MAP NO.:	**ASSESSMENT REPORT**	X	**DOCUMENT NO:** 092895
	PROSPECTUS		**MINING DISTRICT:** WHITEHORSE
105 L 11, 14,15	**CONFIDENTIAL**	X	**TYPE OF WORK:** GEOCHEMISTRY
	OPEN FILE		GEOLOGY

REPORT FILED UNDER: TOTAL ENERGOLD CORPORATION

DATE PERFORMED: JULY 5-19, OCT 2-8, 1990 **DATE FILED:** JAN 8, 1991

LOCATION: **LAT.:** 62°48'N **AREA:** CLEAR LAKE

LONG.: 135°10'W **VALUE $:** 28,375

CLAIM NAME & NO.: CLEAR 1-448, 451-598
SUE 611-616, 635, 2010-2015, 2018-2019
SUE 2026, 2028, 3003FR-3005FR, 3040FR, 339-346

WORK DONE BY: Richard Basnett, Rick Zuran, Roger Hulstein

WORK DONE FOR: Total Energold Corporation

DATE TO GOOD STANDING:

REMARKS: 18 target areas around the Clear Lake Deposit were evaluated utilizing soil geochemistry and geological mapping. 977 samples were collected (932 soil, 45 rock). The Selwyn Basin stratigraphy is favourable for sedex deposits. Hand augers and a portable overburden drill were used in the sampling program. Geochemical anomalies on 5 of the areas are unexplained.

CONFIDENTIAL

GEOCHEMICAL AND GEOLOGICAL ASSESSMENT REPORT ON THE CLEAR LAKE PROPERTY

Volume 1 of 2 Text

Whitehorse M.D., Yukon
July 5-19, Oct. 2-8, 1990

Claims:
Clear 1-448 (YB25815-26262)
Clear 451-490 (YB26265-26304)
Clear 491-593 (YB27222-27324)
Clear 594-598 (YB27376-27380)
SUE 611-616 (Y81261-81266)
SUE 635 (Y81285)
SUE 2010-2015 (YA22730-22735)
SUE 2018-2019 (YA22946-22947)
SUE 2026, 2028 (YA22748, 22746)
SUE 3003FR-3005FR (YA59692-59694)
SUE 3040FR (YA61583)
SUE 339-346 (Y80989-80996)

RECEIVED
JAN - 8 1991
MINING RECORDER'S OFFICE
WHITEHORSE, Y.T.

Location:
1. 225 km S of Whitehorse, Yukon
2. NTS 105L/11, 14, 15
3. Latitude 62° 48' N
   Longitude 135° 10' W

OFFICE OF THE REGIONAL MANAGER
MINERAL RIGHTS
JAN 08 1991
WHITEHORSE
YUKON TERRITORY

By: Richard Basnett, B.Sc.
TOTAL ENERGOLD CORPORATION.
#21 - 1114 1st Avenue
Whitehorse, Yukon
Y1A 1A3

December 31, 1990

092895

This report has been examined by the Geological Evaluation Unit under Section 53 (4) Yukon Quartz Mining Act and is allowed as representation work in the amount of $ 20,375.

for Regional Manager, Exploration and Geological Services for Commissioner of Yukon Territory.

SUMMARY

Total Energold Corporation's Clear Lake silver-lead-zinc property of 625 claims totalling 13,000 hectares, is located on the height of land between the Pelly and MacMillan Rivers, 225 kilometers north of Whitehorse, Yukon Territory. The claims cover the Clear Lake Deposit with a geological reserve of 6.1 million tons grading 11.34% zinc, 1.99% lead, and 1.19 opt silver at a cutoff of 7% combined lead - zinc. Access to the property is by fixed wing aircraft or helicopter.

The search for base metal deposits in the area began in 1965 following the discovery of the Faro orebody 80 kilometers to the southeast. This work culminated in the discovery of the Clear Lake Deposit in 1978. The Deposit is hosted by Devono-Mississippian argillites and has similarities to other sedimentary exhalative type deposits found in the Selwyn Basin. By the mid-1980's an additional 21 exploration targets, possibly hosting stratiform massive sulphide deposits similar to the Clear Lake Deposit, had been located on the original property. Targets include AEM-EM conductors, gravity, and magnetic anomalies and mineralized outcrops and gossans.

Work in 1990 included the evaluation of 18 target areas (not including the Clear Lake deposit) utilizing soil geochemistry and geological mapping. A total of 977 samples (45 rock, 932 soil) were collected and analyzed for silver, copper, lead, zinc, and barium. A total of 35 soil samples were collected by an overburden drill (Pionjar) that can penetrate to a maximum depth of four meters while the remaining 897 soil samples were collected by hand augers that can penetrate to a maximum depth of 2.4 meters.

Results of the 1990 program indicate no further work is required in the near future on seven of the target areas (Areas 4 - 9, and 21). The soil geochemistry program was successful in locating significant anomalies over seven of the target areas (Areas 1, 11 - 13, 15, and 19) of which the most promising is Area 11. At Area 1 zinc values >200 ppm define a stratigraphic horizon over a length of 1400 meters that may be related to a minor sphalerite occurrence outcropping in the creek cut. At Area 11 three samples collected on lines 128E and 650W returned 1590, 972 and 359 ppm zinc over an untested EM conductor 50 m located north of DDH 78-17.

Soil sampling in the Clear Lake deposit area demonstrate that samples from deeper soil horizons return higher values than samples from shallow horizons. North of the Clear Lake deposit, anomalous values up to 1910 ppm zinc were returned from gossanous soil. Overburden sampling, utilizing the Pionjar drill, is required in areas where soil samples collected by hand auger returned sporadic isolated anomalous values.

The stratigraphic package hosting the Clear Lake deposit is considered the most attractive exploration target. Further work, including geophysics and diamond drilling is warranted and recommended.

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INTRODUCTION

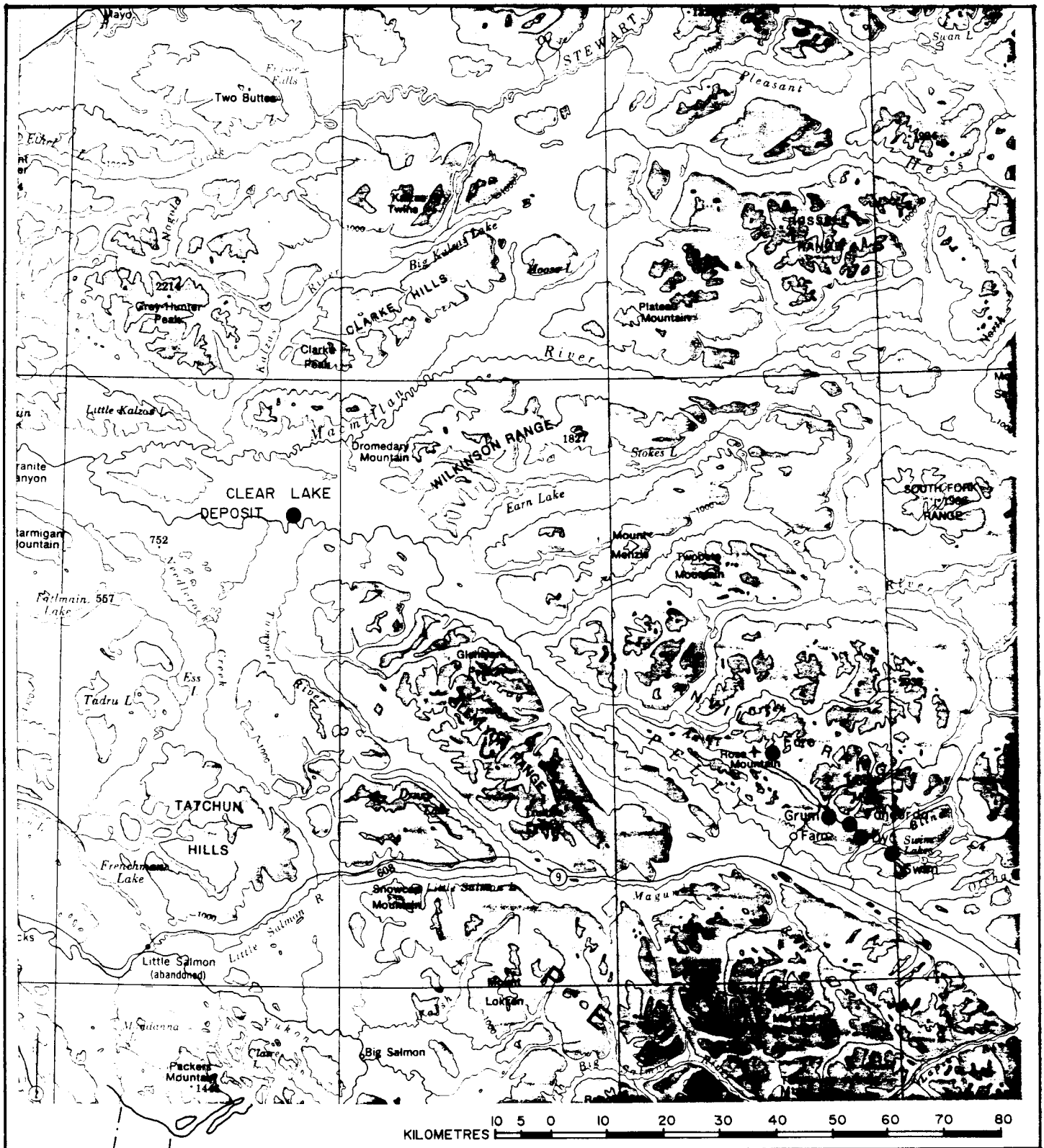
The purpose of report is to assess the property's economic potential and to satisfy assessment requirements of the Yukon Quartz Mining Act through a description of exploration work carried out from July 5 - 19 (Phase 2) and October 2 -8, 1990 (Phase 3).

The property is located approximately 225 kilometers north of Whitehorse, Yukon and is accessible by helicopter or fixed wing aircraft (Figure 1).

Exploration work carried out in July and October 1990 consisted of geological mapping and geochemical soil and rock sampling for the purpose of locating base metal sedex type deposits. This work was carried out by R. Basnett, B.Sc., R. Zuran, B.Sc., of Total Energold Corporation and R. Hulstein, B.Sc. of Aurum Geological Consultants Inc. This report summarizes work carried out on the Clear claims that surround the Clear Lake deposit (covered by the Sue claims). The Clear Lake deposit was briefly examined in the course of this program through a study of drill core.

Exploration completed in 1990 during Phase 1, prior to July 1990 and not summarized here, is described in a report by Basnett (1990).

Twenty-one target areas in addition to the Clear Lake deposit were found by the MacMillan Joint Venture prior to 1984. These are located in the immediate vicinity within Clear Lake, Askin, and Anvil Group Stratigraphy. Target areas include AEM-EM conductors, gravity and magnetic anomalies, gossans, and alteration zones.



Total Energold Corporation

CLEAR LAKE PROJECT
LOCATION MAP

N.T.S.:	TECH:	DATE:
105 L		MARCH 1990
SCALE:	DRAUGHTING:	FIGURE:
1 : 1,000,000		1

LOCATION AND ACCESS

The Clear Lake Property is located in and adjacent to the Tintina Trench in southcentral Yukon. The property covers the height of land between the Pelly and Macmillan Rivers near their confluence. The approximate center of the claim block is located at 62° 48' North latitude and 135° 10' West longitude on NTS map area 105 L/14. Portions of the property also cover parts of NTS map areas 105 L/15 and 105 L/11

The town of Whitehorse, located 225 kilometers to the north, has twice daily jet service to southern Canada.

Access to the property is via helicopter based in Carmacks, located approximately 90 kilometers to the southwest, or Whitehorse. A dirt airstrip approximately 1000 meters long located at the Clear Lake lead-zinc deposit is capable of handling bush planes. A winter road links the property to the North Klondike Highway (all-weather road) at Pelly Crossing, located approximately 65 kilometers to the west.

PROPERTY

The property consists of 625 surveyed and unsurveyed mineral claims covering a total of 13,000 hectares, staked in accordance with the Yukon Quartz Mining Act (Figure 2 - in pocket). The claims are shown on D.I.A.N.D. Quartz and Placer Map sheets 105 L/11, 14, 15. The claims covering the Clear Lake deposit (Clear Lake Designated Area) are surveyed. Claim data for the entire property are as follows.

CLEAR LAKE DESIGNATED AREA

Claim Name	Grant Number	Record Date	Expiry Date
SUE 611-616	Y81261-81266	11/09/74	11Dec1993
SUE 635	Y81285	11/09/74	11Dec1993
SUE 2010-2015	YA22730-22735	06/07/78	11Dec1993
SUE 2018-2019	YA22946-22947	06/07/78	11Dec1993
SUE 2026	YA22746	17/07/78	11Dec1993
SUE 2028	YA22748	17/07/78	11Dec1993
SUE 3003FR-3005FR	YA59692-59694	07/04/81	11Dec1993
SUE 3040FR	YA61583	13/07/81	11Dec1993

CLEAR CLAIMS NON-DESIGNATED AREA

Claim Name	Grant Number	Record Date	Expiry Date
SUE 339-346	Y80989-80996	11/09/74	11Dec1991
CLEAR 1-448	YB25815-26262	06/06/89	01Dec1991*
CLEAR 451-489	YB26265-26304	06/06/89	01Dec1991*
CLEAR 491-492	YB27222-27223	04/04/90	01Dec1992
CLEAR 493-496	YB27224-27227	04/04/90	01Dec1991
CLEAR 497-509	YB27228-27240	04/04/90	01Dec1992*
CLEAR 510-593	YB27241-27324	04/04/90	01Dec1991*
CLEAR 594-598	YB27376-27380	14/05/90	01Dec1991

* Subject to approval of 1990 assessment work.

CLIMATE, TOPOGRAPHY & VEGETATION

The climate in southwestern Yukon is one of contrast with short, moderately dry summers (30 cm annual precipitation) and long, cold winters with moderate snowfall. The exploration season extends from mid-May through to late September-early October.

The property covers a low range of rolling hills, Pelmac Ridge - Wilkinson Range, between the Macmillan and Pelly Rivers. Topography is moderate with approximately 200 meters of relief. The highest point of the property is 800 meters above sea level.

Vegetation on north and east facing slopes consists of stunted white and black spruce, willow, labrador tea and moss. South and west facing slopes sustain white spruce, aspen poplar, lodgepole pine, and various grasses and shrubs. Cottonwood is restricted to river and stream valleys and stands of lodgepole pine grow on some dry, flat areas. Large areas have been burned within the last 25 years. These areas are now covered by stands of small spruce, poplar, and pine along with extensive growths of alder, and willow. Windfall is usually a serious hindrance to travel in these areas.

HISTORY

The history of the property is summarized as follows;

1965-1967:
-1000 claims staked; followed by a Mark IV Input EM survey; limited prospecting and mapping, and ground EM surveys.
-Six EM anomalies were tested by AQ diamond drilling, one of which intersected 1.5 feet of massive pyrite.
-The claims were allowed to lapse.

1974:
-1,074 claims staked (including the Sue claim group).
-Essex Minerals Company and Conwest Joint Venture agreement.

1975-1977:
-Ground EM-17 and magnetic surveys over the entire claim group and gravity surveys over selected portions, on bulldozer grid lines spaced 1,000 feet apart.
-limited prospecting, geologic mapping, and seismic surveys.
-surveys designed for orebodies 3,000 feet in diameter.

1978:
-seven gravity-EM targets were drilled in Anvil Range Stratigraphy, without success.
-drilling of an EM-17 anomaly south of Clear Lake led to the discovery of the Clear Lake deposit.
-a check on past data from Clear Lake sediments in 1965 to 1967 surveys revealed anomalous Zn values.
-staking the area south of Tintina Fault.
-Mark VI Input EM survey.

1979:
-detailed gravity and ground EM surveys.
-further drilling of the deposit.

1980:
-Getty entered into the venture in March.
-limited detailed geophysical surveys over conductors indicated by the 1978 Input Survey.
-geophysical surveys on the fringe of the Clear Lake Deposit.
-claims care and maintenance.

1981:
-EM surveys, prospecting, mapping and locating claims.
-air photography.
-limited diamond drilling of the Clear Lake Deposit.

1982:
-Clear Lake Designated Area formed.
Designated Area
-six holes were drilled (6,530 feet)
-mise-a-la-masse initiated but incomplete
-gravity survey to confirm previous data
-Max Min II survey carried out to reduce the interpolation associated with portions of the EM conductors, no substantial change in the previous geophysical interpretation
-in the vicinity of the deposit, twenty overburden holes were drilled and sampled using a Pionjar drill and flow-thru sampler
General
-claim post location survey, mapping, prospecting and evaluation of previous data.
-barite pods and veins found in Askin Group rocks.
-compilation at 1:10,000 scale.

1983:
Designated Area
-11 miles of line cut, chained and picketed
-all pre-1983 drill collars surveyed, 1983 grid lines tied in.
-11 miles of Max Min II surveyed
-mise-a-la-masse: 13 body probes, 11 line miles surveyed
-9 holes drilled, 2 holes extended.
-all 1983 holes logged plus 70% of pre-1983 holes relogged

Non-Designated Area
-linecutting, electromagnetic surveys, magnetic surveys, gravity surveys, mapping.
-overburden sampling (66 percussion holes) and claim location work carried out over 12 areas.
-2,228 feet of BQ diamond drilling in five holes on Target areas 1 and 3(Grid 17W).

1984:
-1500 feet of NQ drilling was completed in one hole

1985-1988:
-No work carried out on the property. Claims outside the Clear Lake designated area allowed to lapse.

1989:
-Clear 1-490 claims staked to cover target areas outside the Clear Lake designated area.

Jan. - June 1990:
-Clear 491-598 claims staked to cover additional target areas outside the designated area.
-A soil geochemistry program was carried out in conjunction with a re-examination of key outcrops and data from work carried out up to 1984. A total of 18 target areas were examined outside the designated area.

Summary of Work, prior to 1990, on the Clear Lake Designated Area

-diamond drilling 36 holes totalling 34,309 feet
-Max-Min II totalling 74.1 line miles
-Gravity surveys totalling 32.6 line miles
-VLF EM surveys totalling 8.3 line miles
-Mise-a-la-masse, 18 body probes, 14.3 line miles
-soil sampling totalling 386 samples
-overburden drilling of 21 holes
-trenching of two pits for till fabric studies

SURFICIAL GEOLOGY

Surficial geology has been described by Campbell (1967) and by Ovens (1983) as part a report on an overburden drill program. The information below is largely from Ovens (1983) or from observations made in 1990.

Bedrock lithologies in the Clear Lake area are overlain by various thicknesses of glacial till, glaciofluvial outwash, glaciolacustrine deposits, recent fluvial and alluvial sediments and, soils.

The Clear Lake property, located in the Tummel Basin, has been subjected to several glacial and inter-glacial episodes. The area west of the Glenlyon map sheet contains indications of up to three glacial advances. Tills of the two most recent advances are found on the Clear Lake property. As each succeeding glacial advance has obliterated surficial evidence of the prior event, tills of previous advances may be found only at depth or in the down-ice shadow of bedrock topographic highs.

Glaciation in the area originated from the Cordilleran Ice Sheet centered to the east and south of the Tummel Basin. This ice sheet, known as the Selwyn Lobe, travelled approximately northwest, splayed out in the Tummel Basin and the ice thickness thinned from east to west. Numerous 'nunatak' unglaciated areas generally 600 to 900 meters above valley floors tended to channel ice down valleys. Both the MacMillan and Pelly Rivers were scoured by glacial ice.

In the later part of the most recent glaciation the advance of the retreating glaciers, in the Clear Lake area, was in a more westerly rather than the regional northwesterly direction. Evidence of this is present in the many drumlins, rock-drumlins, flutings and, crag-and tails found in the area. Small scale features such as striations and scour marks are rare.

Ovens (1983) observed that polished 'roches moutonee' features indicate an ice direction some 30° south of the direction indicated by drumlins and crag-and-tail, while till tails from these same features indicate the more east-west flow direction. Ovens (1983) postulated that this 'roches moutonee' direction is apparent only, and caused by glacial erosion of resistive bedrock dipping fairly steeply to the south. Bedrock highs, when scoured by the ice sheet, would tend to be polished on the southern 'top' side and plucked on the more northern 'edge' side creating an impression of a more southerly originating ice direction. Drumlins commonly have an asymmetrical cross-section indicative of this south dipping bedrock core. Tails of these rock drumlins are composed of till and indicate the direction of ice movement quite accurately.

Till from the most recent glacial advance has been described in the Clear Lake area as 'upper light grey till' and 'olive till' having a compact clay-silt matrix, often calcareous, and containing up to pebble and cobble size material. Some stratification has been noted indicating possible a basal melt-out origin. The more massive, non-stratified till more commonly encountered is lodgment till.

Underlying the grey till in the Clear Lake deposit area is a lower red till unit (Ovens, 1983). Little is known about this till. A thin layer of ablation till and/or outwash is found overlying the grey till. It is an oxidized, brown, poorly sorted material with fewer clay-size particles and has some evidence of bedding.

During deglaciation present day river valleys were periodically blocked by ice causing flooding and the deposition of glacio-lacustrine and glacialfluvial outwash sediments. Water-deposited, sorted material, has been observed in the vicinity of the Clear Lake airstrip, one of the higher points on the property, indicating that glacio-lacustrine and glacialfluvial deposition is possibly widespread.

Recent fluvial sedimentation and erosion is evident in the Pelly and MacMillan River valleys and recent alluvium is found flanking most areas of positive relief. Volcanic ash (10-30 cm thick) and thin soil development top this general stratigraphic profile.

Ice directions from pebble orientation studies (Ovens, 1983) in trenches in the Clear Lake deposit area range from 90°-120°. Striae and small-scale grooving observed by the coreshack indicate an ice direction of 91° to 93° with some variation about this mean value. Air photo features such as drumlins indicate ice directions for the Tummel Basin as varying between 88° and 122°.

Ten diamond drill holes, selected to be representative, indicate an average overburden thickness of 14 meters over the Clear Lake deposit (DDH 83-43, 83-41, 83-40, 82-38, 79-23, 79-27, 81-29, 83-47, 78-2, 79-25). Overburden thickness in this group of drill holes vary between a maximum of 22 meters in DDH 81-29 to a minimum of 7 meters in DDH 83-47.

Elsewhere on the property overburden thickness appears to be highly variable depending on paleotopography. Low areas are filled with glacial or fluvial sediments with drumlins being associated with paleotopographic highs as described above. At Area 1 & 3 overburden thickness as reported by Ovens (1983) varied between 2.5 meters and 31.4 meters. Overburden thickness appears to increase towards the glacial scoured McMillan River valley. Likewise at Area 16, on grid 5 East in the Pelly River valley, an overburden hole drilled to 22.2 meters encountered fluvial gravels without reaching bedrock (Ovens, 1983).

At Area 5 overburden thickness is estimated to be considerable as sediments appear to be fluvial and there are few EM conductors (Ovens, 1983). At nearby Area 6 overburden consists of drumlins and glacial till with DDH encountering a mere 2.8 meters of overburden. Target Areas 2, 13, 15 and, east of Area 1, appear to be covered by a relatively thin overburden layer as mineralization is exposed or the soil contains graphitic phyllite fragments over EM targets.

REGIONAL GEOLOGY

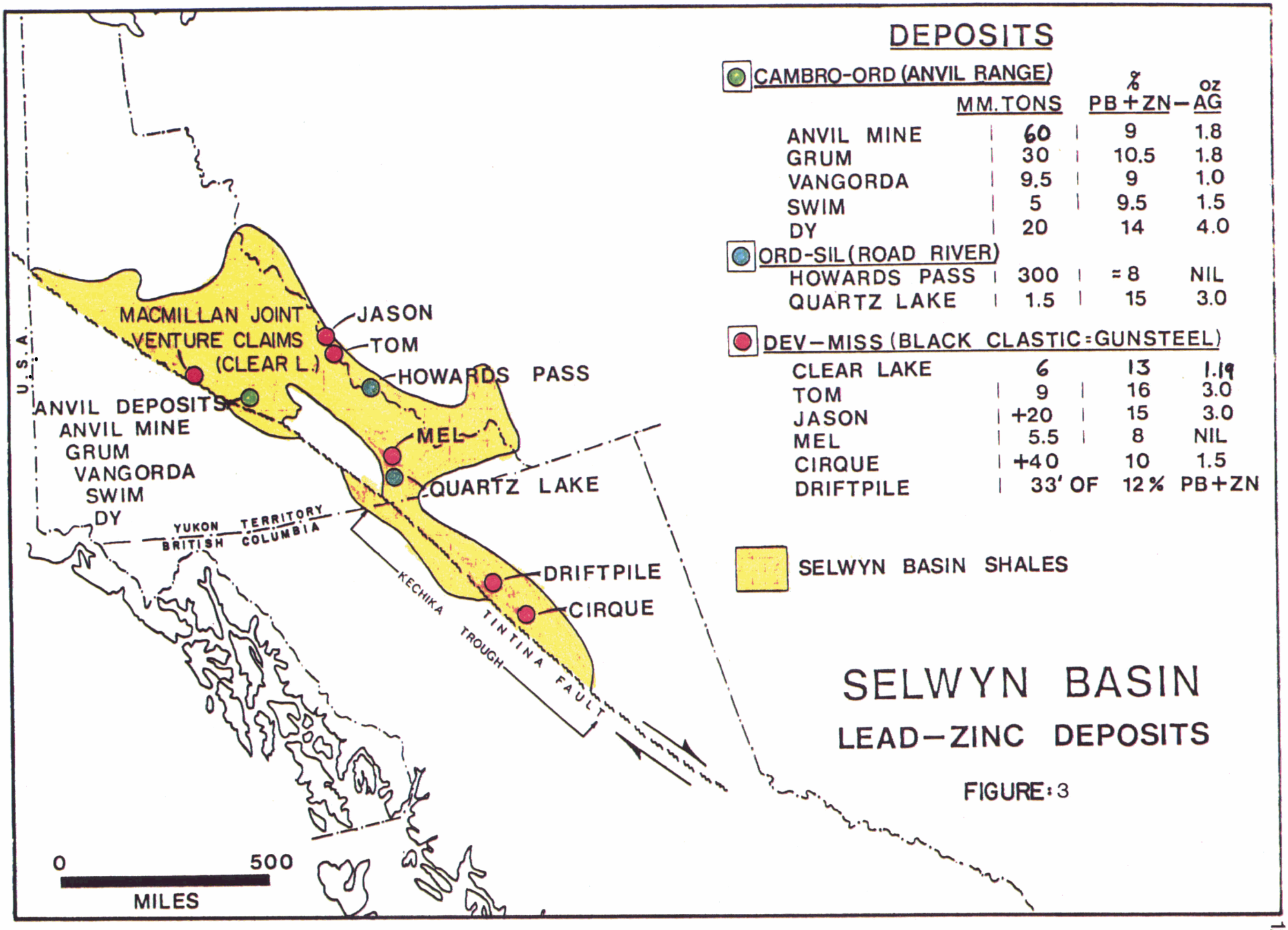
Campbell (1967) first systematically mapped the area. The Clear Lake Area is located along the northwest edge of the Selwyn Basin (Figure 3), an area known for shale hosted stratiform lead-zinc-silver deposits. The Selwyn Basin is part of the Cordilleran miogeocline along the western margin of Paleozoic North America. The Clear Lake deposit is hosted in a Devono-Mississippian sedimentary sequence of cherts, shales, and sandstones referred to as Clear Lake Stratigraphy by previous workers (Figure 4). Similar type deposits may lie in the immediate vicinity within Clear Lake (Earn Gp), Askin, and Anvil Group Stratigraphy.

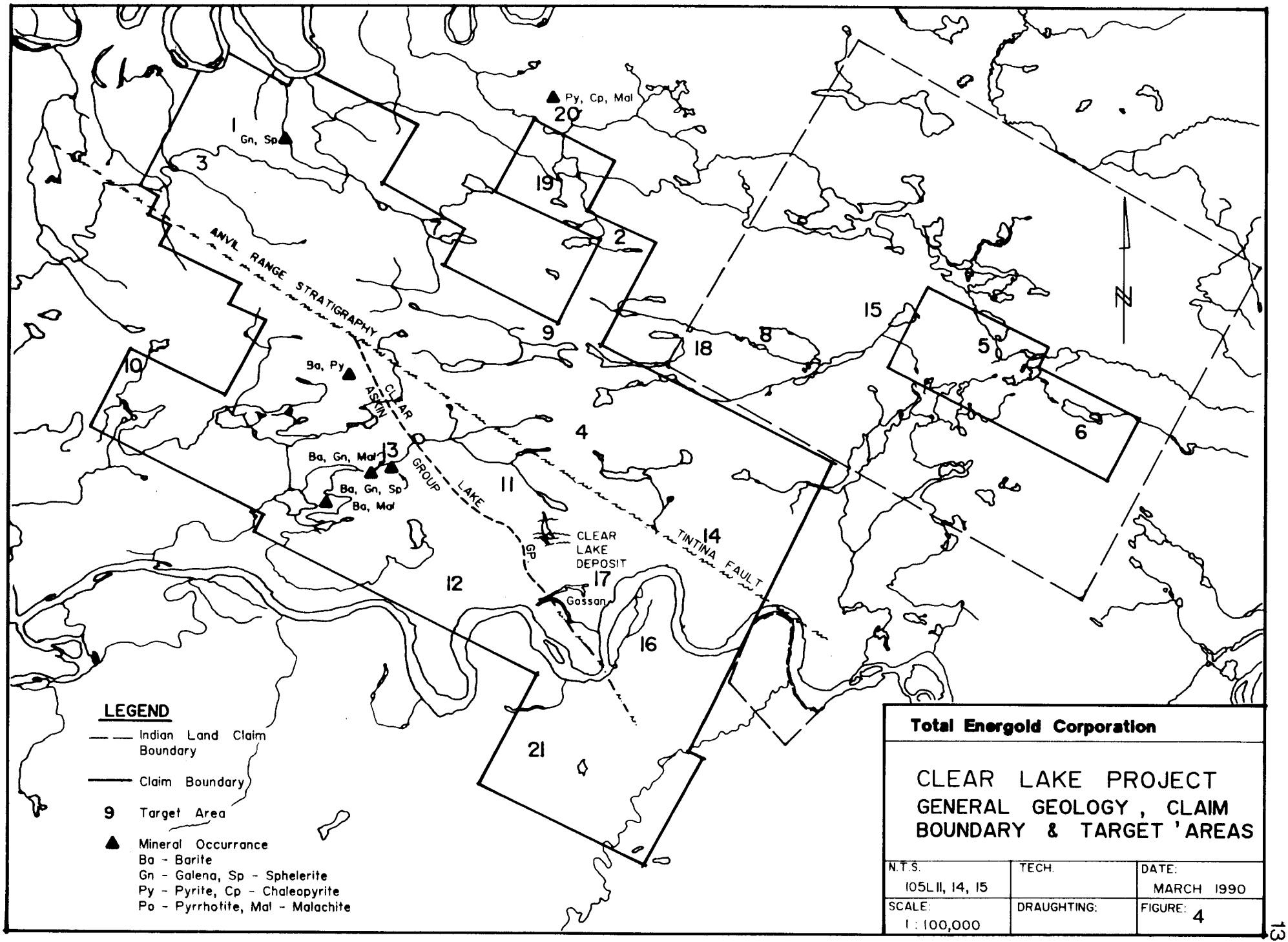
The northwest trending Tintina Trench bisects the area and is the locus of the Tintina Fault. The Tintina Fault has undergone right lateral, transcurrent movement, with possibly 450 km of movement (Tempelman-Kluit, 1979), in latest Cretaceous or early Tertiary time.

North of the Tintina Fault the area is underlain by sedimentary and lesser volcanic rocks of the proterozoic to paleozoic Anvil Range Group. South of the Tintina Fault the area is underlain by relatively undeformed sedimentary and volcaniclastic rocks of probable Paleozoic age. Rocks on both sides of the Tintina Fault make up the Selwyn Basin as defined by a sequence Late Precambrian to Upper Paleozoic relatively deep water clastic and carbonate rocks of offshore or deeper water facies.

Anvil Range stratigraphy is made up of the Mount Mye, Vangorda and Menzie Creek formations (Pigage, 1990). The Precambrian to Cambrian Mount Mye formation consists of dominantly noncalcareous, schists, and phyllites. Minor marble and calc-silicate lenses, carbonaceous phyllite and, metabasite lenses are found locally within the Mount Mye formation. The middle or late Cambrian through early Ordovician Vangorda formation is characterized by light to medium-gray, calcareous phyllite with minor units of metabasite, dolomitic pelite and, chloritic phyllite. Both the Mount Mye and Vangorda formation have undergone lower to middle greenschist facies regional metamorphism. The Menzie Creek formation is a unit of mafic to intermediate metavolcanic rocks consisting of pillowed and massive flows with comparable amounts of volcanic breccias, tuffs, and volcaniclastics. Middle Ordovician or early Silurian graptolite carbonaceous phyllite and brown siltstone overlie the Menzie Creek formation in the Anvil Range (Pigage, 1990) suggesting correlation with Road River Group black shales and cherts.

In the Anvil District, 110 kilometers to the southeast, the transition zone between the Vangorda and Mount Mye formations hosts the lead-zinc deposits.


DEPOSITS
CAMBRO-ORD (ANVIL RANGE)
MM. TONS
% PB+ZN
oz AG
ANVIL MINE 60 9 1.8
GRUM 30 10.5 1.8
VANGORDA 9.5 9 1.0
SWIM 5 9.5 1.5
DY 20 14 4.0
ORD-SIL (ROAD RIVER)
HOWARDS PASS 300 ≈8 NIL
QUARTZ LAKE 1.5 15 3.0
DEV-MISS (BLACK CLASTIC=GUNSTEEL)
CLEAR LAKE 6 13 1.19
TOM 9 16 3.0
JASON +20 15 3.0
MEL 5.5 8 NIL
CIRQUE +40 10 1.5
DRIFTPILE 33' OF 12% PB+ZN
SELWYN BASIN SHALES
MACMILLAN JOINT VENTURE CLAIMS (CLEAR L.)
JASON
TOM
HOWARDS PASS
ANVIL DEPOSITS
ANVIL MINE
GRUM
VANGORDA
SWIM
DY
MEL
QUARTZ LAKE
DRIFTPILE
CIRQUE
U.S.A.
YUKON TERRITORY
BRITISH COLUMBIA
KECHIKA TROUGH
TINTINA FAULT
0
500
MILES
SELWYN BASIN
LEAD-ZINC DEPOSITS
FIGURE: 3


Py, Cp, Mal
Gn, Sp
ANVIL RANGE STRATIGRAPHY
Ba, Py
CLEAR ASKIN GROUP
Ba, Gn, Mal
Ba, Gn, Sp
Ba, Mal
CLEAR LAKE
GP
CLEAR LAKE DEPOSIT
Gossan
TINTINA FAULT
N
1
2
3
4
5
6
8
9
10
11
12
13
14
15
16
17
18
19
20
21
LEGEND
Indian Land Claim Boundary
Claim Boundary
9 Target Area
Mineral Occurrance
Ba - Barite
Gn - Galena, Sp - Sphelerite
Py - Pyrite, Cp - Chaleopyrite
Po - Pyrrhotite, Mal - Malachite
Total Energold Corporation
CLEAR LAKE PROJECT
GENERAL GEOLOGY, CLAIM BOUNDARY & TARGET 'AREAS
N.T.S. 105L 11, 14, 15
TECH.
DATE: MARCH 1990
SCALE: 1 : 100,000
DRAUGHTING:
FIGURE: 4

Southwest of the Tintina fault the area is underlain by Middle Devonian Askin Group (?) and Clear Lake Stratigraphy - probable Earn Group rocks of Devonian-Mississippian age. The Askin Group consists of massive to bedded tan dolostone and grey quartzites. Clear Lake Stratigraphy is comprised of probable Earn Group rocks (Abbott et. al., 1986). The contact between the Askin Group and Clear Lake stratigraphic package is not exposed. The Clear Lake Stratigraphic package hosting the Clear Lake deposit is composed of graphitic, siliceous-shale, chert, sandstone, siltstone, limestone and, minor chert conglomerate. As the closest outcrop to the deposit is no closer than 350 meters its precise age and stratigraphic position within the Earn Group is unknown.

If the 450 kilometers of right lateral movement on the Tintina is restored the Clear Lake deposit would be in the vicinity of Watson Lake. This would place the Clear Lake deposit approximately 200 kilometers northwest of the Gataga District also found on the Paleozoic North American margin. According to R. Carne (pers. comm. in Abbott et. al. 1986) Clear Lake deposit host rocks and sulfides closely resemble the Driftpile deposit in the Gataga District. A similar package of Earn Group rocks also host the Tom and Jason lead-zinc deposits at Macmillan Pass, Yukon.

The following chart summarizes the regional stratigraphy, their mineral deposits and occurrences.

Regional Stratigraphy	Mineral Deposit
Clear Lake (Earn Group)- U. Dev. to Miss.	
-argillite, black shale and siltstone	Clear Lake
-chert pebble conglomerate	Jason, Tom
-lapilli tuff	Tea, Cathy (Ba deposits)
-chert and limestone	
Askin Group - Mid-Devonian	
-fossiliferous dolomite	Pb, Zn, + Cu, + Barite Veins
-slaty limestone	
-argillite (Grid 5 West)	
-quartzite	
Road River Group - Silurian	
-graptolite bearing shales, mudstone	Howards Pass
-carbonaceous limestone, calcareous phyllite	
-brown wavy or irregularly bedded dolomitic mudstone	

Anvil Range - Cambrian-Ordovician

Menzie Creek Fm
-mafic metavolcanics
-pillowed to massive flows
-tuff, breccias

Vangorda Fm
-calcareous phyllite
-graphitic phyllite
(deposits form in transition zone between non-calcareous to calcareous pelites)
-metabasite

Faro deposits
Grum, Vangorda
Swim, DY

Mt Mye Fm
-non-calcareous phyllite to schist with minor calc-silicate
-marble
-graphitic phyllite

Rabbit Kettle Fm
-dolomitic-calcareous arenite
-micaceous silty banded limestone and calc-silicate

Rock exposures are restricted to stream cuts and rare outcrops, and probably constitute less than 3% of the total property area. Glacial debris fill the valley bottoms and locally glacial deposits form some of the larger hills.

PROPERTY GEOLOGY

Property geology is shown on both 1:10,000 scale maps (Sheets 1-4; Figures 6-9), and over the Clear Lake deposit on 1:5000 scale (Sheet 0) maps (Figure 10).

Anvil Range Stratigraphy

The oldest rocks exposed on the property are calcareous rocks of the Cambrian-Ordovician Rabbit Kettle formation (?) (map unit 2) on map sheet 1 (Figure 6) north of the Tintina Fault. These deformed rocks consist of tan to reddish-brown weathering dolomitic to calcareous arenite, micaceous silty 'wavy-banded' limestone and calc-silicate. These rocks resemble those of the Rabbit Kettle formation exposed to the west and southwest of the property (Carne, 1983).

Overlying the possible Rabbit Kettle formation carbonate units are phyllites and mafic volcanic rocks of the Cambrian Mount Mye formation (map units 3 to 3G). These rocks are exposed on all four 1:10,000 map sheets (Sheets 1-4). The Mount Mye formation consists of predominantly noncalcareous phyllites, calcareous graphitic phyllite, and chlorite +/- sericite +/- biotite phyllite that may contain calcareous laminae. Mafic metavolcanic rocks and chlorite rich tuffaceous rocks (map unit 3B) comprise a minor portion of the formation. Carne (1983) interpreted 'volcanic cycles' from interbedded chloritic phyllites and tuffs in diamond drill hole 78-03 as representing waning volcanic episodes. In the Anvil Range type area most Mount Mye phyllite units weather a reddish-brown, a characteristic that helps distinguish it from noncalcareous portions of the overlying Vangorda formation (Pigage, 1990).

The Mount Mye formation is conformably overlain by the late Cambrian through early Ordovician Vangorda formation (map units 5, 5C, and 5D). The Vangorda formation is characterized by calcareous phyllites (unit 5) with local units of interbedded limestone, dolomite, and chloritic phyllite (unit 5D). As in the Mount Mye formation units of mafic metavolcanic rocks and chlorite rich tuffaceous rocks (unit 5C) are interbedded with the phyllites.

The Lower Paleozoic Menzie Creek formation (map units 6A1 to 6A2) overlies the Vangorda formation or is temporally related. It consists of dark green chloritic mafic volcanic flows and tuffs with minor interbeds of varicolored, siltstones, chert, limestone and mudstone. Menzie Creek volcanics are found exposed immediately north of the Tintina Fault on 1:10,000 scale map sheets 3 and 4.

Road River Group and Askin Group

Rocks south of the Tintina Fault consist of Road River Group shale-phyllite, Askin Group sedimentary rocks, the Clear Lake Stratigraphic package, and minor amounts of mafic and felsic intrusive rock.

Upper Ordovician to lower Silurian mudstone and graptolite bearing shale of the Road River were intersected by in a drillhole (drilled by Cominco) on area 21. On the southwest corner of Grid 5 East, mapping in 1990 and by Carne (1983) located possible Road River Group rocks on the south cut bank of the Pelly River. These rocks consist of structurally complex outcrops of carbonaceous limestone turbidites and calcareous phyllite with lesser, very carbonaceous, variably calcareous, black argillite interbeds that resemble Road River Group rocks found in the Pelly Mountains to the southeast (Carne, 1983).

Silurian to Devonian Askin Group rocks consist of silty dolomite (unit 7), argillite (unit 6), dolomite (unit 9), and quartzite (unit 10). These rocks indicate a shallow marine depositional environment.

The base of the Askin Group consists of a brown weathering thin-bedded silty dolomitic mudstone (map unit 7). A relatively gentle easterly dipping irregular wavy cleavage forms the most prominent fabric and probably represents bedding. Carne (1983) believed that this unit resembled nearly identical lithologies found elsewhere in the Selwyn Basin and Kechika Trough where better fossil control suggests a middle to upper Silurian age and therefore inclusion within the Road River Group.

Askin Group argillite (map unit 8) reported by previous workers was not encountered in 1990 except in one location on Grid 5 West. This isolated outcrop may in fact be part of the Earn Group rather than the Askin Group.

The basal 'bedded' silty dolomite is overlain by conformable (?) massive, featureless grey weathering, grey to mottled grey and brown dolomite (map unit 9). Fossils from the silicified base of this unit include 'one hole crinoid' debris, bryozoan remains and small solitary rugose corals, and yield a lower Devonian to middle Devonian age (Carne, 1983). A massive grey weathering quartzite (map unit 10) conformably overlies the massive dolomite. The quartzite is white to grey with rare sedimentary laminations, occasional bedding, and crossbedding.

A 'dacite' or 'felsite' dyke intrudes possible Road River deformed calcareous phyllites and limestones exposed on the cut bank of the Pelly River on the southwest corner of Grid 5 East. Diamond drilling on Area 21 intersected an intermediate dyke, with a tuffaceous texture, intruding graptolitic shales and mudstones. A thin, less than five meters wide, andesitic dyke is found intruding Askin Group dolomite southwest of the Clear Lake deposit.

Clear Lake Stratigraphy

The Clear Lake deposit is in a poorly exposed discrete (fault bounded ?) sequence of (from the hanging wall side); 1) limestone, sandstone, graphitic argillite, 2) argillite, 3) massive sulfide with local barite, chert, tuff and, 4) chert and argillite in the footwall. As the contact between the Askin Group and Clear lake Stratigraphy is not exposed it may be conformable as unit contacts approximately parallel the Askin Group - Clear Lake Stratigraphy contact.

Sedimentary structures such as truncated cross-bedding, flame structures, loading, grading and bouma b-c-e sequences suggests the deposit has been overturned to the west. Other sedimentary structures such as contorted bedding and slumping are apparent in drill core but are difficult to distinguish from tectonic structures. According to previous workers (Verley, 1982) the lithologic units intersected in diamond drilling correspond to a depositional model developed by Walker (1984). According to this model the succession intersected by diamond drilling to date on the property developed in a mid-fan turbidite environment. The more massive sandstone sequences may represent a channel sequence. An outcrop of angular limestone breccia discovered in 1990 immediately south of Clear Lake supports the idea of a shelf-slope turbidite channel depositional environment. This environment resembles that of other sedimentary exhalative Pb-Zn-Ag deposits found at the MacMillan Pass and Gataga districts. These deposits are found in tectonically unstable environments such as rifts, fault grabens or related restricted basins.

A whole rock geochemical study of the exhalite or tuff by Morin (1981) yielded high Ti, P, and high K_2O/Na_2O ratios that infer a volcanic parentage with alkaline chemistry. Morin (1981) concluded that the geological and geochemical characteristics of the Clear Lake deposit are consistent with its formation in a rifting environment.

Mapping of the Clear Lake Stratigraphy located previously unknown outcrops to the east of Clear Lake and to the east of camp (Figure 10; 1:5000 Geology Sheet). Prior to 1990 rocks in this area were interpreted to be part of the Askin Group, they are now thought to belong within the Clear Lake Stratigraphic package. These outcrops include grey cherts (map unit 13), brown micritic

limestone (map unit 14) locally brecciated and/or conglomeratic and, sandstone - siltstone (map unit 15).

The Clear Lake Stratigraphy is intruded by felsite dykes (map unit 20) exposed south of the Clear Lake deposit (on sheet 4, Figure 9) and intersected in drill core on the deposit. The mafic intrusives consist of a large outcrop (500 X 100 meters) of diabase to gabbro, porphyritic diorite and diorite.

Structure

The most significant structural feature on the property is the Tintina Fault with at least 450 kilometers of right lateral, transcurrent movement. The Clear Lake Stratigraphic package appears to be a discrete slice of stratigraphy caught up with the Tintina Fault. Campbell's (1967) regional map shows several large regional scale faults that appear as splays off the Tintina Fault, one such fault forms the southwest Askin Group contact.

Structural geology of the Mount Mye and Vangorda formations is internally complex, with polyphase deformation, although a roughly homoclinal, southwest-facing, upright sequence is suggested (Carne, 1983). In contrast the structural geology of the overlying Menzie Creek formation is characterized by open and upright folds. Folds axis in the above units approximately parallel the trend of the Tintina Fault.

Askin Group rocks show moderately tight to open fold patterns. Folded outcrops are well exposed to the southwest of the Clear Lake deposit on the north bank of the Pelly River. A northwest trending fault is presumed to occupy a recessive zone between outcrops of silty dolomite and quartzite on line 600W.

It is quite possible that Clear Lake Stratigraphy represents a graben with fault, possibly growth fault, margins. As pointed out by Carne (1983) if the Askin Group and the Clear Lake Stratigraphy comprise a broad synclinorium each unit should reappear within the other. Therefore a fault contact is more likely to exist between the two stratigraphic assemblages (Carne, 1983).

Foliations, bedding and folding within the Clear Lake Stratigraphic package parallel the boundaries of the Clear Lake Stratigraphy. Recumbent folding appears to be tight, possibly isoclinal. Faults that offset the massive sulfide body are apparent from diamond drilling and geophysics (HLEM). These southwest trending faults are believed to be graphitic as they respond to geophysics. They are possible riedel shears related to the Tintina Fault formed by compression during movement of the Tintina Fault (Verley, 1982).

MINERALIZATION & ALTERATION

Mineralization located to date on the property has been found within Anvil Range Stratigraphy, Askin Group and, Clear Lake Stratigraphy.

The Clear Lake deposit is a shale hosted stratiform deposit containing approximately 30 million tons of sulfide (mostly pyrite) with a geological reserve of 6.1 million tons grading 11.34% Zn, 1.99% Pb, and 1.19 opt Ag at a cut-off grade of 7% combined lead-zinc. Several lenses of massive pyrite, exhalite or altered tuff, laminated barite, intercalated with silicified argillite and chert are found in the hanging wall, footwall and adjacent to the main sulfide lense. The deposit is sigmoidal in shape, approximately 1000 meters long and up to 100 meters thick, dips steeply to the east and thought to be overturned. The deposit has been folded and offset by faults.

The massive sulfides consist of laminated, framboidal pyrite which shows contorted, disrupted laminations and contains fragmental sections. Currently it is thought that these structures developed through slumping of massive sulfide 'encrustations', as opposed to beds of detrital sulfide (Verley, 1982). Alternatively faulting or folding may have resulted in repetitions of a much thinner sulfide bed.

The units hosting the Clear lake deposit have been variously altered. The following description of alteration is largely from Verley (1982).

In the footwall argillite (map unit 16), silicification has resulted in argillite being siliceous or altered to a dark grey chert. Laminations and sand-bands are locally preserved, quartz-carbonate stringers are not uncommon and, irregular pyrite stringers and masses are ubiquitous throughout the unit. This type of silicification is up to 90 meters thick in drillhole 81-32. Similar silicification is found locally in the hanging wall (ie. DDH 79-24). A significant sphalerite stockwork in a silicified zone with minor pyrite was examined in drillhole 83-46. This type of target, without the massive pyrite as found with the Clear Lake deposit, could exist elsewhere within the Clear Lake Stratigraphy.

At the base of the hanging wall argillite (map unit 19) immediately above the massive sulfides, silicification has produced a mottled to laminated, light grey styolitic chert. Locally, angular, ghost-like, black to grey chert fragments (to 2 cm diameter) are visible. Irregular stringers and masses of pyrite and siderite are common. Intensely silicified argillite, or chert, is found in the northwest portion of the deposit where the main massive sulfide lense appears to pinch out.

A soft grey clayey material often constitutes the matrix as well as clasts of the exhalite or tuff units (map unit 17). This altered tuff is up to 30 meters thick in the footwall immediately below the main massive sulfide lense. In both the footwall and hanging wall the tuff is locally mineralized (galena, sphalerite, barite), may contain siderite, calcite and, is rarely silicified.

Three of the 21 target areas (Table 1) not including the Clear lake deposit, have outcropping mineralization (Areas 1 & 3, 2 and 13). The most significant is Area 1 & 3 consisting of stratiform galena and sphalerite found in the transition zone between the Mount Mye and Vangorda Formations. Area 2, underlain by units of the Mount Mye formation, encloses a band of apparently stratiform magnetite less than 0.5 meters thick. Area 13 is underlain by dolomite of the Askin Group crosscut by galena - sphalerite bearing barite veins up to 0.4 meters wide. Diamond drilling on a fourth target in 1966, Area 14, intersected 0.45 meters of massive pyrite. Outcrop at Area 20, outside the current claim block, is reported by previous workers to contain pyrite, chalcopyrite and, malachite.

Northeast of the Clear Lake deposit, near the Tintina Fault at Area 11, exposures of chert and limestone were re-examined and found to contain barite veinlets. Petrographic examination of these cherts near the Tintina Fault (See Appendix C) revealed similarities with cherty tuffs intersected in drillhole 83-39. Rocks in this area have a weak foliation approximately parallel to bedding and the nearby Tintina Fault.

Mineralization found at target areas, other than the Clear Lake deposit, is described in more detail below under '1990 Exploration Results'.

TABLE I

TARGET AREAS

ANOMALY AREA	GEOPHYSICS	GEOLOGY
1	-EM conductor and coincident 0.2-1.1 mgal gravity anomalies	-sphalerite & galena bands (1") conformable to bedding graphitic phyllites -grab sample results:(one locality) 2.68% Zn, 0.78% Pb, 0.4 opt Ag. -DDH 78-3: 143' overburden, final depth 541' -5 DDH during 1983 targetted on combined EM-gravity anomalies. EM anomalies attributed to graphitic shear zones
2	-0.7 mgal anomaly with coincident EM	-outcrop exposures of phyllite (Mt. Mye) -DDH 78-6: 42' overburden final depth 541' -hole intersected graphitic calcareous phyllite with occasional bands of massive Po, minor Py, rare Cpy. -Mg and Cpy outcropping
3	-0.5 to 1.0 mgal anomalies & associated EM & MAG conductors.	-outcrops of mafic volcanic rocks -DDH 78-4: 30' overburden, final depth 467' -hole intersected volcanic tuffs & agglomerate with disseminated magnetite. -Vangorda/Menzie Ck contact.
4	-0.7 mgal anomaly with a strike length of 1,000' & associated EM & MAG conductors	-no geologic information
5	-0.6 to 0.7 mgal anomaly with associated EM conductor	-gossan -DDH 78-11 intersected 1/4" pyrite layer and graphite
6	-0.6 mgal anomaly with a strike length of 1,000' & associated EM conductor	-no geologic information
7	-0.6 mgal anomaly with associated EM conductor	-outcrop exposures of graphitic, calcareous phyllite
8	-0.7 mgal anomaly with associated discontinuous EM conductor	-single outcrop of undifferentiated phyllite
9	-0.8 mgal anomaly with associated weak EM conductor in the vicinity	-no geological information -next to Greyhound Lake
10	-Grid 5W, wide accurate EM conductor and a 0.5 mgal gravity anomaly -gravity partially completed on three lines	-outcrop of siliceous argillite (chert?)
11	-EM conductive zone with associated gravity anomaly	-on strike with Clear Lake
12	-accurate EM conductor,no gravity coverage	-barite and Py along fractures in Askin dolomite and quartzite south of conductor
13	-numerous EM conductors	-outcrop exposures of Askin dolomite on north portion of grid -barite and malachite in fractures in one locality
14	-EM conductor and ground magnetic anomaly	-DDH 94B-1, 1.5' of massive pyrite -volcanics in core
15	-EM conductor and gravity anomaly (G3) with soil geochem anomaly	-on Indian Lands
16	-Gid 5E, 0.6 mgal anomaly associated with EM conductor	-no outcrop -on strike with Clear Lake Stratigraphy
17	-numerous EM and gravity anomalies	-DDH 78-16, crushed zone with graphitic quartz -DDH 81-30, 1" layers of massive py and occasional sph stringers
18	-gravity anomaly (G26) with related Zn anomaly in soil	-Indian Lands
19	-numerous gravity and EM anomalies (G10,11,21,22,24)	-Py,Po in outcrop -DDH 78-5, graphitic schists
20	-no geophysics	-Py,Cpy, & Mal found in outcrop
21	-EM done by Cominico	-DDH T83-1 drilled by Cominco thought to have intersected Clear Lake tuffaceous horizon

GEOCHEMISTRY

A total of 897 soil samples, 45 rock samples and, 35 overburden samples were collected as part of the 1990 exploration program on the Clear lake Property. Results are shown on Figures 11 to 20 while sample location sites are shown on Figures 21 to 25.

Soil samples were collected primarily by hand auger (max. 2.4 m penetration). Work was carried out on all target areas except Areas 8, 18 and, 20 during Phase 1. Phase 2 and 3 concentrated primarily on targets within the Clear Lake Stratigraphy and Askin Group with some samples being collected at Areas 1 & 3 and 10. Overburden samples, collected in Phase 1, were taken with a Holman Flow-Thru Sampler driven by a Pionjar 120 that could penetrate to a depth of four meters. Samples collected during each Phase are as follows.

	Soil Samples	Rock Samples	Overburden Samples	
Phase 1	416	20	35	
Phase 2	313	13	-	
Phase 3	168	12	-	
Total #	**897**	**45**	**35**	**977**

All samples were analyzed for Ag, Cu, Pb, Zn, and Ba. All elements except Ba were analyzed by atomic absorption analysis with an aqua-regia digestion. For barium a 0.20 gram sample is repeatedly digested with $HCLO_4$ and HF. The solution is analyzed by atomic absorption spectroscopy.

Rock Samples

Rock samples were collected from observed mineralized, altered, or gossanous outcrops and float. Two trenches in the Clear Lake Stratigraphy were resampled. Anomalous samples are described below under '1990 Exploration Results'.

Soil & Overburden Samples

Both soil samples and overburden samples were collected down ice (westerly direction) of target areas. It was found that overburden sampling 200 - 300 meters down-ice from the Clear Lake deposit produced anomalies at as little as one meter depths where the shallow soil samples (<0.3 meter) failed to detect anomalous values (Payne, 1982; Bloom, 1982).

The highest results for all elements were returned from samples collected down-ice from the Clear Lake deposit in the vicinity of the airstrip and as far as 600 - 800 meters from known mineralization.

The overburden sampling program was discontinued after Phase 1. While it was technically effective sample collecting was very slow and, as a result, expensive.

Statistical analysis made for all five elements are presented below from samples collected in Phase 1 and 2. Phase 3 sample results are presented separately as they are restricted to the immediate Clear Lake deposit area. Similarly overburden samples are not included with the Phase 1 and 2 data. Histograms and cumulative plots for each element are presented in Appendix C.

Combined Phase 1 and 2 Geochemical Results

Element	No. Samp.	Max.	Min.	Mean	Std. Dev.	Mean +2 Std
Ag (ppm)	727	2.1	0.1	0.3	0.335	1.0
Cu (ppm)	727	233	2	37	23	83
Pb (ppm)	727	539	1	17	28	73
Zn (ppm)	727	5370	23	119	235	589
Ba (ppm)	727	7200	300	1420	561	2542

Phase 3 Geochemical Results

Element	No. Samp.	Max.	Min.	Mean	Std. Dev.	Mean +2 Std
Ag (ppm)	168	2.1	0.1	0.23	0.31	0.9
Cu (ppm)	168	303	1	35	27	79
Pb (ppm)	168	125	1	13	13	39
Zn (ppm)	168	1910	35	158	232	622
Ba (ppm)	168	5600	640	1519	594	2707

Phase 1 data (445 samples) has approximate agreement between the geometric mean and median (Basnett, 1990) and the data can be said to be lognormally distributed (Levinson, 1974). The above tables above are similar to the Phase 1 results reported by Basnett (1990).

Anomalous values are taken as the mean plus two standard deviations. As obvious anomalous values that can be attributed to the Clear Lake deposit were not removed from the sample population prior to statistical calculations the standard deviation is high for lead and zinc. Anomalous values for lead and zinc are probably closer to the mean plus one standard deviation (45 ppm lead and 390 ppm zinc).

Duplicate samples, collected at the same site, north of the Clear Lake deposit (south of Clear Lake) show the effect of slope dispersion (Figure 19). Samples from shallow depths (< 1.2m) returned lower values for zinc (156 ppm zinc) as barren overburden has covered the anomalous (up to 943 ppm zinc) lower horizon (< 2.0m). In contrast samples collected south of the Clear Lake deposit, in the vicinity of the gossan, returned higher values (up to 933 ppm zinc) from shallow samples due to surface enrichment from an uphill source.

Geochemically anomalous areas are described below under '1990 Exploration results'.

1990 EXPLORATION RESULTS

The target areas in Table 1 summarizes the information available, type of target, and are shown on Figure 4 at 1:100,000 scale.

Clear Lake Deposit and Area

Systematic grid soil sampling by Getty Canadian Metals, Ltd.in 1981 in this area returned numerous anomalous values for lead (>100 ppm) and zinc (>250 ppm) down-ice and down-slope of the Clear Lake deposit. The Soil samples were collected by mattock and sample depth was less than 0.30 meters. Three soil horizons sampled in a pit excavated over the Clear Lake deposit on line 590W returned anomalous values as shown below.

Depth (m)	Pb (ppm)	Zn (ppm)	Cu (ppm)
0.5	26	50	16
0.9	255	85	45
2.13	1360	155	50

Bloom (1982) also found anomalous values, >1000 ppm zinc, down-ice of the Clear Lake deposit at depths of 2.0 to 4.0 meters.

In 1990 soil samples collected immediately south of and on the airstrip (south of area 11 proper) on lines 580W to line 610W returned numerous anomalous values for all elements except silver. In addition 10 soil samples were collected on the airstrip by overburden drill. These highly anomalous values can be attributed to the Clear Lake deposit located 300 to 900 meters to the west (up-ice).

Several high values were returned from soil samples on line 605W, approximately 1000 meters west of the Clear Lake deposit. These samples returned values up to 294 ppm zinc and 261 lead. It is likely that these anomalous samples can be attributed to the Clear Lake deposit.

Soil samples collected north of the Clear Lake deposit on four new lines cut in 1990 returned anomalous values on lines 250N and 350N located downslope of the Clear Lake deposit. Lines 600N and 700N, located north of Clear Lake, returned background values for all five elements. Anomalous values, up to 1910 ppm zinc, were returned from gossanous soil. Values for other elements are low with the exception of one sample on line 250N that returned 125 ppm lead.

Two lines of soil samples, L540W and L560W, collected to test EM conductors, returned background values for all elements.

The samples collected by overburden drill, at depths up to four meters, on the airstrip returned numerous highly anomalous values for all elements except copper. Soil samples collected by hand auger, maximum depth 1.4 meters, from the same sites as the overburden drill returned sporadic, low order, possibly anomalous values for zinc, silver and barium. These results agree with those of Payne (1982) and Bloom (1982) in comparing deep, versus shallow, overburden samples.

AREA 1 & 3 (Grid 17W)

Lead-zinc mineralization has been found in Area 1. Galena and sphalerite occur in narrow bands (less than 1") within a graphitic phyllite (Figure 16 & 17; Sheets 19 & 20). This showing has not been diamond drilled although six holes have tested nearby combined electromagnetic-gravity anomalies found in 1976 and 1977 (Kent 1976; Kent 1977, Figures 5, 5a, 6 & 7; Payne 1981, Figure 13 in Payne's Report; Hanneson 1983, Ager 1983, both contain primary data). In 1978, hole 78-3 intersected pyrrhotite and minor chalcopyrite in a quartz-chlorite-graphitic schist (Kent 1978; Figure 6a). The four holes drilled in 1983 intersected highly graphitic shear zones which were interpreted to be the cause of the electromagnetic anomaly (Hawke, 1984). The gravity anomalies were interpreted to be caused by variations in overburden thickness as the variation in specific gravities among the various lithologies intersected was insignificant. Drill hole 78-4, located in Area 3, intersected six feet of disseminated magnetite in a tuffaceous agglomerate.

Shallow soil results over Grid 17W did not detect any anomalous metal values (Payne, April 1982). Overburden sampling was done in 1983 by drilling 27 percussion holes and analyzing 52 samples (Ovens, Sept. 1983). The surficial material encountered includes grey basal till, outwash, glaciofluvial and glaciolacustrine material. Bedrock was found to be at 2-4 meters except near the river where one hole encountered bedrock at 24 meters. Anomalous zinc values of 217, 201, and 203 ppm are found in clay samples in holes 3, 21, and 26. Hole 26 also contained 1050 ppm Ba. North of the Zn-Pb showing a single bedrock sample in hole 22 contains 276 ppm Zn, 1.2 ppm Ag, 135 ppm Cu, 31 ppm Mo and 20 ppm U.

While Grid 17W contains no striking anomalous trends, several encouragements are apparent, including relatively high background values of Zn and Ba in overburden and an interesting multi-element geochemical association north of the Zn-Pb showing.

The showing near line 865W at Area 1 was examined and sampled in 1990. Grab rock samples returned up to 4700 ppm zinc and 656 ppm lead. Soil samples collected with a hand auger over and down-ice of a ground magnetic and EM anomaly northeast of the showing returned low values.

An anomalous stratigraphic zone, defined by an EM and magnetic anomaly is located between lines 870W and 810W. Anomalous values up to 268 ppm zinc and 74 ppm lead were returned from soil samples on line 870W, west of the showing. Soil samples were also collected over this stratigraphic horizon approximately 1400 m to the east. Samples directly over the coincident EM and magnetic anomaly, on line 820W, consisted of graphitic phyllite and returned up to 457 ppm zinc, 21 ppm lead, 219 ppm copper, 1.2 ppm silver and, 5100 ppm barium. This linear geophysical anomaly has been traced to within 125 meters of the Area 1 showing.

An anomalous stratigraphic zone Samples from Area 3 collected on L910W in a low swampy area underlain by lacustrine clays returned anomalous values for all elements including; 2.1 ppm silver, 246 ppm zinc, 30 ppm lead, 58 ppm copper, and 2560 ppm barium.

AREA 2

Massive magnetite and minor chalcopyrite are found in outcrop in the central part of this area (Figure 15; Sheet 18). Geophysical surveys in 1976 and 1977 picked up several anomalies (Kent, 1976 & 77; Figures 10, 11). DDH 78-6, drilled on a 0.7 mgal anomaly, intersected graphitic calcareous phyllite with occasional bands of massive pyrrhotite, minor pyrite, and rare chalcopyrite (Kent, 1978; Figure 14). Hawke summarized the geophysics in the 1983 Summary Report (Figure 12; Hanneson 1983, primary data; Ager 1983, gravity primary data).

Previous geochemistry included 14 soil samples with a high of 145 ppm Zn and 201 ppm Pb. Three overburden holes were drilled; the deepest of which encountered 8.6 meters of overburden (Ovens, 1983; Figure 13). The highest value of Zn was 249 ppm.

The magnetite showing was located and sampled but returned low values. Soil samples were collected over and down-ice of the magnetite outcrop and geophysical anomalies with hand augers. A single sample on line 630W returned anomalous values for all elements.

AREA 4

Area 4 (Figure 12; Sheet 5), underlain by Vangorda formation, contains EM and gravity anomalies (Kent 76,77; Figure 12 & 45; Ager 1983, Hanneson 1983, primary data). Six overburden holes drilled in 1983 sampled a maximum 6.5 meters of grey till without encountering bedrock. Geochemical values were very low (Ovens, 1983; Figure 15).

A total of sixteen soil samples were collected utilizing a hand auger in 1990. With the exception of spurious highs for individual elements results were low.

AREA 5 & 6

Area 5 is located northeast of the Clear Lake deposit (Figure 5) and covered by a separate block of claims. DDH 78-11 was drilled to intersect a 0.6-0.7 mgal anomaly associated with an EM conductor found 1975-77. It intersected chloritic phyllite of the Vangorda Group. Graphite was found to have developed along slips and 1/4' layer of pyrite was intersected. This hole encountered 2.8 meters of overburden but in the overburden drilling program 7.2 meters of grey till were drilled

without reaching bedrock. No bedrock was encountered in any of the 20 overburden holes drilled. The highest sample from these was 112 ppm Zn and 830 ppm Ba (Ovens, 1983).

The gossan, at Area 5, could not be located on the ground during the Phase 1 program. A single line of seven soil samples collected by the Pionjar and Holman soil sampler down-ice of DDH 78-11 returned non-anomalous values. Likewise a single line of soil samples collected by hand auger at Area 6 returned non-anomalous values. No work was carried out on this area in Phase 2 or 3.

AREA 7

Numerous outcrops are present in the area, shown on Figure 19 (Sheet 19), and are mapped as Mt. Mye formation. A 0.6 mgal anomaly is associated with an EM conductor drew attention to this area in 1976 (Kent, 1976; Figure 20 & 21; Hanneson 1983, primary data). Two overburden holes were drilled in 1983 to check test for down-ice dispersion from the gravity and EM anomalies. Grey till was encountered and bedrock was reached at 2.7 meters in one of the holes. High values were 23 ppm Pb and 158 ppm Zn (Ovens, 1983; Figure 22).

Two lines of soil samples (total 22 samples) collected by hand auger returned low values. Highest values include one sample on L760W that returned 34 ppm lead and three samples anomalous in silver, up to 2.1 ppm.

AREA 8

Two claims were located to cover a 0.7 mgal anomaly with an associated discontinuous EM anomaly (Figure 5). Work done in 1977 and 1983 determined that the gravity low was due to drumlins (Kent, 1977; Hawke, 1983; Hanneson 1983, primary data). The area is characterized by drumlins possibly with rock-cored centers that are surrounded by wet and swampy lowlands and may be underlain by outwash. An area of outcrop (Mt. Mye Formation) to the west of the area in a low-lying area is indicative of probable shallow overburden. Soil sampling in 1977 returned values of up to 140 ppm Zn .

No work was carried out on this area and the two claims were allowed to lapse.

AREA 9

Area 9 is located north of Greyhound Lake (shown on Figure 12; Sheet 5). No outcrop is present in this area. The anomaly is defined with a 0.7 mgal gravity response on one line and a weak EM conductor in the vicinity (Kent, 1977, Hawke, 1984; Figure 12 & 24; Hanneson 1983, primary data). Two overburden holes were drilled down-ice from these features . Only one anomaly was present, 865 ppm Ba, in grey till. Soil sampling data collected in 1977 shows two high zinc values, 240 and 150 ppm Zn. A lake bottom sample of Greyhound Lake assayed 60 ppm Zn (Payne, 19820.

A total of 22 soil samples were collected by hand auger in two lines through the center of the area. Values returned were low with a single sample returning 122 ppm zinc, 26 ppm lead and 93 ppm copper. Values for silver and barium were less than 0.9 and 1880 ppm respectively.

AREA 10 (Grid 5W)

Area 10 is located in the southwest corner of the project area over a number of EM and gravity anomalies (Figure 18; Sheet 21). Outcrop is almost absent but the grid is thought to be underlain by rocks of the Askin Group. An outcrop of siliceous argillite (chert?) is located in the northwest corner of the grid. Interest was prompted at grid 5W following the location of a wide arcuate EM conductor thought to be associated with gravity anomalies (Kent,1980). Data from the 1984 report by J.E. Hanneson shows that the gravity profiles done prior to 1984 mimic the terrain profiles when 2.0 was used as the density for Bouguer corrections. Hanneson found that when a Bouguer density of 2.8 was used to correct the data, the high gravity responses associated with topographic highs which have a large bedrock component were eliminated. Once this is done, a coherent gravity anomaly cannot be found to associate with any of the EM conductors

In 1983, four overburden holes were drilled down-ice from the anomaly. The highest values were 950 ppm Ba and 150 ppm Zn (Ovens, 1983; Figure 27).

Due to frozen ground soil sampling could not be carried out in Phase 1. The siliceous argillite outcrop was located and examined. The argillite appears very similar in appearance to silicified argillite found associated with the Clear Lake deposit.

Soil sampling carried out during Phase 2 on lines 0+00 and lines 8+00E (Grid 5 East) returned low non-anomalous values for all five elements.

AREA 11

This area located west of Clear Lake within Clear Lake stratigraphy (Figure 11, 12, 13 & 14; Sheets 0, 5, 6 & 7) has two targets. One target located by geophysics between 1975 and 1980 consists of an EM conductive zone associated with a gravity anomaly (Payne 1980, map 21W in Payne's report) on L610W and L615W. The trend of the EM conductor indicates it is on strike with the Clear Lake deposit. In the spring of 1981 a interpretation and synthesis of this previous data was done by Burton; gravity data was done by Crone Geophysics (Burton, 1982; Figure 47). Soil sampling in 1981 failed to locate any significant anomalies (Payne, 1982).

In 1990 a single line of six samples were collected by the overburden drill on L152E (Grid 1 West). The samples returned three possibly anomalous results for zinc and four probably anomalous results for silver. Down-ice of Area 11, 41 soil samples were collected by hand auger. The samples returned sporadic isolated anomalies for all elements.

A second geophysical target consists of linear WNW trending EM conductors on strike with the combined EM and gravity target to the east. Soil samples collected on lines 128E and 650W, during Phase 2, returned anomalous values in the vicinity of drill hole 78-17 located on L650W. Three samples returned 1590, 972 and 359 zinc over or down-ice of an EM conductor that lies 50 meters north of DDH 78-17, drilled on a southwesterly azimuth. One of the anomalous zinc samples also returned a value of 3880 ppm barium. Other soil samples collected 300 meters to the north of DDH 78-17 in an area underlain by chert and limestone returned highs of 208 ppm zinc and 30 ppm lead. Two rock samples from this area of brecciated, calcite-barite veined, chert returned >10,000 ppm and 6900 ppm barite with low lead and zinc values.

AREA 12

This area is located approximately 2,200 meters southwest of Clear Lake and is underlain by Askin Group Stratigraphy (Figure 11; Sheet 0). A 1000 meter long arcuate shaped EM conductor is present. Airborne EM has also located several resistivity lows south of the arcuate structure (Burton, 1982; Grech, 1982). There is no gravity coverage of this area. Barite and pyrite are along fractures in dolomite and quartzite south of the conductor.

West of the conductor, two high zinc values, 410 ppm and 450 ppm Zn, were returned from soil samples (Payne, 1982).

A single line of five soil samples were collected by overburden drill on L615W. One sample returned 348 ppm zinc and three samples silver values in the range 0.9 - 1.8 ppm. Four soil samples collected by auger from line 615W returned values of 5370, 2640, 575 and 348 ppm zinc with low values for other elements. These anomalous zinc values may be derived from either the Clear Lake deposit or alternatively a nearby undiscovered source such as the arcuate shaped EM conductor.

AREA 13

This area northwest of Clear Lake has several exposures of Askin dolomite that contain barite and malachite and/or galena and sphalerite in veins and fractures (Figure 6 & 7; Sheets 13 & 14). Several low priority EM conductors are also present. Two small lakes draining the area returned weak to anomalous values from lake sediment samples (O'Conner 1979, primary data). Values are 20 ppm Pb, 320 ppm Zn and 14 ppm Pb, 288 ppm Zn (Payne, 1982).

A brief prospecting and soil sampling program was carried out in this area in 1990. Several of the soil samples were collected immediately adjacent to a small pond. Results from the soil samples collected by hand auger are highly anomalous for zinc (up to 790 ppm), silver (up to 1.5 ppm) and weakly anomalous for lead (up to 48 ppm). Results from the soil samples reflects known bedrock mineralization. Rock samples of calcite - barite veins containing disseminated galena and sphalerite returned up to >10,000 ppm lead, >10,000 ppm zinc, 4.2 ppm silver and >1% barium.

A large arcuate EM anomaly approximately one kilometer northwest of Area 13 was briefly investigated. Numerous barite veins were located. Results from three rock grab samples each returned greater than 10,000 ppm (1%) barium. Five soil samples returned background values for all five elements.

AREA 14

This area is located east of Clear Lake (Figure 11; Sheet 0) in Anvil Range stratigraphy close to where the Tintina Fault is located on the geologic map (Figure 10; Sheet 0). An EM conductor and associated ground magnetic anomaly define the anomalous area. In 1966 one diamond drill hole 94B-1 testing the conductor was completed (Hachey, 1966). It intersected 1.5' of massive pyrite that assayed 0.14% Zn and 0.48% Pb within a mylonitized andesite thought to belong to the Menzie Creek volcanics.

Remapping of this area, west of Grid 1 East, in Clear Lake stratigraphy located numerous outcrops of chert, limestone, sandstone and deformed outcrops of Menzie Creek mafic volcanics exposed near the Tintina Fault. The only outcrop found on Grid 1 West is limestone of the Clear Lake Stratigraphic package found along the Pelly River .

Soil sampling and overburden sampling along the south facing hillside returned low largely non-anomalous values. Isolated samples returned spurious anomalies. The drillsite for DDH 94B-1 could not be located.

AREA 15 (G3)

Area 15 is located in Anvil Range Stratigraphy just outside of Total Energold's claims (Figure 5). An elliptical 0.4 mgal gravity anomaly approximately 500 X 500 meters within a broad Max-Min EM zone contains anomalous soil values up to 560 ppm Zn and 41 ppm Pb (Kent, 1976, 1977; Figure 28 & 29).

This area is located on withdrawn interim selection Indian Lands (R-8). It is not known whether this will be part of the Selkirk Bands' final selection or which class it will be assigned if it is (Class A is restricted from staking; in Class B staking is allowed).

A total of 33 soil samples were collected by hand auger on two lines down-ice of the claim block. Four soil samples returned highly anomalous results for zinc (<642 ppm), copper (<337 ppm), silver (<2.1 ppm) and barium (<3080 ppm). Results for lead were low (<24 ppm). These samples were obtained from near outcrop material (0.8 - 1.0 m depth) consisting of graphitic argillite with specks of limonite.

AREA 16 (Grid 5E)

Grid 5E is located southeast of Clear Lake on the south bank of the Pelly River (Figure 11, Sheet 0). The extrapolated contact with Clear Lake Stratigraphy is thought to pass through this grid. The area is generally low-lying, flat and wet with relic oxbows and meander scars.

Two gravity anomalies are found in this area. The southern anomaly is believed to be caused by a bedrock topography high and the northern anomaly is believed to be caused by sulfides (Hanneson, 1984). The northern anomaly coincides with an HLEM conductor which yielded depths of about 100 feet with

conductances as high as about 10 siemens. Hanneson has modelled the anomaly and believes the total mass of bodies in the model to be 6.5 million tonnes.

One overburden hole was drilled in 1983 (Ovens, 1983; Figure 35). Fluvial sands and gravels were encountered to 22.2 meters with anomalous values of 1000 ppm Ba and 258 ppm Zn (Ovens, 1983). Speculation as to the source of these anomalies is difficult as the sediments have been redistributed and sorted, and only one hole was drilled here. No bedrock was reached. Overburden thickness is thought to be 30 to 40 meters thick.

In 1990 (Phase 1) a helicopter pad was cut in the center of the anomalous area. Four rock samples returned low values from outcrop of possible Road River Group phyllites intruded by an intermediate dyke exposed on the southwest corner of the grid.

AREA 17

This area is located 800 meters southeast of the southern end of the Clear Lake deposit and on strike with the deposit (Figure 11, Sheet 0). Numerous EM and gravity anomalies are located in this area, two which have been drilled (Payne 1980, Map 19, gravity, & Map 21E, EM, both in Payne's report). Drill hole 78-16 intersected a crushed zone with graphitic quartz (Kent, 1978) and may have been abandoned as the last few feet of cor is BQ size while the remainder of the hole is NQ size. Drill hole DDH 81-30 intersected 1" layers of massive pyrite and occasional sphalerite stringers and was thought to be a possible zone of thrust faulting (Payne, 1981).

During Phase 2 a total of 11 soil samples were collected by hand auger in an area of thick glacial debris. The soil line crossed the gossan south of the Clear Lake deposit. One sample, adjacent to the gossan, returned 220 ppm zinc. All other samples returned background values.

Phase 3 results returned numerous values for all elements from soil samples collected on three southeast trending lines crossing the gossan (Figure 19 & 20; Sheet 0). Samples adjacent to the gossan were sporadically anomalous. in several cases shallow samples adjacent to the gossan returned anomalous values while deeper samples at the same sites returned lower values. This is probably due to transport of the anomalous soil horizon downslope. Out of a total of 89 samples 11 returned greater than 200 ppm zinc with a high value of 935 ppm zinc. Other anomalous samples included up to 72 ppm lead, 303 ppm copper, 2.1 ppm zinc and, 5600 ppm barium. Although the source of these values can be attributed to the Clear Lake deposit, the anomalous area is downslope and down-ice of the south end

of the Clear Lake deposit, composed mostly of pyrite, which returned low zinc-lead values from drill core samples.

Two trenches near lines 555W and L560W resampled in 1990 returned moderately anomalous values including a high of 562 ppm zinc over one meter from an argillite unit. Eight samples, each over one meter, returned barium values ranging between 3100 and 3780 ppm.

AREA 18

This area is located in the southwest corner of R-8 Indian Land Claim (Figure 5). Sampling in 1977 indicated a soil anomaly on line 54W of 450 ppm Zn associated with an incompletely delineated gravity anomaly (Kent, 1977; Figure 36)

No work was carried out on Area 18 in the 1990 Phase 1 program.

AREA 19

Area 19 (Figure 15; Sheet 18) is defined by a number of gravity and EM anomalies located in 1976 and 1977 (G10, 11, 21, 22, 24; Figure 37 - 42 & 44; Payne 1981, Figure 20 in Payne's report). Pyrite and pyrrhotite has been found in outcrop. One diamond drill hole DDH 78-5 intersected graphitic schists (Kent, 1978).

A total of 11 soil samples and two nonmineralized rock samples were collected in 1990. The samples returned a single isolated high of 254 ppm zinc. Results for barium ranged between 1480 - 2960 ppm. Silver, copper and lead values were low, <0.8 ppm, <74 ppm and <22 ppm respectively. The rock samples returned background values.

AREA 20

Area 20 is located outside of the claim block north of area 19 (Figure 15; Sheet 18). Pyrite, chalcopyrite, and malachite have been found in outcrop in this area. North of this area on Grid 66 West, a Pb-Zn soil, gravity and EM anomaly is present (Payne 1981).

A field investigation was not carried out in Phase 1 of the 1990 program.

AREA 21

Area 21 is located on the south side of the Pelly River approximately 500 meters south of the Clear Lake deposit (Figure 5). It was formerly covered by the TUM Claims that were held by Cominco. Cominco conducted an Max-Min electromagnetic survey and found conductors, one of which they drilled in 1983 (Hole T83-1; Figure 3a; Murrell, 1983). A tuff similar to the ore horizon in the Clear Lake deposit was thought to have been intersected in this hole (Subunit 3a - Heterolithic Breccia). The tuff is described as a light tan-grey coloured rock consisting of a fine light grey matrix with minute black specks, with slightly larger

avoid to angular creamy white fragments. It is cut occasionally by a few grey quartz veins that often contain centrally located pyrite streaks. Pyrite is also found as disseminated granular patches which usually are associated with healed fractures or minute quartz veins. Two 1.5 meter sections were assayed and found to have 74 and 81 ppm Zn, and 1269 and 1527 ppm Ba. Samples of this rock type were sent to Vancouver Petrographics for thin section analysis. It was determined that the tuff is actually a dyke.

In the hanging wall of the hole, the hole intersected: a mudstone containing very sparse disseminations of siderite, barite and sphalerite; a narrow vein with sphalerite (2190 ppm Zn over 0.7 m); and, 11 m of mudstone with a network of hair-line thick pyrite filled fractures.

Graptolites were found near the top of the hole suggesting that the Ordovician Road River Rocks were thrust over younger Clear Lake Stratigraphy.

The area was examined from the air and on the ground in the vicinity of the Cominco drill hole. A total of 33 soil samples in two lines were collected over and to the west of the drill hole. Unfortunately the sample medium consisted of brown, sandy, pebbly, water deposited material. Sample results are uniformly low with isolated single weakly anomalous values for zinc (172 ppm) and barium (1980 ppm).

CONCLUSIONS AND RECOMMENDATIONS

The Clear Lake Property is underlain by Selwyn Basin stratigraphy favorable for statiform sedimentary exhalative silver-lead-zinc mineralization. The Clear Lake deposit occurs within a distinctive stratigraphic package (Clear Lake Stratigraphy) thought to be part of the Earn Group. This package may host other silver-lead-zinc deposits similar to the Clear Lake deposit, possibly with less pyrite. Geological mapping and stratigraphic correlations are difficult as the rocks are recessive weathering.

Geological mapping in 1990 located significant new outcrops and permitted the reinterpretation of previously located outcrops. The boundary of the Askin Group, previously located to the north of the Clear Lake deposit, was removed and replaced with a unit contact within the Clear Lake Stratigraphic package. The cherts and limestones found at Area 11, resembling those near the Clear lake deposit, are in close proximity to anomalous zinc values (up to 1590 ppm) in soil samples adjacent to an untested EM conductor.

The geochemical soil sampling utilizing hand augers and an overburden drill were successful in locating anomalies over or down-ice of known mineralization (Clear Lake deposit and areas 13, 19). Significant geochemical anomalies at Areas 1, 11, 12, 15, and 19 are presently unexplained.

On the Clear Lake airstrip the deeper overburden sampling (4.0 m) carried out by Pionjar drill was more successful in outlining geochemically anomalous areas than the shallow (1.2 m) hand auger samples. Likewise the deeper auger sampling carried out near Clear Lake was successful in locating buried anomalous soil horizons. The shallow soil samples that returned anomalous values near the gossan, south of the Clear Lake deposit, indicates surface transport from an uphill source.

A total of seven areas, Area's 4 - 9, and 21, require no further follow-up in the near future.

The following is recommended for Areas 1 - 3, 10 - 20.

1. All outcrops should be mapped in detail with special attention to exposures in and adjacent to the Clear Lake stratigraphic package (Areas 11, 14, 16, 17).

2. All areas, except for Area 16 require further geochemical soil sampling utilizing hand augers. Overburden sampling (pionjar drill) should be carried out in the area of sporadic isolated anomalous soil samples collected by hand auger.

3. Areas 1, 2 and 15 require geophysics to trace out magnetite and graphitic horizons respectively.

4. Areas 11 and 17 require geophysics (EM, magnetics, gravity, gradient IP) to relocate and refine targets followed by diamond drilling (plus down-hole geophysics) to test favorable horizons within the Clear Lake Stratigraphic package.

5. Area 16 requires a recheck on the geophysical anomaly, followed by diamond drilling.

6. In the course of the above recommended work the areas should be periodically re-evaluated and targets most indicative of shale-hosted massive sulfides diamond drilled.

Respectfully submitted,



December 31, 1990

Richard Basnett, B.Sc.

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STATEMENT OF QUALIFICATIONS

I, RICHARD BASNETT, hereby certify that:

1. I am a graduate of the University of British Columbia, having obtained a B.Sc. in Geology in 1975.

2. I have been employed as a geologist in the mining and mineral exploration industry in Canada for 13 years.

3. I am a member of the Geological Association of Canada.

4. I participated in the work described in this report as Yukon Exploration Manager for total Energold Corporation.

Date: Dec 31/90



Richard Basnett, B.Sc.

STATEMENT OF COSTS

Assessment Work valuation to apply to the Clear lake property.

1. Geological and Geochemical

A. Fieldwork

R. Hulstein, B.Sc.,of Whitehorse, Yukon. July 5-19, 1990; 15 days @ $350.00/day:	$5250.00
R. Basnett, B.Sc., of Whitehorse, Yukon. July 5-12, 1990; 8 days @ $400.00/day:	3200.00
R. Zuran, B.Sc., of Whitehorse, Yukon. July 5-19, 1990; 15 days @ $350.00/day:	5250.00

B. Geochemical Analyses

13 rock, 313 soil samples:	4507.00

C. Support Costs

Camp Accom. & Board:	1891.00
Gasoline:	92.00
Truck:	1597.00
Radio and phone charges:	82.00
Miscellaneous:	818.00
Aircraft charter:	9329.00
Maps and publications:	2543.00
Equipment rental (plugger):	888.88
Instrument & equipment purchase:	1649.00
Stationary and supplies:	245.00

D. Research and Report Preparation

R. Hulstein, B.Sc., 7.0 days @ $350.00/day:	2450.00
R. Basnett, B.Sc., 7 days @ $400.00/day:	2800.00
R. Zuran, B.Sc., 8 days @ 350.00/day:	2800.00
Drafting:	4221.00
Reprographics and binding:	325.00
Total Valuation of 1990 Assessment Work:	**$49937.88**


MINING
MINING
S-33
R-8
R-8
R-8
SCALE
1500 0 1500 3000 4500 6000 7500 9000 10500
FEET
N
CLEAR
SUE
S-28
TOTAL ENERGOLD CORPORATION
CLAIM MAP
Figure 2
NTS:105L
Dec. 1990

092895

APPENDIX A

ANALYTICAL RESULTS

Northern Analytical Laboratories ltd.

PHASE II

July 27,1990

Work Order # 08260

Total Energold Corp.
21 - 1114 - 1st Ave.
Whitehorse, Yukon
Y1A 1A3

File # 08260a

P.O. #

Assay Certificate for Samples Provided — ROCK

Sample	ppm Ag	ppm Cu	ppm Pb	ppm Zn	
4022	<0.1	1	23	29	
4023	0.6	40	155	790	} CAVE SHOWING ; KAIZAR MINES.
4024	1.6	23	848	517	
4025	0.4	4	6	32	
4026	<0.1	3	34	75	> BARITE VEIN
4027	0.1	7	18	27	
4028	<0.1	12	20	3000	- BARITE VEIN
4303	<0.1	2	24	55	
4304	0.1	5	48	72	
4305	<0.1	7	57	167	
4306	0.4	15	186	318	- LST Bx cut by calcite veins ; near SL digest

Au -- 15g Fire Assay/AAS
Metals -- Aqua Regia Digestion/AAS Geochem

Applied Science Technologists and Technicians of British Columbia
6882
GERALD F. HAYES
A.Sc.T.

105 Copper Road, Whitehorse, TY, Y1A 2Z7 Ph: (403) 668-4968 Fax: (403) 668-4890

Northern Analytical Laboratories ltd.

July 30,1990

Work Order # 08260

Total Energold Corp.
21 - 1114 - 1st Ave.
Whitehorse, Yukon
Y1A 1A3

File # 08260b

P.O. #

Assay Certificate for Samples Provided — SOIL

Sample	ppm Ag	ppm Cu	ppm Pb	ppm Zn
C1 - RZ - 171	<0.1	30	74	156
C1 - RZ - 172	0.3	70	31	124
C1 - RZ - 173	<0.1	34	14	69
C1 - RZ - 174	<0.1	32	11	66
C1 - RZ - 175	<0.1	44	47	131
C1 - RZ - 176	<0.1	35	31	114
C1 - RZ - 177	0.1	35	10	89
C1 - RZ - 178	<0.1	63	45	268
C1 - RZ - 179	<0.1	58	25	222
C1 - RZ - 180	<0.1	35	16	155
C1 - RZ - 181	0.2	60	44	257
C1 - RZ - 182	<0.1	55	19	184
C1 - RZ - 183	<0.1	57	20	198
C1 - RZ - 184	<0.1	30	12	122
C1 - RZ - 185	<0.1	43	22	154
C1 - RZ - 186	<0.1	49	19	170
C1 - RZ - 187	<0.1	23	11	156
C1 - RZ - 188	0.4	55	20	213
C1 - RZ - 189	<0.1	52	16	196
C1 - RZ - 190	<0.1	45	18	202
C1 - RZ - 191	0.8	51	32	229
C1 - RZ - 192	0.1	39	16	143
C1 - RZ - 193	<0.1	34	17	208
C1 - RZ - 194	0.1	31	13	138
C1 - RZ - 195	0.7	46	18	160
C1 - RZ - 196	0.5	14	6	78
C1 - RZ - 197	0.6	46	13	129
C1 - RZ - 198	0.6	30	7	107
C1 - RZ - 199	0.8	55	15	162
C1 - RZ - 200	0.1	21	9	44

Au -- 15g Fire Assay/AAS
Metals -- Aqua Regia Digestion/AAS Geochem

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Northern Analytical Laboratories ltd.

July 30,1990

Work Order # 08260

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Whitehorse, Yukon
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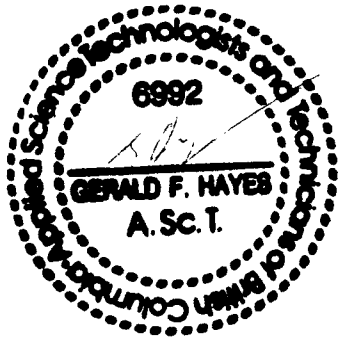
File # 08260c

P.O. #

Assay Certificate for Samples Provided

Sample	ppm Ag	ppm Cu	ppm Pb	ppm Zn
C1 - RZ - 201	<0.1	16	9	46
CL - RZ - 202	<0.1	22	22	116
CL - RZ - 203	<0.1	17	17	104
CL - RZ - 204	<0.1	38	30	114
CL - RZ - 205	0.1	31	17	98
CL - RZ - 206	<0.1	28	13	1590
CL - RZ - 207	0.3	35	13	528
CL - RZ - 208	0.2	26	15	96
CL - RZ - 209	0.9	82	32	359
CL - RZ - 210	0.4	27	10	64
CL - RZ - 211	0.2	22	8	43
CL - RZ - 212	0.3	23	19	74
CL - RZ - 213	0.2	37	17	91
CL - RZ - 214	0.2	28	13	49
CL - RZ - 215	0.3	24	13	59
CL - RZ - 216	0.4	32	10	65
C1 - RZ - 225	<0.1	21	8	145
C1 - RZ - 226	<0.1	28	4	74
C1 - RZ - 227	<0.1	11	2	56
C1 - RZ - 228	0.2	15	9	68
C1 - RZ - 229	<0.1	40	19	477
C1 - RZ - 230	<0.1	16	21	84
C1 - RZ - 231	<0.1	46	12	111
C1 - RZ - 232	0.3	38	13	82
C1 - RZ - 233	0.2	19	18	95
C1 - RZ - 234	0.1	17	18	68
C1 - RZ - 235	0.3	45	9	108
C1 - RZ - 236	0.4	16	16	80
C1 - RZ - 237	0.8	29	12	106
C1 - RZ - 238	1.0	219	20	233

Au -- 15g Fire Assay/AAS
Metals -- Aqua Regia Digestion/AAS Geochem



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July 30,1990

Work Order # 08260

Total Energold Corp.
21 - 1114 - 1st Ave.
Whitehorse, Yukon
Y1A 1A3

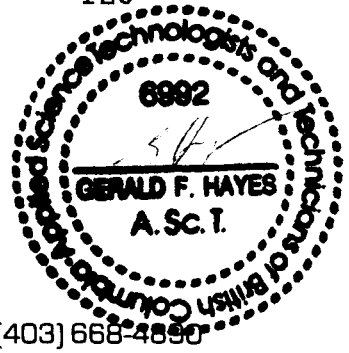
File # 08260d

P.O. #

Assay Certificate for Samples Provided

Sample	ppm Ag	ppm Cu	ppm Pb	ppm Zn
C1 - RZ - 239	1.2	70	21	457
C1 - RZ - 240	0.6	21	13	166
C1 - RZ - 241	0.3	38	24	205
C1 - RZ - 242	<0.1	14	7	57
C1 - RZ - 243	<0.1	33	9	53
C3 - RB - 208	<0.1	24	8	87
C3 - RB - 209	<0.1	26	11	94
C3 - RB - 210	<0.1	23	39	147
C3 - RB - 211	<0.1	15	12	69
C3 - RB - 212	<0.1	37	14	81
C3 - RB - 213	<0.1	52	18	108
C3 - RB - 214	<0.1	56	18	74
C3 - RB - 215	<0.1	52	18	75
C3 - RB - 216	<0.1	50	18	94
C3 - RB - 217	0.1	46	11	115
C3 - RB - 218	<0.1	47	17	96
C3 - RB - 219	0.1	37	9	112
C3 - RB - 220	<0.1	27	12	106
C3 - RB - 221	0.8	15	8	84
C3 - RB - 222	<0.1	31	14	90
C3 - RB - 223	1.1	34	16	102
C3 - RB - 224	<0.1	28	13	97
C3 - RB - 225	<0.1	23	12	67
C3 - RB - 226	<0.1	21	12	100
C3 - RB - 227	<0.1	26	16	111
C3 - RB - 228	<0.1	30	15	132
C3 - RB - 229	<0.1	22	15	133
C3 - RB - 230	<0.1	60	16	170
C3 - RB - 231	<0.1	38	14	127
C3 - RB - 232	<0.1	31	9	113
C3 - RB - 233	<0.1	23	7	129

Au -- 15g Fire Assay/AAS
Metals -- Aqua Regia Digestion/AAS Geochem



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July 30,1990

Work Order # 08260

Total Energold Corp.
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Whitehorse, Yukon
Y1A 1A3

File # 08260e

P.O. #

Assay Certificate for Samples Provided

Sample	ppm Ag	ppm Cu	ppm Pb	ppm Zn
C3 - RH - 131	<0.1	29	12	138
C3 - RH - 132	<0.1	52	25	207
C3 - RH - 133	<0.1	22	11	80
C3 - RH - 134	<0.1	37	14	111
C3 - RH - 135	<0.1	47	20	161
C3 - RH - 136	0.3	50	22	172
C3 - RH - 137	0.2	52	19	198
C3 - RH - 138	0.3	55	31	199
C3 - RH - 139	0.4	61	32	205
C3 - RH - 140	0.3	45	17	200
C3 - RH - 141	0.2	43	22	191
C3 - RH - 142	<0.1	51	26	180
C3 - RH - 143	<0.1	50	24	128
C3 - RH - 144	<0.1	41	43	152
C3 - RH - 145	<0.1	18	8	62
C3 - RH - 146	<0.1	47	37	160
C3 - RH - 147	<0.1	37	15	145
C3 - RH - 148	<0.1	35	12	135
C3 - RH - 149	<0.1	36	12	86
C3 - RH - 150	<0.1	58	20	108
C3 - RH - 151	<0.1	40	16	117
C3 - RH - 152	<0.1	35	19	94
C3 - RH - 153	<0.1	25	11	58
C3 - RH - 154	<0.1	30	17	83
C3 - RH - 155	<0.1	24	18	66
C3 - RH - 156	<0.1	36	14	101
C3 - RH - 157	<0.1	16	11	69
CL - RH - 158	<0.1	34	16	88
CL - RH - 159	<0.1	12	9	71
CL - RH - 160	<0.1	29	19	72

Au -- 15g Fire Assay/AAS
Metals -- Aqua Regia Digestion/AAS Geochem

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Work Order # 08260

Total Energold Corp.
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Whitehorse, Yukon
Y1A 1A3

File # 08260f

P.O. #

Assay Certificate for Samples Provided

Sample	ppm Ag	ppm Cu	ppm Pb	ppm Zn
CL - RH - 161	<0.1	25	11	65
CL - RH - 162	<0.1	32	24	124
CL - RH - 163	<0.1	12	9	81
CL - RH - 164	<0.1	17	7	75
CL - RH - 165	<0.1	2	8	55
CL - RH - 166	<0.1	11	6	67
CL - RH - 167	<0.1	12	7	59
CL - RH - 168	<0.1	15	6	45
CL - RH - 169	<0.1	23	13	87
CL - RH - 170	<0.1	21	7	66
CL - RH - 171	<0.1	32	13	100
CL - RH - 172	0.2	26	30	196
CL - RH - 173	0.2	43	13	95
CL - RH - 174	0.4	35	42	188
CL - RH - 175	0.3	28	15	102
CL - RH - 176	0.4	30	13	76
CL - RH - 177	<0.1	21	8	57
CL - RH - 178	0.2	18	18	85
CL - RH - 179	<0.1	9	13	93
CL - RH - 180	<0.1	11	15	83
CL - RH - 181	<0.1	9	14	56
CL - RH - 182	<0.1	31	19	98
CL - RH - 183	<0.1	26	9	119
CL - RH - 184	0.7	33	18	208
CL - RH - 185	<0.1	28	11	972
CL - RH - 186	0.5	33	8	157
CL - RH - 187	<0.1	39	10	100
CL - RH - 188	<0.1	40	15	126
CL - RH - 189	<0.1	43	12	135
CL - RH - 190	<0.1	29	10	80

Au -- 15g Fire Assay/AAS
Metals -- Aqua Regia Digestion/AAS Geochem

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Work Order # 08260

Total Energold Corp.
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Whitehorse, Yukon
Y1A 1A3

File # 08260g

P.O. #

Assay Certificate for Samples Provided

Sample	ppm Ag	ppm Cu	ppm Pb	ppm Zn
CL - RH - 191	<0.1	40	13	85
CL - RH - 192	<0.1	40	7	56
CL - RH - 193	<0.1	14	11	76
CL - RH - 194	0.4	49	25	138
CL - RH - 195	0.1	32	18	64
CL - RH - 196	0.4	41	15	84
CL - RH - 197	0.2	9	10	59
CL - RH - 198	0.4	26	16	163
CL - RH - 199	1.9	136	39	176
CL - RH - 200	0.3	41	10	160
CL - RH - 201	0.6	18	10	103
CL - RH - 202	0.8	59	19	181
CL - RH - 203	0.6	38	10	135
CL - RH - 204	0.4	17	7	90
CL - RH - 205	0.4	36	12	133
CL - RH - 206	0.3	26	11	117
CL - RH - 207	<0.1	14	8	71
CL - RH - 208	0.2	23	7	79
CL - RH - 209	<0.1	11	7	72
CL - RH - 210	0.1	30	10	103
CL - RH - 211	0.1	52	12	122
CL - RH - 212	0.3	37	11	115
CL - RH - 213	0.1	16	1	46
CL - RH - 214	0.1	50	9	93

Au -- 15g Fire Assay/AAS
Metals -- Aqua Regia Digestion/AAS Geochem

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July 24,1990

Work Order # 34728

Total Energold Corp.
21 - 1114 - 1st Ave.
Whitehorse, Yukon
Y1A 1A3

File # 34728a

P.O. #

Assay Certificate for Samples Provided

Sample	ppm Ag	ppm Cu	ppm Pb	ppm Zn
4021	0.3	9	8	66
4301	0.1	1	<1	10
4302	0.2	<1	<1	2050
4917	0.1	15	<1	134

Metals -- Aqua Regia Digestion/AAS Geochem

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July 24,1990

Work Order # 34728

Total Energold Corp.
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File # 34728b

P.O. #

Assay Certificate for Samples Provided

Sample	ppm Ag	ppm Cu	ppm Pb	ppm Zn
C10 - RH - 101	<0.1	25	6	40
C10 - RH - 102	<0.1	32	7	64
C10 - RH - 103	<0.1	10	7	56
C10 - RH - 104	<0.1	24	6	58
C10 - RH - 105	<0.1	20	7	44
C10 - RH - 106	<0.1	17	7	48
C10 - RH - 107	<0.1	32	7	54
C10 - RH - 108	<0.1	32	6	44
C10 - RH - 109	<0.1	33	10	63
C10 - RH - 110	<0.1	32	6	58
C10 - RH - 111	<0.1	14	5	28
C10 - RH - 112	<0.1	12	5	31
C10 - RH - 113	<0.1	14	6	42
C10 - RB - 156	<0.1	20	8	51
C10 - RB - 157	<0.1	10	6	77
C10 - RB - 158	<0.1	25	7	46
C10 - RB - 159	<0.1	25	7	23
C10 - RB - 160	<0.1	25	8	44
C10 - RB - 161	<0.1	31	14	42
C11 - RZ - 114	<0.1	39	10	72
C11 - RZ - 115	<0.1	34	7	62
C11 - RZ - 116	<0.1	29	7	52
C11 - RZ - 117	<0.1	36	8	60
C11 - RZ - 118	<0.1	49	9	81
C11 - RZ - 119	<0.1	45	9	93
C11 - RZ - 120	<0.1	43	11	99
C11 - RZ - 121	<0.1	36	9	97
C11 - RZ - 122	<0.1	38	9	89
C11 - RZ - 123	<0.1	37	10	95
C11 - RZ - 124	<0.1	29	9	94

Metals -- Aqua Regia Digestion/AAS Geochem

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July 24,1990

Work Order # 34728

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File # 34728c

P.O. #

Assay Certificate for Samples Provided

Sample	ppm Ag	ppm Cu	ppm Pb	ppm Zn
C11 - RZ - 125	<0.1	34	9	89
C11 - RZ - 126	<0.1	19	7	85
C11 - RZ - 127	<0.1	37	10	148
C11 - RZ - 128	<0.1	38	10	76
C11 - RZ - 129	<0.1	38	9	124
C11 - RZ - 130	<0.1	41	11	114
C11 - RZ - 131	<0.1	36	9	89
C11 - RZ - 132	<0.1	37	8	93
C11 - RZ - 133	<0.1	37	8	98
C11 - RZ - 134	<0.1	30	8	66
C11 - RZ - 135	<0.1	37	10	99
C11 - RZ - 136	<0.1	42	10	81
C11 - RZ - 137	<0.1	39	10	86
C11 - RZ - 138	<0.1	35	9	70
C11 - RZ - 139	<0.1	40	11	89
C11 - RZ - 140	<0.1	33	10	83
C11 - RB - 162	<0.1	43	9	170
C11 - RB - 163	<0.1	46	8	94
C11 - RB - 164	<0.1	42	13	84
C11 - RB - 165	<0.1	34	23	146
C11 - RB - 166	<0.1	18	9	101
C11 - RB - 167	<0.1	33	12	90
C11 - RB - 168	<0.1	37	9	82
C11 - RB - 169	<0.1	43	9	106
C11 - RB - 170	<0.1	35	9	86
C11 - RB - 171	<0.1	45	10	96
C11 - RB - 172	<0.1	49	12	100
C11 - RB - 173	<0.1	24	8	74
C11 - RB - 174	<0.1	49	8	97
C11 - RB - 175	<0.1	47	12	102

Metals -- Aqua Regia Digestion/AAS Geochem

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July 24,1990

Work Order # 34728

Total Energold Corp.
21 - 1114 - 1st Ave.
Whitehorse, Yukon
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File # 34728d

P.O. #

Assay Certificate for Samples Provided

Sample	ppm Ag	ppm Cu	ppm Pb	ppm Zn
C11 - RB - 176	<0.1	38	10	92
C11 - RB - 177	<0.1	42	9	102
C11 - RB - 178	<0.1	13	11	66
C11 - RB - 179	<0.1	11	9	81
C11 - RB - 180	<0.1	21	8	97
C11 - RB - 181	<0.1	27	12	77
C11 - RB - 182	<0.1	35	11	62
C11 - RB - 183	<0.1	37	10	109
C12 - RZ - 154	<0.1	28	9	5370
C12 - RZ - 155	<0.1	16	9	2640
C12 - RZ - 156	<0.1	14	10	155
C12 - RZ - 157	<0.1	17	9	575
C12 - RZ - 158	<0.1	26	7	69
C12 - RZ - 159	<0.1	9	8	56
C12 - RZ - 160	<0.1	7	10	54
C12 - RZ - 161	<0.1	29	9	67
C12 - RZ - 162	0.1	47	12	120
C12 - RZ - 163	<0.1	24	7	67
C12 - RZ - 164	<0.1	45	9	107
C12 - RZ - 165	<0.1	14	9	54
C12 - RZ - 166	<0.1	9	8	33
C12 - RZ - 167	<0.1	29	12	101
C12 - RZ - 168	<0.1	45	11	126
C12 - RZ - 169	0.1	49	11	127
C12 - RZ - 170	0.2	45	11	97
C12 - RB - 196	<0.1	13	19	260
C12 - RB - 197	<0.1	19	14	175
C12 - RB - 198	<0.1	25	8	76
C12 - RB - 199	<0.1	17	13	83
C12 - RB - 200	<0.1	34	12	87

Metals -- Aqua Regia Digestion/AAS Geochem

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July 24,1990

Work Order # 34728

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File # 34728e

P.O. #

Assay Certificate for Samples Provided

Sample	ppm Ag	ppm Cu	ppm Pb	ppm Zn
C12 - RB - 201	<0.1	20	8	80
C12 - RB - 202	<0.1	25	9	68
C12 - RB - 203	<0.1	21	8	60
C12 - RB - 204	<0.1	7	8	115
C12 - RB - 205	<0.1	29	15	78
C12 - RB - 206	<0.1	15	11	80
C12 - RB - 207	<0.1	10	7	35
C12 - RH - 114	<0.1	23	10	73
C12 - RH - 115	<0.1	27	12	86
C12 - RH - 116	<0.1	23	15	77
C12 - RH - 117	0.1	37	23	98
C12 - RH - 118	<0.1	12	10	57
C12 - RH - 119	<0.1	31	14	76
C12 - RH - 120	<0.1	12	7	44
C12 - RH - 121	<0.1	14	7	59
C12 - RH - 122	<0.1	33	19	78
CL - RZ - 141	0.1	24	11	79
CL - RZ - 142	0.1	44	15	97
CL - RZ - 143	<0.1	25	26	68
CL - RZ - 144	<0.1	11	17	76
CL - RZ - 145	<0.1	25	27	100
CL - RZ - 146	<0.1	13	9	56
CL - RZ - 147	<0.1	37	15	105
CL - RZ - 148	<0.1	18	8	67
CL - RZ - 149	<0.1	14	10	73
CL - RZ - 150	<0.1	17	16	59
CL - RZ - 151	<0.1	30	9	54
CL - RZ - 152	<0.1	15	14	77
CL - RZ - 153	<0.1	68	9	54
CL - RB - 185	<0.1	16	9	53

Metals -- Aqua Regia Digestion/AAS Geochem

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Work Order # 34728

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File # 34728f

P.O. #

Assay Certificate for Samples Provided

Sample	ppm Ag	ppm Cu	ppm Pb	ppm Zn
CL - RB - 186	<0.1	24	9	48
CL - RB - 187	<0.1	41	10	64
CL - RB - 188	<0.1	87	15	139
CL - RB - 189	<0.1	81	13	103
CL - RB - 190	<0.1	41	35	149
CL - RB - 191	0.1	39	38	117
CL - RB - 192	0.2	41	57	130
CL - RB - 193	<0.1	23	10	67
CL - RB - 194	0.1	53	20	133
CL - RB - 195	<0.1	38	20	86
CL - RH - 123	0.1	50	32	107
CL - RH - 124	<0.1	27	21	70
CL - RH - 125	0.2	50	42	143
CL - RH - 126	0.3	44	157	218
CL - RH - 127	0.2	39	50	145
CL - RH - 128	0.3	41	187	176
CL - RH - 129	0.4	39	193	179
CL - RH - 130	0.3	37	151	175

Metals -- Aqua Regia Digestion/AAS Geochem



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ROSSBACHER LABORATORY LTD.

2225 S. Springer Ave., Burnaby,
British Columbia, Can. V5B 3N1
Ph:(604)299-6910 Fax:299-6252

CERTIFICATE OF ANALYSIS

TO : NORTHERN ANALYTICAL LABORATORY LTD.
105 COPPER ROAD
WHITEHORSE, Y.T.

PROJECT : WO #34728
TYPE OF ANALYSIS : GEOCHEMICAL

CERTIFICATE # : WO # 34728
INVOICE # : 10445
DATE ENTERED : 90-07-31
FILE NAME : NAL90305
PAGE # : 1

PRE FIX	SAMPLE NAME	PPM Ba
P	C 10 RB- 156	880
P	C 10 RB- 157	760
P	C 10 RB- 158	1480
P	C 10 RB- 159	760
P	C 10 RB- 160	1140
P	C 10 RB- 161	940
P	C 10 R+- 101	1000
P	C 10 R+- 102	1160
P	C 10 R+- 103	1040
P	C 10 R+- 104	1460
P	C 10 R+- 105	1000
P	C 10 R+- 106	920
P	C 10 R+- 107	1060
P	C 10 R+- 108	1320
P	C 10 R+- 109	1580
P	C 10 R+- 110	1540
P	C 10 R+- 111	1060
P	C 10 R+- 112	1050
P	C 10 R+- 113	1010
P	C 11 RZ- 114	1170
P	C 11 RZ- 115	1180
P	C 11 RZ- 117	1150
P	C 11 RZ- 118	1160
P	C 11 RZ- 119	1220
P	C 11 RZ- 120	1300
P	C 11 RZ- 121	1380
P	C 11 RZ- 122	1460
P	C 11 RZ- 123	1350
P	C 11 RZ- 124	1100
P	C 11 RZ- 125	1280
P	C 11 RZ- 126	1020
P	C 11 RZ- 127	1220
P	C 11 RZ- 128	1380
P	C 11 RZ- 129	1240
P	C 11 RZ- 130	1220
P	C 11 RZ- 131	1150
P	C 11 RZ- 132	1280
P	C 11 RZ- 133	1380
P	C 11 RZ- 134	1030
P	C 11 RZ- 135	1540

Clear Lake
Phase II
Results

CERTIFIED BY : Rossbach

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CERTIFICATE OF ANALYSIS

TO : NORTHERN ANALYTICAL LABORATORY LTD.
105 COPPER ROAD
WHITEHORSE, Y.T.

PROJECT : WO #34728

TYPE OF ANALYSIS : GEOCHEMICAL

CERTIFICATE # : WO # 34728
INVOICE # : 10445
DATE ENTERED : 90-07-31
FILE NAME : NAL90305
PAGE # : 2

PRE FIX	SAMPLE NAME	PPM Ba
P	C 11 RZ- 136	1240
P	C 11 RZ- 137	1240
P	C 11 RZ- 138	1160
P	C 11 RZ- 139	1180
P	C 11 RZ- 140	1240
P	C L RB- 162	1400
P	C 11 RB- 163	1180
P	C 11 RB- 164	1040
P	C 11 RB- 165	1000
P	C 11 RB- 166	1060
P	C 11 RB- 167	1100
P	C 11 RB- 168	1240
P	C 11 RB- 169	1450
P	C 11 RB- 170	1020
P	C 11 RB- 171	1220
P	C 11 RB- 172	1340
P	C 11 RB- 173	950
P	C 11 RB- 174	1070
P	C 11 RB- 175	1180
P	C 11 RB- 176	1260
P	C 11 RB- 177	1320
P	C 11 RB- 178	1020
P	C 11 RB- 179	1020
P	C 11 RB- 180	1140
P	C 11 RB- 181	1130
P	C 11 RB- 182	970
P	C 11 RB- 183	1300
P	C 12 RZ- 157	1640
P	C 12 RZ- 158	1560
P	C 12 RZ- 159	1050
P	C 12 RZ- 160	930
P	C 12 RZ- 161	1180
P	C 12 RZ- 163	1440
P	C 12 RZ- 164	1540
P	C 12 RZ- 165	1090
P	C 12 RZ- 166	1020
P	C 12 RZ- 167	2000
P	C 12 RZ- 168	1540
P	C 12 RZ- 169	1600
P	C 12 RZ- 170	1480

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DATE ENTERED : 90-07-31
FILE NAME : NAL90305
PAGE # : 3

PRE FIX	SAMPLE NAME	PPM Ba
P	C 12 RB- 196	1380
P	C 12 RB- 197	1500
P	C 12 RB- 198	1420
P	C 12 RB- 199	1060
P	C 12 RB- 200	1560
P	C 12 RB- 201	1520
P	C 12 RB- 202	1600
P	C 12 RB- 203	1480
P	C 12 RB- 204	1580
P	C 12 RB- 205	1600
P	C 12 RB- 206	1100
P	C 12 RB- 207	950
P	C 12 RE- 154	440
P	C 12 RE- 155	1320
P	C 12 RE- 156	1240
P	C 12 RH- 114	1140
P	C 12 RH- 115	1080
P	C 12 RH- 116	1140
P	C 12 RH- 117	1440
P	C 12 RH- 118	1000
P	C 12 RH- 119	1240
P	C 12 RH- 120	1000
P	C 12 RH- 121	970
P	C 12 RH- 122	1050
P	C 11 RZ- 116	900
P	C L RZ- 141	1460
P	C L RZ- 142	1340
P	C L RZ- 143	1050
P	C L RZ- 144	1020
P	C L RZ- 145	1500
P	C L RZ- 146	1180
P	C L RZ- 147	1560
P	C L RZ- 148	990
P	C L RZ- 149	850
P	C L RZ- 150	1000
P	C L RZ- 151	1520
P	C L RZ- 152	1320
P	C L RZ- 153	1120
P	C 12 RZ- 162	1620
P	C L RB- 185	1020

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FILE NAME : NAL90305
PAGE # : 4

PRE FIX	SAMPLE NAME	PPM Ba
P	C L RB- 186	940
P	C L RB- 187	1000
P	C L RB- 188	2320
P	C L RB- 189	1450
P	C L RB- 190	1780
P	C L RB- 191	1640
P	C L RB- 192	1600
P	C L RB- 193	1400
P	C L RB- 194	1340
P	C L RB- 195	1150
P	C L RH- 123	1100
P	C L RH- 124	1320
P	C L RH- 125	1600
P	C L RH- 126	2200
P	C L RH- 127	1760
P	C L RH- 128	2720
P	C L RH- 129	2460
P	C L RH- 130	1840
P	4021	6900
P	4301	1380
P	4302	390
P	4917	>10000

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PROJECT : NOT GIVEN
TYPE OF ANALYSIS : GEOCHEMICAL

CERTIFICATE # : 8260
INVOICE # : 10475
DATE ENTERED : 90-08-10
FILE NAME : NAL90332
PAGE # : 1

PRE FIX	SAMPLE NAME	PPM Ba
P	4022	1000
P	4023	690
P	4024	3780
P	4025	>10000
P	4026	7000
P	4027	>10000
P	4028	>10000
P	4303	680
P	4304	490
P	4305	460
P	4306	650
P	C1-RZ 171	1040
P	C1-RZ 172	1400
P	C1-RZ 173	940
P	C1-RZ 174	950
P	C1-RZ 175	1200
P	C1-RZ 176	1240
P	C1-RZ 177	1460
P	C1-RZ 178	2240
P	C1-RZ 179	2460
P	C1-RZ 180	1560
P	C1-RZ 181	2160
P	C1-RZ 182	2040
P	C1-RZ 183	2280
P	C1-RZ 184	1620
P	C1-RZ 185	1980
P	C1-RZ 186	2120
P	C1-RZ 187	1400
P	C1-RZ 188	2080
P	C1-RZ 189	2240
P	C1-RZ 190	2380
P	C1-RZ 191	2220
P	C1-RZ 192	2140
P	C1-RZ 193	1300
P	C1-RZ 194	1400
P	C1-RZ 195	1380
P	C1-RZ 196	1160
P	C1-RZ 197	1420
P	C1-RZ 198	1780
P	C1-RZ 199	2420

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DATE ENTERED : 90-08-10
FILE NAME : NAL90332
PAGE # : 2

PRE FIX	SAMPLE NAME	PPM Ba
P	C1-RZ 200	1620
P	C1-RZ 201	2520
P	CL-RZ 202	860
P	CL-RZ 203	820
P	CL-RZ 204	860
P	CL-RZ 205	840
P	CL-RZ 206	880
P	CL-RZ 207	870
P	CL-RZ 208	1060
P	CL-RZ 209	3880
P	CL-RZ 210	1000
P	CL-RZ 211	760
P	CL-RZ 212	980
P	CL-RZ 213	1260
P	CL-RZ 214	800
P	CL-RZ 215	1000
P	CL-RZ 216	1400
P	C1-RZ 225	1020
P	C1-RZ 226	1280
P	C1-RZ 227	930
P	C1-RZ 228	980
P	C1-RZ 229	1180
P	C1-RZ 230	1380
P	C1-RZ 231	1340
P	C1-RZ 232	1400
P	C1-RZ 233	1040
P	C1-RZ 234	1960
P	C1-RZ 235	1500
P	C1-RZ 236	1060
P	C1-RZ 237	1440
P	C1-RZ 238	5100
P	C1-RZ 239	3640
P	C1-RZ 240	1600
P	C1-RZ 241	1380
P	C1-RZ 242	1200
P	C1-RZ 243	1240
P	C3-RB 208	1240
P	C3-RB 209	1300
P	C3-RB 210	1480
P	C3-RB 211	720

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PROJECT : NOT GIVEN
TYPE OF ANALYSIS : GEOCHEMICAL

CERTIFICATE # : 8260
INVOICE # : 10475
DATE ENTERED : 90-08-10
FILE NAME : NAL90332
PAGE # : 3

PRE FIX	SAMPLE NAME	PPM Ba
P	C3-RB 212	1460
P	C3-RB 213	1460
P	C3-RB 214	1180
P	C3-RB 215	1120
P	C3-RB 216	1140
P	C3-RB 217	1200
P	C3-RB 218	1040
P	C3-RB 219	1220
P	C3-RB 220	1480
P	C3-RB 221	1460
P	C3-RB 222	1460
P	C3-RB 223	1380
P	C3-RB 224	1060
P	C3-RB 225	1360
P	C3-RB 226	1540
P	C3-RB 227	1760
P	C3-RB 228	1740
P	C3-RB 229	1780
P	C3-RB 230	1720
P	C3-RB 231	1320
P	C3-RB 232	1640
P	C3-RB 233	1300
P	C3-RH 131	1560
P	C3-RH 132	1980
P	C3-RH 133	1140
P	C3-RH 134	1300
P	C3-RH 135	2000
P	C3-RH 136	1960
P	C3-RH 137	2040
P	C3-RH 138	2080
P	C3-RH 139	2000
P	C3-RH 140	2120
P	C3-RH 141	2300
P	C3-RH 142	2200
P	C3-RH 143	1740
P	C3-RH 144	1760
P	C3-RH 145	1760
P	C3-RH 146	1860
P	C3-RH 147	1640
P	C3-RH 148	1820

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WHITEHORSE, Y.T.

PROJECT : NOT GIVEN
TYPE OF ANALYSIS : GEOCHEMICAL

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INVOICE # : 10475
DATE ENTERED : 90-08-10
FILE NAME : NAL90332
PAGE # : 4

PRE FIX	SAMPLE NAME	PPM Ba
P	C3-RH 149	1100
P	C3-RH 150	1200
P	C3-RH 151	1140
P	C3-RH 152	1340
P	C3-RH 153	900
P	C3-RH 154	1260
P	C3-RH 155	1100
P	C3-RH 156	1340
P	C3-RH 157	830
P	CL-RH 158	900
P	CL-RH 159	810
P	CL-RH 160	1060
P	CL-RH 161	780
P	CL-RH 162	1340
P	CL-RH 163	1340
P	CL-RH 164	1260
P	CL-RH 165	1020
P	CL-RH 166	1260
P	CL-RH 167	730
P	CL-RH 168	580
P	CL-RH 169	1540
P	CL-RH 170	1220
P	CL-RH 171	1020
P	CL-RH 172	1380
P	CL-RH 173	960
P	CL-RH 174	930
P	CL-RH 175	860
P	CL-RH 176	940
P	CL-RH 177	710
P	CL-RH 178	1120
P	CL-RH 179	1340
P	CL-RH 180	1200
P	CL-RH 181	1140
P	CL-RH 182	1180
P	CL-RH 183	1260
P	CL-RH 184	1300
P	CL-RH 185	950
P	CL-RH 186	1200
P	CL-RH 187	1160
P	CL-RH 188	1000

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TO : NORTHERN ANALYTICAL LABORATORY LTD.
105 COPPER ROAD
WHITEHORSE, Y.T.

PROJECT : NOT GIVEN
TYPE OF ANALYSIS : GEOCHEMICAL

CERTIFICATE # : 8260
INVOICE # : 10475
DATE ENTERED : 90-08-10
FILE NAME : NAL90332
PAGE # : 5

PRE FIX	SAMPLE NAME	PPM Ba
P	CL-RH 189	1540
P	CL-RH 190	1200
P	CL-RH 191	930
P	CL-RH 192	730
P	CL-RH 193	860
P	CL-RH 194	1260
P	CL-RH 195	1020
P	CL-RH 196	1040
P	CL-RH 197	970
P	CL-RH 198	1840
P	CL-RH 199	7200
P	CL-RH 200	2200
P	CL-RH 201	1360
P	CL-RH 202	2180
P	CL-RH 203	1340
P	CL-RH 204	1260
P	CL-RH 205	1480
P	CL-RH 206	1480
P	CL-RH 207	1160
P	CL-RH 208	1240
P	CL-RH 209	1080
P	CL-RH 210	1560
P	CL-RH 211	1640
P	CL-RH 212	1420
P	CL-RH 213	1000
P	CL-RH 214	1660

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Northern Analytical Laboratories ltd.

PHASE III CLEAR LK

✓ plotted

October 17,1990

Work Order # 08456

Total Energold Corp.
21 - 1114 - 1st Ave.
Whitehorse, Yukon
Y1A 1A3

File # 08456a

P.O. # 3500

5 - Ba

Assay Certificate for Samples Provided

Sample	ppm Ag (4)	ppm Cu (3)	ppm Pb (2)	ppm Zn (1)	
244	0.3	48	6	84	E TRENCH
245	1.6	59	81	159	
246	<0.1	44	8	239	
247	<0.1	36	85	97	
248	<0.1	51	25	278	
249	<0.1	33	<1	217	
250	0.5	48	41	202	
251	0.2	52	22	252	
252	0.2	44	6	208	
253	<0.1	41	12	562	
4958	<0.1	23	12	235	W TRENCH
4959	<0.1	48	<1	354	

Metals -- Aqua Regia Digestion/AAS Geochem

Applied Science Technologists and Technicians of British Columbia
6992
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A.Sc.T.

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Northern Analytical Laboratories ltd.

Clear Lake
Phase III
Soil geochem

October 22,1990

Work Order # 08456

File # 08456b

Total Energold Corp.
21 - 1114 - 1st Ave.
Whitehorse, Yukon
Y1A 1A3

P.O. # 3500
Sample: Soil

Assay Certificate for Samples Provided

Sample	ppm Ag	ppm Cu	ppm Pb	ppm Zn
CL - RZ - 254	<0.1	27	5	81
CL - RZ - 255	<0.1	25	2	70
CL - RZ - 256	<0.1	12	2	69
CL - RZ - 257	<0.1	24	11	156
CL - RZ - 258	<0.1	15	11	374
CL - RZ - 259	<0.1	26	7	838
CL - RZ - 260	<0.1	34	8	1910
CL - RZ - 261	<0.1	27	13	109
CL - RZ - 262	<0.1	29	15	251
CL - RZ - 263	<0.1	33	7	996
CL - RZ - 264	0.3	46	5	314
CL - RZ - 265	<0.1	22	8	114
CL - RZ - 266	<0.1	44	13	1070
CL - RZ - 267	<0.1	41	9	1120
CL - RZ - 268	<0.1	23	3	68
CL - RZ - 269	<0.1	50	10	158
CL - RZ - 270	<0.1	33	9	92
CL - RZ - 271	<0.1	31	2	68
CL - RZ - 272	<0.1	32	3	943
CL - RZ - 273	<0.1	21	1	81
CL - RZ - 274	<0.1	26	14	79
CL - RZ - 275	<0.1	54	10	108
CL - RZ - 276	<0.1	27	7	83
CL - RZ - 277	0.1	41	6	101
CL - RZ - 278	<0.1	21	4	297
CL - RZ - 279	<0.1	17	6	316
CL - RZ - 280	<0.1	53	12	189
CL - RZ - 281	<0.1	57	16	226
CL - RZ - 282	0.2	64	61	173
CL - RZ - 283	<0.1	47	14	167

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October 22,1990

Work Order # 08456

Total Energold Corp.
21 - 1114 - 1st Ave.
Whitehorse, Yukon
Y1A 1A3

File # 08456c

P.O. # 3500
Sample: Soil

Assay Certificate for Samples Provided

Sample	ppm Ag	ppm Cu	ppm Pb	ppm Zn
CL - RZ - 284	<0.1	32	7	100
CL - RZ - 285	<0.1	42	15	302
CL - RZ - 286	<0.1	18	4	60
CL - RZ - 287	<0.1	28	7	90
CL - RZ - 288	0.1	33	11	106
CL - RZ - 289	<0.1	52	12	135
CL - RZ - 290	<0.1	37	9	96
CL - RZ - 291	<0.1	7	4	57
CL - RZ - 292	<0.1	3	3	59
CL - RZ - 293	<0.1	36	6	616
CL - RZ - 294	<0.1	47	6	78
CL - RZ - 295	<0.1	68	9	72
CL - RZ - 296	<0.1	45	5	77
CL - RZ - 297	<0.1	38	3	55
CL - RZ - 298	0.1	43	5	104
CL - RZ - 299	<0.1	39	6	57
CL - RZ - 300	<0.1	14	5	46
CL - RZ - 301	0.2	10	4	48
CL - RZ - 302	<0.1	12	3	56
CL - RZ - 303	<0.1	10	3	41
CL - RZ - 304	<0.1	18	6	136
CL - RZ - 305	<0.1	87	15	293
CL - RZ - 306	<0.1	95	14	98
CL - RZ - 307	<0.1	24	18	88
CL - RZ - 308	<0.1	9	13	205
CL - RZ - 309	<0.1	55	9	158
CL - RZ - 310	<0.1	17	30	96
CL - RZ - 311	<0.1	61	12	186
CL - RZ - 312	<0.1	303	8	297
CL - RZ - 313	0.4	29	13	226

Metals -- Aqua Regia Digestion/AAS Geochem

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October 22,1990

Work Order # 08456

Total Energold Corp.
21 - 1114 - 1st Ave.
Whitehorse, Yukon
Y1A 1A3

File # 08456d

P.O. # 3500
Sample: Soil

Assay Certificate for Samples Provided

Sample	ppm Ag	ppm Cu	ppm Pb	ppm Zn
CL - RZ - 314	<0.1	8	16	155
CL - RZ - 315	<0.1	17	18	70
CL - RZ - 316	<0.1	41	12	62
CL - RZ - 317	<0.1	49	12	71
CL - RZ - 318	<0.1	72	12	46
CL - RZ - 319	<0.1	53	7	35
CL - RZ - 320	<0.1	41	12	43
CL - RZ - 321	<0.1	31	10	42
CL - RZ - 322	<0.1	44	14	63
CL - RZ - 323	0.2	22	11	64
CL - RZ - 324	0.5	4	5	52
CL - RZ - 325	2.1	33	25	117
CL - RZ - 326	<0.1	25	21	152
CL - RZ - 327	<0.1	34	42	149
CL - RZ - 328	0.2	38	43	201
CL - RZ - 329	<0.1	29	14	76
CL - RZ - 330	0.3	19	15	105
CL - RZ - 331	<0.1	44	17	104
CL - RZ - 332	<0.1	75	34	127
CL - RZ - 333	<0.1	27	11	85
CL - RZ - 334	<0.1	22	11	159
CL - RZ - 335	<0.1	25	7	68
CL - RZ - 336	<0.1	37	10	79
CL - RZ - 337	No Sample			
CL - RZ - 338	<0.1	66	29	113
CL - RZ - 339	<0.1	36	10	71
CL - RZ - 340	<0.1	29	5	933
CL - RZ - 341	<0.1	28	10	158
CL - RZ - 342	0.1	33	9	363
CL - RZ - 343	<0.1	34	1	212

Metals -- Aqua Regia Digestion/AAS Geochem

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October 22,1990

Work Order # 08456

Total Energold Corp.
21 - 1114 - 1st Ave.
Whitehorse, Yukon
Y1A 1A3

File # 08456e

P.O. # 3500
Sample: Soil

Assay Certificate for Samples Provided

Sample	ppm Ag	ppm Cu	ppm Pb	ppm Zn
CL - RZ - 344	<0.1	25	6	149
CL - RZ - 345	<0.1	34	9	92
CL - RZ - 346	0.1	23	6	114
CL - RZ - 347	0.7	32	10	77
CL - RZ - 348	0.6	41	11	62
CL - RZ - 349	0.4	30	8	81
CL - RZ - 350	0.3	34	12	113
CL - RZ - 351	0.6	42	24	53
CL - RZ - 352	<0.1	30	11	52
CL - RZ - 353	0.9	36	8	53
CL - RZ - 354	<0.1	11	12	40
CL - RZ - 355	0.1	7	6	41
CL - RB - 500	1.4	43	49	557
CL - RB - 501	<0.1	23	23	136
CL - RB - 502	<0.1	24	11	78
CL - RB - 503	0.6	25	10	75
CL - RB - 504	0.7	22	13	64
CL - RB - 505	0.9	19	10	71
CL - RB - 506	1.0	14	10	52
CL - RB - 507	0.8	13	10	76
CL - RB - 508	0.9	13	9	50
CL - RB - 509	0.7	29	10	497
CL - RB - 510	0.6	8	10	61
CL - RB - 511	0.2	4	10	54
CL - RB - 512	<0.1	7	13	193
CL - RB - 513	0.6	3	18	76
CL - RB - 514	1.6	<1	125	37
CL - RB - 515	0.5	15	16	148
CL - RB - 516	0.9	37	19	97
CL - RB - 517	0.9	35	11	169

Metals -- Aqua Regia Digestion/AAS Geochem

Applied Science Technologists and Technicians of British Columbia
6992
GERALD F. HAYES
A.Sc.T.

105 Copper Road, Whitehorse, YT, Y1A 2Z7 Ph: (403) 668-4968 Fax: (403) 668-4890

Northern Analytical Laboratories ltd.

October 22,1990

Work Order # 08456

Total Energold Corp.
21 - 1114 - 1st Ave.
Whitehorse, Yukon
Y1A 1A3

File # 08456f

P.O. # 3500
Sample: Soil

Assay Certificate for Samples Provided

Sample	ppm Ag	ppm Cu	ppm Pb	ppm Zn
CL - RB - 518	0.8	28	12	165
CL - RB - 519	<0.1	63	8	142
CL - RB - 520	<0.1	49	6	187
CL - RB - 521	<0.1	47	5	80
CL - RB - 522	<0.1	44	7	64
CL - RB - 523	<0.1	9	3	81
CL - RB - 524	<0.1	16	2	42
CL - RB - 525	<0.1	29	8	75
CL - RB - 526	<0.1	46	11	127
CL - RB - 527	<0.1	45	13	153
CL - RB - 528	<0.1	16	12	74
CL - RB - 529	<0.1	11	10	63
CL - RB - 530	<0.1	15	17	104
CL - RB - 531	<0.1	24	6	61
CL - RB - 532	0.1	14	19	120
CL - RB - 533	0.1	13	17	159
CL - RB - 534	<0.1	14	9	70
CL - RB - 535	<0.1	8	12	66
CL - RB - 536	0.2	48	72	521
CL - RB - 537	0.2	67	53	244
CL - RB - 538	<0.1	25	7	65
CL - RB - 539	<0.1	58	23	62
CL - RB - 540	<0.1	32	9	83
CL - RB - 541	<0.1	34	15	99
CL - RB - 542	<0.1	49	16	72
CL - RB - 543	0.1	34	10	61
CL - RB - 544	<0.1	20	5	55
CL - RB - 545	<0.1	51	14	68
CL - RB - 546	<0.1	26	11	62
CL - RB - 547	<0.1	41	10	45

Metals -- Aqua Regia Digestion/AAS Geochem

Applied Science Technologists and Technicians of British Columbia
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GERALD F. HAYES
A.Sc.T.

105 Copper Road, Whitehorse, YT, Y1A 2Z7 Ph: (403) 668-4968 Fax: (403) 668-4890

Northern Analytical Laboratories ltd.

October 22,1990

Work Order # 08456

Total Energold Corp.
21 - 1114 - 1st Ave.
Whitehorse, Yukon
Y1A 1A3

File # 08456g

P.O. # 3500
Sample: Soil

Assay Certificate for Samples Provided

Sample	ppm Ag	ppm Cu	ppm Pb	ppm Zn
CL - RB - 548	<0.1	39	15	47
CL - RB - 549	<0.1	45	15	57
CL - RB - 550	<0.1	49	16	74
CL - RB - 551	<0.1	54	18	70
CL - RB - 552	<0.1	43	33	65
CL - RB - 553	<0.1	65	20	73
CL - RB - 554	<0.1	63	11	79
CL - RB - 555	<0.1	36	10	68
CL - RB - 556	<0.1	56	12	71
CL - RB - 557	<0.1	52	12	77
CL - RB - 558	<0.1	53	13	67
CL - RB - 559	0.1	47	5	82
CL - RB - 560	<0.1	49	26	80
CL - RB - 561	0.6	64	18	53
CL - RB - 562	0.3	38	14	46
CL - RB - 563	0.5	43	10	68
CL - RB - 564	1.5	49	11	77
CL - RB - 565	0.7	54	16	61
CL - RB - 566	<0.1	30	15	59

Metals -- Aqua Regia Digestion/AAS Geochem

Applied Science Technologists and Technicians of British Columbia
6992
GERALD F. HAYES
A.Sc.T.

105 Copper Road, Whitehorse, YT, Y1A 2Z7 Ph: (403) 668-4968 Fax: (403) 668-4890

ROSSBACHER LABORATORY LTD.

2225 S. Springer Ave., Burnaby,
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Ph:(604)299-6910 Fax:299-6252

CERTIFICATE OF ANALYSIS

TO : NORTHERN ANALYTICAL LABORATORY LTD.
105 COPPER ROAD
WHITEHORSE, Y.T.

PROJECT : 0845a

TYPE OF ANALYSIS : GEOCHEMICAL

CERTIFICATE # : WO#0845a
INVOICE # : 20084
DATE ENTERED : 90-10-30
FILE NAME : NAL90544
PAGE # : 1

PRE FIX	SAMPLE NAME	PPM Ba
P	4958	1640
P	4959	1720
P	CL-R2-244	3100
P	CL-R2-245	3460
P	CL-R2-246	3780
P	CL-R2-247	2500
P	CL-R2-248	3380
P	CL-R2-249	3600
P	CL-R2-250	2480
P	CL-R2-251	3120
P	CL-R2-252	3440
P	CL-R2-253	3200
P	CL-R2-254	1400
P	CL-R2-255	1540
P	CL-R2-256	1500
P	CL-R2-257	1160
P	CL-R2-258	640
P	CL-R2-259	800
P	CL-R2-260	1560
P	CL-R2-261	960
P	CL-R2-262	1180
P	CL-R2-263	1420
P	CL-R2-264	950
P	CL-R2-265	1100
P	CL-R2-266	2160
P	CL-R2-267	1700
P	CL-R2-268	1440
P	CL-R2-269	2000
P	CL-R2-270	1860
P	CL-R2-271	1200
P	CL-R2-272	1120
P	CL-R2-273	1560
P	CL-R2-274	1440
P	CL-R2-275	1140
P	CL-R2-276	1500
P	CL-R2-277	1400
P	CL-R2-278	1420
P	CL-R2-279	1440
P	CL-R2-280	1600
P	CL-R2-281	2040

CERTIFIED BY : J. Rossbach

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CERTIFICATE OF ANALYSIS

TO : NORTHERN ANALYTICAL LABORATORY LTD.
105 COPPER ROAD
WHITEHORSE, Y.T.

PROJECT : 08456
TYPE OF ANALYSIS : GEOCHEMICAL

CERTIFICATE # : WO#08456
INVOICE # : 20084
DATE ENTERED : 90-10-30
FILE NAME : NAL90544
PAGE # : 2

PRE FIX	SAMPLE NAME	PPM Ba
P	CL-R2-282	2180
P	CL-R2-283	1600
P	CL-R2-284	2280
P	CL-R2-285	2160
P	CL-R2-286	1580
P	CL-R2-287	1560
P	CL-R2-288	1260
P	CL-R2-289	1740
P	CL-R2-290	1720
P	CL-R2-291	1090
P	CL-R2-292	1840
P	CL-R2-293	840
P	CL-R2-294	1020
P	CL-R2-295	1140
P	CL-R2-296	1200
P	CL-R2-297	1220
P	CL-R2-298	1660
P	CL-R2-299	1280
P	CL-R2-300	1500
P	CL-R2-301	1640
P	CL-R2-302	1640
P	CL-R2-303	1600
P	CL-R2-304	1560
P	CL-R2-305	3760
P	CL-R2-306	1440
P	CL-R2-307	1460
P	CL-R2-308	3620
P	CL-R2-309	1400
P	CL-R2-310	1280
P	CL-R2-311	1300
P	CL-R2-312	1180
P	CL-R2-313	1780
P	CL-R2-314	1360
P	CL-R2-315	1180
P	CL-R2-316	1300
P	CL-R2-317	1180
P	CL-R2-318	1000
P	CL-R2-319	1020
P	CL-R2-320	1180
P	CL-R2-321	980

CERTIFIED BY : F. Rossbach

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CERTIFICATE OF ANALYSIS

TO : NORTHERN ANALYTICAL LABORATORY LTD.
105 COPPER ROAD
WHITEHORSE, Y.T.
PROJECT : 06456
TYPE OF ANALYSIS : GEOCHEMICAL

CERTIFICATE # : WO#06456
INVOICE # : 20084
DATE ENTERED : 90-10-30
FILE NAME : NAL90544
PAGE # : 3

PRE FIX	SAMPLE NAME	PPM Ba
P	CL-R2-322	1280
P	CL-R2-323	1360
P	CL-R2-324	1320
P	CL-R2-325	2640
P	CL-R2-326	3600
P	CL-R2-327	2520
P	CL-R2-328	1280
P	CL-R2-329	2360
P	CL-R2-330	2000
P	CL-R2-331	1300
P	CL-R2-332	2040
P	CL-R2-333	1360
P	CL-R2-334	1280
P	CL-R2-335	1800
P	CL-R2-336	1340
P	CL-R2-337	1080
P	CL-R2-338	1160
P	CL-R2-339	1600
P	CL-R2-340	950
P	CL-R2-341	1260
P	CL-R2-342	1160
P	CL-R2-343	760
P	CL-R2-344	1100
P	CL-R2-345	1320
P	CL-R2-346	1200
P	CL-R2-347	1320
P	CL-R2-348	1380
P	CL-R2-349	1380
P	CL-R2-350	1720
P	CL-R2-351	1460
P	CL-R2-352	1440
P	CL-R2-353	1060
P	CL-R2-354	1080
P	CL-R2-355	1140
P	CL-RB-500	1800
P	CL-RB-501	1140
P	CL-RB-502	1660
P	CL-RB-503	1780
P	CL-RB-504	1600
P	CL-RB-505	1700

CERTIFIED BY : G. Rossbacher

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CERTIFICATE OF ANALYSIS

TO : NORTHERN ANALYTICAL LABORATORY LTD.
105 COPPER ROAD
WHITEHORSE, Y.T.

PROJECT : 08456
TYPE OF ANALYSIS : GEOCHEMICAL

CERTIFICATE # : WO#08456
INVOICE # : 20084
DATE ENTERED : 90-10-30
FILE NAME : NAL90544
PAGE # : 4

PRE FIX	SAMPLE NAME	PPM Ba
P	CL-RB-506	1600
P	CL-RB-507	1480
P	CL-RB-508	1660
P	CL-RB-509	1880
P	CL-RB-510	1040
P	CL-RB-511	1560
P	CL-RB-512	1820
P	CL-RB-513	1500
P	CL-RB-514	1800
P	CL-RB-515	1660
P	CL-RB-516	1480
P	CL-RB-517	1160
P	CL-RB-518	1300
P	CL-RB-519	1220
P	CL-RB-520	1140
P	CL-RB-521	1180
P	CL-RB-522	1160
P	CL-RB-523	940
P	CL-RB-524	1340
P	CL-RB-525	2280
P	CL-RB-526	1680
P	CL-RB-527	2540
P	CL-RB-528	1540
P	CL-RB-529	1340
P	CL-RB-530	1600
P	CL-RB-531	1680
P	CL-RB-532	1580
P	CL-RB-533	2280
P	CL-RB-534	1280
P	CL-RB-535	1240
P	CL-RB-536	4600
P	CL-RB-537	2980
P	CL-RB-538	1420
P	CL-RB-539	980
P	CL-RB-540	1540
P	CL-RB-541	1780
P	CL-RB-542	1260
P	CL-RB-543	1820
P	CL-RB-544	1400
P	CL-RB-545	1000

CERTIFIED BY : J. Rossbach

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CERTIFICATE OF ANALYSIS

TO : NORTHERN ANALYTICAL LABORATORY LTD.
105 COPPER ROAD
WHITEHORSE, Y.T.

PROJECT : 08456
TYPE OF ANALYSIS : GEOCHEMICAL

CERTIFICATE # : WO#08456
INVOICE # : 20084
DATE ENTERED : 90-10-30
FILE NAME : NAL90544
PAGE # : 5

PRE FIX	SAMPLE NAME	PPM Ba
P	CL-RB-546	1120
P	CL-RB-547	1580
P	CL-RB-548	1220
P	CL-RB-549	1390
P	CL-RB-550	1300
P	CL-RB-551	1300
P	CL-RB-552	1240
P	CL-RB-553	1680
P	CL-RB-554	1700
P	CL-RB-555	1640
P	CL-RB-556	1160
P	CL-RB-557	1240
P	CL-RB-558	1360
P	CL-RB-559	1180
P	CL-RB-560	1200
P	CL-RB-561	1000
P	CL-RB-562	1380
P	CL-RB-563	1500
P	CL-RB-564	1040
P	CL-RB-565	1200
P	CL-RB-566	1480

CERTIFIED BY : J. Rossbach

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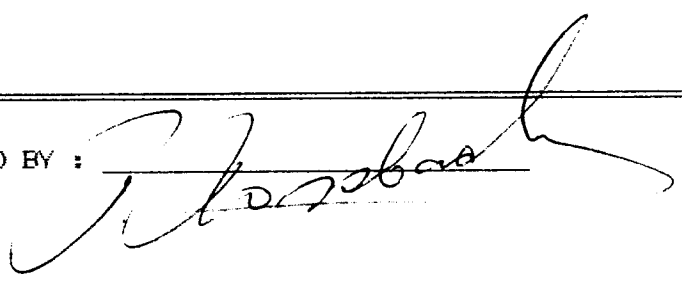
CERTIFICATE OF ANALYSIS

TO : NORTHERN ANALYTICAL LABORATORY LTD.
105 COPPER ROAD
WHITEHORSE, Y.T.

PROJECT : 08456
TYPE OF ANALYSIS : GEOCHEMICAL

CERTIFICATE # : WO#08456
INVOICE # : 20084
DATE ENTERED : 90-10-30
FILE NAME : NAL90544
PAGE # : 1

PRE FIX	SAMPLE NAME	PPM Ba
P	4958	1640
P	4959	1720
P	CL-RC-244	3100
P	CL-RC-245	3460
P	CL-RC-246	3780
P	CL-RC-247	2500
P	CL-RC-248	3380
P	CL-RC-249	3600
P	CL-RC-250	2480
P	CL-RC-251	3120
P	CL-RC-252	3440
P	CL-RC-253	3200
P	CL-RC-254	1420
P	CL-RC-255	1540
P	CL-RC-256	1500
P	CL-RC-257	1160
P	CL-RC-258	640
P	CL-RC-259	800
P	CL-RC-260	1560
P	CL-RC-261	960
P	CL-RC-262	1180
P	CL-RC-263	1420
P	CL-RC-264	950
P	CL-RC-265	1100
P	CL-RC-266	2160
P	CL-RC-267	1700
P	CL-RC-268	1440
P	CL-RC-269	2000
P	CL-RC-270	1860
P	CL-RC-271	1200
P	CL-RC-272	1120
P	CL-RC-273	1560
P	CL-RC-274	1440
P	CL-RC-275	1140
P	CL-RC-276	1500
P	CL-RC-277	1400
P	CL-RC-278	1420
P	CL-RC-279	1440
P	CL-RC-280	1600
P	CL-RC-281	2040

CERTIFIED BY : 

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CERTIFICATE OF ANALYSIS

TO : NORTHERN ANALYTICAL LABORATORY LTD.
105 COPPER ROAD
WHITEHORSE, Y.T.
PROJECT : 08456
TYPE OF ANALYSIS : GEOCHEMICAL

CERTIFICATE # : WO#08456
INVOICE # : 20084
DATE ENTERED : 90-10-30
FILE NAME : NAL90544
PAGE # : 2

PRE FIX	SAMPLE NAME	PPM Ba
P	CL-RC2-282	2180
P	CL-RC2-283	1600
P	CL-RC2-284	2230
P	CL-RC2-285	2160
P	CL-RC2-286	1590
P	CL-RC2-287	1560
P	CL-RC2-288	1260
P	CL-RC2-289	1740
P	CL-RC2-290	1720
P	CL-RC2-291	1000
P	CL-RC2-292	1840
P	CL-RC2-293	840
P	CL-RC2-294	1020
P	CL-RC2-295	1140
P	CL-RC2-296	1200
P	CL-RC2-297	1220
P	CL-RC2-298	1660
P	CL-RC2-299	1280
P	CL-RC2-300	1500
P	CL-RC2-301	1690
P	CL-RC2-302	1640
P	CL-RC2-303	1600
P	CL-RC2-304	1560
P	CL-RC2-305	3760
P	CL-RC2-306	1440
P	CL-RC2-307	1460
P	CL-RC2-308	3620
P	CL-RC2-309	1400
P	CL-RC2-310	1280
P	CL-RC2-311	1300
P	CL-RC2-312	1180
P	CL-RC2-313	1780
P	CL-RC2-314	1360
P	CL-RC2-315	1180
P	CL-RC2-316	1300
P	CL-RC2-317	1180
P	CL-RC2-318	1000
P	CL-RC2-319	1020
P	CL-RC2-320	1180
P	CL-RC2-321	980

CERTIFIED BY : F. Rossbach

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Ph:(604)299-6910 Fax:299-6252

CERTIFICATE OF ANALYSIS

TO : NORTHERN ANALYTICAL LABORATORY LTD.
10S COPPER ROAD
WHITEHORSE, Y.T.

PROJECT : 08456
TYPE OF ANALYSIS : GEOCHEMICAL

CERTIFICATE # : WO#08456
INVOICE # : 20084
DATE ENTERED : 90-10-30
FILE NAME : NAL90544
PAGE # : 3

PRE FIX	SAMPLE NAME	PPM Ba
P	CL-RC-322	1280
P	CL-RC-323	1360
P	CL-RC-324	1320
P	CL-RC-325	2640
P	CL-RC-326	5600
P	CL-RC-327	2520
P	CL-RC-328	1280
P	CL-RC-329	2360
P	CL-RC-330	2000
P	CL-RC-331	1300
P	CL-RC-332	2040
P	CL-RC-333	1360
P	CL-RC-334	1280
P	CL-RC-335	1800
P	CL-RC-336	1340
P	CL-RC-337	1080
P	CL-RC-338	1160
P	CL-RC-339	1600
P	CL-RC-340	950
P	CL-RC-341	1260
P	CL-RC-342	1160
P	CL-RC-343	760
P	CL-RC-344	1100
P	CL-RC-345	1320
P	CL-RC-346	1200
P	CL-RC-347	1320
P	CL-RC-348	1380
P	CL-RC-349	1380
P	CL-RC-350	1720
P	CL-RC-351	1460
P	CL-RC-352	1440
P	CL-RC-353	1060
P	CL-RC-354	1080
P	CL-RC-355	1140
P	CL-RB-500	1860
P	CL-RB-501	1140
P	CL-RB-502	1660
P	CL-RB-503	1780
P	CL-RB-504	1600
P	CL-RB-505	1700

CERTIFIED BY : J. Rossbacher

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CERTIFICATE OF ANALYSIS

TO : NORTHERN ANALYTICAL LABORATORY LTD.
105 COPPER ROAD
WHITEHORSE, Y.T.

PROJECT : 08456
TYPE OF ANALYSIS : GEOCHEMICAL

CERTIFICATE # : WO#08456
INVOICE # : 20084
DATE ENTERED : 90-10-30
FILE NAME : NAL90544
PAGE # : 4

PRE FIX	SAMPLE NAME	PPM Ba
P	CL-RB-506	1600
P	CL-RB-507	1480
P	CL-RB-508	1660
P	CL-RB-509	1880
P	CL-RB-510	1040
P	CL-RB-511	1560
P	CL-RB-512	1820
P	CL-RB-513	1500
P	CL-RB-514	1800
P	CL-RB-515	1660
P	CL-RB-516	1480
P	CL-RB-517	1160
P	CL-RB-518	1300
P	CL-RB-519	1220
P	CL-RB-520	1140
P	CL-RB-521	1180
P	CL-RB-522	1160
P	CL-RB-523	940
P	CL-RB-524	1340
P	CL-RB-525	2280
P	CL-RB-526	1680
P	CL-RB-527	2540
P	CL-RB-528	1540
P	CL-RB-529	1340
P	CL-RB-530	1600
P	CL-RB-531	1680
P	CL-RB-532	1580
P	CL-RB-533	2280
P	CL-RB-534	1280
P	CL-RB-535	1260
P	CL-RB-536	4600
P	CL-RB-537	2980
P	CL-RB-538	1420
P	CL-RB-539	980
P	CL-RB-540	1540
P	CL-RB-541	1780
P	CL-RB-542	1260
P	CL-RB-543	1820
P	CL-RB-544	1400
P	CL-RB-545	1000

CERTIFIED BY : Rossbacher

ROSSBACHER LABORATORY LTD.

2225 S. Springer Ave., Burnaby,
British Columbia, Can. V5B 3N1
Ph:(604)299-6910 Fax:299-6252

CERTIFICATE OF ANALYSIS

TO : NORTHERN ANALYTICAL LABORATORY LTD.
105 COPPER ROAD
WHITEHORSE, Y.T.
PROJECT : 08456
TYPE OF ANALYSIS : GEOCHEMICAL

CERTIFICATE # : WO#08456
INVOICE # : 20084
DATE ENTERED : 90-10-30
FILE NAME : NAL90544
PAGE # : 5

PRE FIX	SAMPLE NAME	PPM Ba
P	CL-RB-546	1120
P	CL-RB-547	1580
P	CL-RB-548	1220
P	CL-RB-549	1280
P	CL-RB-550	1300
P	CL-RB-551	1300
P	CL-RB-552	1240
P	CL-RB-553	1680
P	CL-RB-554	1700
P	CL-RB-555	1600
P	CL-RB-556	1160
P	CL-RB-557	1240
P	CL-RB-558	1360
P	CL-RB-559	1180
P	CL-RB-560	1200
P	CL-RB-561	1000
P	CL-RB-562	1380
P	CL-RB-563	1500
P	CL-RB-564	1040
P	CL-RB-565	1200
P	CL-RB-566	1480

CERTIFIED BY : Rossbach

APPENDIX B

GEOCHEMICAL STATISTICS

PHASE II

clear

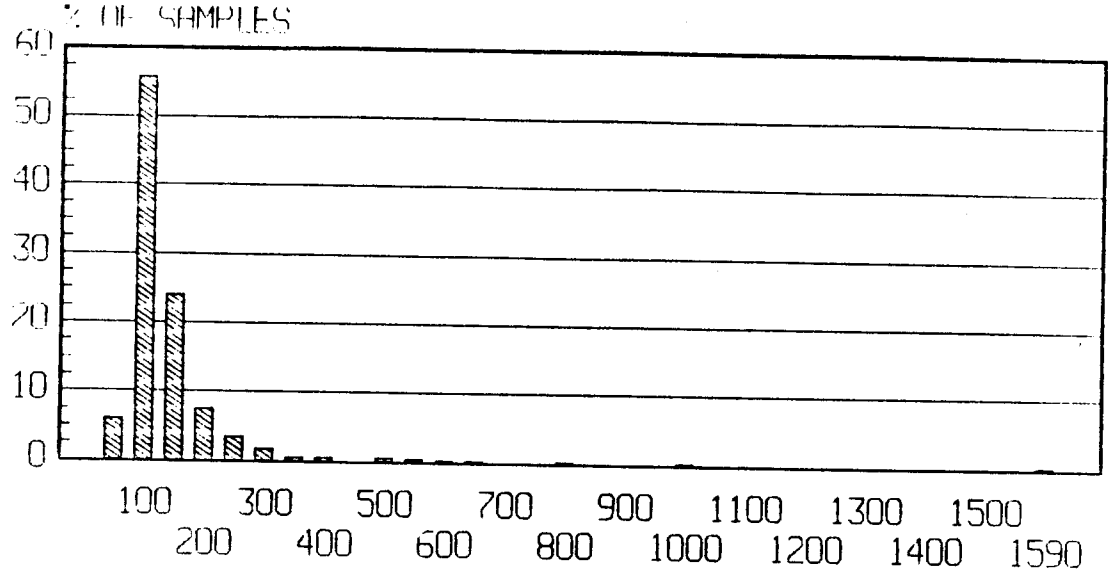
raw data file:

clear
[768 cases with 20 variables]

clear

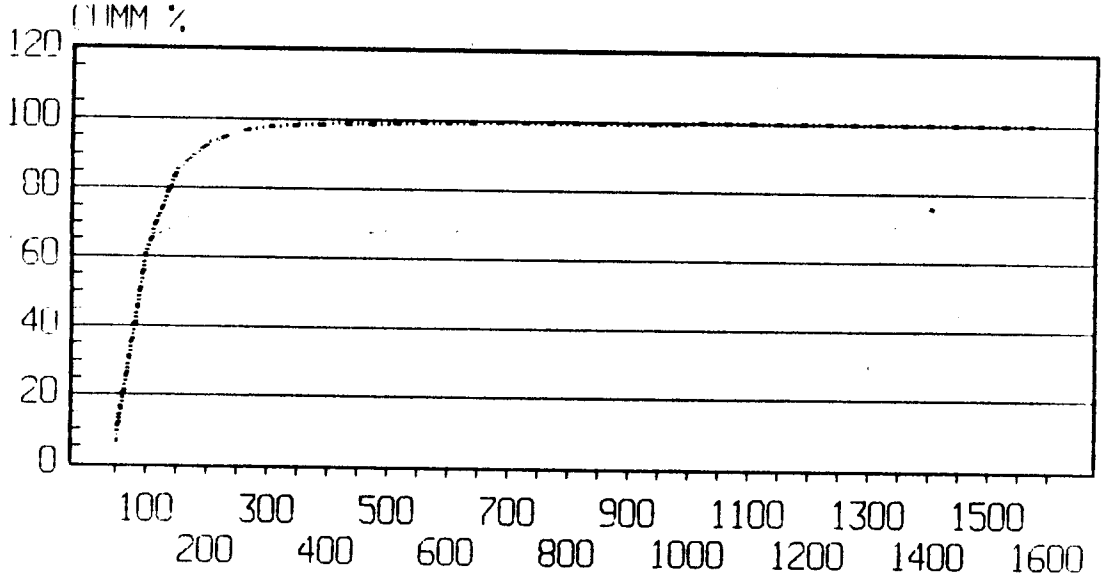
css/pc: graphs	HISTOGRAM: I 758 CASES; 10 MD				
Z_n	N of CASEs	% of CASEs	Cumm.N of CASEs	Cumm.% of CASEs
-.999937 - 50.	45	5.94	45	5.94
50. - 100.	423	55.80	468	61.74
100. - 150.	181	23.88	649	85.62
150. - 200.	56	7.39	705	93.01
200. - 250.	25	3.30	730	96.31
250. - 300.	12	1.58	742	97.89
300. - 350.	3	.40	745	98.28
350. - 400.	3	.40	748	98.68
400. - 450.	0	.00	748	98.68
450. - 500.	3	.40	751	99.08
500. - 550.	2	.26	753	99.34
550. - 600.	1	.13	754	99.47
600. - 650.	1	.13	755	99.60
650. - 700.	0	.00	755	99.60
700. - 750.	0	.00	755	99.60
750. - 800.	1	.13	756	99.74
800. - 850.	0	.00	756	99.74
850. - 900.	0	.00	756	99.74
900. - 950.	0	.00	756	99.74
950. - 1000.	1	.13	757	99.87
1000. - 1050.	0	.00	757	99.87
1050. - 1100.	0	.00	757	99.87
1100. - 1150.	0	.00	757	99.87
1150. - 1200.	0	.00	757	99.87
1200. - 1250.	0	.00	757	99.87
1250. - 1300.	0	.00	757	99.87
1300. - 1350.	0	.00	757	99.87
1350. - 1400.	0	.00	757	99.87
1400. - 1450.	0	.00	757	99.87
1450. - 1500.	0	.00	757	99.87
1500. - 1550.	0	.00	757	99.87
1550. - 1590.	1	.13	758	100.00

CLEAR LAKE HISTOGRAM - ZN
758 CASES; 10 MD



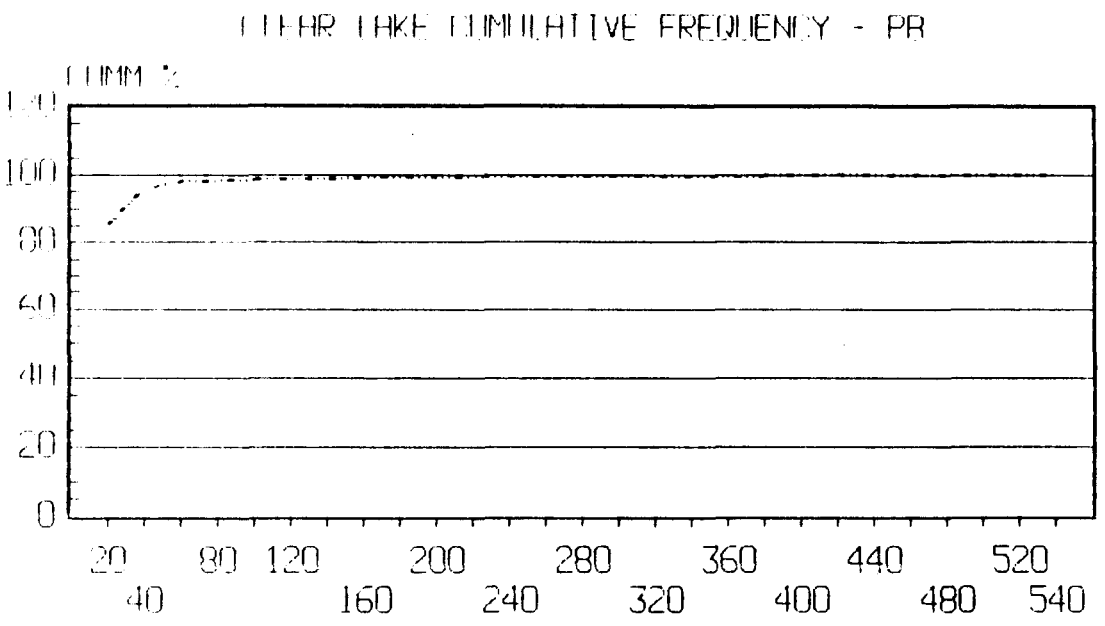
ZN IN PPM

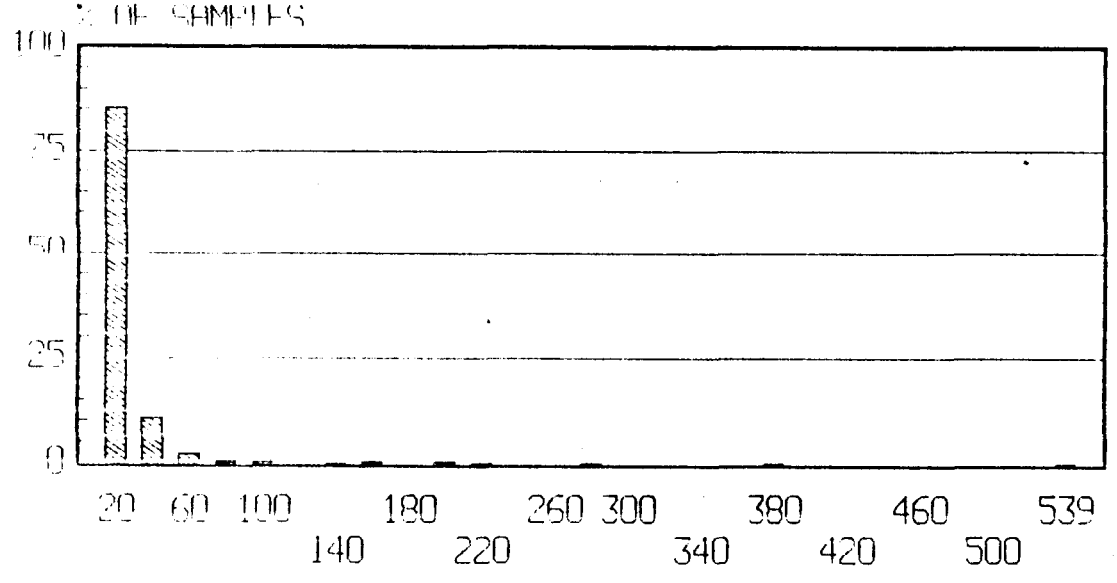
CLEAR LAKE CUMULATIVE FREQUENCY
758 CASES; 10 MD



ZN IN PPM

css/pc: graphs	HISTOGRAM: H 758 CASES; 10 MD			
ϕb	N of CASEs	% of CASEs	Cumm.N of CASEs	Cumm.% of CASEs
.0 - 20.	647	85.36	647	85.36
20. - 40.	80	10.55	727	95.91
40. - 60.	17	2.24	744	98.15
60. - 80.	2	.26	746	98.42
80. - 100.	2	.26	748	98.68
100. - 120.	0	.00	748	98.68
120. - 140.	1	.13	749	98.81
140. - 160.	3	.40	752	99.21
160. - 180.	0	.00	752	99.21
180. - 200.	2	.26	754	99.47
200. - 220.	1	.13	755	99.60
220. - 240.	0	.00	755	99.60
240. - 260.	0	.00	755	99.60
260. - 280.	1	.13	756	99.74
280. - 300.	0	.00	756	99.74
300. - 320.	0	.00	756	99.74
320. - 340.	0	.00	756	99.74
340. - 360.	0	.00	756	99.74
360. - 380.	1	.13	757	99.87
380. - 400.	0	.00	757	99.87
400. - 420.	0	.00	757	99.87
420. - 440.	0	.00	757	99.87
440. - 460.	0	.00	757	99.87
460. - 480.	0	.00	757	99.87
480. - 500.	0	.00	757	99.87
500. - 520.	0	.00	757	99.87
520. - 539.	1	.13	758	100.00


CLEAR LAKE CUMULATIVE FREQUENCY - PB
CUMM %
100
80
60
40
20
0
20
40
80
120
160
200
240
280
320
360
400
440
480
520
540
PB IN PPM


CLEAR LAKE HISTOGRAM - PB
% OF SAMPLES
100
75
50
25
0
20
60
100
140
180
220
260
300
340
380
420
460
500
539
LEAD IN PPM

clear

raw data file: clear
[768 cases with 20 variables]

clear

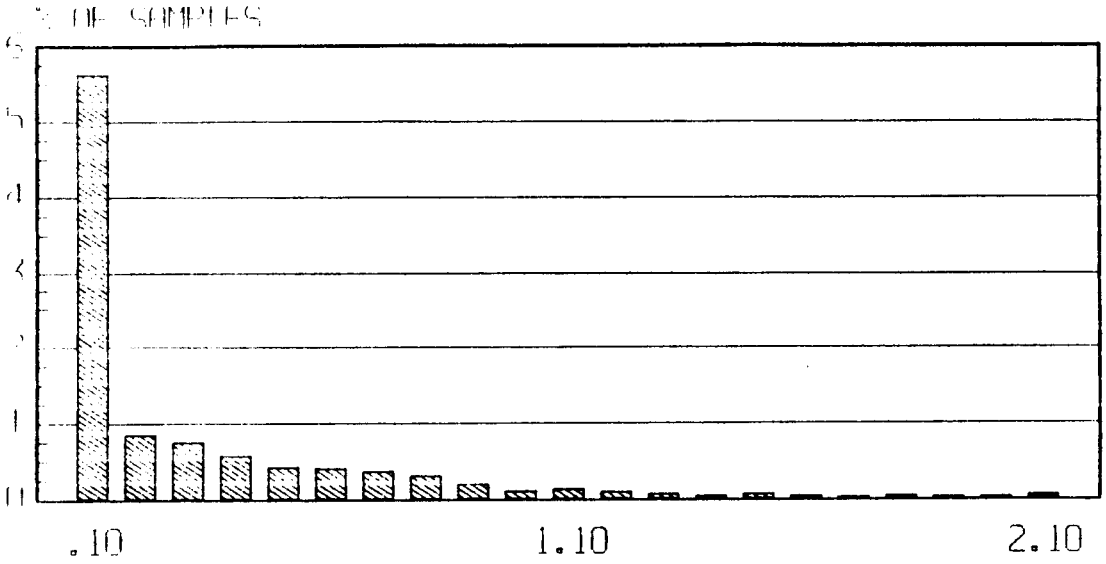
css/pc: graphs	HISTOGRAM: F 758 CASES; 10 MD			
A5	N of CASEs	% of CASEs	Cumm.N of CASEs	Cumm.% of CASEs
.0 - .1000000	427	56.33	427	56.33
.1000000 - .2000000	64	8.44	491	64.78
.2000000 - .3000000	57	7.52	548	72.30
.3000000 - .4000000	43	5.67	591	77.97
.4000000 - .5000000	31	4.09	622	82.06
.5000000 - .6000000	30	3.96	652	86.02
.6000000 - .7000001	27	3.56	679	89.58
.7000001 - .8000002	23	3.03	702	92.61
.8000002 - .9000003	14	1.85	716	94.46
.9000003 - 1.	7	.92	723	95.38
1. - 1.100	9	1.19	732	96.57
1.100 - 1.200	6	.79	738	97.36
1.200 - 1.300	4	.53	742	97.89
1.300 - 1.400	2	.26	744	98.15
1.400 - 1.500	4	.53	748	98.68
1.500 - 1.600	2	.26	750	98.94
1.600 - 1.700	1	.13	751	99.08
1.700 - 1.800	2	.26	753	99.34
1.800 - 1.900	1	.13	754	99.47
1.900 - 2.	1	.13	755	99.60
2. - 2.100	3	.40	758	100.00

clear

raw data file: clear
[768 cases with 20 variables]

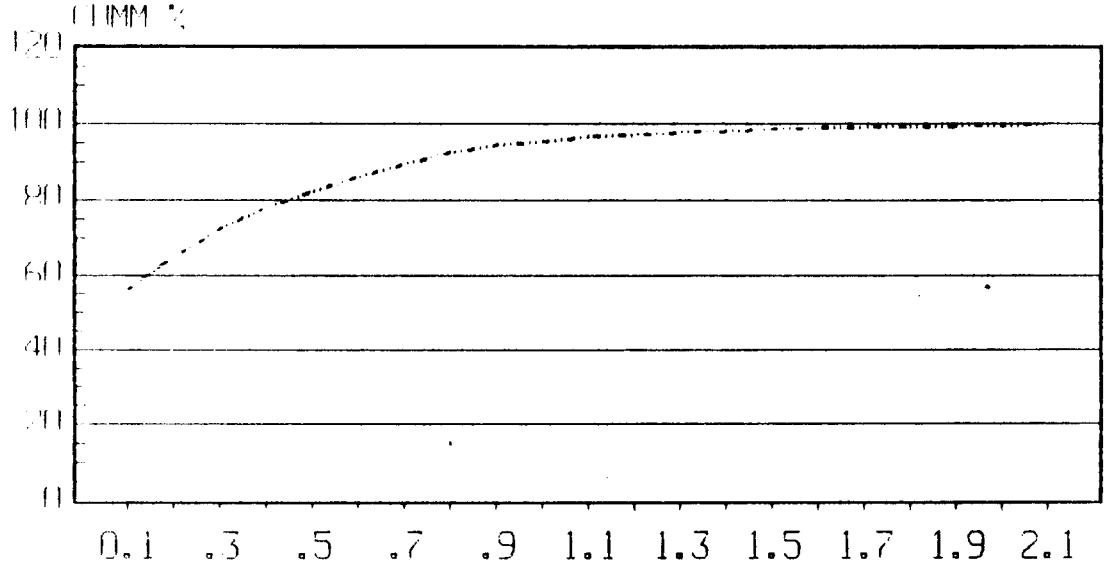
clear

CLEAR LAKE HISTOGRAM - AG
258 CASES; 10 MD



AG IN PPM

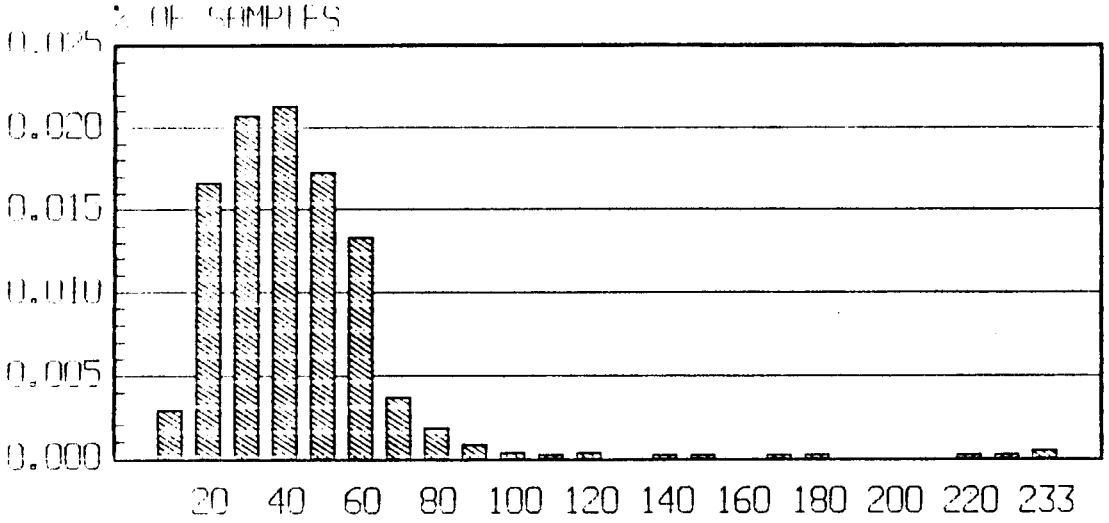
CLEAR LAKE CUMULATIVE FREQUENCY - AG
258 CASES; 10 MD



AG IN PPM

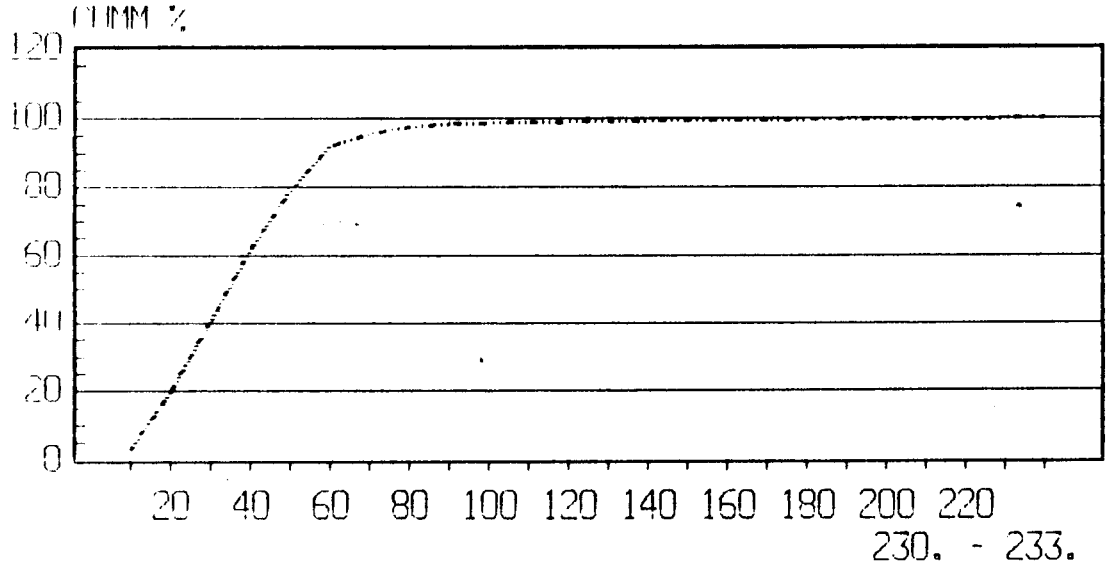
css/pc: graphs	HISTOGRAM: G 758 CASES; 10 MD			
Cu	N of CASEs	% of CASEs	Cumm.N of CASEs	Cumm.% of CASEs
.0 - 10.	22	2.90	22	2.90
10. - 20.	126	16.62	148	19.53
20. - 30.	157	20.71	305	40.24
30. - 40.	161	21.24	466	61.48
40. - 50.	131	17.28	597	78.76
50. - 60.	101	13.32	698	92.08
60. - 70.	28	3.69	726	95.78
70. - 80.	14	1.85	740	97.63
80. - 90.	6	.79	746	98.42
90. - 100.	2	.26	748	98.68
100. - 110.	1	.13	749	98.81
110. - 120.	2	.26	751	99.08
120. - 130.	0	.00	751	99.08
130. - 140.	1	.13	752	99.21
140. - 150.	1	.13	753	99.34
150. - 160.	0	.00	753	99.34
160. - 170.	1	.13	754	99.47
170. - 180.	1	.13	755	99.60
180. - 190.	0	.00	755	99.60
190. - 200.	0	.00	755	99.60
200. - 210.	0	.00	755	99.60
210. - 220.	1	.13	756	99.74
220. - 230.	1	.13	757	99.87
230. - 233.	1	.13	758	100.00

CLEAR LAKE HISTOGRAM - CU
758 CASES; 10 MD



COPPER IN PPM

CLEAR LAKE CUMULATIVE FREQUENCY - CU
758 CASES; 10 MD



CU IN PPM

clear

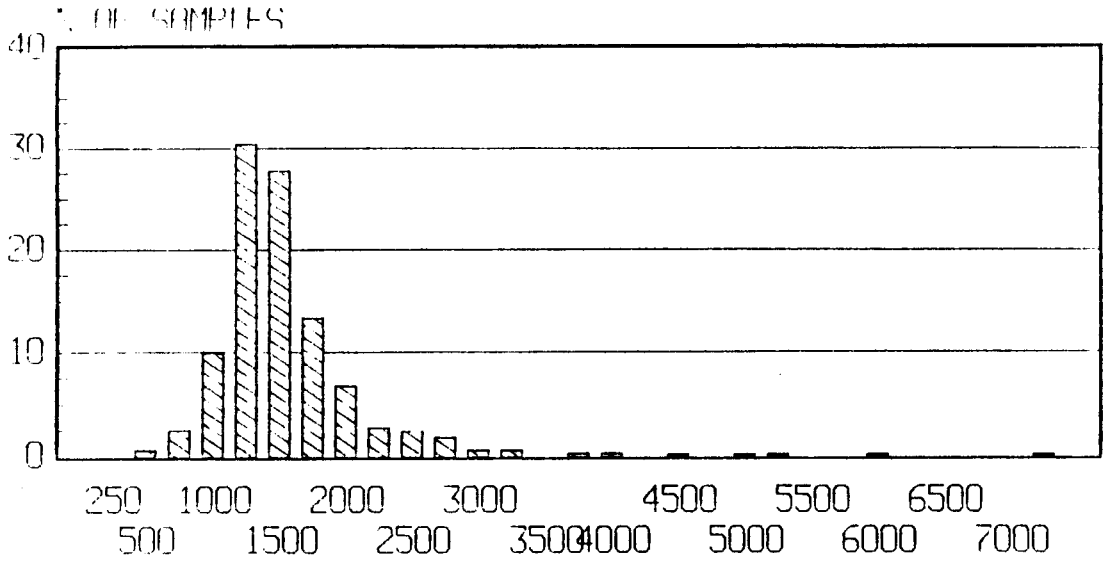
raw data file:

clear
[768 cases with 20 variables]

clear

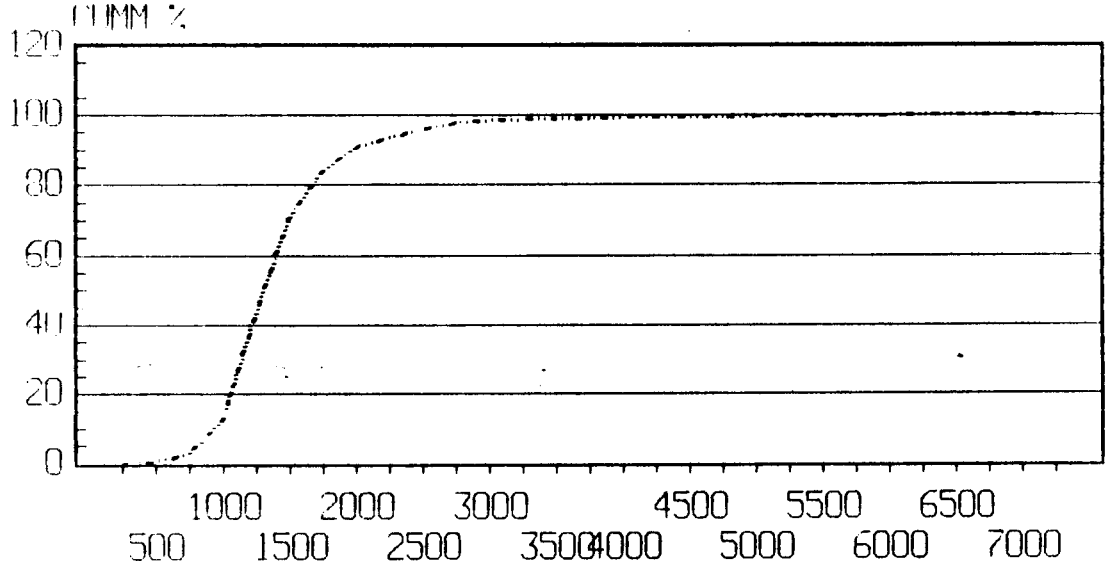
css/pc: graphs	HISTOGRAM: J 764 CASES; 4 MD				
Ba	N of CASEs	% of CASEs	Cumm.N of CASEs	Cumm.% of CASEs
.0 - 250.	0	.00	0	.00
250. - 500.	4	.52	4	.52
500. - 750.	19	2.49	23	3.01
750. - 1000.	75	9.82	98	12.83
1000. - 1250.	232	30.37	330	43.19
1250. - 1500.	212	27.75	542	70.94
1500. - 1750.	101	13.22	643	84.16
1750. - 2000.	51	6.68	694	90.84
2000. - 2250.	21	2.75	715	93.59
2250. - 2500.	18	2.36	733	95.94
2500. - 2750.	14	1.83	747	97.77
2750. - 3000.	4	.52	751	98.30
3000. - 3250.	4	.52	755	98.82
3250. - 3500.	0	.00	755	98.82
3500. - 3750.	2	.26	757	99.08
3750. - 4000.	2	.26	759	99.35
4000. - 4250.	0	.00	759	99.35
4250. - 4500.	1	.13	760	99.48
4500. - 4750.	0	.00	760	99.48
4750. - 5000.	1	.13	761	99.61
5000. - 5250.	1	.13	762	99.74
5250. - 5500.	0	.00	762	99.74
5500. - 5750.	0	.00	762	99.74
5750. - 6000.	1	.13	763	99.87
6000. - 6250.	0	.00	763	99.87
6250. - 6500.	0	.00	763	99.87
6500. - 6750.	0	.00	763	99.87
6750. - 7000.	0	.00	763	99.87
7000. - 7200.	1	.13	764	100.00

CLEAR LAKE HISTOGRAM - BA
764 CASES; 4 MD



BA IN PPM

CLEAR LAKE CUMULATIVE FREQUENCY - BA
764 CASES; 4 MD



BA IN PPM

lear PHASE 3

raw data file: CL3SS
[168 cases with 6 variables]

CL3SS

ARIABLE LIST and missing data values:

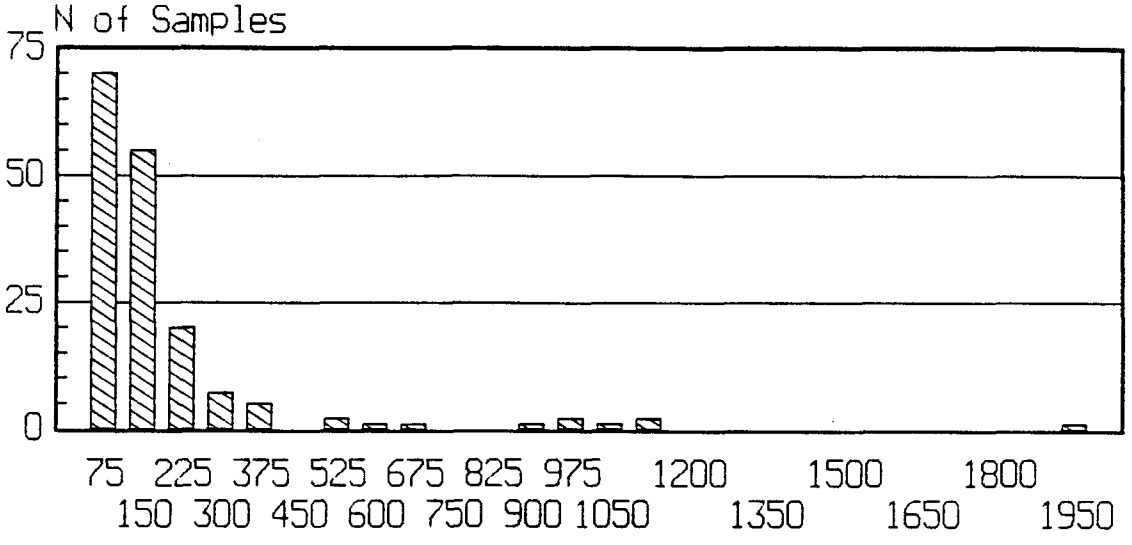
2 SILVER (-9999.0)	3 COPPER (-9999.0)	4 LEAD (-9999.0)
5 ZINC (-9999.0)	6 BARIUM (-9999.0)	

css/pc: basic stats	Descriptive statistics in dbl precision N. of CASES = 168 (MD pairwise deleted)					
	N	Min	Max	Mean	Std.Err.	Std.Dev.
SILVER	168	.1000	2.100	.226	.02391	.3090
COPPER	168	1.0000	303.000	35.208	2.09304	27.0480
LEAD	168	1.0000	125.000	13.179	1.02205	13.2077
ZINC	168	35.0000	1910.000	158.310	17.88783	231.1618
BARIUM	168	640.0000	5600.000	1518.571	45.94331	593.7184

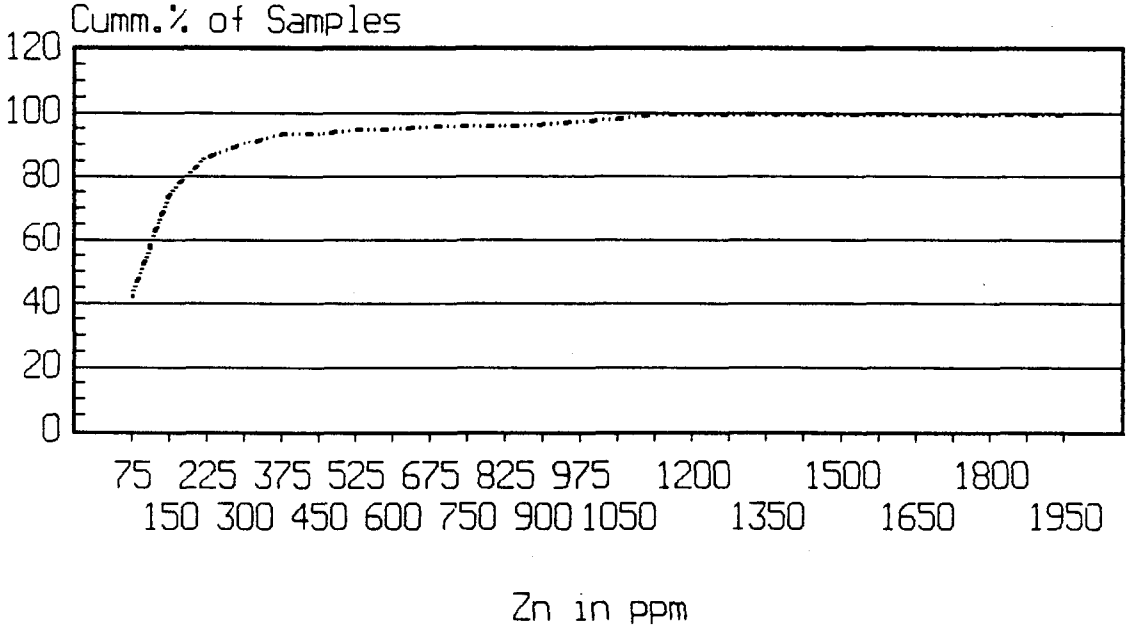
css/pc: basic stats	Descriptive statistics in dbl precision N. of CASES = 168 (MD pairwise deleted)	
	Skewness	Kurtosis
SILVER	3.153743	11.61687
COPPER	5.790038	54.73572
LEAD	4.791675	32.22381
ZINC	4.332774	23.10203
BARIUM	3.447139	17.41588

css/pc: graphs	HISTOGRAM: ZINC 168 CASES			
	N of CASEs	% of CASEs	Cumm.N of CASEs	Cumm.% of CASEs
.0 - 75.	70	41.67	70	41.67
75. - 150.	55	32.74	125	74.40
150. - 225.	20	11.90	145	86.31
225. - 300.	7	4.17	152	90.48
300. - 375.	5	2.98	157	93.45
375. - 450.	0	.00	157	93.45
450. - 525.	2	1.19	159	94.64
525. - 600.	1	.60	160	95.24
600. - 675.	1	.60	161	95.83
675. - 750.	0	.00	161	95.83
750. - 825.	0	.00	161	95.83
825. - 900.	1	.60	162	96.43
900. - 975.	2	1.19	164	97.62
975. - 1050.	1	.60	165	98.21
1050. - 1125.	2	1.19	167	99.40
1125. - 1200.	0	.00	167	99.40
1200. - 1275.	0	.00	167	99.40
1275. - 1350.	0	.00	167	99.40
1350. - 1425.	0	.00	167	99.40
1425. - 1500.	0	.00	167	99.40
1500. - 1575.	0	.00	167	99.40
1575. - 1650.	0	.00	167	99.40
1650. - 1725.	0	.00	167	99.40
1725. - 1800.	0	.00	167	99.40
1800. - 1875.	0	.00	167	99.40
1875. - 1950.	1	.60	168	100.00

CLEAR LK HISTOGRAM: Zinc (ppm)
Soil Samples
(168 samples)

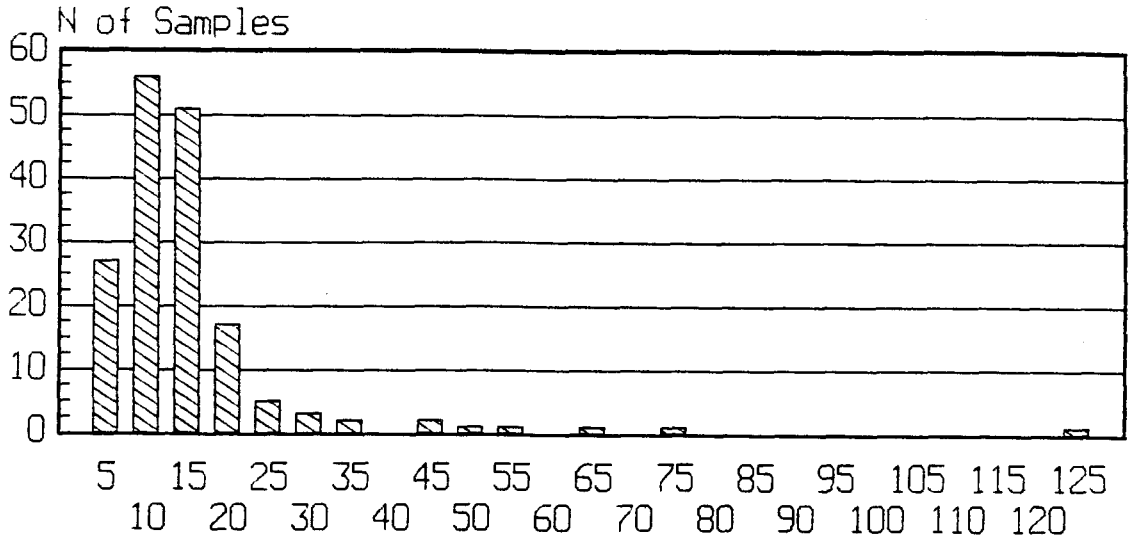


CLEAR LK CUMULATIVE FREQUENCY: Zinc
Soil Samples
(168 samples)

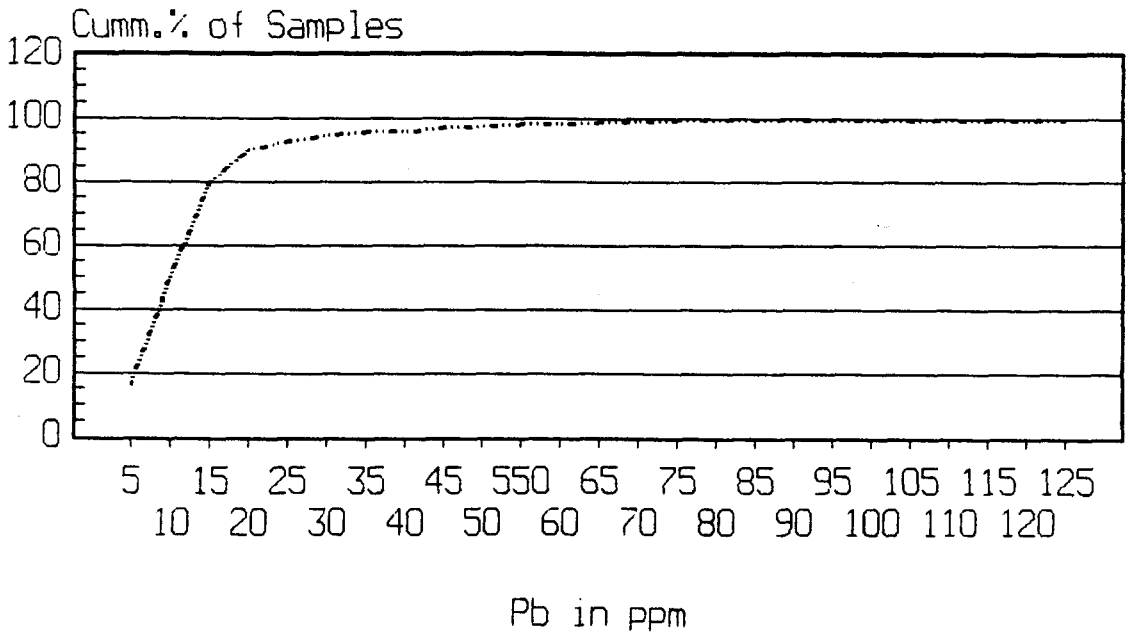


css/pc: graphs	HISTOGRAM: LEAD 168 CASES			
	N of CASEs	% of CASEs	Cumm.N of CASEs	Cumm.% of CASEs
.0 - 5.	27	16.07	27	16.07
5. - 10.	56	33.33	83	49.40
10. - 15.	51	30.36	134	79.76
15. - 20.	17	10.12	151	89.88
20. - 25.	5	2.98	156	92.86
25. - 30.	3	1.79	159	94.64
30. - 35.	2	1.19	161	95.83
35. - 40.	0	.00	161	95.83
40. - 45.	2	1.19	163	97.02
45. - 50.	1	.60	164	97.62
50. - 55.	1	.60	165	98.21
55. - 60.	0	.00	165	98.21
60. - 65.	1	.60	166	98.81
65. - 70.	0	.00	166	98.81
70. - 75.	1	.60	167	99.40
75. - 80.	0	.00	167	99.40
80. - 85.	0	.00	167	99.40
85. - 90.	0	.00	167	99.40
90. - 95.	0	.00	167	99.40
95. - 100.	0	.00	167	99.40
100. - 105.	0	.00	167	99.40
105. - 110.	0	.00	167	99.40
110. - 115.	0	.00	167	99.40
115. - 120.	0	.00	167	99.40
120. - 125.	1	.60	168	100.00

CLEAR LK HISTOGRAM: Lead (ppm)
Soil Samples
(168 samples)

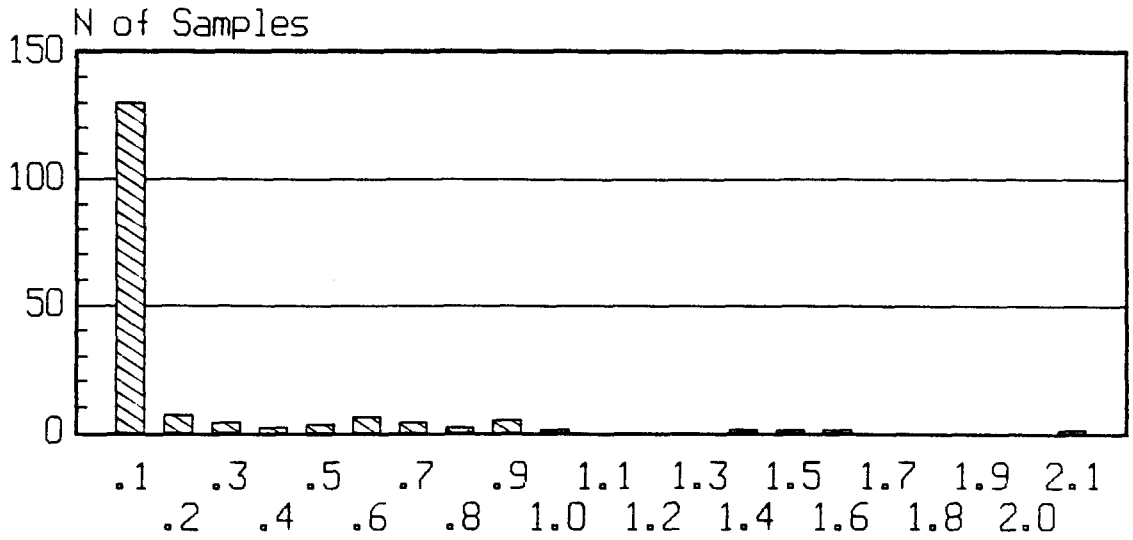


CLEAR LK CUMULATIVE FREQUENCY: Lead
Soil Samples
(168 samples)

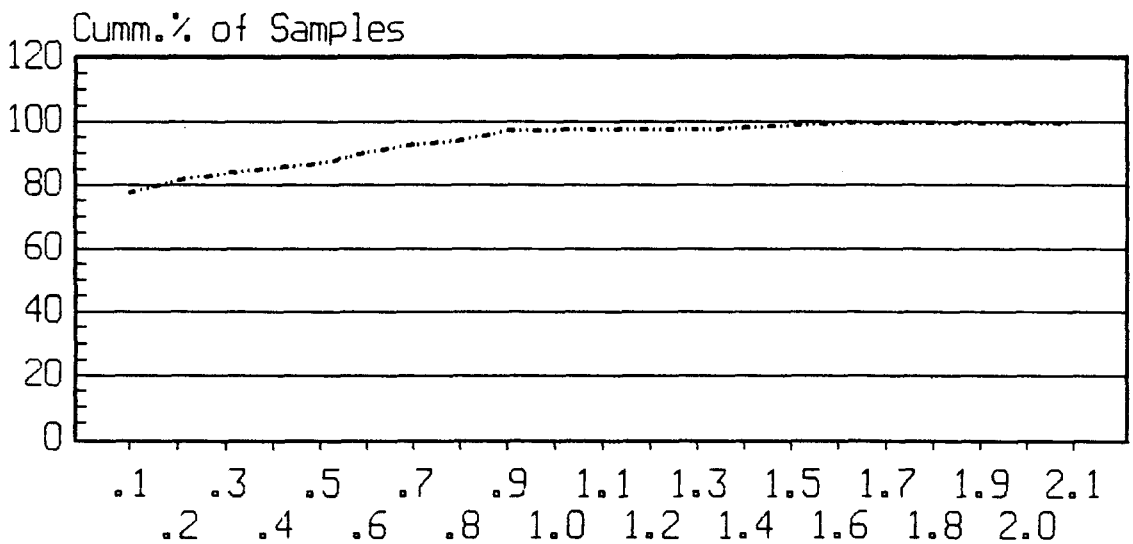


css/pc: graphs	HISTOGRAM: SILVER 168 CASES			
	N of CASEs	% of CASEs	Cumm.N of CASEs	Cumm.% of CASEs
.0 - .1000000	130	77.38	130	77.38
.1000000 - .2000000	7	4.17	137	81.55
.2000000 - .3000000	4	2.38	141	83.93
.3000000 - .4000000	2	1.19	143	85.12
.4000000 - .5000000	3	1.79	146	86.90
.5000000 - .6000000	6	3.57	152	90.48
.6000000 - .7000001	4	2.38	156	92.86
.7000001 - .8000002	2	1.19	158	94.05
.8000002 - .9000003	5	2.98	163	97.02
.9000003 - 1.	1	.60	164	97.62
1. - 1.100	0	.00	164	97.62
1.100 - 1.200	0	.00	164	97.62
1.200 - 1.300	0	.00	164	97.62
1.300 - 1.400	1	.60	165	98.21
1.400 - 1.500	1	.60	166	98.81
1.500 - 1.600	1	.60	167	99.40
1.600 - 1.700	0	.00	167	99.40
1.700 - 1.800	0	.00	167	99.40
1.800 - 1.900	0	.00	167	99.40
1.900 - 2.	0	.00	167	99.40
2. - 2.100	1	.60	168	100.00

CLEAR LK HISTOGRAM: Silver (ppm)
Soil Samples
(168 samples)

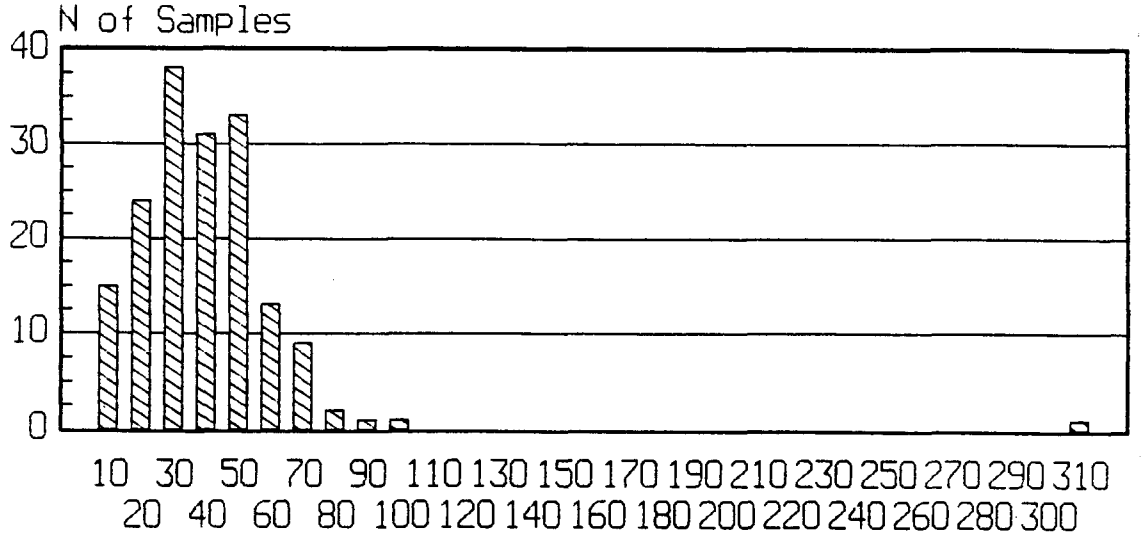


CLEAR LK CUMULATIVE FREQUENCY: Silver
Soil Samples
(168 samples)

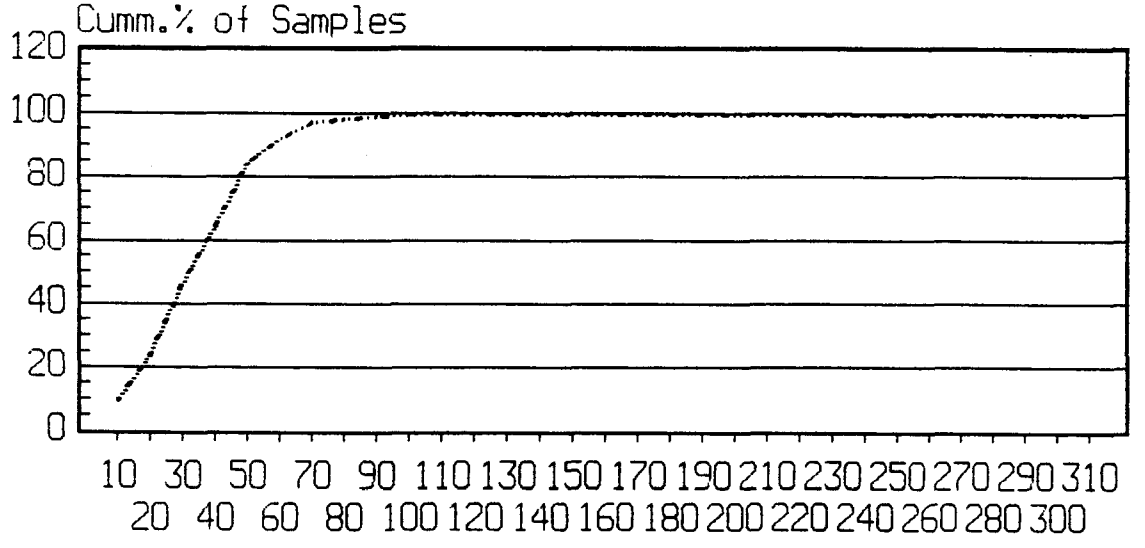


css/pc: graphs	HISTOGRAM: COPPER 168 CASES			
	N of CASEs	% of CASEs	Cumm.N of CASEs	Cumm.% of CASEs
.0 - 10.	15	8.93	15	8.93
10. - 20.	24	14.29	39	23.21
20. - 30.	38	22.62	77	45.83
30. - 40.	31	18.45	108	64.29
40. - 50.	33	19.64	141	83.93
50. - 60.	13	7.74	154	91.67
60. - 70.	9	5.36	163	97.02
70. - 80.	2	1.19	165	98.21
80. - 90.	1	.60	166	98.81
90. - 100.	1	.60	167	99.40
100. - 110.	0	.00	167	99.40
110. - 120.	0	.00	167	99.40
120. - 130.	0	.00	167	99.40
130. - 140.	0	.00	167	99.40
140. - 150.	0	.00	167	99.40
150. - 160.	0	.00	167	99.40
160. - 170.	0	.00	167	99.40
170. - 180.	0	.00	167	99.40
180. - 190.	0	.00	167	99.40
190. - 200.	0	.00	167	99.40
200. - 210.	0	.00	167	99.40
210. - 220.	0	.00	167	99.40
220. - 230.	0	.00	167	99.40
230. - 240.	0	.00	167	99.40
240. - 250.	0	.00	167	99.40
250. - 260.	0	.00	167	99.40
260. - 270.	0	.00	167	99.40
270. - 280.	0	.00	167	99.40
280. - 290.	0	.00	167	99.40
290. - 300.	0	.00	167	99.40
300. - 310.	1	.60	168	100.00

CLEAR LK HISTOGRAM: Copper (ppm)
Soil Samples
(168 samples)

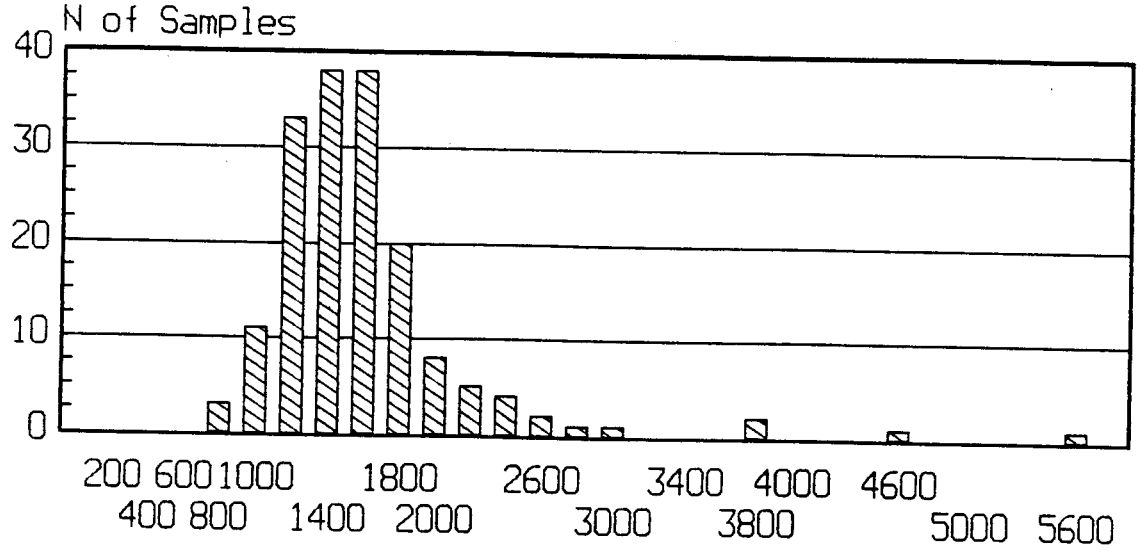


CLEAR LK CUMULATIVE FREQUENCY: Copper
Soil Samples
(168 samples)

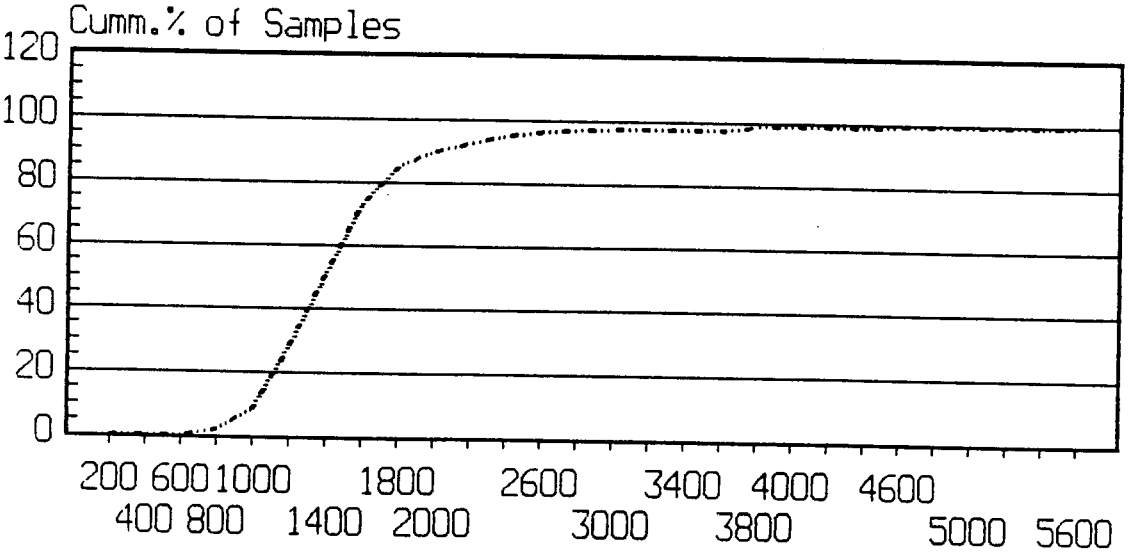


css/pc: graphs	HISTOGRAM: BARIUM 168 CASES			
	N of CASEs	% of CASEs	Cumm.N of CASEs	Cumm.% of CASEs
.0 - 200.	0	.00	0	.00
200. - 400.	0	.00	0	.00
400. - 600.	0	.00	0	.00
600. - 800.	3	1.79	3	1.79
800. - 1000.	11	6.55	14	8.33
1000. - 1200.	33	19.64	47	27.98
1200. - 1400.	38	22.62	85	50.60
1400. - 1600.	38	22.62	123	73.21
1600. - 1800.	20	11.90	143	85.12
1800. - 2000.	8	4.76	151	89.88
2000. - 2200.	5	2.98	156	92.86
2200. - 2400.	4	2.38	160	95.24
2400. - 2600.	2	1.19	162	96.43
2600. - 2800.	1	.60	163	97.02
2800. - 3000.	1	.60	164	97.62
3000. - 3200.	0	.00	164	97.62
3200. - 3400.	0	.00	164	97.62
3400. - 3600.	0	.00	164	97.62
3600. - 3800.	2	1.19	166	98.81
3800. - 4000.	0	.00	166	98.81
4000. - 4200.	0	.00	166	98.81
4200. - 4400.	0	.00	166	98.81
4400. - 4600.	1	.60	167	99.40
4600. - 4800.	0	.00	167	99.40
4800. - 5000.	0	.00	167	99.40
5000. - 5200.	0	.00	167	99.40
5200. - 5400.	0	.00	167	99.40
5400. - 5600.	1	.60	168	100.00

CLEAR LK HISTOGRAM: Barium (ppm)
Soil Samples
(168 samples)



CLEAR LK CUMULATIVE FREQUENCY: Barium
Soil Samples
(168 samples)



APPENDIX C

PETROGRAPHIC STUDIES

Petrographic Sample Locations

Sample Number	Location & Field Description
Clear 3	L560W Clear Lake Grid near gossan, T1 (RWH notes), diorite-gabbro
Clear 4	Core racks, sandstone
Clear 5	Near Clear Lake, Brown Limestone Breccia
Clear 6	DDH 83-39 @ 860 feet, Cherty Tuff
Clear 7	DDH 83-47 @ 894 feet, Felsite
Clear 8	Area 11, Chert
Clear 9	East of camp, dark grey sandstone
Clear 10	East of camp, RB4 in RB notes, micritic limestone
Clear 11	Area 11, limestone
Clear 12	East of camp, RB1 in RB notes, partially silicified sandstone
Clear 13	East of camp, mafic volcanic

Vancouver Petrographics Ltd.

JAMES VINNELL, Manager
JOHN G. PAYNE, Ph.D. Geologist
CRAIG LEITCH, Ph.D. Geologist
JEFF HARRIS, Ph.D. Geologist
KEN E. NORTHCOTE, Ph.D. Geologist

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8080 GLOVER ROAD,
FORT LANGLEY, B.C.
V0X 1J0
PHONE (604) 888-1323
FAX. (604) 888-3642

Clear Lake

Report for: Richard Basnett,
Total Energold Corporation,
21 - 1114 First Ave.,
Whitehorse,
Yukon, Y1A 1A3

Job 76

October 15th, 1990

SAMPLES:

11 rock samples from Clear Lake (numbered 3 through 13), for thin sectioning and petrographic examination.

SUMMARY:

The rocks of this suite include sandstones, limestones and others (including igneous, pyroclastic and cherty rocks). The field names, as listed in your covering letter, are closely confirmed by the petrography.

a) **Sandstones:** Samples 4, 9 and 12

These are non-foliated arenites, composed predominantly of aggregates of quartz grains in the size range 0.03 - 0.3mm. Samples 4 and 9 include accessory clasts of chert, carbonate and compact sericite (altered felsite?); they have a minor intergranular cement of sericite and/or micron-sized opaques. Sample 12 is more strongly recrystallized, and is best described as a quartzite. It shows a strain-polarized, mosaic fabric, with partially crenulate grain boundaries. A silty to cherty, interstitial/replacing phase is irregularly developed, concentrating as sub-parallel zones in which the chert cements and partially assimilates fragments of the quartzite host.

b) **Limestones:** Samples 5, 10 and 11

Sample 5 is conglomeratic, consisting of clasts, 1 - 10mm in size, of silty and bituminous limestone, together with elongate bioclasts, all cemented by microgranular calcite. Accessory chert/chalcedony forms local replacements.

Sample 10 is arenitic, of similar grain size to the sandstones. Clasts consist of micritic calcite and quartz grains. A brownish sub-opaque cementing material may be bituminous. Like Sample 5, the rock contains abundant bioclasts, partially replaced by chalcedony.

Sample 11 is perceptibly foliated. It consists of close-packed microlenticles of micritic calcite, with accessory silty quartz and rare wisps of opaque material. It includes several generations of calcite veinlets.

c) Others:

Sample 3 is a diabase, having the typical textural aspect of an intrusive dyke. It consists of a meshwork of partially carbonated plagioclase laths, in sub-ophitic intergrowth with turbid pyroxene and another mafic component which is now totally altered to serpentine.

Sample 13 is a tuffaceous metacalcareous rock, consisting of fine, laminar intercalations of a greenstone (meta-basic tuff) assemblage and a calcite-epidote unit (recrystallized impure limestone).

Sample 7 is of uncertain origin. It consists of a matrix of felsite, showing an incipient mosaic fabric. The elongate, fragment-like features are of compact, fine-grained sericite and/or carbonate, and may represent altered, deformed phenocrysts in an original feldspar porphyry. Alternatively, the rock could be a form of tuff.

Samples 6 and 8 are bedded alternations of chert and tuffs, suggestive of a possible exhalative environment. The first is a thinly laminated sequence showing microfaulting and associated framentation. The second is more coarsely banded, and the chert component is apparently ferruginous. It shows overall shatter or collapse-type brecciation, cemented by microgranular quartz. Both samples contain significant amounts of barite.

Individual petrographic descriptions are attached.



J.F. Harris Ph.D.

((604) 929-5867)

SAMPLE: CLEAR 3 **DIABASE**

Estimated mode

Plagioclase	42
Pyroxene	25
Serpentine	20
Carbonate	10
Biotite	trace
Rutile) Fe-Ti Oxides)	3
Pyrite	trace

This rock shows the characteristic texture of an intrusive diabase (see etched off-cut).

It is composed predominantly of a meshwork aggregate of lath-like plagioclase crystals, 0.1 - 0.5mm in size, (rarely to 1.0mm or more) in interstitial to sub-ophitic intergrowth with subhedral pyroxene of grain size 0.2 - 1.0mm.

A third major component is serpentine, as small, flaky-textured pockets interstitial to the plagioclase-pyroxene aggregate, and as abundant, equant/sub-prismatic patches (0.3 - 2.0mm in size) having the appearance of pseudomorphed phenocrysts. These sometimes contain tiny disseminated granules of rutile or sphene. Very minor development of serpentine in redistributed form, as hairline veinlets, is also seen.

The principal accessory is a brown opaque to sub-opaque material, evenly disseminated, as equant, angular/skeletal grains, 0.05 - 0.3mm in size. This is probably rutile or an Fe-Ti oxide. Rare traces of fine-grained pyrite are associated.

The plagioclase shows more or less strong overall turbidity and alteration to carbonate. The pyroxene is also pervasively altered, typically being of dark brown, sub-opaque appearance.

The serpentine is clearly secondary after some original mafic silicate. The pseudomorphs lack the cellular texture (with fine-grained secondary oxides) typical of derivation from olivine. They occasionally show traces of a relict cleavage, and often include - or partially include - plagioclase laths (original ophitic texture). It seems most likely, therefore, that this rock may originally have contained two distinct forms or generations of pyroxene, one of which is now completely replaced by serpentine. Interestingly, the dark, ferruginized form of pyroxene shows no sign of serpentinization.

SAMPLE: CLEAR 4 **FINE-GRAINED ARENITE**

Estimated mode

Quartz	73
Plagioclase	4
Chert	5
Sericite	12
Carbonate	4
Limonite) Opaques)	2

This is an evenly fine-grained, non-foliated rock. A micro-granular, clastic-type texture is recognizable by high power examination of the etched off-cut.

In thin section it is found to consist essentially of an equigranular aggregate of sub-angular to sub-rounded grains of quartz and minor plagioclase, 0.03 - 0.15mm in size. Scattered, coarser, rounded quartz grains, 0.2 - 0.4mm in size, are also present.

Minor constituents, also of apparent clastic nature and similar in size to the quartz, are grains of compact, minutely felted sericite (altered felsite?), chert, and Fe-stained carbonate. In part, the carbonate forms small pockets of more intergranular appearance.

Sericite also occurs as a patchily developed, minor interstitial network, sometimes associated with silt-sized quartz; rarely it is seen as occasional randomly-oriented, individual flakes.

The rock contains traces of disseminated opaques. Limonite forms micron-scale coatings to the quartz grains, and impregnates the sparse network of intergranular sericite.

Original clastic textures and grain shapes are well-preserved, and this rock appears essentially un-recrystallized

SAMPLE: CLEAR 5 LIMESTONE CONGLOMERATE

Estimated mode

Carbonate	92
Bituminous material	2
Quartz	2
Chert) Chalcedony)	4

This rock shows a striking conglomeratic texture on the macro-scale. It is clearly composed of rounded to sub-angular, often strongly elongate pebbles, 1 - 10mm in size, showing a distinct sub-parallel, preferred elongation.

In thin section the pebbles are found to consist of various carbonate rocks. One of the commonest types consists of a coarse mosaic of calcite, of grain size 0.2 - 0.5mm, typically making up strongly elongate (discoid?) bodies, which are probably some form of bioclast.

Other clasts are composed of finer-grained to minutely micritic limestones, sometimes with tiny angular grains of accessory quartz. Others are more or less bituminous, grading to essentially sub-opaque, dark brown variants (with or without pockets and threads of transparent calcite).

The pebbles are tightly cemented by a microgranular to sparry calcitic matrix, which is sometimes difficult to differentiate from the clasts. Diffuse pockety impregnations of brownish chert and fibrous chalcedony are sporadically developed - probably mainly in association with the cementing phase, but possibly, in part, as partial replacements of fossils and pebbles.

The rock is strongly, and evenly, reactive to dilute acid, and the carbonate appears all to be calcitic.

SAMPLE: CLEAR 6 **CHERTY TUFFITE?**

Estimated mode

Chert) Felsite)	55
Sericite	22
Leucoxene	1
Carbonate	15
Quartz	4
Barite	3
Pyrite	trace
Limonite	trace

This is a rock of heterogenous texture. The sectioned portion includes an apparent laminated sequence of aphanitic and coarsely fragmental(?) bands in micro-faulted contact with a bedded breccia unit composed of sub-angular clasts in a strongly white-etched matrix.

In thin section the fragmental character of the latter unit is much less clearly displayed. Careful examination shows that it consists of fragments, 0.2 - 4.0mm in size, of a minutely microgranular to cryptocrystalline material (chert or felsite) in a matrix of essentially identical composition. Tiny disseminated flecks of carbonate, quartz and minutely fine-grained sericite are developed to varying degrees in the fragments and matrix, and the fragments are further delineated by a partial network of brownish opaque material (limonite?). Some of the fragments show extensive replacement by clumps of carbonate.

On the other side of the micro-fault, the aphanitic bands are found to be composed of a compact aggregate of minutely fine-grained, non-oriented sericite and felsite. Fine varve-like laminations are defined by wisps of sub-opaque leucoxene., This unit has the appearance of a finely bedded tuffite (altered, compacted, minutely comminuted volcanic glass). It shows blocky fragmentation adjacent to the micro-fault.

The units above and below the tuffite are composed of felsite or chert, with diffuse clumps and lenses of brownish carbonate. One includes coarse patches of barite with intergrown chert. Barite also occurs as veinlets and gashes, with or without associated microgranular quartz.

This rock appears to represent a sequence of bedded, partially brecciated, cherty tuffs. The presence of barite and carbonate is suggestive of possible exhalative affinities.

SAMPLE: CLEAR 7 ALTERED PORPHYRY OR CRYSTAL TUFF

Estimated mode

Felsite	46
Sericite	28
Carbonate	25
Quartz	1
Apatite	trace
Opaques) Rutile)	trace

This is an aphanitic rock in which macroscopic examination reveals the presence of more or less abundant, elongate, sub-parallel, platy, streaked-out or shard-like fragments. A possible conglomeratic structure of rounded pebbles, to several mm in size, is tentatively distinguishable in the matrix.

In thin section the matrix structure is not recognizable, and the rock appears to consist of the same material throughout. This is felsite (probably mainly plagioclase) in which a diffuse, blocky or mosaic structure - such as is sometimes seen as an effect of incipient crystallization in the cryptocrystalline groundmasses of certain porphyries - is developed. The matrix is intimately dusted and pervaded by minutely fine-grained sericite and carbonate.

The oriented fragments are mainly composed of diffuse, minutely fine-grained, compact sericite, but some are of laminar textured sericite and carbonate with opaque wisps; others are composed largely of brown, micritic carbonate. Some of the latter have somewhat the appearance of sub-prismatic pseudomorphs.

Traces of disseminated opaques and rare, tiny euhedra of apatite are the only accessories. The rock is cut by a few more or less diffuse veinlets and replacement patches of microgranular quartz.

The origin of this rock is uncertain. It has an igneous look, and may be an altered, sheared feldspar porphyry (in which the streaky sericite "fragments" are actually altered feldspar phenocrysts). Alternatively, it could be a form of altered felsic tuff.

SAMPLE: CLEAR 8 BRECCIATED TUFF AND FERRUGINOUS(?) CHERT

Estimated mode

Chert(?)	34
Felsite	26
Sericite	18
Quartz	3
Barite	3
Sub-opaques)	
Opaques)	16
Limonite)	

The sectioned portion of this sample embraces the contact between two distinct lithotypes: one of dark, reddish-grey appearance, and the other strongly white etched.

The package appears strongly shatter-brecciated throughout, with partial displacement of angular blocks, 1 - 10mm in size. The brecciated fragments are typically in close contact, with minimal development of an interstitial/cementing phase.

In thin section the dark component is found to be a minutely felsitic to cryptocrystalline material, more or less intensely impregnated with close-packed flecks of diffuse opaque to sub-opaque (ferruginous?) material. The tiny rounded specks, macroscopically visible within it, are spherulite-like bodies of matrix material without opaques. This unit is thought to be a ferruginous chert.

The other lithotype consists of felsite, more or less strongly intergrown with minutely fine-grained sericite, and dusted with fine-grained opaques. It often shows a distinctly laminated texture, and is typical of a fine-grained, bedded ash tuff (similar to one of the lamellar units in Sample 6).

Veinlets and angular pockets between the angular fragments in both lithotypes are filled by cherty/microgranular quartz and barite. In part, the barite is itself fragmented. Barite also occurs intergrown with silica in the spherulitic bodies in the ferruginous chert unit.

This rock shows features suggesting a genetic relationship to the fractured tuff sequence with barite represented by Sample 6.

SAMPLE: CLEAR 9 **SILICEOUS ARENITE**

Estimated mode

Quartz	64
Chert	22
Chalcedony	8
Carbonate	1
Sericite	trace
Clays(?)	trace
Opaques	5

This rock resembles Sample 4 on the macroscopic scale, but is significantly coarser grained, with the white-etched component (see cut-off block) much more prominent.

It consists of a clastic aggregate of evenly-sized, sub-rounded, individual grains, 0.1 - 0.25mm in size (rarely to 0.4mm). These are principally quartz, randomly intermixed with relatively abundant, minutely microgranular/cryptocrystalline chert and a little fibrous, radiate/spherulitic chalcedony.

The chert component appears to be totally in the form of clasts like the crystalline sand grains. A few small clasts of carbonate and sericitic material are also seen.

The rock is tough and strongly indurated, probably by thin films of redistributed silica. The only recognizable cementing phase is micron-sized opaque dust. This forms coatings and interstitial pockets, especially around the chert clasts.

The slide includes a few hairline veinlets of cherty silica - in some cases with probable intergrown clay.

SAMPLE: CLEAR 10 **SANDY CALC-ARENITE**

Estimated mode

Calcite	68
Quartz	22
Chalcedony	6
Bituminous material(?)	4

As evidenced by its strong reactivity to dilute acid, this rock is composed predominantly of calcite.

It shows a distinctive texture in thin section, being a fine-grained calc-arenite composed of rounded clasts of minutely micritic calcite, 0.03 - 0.1mm in size, intermixed with relatively abundant sub-angular quartz clasts (sand grains) of similar size. Rare, coarser, rounded pebbles of quartz and limestone, up to 0.4mm in size, are also seen.

The carbonate and quartz sand grains are intimately cemented by films and tiny interstitial pockets of brown, sub-opaque material - possibly of bituminous nature.

The arenitic matrix is host to abundant, rounded to elongate, sub-parallel bodies of coarser sparry/mosaic calcite - some of which are partially replaced by fibrous chalcedony. These bodies are almost certainly biogenic in origin (shell fragments, fossil tests, crinoid segments, etc.).

The rock is cut by a few hairline veinlets of redistributed calcite.

SAMPLE: CLEAR 11 **FOLIATED LIMESTONE**

Estimated mode

Calcite	92
Quartz	6
Feldspar	2
Opaques	trace
Bituminous material	trace

This is another limestone. It is texturally distinct from the previous sample in that it shows a weak but distinct foliation. It lacks the distinct clastic fabric, the bituminous cement and the biogenic forms of Sample 10.

It consists predominantly of fine-grained calcite as a compact aggregate of ill defined, pellety to flattened lenticular forms, 0.1 - 0.3mm in size. The incipient foliation defined by the carbonate micro-lenticles is locally emphasized by rare wisps and films of bituminous material and/or opaque dust.

Quartz and minor feldspar are significant accessories, as rather evenly distributed, small anhedral individuals, 0.03 - 0.1mm in size.

The rock is cut by milti-directional veinlets of sparry calcite, 0.02 - 0.1mm in thickness. A few of them are diffuse-margined, and show an oriented fabric parallel to the host rock foliation; they apparently pre-date the recrystallization. Others are sharply defined, and show a non-directional mosaic fabric.

The texture of this rock suggests partial recrystallization in response to mild, stress-related metamorphism.

SAMPLE: CLEAR 12 SILICIFIED QUARTZITE

Estimated mode

Quartz	80
Chert	16
Sericite	2
Bituminous material(?)) Opaque dust)	2
Zircon	trace

This is another fine-grained sandstone - similar to Sample 4 in grain size and general character.

It consists of a mosaic-textured aggregate of equant to occasionally somewhat elongate grains. For the most part, these are in the size range 0.05 - 0.2mm, but there is also a component of much finer-grained, cherty-textured material, in which the grain size ranges down to a few microns.

The coarser grains form a compact, tightly cemented mosaic in which original grain shapes appear granoblastically modified, with local development of crenulate grain boundaries. Strain polarization effects are present throughout.

The cherty material forms an intergranular phase of networks and interstitial pockets. Locally it appears to permeate and partially replace the sand grains. In other parts of the rock the sand grains are tightly welded, and the intergranular phase is absent.

The intergranular phase also includes minor proportions of minutely fine-grained sericite and dust-sized opaques. The latter material locally concentrates as well-defined, intergranular films or coatings, but elsewhere is more dispersed.

Silt-sized and cherty quartz also concentrates as several sub-parallel, anastomosing streaks or network zones. These appear to enclose, and partially assimilate, fragments of the arenite phase. This cryptic breccia texture can be seen microscopically in the cut-off block. It is more or less modified and obscured in the thin section by the prevalent recrystallization.

The slide is cut by a number of healed microfractures or veins. These cross-cut the chertified breccia zones.

This rock appears to be a silicified quartz arenite, in which secondary (cherty) silica permeates intergranularly and heals a cryptic (bedding-controlled?) breccia structure. Textural feature have been modified by partial recrystallization.

SAMPLE: CLEAR 13 **CALCAREOUS GREENSTONE**

Estimated mode

Calcite	38
Quartz	2
Epidote	16
Plagioclase	20
Amphibole	5
Chlorite	4
Biotite	6
Rutile) Sphene)	9

This is a banded meta-calcareous rock, of a type not previously represented in the suite. The slide encompasses a light-coloured, wispily laminated zone, which is flanked by darker green bands.

In thin section the rock is found to be made up of two distinct assemblages, intergrown in various proportions.

One is a fine-grained greenstone, probably representing intercalations of mafic tuff. It is composed of an aggregate of intimately intergrown felsitic plagioclase, acicular green amphibole, biotite, chlorite, granules of epidote and concentrations of dust-sized sphene and/or rutile. Average grain size is in the range 20 - 100 microns.

The greenstone laminae vary somewhat in their mineralogical proportions. All include the plagioclase component; however, in some, the mafics are predominantly biotite and chlorite and, in others, predominantly amphibole. A few are predominantly feldspar with minimal mafics. Plagioclase sometimes occurs within the greenstone component as small segregated clumps and lenses of relatively coarser granularity (relict clasts)..

The other component consists predominantly of calcite, as a granoblastic mosaic of grain size 50 - 200 microns. Minor accessory quartz occurs as scattered individual grains and small coalescent clumps. Minute granules of epidote, of grain size 2 - 20 microns, occur as abundant, coalescent clusters and networks throughout the carbonate matrix - probably in a predominantly intergranular mode.

The greenstone and meta-limestone components occur in intimate alternation, on a scale of 0.1 - 10mm, often showing sinuous, lenticular interelationships. The rock clearly represents the product of metamorphic recrystallization of an original impure limestone containing varve-like intercalations of mafic ash.

APPENDIX D

1990 PHOTOGRAPHS



Aerial view of the Clear Lake camp with "Scumbag" Lake in the background.



View of the access to the camp.



Trenching and drill site(DDH81-28) near the Clear Lake deposit on the south shore of Clear Lake.



Reclaimed Diamond Drill site on Clear Lake deposit.



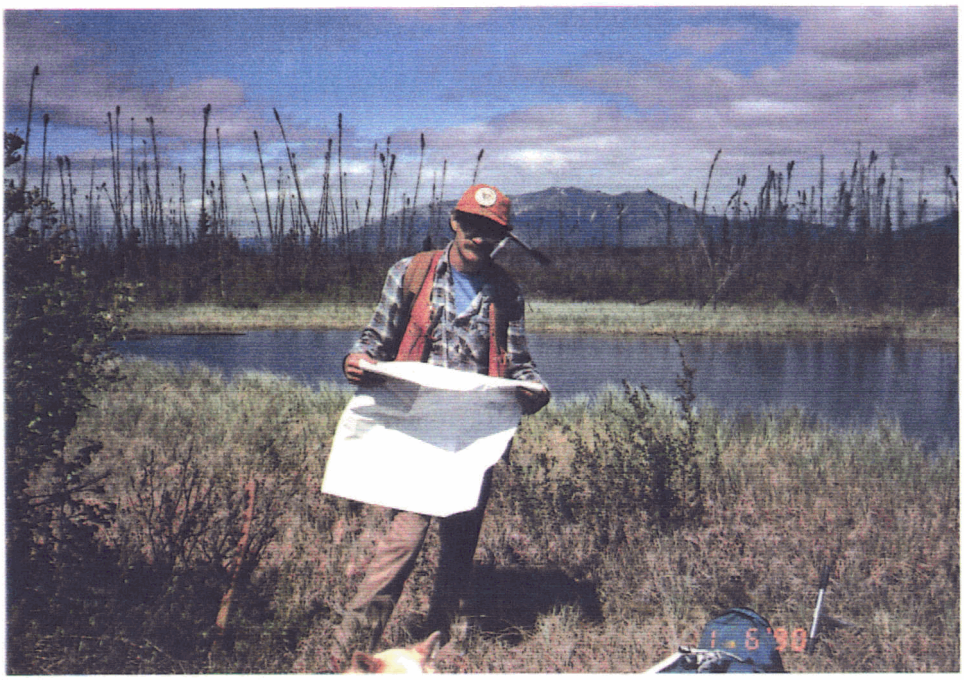


Photograph showing the fallen core racks before and after core was recovered.





Otter landing and taking off from Clear Lake airstrip which is 900m along. (Top is looking northwest. Bottom is looking east.)



Area 2.



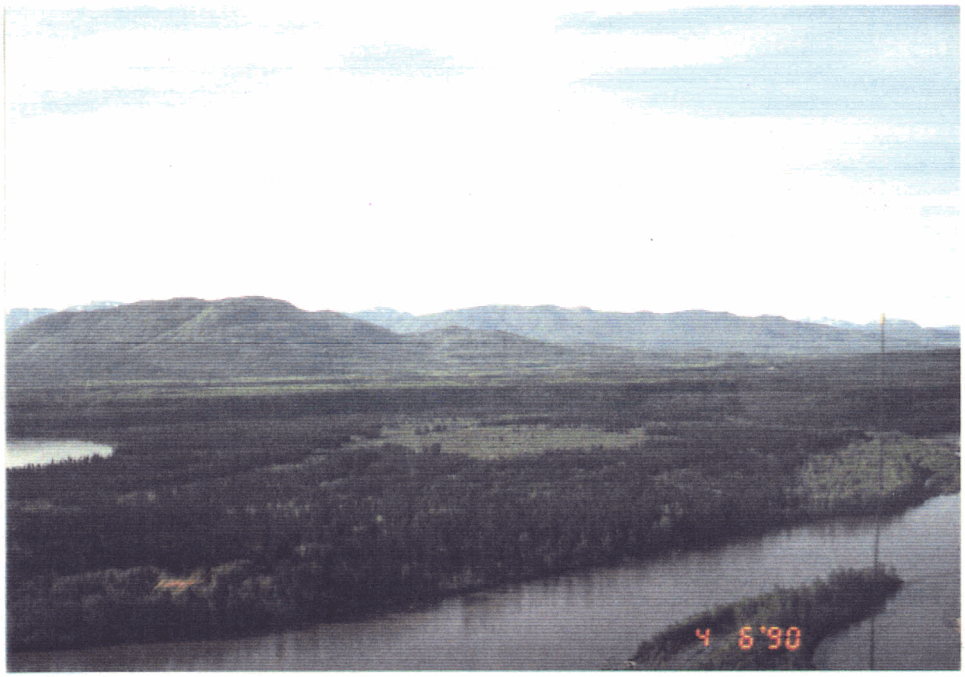
"Scumbad" Lake as seen from on top of a (Clear Lake Stratigraphy) limestone knoll.





Area 14: Showing dense new growth in the burn.





Area 16: (Grid 5E) Geophysical anomaly south of the Pelly River believed by Hanneson(1984) to be caused by sulphides.



Area 9: Greyhound Lake.



North shore of Greyhound Lake of Area 9 showing swampy areas.

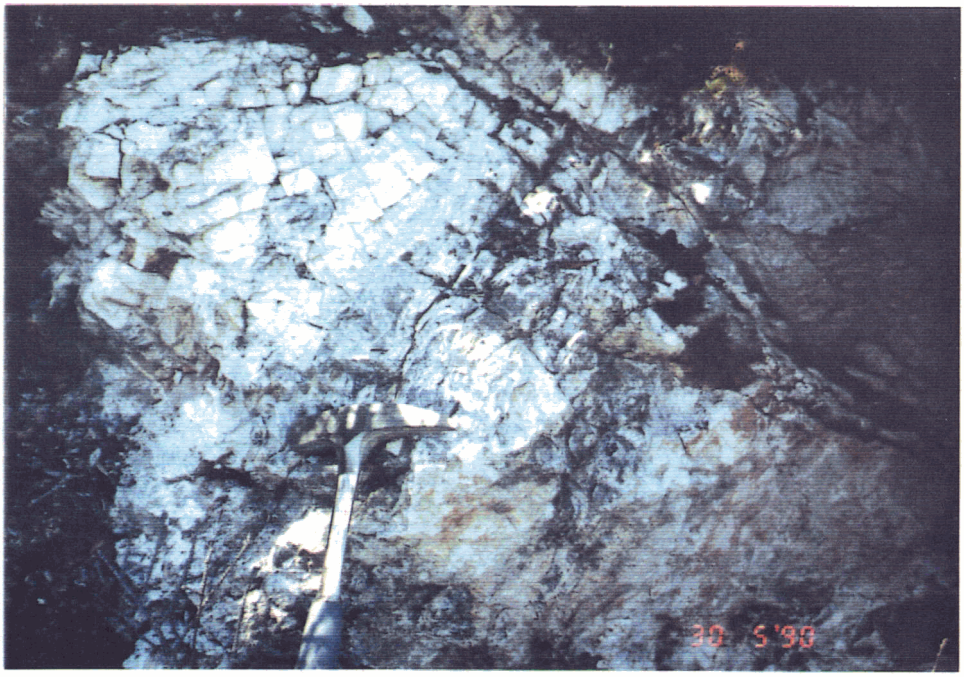




West of Area 11: Limestone chert and limestone are found interbedded in this area.



Area 13: Askin Group dolomite.



Area 13: Showing barite vein containing galena cutting Askin Group dolomite.



Looking east from the hilltop on Area 15.



Phyllites of the Anvil Range Stratigraphy as seen on Area 15.



Quartz gouge as seen in hole 81-30.



Quartz gouge.





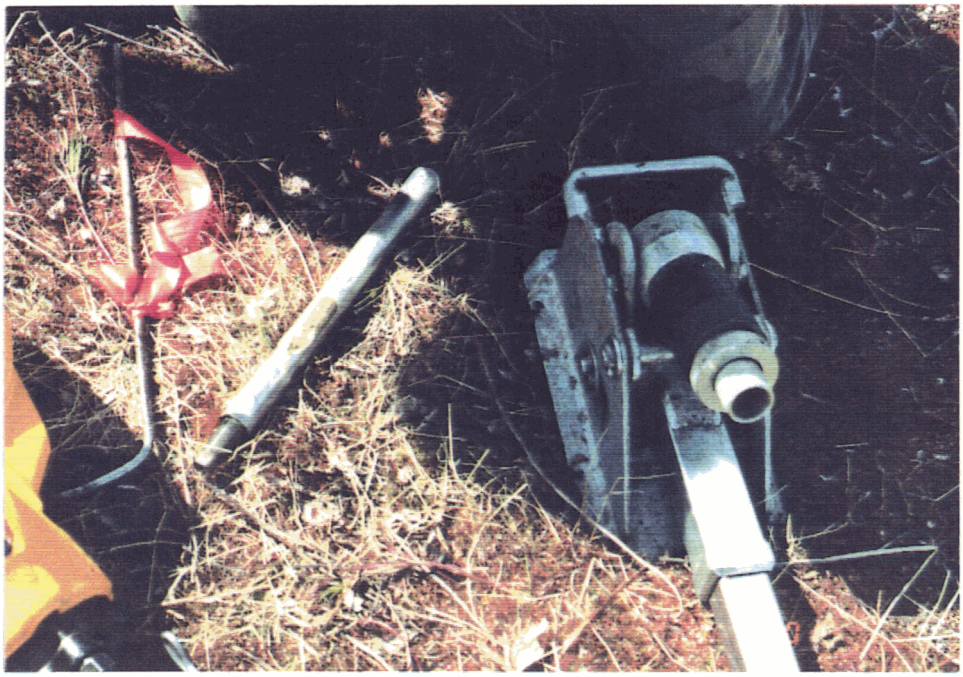
Hole 83-46 penetrating the Clear Lake deposit showing massive pyrite and stockwork. Sphalerite and pyrite within tuffaceous chert.



Overburden sampling showing Pionjar pounding down rods and sampler.



A typical overgrown line (Area 3) that was put in by D6 caterpillar Bulldozer in the late 1970's.



Photograph showing the Holman Flow-thru sampler on left and rod jack on the right.



Consolidated overburden sample after it has been retrieved from the Holman sampler.

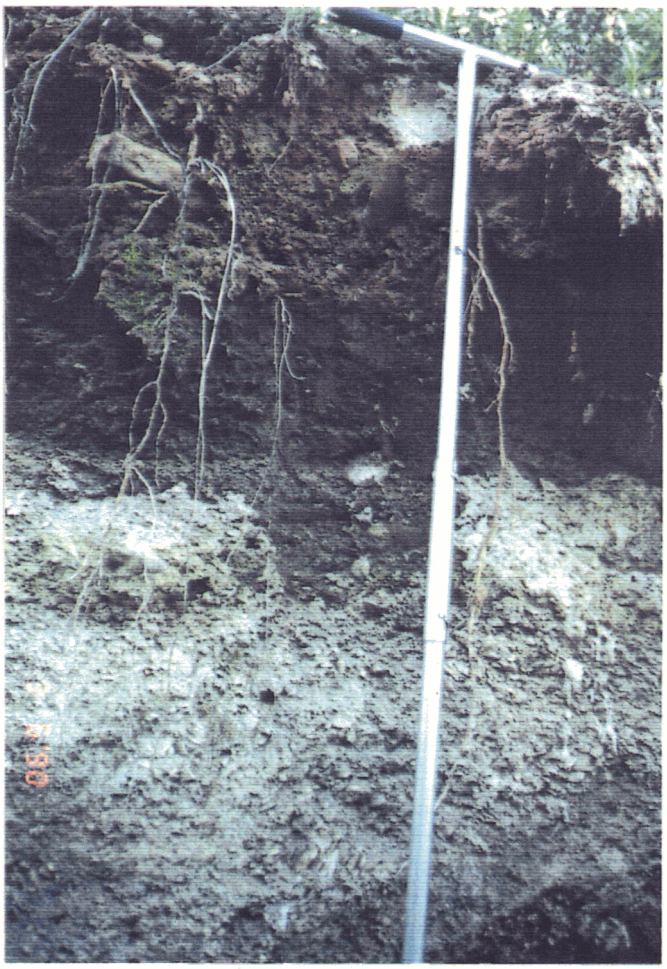


Overburden sampling using a 1.2m long auger on the Clear Lake airstrip.



Close-up of the auger containing the sample from the bottom of the hole.





Road cut south of Clear Lake camp showing various layers of glacial till. The top 0.6m of clay and large boulders has been transported over 2 km..Below this layer there is often mixed large boulders and pebbles also transported $>$2 km.. The material at the end of the 1.2 m long auger are pebbles transported $<$2 km.



Red stained glacial till in dry creek gully south of the Clear Lake deposit.



Photograph of the rusty creek bed and white zinc precipitate in the oxbow lake.



AREA 17: Rusty stained glacial till ("gossan") in stream bed caused by iron rich runoff waters originating up slope at the Clear Lake deposit.



Zinc precipitates in oxbow of Pelly river.



Zinc precipitate? caused by run off waters high in zinc from the Clear Lake deposit.



Close-up of zinc precipitate at waters edge.

OFFICE OF THE REGIONAL MANAGER
MINERAL RIGHTS
JAN 08 1991
WHITEHORSE
YUKON TERRITORY

GEOCHEMICAL AND GEOLOGICAL ASSESSMENT REPORT ON THE CLEAR LAKE PROPERTY

Volume 2 of 2 Figures

Whitehorse M.D., Yukon
July 5-19, Oct. 2-8, 1990

Claims:
Clear 1-448 (YB25815-26262)
Clear 451-490 (YB26265-26304)
Clear 491-593 (YB27222-27324)
Clear 594-598 (YB27376-27380)
SUE 611-616 (Y81261-81266)
SUE 635 (Y81285)
SUE 2010-2015 (YA22730-22735)
SUE 2018-2019 (YA22946-22947)
SUE 2026, 2028 (YA22748, 22746)
SUE 3003FR-3005FR (YA59692-59694)
SUE 3040FR (YA61583)
SUE 339-346 (Y80989-80996)

CONFIDENTIAL

Location:
1. 225 km S of Whitehorse, Yukon
2. NTS 105L/11, 14, 15
3. Latitude 62° 48' N
   Longitude 135° 10' W

092895

By: Richard Basnett, B.Sc.
TOTAL ENERGOLD CORPORATION.
#21 - 1114 1st Avenue
Whitehorse, Yukon
Y1A 1A3

December 31, 1990

RECEIVED
JAN - 8 1991
MINING RECORDS OFFICE
WHITEHORSE, Y.T.

135°30′ 476000m E 77 78 25′ 80 81 82 20′ 84 85 86 87 15′ 88 89 90 91 10′ 92 93 94 95 05′ 97 98 99 00m E 135°00′ 01 02 03 04 55′ 05 06

55′ 50′ 45′

MACMILLAN

PELMAC RIDGE

LITTLE KALZAS RIVER

KALZAS RIVER

RIVER

MAGMI

LONE MOUNTAIN

DROMEDARY MOUNTAIN

HORSFALL CREEK

DUO CREEK

WILKINSON

PELLY RIVER

THE DETOUR

SAFETY PIN BEND

TINTINA FAULT

ANVIL RANGE STRATIGRAPHY

CLEAR LAKE STRATIGRAPHY

ASKIN GROUP STRATIGRAPHY

CLEAR LAKE DEPOSIT

R-8

S-28

BM 1713 BM 1699 BM 1809

1743 1711 1720 1690 1710 1949 2013 2070 1975 2057 2132 2178 1946 2200 1783

Py, Po Py, Po Sp Po, Py Py, Cp, Mol Py Ba Veins Ba, Py Ba Ba, Ga, Sp Ba, Ga, Mal Ba, Mal Ba Ba Ba Ba, Mal Dessan

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21

00H T83 I 8

20	19
1	2
21	18
8	15
5	6
4	9
10	11
12	13
14	17
16	21

LEGEND

- Indian Land Claim Boundary
- Claim Boundary
- 9 Target Area
- △ Mineral Occurrence
- Ba Barite
- Ga Galena
- Py Pyrite
- Po Pyrrhotite
- Mal Malachite
- Sp Sphalerite
- Cp Chalcopyrite
- 3 1:5000 Scale Map Sheets (Sheets: 0,5,6,7,8,19 20,21 complete)
- 4 1:10,000 Scale Map Sheets (all complete)

TOTAL ENERGOLD CORPORATION

CLEAR LAKE PROJECT
GENERAL GEOLOGY, CLAIM BOUNDARY
TARGET AREAS AND MAP SHEETS

N.T.S.: 105 L/11, 14, 15	TECH.:	DATE: REVISED DEC. 1990
SCALE: 1 : 50,000	DRAUGHTING: HANDESIGN	FIGURE: 5

0.2-35.

LEGEND

AGE	LITHOLOGY
	INTRUSIVE ROCKS
CRETACEOUS	
21	DIORITE, PORPHYRITIC DIORITE, GABBRO
20	FELSITE
	INTRUSIVE CONTACT
	CLEAR LAKE STRATIGRAPHY
MISSISSIPPIAN	
19	ARGILLITE (UNIT 4)
18	MASSIVE SULPHIDE (±UNIT 3)
17	EXHALITE (±UNIT 3A)
16	SAND BANDED ARGILLITE (UNIT 2)
15	SANDSTONE (SILTSTONE) (±UNIT 1)
14	LIMESTONE
13	CHERT
12	SILTY ARGILLITE
11	CHERT PEBBLE CONGLOMERATE
DEVONIAN	
	UNCONFORMITY ?
	ADGN GROUP
DEVONIAN	
10	QUARTZITE
9	DOLOMITE
8	ARGILLITE
7	SILTY DOLOMITE
SILURIAN	FAULT CONTACT
	ANVIL RANGE STRATIGRAPHY
	MENZIE CREEK (?) VOLCANICS (?)
LOWER PALEOZOIC	
6A1	PREDOMINANTLY GREEN CHLORITIC MAFIC VOLCANICS (TUFFS)
6A2	GREEN CHLORITIC VOLCANICS (TUFFS) INTERCALATED WITH VARICOLORED SILTSTONES, MUDSTONES AND LIMESTONE.
6A3	VARICOLORED MUDSTONE, SILTSTONE, CHERT, LIMESTONE AND GREYWACKE.
	GRADATIONAL CONTACT ?
	VENDORA FORMATION
ORDOVICIAN	
5D	CALCAREOUS PHYLLITE, INTERBEDDED LIMESTONE AND DOLOMITE, CHLORITIC PHYLLITE
5C	MAFIC METAVOLCANIC ROCKS, FINE-MED GRAINED, CHLORITIC TUFFACEOUS ROCKS
5	CALCAREOUS PHYLLITE, UNDIFFERENTIATED
	GRADATIONAL CONTACT ?
	MT. MYE FORMATION
3G	CHLORITE ± SERICITE ± BIOTITE PHYLLITE, MAY CONTAIN CALCAREOUS LAMINAE
3E	GRAPHITIC PHYLLITE
3E1	CALCAREOUS GRAPHITIC PHYLLITE
3B	MAFIC METAVOLCANIC ROCKS, CHLORITE RICH TUFFACEOUS ROCKS
3	PHYLLITE UNDIFFERENTIATED
CAMBRIAN	
CAMBRIAN-ORD	RABBIT KETTLE FORMATION DOLOMITIC ARENITE CALCAREOUS, MICACEOUS SILTY BANDED LIMESTONE AND CALC-SILICATE

SYMBOLS

- Fossil Locality
- Mineral Occurrence — Ba-barite, Gn-galena, Sp-sphalerite, Py-pyrite, Cp-chalcopyrite, Po-pyrrhotite, Mal-malachite
- Trench
- Subcrop Trace of Clear Lake Deposit
- Gossan
- 500 Spot Elevations (metres ASL)
- W/L 669 Water Elevation (metres ASL)
- 600 Contour Elevation (metres ASL.) Contour Interval 10 metres
- Cut Grid Line
- DDH-30 Diamond Drill Hole (year, number)
- Road
- Stream
- Swamp
- Bedding (tops unknown, known)
- First Foliation (S_1) (inclined, vertical)
- Second Foliation (S_2) (inclined, vertical)
- Joint Inclined
- Lineation (inclined plunge unknown)
- Outcrop
- Geological Boundary (defined, approximate, assumed)
- Group Boundary Syncline
- Anticline (Arrow indicates plunge)
- Multiple Fold (Arrow indicates plunge)
- Drag Fold (Arrow indicates plunge)
- Shearing and Dip
- Tintina Fault
- Fault Assumed

092895

SHEET 1	SHEET 2
SHEET 3	SHEET 4

MAGNETIC NORTH 27° 45'

SCALE in METRES 500 400 300 200 100 0 500

SCALE in FEET 2000 1500 1000 500 0 1000 2000

CLEAR LAKE PROJECT

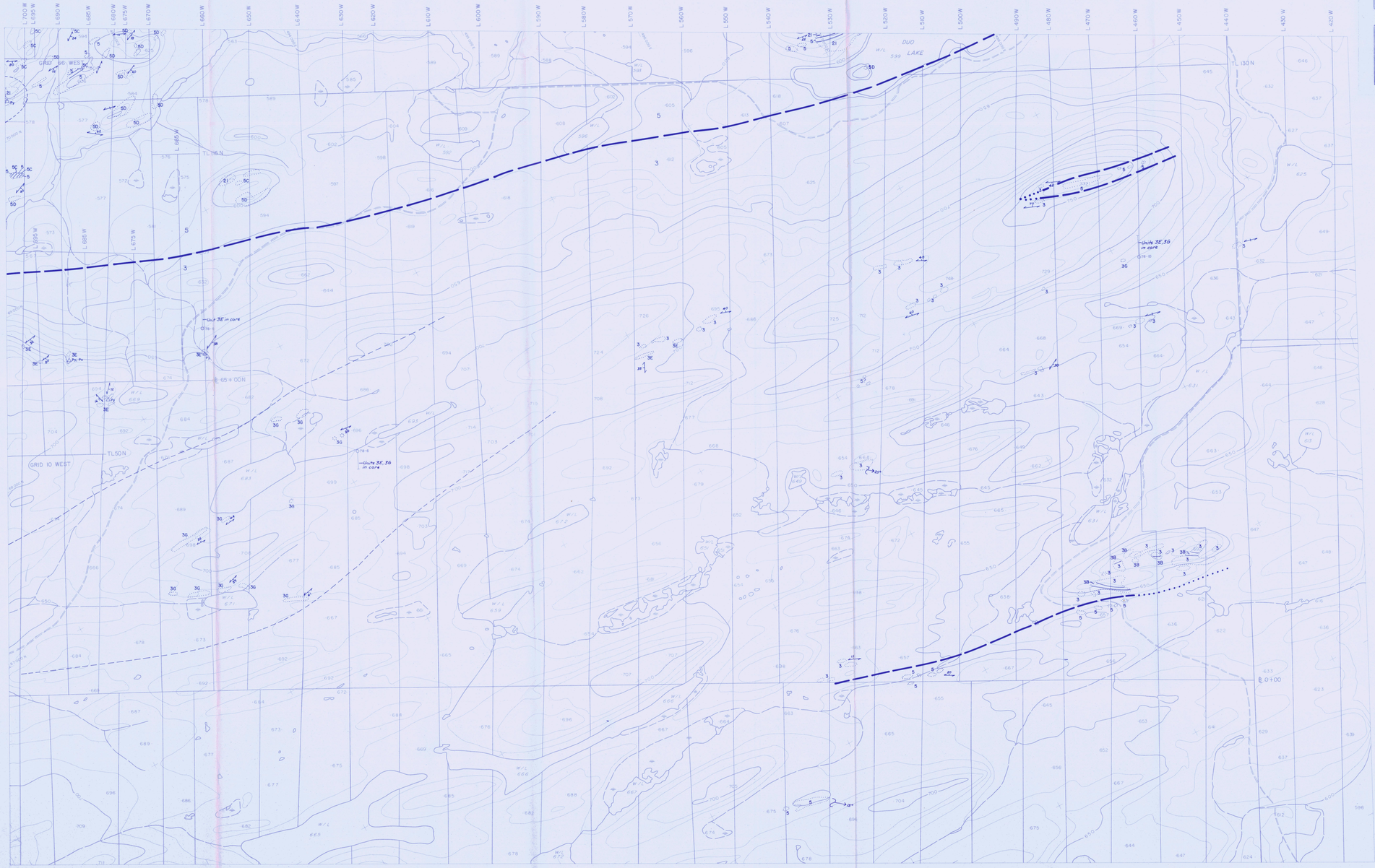
GEOLOGY

SHEET 1

DRAWN BY L. CONNOR	DATE NOVEMBER 1990
CHECK D BY R. HULSTEN	DRAWG No. 6
N.T.S. 105L/14	SCALE 1:10 000

TOTAL ENERGOLD CORPORATION

Pacific Survey Corporation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GRID 10 WEST
TLSON
TL 115 N
TL 130 N
DUO LAKE
W/L 599
Unit 3E in core
Unit 3E,3G in core
3E
3G
3
5
50
21
5C
W/L 669
W/L 671
W/L 666
W/L 655
W/L 649
W/L 631
W/L 625
W/L 597
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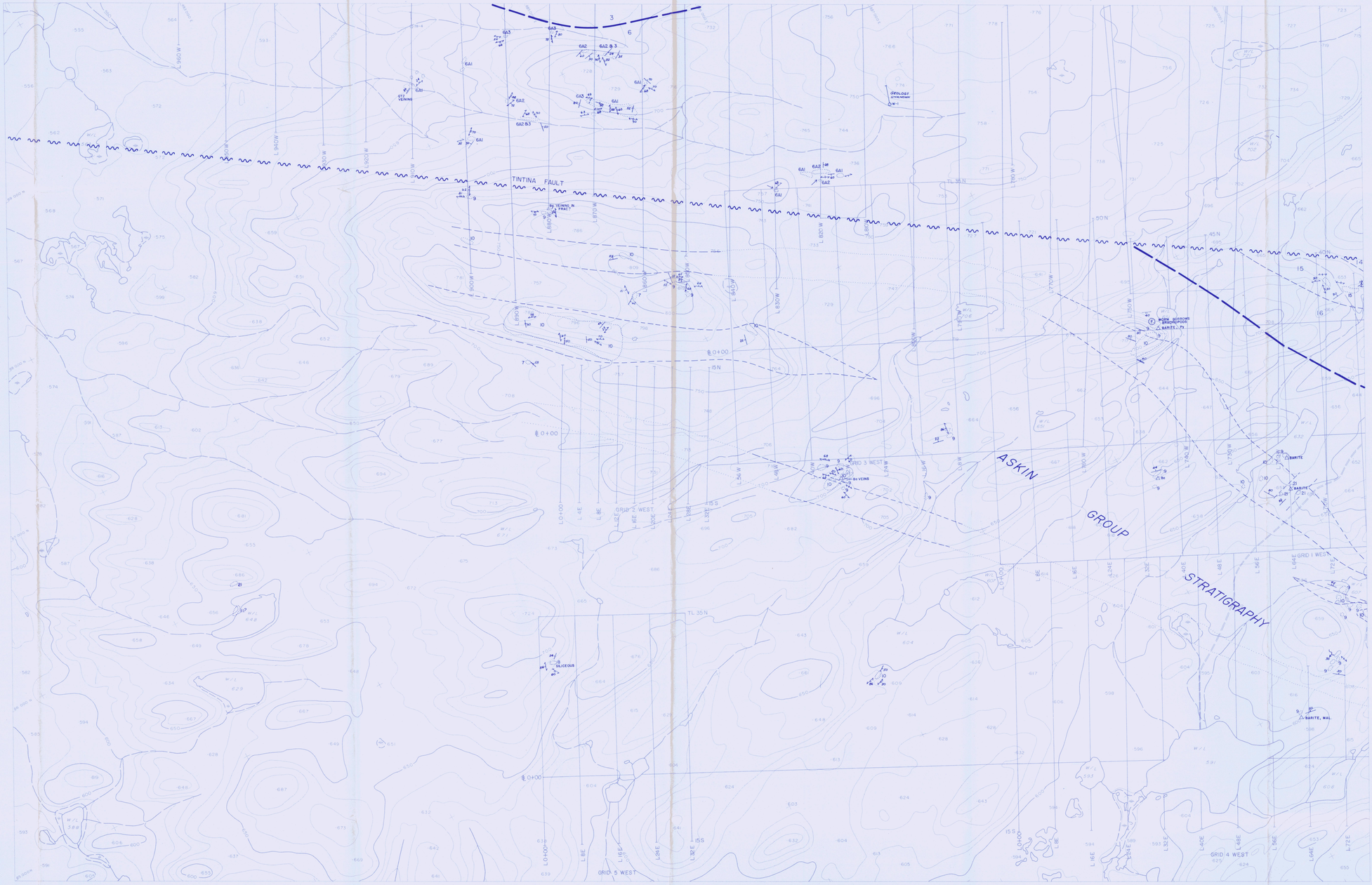
W/L 772
W/L 774
W/L


TINTINA FAULT
ASKIN GROUP
STRATIGRAPHY
GRID 2 WEST
GRID 3 WEST
GRID 1 WEST
GRID 4 WEST
GRID 5 WEST
TL 35N
50N
45N
40N
15N
0+00
10+00
20+00
L 960 W
L 940 W
L 920 W
L 900 W
L 880 W
L 860 W
L 840 W
L 820 W
L 800 W
L 780 W
L 760 W
L 740 W
L 720 W
L 700 W
L 680 W
L 660 W
L 640 W
L 620 W
L 600 W
L 4E
L 6E
L 8E
L 10E
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L 16E
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L 24E
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L 30E
L 32E
L 34E
L 36E
L 38E
L 40E
L 42E
L

ANVIL RANGE STRATIGRAPHY

CLEAR LAKE STRATIGRAPHY

CLEAR LAKE DEPOSIT GRID

GRID 1 WEST

GRID 4 WEST

GRID 5 EAST

PELLY RIVER

L E G E N D

AGE	LITHOLOGY
	INTRUSIVE ROCKS
CRETACEOUS 21	DIORITE, PORPHYRITIC DIORITE, GABBRO
20	FELSITE
	INTRUSIVE CONTACT
	CLEAR LAKE STRATIGRAPHY
MISSISSIPPIAN 19	ARGILLITE (UNIT 4)
18	MASSIVE SULPHIDE (UNIT 3)
17	EXHALITE (UNIT 3A)
16	SAND BANDED ARGILLITE (UNIT 2)
15	SANDSTONE (SILTSTONE) (UNIT 1)
14	LIMESTONE
13	CHERT
12	SILTY ARGILLITE
11	CHERT PEBBLE CONGLOMERATE
DEVONIAN	
	UNCONFORMITY ?
	ASKIN GROUP
DEVONIAN 10	QUARTZITE
9	DOLOMITE
8	ARGILLITE
7	SILTY DOLOMITE
SILURIAN	FAULT CONTACT ?

ANVIL RANGE STRATIGRAPHY

LOWER PALEOZOIC	**MENZIE CREEK (?) VOLCANICS (?)**
6A1	PREDOMINANTLY GREEN CHLORITIC MAFIC VOLCANICS (TUFFS)
6A2	GREEN CHLORITIC VOLCANICS (TUFFS) INTERCALATED WITH VARIOLORED SILTSTONES, MUDSTONES AND LIMESTONE
6A3	VARIOLORED MUDSTONE, SILTSTONE, CHERT, LIMESTONE AND GREYWACKE
	GRADATIONAL CONTACT ?
	VANGORDA FORMATION
ORDOVICIAN 5O	CALCAREOUS PHYLLITE, INTERBEDDED LIMESTONE AND DOLOMITE, CHLORITIC PHYLLITE
5C	MAFIC METAVOLCANIC ROCKS, FINE-MED GRAINED, CHLORITIC TUFFACEOUS ROCKS
5	CALCAREOUS PHYLLITE, UNDIFFERENTIATED
	GRADATIONAL CONTACT ?
	MT. MYE FORMATION
3G	CHLORITE ± SERICITE ± BIOTITE PHYLLITE, MAY CONTAIN CALCAREOUS LAMINAE
3E	GRAPHITIC PHYLLITE
3EI	CALCAREOUS GRAPHITIC PHYLLITE
3B	MAFIC METAVOLCANIC ROCKS, CHLORITE RICH TUFFACEOUS ROCKS
CAMBRIAN 3	PHYLLITE UNDIFFERENTIATED

SYMBOLS

- Bedding (tops unknown, known)
- First foliation (S_1) (inclined, vertical)
- Second foliation (S_2) (inclined, vertical)
- Joint inclined
- Lineation (inclined plunge unknown)
- Outcrop
- Geological Boundary (defined, approximate, assumed)
- Group Boundary
- Syncline
- Anticline (Arrow indicates plunge)
- Multiple Fold (Arrow indicates plunge)
- Drag Fold (Arrow indicates plunge)
- Shearing and Dip
- Tintina Fault
- Fossil Locality
- Mineral Occurrence — Ba-barite, Ga-galena, Sp-sphalerite, Py-pyrite, Cp-chalcopyrite, Po-Pyrrhotite, Mal-Malachite
- Trench
- Subcrop Trace of Clear Lake Deposit
- Gossan
- 500 Spot Elevations (metres ASL)
- W/L 669 Water Elevation (metres ASL)
- 600 Contour Elevation (metres ASL) Contour interval 10 metres
- Cut Grid Line
- 81-30 Diamond Drill Hole (year, number)
- Road
- Stream
- Swamp
- Fault, assumed

092895

SHEET 1	SHEET 2
SHEET 3	SHEET 4

SCALE in METRES 500 400 300 200 100 0 500

SCALE in FEET 2000 1000 500 0 1000 2000

CLEAR LAKE PROJECT

GEOLOGY

SHEET 4

DRAWN BY L. CONNOR	DATE NOVEMBER 1990
CHECK'D BY R. HULSTEIN	DRAW'G NO. 9
N.T.S. 105L/14	SCALE 1:10,000

TOTAL ENERGOLD CORPORATION

Pacific Survey Corporation

AREA INDEX

I9	I8	I7
6	5	4
7	0	3
8	1	2

6 971 000N
6 967 000N
6 963 000N
6 959 000N
6 955 000N

489 000E 493 000E 497 000E 501 000E

3 2	Q 1	4 2	3 2	P 1	4 2	3 2	O 1	4 2	3 2	N 1	4 2	3 2	M 1	4 2
3 2	R 1	4 2	3 2	E 1	4 2	3 2	D 1	4 2	3 2	C 1	4 2	3 2	L 1	4 2
3 2	S 1	4 2	3 2	F 1	4 2	3 2	A 1	4 2	3 2	B 1	4 2	3 2	K 1	4 2
3 2	T 1	4 2	3 2	G 1	4 2	3 2	H 1	4 2	3 2	I 1	4 2	3 2	J 1	4 2
3 2	U 1	4 2	3 2	V 1	4 2	3 2	W 1	4 2	3 2	X 1	4 2	3 2	Y 1	4 2

ENLARGEMENT OF AREA

LEGEND

AGE | LITHOLOGY

INTRUSIVE ROCKS

CRETACEOUS
- 2 — DIORITE, PORPHYRITIC DIORITE, GABBRO
- 20 — FELSITE

INTRUSIVE CONTACT ?

CLEAR LAKE STRATIGRAPHY

MISSISSIPPIAN
- 19 — ARGILLITE (=UNIT 4)
- 18 — MASSIVE SILICIFIED (=UNIT 3)
- 17 — EXHALITE (=UNIT 3A)
- 16 — BAND BANDED ARGILLITE (=UNIT 2)
- 15 — SANDSTONE (SILTSTONE) (=UNIT 1)
- 14 — LIMESTONE
- 13 — CHERT
- 12 — SILTY ARGILLITE
- 11 — CHERT PEBBLE CONGLOMERATE

UNCONFORMITY ?

DEVONIAN
- 10 — ASKIN GROUP
- 10 — QUARTZITE
- 9 — DOLOMITE
- 8 — ARGILLITE
- 7 — SILTY DOLOMITE

SILURIAN

FAULT CONTACT ?

ANVIL RANGE STRATIGRAPHY

MENZIE CREEK (?) VOLCANICS (?)

LOWER PALEOZOIC
- 60 — PREDOMINATELY GREEN CHLORITIC MAFIC VOLCANICS (TUFFS)
- 59.5 — GREEN CHLORITIC VOLCANICS (TUFFS) INTERCALATED WITH VARICOLORED, SILTSTONES, MUDSTONES AND LIMESTONES
- 59.0 — VARICOLORED MUDSTONE, SILTSTONE, CHERT, LIMESTONE AND GREYWACKE

GRADATIONAL CONTACT ?

VANGORDA FORMATION

ORDOVICIAN
- 30 — CALCAREOUS PHYLLITE, INTERBEDDED LIMESTONE AND DOLOMITE, CHLORITIC PHYLLITE
- 30 — MAFIC METAVOLCANIC ROCKS, FINE MED GRAINED, CHLORITIC TUFFACEOUS ROCKS
- 1 — CALCAREOUS PHYLLITE, UNDIFFERENTIATED

GRADATIONAL CONTACT ?

MT. MYE FORMATION

CAMBRIAN
- 30 — CHLORITE/SERICITE/TABOTITE PHYLLITE, MAY CONTAIN CALCAREOUS LAMINAE
- 30 — GRAPHITIC PHYLLITE
- 30.1 — CALCAREOUS GRAPHITIC PHYLLITE
- 30 — MAFIC METAVOLCANIC ROCKS, CHLORITE RICH TUFFACEOUS ROCKS
- 1 — PHYLLITE, UNDIFFERENTIATED

SYMBOLS

- Bedding (tops unknown, known)
- First Foliation (S_1) (inclined, vertical)
- Second foliation (S_2) (inclined vertical)
- Joint inclined
- Lineation (included plunge unknown)
- Outcrop
- Geological Boundary (defined, approximate,assumed)
- Group Boundary (defined, approximate, assumed)
- Syncline
- Anticline (Arrow indicates plunge)
- Multiple Fold (arrow indicates plunge)
- Drag Fold (Arrow Indicates plunge)
- Shearing and Dip
- Fault Assumed
- Tintina Fault
- Fossil Locality
- Mineral Occurrence — Ba-barite, Gn-galena, Sp-sphalerite, Py-pyrite, Cp-chalcopyrite, Po-Pyrrhotite, Mal-Malachite
- Trench
- Subcrop Trace of Clear Lake Deposit
- Gossan
- Spot Elevations (metres ASL)
- Water Elevation (metres ASL)
- Contour Elevation (metres ASL)
- Contour Interval 10 metres
- Cut Grid Line
- Diamond Drill Hole (year, number)
- Road
- Stream
- Swamp

GEOPHYSICS

- EM Conductor Axis (EM-17, Max.-Min.)
- Mk VI Input Survey: 2 or 3 Channel Anomaly; 4, 5 or 6 Channel Anomaly
- .3 — Gravity Anomaly Peak (mgals)
- .4 — Gravity Anomaly, Broad Zone with Peak Value (mgals)
- Ground Magnetic Anomaly
- (2) — Geophysical Anomaly and Category
- 3 — Exploration Target Area

092895

TOTAL ENERGOLD CORPORATION

CLEAR LAKE PROJECT

GEOLOGY

N.T.S. : 105L	TECH. : R. BASNETT	DATE : NOVEMBER 1990
SCALE : 1 : 5000	DRAUGHTING : HANDESIGN	MAP No. : 0 FIGURE: 10

AREA INDEX

19	18	17
6	5	4
7	0	3
8	1	2

6 971 000N
6 967 000N
6 963 000N
6 959 000N
6 955 000N
485 000E
490 000E
495 000E
500 000E

ENLARGEMENT OF AREA

LEGEND

AGE	LITHOLOGY	ANVIL RANGE STRATIGRAPHY
CRETACEOUS	INTRUSIVE ROCKS	MENDIE CREEK (?) VOLCANICS (?)
90	DIORITE, PORPHYRITIC DIORITE, GABBRO	LOWER PALEOZOIC
89	FELSITE	881 — FINE-GRAINED TO FELSITIC GREEN CHLORITIC MAFIC VOLCANICS (TUFFS)
	INTRUSIVE CONTACT ?	882 — GREEN CHLORITIC VOLCANICS (TUFFS) INTERCALATED WITH VARICOLORED SILTSTONES, MUDSTONES AND LIMESTONE.
	CLEAR LAKE STRATIGRAPHY	883 — VARICOLORED MUDSTONE, SILTSTONE, CHERT, LIMESTONE AND BENTHNAGE
MISSISSIPPIAN		GRADATIONAL CONTACT ?
9	ARGILLITE (UNIT 4)	YANGORA FORMATION
8	MASSIVE SILLPHOE (UNIT 3)	ORDOVICIAN
7	EXHALITE (UNIT 2A)	4C — CALCAREOUS PHYLLITE, INTERBEDDED LIMESTONE AND SOLOMITIC LIMESTONE
6	BAND BANDED ARGILLITE (UNIT 2)	3C — BANDED SHOLOMIC RIDGES, FINE MED GRAINED, CHLORITIC TUFFACEOUS ROCKS
5	SANDSTONE (SILTSTONE) (UNIT 1)	3 — CHERT
4	LIMESTONE	2 — CALCAREOUS PHYLLITE, UNDIFFERENTIATED
3	CHERT	GRADATIONAL CONTACT ?
2	SILTY ARGILLITE	MT. NYE FORMATION
1	CHERT PEBBLE CONGLOMERATE	3G — CHLORITE (SERICITE) PHYLLITE, MAY CONTAIN CALCAREOUS LAMINAE
	UNCONFORMITY ?	3E — GRAPHITIC PHYLLITE
DEVONIAN	ADKIN GROUP	3C — CALCAREOUS GRAPHITIC PHYLLITE
10	QUARTZITE	3B — BASIC METAVOLCANIC ROCKS, CHLORITE RICH TUFFACEOUS ROCKS
9	DOLOMITE	3A — ARGILLITE
8	ARGILLITE	2 — PHYLLITE UNDIFFERENTIATED
7	SILTY DOLOMITE	CAMBRIAN
MURIAN	FAULT CONTACT ?	

SYMBOLS

- Bedding (tops unknown, known)
- First Foliation (S_1) (inclined, vertical)
- Second foliation (S_2) (inclined vertical)
- Joint inclined
- Lineation (included plunge unknown)
- Outcrop
- Geological Boundary (defined, approximate, assumed)
- Syncline
- Anticline (Arrow indicates plunge)
- Multiple Fold (arrow indicates plunge)
- Drag Fold (Arrow indicates plunge)
- Shearing and Dip
- Fault Assumed
- Fossil Locality
- Mineral Occurrence — Ba-barite, Gn-galena, Sp-sphalerite, Py-pyrite, Cp-chalcopyrite, Po Pyrrhotite, Mal-Malachite
- Trench
- Subcrop Trace of Clear Lake Deposit
- Gossan
- Spot Elevations (metres ASL)
- Water Elevation (metres ASL)
- Contour Elevation (metres ASL) Contour Interval 10 metres
- Cut Grid Line
- Diamond Drill Hole (year, number)
- Road
- Stream
- Swamp

GEOPHYSICS

- EM Conductor Axis (EM-17, Max.-Min.)
- Interpreted fault or fault contact G for Gravity EM from max min ≈ EM Anomaly identification S
- Gravity Anomaly Peak (mgals)
- Gravity Anomaly, Broad Zone with Peak Value (mgals)
- Ground Magnetic Anomaly
- Strong EM and Gravity Anomaly
- EM Anomaly Only
- Gravity Anomaly Only

- Rock chip sample
- Soil sample
- Soil sample (Plonjar + Holman sampler)
- Silt sample

Assay results listed as :

Zn (ppm), Pb (ppm), Cu (ppm), Ag (ppm), Ba (ppm)

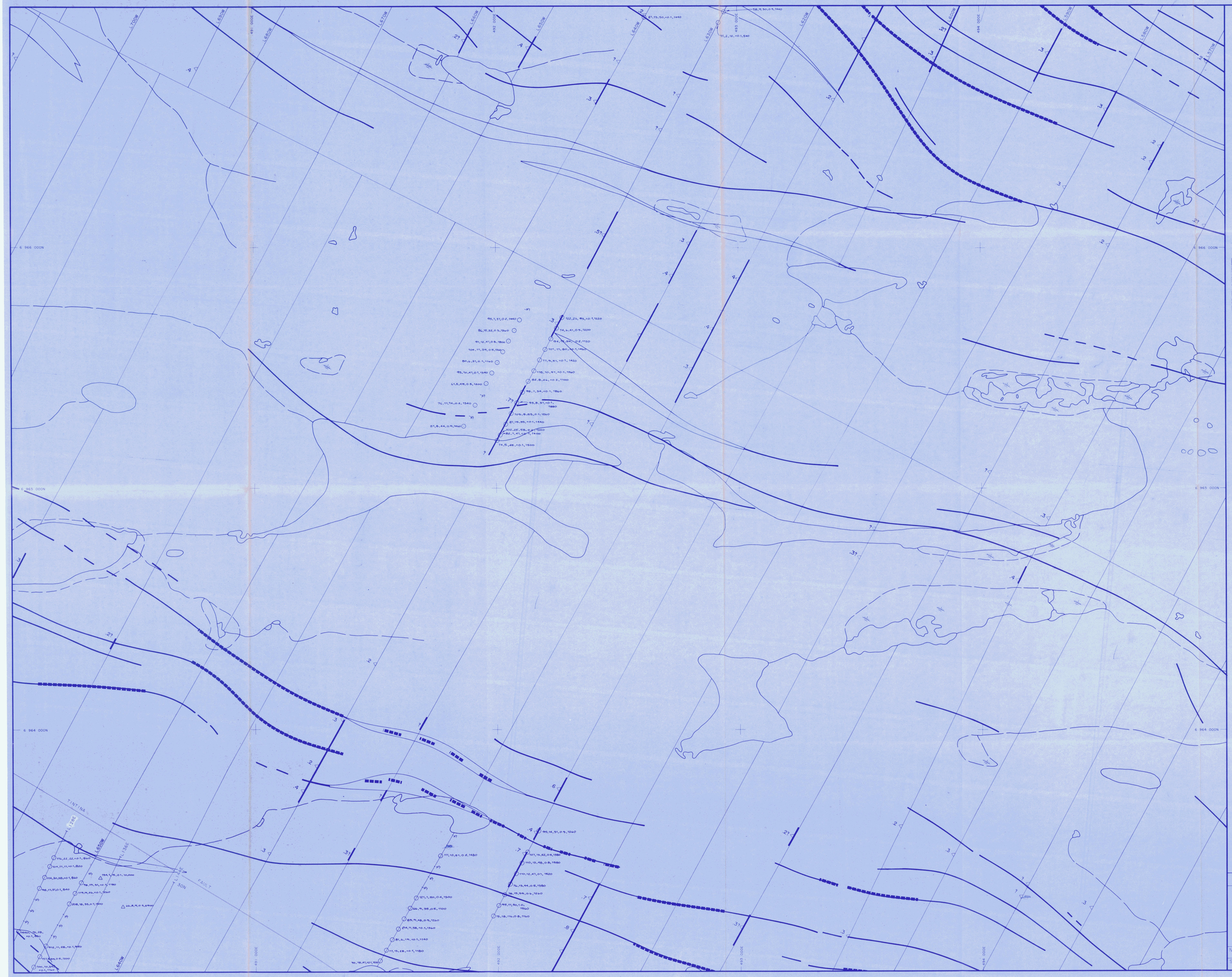
092895

TOTAL ENERGOLD CORPORATION

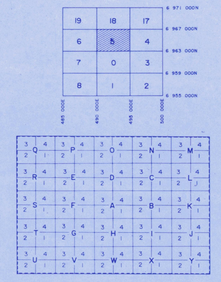
CLEAR LAKE PROJECT

Geochemical and Geophysical Results

N.T.S. : 105L	TECH. : R. BASNETT	DATE : NOVEMBER 1990
SCALE : 1 : 5000	DRAUGHTING : HANDESIGN	FIGURE 11 SHEET 0



AREA INDEX



ENLARGEMENT OF AREA

LEGEND

AGE — LITHOLOGY

CRETACEOUS — INTRUSIVE ROCKS

- 21 — DIORITE, PORPHYRITIC DIORITE, GABBRO
- 20 — FELSITE

INTRUSIVE CONTACT ?

CLEAR LAKE STRATIGRAPHY

MISSISSIPPIAN

- 19 — ARGILLITE (UNIT 4)
- 18 — MASSIVE SULPHIDE (UNIT 3)
- 17 — EXHALITE (UNIT 3A)
- 16 — BAND BANDED ARGILLITE (UNIT 2)
- 15 — SANDSTONE (SILTSTONE) (UNIT 1)
- 14 — LIMESTONE
- 13 — CHERT
- 12 — SILTY ARGILLITE
- 11 — CHERT PEBBLE CONGLOMERATE

DEVONIAN

UNCONFORMITY ?

ASKIN GROUP

DEVONIAN

- 13 — QUARTZITE
- 9 — DOLOMITE
- 8 — ARGILLITE
- 7 — SILTY DOLOMITE

SILURIAN

FAULT CONTACT ?

ANVIL RANGE STRATIGRAPHY

MENZIE CREEK (?) VOLCANICS (?)

LOWER PALEOZOIC

- 64 — PREDOMINATELY GREEN CHLORITIC MAFIC VOLCANICS (TUFFS)
- 64 — GREEN CHLORITIC VOLCANICS (TUFFS) INTERCALATED WITH VARICOLORED, SILTSTONES, MUDSTONES AND LIMESTONE
- 64 — VARICOLORED MUDSTONE, SILTSTONE, CHERT, LIMESTONE AND GREYWACKE

GRADATIONAL CONTACT ?

VANGORDA FORMATION

ORDOVICIAN

- 30 — CALCAREOUS PHYLLITE, INTERBEDDED LIMESTONE AND DOLOMITE, CHLORITIC PHYLLITE
- 30 — MAFIC METAVOLCANIC ROCKS, FINE MED GRAINED, CHLORITIC TUFFACEOUS ROCKS
- 3 — CALCAREOUS PHYLLITE, UNDIFFERENTIATED

GRADATIONAL CONTACT ?

MT. MYE FORMATION

- 30 — CHLORITE TREMOLITE TRICITITE PHYLLITE, MAY CONTAIN CALCAREOUS LAMINAE
- 30 — GRAPHITIC PHYLLITE
- 30 — CALCAREOUS GRAPHITIC PHYLLITE
- 30 — MAFIC METAVOLCANIC ROCKS, CHLORITE RICH TUFFACEOUS ROCKS
- 3 — PHYLLITE UNDIFFERENTIATED

CAMBRIAN

SYMBOLS

- Bedding (tops unknown, known)
- First Foliation (S_1) (inclined, vertical)
- Second foliation (S_2) (inclined vertical)
- Joint inclined
- Lineation (included plunge unknown)
- Outcrop
- Geological Boundary (defined, approximate, assumed)
- Syncline
- Anticline (Arrow indicates plunge)
- Multiple Fold (arrow indicates plunge)
- Drag Fold (Arrow indicates plunge)
- Shearing and Dip
- Fault Assumed
- Fossil Locality
- Mineral Occurrence — Ba-barite, Gn-galena, Sp-sphalerite, Py-pyrite, Cp-chalcopyrite, Po-Pyrrhotite, Mal-Malachite
- Trench
- Subcrop Trace of Clear Lake Deposit
- Gossan
- Spot Elevations (metres ASL)
- 500 — Water Elevation (metres ASL)
- Contour Elevation (metres ASL) Contour Interval 10 metres
- Cut Grid Line
- Diamond Drill Hole (year, number)
- Road
- Stream
- Swamp

GEOPHYSICS

- EM Conductor Axis (EM-17, Max.-Min.)
- G — Interpreted fault or fault contact
  G for Gravity
  EM from max min II EM
  Anomaly Identification B
- .3 — Gravity Anomaly Peak (mgals)
- .4 — Gravity Anomaly, Broad Zone with Peak Value (mgals)
- Ground Magnetic Anomaly
- Strong EM and Gravity Anomaly
- EM Anomaly Only
- Gravity Anomaly Only
- Rock chip sample
- Soil sample
- Soil sample (Pionjar - Holman sampler)
- x — Silt sample

Assay results listed as :

Zn (ppm), Pb (ppm), Cu (ppm), Ag (ppm), Ba (ppm)

092895

TOTAL ENERGOLD CORPORATION

CLEAR LAKE PROJECT

Geochemical and Geophysical Results

N.T.S. : 105L	TECH. : R. BASNETT	DATE : NOVEMBER 1990
SCALE : 1 : 5000	DRAUGHTING : HANDESIGN	MAP No. : 5 FIGURE 12

AREA INDEX

I9	I8	I7	6 971 000N
6	5	4	6 967 000N
7	O	3	6 963 000N
8	I	2	6 959 000N
			6 955 000N

488 000E 492 000E 496 000E 500 000E

3 2	Q 4 1	3 2	P 4 1	3 2	O 4 1	3 2	N 4 1	3 2	M 4 1
3 2	R 4 2	3 2	G 4 1	3 2	D 4 2	3 2	C 4 1	3 2	L 4 2
3 2	S 4 1	3 2	A 4 2	3 2	B 4 1	3 2	K 4 2
3 2	T 4 2	3 2	H 4 1	3 2	I 4 2	3 2	J 4 1
3 2	U 4 1	3 2	W 4 2	3 2	X 4 1	3 2	Y 4 2

ENLARGEMENT OF AREA

LEGEND

AGE | LITHOLOGY

INTRUSIVE ROCKS

CRETACEOUS
- 21 — DIORITE, PORPHYRITIC DIORITE, GABBRO
- 20 — FELSITE

INTRUSIVE CONTACT ?

CLEAR LAKE STRATIGRAPHY

MISSISSIPPIAN
- 18 — ARGILLITE (UNIT 4)
- 18 — MASSIVE SILPHOE (UNIT 3)
- 17 — ERRATIC (UNIT 3A)
- 16 — BAND BANDED ARGILLITE (UNIT 2)
- 15 — SANDSTONE (SILTSTONE) (UNIT 1)
- 14 — LIMESTONE
- 13 — CHERT
- 12 — SILTY ARGILLITE
- 11 — CHERT PEBBLE CONGLOMERATE

UNCONFORMITY ?

ASKIN GROUP

DEVONIAN
- 10 — QUARTZITE
- 9 — DOLOMITE
- 8 — ARGILLITE
- 7 — SILTY DOLOMITE

SILURIAN

FAULT CONTACT ?

ANVIL RANGE STRATIGRAPHY

MUNDY CREEK (?) VOLCANICS (?)

LOWER PALEOZOIC
- 6A1 — PREDOMINATELY GREEN CHLORITIC MAFIC VOLCANICS (TUFFS)
- 5A7 — GREEN CHLORITIC VOLCANICS (TUFFS) INTERCALATED WITH VARIEGATED SILTSTONES, ARGILLITES AND LIMESTONE
- 6A3 — VARIEGATED ARGILLITE, SILTSTONE, CHERT, LIMESTONE AND GREYWACKE

GRADATIONAL CONTACT ?

YANGORA FORMATION

ORDOVICIAN
- 3C — CALCAREOUS PHYLLITE, INTERBEDDED LIMESTONE AND DOLOMITE, CHLORITIC PHYLLITE
- 3C — MAFIC METAVOLCANIC ROCKS, FINE-MED GRAINED, CHLORITIC TUFFACEOUS ROCKS
- 3 — CALCAREOUS PHYLLITE, UNDIFFERENTIATED

GRADATIONAL CONTACT ?

MT. MYE FORMATION

- 3G — CHLORITE?BIOTITE?MOTTLE PHYLLITE, MAY CONTAIN CALCAREOUS LAMINAE
- 3C — GRAPHITIC PHYLLITE
- 3CL — CALCAREOUS GRAPHITIC PHYLLITE
- 3C — MAFIC METAVOLCANIC ROCKS, CHLORITE RICH TUFFACEOUS ROCKS
- 3 — PHYLLITE, UNDIFFERENTIATED

CAMBRIAN

SYMBOLS

- Bedding (tops unknown, known)
- First Foliation (S_1) (inclined, vertical)
- Second foliation (S_2) (inclined vertical)
- Joint inclined
- Lineation (included plunge unknown)
- Outcrop
- Geological Boundary (defined, approximate, assumed)
- Syncline
- Anticline (Arrow indicates plunge)
- Multiple Fold (arrow indicates plunge)
- Drag Fold (Arrow indicates plunge)
- Shearing and Dip
- Fault Assumed
- Fossil Locality
- Mineral Occurrence — Sa-barite, Gn-galena, Sp-sphalerite, Py-pyrite, Cp-chalcopyrite, Po-Pyrrhotite, Mol-Molechrite
- Trench
- Subcrop Trace of Clear Lake Deposit
- Gossan
- Spot Elevations (metres ASL)
- Water Elevation (metres ASL)
- Contour Elevation (metres ASL) Contour Interval 10 metres
- Cut Grid Line
- Diamond Drill Hole (year, number)
- Road
- Stream
- Swamp

GEOPHYSICS

- EM Conductor Axis (EM-17, Max.-Min.)
- Interpreted fault or fault contact G for Gravity EM from max min II EM Anomaly identification B
- Gravity Anomaly Peak (mgals)
- Gravity Anomaly, Broad Zone with Peak Value (mgals)
- Ground Magnetic Anomaly
- Strong EM and Gravity Anomaly
- EM Anomaly Only
- Gravity Anomaly Only

- Rock chip sample
- Soil sample
- Soil sample (Pionjar + Holman sampler)
- X — Silt sample

Assay results listed as :

092895

Zn (ppm), Pb (ppm), Cu (ppm), Ag (ppm), Ba (ppm)

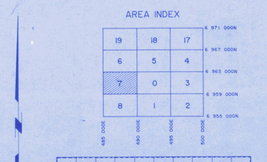
TOTAL ENERGOLD CORPORATION

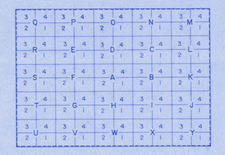
CLEAR LAKE PROJECT

Geochemical and Geophysical Results

N.T.S. : 105L	TECH. : R. BASNETT	DATE : NOVEMBER 1990	
SCALE : 1 : 5000	DRAUGHTING : HANDESIGN	MAP No. : 6	FIGURE-13

AREA INDEX





ENLARGEMENT OF AREA

LEGEND

AGE

CRETACEOUS
- 11
- 12

LITHOLOGY

INTRUSIVE ROCKS

DIORITE, PORPHYRITIC DIORITE, GABBRO

FELSITE

INTRUSIVE CONTACT ?

CLEAR LAKE STRATIGRAPHY

MISSISSIPPIAN
- 19 ARGILLITE (=UNIT 4)
- 18 MASSIVE SILPHOE (=UNIT 3)
- 17 EBWATE (=UNIT 3A)
- 16 BAND BANDED ARGILLITE (=UNIT 2)
- 15 SANDSTONE (SILTSTONE) (=UNIT 1)
- 14 LIMESTONE
- 13 CHERT
- 12 SILTY ARGILLITE
- 11 CHERT PEBBLE CONGLOMERATE

UNCONFORMITY ?

DEVONIAN
- 10 QUARTZITE
- 9 DOLOMITE
- 8 ARGILLITE

SILURIAN
- 7 SILTY DOLOMITE

FAULT CONTACT ?

ANVIL RANGE STRATIGRAPHY

MENZIE CREEK ITE VOLCANICS (?)

LOWER PALEOZOIC:
- GP1 PHYLONITE(?) GREEN CHLORITIC MAFIC VOLCANICS (TUFF?)
- GP2 GREEN CHLORITIC VOLCANICS (TUFF?) INTERCALATED WITH VARICOLORED, SILTSTONES, MUDSTONES AND LIMESTONE
- GP3 VARICOLORED MUDSTONE, SILTSTONE, CHERT, LIMESTONE AND GREYWACKE

GRADATIONAL CONTACT ?

VANGORDA FORMATION:

ORDOVICIAN
- 5D CALCAREOUS PHYLLITE, INTERBEDDED LIMESTONE AND GRAPHITIC PHYLLITE
- 5C MAFIC METAVOLCANIC ROCKS, FINE MED GRAINED, CHLORITIC TUFFACEOUS ROCKS
- 5 CALCAREOUS PHYLLITE, UNDIFFERENTIATED

GRADATIONAL CONTACT ?

MT. MYE FORMATION:

CAMBRIAN
- 4D CHLORITE (-BIOTITE) TACITE PHYLLITE, MAY CONTAIN CALCAREOUS LAMINAE
- 4C GRAPHITIC PHYLLITE
- 4B CALCAREOUS GRAPHITIC PHYLLITE
- 4A MAFIC METAVOLCANIC ROCKS, CHLORITE RICH TUFFACEOUS ROCKS
- 4 PHYLLITE UNDIFFERENTIATED

SYMBOLS

- Bedding (tops unknown, known)
- First Foliation (S_1) (inclined, vertical)
- Second foliation (S_2) (inclined vertical)
- Joint inclined
- Lineation (included plunge unknown)
- Outcrop
- Geological Boundary (defined, approximate, assumed)
- Syncline
- Anticline (Arrow indicates plunge)
- Multiple Fold (arrow indicates plunge)
- Drag Fold (Arrow indicates plunge)
- Shearing and Dip
- Fault Assumed
- Fossil Locality
- Mineral Occurrence — Ba-barite, Gn-galena, Sp-sphalerite, Py-pyrite, Cp-chalcopyrite, Po-Pyrrhotite, Mal-Malachite
- Trench
- Subcrop Trace of Clear Lake Deposit
- Gossan
- Spot Elevations (metres ASL)
- Water Elevation (metres ASL)
- Contour Elevation (metres ASL)
  Contour Interval 10 metres
- Cut Grid Line
- Diamond Drill Hole (year, number)
- Road
- Stream
- Swamp

GEOPHYSICS

- EM Conductor Axis (EM-17, Max.-Min.)
- Interpreted fault or fault contact
  G for Gravity
  EM from max min II EM
  Anomaly identification B
- Gravity Anomaly Peak (mgals)
- Gravity Anomaly, Broad Zone with Peak Value (mgals)
- Ground Magnetic Anomaly
- Strong EM and Gravity Anomaly
- EM Anomaly Only
- Gravity Anomaly Only

- Rock chip sample
- Soil sample
- Soil sample (Plonjar + Holman sampler)
- Silt sample

Assay results listed as : 092895

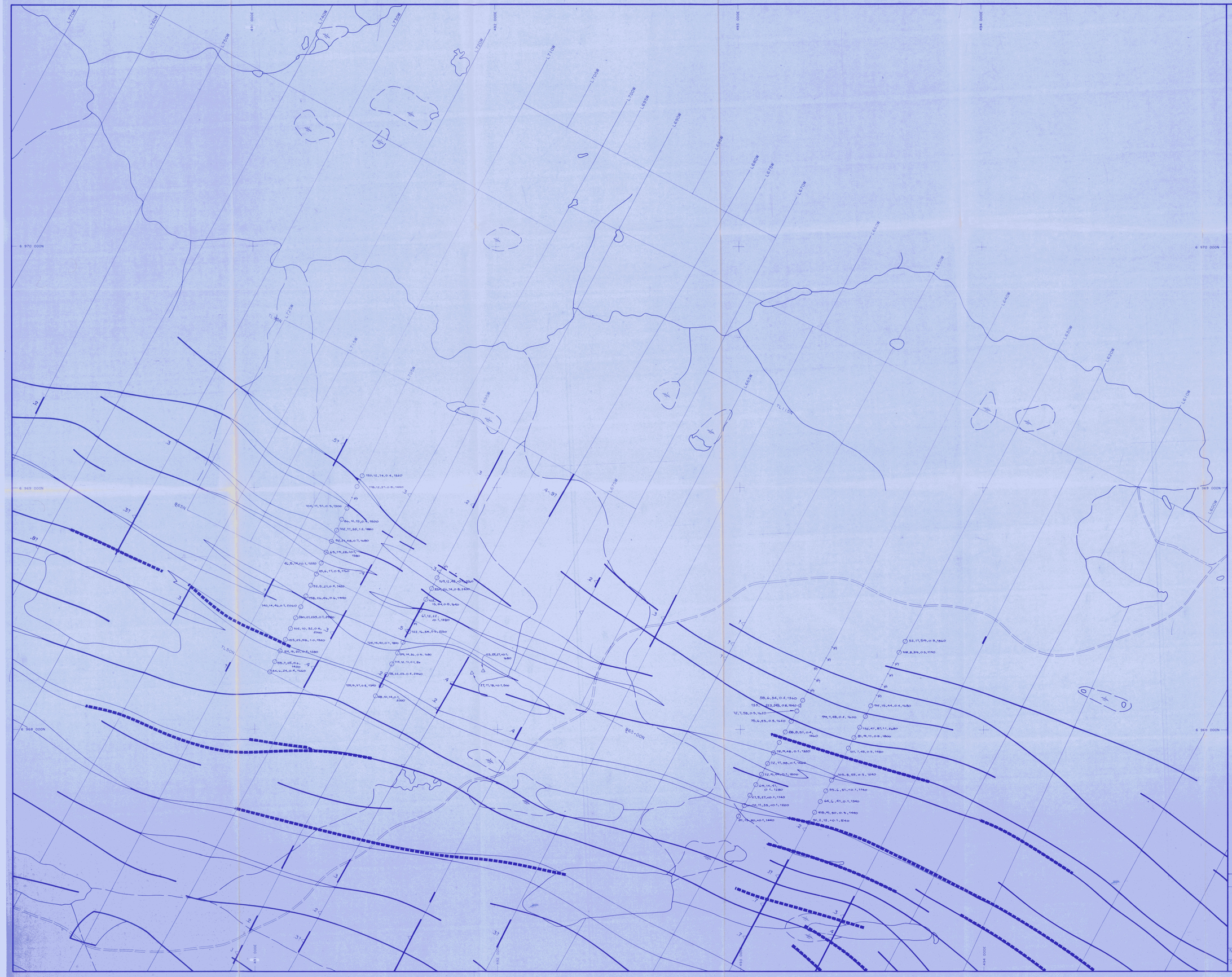
Zn (ppm), Pb (ppm), Cu (ppm), Ag (ppm), Ba (ppm)

TOTAL ENERGOLD CORPORATION

CLEAR LAKE PROJECT

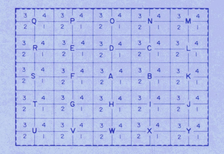
Geochemical and
Geophysical Results

N.T.S. : 105L	TECH. : R. BASNETT	DATE : NOVEMBER 1990	
SCALE : 1 : 5000	DRAUGHTING : HANDESIGN	MAP No. : 7	FIGURE 14



AREA INDEX





ENLARGEMENT OF AREA

LEGEND

AGE / LITHOLOGY

INTRUSIVE ROCKS

- DIORITE, PORPHYRITIC DIORITE, GABBRO
- FELSITE

INTRUSIVE CONTACT ?

CLEAR LAKE STRATIGRAPHY

- ARGILLITE (UNIT 4)
- MASSIVE SULPHIDE (UNIT 3)
- EXHALITE (UNIT 3A)
- SAND BANDED ARGILLITE (UNIT 2)
- SANDSTONE (SILTSTONE) (UNIT 1)
- LIMESTONE
- CHERT
- SILTY ARGILLITE
- CHERT PEBBLE CONGLOMERATE

UNCONFORMITY ?

ASKIN GROUP

- QUARTZITE
- DOLOMITE
- ARGILLITE
- SILTY DOLOMITE

FAULT CONTACT ?

ANVIL RANGE STRATIGRAPHY

MENZIE CREEK (?) VOLCANICS (?)

- FELSIC/INTERMEDIATE TUFFS, INTERBEDDED WITH CALCAREOUS SILTSTONE & MUDSTONE
- MAFIC METAVOLCANIC ROCKS, FINE-MED GRAINED, CHLORITIC TUFFACEOUS ROCKS

GRADATIONAL CONTACT ?

YANGIRDA FORMATION

- CALCAREOUS PHYLLITE, INTERBEDDED LIMESTONE AND DOLOMITE, GRAPHITIC PHYLLITE
- MAFIC METAVOLCANIC ROCKS, FINE-MED GRAINED, CHLORITIC TUFFACEOUS ROCKS
- CALCAREOUS PHYLLITE, UNDIFFERENTIATED

GRADATIONAL CONTACT ?

MT. MYE FORMATION

- DOLOMITE/CALCITE MARBLE, GRAPHITIC PHYLLITE, MAY CONTAIN CALCAREOUS LAMINAE
- GRAPHITIC PHYLLITE
- CALCAREOUS GRAPHITIC PHYLLITE
- MAFIC METAVOLCANIC ROCKS, CHLORITE RICH TUFFACEOUS ROCKS
- PHYLLITE, UNDIFFERENTIATED

SYMBOLS

- Bedding (tops unknown, known)
- First Foliation (S_1) (inclined, vertical)
- Second foliation (S_2) (inclined vertical)
- Joint inclined
- Lineation (included plunge unknown)
- Outcrop
- Geological Boundary (defined, approximate, assumed)
- Syncline
- Anticline (Arrow indicates plunge)
- Multiple Fold (arrow indicates plunge)
- Drag Fold (Arrow indicates plunge)
- Shearing and Dip
- Fault Assumed
- Fossil Locality
- Mineral Occurrence: — Bi-ferrite, Gn-galena, Sp-sphalerite, Py-pyrite, Cp-chalcopyrite, Po-Pyrrhotite, Mal-Malachite
- Trench
- Subcrop Trace of Clear Lake Deposit
- Gossan
- Spot Elevations (metres ASL)
- Water Elevation (metres ASL)
- Contour Elevation (metres ASL), Contour Interval 10 metres
- Cut Grid Line
- Diamond Drill Hole (year, number)
- Road
- Stream
- Swamp

GEOPHYSICS

- EM Conductor Axis (EM-17, Max-Min)
- Interpreted fault or fault contact: G for Gravity; EM from max min II EM; Anomaly identification B
- Gravity Anomaly Peak (mgals)
- Gravity Anomaly, Broad Zone with Peak Value (mgals)
- Ground Magnetic Anomaly
- Strong EM and Gravity Anomaly
- EM Anomaly Only
- Gravity Anomaly Only

- Rock chip sample
- Soil sample
- Soil sample (Plonjar - Holman sampler)
- Silt sample

Assay results listed as :

Zn (ppm), Pb (ppm), Cu (ppm), Ag (ppm), Ba (ppm)

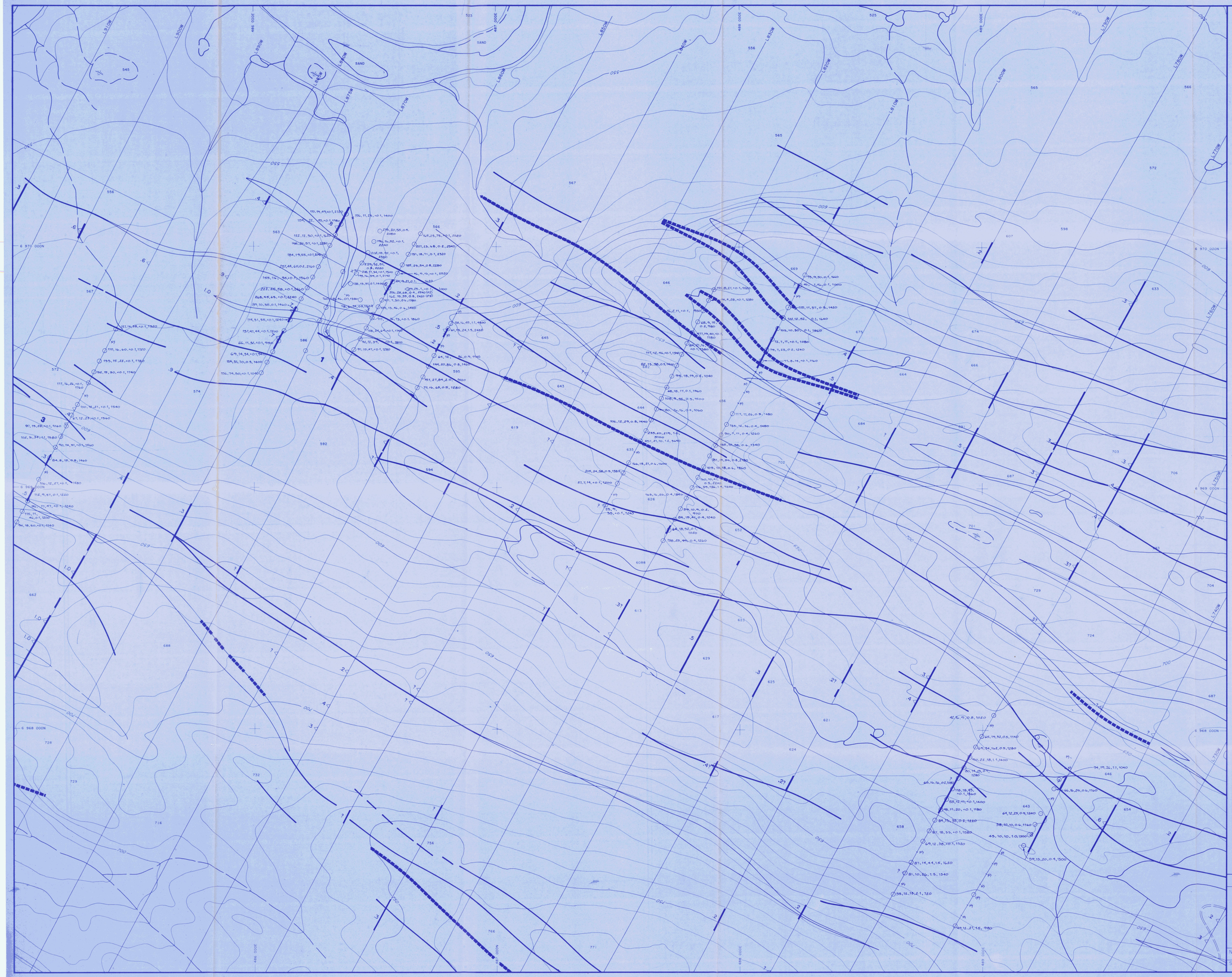
092895

TOTAL ENERGOLD CORPORATION

CLEAR LAKE PROJECT

Geochemical and Geophysical Results

N.T.S. 105L	TECH. R. BASNETT	DATE NOVEMBER 1990	
SCALE 1:5000	DRAUGHTING HANDESIGN	MAP No. 18	FIGURE 15



AREA INDEX



ENLARGEMENT OF AREA

LEGEND

AGE — LITHOLOGY

CRETACEOUS — INTRUSIVE ROCKS

21 — DIORITE, PORPHYRITIC DIORITE, GABBRO

20 — FELSITE

INTRUSIVE CONTACT ?

CLEAR LAKE STRATIGRAPHY

MISSISSIPPIAN

19 — ARGILLITE (UNIT 4)

18 — MASSIVE SULPHIDE (UNIT 3)

17 — EXHALITE (UNIT 3A)

16 — SAND BANDED ARGILLITE (UNIT 2)

15 — SANDSTONE (SILTSTONE) (UNIT 1)

14 — LIMESTONE

13 — CHERT

12 — SILTY ARGILLITE

11 — CHERT PEBBLE CONGLOMERATE

DEVONIAN

UNCONFORMITY ?

ASKIN GROUP

DEVONIAN

10 — QUARTZITE

9 — DOLOMITE

8 — ARGILLITE

7 — SILTY DOLOMITE

SILURIAN

FAULT CONTACT ?

ANVIL RANGE STRATIGRAPHY

MENZIE CREEK (?) VOLCANICS (?)

LOWER PALEOZOIC

641 — PREDOMINATELY GREEN CHLORITIC MAFIC VOLCANICS (TUFFS)

642 — GREEN CHLORITIC VOLCANICS (TUFFS) INTERCALATED WITH VARIEGATED, SILTSTONES, MUDSTONES AND LIMESTONE

643 — VARIEGATED MUDSTONE, SILTSTONE, CHERT, LIMESTONE AND GREYWACKE

GRADATIONAL CONTACT ?

VANGORDA FORMATION

ORDOVICIAN

30 — CALCAREOUS PHYLLITE, INTERBEDDED LIMESTONE AND DOLOMITE, CHLORITIC PHYLLITE

31 — MAFIC METAVOLCANIC ROCKS, FINE MED GRAINED, CHLORITIC TUFFACEOUS ROCKS.

5 — CALCAREOUS PHYLLITE, UNDIFFERENTIATED

GRADATIONAL CONTACT ?

MT. MYE FORMATION

30 — CHLORITE TEMPERATE TREOTITE PHYLLITE, MAY CONTAIN CALCAREOUS LAMINAE

36 — GRAPHITIC PHYLLITE

35 — CALCAREOUS GRAPHITIC PHYLLITE

30 — MAFIC METAVOLCANIC ROCKS, CHLORITE RICH TUFFACEOUS ROCKS

3 — PHYLLITE UNDIFFERENTIATED

CAMBRIAN

SYMBOLS

Bedding (tops unknown, known)

First Foliation (S_1) (inclined, vertical)

Second foliation (S_2) (inclined vertical)

Joint inclined

Lineation (included plunge unknown)

Outcrop

Geological Boundary (defined, approximate, assumed)

Syncline

Anticline (Arrow indicates plunge)

Multiple Fold (arrow indicates plunge)

Drag Fold (Arrow indicates plunge)

Shearing and Dip

Fault Assumed

Fossil Locality

Mineral Occurrence — Ba-barite, Gn-galena, Sp-sphalerite, Py-pyrite, Cp-chalcopyrite, Po-Pyrrhotite, Mal-Malachite

Trench

Subcrop Trace of Clear Lake Deposit

Gossan

Spot Elevations (metres ASL)

Water Elevation (metres ASL)

Contour Elevation (metres ASL)
Contour Interval 10 metres

Cut Grid Line

Diamond Drill Hole (year, number)

Road

Stream

Swamp

GEOPHYSICS

EM Conductor Axis (EM-17, Max.-Min.)

Interpreted fault or fault contact
G for Gravity
EM from max min II EM
Anomaly Identification B

.3 — Gravity Anomaly Peak (mgals)

.4 — Gravity Anomaly, Broad Zone with Peak Value (mgals)

Ground Magnetic Anomaly

Strong EM and Gravity Anomaly

EM Anomaly Only

Gravity Anomaly Only

Rock chip sample

Soil sample

Soil sample (Pionjar + Holman sampler)

Silt sample

Assay results listed as :

Zn (ppm), Pb (ppm), Cu (ppm), Ag (ppm), Ba (ppm)

092895

TOTAL ENERGOLD CORPORATION

CLEAR LAKE PROJECT

Geochemical and Geophysical Results

N.T.S. : 105L	TECH. : R. BASNETT	DATE : NOVEMBER 1990
SCALE : 1 : 5000	DRAUGHTING : HANDESIGN	MAP No. : 19 FIGURE 16

481 000E
482 000E
483 000E
484 000E
6 970 000N
6 969 000N
6 968 000N
80+00
L92SW
L94SW
L96SW
L98SW
TL20S
TL19W
TL21W
TL22W
TL23W
TL24W
TL25N
TINTINA FAULT
545
546
554
556
564
786
650
609
700
750

AREA INDEX

20	19	18	17
	6	5	4
	7	0	3
	8	1	2

6 971 000N
6 967 000N
6 963 000N
6 959 000N
6 955 000N
480 000E
485 000E
490 000E
495 000E
500 000E

3 2	4 1	3 2	4 1	3 2	4 1	3 2	4 1	3 2	4 1	3 2	4 1	3 2	4 1	3 2	4 1
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3 2	4 1	3 2	4 1	3 2	4 1	3 2	4 1	3 2	4 1	3 2	4 1	3 2	4 1	3 2	4 1
3 2	4 1	3 2	4 1	3 2	4 1	3 2	4 1	3 2	4 1	3 2	4 1	3 2	4 1	3 2	4 1

ENLARGEMENT OF AREA

LEGEND

AGE | LITHOLOGY

INTRUSIVE ROCKS

CRETACEOUS
- 11 — DIORITE, PORPHYRITIC DIORITE, GABBRO
- 10 — FELSITE

INTRUSIVE CONTACT ?

CLEAR LAKE STRATIGRAPHY

MISSISSIPPIAN
- 18 — ARGILLITE (=UNIT 4)
- 16 — MASSIVE SULPHIDE (=UNIT 8)
- 17 — EXHALITE (=UNIT 8b)
- 16 — BAND BANDED ARGILLITE (=UNIT 8)
- 15 — SANDSTONE (SILTSTONE) (=UNIT 9)
- 14 — LIMESTONE
- 13 — CHERT
- 12 — SILTY ARGILLITE
- 11 — CHERT PEBBLE CONGLOMERATE

DEVONIAN

UNCONFORMITY ?

ASKIN GROUP
- 10 — QUARTZITE
- 9 — DOLOMITE
- 8 — ARGILLITE
- 7 — SILTY DOLOMITE

SILURIAN

FAULT CONTACT ?

ANVIL RANGE STRATIGRAPHY

MENDE CREEK (?) VOLCANICS (?)

LOWER PALEOZOIC
- 541 — PREDOMINANTLY GREEN CHLORITIC MAFIC VOLCANICS (TUFFS)
- 542 — GREEN CHLORITIC VOLCANICS (TUFFS) INTERCALATED WITH VARIEGOLORED SILTSTONES, MUDSTONES AND LIMESTONE.
- 543 — VARIEGOLORED MUDSTONE, SILTSTONE, CHERT, LIMESTONE AND ORTHAQUIZ.

GRADATIONAL CONTACT ?

YANGORDA FORMATION

ORDOVICIAN
- 30 — CALCAREOUS PYLLITE, INTERBEDDED LIMESTONE AND DOLOMITE, CHLORITIC PHYLLITE.
- 40 — MAFIC METAVOLCANIC ROCKS, FINE MED GRAINED, CHLORITIC TUFFACEOUS ROCKS.
- 1 — CALCAREOUS PYLLITE, UNDIFFERENTIATED

GRADATIONAL CONTACT ?

MT. MYE FORMATION
- 20 — CHLORITE-TREMOLITE-TALCITE PHYLLITE, MAY CONTAIN CALCAREOUS LAMINAE
- 21 — GRAPHITIC PHYLLITE
- 24 — CALCAREOUS GRAPHITIC PHYLLITE
- 38 — MAFIC METAVOLCANIC ROCKS, CHLORITE RICH TUFFACEOUS ROCKS
- 7 — PHYLLITE UNDIFFERENTIATED

CAMBRIAN

SYMBOLS

- Bedding (tops unknown, known)
- First Foliation (S_1) (inclined, vertical)
- Second foliation (S_2) (inclined vertical)
- Joint inclined
- Lineation (included plunge unknown)
- Outcrop
- Geological Boundary (defined, approximate,assumed)
- Syncline
- Anticline (Arrow indicates plunge)
- Multiple Fold (arrow indicates plunge)
- Drag Fold (Arrow indicates plunge)
- Shearing and Dip
- Fault Assumed
- Fossil Locality
- Mineral Occurrence — Ba-barite, Gn-galena, Sp-sphalerite, Py-pyrite, Cp-chalcopyrite, Po-Pyrrhotite, Mal-Malachite
- Trench
- Subcrop Trace of Clear Lake Deposit
- Gossan
- Spot Elevations (metres ASL)
- 500 — Water Elevation (metres ASL)
- 600 — Contour Elevation (metres ASL) Contour Interval 10 metres
- Cut Grid Line
- Diamond Drill Hole (year, number)
- Road
- Stream
- Swamp

GEOPHYSICS

- EM Conductor Axis (EM-17, Max.-Min.)
- Interpreted fault or fault contact G for Gravity EM from max min II EM Anomaly Identification 9
- 3 / 4 — Gravity Anomaly Peak (mgals)
- Gravity Anomaly, Broad Zone with Peak Value (mgals)
- Ground Magnetic Anomaly
- Strong EM and Gravity Anomaly
- EM Anomaly Only
- Gravity Anomaly Only

- Rock chip sample
- Soil sample
- Soil sample (Plonjar - Holman sampler)
- X — Silt sample

Assay results listed as :

Zn (ppm), Pb (ppm), Cu (ppm), Ag (ppm), Ba (ppm)

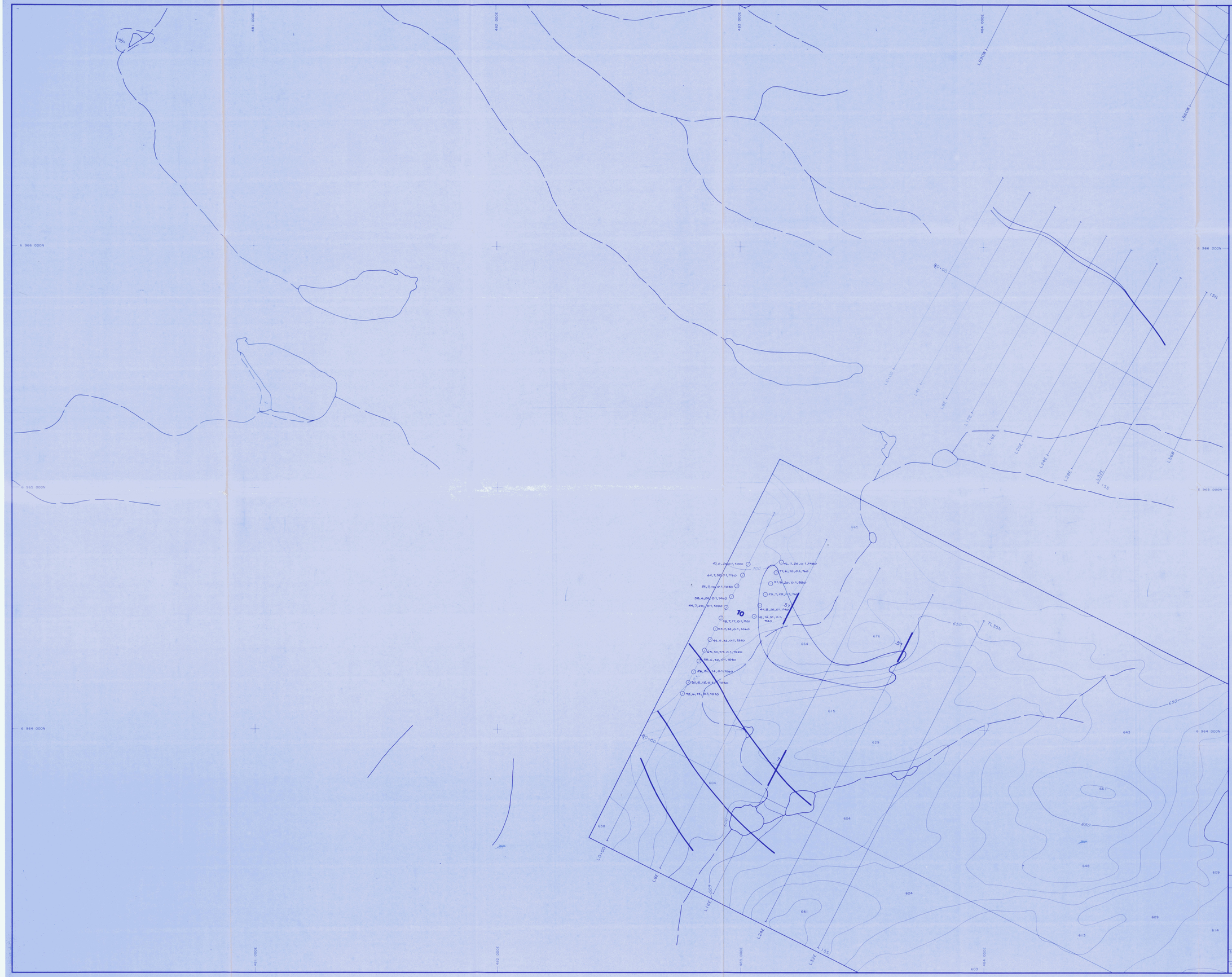
092895

TOTAL ENERGOLD CORPORATION

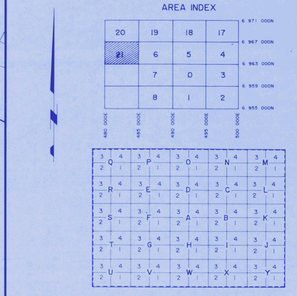
CLEAR LAKE PROJECT

Geochemical and Geophysical Results

N.T.S. : 105L	TECH. : R. BASNETT	DATE : NOVEMBER 1990	
SCALE : 1 : 5000	DRAUGHTING : HANDESIN	MAP No. : 20	FIGURE 17



AREA INDEX



ENLARGEMENT OF AREA

LEGEND

AGE / LITHOLOGY

INTRUSIVE ROCKS

- 21 — DIORITE, PORPHYRITIC DIORITE, GABBRO
- 20 — FELSITE

INTRUSIVE CONTACT ?

CLEAR LAKE STRATIGRAPHY

MISSISSIPPIAN
- 19 — ARGILLITE (UNIT 4)
- 18 — MASSIVE SULPHIDE (UNIT 3)
- 17 — EXALITE (UNIT 3A)
- 16 — SAND BANDED ARGILLITE (UNIT 2)
- 15 — SANDSTONE (SILTSTONE) (UNIT 1)
- 14 — LIMESTONE
- 13 — CHERT
- 12 — SILTY ARGILLITE
- 11 — CHERT PEBBLE CONGLOMERATE

UNCONFORMITY ?

ASKIN GROUP

DEVONIAN
- 10 — QUARTZITE
- 9 — DOLOMITE
- 8 — ARGILLITE
- 7 — SILTY DOLOMITE

SILURIAN

FAULT CONTACT ?

ANVIL RANGE STRATIGRAPHY

WENDE CREEK (?) VOLCANICS (?)

LOWER PALEOZOIC
- MT — PREDOMINATELY GREEN CHLORITIC MAFIC VOLCANICS (TUFFS)
- MG — GREEN CHLORITIC VOLCANICS (TUFFS) INTERCALATED WITH ARGILLITES, SILTSTONES, WACKESTONES AND LIMESTONES
- MS — VARICOLORED MUDSTONE, SILTSTONE, CHERT, LIMESTONE AND GREYWACKE

GRADATIONAL CONTACT ?

VANGORDA FORMATION

ORDOVICIAN
- OC — CALCAREOUS PHYLLITE, INTERBEDDED LIMESTONE AND DOLOMITE, CHLORITIC PHYLLITE
- O — MAFIC METAVOLCANIC ROCKS, FINE MED GRAINED, CHLORITIC TUFFACEOUS ROCKS
- C — CALCAREOUS PHYLLITE, UNDIFFERENTIATED

GRADATIONAL CONTACT ?

MT. MYE FORMATION

- S — SILICIFIED MUDSTONE (SOOTY PHYLLITE, MAY CONTAIN CALCAREOUS LAMINA)
- G — GRAPHITIC PHYLLITE
- CG — CALCAREOUS GRAPHITIC PHYLLITE
- M — MAFIC METAVOLCANIC ROCKS, CHLORITE RICH TUFFACEOUS ROCKS
- P — PHYLLITE, UNDIFFERENTIATED

CAMBRIAN

SYMBOLS

- Bedding (tops unknown, known)
- First Foliation (S_1) (inclined, vertical)
- Second foliation (S_2) (inclined vertical)
- Joint inclined
- Lineation (included plunge unknown)
- Outcrop
- Geological Boundary (defined, approximate, assumed)
- Syncline
- Anticline (Arrow indicates plunge)
- Multiple Fold (arrow indicates plunge)
- Drag Fold (Arrow indicates plunge)
- Shearing and Dip
- Fault Assumed
- Fossil Locality
- Mineral Occurrence — Ba-barite, Gn-galena, Sp-sphalerite, Py-pyrite, Cp-chalcopyrite, Po-Pyrrhotite, Mal-Malachite
- Trench
- Subcrop Trace of Clear Lake Deposit
- Gossan
- Spot Elevations (metres ASL)
- Water Elevation (metres ASL)
- Contour Elevation (metres ASL) Contour Interval 10 metres
- Cut Grid Line
- Diamond Drill Hole (year, number)
- Road
- Stream
- Swamp

GEOPHYSICS

- EM Conductor Axis (EM-17, Max.-Min.)
- Interpreted fault or fault contact G-for Gravity EM from max min II EM Anomaly identification #
- .3 — Gravity Anomaly Peak (mgals)
- .4 — Gravity Anomaly, Broad Zone with Peak Value (mgals)
- Ground Magnetic Anomaly
- Strong EM and Gravity Anomaly
- EM Anomaly Only
- Gravity Anomaly Only

- Rock chip sample
- Soil sample
- Soil sample (Plonjar – Holman sampler)
- Silt sample

Assay results listed as :

Zn (ppm), Pb (ppm), Cu (ppm), Ag (ppm), Ba (ppm)

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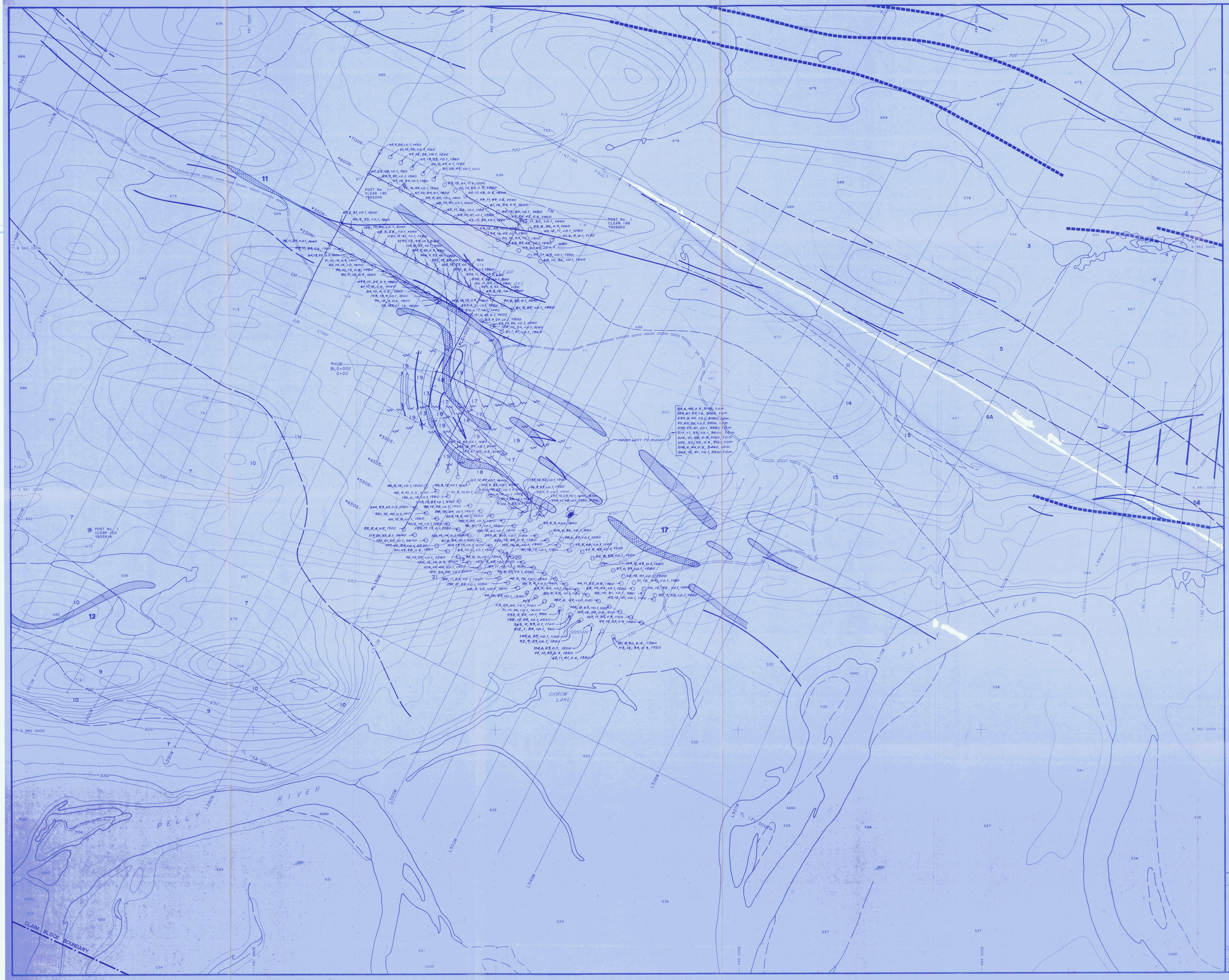
TOTAL ENERGOLD CORPORATION

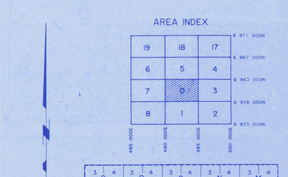
CLEAR LAKE PROJECT

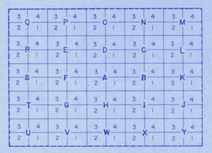
Geochemical and Geophysical Results

N.T.S. 105L	TECH. R. BASNETT	DATE NOVEMBER 1990	
SCALE 1: 5000	DRAUGHTING HANDESIGN	MAP No. 21	FIGURE 18



AREA INDEX





ENLARGEMENT OF AREA

LEGEND

AGE / LITHOLOGY

CRETACEOUS
- K — FELSITE

INTRUSIVE CONTACT ?

CLEAR LAKE STRATIGRAPHY

MISSISSIPPIAN
- 9 — ARGILLITE (UNIT 4)
- 8 — MASSIVE SILTSTONE (UNIT 3)
- 7 — EXHALITE (UNIT 3A)
- 6 — BAND BANDED ARGILLITE (UNIT 2)
- 5 — BARDSTONE (SILTSTONE) (UNIT 1)
- 4 — LIMESTONE
- 3 — CHERT
- 2 — SILTY ARGILLITE
- 1 — CHERT PEBBLE CONGLOMERATE

UNCONFORMITY ?

ASKIN GROUP

DEVONIAN
- 10 — QUARTZITE
- 9 — DOLOMITE
- 8 — ARGILLITE
- 7 — SILTY DOLOMITE

SILURIAN

FAULT CONTACT ?

INTRUSIVE ROCKS
- GRANITE, PORPHYRITIC DIORITE, GABBRO
- FELSITE

ANVIL RANGE STRATIGRAPHY

MENDIE CREEK (?) VOLCANICS (?)

LOWER PALEOZOIC
- M2 — PREDOMINATELY GREEN-CHLORITIC MAFIC VOLCANICS (TUFFS)
- M2 — GREEN-CHLORITIC VOLCANICS (TUFFS) INTERCALATED WITH HANDGUNNEC SILTSTONES, WACKESTONES AND LIMESTONE
- M1 — UNFOLDED WACKESTONE, SILTSTONE, CHERT, LIMESTONE AND GREYWACKE

GRADATIONAL CONTACT ?

YANGDERA FORMATION

ORDOVICIAN
- 10 — CALCAREOUS PHYLLITE, INTERBEDDED LIMESTONE AND DOLOMITE, CHLORITIC PHYLLITE
- 9 — MAFIC METAVOLCANIC ROCKS, FINE MED GRAINED CHLORITIC TUFFACEOUS ROCKS
- 8 — CALCAREOUS PHYLLITE, UNDIFFERENTIATED

GRADATIONAL CONTACT ?

MT. MYE FORMATION

CAMBRIAN
- 10 — CHLORITE-BEARING CHLORITE PHYLLITE, MAY CONTAIN CALCAREOUS LAMINAE
- 9 — GRAPHITIC PHYLLITE
- 8 — CALCAREOUS GRAPHITIC PHYLLITE
- 7 — MAFIC METAVOLCANIC ROCKS, CHLORITE RICH TUFFACEOUS ROCKS
- 6 — PHYLLITE UNDIFFERENTIATED

SYMBOLS

- Bedding (tops unknown, known)
- First Foliation (S_1) (inclined, vertical)
- Second foliation (S_2) (inclined vertical)
- Joint inclined
- Lineation (included plunge unknown)
- Outcrop
- Geological Boundary (defined, approximate, assumed)
- Group Boundary (defined, approximate, assumed)
- Syncline
- Anticline (Arrow indicates plunge)
- Multiple Fold (arrow indicates plunge)
- Drag Fold (Arrow indicates plunge)
- Shearing and Dip
- Fault Assumed
- Tintina Fault
- Claim Post
- Fossil Locality
- Mineral Occurrence — Ba-barite, Gn-galena, Sp-sphalerite, Py-pyrite, Cp-chalcopyrite, Py-Pyrrhotite, Mal-Malachite
- Trench
- Subcrop Trace of Clear Lake Deposit
- Gossan
- Spot Elevations (metres ASL)
- Water Elevation (metres ASL)
- Contour Elevation (metres ASL)
- Contour Interval 10 metres
- Cut Grid Line
- Diamond Drill Hole (year, number)
- Road
- Stream
- Swamp
- Claim Block Boundary
- *Cut Lines, 1990.

GEOPHYSICS

- EM Conductor Axis (EM-17, Max.-Min.)
- Interpreted fault or fault contact G for Gravity EM from max min II EM Anomaly identification B
- 3 — Gravity Anomaly Peak (mgal)
- 4 — Gravity Anomaly, Broad Zone with Peak Value (mgal)
- Ground Magnetic Anomaly
- Strong EM and Gravity Anomaly
- EM Anomaly Only
- Gravity Anomaly Only

- Rock Chip Sample : Zn (ppm), Pb (ppm), Cu (ppm), Ag (ppm), Ba (ppm) Interval (metres)
- Soil Sample : Zn (ppm), Pb (ppm), Cu (ppm), Ag (ppm), Ba (ppm) - Interval (metres)

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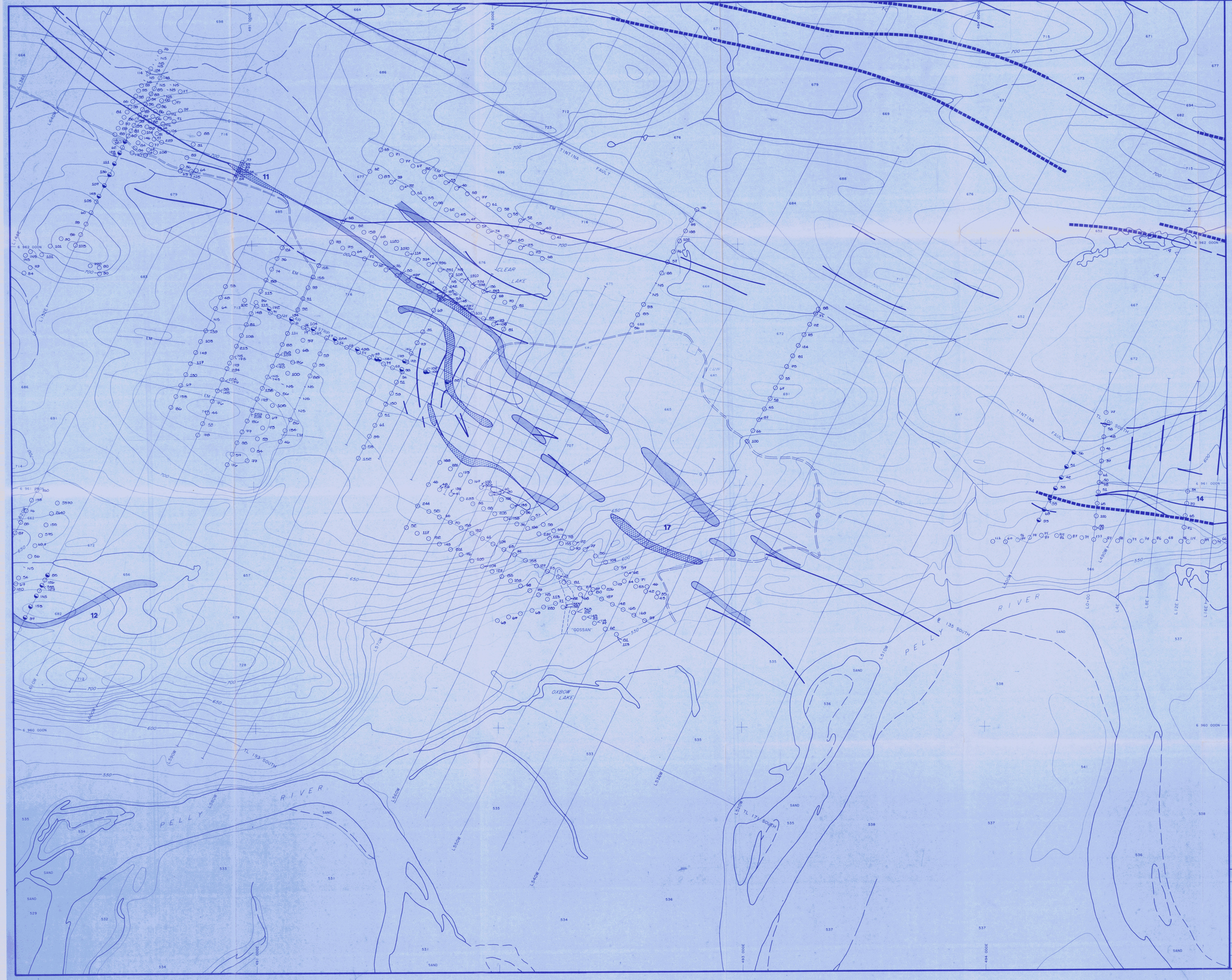
TOTAL ENERGOLD CORPORATION

CLEAR LAKE PROJECT

GEOCHEMISTRY

Zn (ppm), Pb (ppm), Cu (ppm), Ag (ppm), Ba (ppm)

N.T.S. 105 L/14	TECH. R. ZURAN	DATE NOVEMBER 1990	
SCALE 1:5000	DRAUGHTING R. ZURAN & HANDESIGN	FIGURE 19	SHEET-0



AREA INDEX



ENLARGEMENT OF AREA

LEGEND

AGE — LITHOLOGY

CRETACEOUS — INTRUSIVE ROCKS

- 21 — DIORITE, PORPHYRITIC DIORITE, GABBRO
- 20 — FELSITE

INTRUSIVE CONTACT ?

CLEAR LAKE STRATIGRAPHY

MISSISSIPPIAN

- 19 — ARGILLITE (UNIT 4)
- 18 — MASSIVE SULPHIDE (UNIT 3)
- 17 — EXHALITE (UNIT 3A)
- 16 — BAND BANDED ARGILLITE (UNIT 2)
- 15 — SANDSTONE (SILTSTONE) (UNIT 1)
- 14 — LIMESTONE
- 13 — CHERT
- 12 — SILTY ARGILLITE
- 11 — CHERT PEBBLE CONGLOMERATE

DEVONIAN

UNCONFORMITY ?

ASKIN GROUP

DEVONIAN

- 13 — QUARTZITE
- 9 — DOLOMITE
- 8 — ARGILLITE
- 7 — SILTY DOLOMITE

SILURIAN

FAULT CONTACT ?

ANVIL RANGE STRATIGRAPHY

MENZIE CREEK (?) VOLCANOES (?)

LOWER PALEOZOIC

- 6A1 — PREDOMINATELY GREEN CHLORITIC MAFIC VOLCANOS (TUFFS)
- 6A2 — GREEN CHLORITIC VOLCANOS (TUFFS) INTERCALATED WITH VANDOLORED SILTSTONES, MUDSTONES AND LIMESTONE
- 6A3 — VANDOLORED MUDSTONE, SILTSTONE, CHERT, LIMESTONE AND GREYWACKE

GRADATIONAL CONTACT ?

VANGORDA FORMATION

ORDOVICIAN

- 10 — CALCAREOUS PHYLLITE, INTERBEDDED LIMESTONE AND DOLOMITE, CHLORITIC PHYLLITE
- 30 — MAFIC METAVOLCANIC ROCKS, FINE-MED GRAINED, CHLORITIC TUFFACEOUS ROCKS
- 5 — CALCAREOUS PHYLLITE, UNDIFFERENTIATED

GRADATIONAL CONTACT ?

MT. MYE FORMATION

- 9G — CHLORITE (SEGIDITE) SIDOTITE PHYLLITE, MAY CONTAIN CALCAREOUS LAMINAE
- 36 — GRAPHITIC PHYLLITE
- 36.1 — CALCAREOUS GRAPHITIC PHYLLITE
- 39 — MAFIC METAVOLCANIC ROCKS, CHLORITE RICH TUFFACEOUS ROCKS
- 3 — PHYLLITE UNDIFFERENTIATED

CAMBRIAN

SYMBOLS

- Bedding (tops unknown, known)
- First Foliation (S_1) (inclined, vertical)
- Second foliation (S_2) (inclined vertical)
- Joint inclined
- Lineation (included plunge unknown)
- Outcrop
- Geological Boundary (defined, approximate, assumed)
- Syncline
- Anticline (Arrow indicates plunge)
- Multiple Fold (arrow indicates plunge)
- Drag Fold (Arrow indicates plunge)
- Shearing and Dip
- Fault Assumed
- Fossil Locality
- Mineral Occurrence — Ba-barite, Gn-galena, Sp-sphalerite, Py-pyrite, Cp-chalcopyrite, Po-Pyrrhotite, Mal-Malachite
- Trench
- Subcrop Trace of Clear Lake Deposit
- Gossan
- Spot Elevations (metres ASL)
- Water Elevation (metres ASL)
- Contour Elevation (metres ASL) Contour Interval 10 metres
- Cut Grid Line
- Diamond Drill Hole (year, number)
- Road
- Stream
- Swamp

GEOPHYSICS

- EM Conductor Axis (EM-17, Max.-Min.)
- Interpreted fault or fault contact G for Gravity EM from max min II EM Anomaly identification B
- .3 — Gravity Anomaly Peak (mgals)
- .4 — Gravity Anomaly, Broad Zone with Peak Value (mgals)
- Ground Magnetic Anomaly
- Strong EM and Gravity Anomaly
- EM Anomaly Only
- Gravity Anomaly Only
- Zn ppm
- NS — No sample

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TOTAL ENERGOLD CORPORATION

CLEAR LAKE PROJECT

GEOCHEMISTRY (Phase 1,2 & 3)
Zn

N.T.S.: 105L	TECH.: R. Zuran	DATE: Dec. 1990
SCALE: 1 : 5000	DRAUGHTING: HANDESIGN	FIGURE: 20 SHEET: 0



LEGEND

- Soil sample (auger)
- x Silt sample
- Claim post
- H Helicopter pad
- NS No sample

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TOTAL ENERGOLD CORPORATION

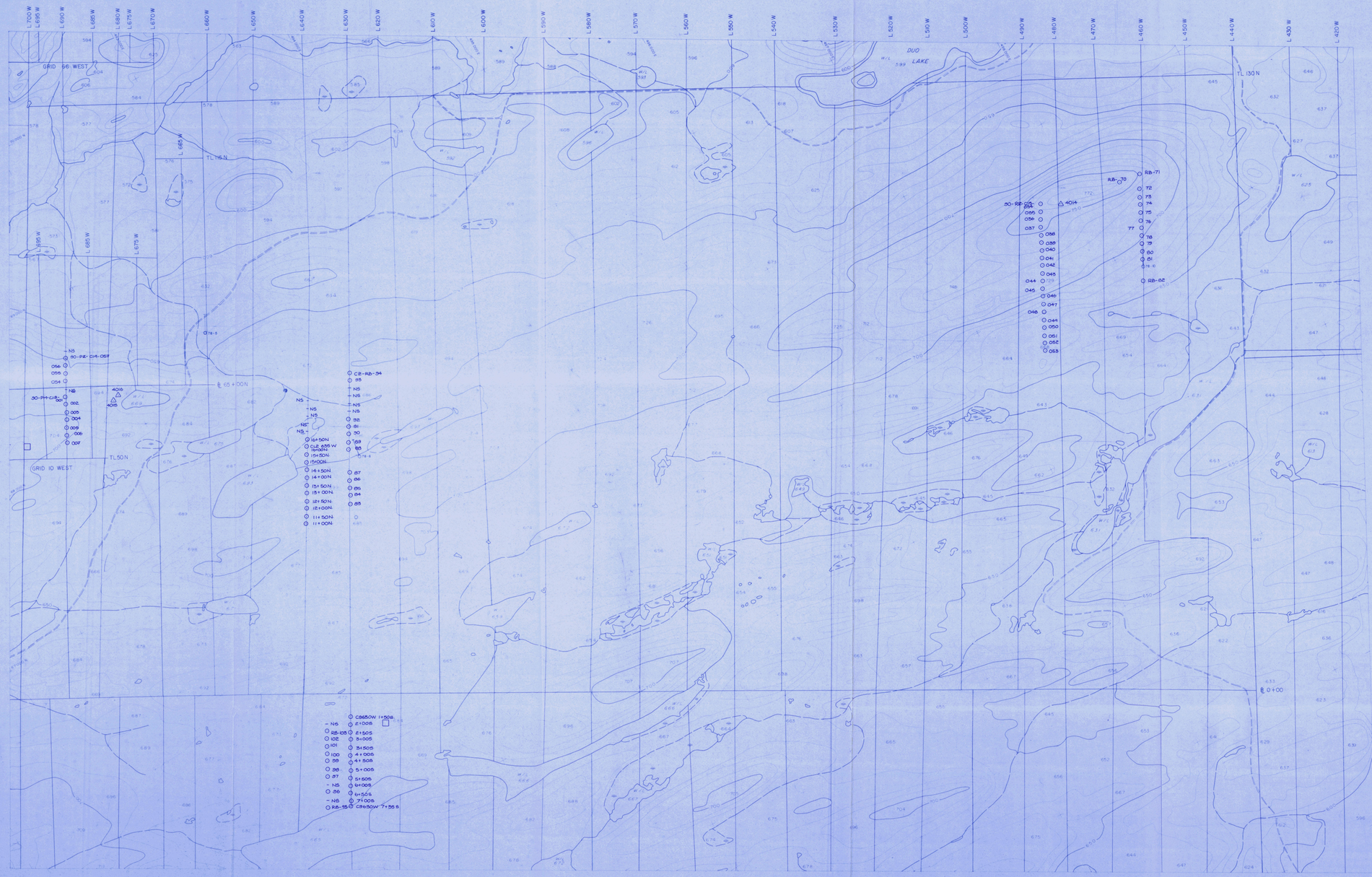
CLEAR LAKE PROJECT

1990 PHASE I & II
SAMPLE LOCATIONS
SHEET 1

DRAWN BY:	R. Zuran	DATE:	Dec. 1990
CHECK BY:		DRAWING No:	SHEET 1
UNITS:	105L	SCALE:	

FIGURE: 21

Pacific Survey Corporation


L 700 W
L 695 W
L 690 W
L 685 W
L 680 W
L 675 W
L 670 W
L 660 W
L 650 W
L 640 W
L 630 W
L 620 W
L 610 W
L 600 W
L 590 W
L 580 W
L 570 W
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L 510 W
L 500 W
L 490 W
L 480 W
L 470 W
L 460 W
L 450 W
L 440 W
L 430 W
L 420 W
GRID 66 WEST
TL 116 N
TL 130 N
DUO
LAKE
L 665 W
L 685 W
L 675 W
L 695 W
TL 50 N
GRID 10 WEST
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RB-70
RB-71
RB-82
4014
4016
4015
CE-RB-34
CE-RB-35
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CE-RB-66
CE-RB-67
CE-RB-68
CE-RB-69
CE-RB-70
CE-RB-71
CE-RB-72
CE-RB-73

LEGEND

- O Soil sample (auger) Phase I
- △ Rock chip sample
- □ Claim Post
- ⊙ Soil Sample (auger) Phase 2
- NS No sample

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TOTAL ENERGOLD CORPORATION

CLEAR LAKE PROJECT

1990 PHASE I & II
SAMPLE LOCATIONS
SHEET 3

DRAWN BY:	R. Zuran	DATE:	Dec. 1990
CHECK BY:		DRAWING No:	SHEET 3
FILE:	105L	SCALE:	

FIGURE 23



LEGEND

- △ Rock chip sample
- ○ Soil Sample (auger) Phase I
- ◒ Soil Sample (pionjar) Phase 2
- × Silt Sample

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TOTAL ENERGOLD CORPORATION

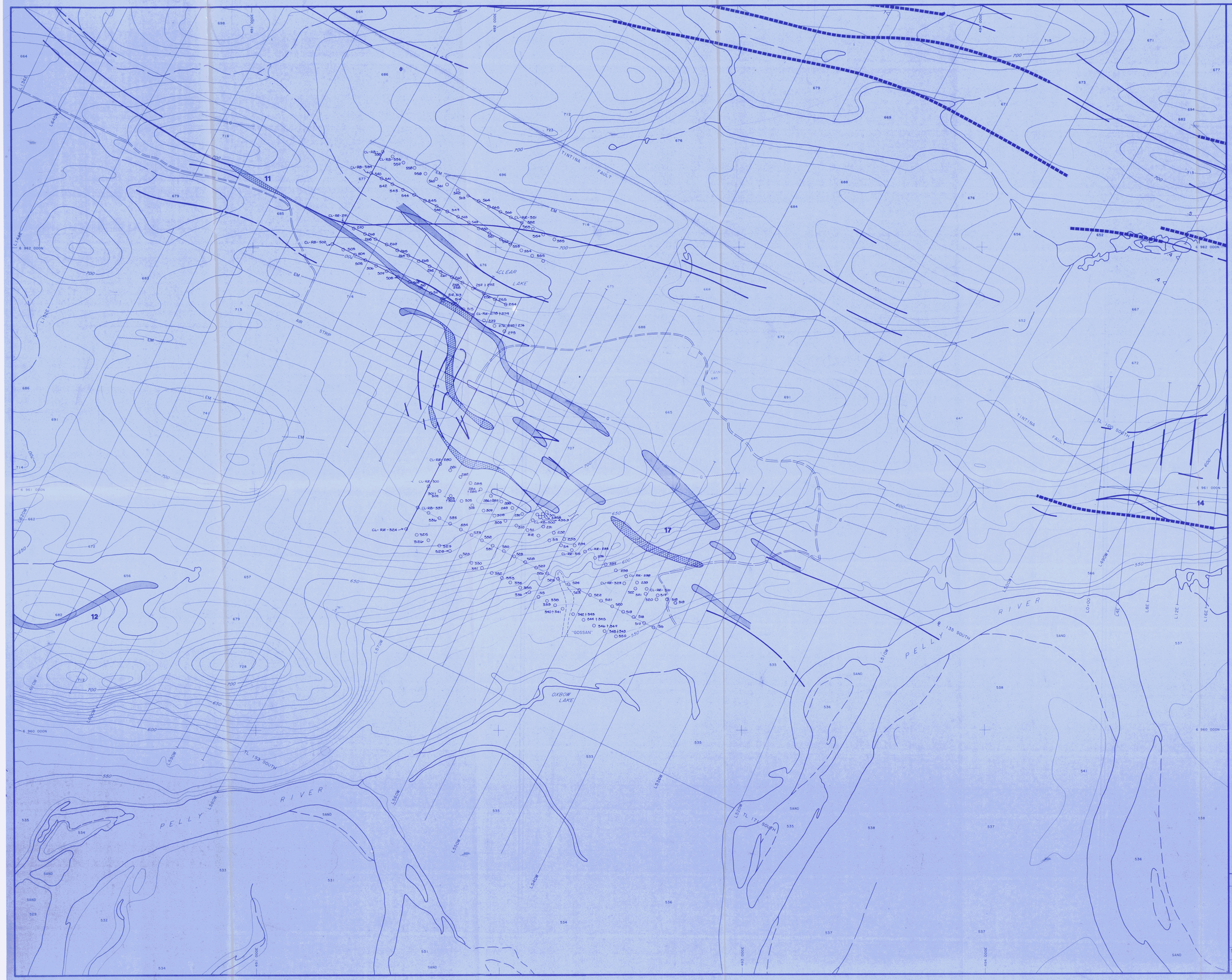
CLEAR LAKE PROJECT

1990 PHASE I & II
SAMPLE LOCATIONS
SHEET 4

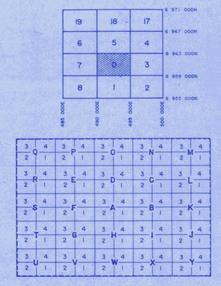
DRAWN BY	R. Zuran	DATE	Dec. 1990
CHECK'D BY		DRAW'G No.	SHEET 4
N.T.S.	105L	SCALE	1:10,000

FIGURE: 24

Pacific Survey Corporation



AREA INDEX



ENLARGEMENT OF AREA

LEGEND

AGE	LITHOLOGY
CRETACEOUS	INTRUSIVE ROCKS
21	DIORITE, PORPHYRITIC DIORITE, GABBRO
20	FELSITE
	INTRUSIVE CONTACT ?
	CLEAR LAKE STRATIGRAPHY
MISSISSIPPIAN	
19	ARGILLITE (UNIT 4)
18	MASSIVE SULPHIDE (UNIT 3)
17	EXHALITE (UNIT 3A)
16	SAND SANDED ARGILLITE (UNIT 2)
15	SANDSTONE (SILTSTONE) (UNIT 1)
14	LIMESTONE
13	CHERT
12	SILTY ARGILLITE
11	CHERT PEBBLE CONGLOMERATE
DEVONIAN	
	UNCONFORMITY ?
	ASKIN GROUP
DEVONIAN	
10	QUARTZITE
9	DOLOMITE
8	ARGILLITE
7	SILTY DOLOMITE
SILURIAN	
	FAULT CONTACT ?

	ANVIL RANGE STRATIGRAPHY
	MENZIE CREEK (?) VOLCANICS (?)
LOWER PALEOZOIC	
6A1	PREDOMINATELY GREEN CHLORITIC MAFIC VOLCANICS (TUFFS)
6A2	GREEN CHLORITIC VOLCANICS (TUFFS) INTERCALATED WITH VANCOUVER(?), SILTSTONES, MUDSTONES AND LIMESTONE
6A3	VANCOUVER(?) MUDSTONE, SILTSTONE, CHERT, LIMESTONE AND GREYWACKE
	GRADATIONAL CONTACT ?
	VANGORDA FORMATION
ORDOVICIAN	
5D	CALCAREOUS PHYLLITE, INTERBEDDED LIMESTONE AND DOLOMITE, CHLORITIC PHYLLITE
5C	MAFIC METAVOLCANIC ROCKS, FINE-MED GRAINED, CHLORITIC TUFFACEOUS ROCKS
5	CALCAREOUS PHYLLITE, UNDIFFERENTIATED
	GRADATIONAL CONTACT ?
	MT. MYE FORMATION
3D	CHLORITE ? SERICITE ? SILTITE PHYLLITE, MAY CONTAIN CALCAREOUS LAMINAE
3C	GRAPHITIC PHYLLITE
3B	CALCAREOUS GRAPHITIC PHYLLITE
3A	MAFIC METAVOLCANIC ROCKS, CHLORITE RICH TUFFACEOUS ROCKS
3	PHYLLITE UNDIFFERENTIATED
CAMBRIAN	

SYMBOLS

- Bedding (tops unknown, known)
- First Foliation (S_1) (inclined, vertical)
- Second foliation (S_2) (inclined vertical)
- Joint inclined
- Lineation (included plunge unknown)
- Outcrop
- Geological Boundary (defined, approximate, assumed)
- Syncline
- Anticline (Arrow indicates plunge)
- Multiple Fold (arrow indicates plunge)
- Drag Fold (Arrow indicates plunge)
- Shearing and Dip
- Fault Assumed
- Cut Lines, 1990
- Fossil Locality
- Mineral Occurrence — Ba-barite, Gn-galena, Sp-sphalerite, Py-pyrite, Cp-chalcopyrite, Po-Pyrrhotite, Mal-Malachite
- Trench
- Subcrop Trace of Clear Lake Deposit
- Gossan
- Spot Elevations (metres ASL)
- Water Elevation (metres ASL)
- Contour Elevation (metres ASL)| Contour Interval 10 metres
- Contour
- Diamond Drill Hole (year, number)
- Road
- Stream
- Swamp

GEOPHYSICS

- EM Conductor Axis (EM-17, Max.-Min.)
- Interpreted fault or fault contact
  G for Gravity
  EM from max min II EM
  Anomaly identification B
- .3 Gravity Anomaly Peak (mgals)
- .4 Gravity Anomaly, Broad Zone with Peak Value (mgals)
- Ground Magnetic Anomaly
- Strong EM and Gravity Anomaly
- EM Anomaly Only
- Gravity Anomaly Only
- Rock Chip Sample
- Soil Sample
- NS No sample

092895

0 100 200 300 400 500
Metres

TOTAL ENERGOLD CORPORATION

CLEAR LAKE PROJECT

1990 PHASE III SAMPLE LOCATIONS

N.T.S.: 105L	TECH.:	DATE: DECEMBER 1990
SCALE: 1:5000	DRAUGHTING: HANDESIGN	SHEET 0 FIGURE 25