6- 38.00	214 238	15	1.5	15	110	4	8	0.6	500		
BE6- 39.00	214 238	10	1.9	15	200	5	48	2.0	730		
BE6- 40.00	214 238	15	3.4	15	240	4	36	1.0	440		
BE6- 40.93	214 238	5	1.3	7	72	4	85	3.0	265		
BE6- 42.00	214 238	10	3.3	30	152	4	47	1.2	1600		
BE6- 43.00	214 238	15	2.6	9	68	3	35	1.4	>10000		
BE6- 44.00	214 238	15	3.2	2	90	3	57	1.4	>10000		
BE6- 45.00	214 238	< 5	2.1	3	160	4	15	0.2	295		
BE6- 46.00	214 238	< 5	0.9	108	140	3	2	0.6	1000		
BE6- 46.67	214 238	< 5	1.6	29	120	3	< 2	1.0	260		

CERTIFICATION:

*Handwritten signature: Hart/Schuler*



# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers  
 450 Matheson Blvd., E., Unit 54, Mississauga,  
 Ontario, Canada L4Z 1R5  
 PHONE: 416-890-0310

To: ECHO BAY MINES LTD.

181 UNIVERSITY AVE., STE. 1422  
 TORONTO, ON  
 M5H 3M7

Page Number : 1  
 Total Pages : 2  
 Invoice Date : 11-1-90  
 Invoice No. : 1-096  
 P.O. Number :

Project : ZAHAVY MINE  
 Comments : ATTN: C. BRADBROOK CC: C. SUCHANEK

## CERTIFICATE OF ANALYSIS A9018096

SAMPLE DESCRIPTION	PREP CODE	Ag ppm Aqua R	As ppm	Cu ppm	Mo ppm	Pb ppm	Sb ppm	Zn ppm			
BE7 23.00	214 238	0.5	128	110	4	< 2	1.0	60			
BE7 24.00	214 238	0.6	60	104	5	4	1.4	50			
BE7 25.00	214 238	0.6	76	130	4	3	1.4	46			
BE7 26.00	214 238	0.4	36	80	7	10	4.2	50			
BE7 27.00	214 238	0.7	40	110	7	6	3.6	60			
BE7 28.00	214 238	0.5	10	88	5	2	1.4	74			
BE7 29.00	214 238	0.5	54	170	7	10	2.8	60			
BE7 30.00	214 238	0.5	31	100	7	14	2.6	56			
BE7 31.00	214 238	0.4	18	66	6	11	2.8	64			
BE7 32.00	214 238	0.9	410	180	7	3	2.8	58			
BE7 33.00	214 238	0.9	72	220	5	2	1.6	70			
BE7 34.00	214 238	1.6	58	160	6	< 2	1.2	56			
BE7 35.00	214 238	0.6	16	100	8	< 2	1.6	58			
BE7 36.00	214 238	0.9	64	140	5	< 2	1.6	84			
BE7 37.00	214 238	0.7	28	190	6	< 2	1.0	106			
BE7 37.70	214 238	0.7	44	270	10	< 2	0.6	186			
BE7 43.00	214 238	0.3	3	160	8	< 2	0.2	140			
BE7 44.00	214 238	0.4	3	174	3	< 2	0.2	130			
BE7 45.00	214 238	0.4	84	180	3	< 2	0.4	140			
BE7 46.00	214 238	< 0.2	14	94	2	< 2	1.0	126			
BE7 47.00	214 238	< 0.2	24	350	2	< 2	1.2	112			
BE7 48.00	214 238	< 0.2	8	48	2	< 2	1.8	106			
BE7 49.00	214 238	0.2	23	184	3	< 2	1.0	104			
BE7 50.00	214 238	0.3	20	96	2	< 2	1.8	60			
BE7 51.00	214 238	0.4	2430	130	3	< 2	4.2	58			
BE7 52.00	214 238	0.7	420	120	5	< 2	1.8	70			
BE7 53.00	214 238	0.4	58	100	6	< 2	1.8	68			
BE7 54.00	214 238	0.4	28	130	3	< 2	3.6	24			
BE7 55.00	214 238	0.8	40	230	2	4	2.0	60			
BE7 56.00	214 238	0.4	23	170	3	3	1.8	48			
BE7 57.00	214 238	0.3	52	118	2	< 2	2.8	20			
BE7 58.00	214 238	0.6	54	136	4	3	2.2	34			
BE7 59.00	214 238	0.5	220	126	5	< 2	2.8	56			
BE7 60.00	214 238	0.3	66	114	2	< 2	2.0	64			
BE7 61.00	214 238	0.6	180	250	4	< 2	3.2	160			
BE7 62.00	214 238	0.3	106	80	2	3	3.2	144			
BE7 63.00	214 238	0.4	54	160	4	3	3.0	140			
BE7 64.00	214 238	0.3	22	38	2	4	4.0	38			
BE7 65.00	214 238	0.2	6	60	2	3	2.4	44			
BE7 66.00	214 238	0.3	12	62	2	< 2	3.2	20			

CERTIFICATION: Janet Buchler





# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers  
450 Matheson Blvd., E., Unit 54, Mississauga,  
Ontario, Canada L4Z 1R5  
PHONE: 416-890-0310

To: ECHO BAY MINES LTD.

181 UNIVERSITY AVE., STE. 1422  
TORONTO, ON  
M5H 3M7

Page Number : 1  
Total Pages : 2  
Invoice Date : 04-11-90  
Invoice No. : I-9165  
P.O. Number :

Project : ZAHABY MINE  
Comments : ATTN: C. BRADBROOK CC: C. SUCHANEK

## CERTIFICATE OF ANALYSIS A9017765

SAMPLE DESCRIPTION	PREP CODE	Au ppb FA+AA										
BE 7- 87.00	205 294	15										
BE 7- 88.00	205 294	15										
BE 7- 89.43	205 294	5										
BE 7- 99.40	205 294	15										
BE 7-100.00	205 294	10										
BE 7-101.00	205 294	45										
BE 7-102.00	205 294	175										
BE 7-103.00	205 294	35										
BE 7-104.00	205 294	770										
BE 7-105.00	205 294	1620										
BE 7-106.00	205 294	55										
BE 7-107.00	205 294	120										
BE 7-108.00	205 294	< 5										
BE 7-109.00	205 294	30										
BE 7-110.00	205 294	15										
BE 7-110.60	205 294	50										
BE 7-111.20	205 294	80										
BE 7-112.00	205 294	65										
BE 7-113.00	205 294	75										
BE 7-114.00	205 294	35										
BE 7-115.00	205 294	20										
BE 7-116.00	205 294	45										
BE 7-126.00	205 294	75										
BE 7-127.00	205 294	25										
BE 7-128.00	205 294	15										
BE 7-129.00	205 294	20										
BE 7-130.00	205 294	30										
BE 8- 33.00	205 294	10										
BE 8- 34.00	205 294	< 5										
BE 8- 35.00	205 294	< 5										
BE 8- 36.00	205 294	< 5										
BE 8- 37.00	205 294	< 5										
BE 8- 38.00	205 294	< 5										
BE 8- 39.00	205 294	< 5										
BE 8- 40.00	205 294	< 5										
BE 8- 41.00	205 294	< 5										
BE 8- 42.00	205 294	< 5										
BE 8- 43.00	205 294	< 5										
BE 8- 44.00	205 294	< 5										
BE 8- 45.00	205 294	< 5										

CERTIFICATION: Theresa Voth



# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers  
 450 Matheson Blvd., E., Unit 54, Mississauga,  
 Ontario, Canada L4Z 1R5  
 PHONE: 416-890-0310

To: ECHO BAY MINES LTD.

181 UNIVERSITY AVE., STE. 1422  
 TORONTO, ON  
 M5H 3M7

Page Number : 2  
 Total Pages : 2  
 Invoice Date: 04-JUL-90  
 Invoice No. : 1-07765  
 P.O. Number :

Project : ZAHABY MINE  
 Comments: ATTN: C. BRADBROOK CC: C. SUCHANEK

<b>CERTIFICATE OF ANALYSIS</b>	<b>A9017765</b>
--------------------------------	-----------------

SAMPLE DESCRIPTION	PREP CODE	Au ppb FA+AA							
BE 8- 46.00	205 294	< 5							
BE 8- 47.00	205 294	15							
BE 8- 48.00	205 294	< 5							
BE 8- 49.00	205 294	< 5							
BE 8- 50.00	205 294	< 5							
BE 8- 51.00	205 294	< 5							
BE 8- 52.00	205 294	< 5							
BE 8- 52.80	205 294	< 5							
BE 8- 89.00	205 294	< 5							
BE 8- 90.07	205 294	< 5							
BE 8- 91.00	205 294	< 5							
BE 8- 92.00	205 294	< 5							
BE 8- 93.00	205 294	< 5							
BE 8- 94.00	205 294	< 5							
BE 8- 95.00	205 294	< 5							
BE 8- 96.34	205 294	< 5							
BE 9- 40.00	205 294	35							
BE 9- 41.00	205 294	10							
BE 9- 42.00	205 294	35							
BE 9- 42.65	205 294	15							
BE 9- 43.50	205 294	< 5							
BE 9- 44.50	205 294	< 5							
BE 9- 45.77	205 294	< 5							
BE 9- 47.00	205 294	< 5							
BE 9- 48.00	205 294	< 5							
BE 9- 49.00	205 294	< 5							
BE 9- 50.00	205 294	< 5							
BE 9- 51.50	205 294	< 5							
BE 9-105.00	205 294	< 5							
BE 9-106.00	205 294	< 5							
BE 9-107.00	205 294	< 5							
BE 9-108.00	205 294	< 5							
BE 9-109.00	205 294	< 5							
BE 9-110.00	205 294	< 5							
BE 9-110.70	205 294	< 5							
BE 9-112.00	205 294	< 5							
BE 9-113.00	205 294	< 5							
BE 9-114.00	205 294	35							
BE 9-115.00	205 294	< 5							
BE 9-116.00	205 294	< 5							

CERTIFICATION: *[Signature]*



# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers  
450 Matheson Blvd., E., Unit 54, Mississauga,  
Ontario, Canada L4Z 1R5  
PHONE: 416-890-0310

To: ECHO BAY MINES LTD.

181 UNIVERSITY AVE., STE. 1422  
TORONTO, ON  
M5H 3M7

Page Number : 1  
Total Pages : 2  
Invoice Date: JUL-90  
Invoice No. : A9017757  
P.O. Number :

Project : ZAHAVY MINE  
Comments: ATTN: C. BRADBROOK CC: C. SUCHANEK

## CERTIFICATE OF ANALYSIS A9017757

SAMPLE DESCRIPTION	PREP CODE	Au ppb FA+AA											
BE 9- 2.90	205 294	15											
BE 9- 3.50	205 294	30											
BE 9- 4.00	205 294	< 5											
BE 9- 4.50	205 294	< 5											
BE 9- 5.00	205 294	< 5											
BE 9- 5.50	205 294	< 5											
BE 9- 6.00	205 294	< 5											
BE 9- 6.50	205 294	< 5											
BE 9- 7.34	205 294	< 5											
BE 9- 8.00	205 294	80											
BE 9- 9.00	205 294	< 5											
BE 9- 10.00	205 294	15											
BE 9- 11.00	205 294	60											
BE 9- 12.00	205 294	5											
BE 9- 13.00	205 294	5											
BE 9- 13.50	205 294	< 5											
BE 9- 14.00	205 294	< 5											
BE 9- 14.50	205 294	< 5											
BE 9- 15.15	205 294	< 5											
BE 9- 85.00	205 294	< 5											
BE 9- 86.00	205 294	10											
BE 9- 87.00	205 294	20											
BE 9- 88.00	205 294	15											
BE 9- 89.00	205 294	< 5											
BE 9- 90.00	205 294	< 5											
BE 9- 91.00	205 294	5											
BE 9- 92.00	205 294	35											
BE 9- 93.00	205 294	90											
BE 9- 94.00	205 294	< 5											
BE 9- 95.00	205 294	140											
BE 9- 96.00	205 294	35											
BE 9- 97.00	205 294	420											
BE 9- 98.00	205 294	310											
BE 9- 99.00	205 294	15											
BE 9-100.00	205 294	20											
BE 9-101.00	205 294	< 5											
BE 9-102.00	205 294	< 5											
BE 9-103.00	205 294	< 5											
BE 9-103.92	205 294	< 5											
BE10- 15.50	205 294	< 5											

CERTIFICATION: *Theresa Vank*



# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers  
 450 Matheson Blvd., E., Unit 54, Mississauga,  
 Ontario, Canada L4Z 1R5  
 PHONE: 416-890-0310

To: ECHO BAY MINES LTD.

181 UNIVERSITY AVE., STE. 1422  
 TORONTO, ON  
 M5H 3M7

Page Number : 1  
 Total Pages : 2  
 Invoice Date: 12 JUL-90  
 Invoice No. : 8097  
 P.O. Number :

Project : ZAHAVY MINE  
 Comments: ATTN: C. BRADBROOK CC: C. SUCHANEK

## CERTIFICATE OF ANALYSIS A9018097

SAMPLE DESCRIPTION	PREP CODE	Ag ppm Aqua R	As ppm	Cu ppm	Mo ppm	Pb ppm	Sb ppm	Zn ppm			
BE9 42.00	214 238	17.0	270	180	2	7	0.4	1600			
BE9 42.65	214 238	4.0	132	46	1	48	< 0.2	2200			
BE9 43.50	214 238	8.9	332	350	1	90	1.2	140			
BE9 44.50	214 238	4.4	< 2	110	3	8	0.2	46			
BE9 45.77	214 238	1.6	< 1	50	4	< 2	< 0.2	46			
BE9 47.00	214 238	0.8	< 1	32	2	< 2	< 0.2	80			
BE9 48.00	214 238	0.7	< 1	44	3	< 2	< 0.2	50			
BE9 49.00	214 238	1.8	< 1	40	3	< 2	0.2	150			
BE9 50.00	214 238	1.4	< 1	40	1	< 2	0.6	44			
BE9 51.50	214 238	3.6	< 1	74	3	< 2	< 0.2	46			
BE9 105.00	214 238	< 0.3	16	6	2	5	< 0.2	140			
BE9 106.00	214 238	< 0.2	< 2	6	2	< 2	< 0.2	18			
BE9 107.00	214 238	< 0.2	< 1	4	2	8	0.4	32			
BE9 108.00	214 238	< 0.2	1	10	2	8	0.2	50			
BE9 109.00	214 238	0.4	15	10	1	2	0.2	28			
BE9 110.00	214 238	0.9	10	20	< 1	3	< 0.2	60			
BE9 110.70	214 238	0.8	9	28	< 1	6	1.4	118			
BE9 112.00	214 238	2.6	58	106	< 2	134	2.8	830			
BE9 113.00	214 238	0.3	8	12	< 1	4	< 0.2	170			
BE9 114.00	214 238	0.6	11	14	< 1	22	0.2	530			
BE9 115.00	214 238	< 0.2	52	18	2	< 2	0.4	300			
BE9 116.00	214 238	< 0.2	22	80	2	< 2	1.0	48			
BE9 117.00	214 238	< 0.2	12	14	2	< 2	1.0	36			
BE9 118.00	214 238	< 0.2	19	12	1	< 2	0.6	24			
BE9 119.00	214 238	0.6	5	16	1	< 2	0.6	34			
BE9 120.00	214 238	0.2	5	12	2	< 2	0.6	18			
BE9 121.00	214 238	< 0.2	6	18	1	< 2	0.6	22			
BE9 122.00	214 238	0.2	3	8	1	< 2	0.2	26			
BE9 123.00	214 238	0.3	18	12	1	< 2	1.8	26			
BE9 124.00	214 238	0.2	10	4	< 1	< 2	0.4	38			
BE9 125.00	214 238	>100.0	194	176	3	19	3.6	56			
BE9 126.00	214 238	2.9	36	30	2	< 2	0.4	56			
BE9 127.00	214 238	1.3	21	100	2	10	7.2	300			
BE9 128.00	214 238	0.8	21	16	1	< 2	2.8	186			
BE9 129.00	214 238	0.3	8	4	< 1	< 2	1.0	40			
BE9 130.00	214 238	0.2	23	4	< 1	< 2	1.0	56			
BE9 131.34	214 238	1.2	950	48	< 1	4	9.2	200			
BE9 154.00	214 238	0.6	280	86	< 1	< 2	5.2	18			
BE9 155.00	214 238	0.8	58	116	< 1	< 2	4.8	30			
BE9 156.08	214 238	0.9	130	100	< 1	< 2	2.2	66			

CERTIFICATION:

*Jan H. Zickler*



# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers  
450 Matheson Blvd., E., Unit 54, Mississauga,  
Ontario, Canada L4Z 1R5  
PHONE: 416-890-0310

To: ECHO BAY MINES LTD.

181 UNIVERSITY AVE., STE. 1422  
TORONTO, ON  
M5H 3M7

Page Number : 1  
Total Pages : 2  
Invoice Date : JUL-90  
Invoice No. : 17766  
P.O. Number :

Project : ZAHAVY MINE  
Comments : ATTN: C. BRADBROOK CC: C. SUCHANEK

## CERTIFICATE OF ANALYSIS

A9017766

SAMPLE DESCRIPTION	PREP CODE	Au ppb FA+AA											
BE 9-117.00	205 294	< 5											
BE 9-118.00	205 294	< 5											
BE 9-119.00	205 294	< 5											
BE 9-120.00	205 294	< 5											
BE 9-121.00	205 294	< 5											
BE 9-122.00	205 294	< 5											
BE 9-123.00	205 294	< 5											
BE 9-124.00	205 294	< 5											
BE 9-125.00	205 294	860											
BE 9-126.00	205 294	5											
BE 9-127.00	205 294	< 5											
BE 9-128.00	205 294	< 5											
BE 9-129.00	205 294	< 5											
BE 9-130.00	205 294	< 5											
BE 9-131.34	205 294	50											
BE 9-146.00	205 294	< 5											
BE 9-146.95	205 294	< 5											
BE 9-148.00	205 294	< 5											
BE 9-149.00	205 294	< 5											
BE 9-150.00	205 294	30											
BE 9-151.00	205 294	10											
BE 9-151.96	205 294	5											
BE 9-153.00	205 294	30											
BE 9-154.00	205 294	10											
BE 9-155.00	205 294	10											
BE 9-156.08	205 294	< 5											
BE 9-157.00	205 294	< 5											
BE 9-158.00	205 294	< 5											
BE 9-159.00	205 294	< 5											
BE 9-160.00	205 294	< 5											
BE 9-161.00	205 294	< 5											
BE 9-162.00	205 294	< 5											
BE 9-163.45	205 294	< 5											
BE 9-164.75	205 294	5											
BE10- 23.50	205 294	30											
BE10- 24.50	205 294	< 5											
BE10- 25.50	205 294	< 5											
BE10- 26.50	205 294	< 5											
BE10- 27.50	205 294	< 5											
BE10- 28.50	205 294	< 5											

CERTIFICATION: *Theresa Vornh*



# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers  
450 Matheson Blvd., E., Unit 54, Mississauga,  
Ontario, Canada L4Z 1R5  
PHONE: 416-890-0310

To: ECHO BAY MINES LTD.

181 UNIVERSITY AVE., STE. 1422  
TORONTO, ON  
M5H 3M7

Page Number : 2  
Total Pages : 2  
Invoice Date : 4-JUL-90  
Invoice No. : 1-91766  
P.O. Number :

Project : ZAHAVY MINE  
Comments : ATTN: C. BRADBROOK CC: C. SUCHANEK

## CERTIFICATE OF ANALYSIS

A9017766

SAMPLE DESCRIPTION	PREP CODE	Au ppb FA+AA										
BE10- 29.50	205 294	< 5										
BE10- 30.50	205 294	< 5										
BE10- 31.50	205 294	< 5										
BE10- 32.50	205 294	< 5										
BE10- 33.50	205 294	45										
BE10- 35.10	205 294	< 5										
BE10- 36.00	205 294	15										
BE10- 37.00	205 294	< 5										
BE10- 38.00	205 294	< 5										
BE10- 39.00	205 294	< 5										
BE10- 40.00	205 294	< 5										
BE10- 41.00	205 294	< 5										
BE10- 42.00	205 294	< 5										
BE10- 43.00	205 294	< 5										
BE10- 66.00	205 294	< 5										
BE10- 67.00	205 294	< 5										
BE10- 68.00	205 294	< 5										
BE10- 69.00	205 294	< 5										
BE10- 77.10	205 294	< 5										
BE10- 77.91	205 294	< 5										
BE10-102.20	205 294	< 5										

CERTIFICATION:

*John J. Venter*



# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers  
450 Matheson Blvd., E., Unit 54, Mississauga,  
Ontario, Canada L4Z 1R5  
PHONE: 416-890-0310

To: ECHO BAY MINES LTD.

181 UNIVERSITY AVE., STE. 1422  
TORONTO, ON  
M5H 3M7

Page Number : 2  
Total Pages : 2  
Invoice Date : JL-90  
Invoice No. : 17757  
P.O. Number :

Project : ZAHAVY MINE  
Comments : ATTN: C. BRADBROOK CC: C. SUCHANEK

## CERTIFICATE OF ANALYSIS

A9017757

SAMPLE DESCRIPTION	PREP CODE	Au ppb FA+AA									
BE10- 16.50	205 294	5									
BE10- 17.50	205 294	10									
BE10- 18.50	205 294	< 5									
BE10- 19.50	205 294	45									
BE10- 20.50	205 294	70									
BE10- 21.50	205 294	1740									
BE10- 22.50	205 294	630									
BE10- 45.00	205 294	15									
BE10- 46.00	205 294	20									
BE10- 47.00	205 294	15									
BE10- 48.00	205 294	30									
BE10- 49.00	205 294	100									
BE10- 50.00	205 294	75									
BE10- 51.00	205 294	25									
BE10- 52.00	205 294	30									
BE10- 53.00	205 294	20									
BE10- 54.00	205 294	40									
BE10- 55.00	205 294	50									
BE10- 56.00	205 294	45									
BE10- 57.00	205 294	65									
BE10- 58.00	205 294	170									
BE10- 59.00	205 294	55									
BE10- 59.76	205 294	10									
BE10- 60.26	205 294	30									
BE10- 61.00	205 294	10									
BE10- 62.00	205 294	15									
BE10- 63.00	205 294	5									
BE10- 64.00	205 294	< 5									
BE10- 65.12	205 294	< 5									

CERTIFICATION:

*[Handwritten Signature]*



# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers  
 450 Matheson Blvd., E., Unit 54, Mississauga,  
 Ontario, Canada L4Z 1R5  
 PHONE: 416-890-0310

To: ECHO BAY MINES LTD.

181 UNIVERSITY AVE., STE. 1422  
 TORONTO, ON  
 M5H 3M7

Page Number : 2  
 Total Pages : 2  
 Invoice Date: 12-JUL-90  
 Invoice No. : 1-3097  
 P.O. Number :

Project : ZAHAVY MINE  
 Comments: ATTN: C. BRADBROOK CC: C. SUCHANEK

## CERTIFICATE OF ANALYSIS A9018097

SAMPLE DESCRIPTION	PREP CODE	Ag ppm Aqua R	As ppm	Cu ppm	Mo ppm	Pb ppm	Sb ppm	Zn ppm			
BE10 23.50	214 238	1.6	360	240	< 1	20	14.2	1300			
BE10 24.50	214 238	1.6	220	160	< 1	300	17.4	3000			
BE10 25.50	214 238	0.8	70	80	< 1	190	10.8	420			
BE10 26.50	214 238	2.5	70	120	< 1	290	9.0	450			
BE10 27.50	214 238	0.5	30	96	< 1	6	4.0	170			
BE10 28.50	214 238	0.5	16	100	< 1	4	3.8	300			
BE10 29.50	214 238	0.8	12	60	< 1	6	8.8	440			
BE10 30.50	214 238	0.6	60	80	< 1	4	5.6	104			
BE10 31.50	214 238	0.7	38	70	< 1	< 2	4.0	450			
BE10 32.50	214 238	0.6	410	66	< 1	12	16.4	1400			
BE10 33.50	214 238	1.4	860	110	< 1	380	26.0	4000			
BE10 35.10	214 238	0.5	336	20	< 1	12	13.0	70			
BE10 36.00	214 238	0.4	266	52	2	< 2	6.8	22			
BE10 37.00	214 238	0.3	160	16	< 1	< 2	4.4	30			
BE10 38.00	214 238	0.4	50	48	< 1	< 2	2.8	70			
BE10 39.00	214 238	0.4	40	34	< 1	< 2	2.4	36			
BE10 40.00	214 238	0.6	70	56	< 1	< 2	3.2	58			
BE10 41.00	214 238	0.9	190	174	< 1	< 2	1.8	20			
BE10 42.00	214 238	0.9	60	168	< 1	< 2	15.4	40			
BE10 43.00	214 238	< 0.2	56	10	2	< 2	2.2	70			
BE10 66.00	214 238	< 0.2	166	6	2	< 2	2.6	36			
BE10 67.00	214 238	< 0.2	86	4	3	< 2	2.6	54			
BE10 68.00	214 238	< 0.2	60	44	2	< 3	1.0	245			
BE10 69.00	214 238	< 0.2	46	11	3	< 2	2.4	410			

CERTIFICATION:

*Jan Buehler*



Invoices and Proof of Payment

28300 MANULIFE PLACE, 10180-101 ST., EDMONTON, ALBERTA T6J 8B4			NUMBER 7 9 1 4 4 4 4		
CHEQUE NUMBER	DATE	AMOUNT	CHEQUE NUMBER	DATE	AMOUNT
28	06/18/99	405.00			
		405.00			
<b>CHEQUE TOTAL</b>					<b>405.00</b>

DETACH AT PREPARATION BEFORE CASHING CHEQUE

**BOHO BAY MINES LTD.**  
 28300 MANULIFE PLACE, 10180-101 ST.,  
 EDMONTON, ALBERTA T6J 8B4

**GENERAL ACCOUNT**

TO: THE ROYAL BANK OF CANADA MAIN BRANCH 10107 JASPER AVE., EDMONTON, ALBERTA	MO. DAY YR. 97 28 99	NUMBER 071934	AMOUNT 405.00
FOUR HUNDRED AND FIVE DOLLARS		<b>BOHO BAY MINES LTD.</b>	
PAY TO THE ORDER OF CUSTOM FIRE ASSAYING LTD BOX 253 COCHENDUR, ONTARIO P8V 1L9		<b>NOT NEGOTIABLE</b>	

CUSTOM FIRE ASSAYING LTD.  
 BOX 253  
 COCHENOUR, ONTARIO POV 1L0

Date JUN 25 1950  
 M- SECTHER BY MINES LTD

SOLD BY	C.O.D.	CHARGE	ON ACC'T.	ACC'T. FWD.
1		<u>47.00</u>		<u>47.00</u>
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25

**RECEIVED**

**JUN 28 1950**

EDMUND BAY EXPLORATION  
 TORONTO

5D525E (G) 4 HOUR CLEAN PRINT P. 4 1/2 x 2 1/4 PATENTED 1963 1966 1978 1

**APPROVED FOR PAYMENT**  
 BY [Signature]  
 CODE 0124 70 762 3107

**ECOBAY MINES LTD.**  
13300 MANULIFE PLACE, 101RD - 101 ST., EDMONTON, ALBERTA T6J 3B4

CHEQUE NUMBER **071449**

DATE	AMOUNT
22 06/11/90	1,187.00
23 06/14/90	1,306.00

DATE	AMOUNT

CHEQUE TOTAL **2,412.00**

DETACH AT PERFORATION BEFORE CASHING CHEQUE

**ECOBAY MINES LTD.**  
13300 MANULIFE PLACE, 101RD - 101 ST., EDMONTON, ALBERTA T6J 3B4

**GENERAL ACCOUNT**

TO: THE ROYAL BANK OF CANADA MAIN BRANCH  
10107 JASPER AVE, EDMONTON, ALBERTA

MO. DAY YR.  
07 12 90

NUMBER  
**071449**

AMOUNT  
**2,412.00**

TWO THOUSAND FOUR HUNDRED AND  
TWELVE DOLLARS

**ECOBAY MINES LTD.**

PAY CUSTOM FIRE ASSAYING LTD  
TO THE ORDER OF  
BOX 283  
COCHENOUR, ONTARIO  
POV 1L8

**NOT NEGOTIABLE**

**APR 10 1990**

CUSTOMER: FINE ASSAYING LTD.  
BOX 253  
COCHENOUR, ONTARIO POV 1L0

Date JUNE 11, 1990  
M ECHO BAY MINES LTD.

SOLD BY	COD.	CHARGE	ON ACCT.	ACCT. FWD.
1	123	Sim's Auto	8,107.32	
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				

**APPROVED FOR PAYMENT**  
 BY [Signature] 19/6/90  
 CODE 024 70 762 3107.

22

88525E GBC MOORE CLEAN PRINT 11/12/2000 PATENTED 1963 1964 1979 1

RECEIVED  
JUN 21 1990

ECHO BAY EXPLORATION  
VANCOUVER

**RECEIVED**  
 JUN 19 1990  
 ECHO BA  
 TC

CUSTOM FIRE ASSAYING LTD.  
 BOX 253  
 COCHENOUR, ONTARIO POV 110

Date June 14 1990  
 M ECHO BAY MINES LTD.

SOLD BY	C.O.D.	CHARGE	ON ACCT.	ACCT FWD
1		<u>1/2 hr. Silver Assay Fee</u>		<u>13.05<sup>00</sup></u>
2				
3				
4				
5				
6				
<b>APPROVED FOR PAYMENT</b>				
8	BY <u>[Signature]</u>			<u>9/6/90</u>
9	CODE <u>0124</u> TO <u>762 3107</u>			
12				
13				
14				
15				

**23**

58525E (C) MEXIM CLEAN PRINT P. • VALU 2000 PATENTED 1963 1966 1978 1 0

RECEIVED  
 JUN 21 1990  
 ECHO BAY EXPLORATION  
 VANCOUVER

RECEIVED  
 JUN 19 1990  
 ECHO BAY



# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers

To: ECHO BAY MINES LTD.

181 UNIVERSITY AVE., STE. 1422  
TORONTO, ON

CHEQUE NUMBER **072435** AMOUNT **7,397.97**

DATE

INVOICE NUMBER

CHEQUE TOTAL **7,397.97**

INVOICE NUMBER	DATE	AMOUNT
9017044	06/25/90	1,360.00
9017046	06/25/90	527.00
9017757	07/02/90	762.45
9017763	07/04/90	884.00
9017764	07/04/90	884.00
9017765	07/04/90	884.00
9017766	07/04/90	674.05
9018076	06/10/90	748.00
9018087	07/11/90	674.47

DETACH AT PERFORATION BEFORE CASHING CHEQUE

**ECHO BAY MINES LTD.**  
 9300 MANULIFE PLACE, 10180 - 101 ST.,  
 EDMONTON, ALBERTA T5J 3S4

TO: THE ROYAL BANK OF CANADA MAIN BRANCH  
 10107 JASPER AVE., EDMONTON, ALBERTA

SEVEN THOUSAND THREE HUNDRED AND  
 NINETY SEVEN DOLLARS AND 97 CENTS

PAY CHEMEX LABS LTD.  
 TO THE 212 BROOKSBANK AVENUE  
 ORDER OF NORTH VANCOUVER, B.C.  
 V7J 2C1

NUMBER **072435** AMOUNT **7,397.97**

MO. DAY YR. **08 09 90**

**ECHO BAY MINES LTD.**

**NOT NEGOTIABLE**

INVOICE NUMBER **I 9017044**

SAMPLES ANALYSED	UNIT PRICE	AMOUNT
80	16.00	1280.00
charges.		
80	1.75	140.00
80	2.25	180.00
Total Cost \$		1600.00
Client Discount ( 15%) \$		240.00
<b>TOTAL PAYABLE (CDN) \$</b>		<b>1360.00</b>

**FOR PAYMENT**  
 18/7/90.  
 763.308.

red 13/7/90

*W*



# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers  
212 Brooksbank Ave., North Vancouver  
British Columbia, Canada V7J 2C1  
PHONE: 604-984-0221

To: ECHO BAY MINES LTD.

181 UNIVERSITY AVE., STE. 1422  
TORONTO, ON  
M5H 3M7

INVOICE NUMBER

I 9 0 1 7 7 5 7

## BILLING INFORMATION

Date: 2-JUL-90  
Project: ZAHAVY MINE  
P.O. No.:  
Account: HPO

Comments:

Billing: For analysis performed on  
Certificate I9017757

Terms: Payment due on receipt of invoice  
1.5% per month (18% per annum)  
charged on overdue accounts

Please Remit Payments to:

**CHEMEX LABS LTD.**  
212 Brooksbank Ave.,  
North Vancouver, B.C.  
Canada V7J-2C1

CHEMEX CODE	ANALYSIS DESCRIPTION	SAMPLES ANALYSED	UNIT PRICE	AMOUNT
983	- Au ppb FA+AA	69	9.00	621.00
Sample preparation and other charges.				
205	- Geochem - RING	69	1.75	120.75
294	- Crush and split	69	2.25	155.25
				Total Cost \$ 897.00
				Client Discount ( 15%) \$ 134.55
				<b>TOTAL PAYABLE (CDN) \$ 762.45</b>

Approved B/T/90





# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers  
212 Brooksbank Ave., North Vancouver  
British Columbia, Canada V7J 2C1  
PHONE: 604-984-0221

To: ECHO BAY MINES LTD.

181 UNIVERSITY AVE., STE. 1422  
TORONTO, ON  
M5H 3M7

INVOICE NUMBER

I 9 0 1 7 7 6 3

## BILLING INFORMATION

Date: 4-JUL-90  
Project: ZAHAVY MINE  
P.O. No.:  
Account: HPO

Comments:

Billing: For analysis performed on  
Certificate I9017763

Terms: Payment due on receipt of invoice  
1.5% per month (18% per annum)  
charged on overdue accounts

Please Remit Payments to:

**CHEMEX LABS LTD.**  
212 Brooksbank Ave.,  
North Vancouver, B.C.  
Canada V7J-2C1

CHEMEX CODE	ANALYSIS DESCRIPTION	SAMPLES ANALYSED	UNIT PRICE	AMOUNT
983	- Au ppb FA+AA	80	9.00	720.00
Sample preparation and other charges.				
205	- Geochem - RING	80	1.75	140.00
294	- Crush and split	80	2.25	180.00
Total Cost \$				1040.00
Client Discount ( 15%) \$				156.00
<b>TOTAL PAYABLE (CDN) \$</b>				<b>884.00</b>

*Approved For Payment 13/7/90*



# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers  
212 Brooksbank Ave., North Vancouver  
British Columbia, Canada V7J 2C1  
PHONE: 604-984-0221

To: ECHO BAY MINES LTD.

181 UNIVERSITY AVE., STE. 1422  
TORONTO, ON  
M5H 3M7

INVOICE NUMBER

I 9 0 1 7 7 6 4

## BILLING INFORMATION

Date: 4-JUL-90  
Project: ZAHAVY MINE  
P.O. No.:  
Account: HPO

Comments:

Billing: For analysis performed on  
Certificate I9017764

Terms: Payment due on receipt of invoice  
1.5% per month (18% per annum)  
charged on overdue accounts

Please Remit Payments to:

**CHEMEX LABS LTD.**  
212 Brooksbank Ave.,  
North Vancouver, B.C.  
Canada V7J-2C1

CHEMEX CODE	ANALYSIS DESCRIPTION	SAMPLES ANALYSED	UNIT PRICE	AMOUNT
983	- Au ppb FA+AA	80	9.00	720.00
Sample preparation and other charges.				
205	- Geochem - RING	80	1.75	140.00
294	- Crush and split	80	2.25	180.00
				Total Cost \$ 1040.00
				Client Discount ( 15% ) \$ 156.00
				<b>TOTAL PAYABLE (CDN) \$ 884.00</b>

*Approved for Payment 18/7/90*



# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers  
212 Brooksbank Ave., North Vancouver  
British Columbia, Canada V7J 2C1  
PHONE: 604-984-0221

To: ECHO BAY MINES LTD.

181 UNIVERSITY AVE., STE. 1422  
TORONTO, ON  
M5H 3M7

INVOICE NUMBER

I 9 0 1 7 7 6 5

## BILLING INFORMATION

Date: 4-JUL-90  
Project: ZAHABY MINE  
P.O. No.:  
Account: HPO

Comments:

Billing: For analysis performed on  
Certificate I9017765

Terms: Payment due on receipt of invoice  
1.5% per month (18% per annum)  
charged on overdue accounts

Please Remit Payments to:

**CHEMEX LABS LTD.**  
212 Brooksbank Ave.,  
North Vancouver, B.C.  
Canada V7J-2C1

CHEMEX CODE	ANALYSIS DESCRIPTION	SAMPLES ANALYSED	UNIT PRICE	AMOUNT
983	- Au ppb FA+AA	80	9.00	720.00
Sample preparation and other charges.				
205	- Geochem - RING	80	1.75	140.00
294	- Crush and split	80	2.25	180.00
Total Cost \$				1040.00
Client Discount ( 15%) \$				156.00
<b>TOTAL PAYABLE (CDN) \$</b>				<b>884.00</b>

*Approved 18/7/90*



# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers  
212 Brooksbank Ave., North Vancouver  
British Columbia, Canada V7J 2C1  
PHONE: 604-984-0221

To: ECHO BAY MINES LTD.

181 UNIVERSITY AVE., STE. 1422  
TORONTO, ON  
M5H 3M7

INVOICE NUMBER

I 9 0 1 7 7 6 6

## BILLING INFORMATION

Date: 4-JUL-90  
Project: ZAHAVY MINE  
P.O. No.:  
Account: HPO

Comments:

Billing: For analysis performed on  
Certificate I9017766

Terms: Payment due on receipt of invoice  
1.5% per month (18% per annum)  
charged on overdue accounts

Please Remit Payments to:

**CHEMEX LABS LTD.**  
212 Brooksbank Ave.,  
North Vancouver, B.C.  
Canada V7J-2C1

CHEMEX CODE	ANALYSIS DESCRIPTION	SAMPLES ANALYSED	UNIT PRICE	AMOUNT
983	- Au ppb FA+AA	61	9.00	549.00
Sample preparation and other charges.				
205	- Geochem - RING	61	1.75	106.75
294	- Crush and split	61	2.25	137.25
Total Cost \$				793.00
Client Discount ( 15%) \$				118.95
<b>TOTAL PAYABLE (CDN) \$</b>				<b>674.05</b>

*Approved 18/7/90*



# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers  
212 Brooksbank Ave., North Vancouver  
British Columbia, Canada V7J 2C1  
PHONE: 604-984-0221

To: ECHO BAY MINES LTD.

181 UNIVERSITY AVE., STE. 1422  
TORONTO, ON  
M5H 3M7

**INVOICE NUMBER**

**I 9 0 1 8 0 8 7**

## BILLING INFORMATION

Date: 11-JUL-90  
Project: ZAHAVY MINE  
P.O. No.:  
Account: HPO

Comments:

Billing: For analysis performed on  
Certificate I9018087

Terms: Payment due on receipt of invoice  
1.5% per month (18% per annum)  
charged on overdue accounts

Please Remit Payments to:

**CHEMEX LABS LTD.**  
212 Brooksbank Ave.,  
North Vancouver, B.C.  
Canada V7J-2C1

CHEMEX CODE	ANALYSIS DESCRIPTION	SAMPLES ANALYSED	UNIT PRICE	AMOUNT
G7	- TR-7 AU RELATED	69	11.50	793.50
Sample preparation and other charges.				
214	- Received as pulp	69	0.00	0.00
				Total Cost \$ 793.50
				Client Discount ( 15%) \$ 119.03
				<b>TOTAL PAYABLE (CDN) \$ 674.47</b>

*Approved 13/7/90*



# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers  
212 Brookbank Ave. North Vancouver

To: ECHO BAY MINES LTD.

181 UNIVERSITY AVE., STE. 1422  
TORONTO, ON

CHEQUE NUMBER	DATE	AMOUNT
012021		4,175.62
<b>CHEQUE TOTAL</b>		<b>4,175.62</b>

INVOICE NUMBER	DATE	AMOUNT
0018096	07/17/90	782.00
0018097	07/17/90	625.60
0018161	07/17/90	1,969.02
0018468	07/17/90	255.00
0018755	07/22/90	514.00
		<b>EC</b>

DETACH AT PERFORATION BEFORE CASHING CHEQUE

## ECHO BAY MINES LTD.

#3300 MANULIFE PLACE, 10180 - 101 ST.,  
EDMONTON, ALBERTA T6J 3S4

GENERAL ACCOUNT

TO: THE ROYAL BANK OF CANADA MAIN BRANCH  
10107 JASPER AVE., EDMONTON, ALBERTA

NUMBER **072821** AMOUNT **4,175.62**

MO. DAY. YR. **08 22 90**

**FOUR THOUSAND ONE HUNDRED AND SEVENTY FIVE DOLLARS AND 62 CENTS**

**ECHO BAY MINES LTD.**

**NOT NEGOTIABLE**

PAY CHEMEX LABS LTD.  
TO THE 212 BROOKSBANK AVENUE  
ORDER OF NORTH VANCOUVER, B.C.  
V7J 2C1

NUMBER I 9 0 1 8 0 9 6

SAMPLES ANALYSED	UNIT PRICE	AMOUNT
80	11.50	920.00
charges.		
80	0.00	0.00
Total Cost \$		920.00
Client Discount ( 15%) \$		138.00
<b>TOTAL PAYABLE (CDN) \$</b>		<b>782.00</b>

**FOR PAYMENT**

*[Signature]* 26/7/90

70 762 3107

*[Handwritten mark]*



# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers  
212 Brooksbank Ave., North Vancouver  
British Columbia, Canada V7J 2C1  
PHONE: 604-984-0221

To: ECHO BAY MINES LTD.

181 UNIVERSITY AVE., STE. 1422  
TORONTO, ON  
M5H 3M7

INVOICE NUMBER

I 9 0 1 8 0 9 6

## BILLING INFORMATION

Date: 17-JUL-90  
Project: ZAHAVY MINE  
P.O. No.:  
Account: HPO

Comments:

Billing: For analysis performed on  
Certificate I9018096

Terms: Payment due on receipt of invoice  
1.5% per month (18% per annum)  
charged on overdue accounts

Please Remit Payments to:

**CHEMEX LABS LTD.**  
212 Brooksbank Ave.,  
North Vancouver, B.C.  
Canada V7J-2C1

CHEMEX CODE	ANALYSIS DESCRIPTION	SAMPLES ANALYSED	UNIT PRICE	AMOUNT
G7	- TR-7 AU RELATED	80	11.50	920.00
	Sample preparation and other charges.			
214	- Received as pulp	80	0.00	0.00
			Total Cost \$	920.00
			Client Discount ( 15%) \$	138.00
			<b>TOTAL PAYABLE (CDN) \$</b>	<b>782.00</b>

Approved 26/7/90



# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers  
212 Brooksbank Ave., North Vancouver  
British Columbia, Canada V7J 2C1  
PHONE: 604-984-0221

To: ECHO BAY MINES LTD.

181 UNIVERSITY AVE., STE. 1422  
TORONTO, ON  
M5H 3M7

INVOICE NUMBER

I 9 0 1 8 0 9 7

## BILLING INFORMATION

Date: 17-JUL-90  
Project: ZAHAVY MINE  
P.O. No.:  
Account: HPO

Comments:

Billing: For analysis performed on  
Certificate I9018097

Terms: Payment due on receipt of invoice  
1.5% per month (18% per annum)  
charged on overdue accounts

Please Remit Payments to:

**CHEMEX LABS LTD.**  
212 Brooksbank Ave.,  
North Vancouver, B.C.  
Canada V7J-2C1

CHEMEX CODE	ANALYSIS DESCRIPTION	SAMPLES ANALYSED	UNIT PRICE	AMOUNT
G7	- TR-7 AU RELATED	64	11.50	736.00
	Sample preparation and other charges.			
214	- Received as pulp	64	0.00	0.00
			Total Cost \$	736.00
			Client Discount ( 15%) \$	110.40
			<b>TOTAL PAYABLE (CDN) \$</b>	<b>625.60</b>

Approved 26/7/90





# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers  
212 Brooksbank Ave., North Vancouver  
British Columbia, Canada V7J 2C1  
PHONE: 604-984-0221

To: ECHO BAY MINES LTD.

181 UNIVERSITY AVE., STE. 1422  
TORONTO, ON  
M5H 3M7

INVOICE NUMBER

I 9 0 1 8 1 5 1

## BILLING INFORMATION

Date: 17-JUL-90  
Project: ZAHAVY MINE  
P.O. No.:  
Account: HPO

Comments:

Billing: For analysis performed on  
Certificate I9018151

Terms: Payment due on receipt of invoice  
1.5% per month (18% per annum)  
charged on overdue accounts

Please Remit Payments to:

**CHEMEX LABS LTD.**  
212 Brooksbank Ave.,  
North Vancouver, B.C.  
Canada V7J-2C1

CHEMEX CODE	ANALYSIS DESCRIPTION	SAMPLES ANALYSED	UNIT PRICE	AMOUNT
983	- Au ppb FA+AA			
G7	- TR-7 AU RELATED	113	20.50	2316.50
Sample preparation and other charges.				
214	- Received as pulp	113	0.00	0.00
				Total Cost \$ 2316.50
				Client Discount ( 15%) \$ 347.48
				<b>TOTAL PAYABLE (CDN) \$ 1969.02</b>

*Approved 26/7/90.*



Ministry of Northern Development and Mines

W 9002.308  
2.13664

DOCUMENT No.  
W9002.308



53C13SE0053 2.13664 SETTING NET LAKE

900

Ontario  
Mining Act

Report of Work  
(Expenditures, Subsection 77(19)) 2.13

Type of Work Performed Diamond Drill Assay Costs	Mining Division Red Lake	Township or Area Setting Net Lake Area
Recorded Holder Greystar Resources Ltd.	Prospector's Licence No. T-4907	
Address 909-999 West Hastings Street, Vancouver, B. C V6C-2W2		Telephone No. 604 689-1428
Work Performed By Echo Bay Mines Ltd.		
Name and Address of Author (of Submission) Chris Suchanek, 1422-181 University Ave., Toronto, Ontario M5H-3M7		Date When Work was Performed From: 01 06 90 To: 21 06 90 Day Mo. Yr. Day Mo. Yr.

All the work was performed on Mining Claim(s): Indicate no. of days performed on each claim. *See Note No. 1 on reverse side			Mining Claim 944038	No. of Days 3	Mining Claim 944106	No. of Days 79	Mining Claim 944110	No. of Days 68	Mining Claim 944113	No. of Days 144	
Mining Claim 944114	No. of Days 63	Mining Claim 944115	No. of Days 65	Mining Claim 944117	No. of Days 72	Mining Claim 944122	No. of Days 71	Mining Claim 944123	No. of Days 86	Mining Claim 943999	No. of Days 79
Mining Claim	No. of Days	Mining Claim	No. of Days	Mining Claim	No. of Days	Mining Claim	No. of Days	Mining Claim	No. of Days	Mining Claim	No. of Days

Instructions Total days credits may be distributed at claim holder's choice. Enter number of days credits per claim in the expenditure days credit column (below).	Calculation of Expenditure Days Credits		Total Days Credits	Total Number of Mining Claims Covered by this Report of Work
	Total Expenditures \$ 10,956.59	÷ 15 =	730	<del>10</del> 13

Mining Claims (List in numerical sequence). If space is insufficient, attach schedules with required information

Prefix	Mining Claim Number	Expend. Days Cr.	Prefix	Mining Claim Number	Expend. Days Cr.	Prefix	Mining Claim Number	Expend. Days Cr.	Prefix	Mining Claim Number	Expend. Days Cr.
KRL	943968	60	KRL	944060	60						
KRL	943969	60	KRL	944065	60						
KRL	943970	60	KRL	944066	60						
KRL	944049	60	KRL	944209	60						
KRL	944050	60	KRL	944210	10						
KRL	944053	60									
KRL	944054	60									
KRL	944059	60									

RECEIVED  
NOV 21 1990

MINING LANDS SECTION

Total Number of Days Performed 730	Total Number of Days Claimed 730	Total Number of Days to be Claimed at a Future Date 0
---------------------------------------	-------------------------------------	--

Certification of Beneficial Interest \*See Note No. 2 on reverse side

I hereby certify that, at the time the work was performed, the claims covered in this report of work were recorded in the current recorded holder's name or held under a beneficial interest by the current recorded holder.	Date Oct. 31, 1990	Recorded Holder or Agent (Signature)
--	-----------------------	--------------------------------------

Certification Verifying Report of Work

I hereby certify that I have a personal and intimate knowledge of the facts set forth in the Report of Work annexed hereto, having performed the work or witnessed same during and/or after its completion and the annexed report is true.		
Name and Address of Person Certifying Chris Suchanek, 1422-181 University Ave., Toronto, Ontario M5H-3M7		
Telephone No. 416 864-9889	Date Oct. 31, 1990	Certifier's Signature

For Office Use Only

Total Days Cr. Recorded 730	Date Recorded Nov. 8, 1990	Mining Recorder <i>[Signature]</i>
	Date Approved as Recorded Jan 18/91	Province of Manitoba <i>[Signature]</i>

Received Stamp 
--------------------

**Instructions**  
 - Please type or print.  
 - For each type of work performed, a separate Report of Work should be completed.  
 - For Geo-technical work, use form no. 1362 "Report of Work (Geological, Geophysical, Geochemical)" and form no. 878 for Expenditures.  
 - Refer to Sections 76 and 77, the Mining Act for assessment work requirements and the reverse side of this form for table of information.

2.13664

**Mining Act**

**Report of Work**

**COPY**

Name and Address of Recorded Holder <b>Greystar Resources Ltd., 900-999 West Hastings Street          Vancouver, B.C. V6C-2W2</b>	Prospector's Licence No. <b>T-4907</b>
	Telephone No. <b>604 689-1428</b>

**Summary of Distribution of Credits and Work Performance**

Mining Division <b>Red Lake</b>	Mining Claim		Work Days Cr.	Mining Claim		Work Days Cr.	Mining Claim		Work Days Cr.
	Prefix	Number		Prefix	Number		Prefix	Number	
Township or Area <b>Setting Net Lake Area</b>	<b>SEE ATTACHED LIST</b>								
Total Assessment Credits Claimed <b>4595</b>									
Type of Work Performed (Check one only)									
<input type="checkbox"/> Manual Work									
<input type="checkbox"/> Shaft Sinking Drifting or other Lateral Work									
<input type="checkbox"/> Mechanical equipment									
<input type="checkbox"/> Power Stripping other than Manual (maximum credit allowed - 100 days per claim)									
<input checked="" type="checkbox"/> Diamond or other Core drilling									
<input type="checkbox"/> Core Specimens									

**COPY**

Dates when work was performed <b>From: June 01, 1990 To: June 21, 1990</b>	Total No. of Days Performed <b>4595</b>	Total No. of Days Claimed <b>4595</b>	Total No. of Days to be Claimed at a Future Date <b>0</b>
---	--	--	--

All the work was performed on Mining Claim(s): Indicate no. of days performed on each claim. * (See note No. 1 on reverse side)		Mining Claim	No. of Days	Mining Claim	No. of Days	Mining Claim	No. of Days	Mining Claim	No. of Days
		<b>944038</b>	<b>23</b>	<b>944106</b>	<b>495</b>	<b>944110</b>	<b>426</b>	<b>944113</b>	<b>909</b>
Mining Claim	No. of Days	Mining Claim	No. of Days	Mining Claim	No. of Days	Mining Claim	No. of Days	Mining Claim	No. of Days
<b>944114</b>	<b>397</b>	<b>944115</b>	<b>407</b>	<b>944117</b>	<b>456</b>	<b>944122</b>	<b>445</b>	<b>944123</b>	<b>543</b>
								<b>943999</b>	<b>494</b>

Required information eg. type of equipment, Names, Addresses, etc. (See Table on reverse side)  
 If space below is insufficient, attach schedules with required information and location sketches

**Diamond Drill - Boyles 17 (fly drill)**

**B.Q. Core**

**Drill Contractor:**

**N. Morissette Canada Inc.  
 P.O. Box 789  
 Halleybury, Ontario  
 POJ-1K0**

**Certification of Beneficial Interest \* (See Note No. 2 on reverse side)**

I hereby certify that, at the time the work was performed, the claims covered in this report of work were recorded in the current recorded holder's name or held under a beneficial interest by the current recorded holder.	Date <b>Oct. 20, 1990</b>	Recorded Holder or Agent (Signature) 
--	------------------------------	--

**Certification Verifying Report of Work**

I hereby certify that I have a personal and intimate knowledge of the facts set forth in the Report of Work annexed hereto, having performed the work or witnessed same during and/or after its completion and the annexed report is true.

Name and Address of Person Certifying <b>Chris Suchanek, 1422-181 University Ave., Toronto, Ontario M5H-3M7</b>	Telephone No. <b>416 864-9889</b>	Date <b>Oct. 20, 1990</b>	Certified By (Signature) 
--	--------------------------------------	------------------------------	------------------------------

**For Office Use Only**

Work Assignments	Received Stamp

Claim No.	Days Appl.	Claim No.	Days Appl.	Claim No.	Days Appl.	Claim No.	Days Appl.	Claim No.	Days Appl.
KRL 943971	80			KRL 1006851	20	KRL 1006506	20	KRL 1006616	20
KRL 943972	80			KRL 1006852	20	KRL 1006507	20	KRL 1006617	20
KRL 943973	80			KRL 1006853	20	KRL 1006508	20	KRL 1006618	20
KRL 943974	80			KRL 1006854	20	KRL 1006509	20	KRL 1006619	20
KRL 943975	90			KRL 1006855	20	KRL 1006510	20	KRL 1006620	20
KRL 943976	80			KRL 1006856	20	KRL 1006511	20		
KRL 943977	80			KRL 1006857	20	KRL 1006512	20	KRL 1006677	20
KRL 943978	80			KRL 1006858	20	KRL 1006513	20	KRL 1006678	20
KRL 943979	100			KRL 1006859	20	KRL 1006514	20	KRL 1006679	20
				KRL 1006860	20	KRL 1006515	20	KRL 1006680	20
				KRL 1006861	20	KRL 1006516	20	KRL 1006681	20
				KRL 1006862	20	KRL 1006517	20	KRL 1006682	20
				KRL 1006863	20	KRL 1006518	20	KRL 1006683	20
				KRL 1006864	20	KRL 1006519	20	KRL 1006684	20
				KRL 1006865	20	KRL 1006520	20		
				KRL 1006866	20			KRL 1036100	20
				KRL 1006867	20	KRL 1006570	20	KRL 1036101	20
KRL 943985	100			KRL 1006868	20	KRL 1006571	20	KRL 1036102	20
				KRL 1006869	20	KRL 1006572	20	KRL 1036103	20
				KRL 1006870	20	KRL 1006573	20	KRL 1036104	20
				KRL 1006871	20	KRL 1006574	20	KRL 1036105	20
				KRL 1006872	20			KRL 1036106	20
		KRL 944203	100	KRL 1006873	20	KRL 1006590	20	KRL 1036107	20
		KRL 944204	80	KRL 1006874	20	KRL 1006591	20	KRL 1036108	20
		KRL 944205	75	KRL 1006875	20	KRL 1006592	20	KRL 1036109	20
				KRL 1006876	20	KRL 1006593	20	KRL 1036110	20
				KRL 1006877	20	KRL 1006594	20	KRL 1036111	20
		KRL 944208	80	KRL 1006878	20	KRL 1006595	20	KRL 1036112	20
				KRL 1006879	20	KRL 1006596	20	KRL 1036113	20
		KRL 944210	50	KRL 1006880	20	KRL 1006597	20	KRL 1036114	20
		KRL 944211	80	KRL 1006881	20	KRL 1006598	20	KRL 1036115	20
						KRL 1006599	20	KRL 1036116	20
				KRL 1006490	20	KRL 1006600	20	KRL 1036117	20
		KRL 1006836	20	KRL 1006491	20	KRL 1006601	20	KRL 1036118	20
		KRL 1006837	20	KRL 1006492	20	KRL 1006602	20	KRL 1036119	20
		KRL 1006838	20	KRL 1006493	20	KRL 1006603	20	KRL 1036120	20
		KRL 1006839	20	KRL 1006494	20	KRL 1006604	20	KRL 1036121	20
		KRL 1006840	20	KRL 1006495	20	KRL 1006605	20	KRL 1036122	20
		KRL 1006841	20	KRL 1006496	20	KRL 1006606	20	KRL 1036123	20
		KRL 1006842	20	KRL 1006497	20	KRL 1006607	20	KRL 1036124	20
		KRL 1006843	20	KRL 1006498	20	KRL 1006608	20	KRL 1036125	20
		KRL 1006844	20	KRL 1006499	20	KRL 1006609	20	KRL 1036126	20
		KRL 1006845	20	KRL 1006500	20	KRL 1006610	20	KRL 1036127	20
		KRL 1006846	20	KRL 1006501	20	KRL 1006611	20	KRL 1036128	20
		KRL 1006847	20	KRL 1006502	20	KRL 1006612	20	KRL 1036129	20
		KRL 1006848	20	KRL 1006503	20	KRL 1006613	20	KRL 1036130	20
		KRL 1006849	20	KRL 1006504	20	KRL 1006614	20	KRL 1036131	20
		KRL 1006850	20	KRL 1006505	20	KRL 1006615	20	KRL 1036132	20
								KRL 1036133	20
								KRL 1036134	20
								KRL 1036135	20
								KRL 1036136	20
								KRL 1036137	20
								KRL 1036138	20
								KRL 1036139	20
								KRL 1036140	20
								KRL 1036141	20
								KRL 1036142	20
	850		765		940		920		



TO BE ATTACHED AS AN APPENDIX TO TECHNICAL REPORT  
FACTS SHOWN HERE NEED NOT BE REPEATED IN REPORT  
TECHNICAL REPORT MUST CONTAIN INTERPRETATION, CONCLUSIONS ETC.

Type of Survey(s) N/A  
Township or Area Setting Net Lake Area  
Claim Holder(s) Greystar Resources Ltd.  
Survey Company Echo Bay Mines Ltd.  
Author of Report Chris Suchanek  
Address of Author 1422-181 University Ave., Toronto, Ont.  
Covering Dates of Survey N/A  
(linecutting to office)  
Total Miles of Line Cut N/A

**MINING CLAIMS TRAVERSED**  
List numerically

N/A  
(prefix) (number)

**RECEIVED**

NOV 15 1990

**MINING LANDS SECTION**

If space insufficient, attach list

<u>SPECIAL PROVISIONS CREDITS REQUESTED</u>	Geophysical	DAYS per claim
ENTER 40 days (includes line cutting) for first survey.	-Electromagnetic _____	
ENTER 20 days for each additional survey using same grid.	-Magnetometer _____	
	-Radiometric _____	
	-Other _____	
	Geological _____	
	Geochemical _____	

AIRBORNE CREDITS (Special provision credits do not apply to airborne surveys)

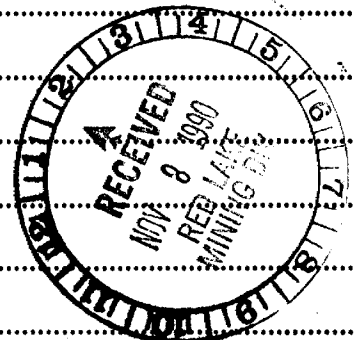
Magnetometer \_\_\_\_\_ Electromagnetic \_\_\_\_\_ Radiometric \_\_\_\_\_  
(enter days per claim)

DATE: Oct. 19, 1990 SIGNATURE: \_\_\_\_\_  
Author of Report or Agent

Res. Geol. \_\_\_\_\_ Qualifications \_\_\_\_\_

Previous Surveys

File No.	Type	Date	Claim Holder



TOTAL CLAIMS \_\_\_\_\_

OFFICE USE ONLY

**GEOPHYSICAL TECHNICAL DATA**

GROUND SURVEYS – If more than one survey, specify data for each type of survey

Number of Stations \_\_\_\_\_ Number of Readings \_\_\_\_\_

Station interval \_\_\_\_\_ Line spacing \_\_\_\_\_

Profile scale \_\_\_\_\_

Contour interval \_\_\_\_\_

**MAGNETIC**

Instrument \_\_\_\_\_

Accuracy – Scale constant \_\_\_\_\_

Diurnal correction method \_\_\_\_\_

Base Station check-in interval (hours) \_\_\_\_\_

Base Station location and value \_\_\_\_\_

**ELECTROMAGNETIC**

Instrument \_\_\_\_\_

Coil configuration \_\_\_\_\_

Coil separation \_\_\_\_\_

Accuracy \_\_\_\_\_

Method:  Fixed transmitter  Shoot back  In line  Parallel line

Frequency \_\_\_\_\_  
(specify V.L.F. station)

Parameters measured \_\_\_\_\_

**GRAVITY**

Instrument \_\_\_\_\_

Scale constant \_\_\_\_\_

Corrections made \_\_\_\_\_

Base station value and location \_\_\_\_\_

Elevation accuracy \_\_\_\_\_

**INDUCED POLARIZATION  
RESISTIVITY**

Instrument \_\_\_\_\_

Method  Time Domain  Frequency Domain

Parameters – On time \_\_\_\_\_ Frequency \_\_\_\_\_

– Off time \_\_\_\_\_ Range \_\_\_\_\_

– Delay time \_\_\_\_\_

– Integration time \_\_\_\_\_

Power \_\_\_\_\_

Electrode array \_\_\_\_\_

Electrode spacing \_\_\_\_\_

Type of electrode \_\_\_\_\_

SELF POTENTIAL

Instrument \_\_\_\_\_ Range \_\_\_\_\_  
Survey Method \_\_\_\_\_  
\_\_\_\_\_  
Corrections made \_\_\_\_\_  
\_\_\_\_\_

RADIOMETRIC

Instrument \_\_\_\_\_  
Values measured \_\_\_\_\_  
Energy windows (levels) \_\_\_\_\_  
Height of instrument \_\_\_\_\_ Background Count \_\_\_\_\_  
Size of detector \_\_\_\_\_  
Overburden \_\_\_\_\_  
(type, depth – include outcrop map)

OTHERS (SEISMIC, DRILL WELL LOGGING ETC.)

Type of survey \_\_\_\_\_  
Instrument \_\_\_\_\_  
Accuracy \_\_\_\_\_  
Parameters measured \_\_\_\_\_  
\_\_\_\_\_  
Additional information (for understanding results) \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

AIRBORNE SURVEYS

Type of survey(s) \_\_\_\_\_  
Instrument(s) \_\_\_\_\_  
(specify for each type of survey)  
Accuracy \_\_\_\_\_  
(specify for each type of survey)  
Aircraft used \_\_\_\_\_  
Sensor altitude \_\_\_\_\_  
Navigation and flight path recovery method \_\_\_\_\_  
\_\_\_\_\_  
Aircraft altitude \_\_\_\_\_ Line Spacing \_\_\_\_\_  
Miles flown over total area \_\_\_\_\_ Over claims only \_\_\_\_\_

GEOCHEMICAL SURVEY - PROCEDURE RECORD

Numbers of claims from which samples taken KRL 944038, KRL 944106, KRL 944110, KRL 944113  
KRL 944114, KRL 944115, KRL 944117, KRL 944122, KRL 944123, KRL 943999

Total Number of Samples \_\_\_\_\_

Type of Sample \_\_\_\_\_  
(Nature of Material)

Average Sample Weight \_\_\_\_\_

Method of Collection \_\_\_\_\_

Soil Horizon Sampled \_\_\_\_\_

Horizon Development \_\_\_\_\_

Sample Depth \_\_\_\_\_

Terrain \_\_\_\_\_

Drainage Development \_\_\_\_\_

Estimated Range of Overburden Thickness \_\_\_\_\_

SAMPLE PREPARATION  
(Includes drying, screening, crushing, ashing)

Mesh size of fraction used for analysis \_\_\_\_\_

General \_\_\_\_\_

ANALYTICAL METHODS

Values expressed in: per cent   
p. p. m.   
p. p. b.

Cu, Pb, Zn, Ni, Co, Ag, Mo, As (circle)

Others Au, Sb

Field Analysis (N/A tests)

Extraction Method \_\_\_\_\_

Analytical Method \_\_\_\_\_

Reagents Used \_\_\_\_\_

Field Laboratory Analysis

No. (\_\_\_\_\_ tests)

Extraction Method \_\_\_\_\_

Analytical Method \_\_\_\_\_

Reagents Used \_\_\_\_\_

Commercial Laboratory (\_\_\_\_\_ tests)

Name of Laboratory Chemex Labs

Extraction Method Geochem ring - 150 mesh

Analytical Method FA-AAS

Reagents Used Aqua Regia

General \_\_\_\_\_





2.13664

TO BE ATTACHED AS AN APPENDIX TO TECHNICAL REPORT
FACTS SHOWN HERE NEED NOT BE REPEATED IN REPORT
TECHNICAL REPORT MUST CONTAIN INTERPRETATION, CONCLUSIONS ETC.

Type of Survey(s) N/A
Township or Area Setting Net Lake Area
Claim Holder(s) Greystar Resources Ltd.
Survey Company Echo Bay Mines Ltd.
Author of Report Chris Suchanek
Address of Author 1422-181 University Ave., Toronto, Ont.
Covering Dates of Survey N/A (linecutting to office)
Total Miles of Line Cut N/A

MINING CLAIMS TRAVERSED
List numerically
N/A (prefix) (number)

SPECIAL PROVISIONS CREDITS REQUESTED
Geophysical
- Electromagnetic
- Magnetometer
- Radiometric
- Other
Geological
Geochemical
DAYS per claim

AIRBORNE CREDITS (Special provision credits do not apply to airborne surveys)

Magnetometer Electromagnetic Radiometric
(enter days per claim)

DATE: Oct. 19, 1990 SIGNATURE: [Signature]
Author of Report or Agent

Res. Geol. Qualifications

Previous Surveys
Table with columns: File No., Type, Date, Claim Holder

TOTAL CLAIMS

OFFICE USE ONLY

If space insufficient, attach list

GEOCHEMICAL SURVEY - PROCEDURE RECORD

Numbers of claims from which samples taken KRL 944038, KRL 944106, KRL 944110, KRL 944113  
KRL 944114, KRL 944115, KRL 944117, KRL 944122, KRL 944123, KRL 943999

Total Number of Samples \_\_\_\_\_

Type of Sample \_\_\_\_\_  
(Nature of Material)

Average Sample Weight \_\_\_\_\_

Method of Collection \_\_\_\_\_

Soil Horizon Sampled \_\_\_\_\_

Horizon Development \_\_\_\_\_

Sample Depth \_\_\_\_\_

Terrain \_\_\_\_\_

Drainage Development \_\_\_\_\_

Estimated Range of Overburden Thickness \_\_\_\_\_

ANALYTICAL METHODS

Values expressed in: per cent   
p. p. m.   
p. p. b.

Cu, Pb, Zn, Ni, Co, Ag, Mo, As (circle)

Others Au, Sb

Field Analysis (N/A tests)

Extraction Method \_\_\_\_\_

Analytical Method \_\_\_\_\_

Reagents Used \_\_\_\_\_

Field Laboratory Analysis

No. (\_\_\_\_\_ tests)

Extraction Method \_\_\_\_\_

Analytical Method \_\_\_\_\_

Reagents Used \_\_\_\_\_

Commercial Laboratory (\_\_\_\_\_ tests)

Name of Laboratory Chemex Labs

Extraction Method Geochem ring - 150 mesh

Analytical Method FA-AAS

Reagents Used Aqua Regia

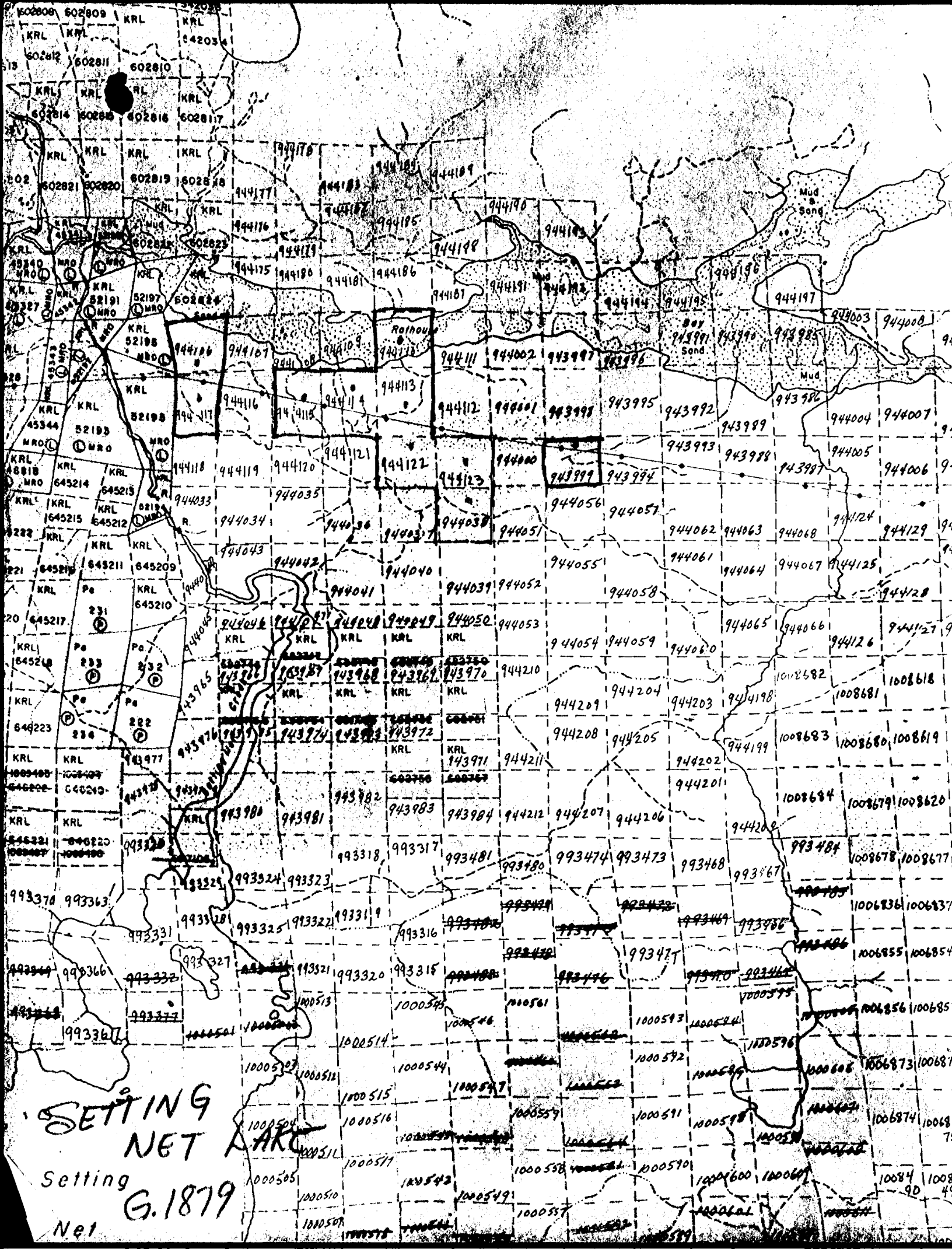
SAMPLE PREPARATION

(Includes drying, screening, crushing, ashing)

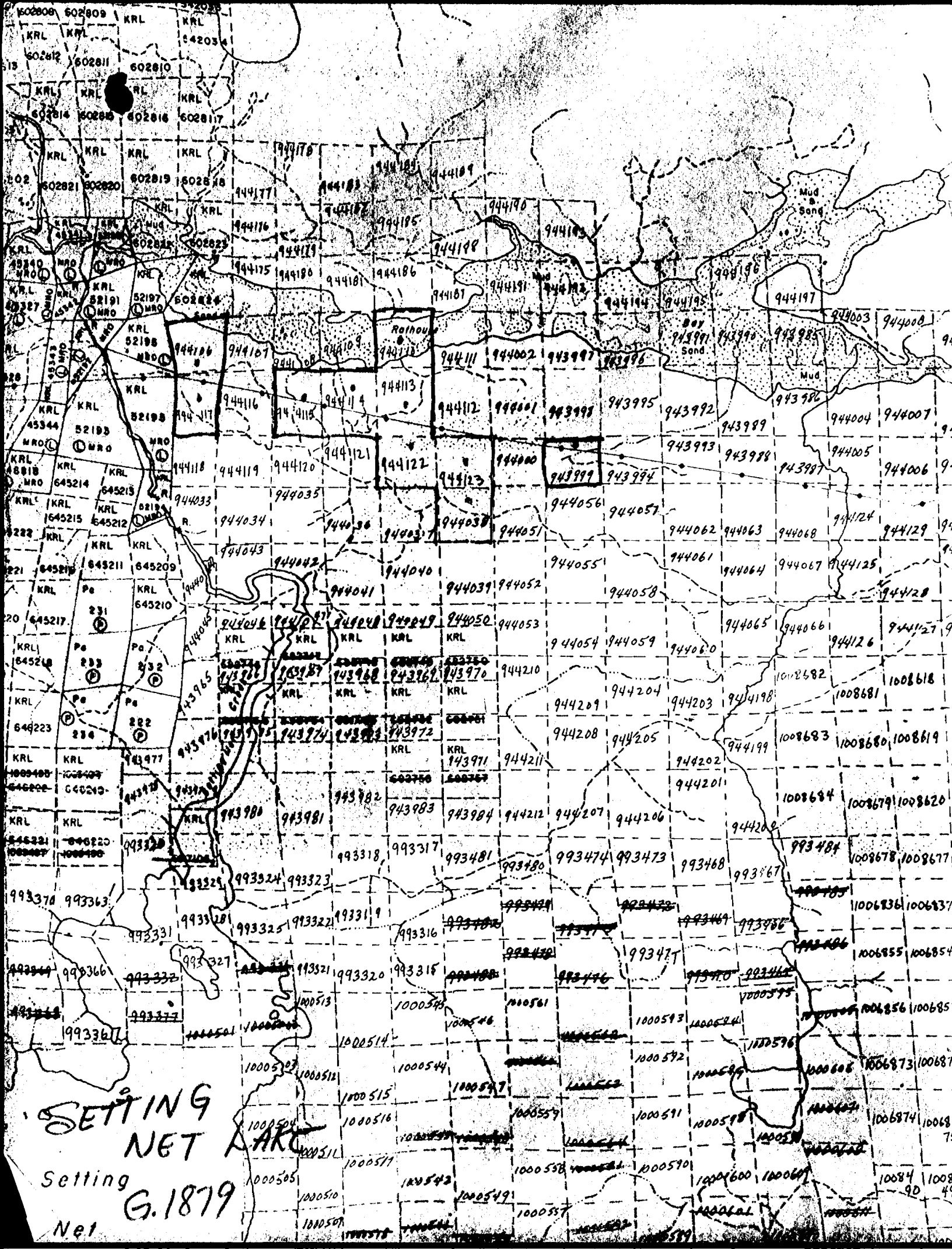
Mesh size of fraction used for analysis \_\_\_\_\_

General \_\_\_\_\_

General \_\_\_\_\_



SETTING NET AREA  
Setting Net G.1879



SETTING NET AREA  
Setting Net G.1879

NORTH TROUT LAKE G-1832

REFERENCES

AREAS WITHDRAWN FROM DISPOSITION

- M.R.O. - MINING RIGHTS ONLY
- S.R.O. - SURFACE RIGHTS ONLY
- M.S. - MINING AND SURFACE RIGHTS

Description Order No. Date Disposition File

NOT OPEN FOR  
STAKING  
PENDING INSPECTIONS  
RM HARRIS

RED LAKE MINING DIVISION  
JUN 28 1990  
RED LAKE, ONTARIO

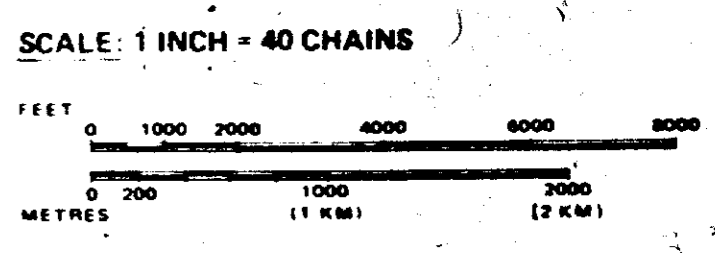
LEGEND

- HIGHWAY AND ROUTE No.
- OTHER ROADS
- TRAILS
- SURVEYED LINES:  
TOWNSHIPS, BASE LINES, ETC.
- LOTS, MINING CLAIMS, PARCELS, ETC.
- UNSURVEYED LINES
- LOT LINES
- PARCEL BOUNDARY
- MINING CLAIMS ETC.
- RAILWAY AND RIGHT OF WAY
- UTILITY LINES
- NON PERENNIAL STREAM
- FLOODING OR FLOODING RIGHTS
- SUBDIVISION OR COMPOSITE PLAN
- RESERVATIONS
- ORIGINAL SHORELINE
- MARSH OR MUSKEG
- MINES
- TRAVERSE MONUMENT

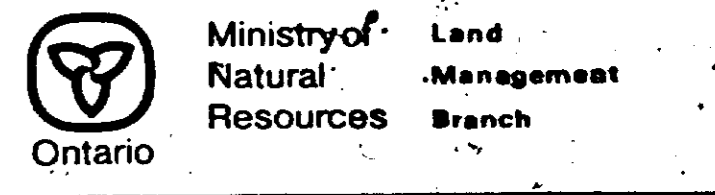
DISPOSITION OF CROWN LANDS

TYPE OF DOCUMENT	SYMBOL
PATENT, SURFACE & MINING RIGHTS	○
SURFACE RIGHTS ONLY	○
MINING RIGHTS ONLY	○
LEASE, SURFACE & MINING RIGHTS	○
SURFACE RIGHTS ONLY	○
MINING RIGHTS ONLY	○
LICENCE OF OCCUPATION	○
ORDER-IN-COUNCIL	○
RESERVATION	○
CANCELLED	○
SAND & GRAVEL	○

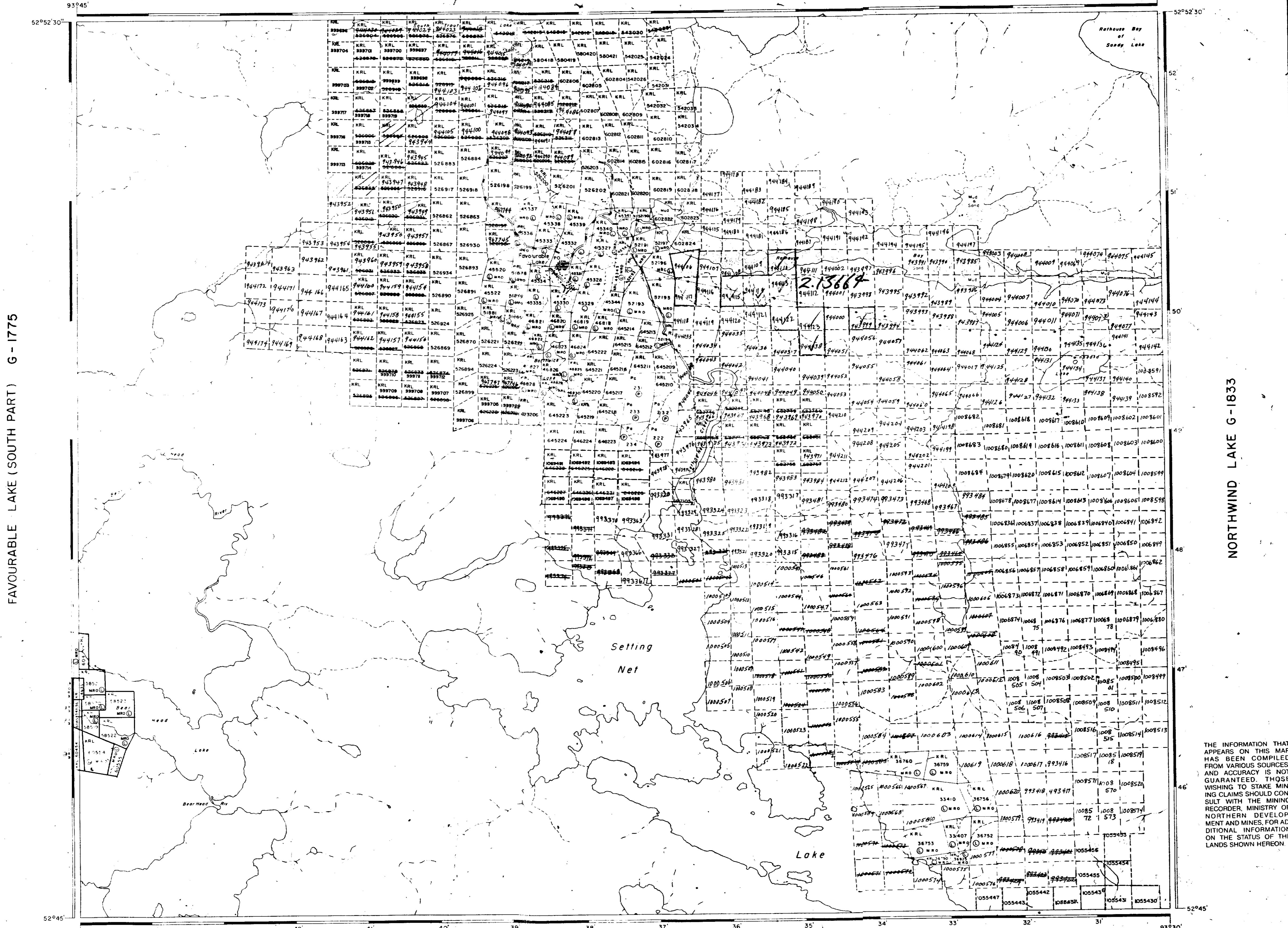
NOTE: MINING RIGHTS IN PARCELS PATENTED PRIOR TO MAY 6 1912, VESTED IN ORIGINAL PATENTEES BY THE PUBLIC LANDS ACT, R.S.O. 1978, CHAP. 300, SEC. 63, SUBSEC. 1



AREA  
**SETTING NET LAKE**  
M.N.R. ADMINISTRATIVE DISTRICT  
**RED LAKE**  
MINING DIVISION  
**RED LAKE**  
LAND TITLES / REGISTRY DIVISION  
**KENORA / PATRICIA**



Date FEB. 1983  
Number **G-1879**

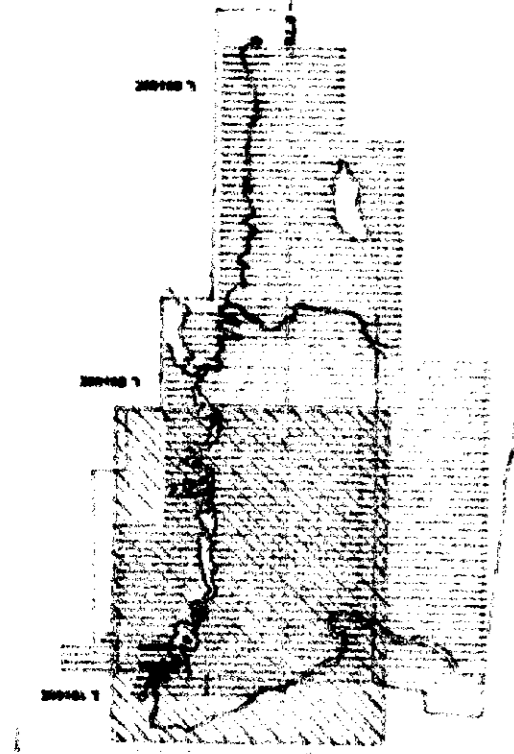


FAVOURABLE LAKE (SOUTH PART) G-1775

NORTHWIND LAKE G-1833

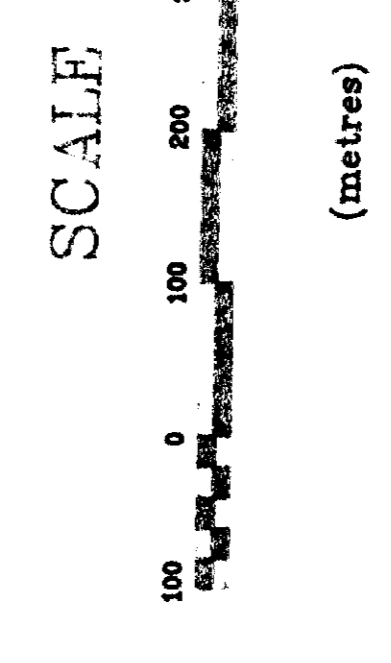
SETTING NET CREEK G-1878





Location Map

- BRE 90-05 1990 DRILLING (Echo Bay)
- NBE 88-14 1988 DRILLING (Noramco)



**ECHO BAY MINES LTD.**  
 Suite 1422 - 181 University Ave., Toronto, Ont., Canada, M5J 3A7

**BERENS RIVER EAST PROJECT**  
 Diamond Drill Plan **2.13664**

Geology by: \_\_\_\_\_ Date: Sept. 1990 X.P.S.: 83 C/13  
 Drawn by: C. Suchanek \_\_\_\_\_ Scale: 1 : 6000 Map No. \_\_\_\_\_

L 47+00E  
 L 46+00E  
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