MAP NO.: 105 L 11,14,15

ASSESSMENT REPORT X
PROSPECTUS
CONFIDENTIAL X
OPEN FILE

DOCUMENT NO: 093060
MINING DISTRICT: WHITEHORSE
TYPE OF WORK: DIAMOND DRILLING
GEOPHYSICS, GEOCHEMISTRY

REPORT FILED UNDER: TOTAL ERICKSON RESOURCES LTD

DATE PERFORMED: MARCH 1 - AUGUST 29, 1992 **DATE FILED:** DECEMBER 11, 1992

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

LONG.: 135°10'W **VALUE $:** N/A (>$262,000)

CLAIM NAME & NO.: CLEAR 1-448 (YB25815-26262), CLEAR 490 (YB26304), CLEAR 491-593 (YB27222-WEDGE 10 (YA82176), 27324), CLEAR 594-598 (YB27376-27380), CLEAR 599-674 (YB36109-YB36184), SUE 611-616 (Y81261-66), SUE 635 (Y81285), SUE 2010-2015 (YA22730-735), SUE 2018-2019 (YA22730-735), SUE 2026, 2028 (YA22746, YA22748), SUE 3003FR-3005FR (YA59692-94), SUE 3040 (YA61583), SUE 339-346 (Y80989-80996)

WORK DONE BY: R. BASNETT, R. ZURAN, A. GOMI, M. MACHIDA

WORK DONE FOR: TOTAL ERICKSON RESOURCES LTD & MITSUI KINZOKU RESOURCES LTD.

DATE TO GOOD STANDING:

REMARKS: 3100 METERS OF DIAMOND DRILLING ON A NUMBER OF TARGETS WAS COMPLETED ON THE CLEAR LAKE DEPOSIT IN 1992. GEOPHYSICAL SURVEYS INCLUDING GRAVITY, IP AND MAGNETOTELLURIC, AND GEOCHEMICAL SURVEYS WERE COMPLETED.

Indian and Northern Affairs Canada | Affaires indiennes et du Nord Canada

M.R. file no.

R.M.M.R. file no.

Date forwarded 11 Dec 92.

TRANSMITTAL FORM

From ▶ Mining Recorder at: Whitehorse

To ▶ Regional Manager, Mineral Rights at Whitehorse, Y.T.

For action are:

- ☐ NEW APPLICATION FOR PLACER LEASE TO PROSPECT — Name
- ☐ RENEWAL APPLICATION PLACER LEASE TO PROSPECT — Name — Lease no.
- ☐ AFFIDAVIT OF EXPENDITURE ON PLACER LEASE — Name — Lease no.
- ☐ SECURITY DEPOSIT
- ☐ FINANCIAL ABILITY
- ☐ ASSIGNMENT OF PLACER LEASE NO. — From — To
- ☐ GROUPING APPLICATION UNDER SEC. 52(2) PLACER MINING ACT. — Owner
- ☐ DIAMOND DRILL LOGS — Claims — Claim sheet no.
- ☒ QUARTZ ASSESSMENT REPORT — Claims: CLEAR, SUE clms. — Claim sheet no.: 105L-11/14/15

Type of report: G.Gp, Gc, Physical, D.D. — Submitted by: Total Erickson Resources

Cls. work performed on: CLEAR/SUE — $ req. for ren. application: 262,000.00

Signature

REPLY ACTION

Date returned

093060

Signature

802-37 (7-88)

GEOLOGICAL, PHYSICAL, GEOPHYSICAL, GEOCHEMICAL AND DIAMOND DRILLING ASSESSMENT REPORT ON THE CLEAR LAKE PROPERTY



Whitehorse M.D., Yukon
March 01 - August 29, 1992

Claims: Clear 1-448 (YB25815-26262)
Clear 490 (26304)
Clear 491-593 (YB27222-27324)
Clear 594-598 (YB27376-27380)
CLEAR 599-674 (YB36109-36184)
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)

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

By: Richard Basnett, B.Sc.,P.Geo.
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093060

November 10, 1992.

115 p
5 diagrams

EXECUTIVE SUMMARY

In 1992, Total Erickson Resources Ltd. operated the Clear Lake Project, a joint venture between Total Erickson Resources Ltd.and Mitsui Kinzoku Resources of Canada Inc. The Clear Lake property is located on the height of land between the Pelly and MacMillan Rivers, 225 kilometres north of Whitehorse, Yukon Territory. It is accessible by winter road from Pelly Crossing and by means of a gravel airstrip suitable for fixed wing aircraft.

The Clear Lake deposit is a shale hosted stratiform zinc-lead-silver massive sulphide deposit located in a fault-bounded wedge of Mid-Upper Devonian Earn Group shales, immature sandstones and minor exhalites.

Greater than 5% combined lead-zinc mineralization in the main zone occurs as lenses 5 to 30 metres thick, 450 metres in length and extending 300 metres down dip. Although the sulphide layer appears to pinch with depth, the same stratigraphy continues downdip providing the possibility of additional lenses laterally and at depth.

The 1992 exploration program, at an expenditure of $1 million, consisted of 3,100.1 metres of diamond drilling in 10 holes; surface mapping, soil sampling, trenching, linecutting and IP, gravity and PLMT (Power line magnetotelluric) surveys.

Exploration failed to identify any new zones of massive sulphide mineralization. Drilling determined that conductive zones extending west from the main zone of mineralization reflect shear zones rather than stratigraphy. Near co-incident gravity highs thought to reflect massive sulphides in fact probably are the result of bedrock ridges on the edges of the reccessively weathering graphitic shear zones.

Evaluation of gravity highs in Area 1 & 3 has shown that some of the anomalies in these areas are near areas of outcrop and may also be caused by bedrock highs. Seismic surveys are planned to evaluate gravity anomalies before diamond drilling is undertaken.

A program of geological mapping, soil sampling, IP, seismic and gravity surveys and diamond drilling at an estimated cost of $1 million is recommended for 1993 to evaluate ten targets with the highest potential for the discovery of deposits similar to the Clear Lake main zone.

Other mineral occurrences in the joint venture area may also be evaluated.

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1.0 CONCLUSIONS

1.1 THE CLEAR LAKE ZONE

Diamond drilling indicates that the Clear Lake massive sulphide zone pinches with depth but that the siliceous envelope and the tuff-barite zone which accompanies the massive sulphide layer, and which may be a more distal equivalent of the massive sulphides, are still present at depth. Because the permissive stratigraphy continues it is possible that other sulphide lenses are present.

Massive sulphides on POW line 2+50W, 1+75N found in 1991, underlie a zone of high chargeability (107 mv/v) and moderately low resistivities (36 ohm meters). Holes 92-70 and 92-75, drilled to test for a possible western strike extension of the massive sulphides, did not intersect barite or massive sulphide horizons, suggesting that the zone has pinched out to the west.

As well as intersecting a weakly mineralized part of the main horizon, Hole 91-63 intersected a conductive graphitic argillite with 3.5 meters of massive sphalerite parallel to the southeastern part of the deposit. Hole 92-72 drilled to intersect this new zone 100 meters below hole 91-63 failed to intersect it. The main massive sulphide horizon intersected in hole 92-72 contains only sub-economic zinc values. Nonetheless it indicates that the main zone may extend to the east and to depth. Because the gravity signature over this area is weak, the lens would have to be either narrow (less than 10 meters thick) or deep (more than 200 meters deep).

Mercury analyses of soil samples indicate a moderately positive correlation with the distribution of zinc values in the deposit. Mercury may help to define targets for future exploration because the correlation between lead, zinc and silver in soils and mineralization is made difficult by glacial dispersion and is at best erratic.

1.2 OTHER AREAS

The highest priority soil anomalies extend directly from known sulphide mineralization of the Clear Lake deposit. The deposit, and hence the best targets, are characterized as being contained in Earn Group rocks, with a pronounced gravity anomaly and IP/resistivity anomalies associated with them. Other targets drilled in 1991 had high geochemical responses and only weak gravity and IP responses (Hammer Hill).

Holes 92-67, 68 and 69 indicate that the large conductive zone which extends westward from the main zone reflects shearing in stratigraphy itself. A weak gravity anomaly (0.5 mgal) on line 21+50W was confirmed with additional gravity surveys, but drilling indicated that the anomaly is probably due to bedrock

highs at the edge of recessively weathering argillites rather than a high density lithology or massive sulphides.

Hole 92-74 drilled on the southeast extension of the Clear Lake zone intersected narrow (2-15 cm) bands of pyrite and quartz-carbonate veinlets with minor sphalerite beneath a bedrock sample of pyritic siliceous argillite taken with the Holman/Pionjar sampler. Three holes drilled in the area indicate that it is underlain by similar graphitic argillite as at the Main Zone and that narrow pyrite bands and quartz-carbonate veinlets with minor sphalerite are common.

The southeast extension appears to be complicated by block faults (one is interpreted to exist between Hole 81-30 and 92-74) which have dropped a block to the southeast. It may be that a mineralized lens exists in this area but more drilling is needed to confirn what the nature of the offset is and that the lithology is the correct package.

Hole 92-76 was drilled to test a 500 ppb Hg anomaly, coincident with anomalous Pb and Zn, a weak (0.2 mgal) gravity and moderate resistivity (96 ohm meters) anomaly. It intersected block faulted Askin Group dolostones thrust over younger Earn Group rocks. The dolostone contains one metre of 7% disseminated sphalerite in intensely stockworked barite vein/breccia.

Pb-Zn barite veins occur elsewhere in the Askin Group and may reflect remobilized mineralization from underlying Earn Group rocks.

It is unclear whether IP/resistivity anomalies and moderate gravity closures and soil anomalies are the expression of massive sulphides or simply conductive stratigraphy in Area 1 because the gravity anomalies do not coincide will with the IP/resistivity. More work, including seismic surveys followed by drilling, is needed to test at least a representative number of targets in this area.

In Area 12, a soil anomaly of greater than 300 ppm Zn with high chargeability (39 mv/v) and moderate resistivity (186 ohm metres in an area underlain by Askin Group rocks probably is explained by a rusty shear zone with values up to 1303 ppm Zn exposed in Trench 92TR-11.

Although soil sampling in Area 23 returned only background values this may be because of the thick glacial overburden which covers the entire area. An outcrop of chert pebble conglomerate, possibly part of the Earn Group, suggests the area deserves further work.

2.0 RECOMMENDATIONS

The 1993 exploration program should focus on the discovery of additional reserves by testing the targets developed during the 1992 exploration activity. Geophysical surveys, soil sampling and geological mapping should be continued in new areas to develop new exploration targets for following years.

Gravity surveys augmented with seismic surveys to provide accurate corrections for overburden depths and Max-Min Horizontal Loop EM are seen as the most effective geophysical methodology.

Max-Min HL EM is recommended because it appears to be the most cost-effective method of identifying conductors. IP methods yield good (resistivity-chargeability) data, but the improvement in target definition is not sufficient to justify the considerably greater cost involved.

A diamond drill program of four holes totalling 2,000 meters is proposed for an overall exploration budget of approximately $1 million.

The field program will commence in March with line-cutting followed by gravity and seismic surveys in April. In May, fuel, drill mud, rods, etc. will be flown in from Pelly Crossing. Max-Min Horizontal Loop EM surveys should start in June; the program should be completed in early September.

Specific exploration targets recommended for 1993 are discussed further in section 9 of the report. Table 1 and Appendix E give additional details.

3.0 INTRODUCTION

The purpose of this report is to describe the 1992 exploration program and to satisfy assessment requirements of the Yukon Quartz Mining Act through a description of exploration work carried out from March 1st - August 29th 1992. Although Total Erickson Resources Ltd. is the registered owner of the claims, map title blocks are labelled Total Energold Corporation, of which Total Erickson Resources Ltd. is a wholly owned subsidiary.

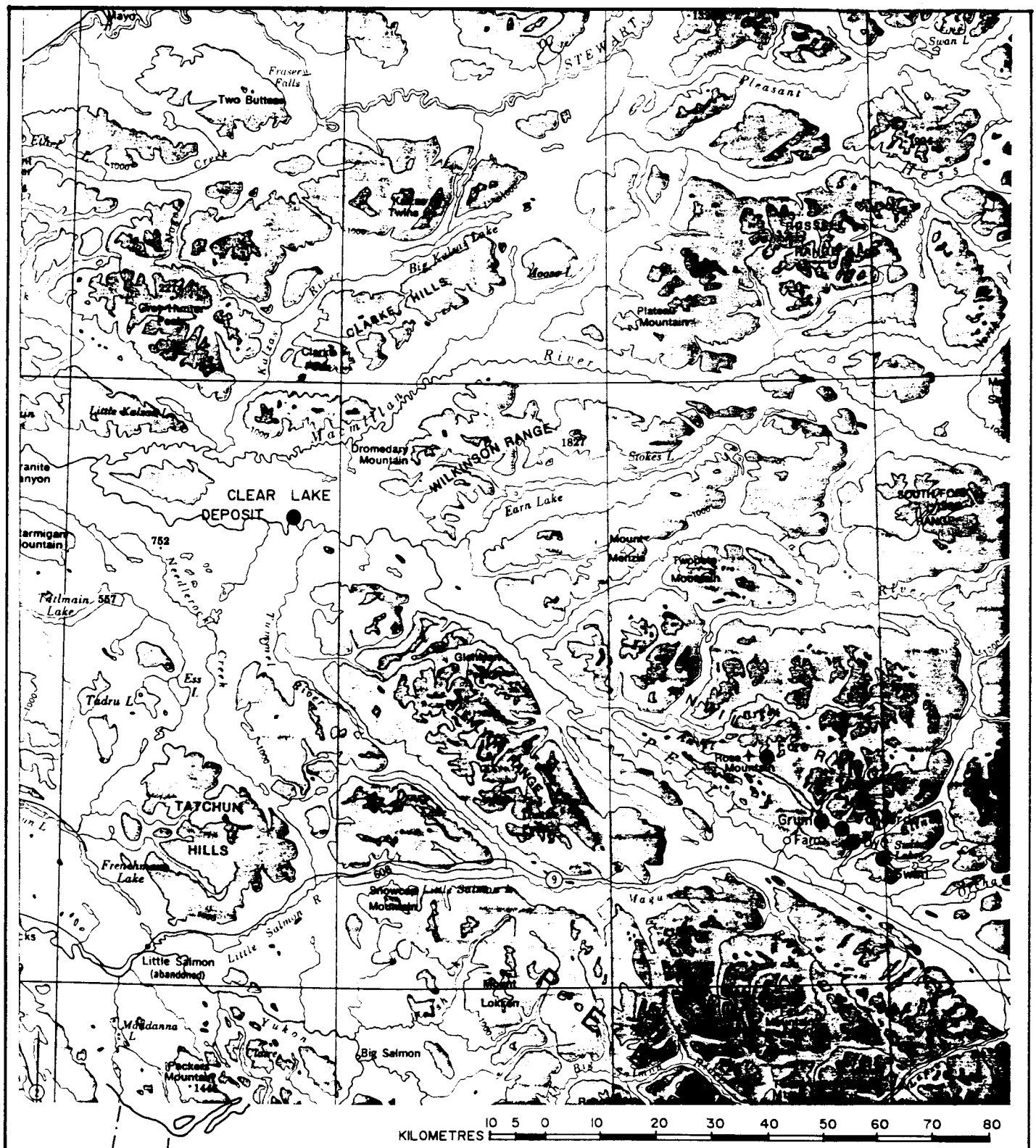
Exploration work consisted of diamond drilling, geophysics, linecutting, geochemistry, trenching, and geological mapping for the purpose of locating base metal sedex type deposits.

Norecol Environmental Consultants Ltd. were contracted to conduct baseline environmental studies which included water quality, hydrology, and fisheries. This information is presented in a separate report.

4.0 LOCATION AND ACCESS

The Clear Lake Property is located in southcentral Yukon, 225 kilometers north of Whitehorse. 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 62o 48' North latitude and 135o 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

Access to the property is via helicopter based in Carmacks, located approximately 90 kilometers to the southwest, or from 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 all-weather North Klondike Highway at Pelly Crossing, approximately 65 kilometers to the west (Figure 1).



Total Energold Corporation

CLEAR LAKE PROJECT
LOCATION MAP

N.T.S.: 105 L	TECH:	DATE: MARCH 1991
SCALE: 1 : 1,000,000	DRAUGHTING:	FIGURE: 1

5.0 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 rolling upland between the Macmillan and Pelly Rivers with numerous small lakes and swampy basins contained by low hills. Topography is moderate with approximately 200 meters of relief. The highest point on 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. They 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 the burns.

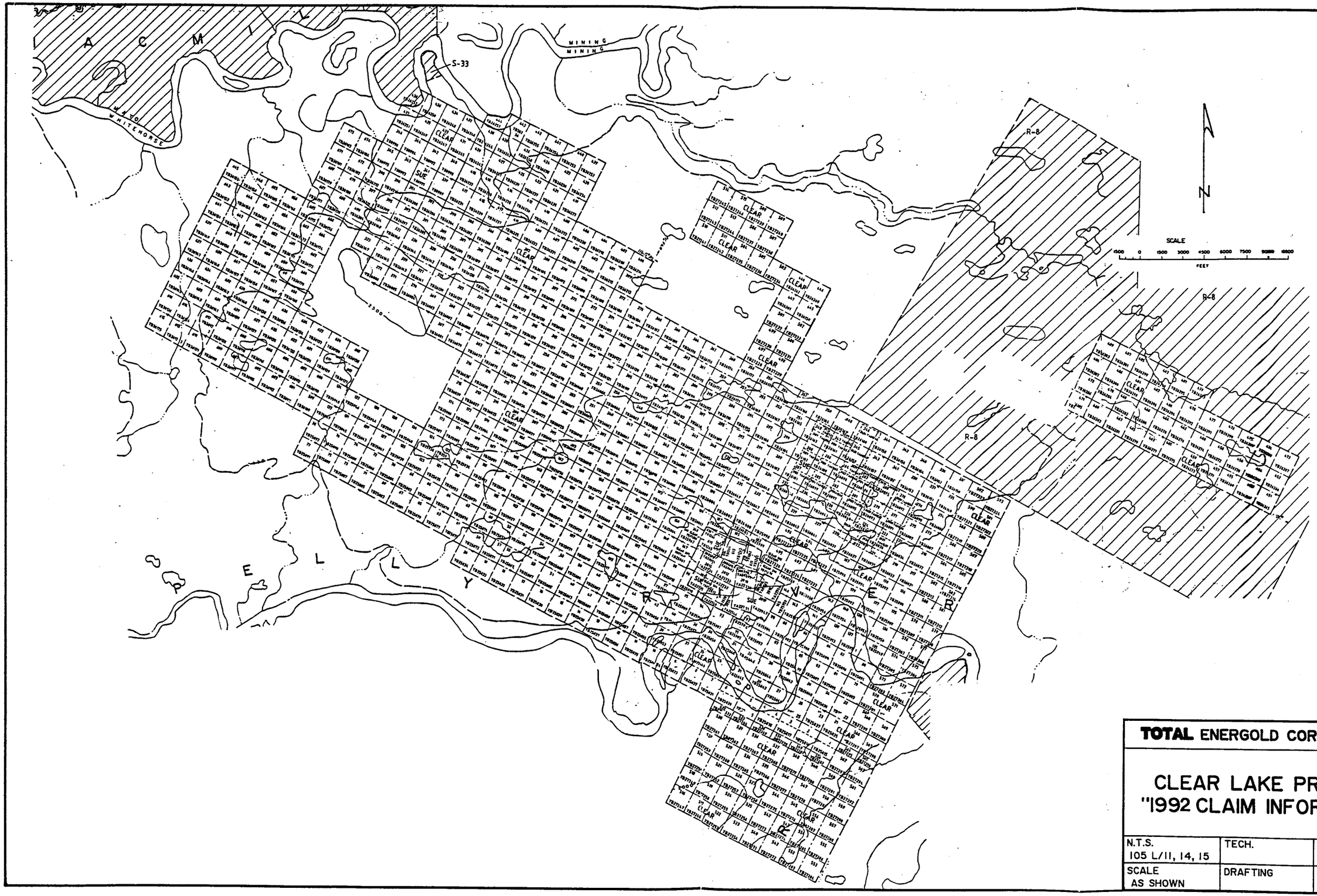
6.0 CLAIM STATUS

The property consists of 701 surveyed and unsurveyed mineral claims covering a total of 14,608 hectares, staked in accordance with the Yukon Quartz Mining Act (Figure 2). The claims are shown on D.I.A.N.D. Quartz and Placer Map sheets 105 L/11, 14, 15. Twenty-one claims covering the Clear Lake deposit have been surveyed. Claims data for the entire property are summarized in the table below.

CLEAR LAKE CLAIMS

Claim Name	Grant Number	Record Date	Expiry Date
SUE 611-616	Y81261-81266	11/09/74	01Dec2002*
SUE 635	Y81285	11/09/74	01Dec2002*
SUE 339-346	Y80989-80996	11/09/74	01Dec2000*
SUE 2010-2015	YA22730-22735	06/07/78	01Dec2002*
SUE 2018-2019	YA22946-22947	06/07/78	01Dec2002*
SUE 2026	YA22746	17/07/78	01Dec2002*
SUE 2028	YA22748	17/07/78	01Dec2002*
SUE 3003FR-3005FR	YA59692-59694	07/04/81	01Dec2002*
SUE 3040FR	YA61583	13/07/81	01Dec2002*
CLEAR 1-269	YB25815-26083	06/06/89	01Dec2000*
CLEAR 270-272	YB26084-26086	06/06/89	01Dec1999*
CLEAR 273-324	YB26087-26138	06/06/89	01Dec2000*
CLEAR 325-334	YB26139-26148	06/06/89	01Dec1999*
CLEAR 335-386	YB26149-26200	06/06/89	01Dec2000*
CLEAR 387-448	YB26201-26262	06/06/89	01Dec1999*
CLEAR 451-489	YB26265-26303	06/06/89	01Dec1995
CLEAR 490	YB26304	06/06/89	01Dec1999*
CLEAR 491-496	YB26222-27227	04/04/90	01Dec2000*
CLEAR 497-515	YB27228-27246	04/04/90	01Dec1999*
CLEAR 516-593	YB27247-27324	04/04/90	01Dec2000*
CLEAR 594-598	YB27376-27380	14/05/90	01Dec2000*
CLEAR 599-674	YB36109-36184	15/07/91	01Dec1996*

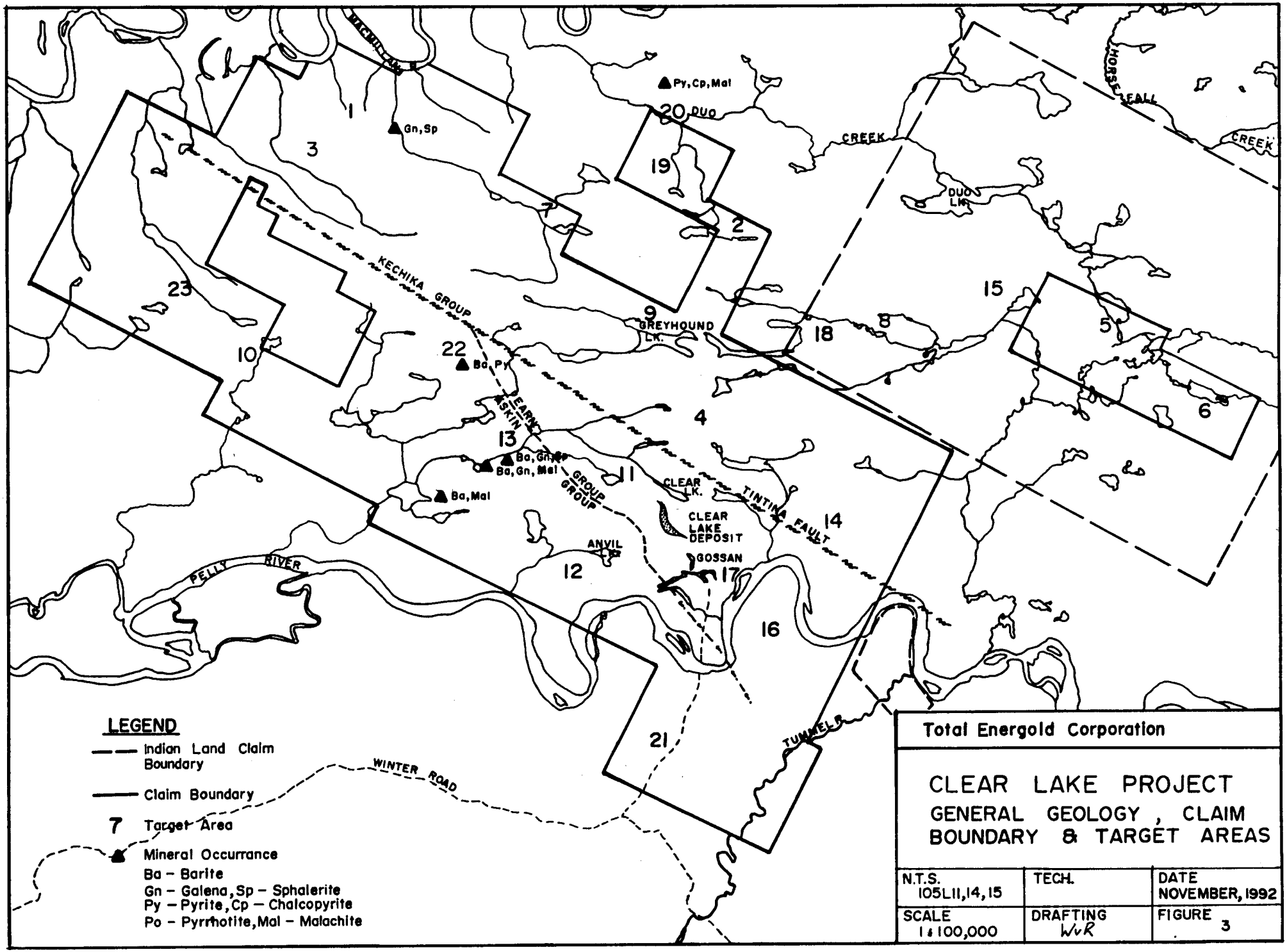
* Subject to approval of 1992 assessment work.



TOTAL ENERGOLD CORPORATION

CLEAR LAKE PROJECT "1992 CLAIM INFORMATION

N.T.S. 105 L/11, 14, 15	TECH.	DATE Nov 1992
SCALE AS SHOWN	DRAFTING	FIGURE 2



LEGEND

- Indian Land Claim Boundary
- Claim Boundary
- 7 Target Area
- Mineral Occurrance
  - Ba – Barite
  - Gn – Galena, Sp – Sphalerite
  - Py – Pyrite, Cp – Chalcopyrite
  - Po – Pyrrhotite, Mal – Malachite

Total Energold Corporation

CLEAR LAKE PROJECT
GENERAL GEOLOGY, CLAIM BOUNDARY & TARGET AREAS

N.T.S. 105L11,14,15	TECH.	DATE NOVEMBER, 1992
SCALE 1:100,000	DRAFTING WvR	FIGURE 3

7.0 GEOLOGY

7.1 REGIONAL GEOLOGY

Regional geological data is taken from the Glenlyon 1:250,000 map sheet (105L) which was first mapped by Campbell in 1967 (Campbell, R.B., 1967) and the 1977 revised 1:1,000,000 scale Macmillan River map sheet by Gabrielse. (Gabrielse et al., 1977).

The region comprises deep sea clastic sedimentary rocks of the Selwyn Basin, deformed intermediate to mafic volcanic rocks of the Anvil Allochthon, distinctive platformal rocks of the Cassiar Belt and local intrusive rocks. All are Paleozoic in age except the intrusive rocks which are Mesozoic. The Tintina Fault separates the Selwyn Basin and Anvil Allochthon in the northeast from the Cassiar Belt in the southwest.

Thrust sheets and parallel faults have complicated the geology, particularly in the Clear Lake area. The Anvil Allochthon was formed by westerly derived thrust sheets that were active during late Triassic to mid-Cretaceous. Recent interpretation of regional geology suggests that numerous major faults occur in the area (1991, Abbott, G., pers. comm.). Key tectonic elements and stratigraphy are shown below.

Tectonic Element	Group or Formation	Age	Deposits
Selwyn Basin			
Anvil Allochthon	Anvil Range	Miss-Triassic	Faro
	Earn	Devono-Miss	Clear Lk Tea, Cathy
	Road River	Ord.-Sil.	Howards Pass
	Rabbitkettle	Cambrio-Ord.	
Omineca Crystalline Belt			
Cassiar Belt	Askin (McDame-BC)	Sil.-Dev.	
	Kechika	Cambro-Ord.	

The geologic setting, deposit type, and host rocks (Earn Group) of the Clear Lake zone are similar to the Cirque deposit in northern British Columbia.

During the Pleistocene epoch two lobes of the Cordilleran ice sheet scoured a westerly glacial fabric across the region resulting in hundreds of drumlins, moraines and outwash deposits. Overburden in the Clear Lake area ranges from 1 to over 50 metres and outcrop exposure is poor.

7.2 PROPERTY GEOLOGY

The Clear Lake property is underlain by Kechika Group and Rabbit Kettle Formation in the north and Earn Group, Askin Group, and Road River Formation in the south. The Tintina Fault separates these two packages striking northwest across the middle of the property (Figure 5). Table 1 shows is a lithological legend for the property and detailed descriptions of the lithologies are found in the 1991 property report.

Property geology is shown on 1:20,000 scale (Figure 7) and 1:5,000 scale maps (Figures 12 & 13). Regional geologic cross-sections are shown in Figure 14.

TABLE 1: LITHOLOGY LEGEND

INTRUSIVE ROCKS

TERTIARY, MESOZOIC (?) OR MISSISSIPPIAN (?)

- K_2 — MAFIC INTRUSIVE ROCKS a) Gabbro, Diorite; b) Diabase
- K_1 — FELSITE

MISSISSIPPIAN AND/OR EARLIER

- DM_{CPC} — CHERT PEBBLE CONGLOMERATE locally heterolithic with Kechika group fragments.

EARN GROUP

MISSISSIPPIAN

- DM_B — BARITE
- DM_A — MASSIVE SULPHIDE
- DM_6 — MAFIC VOLCANIC FLOW ROCKS
- DM_5 — TUFF a) Lapilli; b) Ash
- DM_4 — CHERT dark grey, massive
- DM_3 — BRECCIA, CONGLOMERATE
- DM_2 — ARGILLITE/SHALE a) massive, carbonaceous; b) with minor sandstone, siltstone bands; c) with many sandstone siltstone bands; d) siliceous and/or silicified; e) calcareous with thin limestone interbeds; f) with thin light brown dolomitic bands.
- ? DM_1 — SANDSTONE a) massive; b) laminated
- DM_{LST} — LIMESTONE
- DM_{CHT} — CHERT Dark green to brown, banded

DEVONIAN

HAMMER HILL THRUST

ASKIN GROUP

DEVONIAN

- SD_4 — QUARTZITE
- SD_3 — DOLOSTONE locally replaced by chert
- SD_2 — ARGILLITE/SHALE locally dolomitic and micaceous
- SD_1 — AMYGDALOIDAL ANDESITE

SILURIAN

ROAD RIVER FORMATION

SILURIAN

- $0S$ — SHALE graptolitic

ORDOVICIAN

TINTINA FAULT

KECHIKA GROUP MENZIE CK FORMATION

ORDOVICIAN

- CO_{4c} — MAFIC VOLCANIC TUFF green, chloritic (formerly 6A1)
- CO_{4b} — VOLCANICS green, chloritic tuffs intercalated with variegated siltstones, mudstones and limestones. (formerly 6A2)
- CO_{4a} — SEDIMENTARY ROCKS variegated mudstone, siltstone, chert, limestone and greywacke.

VANGORDA FORMATION

- CO_{3c} — PHYLLITE calcareous interbedded with limestone and dolostone. Also chloritic (formerly 5D)
- CO_{3b} — MAFIC METAVOLCANIC ROCKS fine to medium grain chloritic tuffaceous rocks (formerly 5C)
- CO_{3a} — PHYLLITE calcareous, undifferentiated (formerly 5)

MT MYE FORMATION

- CO_{2e} — PHYLLITE chlorite ± sericite ± biotite, may contain calcareous laminae (formerly 3G).
- CO_{2d} — PHYLLITE graphitic (formerly 3E)
- CO_{2c} — PHYLLITE calcareous, graphitic (formerly 3E1)
- CO_{2b} — MAFIC METAVOLCANIC ROCKS chlorite rich tuffaceous rocks (formerly 3B)
- CO_{2a} — PHYLLITE undifferentiated

CAMBRIAN

RABBITKETTLE FORMATION

ORDOVICIAN

- CO_1 — ARENITE dolomitic, calcareous, with micaceous silty banded limestone and calc-silicate

CAMBRIAN

DESCRIPTIVE SUBSCRIPTS

ALTERATION:	ca	calcareous
	do	dolomitic
	si	silicified
	cy	clay altered
	cl	chloritic
	se	sericitic
	mc	micaceous
	gr	graphitic
	ep	epidote
	ch	chert replacement
DETRITUS:	pe	pebbly
	sa	sandy
	sl	silty
BEDDING:	ma	massive
	pl	plaver
	no	nodular
	wa	wavy
	xb	x-bedded
	la	laminated
ANGULARITY:	bx	brecciated
	cg	conglomeratic

7.3 MINERALIZATION & ALTERATION

7.3.1 Clear Lake Zone

The Clear Lake deposit is a shale-hosted stratiform deposit which contains approximately 30 million tons of sulphide (mostly pyrite). The deposit is approximately 1000 meters long and up to 120 meters thick dipping steeply to the north. Ore minerals are sphalerite and galena disseminated within the massive pyrite.

Lead-zinc mineralization occupies two stratigraphic horizons-- the massive sulphide-siliceous horizon and the tuff-barite horizon. In the massive sulphide-siliceous horizon, Zn-Pb mineralization which contain more than 5% combined Zn and Pb forms 5 to 10 meter thick lenses over 450 metres in length and extending 300 metres down dip. Where they are combined the lenses have up to 25 - 30 meter total thickness of Zn and Pb. Higher grade mineralization is located in areas where massive sulphides, siliceous shale and tuff are interfingered.

Ore reserves are dealt with in a separate report.

7.3.1.1 Alteration

Silicification and argillic alteration occur on both the hanging wall and footwall of the massive sulphides. Silicification extends up to 50 metres into argillite, chert and tuff. Width of massive sulphides and intensity or thickness of the siliceous units are not spatially related; as the deposit narrows at depth, the silicification on the hanging wall widens. Irregular stringers and masses of pyrite and siderite are common in the hanging wall. The matrix as well as clasts of tuff in the hanging wall is locally altered to a soft grey clayey material.

7.3.2 Other Areas

7.3.2.1 Area 12 (Hammer Hill - Anvil Lake)

Trench 92TR-11, located at POW L8+50 W, 11+40 S, exposed a fault zone with rusty yellow brown clay gouge within a laminated dolostone (SD2). The gouge assayed 1303 ppm Zn.

7.3.2.2 Area 13 (Honobono Lake)

Mineralization consists of half a dozen barite veins and vein networks hosted in Askin Group rocks in the vicinity of Clyde Lake, mainly in unit SD3. The veins and vein networks are characteristically coarse-crystalline tabular barite with local sphalerite, galena and malachite staining (avg. 2% sulphides). They range from 0.01 to 1.00 metre in thickness (avg. 0.64 m) and are discordant with stratigraphy. Five rock chip samples taken in 1990 averaged: 4822 ppm Zn, 4098 ppm Pb, 181 ppm Cu, 4.2 ppm Ag, and 8860 Ba over 0.64 metres. The highest results were in sample taken near the southeast edge of Clyde Lake (Figure 15).

The foliation of the rock packages near the Tintina Fault parallels the fault, striking northwest as observed in the folded stratigraphy at Area 12. At Area 13 where partly unroofed intrusions have uplifted strata into gentle folds with plunging northeast axes.

It is postulated that subsequent brittle fracturing of overlying Askin Group rocks coupled with the injection of hydrothermal fluids from the intrusive "heat pump" have formed the Zn-Pb barite veins and networks at Area 13. The intrusive has remobilized Earn Group distal barite (DMB) into Askin Group rocks during or shortly after the Cretaceous.

7.3.2.3 Area 22 (Fossil Hill)

Area 22 (Fossil Hill) is located approximately 5 kilometers northwest of the Clear Lake deposit underlain by Askin Group stratigraphy very close to the Askin-Earn Group contact.

The area is highly fractured with two predominant fracture sets, a northeast-southwest set and a northwest-southeast set. Intermediate and felsite dykes which contain 2,500 ppm barium, 3% disseminated pyrite and are weakly magnetic cut beddings. Numerous barite veins up to 1 meter wide contain up to 6668 ppm Zn.

7.3.2.4 Area 23 (Toofar Lake)

Area 23 (Toofar Lake) is located approximately 10 kilometres northwest of Clear Lake on claims staked in 1991. No significant mineralization was discovered, however, more Earn Group rocks were found.

Prospecting north of Toofar Lake along reconnaissance soil geochemistry lines in 1991, revealed small outcrops (less than 10 metres long) of Earn Group chert pebble conglomerate (DMCPC). The conglomerates are light to medium grey with coarse to pebble size sub-rounded chert fragments in a compact sandy quartz matrix. Outcrops of granodiorite occur 150 metres north of Toofar Lake.

Additional reconnaissance soil sampling in 1992 returned low base metal and mercury values and no significant new outcrops. The overburden in this area is believed to be thicker than in the area of the Clear Lake deposit.

7.4 ORE GENESIS

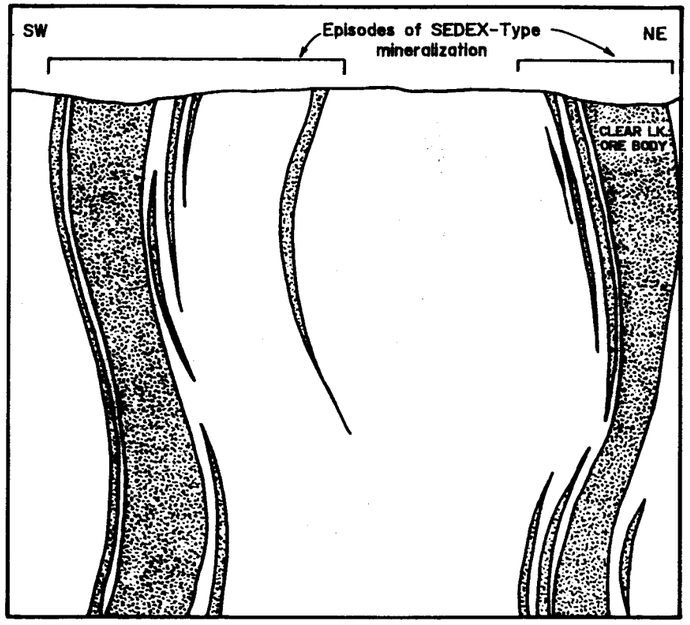
7.4.1 Clear Lake Zone

The Clear Lake Deposit is thought to be formed from exhaletive Devono-Mississipian metalfiferous brines not unlike seafloor black smokers found off the west coast of North America.

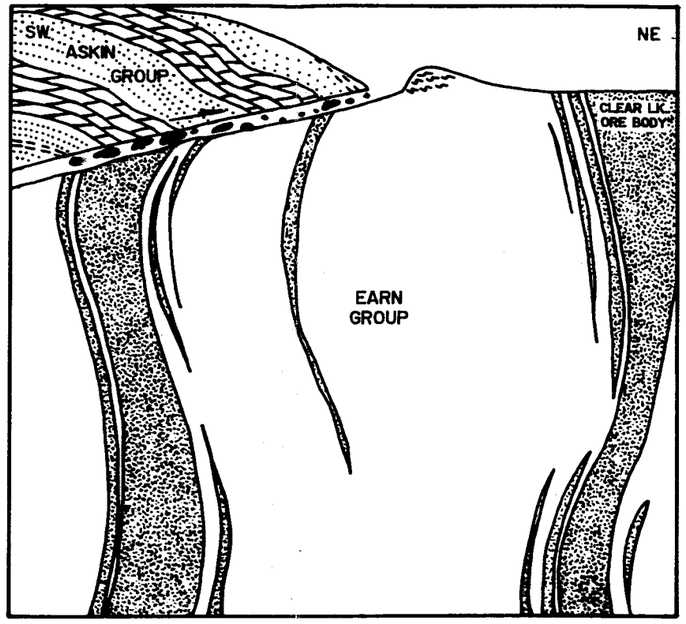
Mineralized magmatic fluids leached metaliferous ions from underlying shales and tuffs before leaving black smoker vents at temperatures between 150 to 300o C. The presence of wurtzite, a hexagonal dimorphous mineral of sphalerite, and colloform pyrite, support this temperature range. Metaliferous ions were transported along fractures and fault planes as chloride complexes in acid solutions. Fluid pressures created local stockworks by hydraulic brecciation just below the seafloor surface.

7.4.2 Hammer Hill

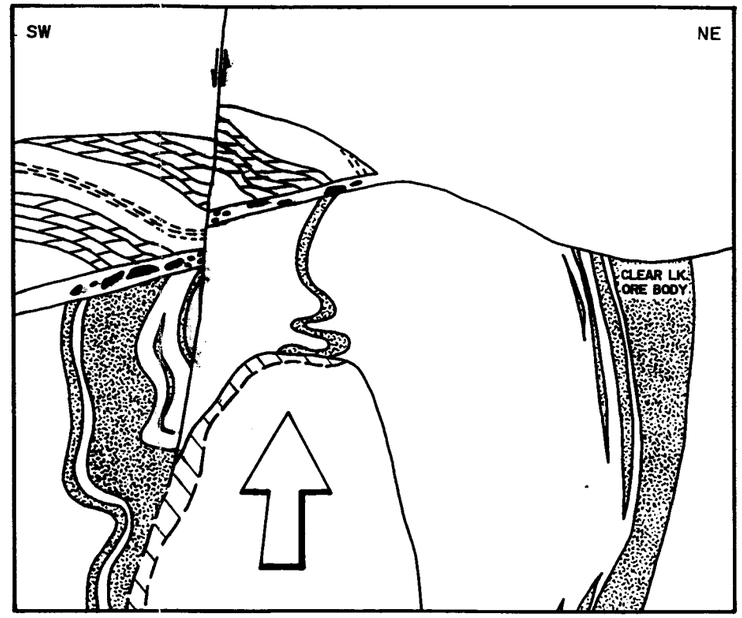
The Hg-Pb-Zn-Ba mineralization located within Askin Group dolostones on Hammer Hill may be indicating a sedex massive sulphide lens within underlying Earn Group argillites (Figure 10). Mineralization in the dolostone is interpreted as "leakage" which occurred after crustal extension reactivated fractures and fault planes remobilizing zinc and lead underlying from Earn Group rocks.



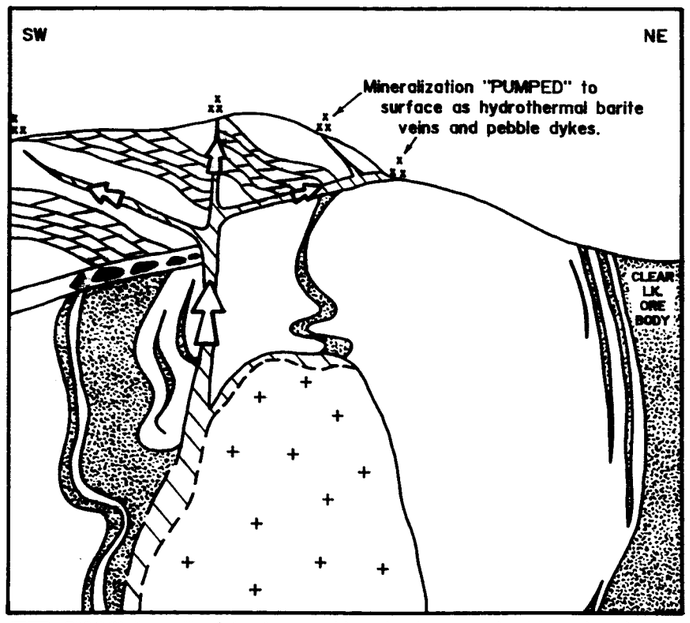
I EARN GP : near vertical strata composed of possibly one or more episodes of SEDEX lenses within the deep sea marine argillites.



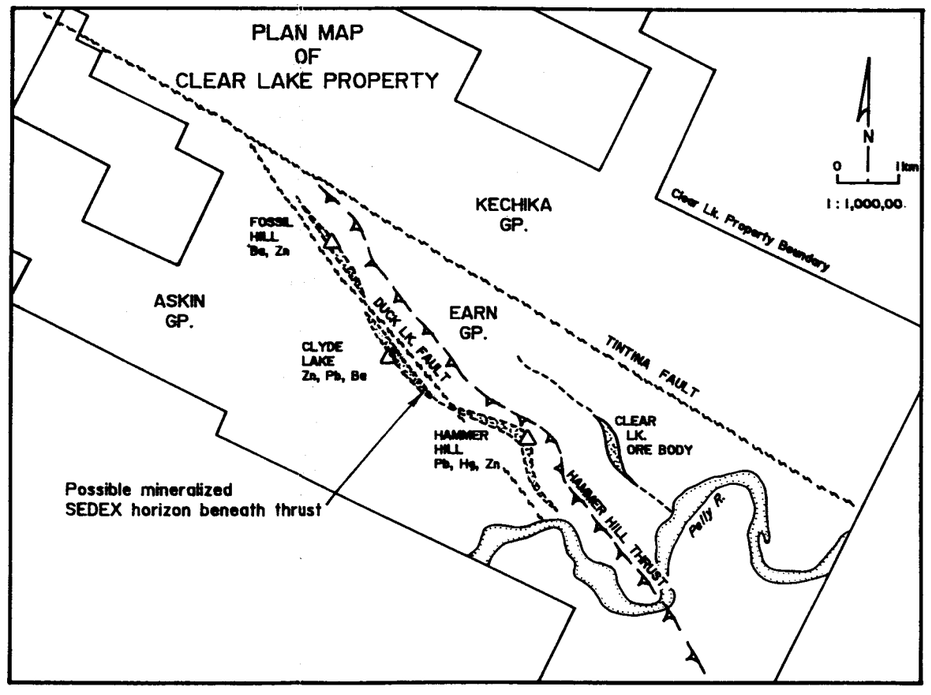
II HAMMER HILL THRUST EVENT : competant platform Askin Group rocks are thrusted over Earn Group rocks smearing mineralization along the brecciated contact.



III DUCK LAKE FAULT EVENT : intermediate to Mafic rocks intrude Earn Gp. rocks dislocating Askin Gp. rocks along Duck Lake Fault. The intrusive crosscuts SEDEX lens.



IV DYKES from the intrusive provide a heat source to drive mineralization to the surface along thrust and fault conduits.



PLAN MAP : shows the possibility of a second SEDEX lens beneath the Askin Group giving rise to mineralization at HAMMER HILL, CLYDE LAKE , and FOSSIL HILL.

TOTAL ENERGOLD CORP.

CLEAR LAKE PROJECT

HAMMER HILL
CONCEPTUAL ORE GENISIS MODEL

N.T.S.: 105 L/14	TECH.: R. ZURAN	DATE: OCT. 1992
SCALE:	DRAFTING: R. ZURAN	FIGURE: 10

8.0 1992 EXPLORATION PROGRAM

8.1 PHYSICAL WORK

Physical work on the Clear Lake property consisted of mobilization, road construction (21 km), linecutting (52.2 km), line picketing (52.2 km), and trenching (300 meters)(Figure 6).

8.1.1 Mobilization

Mobilization for the drill program took place between May 19th and May 27th using a Cessna 206 and 207. A total of 600 gallons (2,800 liters) gasoline, 4,500 gallons (20,500 liters) diesel, 700 bags of drill mud, 115 drill rods, 460 core boxes, lumber, oil and miscellaneous supplies were flown from Pelly Crossing to Clear Lake in 87 trips for a total of 9,000 pounds.

8.1.2 Line Cutting and Road Construction

A total of 52.2 kilometres of line and 21 kilometres of road were cut using a D6 Caterpillar bulldozer. Lines and roads were cut by bulldozer in early spring when the ground was frozen so topsoil could be left in place. Portions of lines on steep hills were cut by hand to eliminate potential erosion.

8.1.3 Trenching

Six 4 meter wide and 3 meter deep trenches were excavated using a D6 bulldozer. The trenches are located between Hammer Hill and Anvil Lake (Figure 12). Sample results from the trenching are found in this report under Section 8.4 (Geochemistry).

8.1.4 Diamond Drilling

The 1992 drill program was directed towards expanding ore reserves in the vicinity and on the extensions to the west and east of the Clear Lake deposit. 3100.1 metres of NQ and BQ wireline drilling was completed in 10 holes (Figure 4) between June 15th and August 20th.

The contractor, Kluane Drilling Ltd. of Whitehorse, supplied 4 drillers, a catskinner, a Longyear "Super 38" drill, and a D6 bulldozer.

A total of 25 core samples were assayed for zinc, lead and silver by Northern Analytical Laboratories Ltd. of Whitehorse.

All diamond drill hole collars were surveyed with a theodolite and EDM. Survey results are recorded on the diamand drill logs.

8.2 GEOLOGIC MAPPING

8.2.1 Introduction

In 1992 the following areas were mapped with reference to the Pow Grid: 2.4 sq. km. between lines 18+50W and 46+00W north of Dumbo Lake; 0.5 sq. km between lines 50+00W and 58+00W on Fossil Hill; and 0.5 sq. km east of Schnozel Lake extending from the lake to line 12+50W. At Hammer Hill drilling and trenching also improved geological knowledge of the area (Figures 6, 12, & 13).

8.2.2 North of Dumbo Lake

The area, which has less than 1% outcrop, is underlain by argillite (DM2), sandstone (DM1), chert (DMCHT), and limestone (DMLST) belonging to Earn Group; Mt. Mye (CO2) and Menzie Ck. Formations (CO4) belonging to the Kechika Group; and felsic to intermediate intrusive rocks (K).

Based on drill data, Earn Group argillite and sandstone strike northwest with near vertical dips. They are intruded locally by felsite and quartz-monzonite. Chert and limestone outcrops along the Tintina Fault show tightly folded isoclinal folds preserved in chert.

Kechika Group rocks are juxtaposed in outcrops 10 meters apart with Earn Group limestones along the Tintina Fault, 50 metres west of L38+00W. Both are deformed, brecciated and have an east trending foliation. A diorite intrusion outcrops 500m east of Kechika Group outcrops.

8.2.3 Fossil Hill

Fossil Hill (Area 22) is underlain by quartzite (SD4) and dolostone (SD3) of the Askin Group. The dolostone contains branching bryozoa and a 10 cm thick brachiopod (Atrypa) bed.

Fossil Hill is bordered by Hammer Hill Thrust to the north, the Duck Lake Fault to the west, and a possible northeast-southwest fault interpreted from an airphoto lineament in the southeast. The area is highly fractured with two predominant fracture sets, a northeast-southwest set and a northwest-southeast set. Three intermediate dykes, exposed over a 240 meter length, strike north-south across Fossil Hill. Smaller intermediate dykes, felsite dykes and barite veins are also exposed on Fossil Hill.

8.2.4 East of Schnozel Lake

The area is underlain by Askin Group dolostone (SD3), shaly dolostone (SD2), both of which locally contain crinoid skeletal matter, and quartzite (SD4) intruded by a mafic dyke (K2a).

Askin Group rocks strike east moderately dip to the north. Two structures cut stratigraphy; a north-south shear and the Duck Lake Fault. Calcite veins up to 50 cm wide occur 100 metres west of L12+50W within the north-south shear. The Duck Lake Fault trends north-northwest through the mapped area southeast of Schnozel Lake. Three hundred metres east of the Duck Lake fault is a 10 metre wide monzodiorite dyke trending north-northwest.

8.2.5 Hammer Hill

The Earn-Askin contact was located in drill core (DDH 92-76) on the north side of Hammer Hill. Askin Group dolostones and quartzites have been thrust on to younger Earn Group argillite by the Hammer Hill Thrust. Reverse faults postdate the thrust faults.

Three trenches, 92TR-9, 92TR-10, and 92TR-11, on the south side of Hammer Hill, exposed Askin Group lithologies. Trench 92TR-9 exposed east-southeast striking calcareous dolostone dipping moderately north. Trench 92TR-10 exposed massive dolostone and quartzite. Trench 92TR-11 exposed southwest and east-northeast striking graphitic zones intense shearing cross cutting shaly dolostone, dolostone and quartzite.

8.3 GEOPHYSICS

8.3.1 Introduction

The geophysical program included 33.5 km of gravity, 38.7 km of IP/Resistivity and 26.8 km of PLMT contracted to Peter E. Walcott & Associates Ltd. Reports by P.E. Walcott & Associates Ltd. on gravity and IP/Resistivity are located in Appendix B and C.

The Gravity and IP/Resistivity signatures of the Clear Lake deposit obtained in the 1991 orientation survey were used as a comparison in defining similar targets in the general area.

8.3.2 Gravity

Gravity was carried out on POW Area 11 west grid, lines L18+50W, L21+50W, & L27+70W to L62+00W, and POW Area 3 grid, lines L100+50W to L112+50W. Readings of relative gravity were taken every 25 metres. Elevations at each of the gravity stations were obtained with a theodolite and rod using the stadia method. A density of 2.7 gm/cc, water depth where applicable, and latitude were used to apply corrections to the observed gravity.

The survey was carried out by Peter E. Walcott & Associates Ltd. Text, maps and profiles in Appendix B were supplied by P.E. Walcott.

The purpose of the 1992 gravity survey was to look for excess mass(es) that could be indicative of sulphide mineralization extending from the Clear Lake deposit to the west and to test for new zones on the Area 3 grid.

8.3.2.1 Grid Area 11

Gravity on POW L21+50W (Map W-493-5, Appendix B) was to confirm a gravity high located in a previous survey by Getty Mines Limited. A distinct anomaly of approximately 0.5 mgal with a peak at 500N was located. Diamond drill hole 92-67 was drilled to test this gravity high and a coincident IP/resistivity anomaly located in the 1991 survey. No massive sulphide mineralization was found. Drilling indicates that the gravity anomaly is at the edge of a shear zone and may reflect two felsite dykes and a topographic high formed beside the recessively weathering shear zone.

8.3.2.2 Grid Area 11 West

Gravity on the POW Area 11 West Grid indicates a 1.6 mgal anomaly north of Dumbo Lake from 12+50 N to 16+50 N on lines 27+70W, 30+00W, 32+00W, and 34+00W. The anomaly is broad with no distinct peak. It appears to close to the east and west but extends off the grid to the north.

8.3.2.3 Grid Area 3

A broad gravity anomaly with an approximate magnitude of 1.6 mgal opens to the east where it is 600 meters wide (from 30+00 to 37+00N) on line 100+50W. No distinct peak is seen on lines 100+50 W, 103+50 W and 106+50 W where the anomaly is widest. The anomaly narrows to the west to a peak on line 109+50 W at 33+00 N.

The gravity high appears to represent a diorite intrusion or massive greenstone.

8.3.3 Induced Polarization/Resistivity

The survey was carried out over the POW West, POW Area 1 and POW Area 11 West Grids. Readings of apparent resistivity and chargeability were made every 25 meters along the lines using the pole-dipole method of surveying with a 25 meter dipole.

No significant IP anomalies were found with the 1992 survey response. A spot resistivity anomaly is located on L62+00 W at 13+00 N. These results can be in part attributed to permafrost especially on flat lying north facing slopes found in Area 1. It is likely that surveying would be more effective in late fall when more melting may have occurred.

Gradient array surveying was undertaken on portions of Lines 250 W, 450 W 550 W 650 W 850 W & 2150 W. A resistivity low is coincident with massive sulphides at 1+75 N on L 250 W but is dificult to trace to the west.

Line 0+00 on the Pin grid was also read with the pole-dipole array for comparison to 1991 gradient data.

8.3.4 Power Line Magneto-Telluric (PLMT)

PLMT is a newly developed magneto-telluric method to define resistivity patterns at depths of up to several hundred meters. The method uses the electro-magnetic fields generated by commercial power lines (Figures 15 & 16).

It was attempted to use Yukon Energy's power line between Whitehorse and Faro as the signal source, but it was found to produce too weak a signal. A 1,200 meter line powered by a 240 volt 5,000 watt generator was then set up along Line 21+50 W.

8.3.4.1 Area 1 West

Relatively low resistivity of less than 100 ohm meters was detected over most of the area surveyed. Exceptionally low resistivity (less than 20 ohm meters) belts trending WNW-ESE were detected in the north coincident with a high gravity anomaly. These low resistivity belts are interpreted to be coincident with graphite-rich calcareous phyllite.

8.3.4.2 Area 3

Low resistivity belts (less than 100 ohm meters) trend east-west across the grid. These are not coincident with gravity highs but appear to coincide with graphite-rich lithologies.

A high resistivity area with values greater than 1,000 ohm meters is located in the central part of the grid. It may represent intrusive or volcanic rocks.

8.3.4.3 Area 4

Two east-west trending zones with less than 100 ohm meters were located in the northern half and southwest corner of the grid. These have no coincident gravity highs and may reflect graphitic lithology.

A large high resistivity area with values greater than 1,000 ohm meters appears in the middle of the area. It is coincident with a gravity high. The anomalies may reflect an intrusion resistant to weathering.

8.4 GEOCHEMISTRY

8.4.1 Introduction

A total of 539 soil and 16 rock chip samples were taken on the Clear Lake property in 1992. Samples were analysed for zinc, lead, copper, silver, mercury, and select samples for barium. Appendix D presents analytical procedures and results.

Soil samples were taken with a hand auger which could reach a maximum depth of 2.0 metres with an extension. A Pionjar with a Holman sampler was used in select terrain to penetrate up to 5.8 metres of deep overburden on the Pow Grid. Sampled areas include parts of the Pow, Pin, and Snafu grids (Figures 19-25), Area 14 (Figure 28), and Area 23 (Figures 18, 26, 27).

The following table shows thresholds for elements analysed.

TABLE 2: Anomalous Geochemical Results

Element (ppm)	Possibly Anomalous	Probably Anomalous	Highly Anomalous
Zn	120-150	150-240	>240
Pb	30-50	50-80	>80
Cu	40-60	60-70	>70
Ag	0.5-0.8	0.8-1.1	>1.1
Ba	1800-2250	2250-2700	>2700
Hg	0.130-0.230	0.230-0.670	>0.670

The data was contoured with results from 1991 except for mercury which was first analysed in 1992. Only 1992 results are discussed.

8.4.1.1 Orientation Soil Geochemistry Survey

A soil geochemical orientation study was done over the Clear Lake deposit on lines: Pin L0+00, Snafu L2+00S, and Pow 2+50W (Figure 17). It was found that very anomalous values of mercury (5.199 ppm) and lead (1475ppm) were coincident with zinc mineralization while zinc values were much more widely dispensed relative known massive sulphide occurrences. (Figure 17).

TOTAL ENERGOLD CORP.

ORIENTATION
SOIL GEOCHEMISTRY,
CLEAR LAKE DEPOSIT

DATE : OCTOBER 1992	FIGURE : 17
N.T.S. : 105 L/14	SCALE 1 : 2000

A. GOMI

8.4.2 Pow Grid

A total of 351 samples were taken on select parts of Pow Grid between lines 16+50E and 54+00W. These samples include: 305 auger soil samples on select lines between L16+50E and L34+00W; 22 soil samples and 6 rock chip samples in 4 trenches; 10 rock chip samples at outcrops; and 3 soil and 5 rock chip Pionjar samples. In addition, 83 pH measurements were made on the grid.

The highest auger soil result was 535 ppm Pb, 4487 ppb Hg, and 2.3 ppm Ag at (L 3+50W, 2+00S). Grid auger soil anomalies in 1992 confirmed a lead-zinc anomaly on lines 6+50W, 7+50W and 8+50W (north slope of Hammer Hill) with highs of 199 ppm Pb and 245 ppm Zn. Mercury on Hammer Hill reached a high of 864 ppb at (L7+50, 4+50S). Other anomalous results on the Pow Grid included: a spot high of 1720 ppm Zn at (L5+50E, TL4+50S)

Trenches 92TR-4, 92TR-5, 92TR-7, and 92TR-11 were dug to 3.2, 5.0, 4.0, and 2.9 metres deep, respectively. Results are tabulated below.

TABLE 3: Geochemistry Results of Trenches

Trench	Location (Pow Grid)	Number of Samples Taken	Avg. Value (ppm) Zn,Pb,Cu,Ag,Hg
92TR-4	L7+50W 475mS-515mS	6	234,189,49,0.6,1.35
92TR-5	L6+50W 460mS-490mS	9	212,53,56,0.4,0.410
92TR-7	L7+50W 265mS-295mS	7	115,18,55,0.4,0.279
*92TR-11	L8+50W 1130mS-1155mS	6	390,36,23,0.5,0.032

* Rock chip results (all others are from soils)

Rock chip samples from surface outcrops were taken from 2 areas: Fossil Hill (L50+00W-L54+00W); and between Schnozel Lake and L12+50W. High values of 6668 ppm Zn and 381 ppb Hg were recorded in barite veins at Fossil Hill. A plagioclase porphyry dyke also assayed 2500 ppm Ba on Fossil Hill.

Pionjar samples were taken on lines 7+50W, 10+50E, and 13+50E. Highs of 3732 ppb Hg and 516 ppm Pb were from a sample at 5.0 metres depth Hammer Hill (L7+50W, 5+00S). High values of 357 ppm Zn and 1.1 ppm Ag were from samples taken at a depth of 3.0 metres at L13+50, 5+25S.

Water pH measurements defined an acidic 10 metre segment along Rusty Creek of 4.9 pH at (L14+50W, 7+00N). The average reading 100 metres upstream and 100 metres downstream from this segment was 7.2 pH.

8.4.3 Pin Grid

A total of 46 soil samples at 25 and 50 metre intervals were taken on lines 0+00, 1+00N and 2+00N. The lines cross over the Clear Lake ore deposit. Only one anomalous spot high mercury value of 565 ppb was recorded at (L0+00, 2+50W).

8.4.4 Snafu Grid

A total of 26 soil samples at 50 metre intervals were taken on lines 2+00S and 4+00S. The soil lines were part of an orientation survey over the ore deposit.

A high lead-mercury anomaly of up to 3733 ppm Pb, 5.199 ppb Hg typifies the geochemical signature over the Clear Lake deposit. The mercury anomaly corresponds very closely to the underlying orebody.

Other anomalous values of up to 2518 ppm Zn, 100 ppm Cu are displaced from the ore body. A high of 2.7 ppm Ag represents a local value over the ore body.

8.4.5 Area 14

A total of 8 soil samples at 50 metre intervals were taken along a flagged north oriented line located 400 metres northeast of the Pelly River. None of the samples gave anomalous results. (Appendix G)

8.4.6 Area 23

A total of 124 soil samples were taken at 50 metre intervals along seven flagged south-southwest trending reconnaissance lines averaging 700 metres in length to increase the soil sampling coverage in Area 23. Twenty pH measurements in streams and lakes were also taken where water was encountered.

9.0 EXPLORATION TARGETS

The 1992 exploration program did not extend the Clear Lake Zone. Nonetheless, it remains open at depth, to the east at depth and appears to be pinching out to the west. The concept of stacked lenses has not yet been fully tested. Gravity, soil sampling and diamond drilling indicate additional targets elsewhere on the property.

A description of the recommended target areas in order of their priority follows.

9.1 CLEAR LAKE ZONE

9.1.1 Clear Lake Deposit

The Clear Lake deposit is found within Earn Group stratigraphy with coincident gravity, IP/resistivity and geochemical anomalies. It is buried beneath an average of 14 meters of glacial till.

Diamond drilling of 14,098 meters in 51 holes between 1978 and 1991 has defined the deposit well but there remains the potential for locating mineralization at depth.

A deep hole of 650 to 700 meters dipping 70 degrees south is proposed to be drilled on Section 390 N to intersect the depth extension of the Clear Lake zone 550 meters below surface at the 150 meter level.

9.1.2 West of Clear Lake

Further work is recommended immediately west of the Clear Lake deposit in the structural footwall (stratigraphic hanging wall). Hole 92-71 drilled to test for a footwall lens of massive sulphides intersected a graphitic shear zone 100 meters beneath an IP/restivitiy anomaly as well as two pyritic lenses near the beginning of the hole. Zinc bearing massive sulphides may occur between the known deposit and the Askin Group contact to the west. Gravity and Hg soil sampling should be carried out in the area to develop additional potential drill targets.

9.1.3 Area 17

The southeast end of the Clear Lake zone was tested with holes 92-72 and 92-73 in 1992. Hole 92-73 indicated that the zone has been faulted by a NNE trending fault. Drilling is required to test for an extension of the deposit in the down-faulted block to the east.

Deeper drilling should be done in Area 17 east of hole 92-73 because the argillite (2a $ 2b) with thin-bedded pyritic layers intersected in holes 81-30 and 92-74 could represent the very top of an orebody.

9.2 EARN / ASKIN GROUP CONTACT

9.2.1 Hammer Hill (Area 12)

A Hg-Zn-Pb anomaly on the north face of Hammer Hill occurs where older Askin Group dolostones have been thrust over Earn Group. Reverse faulting with steep dips adds complexity to the area. Above the thrust, Askin Group dolostones are brecciated and cut by a barite vein stockwork with minor disseminated sphalerite.

The dolostone breccia should be drilled below the mineralized intersection located in Hole 92-76.

9.2.2 Fossil Hill

Soil sampling, trenching and, depending on results, diamond drilling is recommended to test mineralization in up to 1 meter wide barite beins which contain 6668 ppm Zn in this area.

9.3 KECHIKA GROUP AREAS

9.3.1 Area 4

Numerous gravity and EM anomalies warrant further investigation. Old grid lines should be re-established prior to taking soil sample collection at 50 meter intervals. Seismic surveys over the gravity anomalies is recommended to determine whether they indicate bedrock topography or a feature of the bedrock itself such as a massive sulphide zone or a higher density unit.

9.3.2 Area 3

A broad gravity anomaly located in Area 3 should be tested using seismic survey to determine if the anomaly has a bedrock source or not. In addition, the two eastern lines of the Area 3 grid should be surveyed with IP/resistivity to determine if there are coincident IP and gravity anomalies.

9.3.3 Area 5 & 6

A number of low magnitude (0.2-0.7 mgal) anomalies require follow-up with seismic surveys to determine if they reflect a bedrock source or merely bedrock topography.

9.4 AREA 16

The Earn Group - Road River Group contact projected to pass through Area 16 has a coincident gravity -HL EM anomaly which may indicate the presence of massive sulphides. Seismic, gravity and IP/resistivity surveys are recommended to delineate a target for drilling.

9.5 AREA 23

The stratigraphy underlying Area 23 is not known because there is very little outcrop in the area but two outcrops of chert pebble conglomerate thought to belong to the Earn Group have been located. Anomalous Pb-Zn values in the area are present in lake bottom sediments. Soil sampling in 1992 failed to confirm the presence of anomalous Pb-Zn or Hg values.

Gravity surveys should be conducted in the area and if any significant anomalies are found, they should be evaluated with seismic surveys to determine their source. Drilling of any high priority anomalies in this area will also help to confirm the presence of Earn Group stratigraphy.

10.0 REFERENCES

Basnett, R., Zuran, R.J., March 9-September 7, 1991: Geological, Physical, Geophysical, Geochemical, and Diamond Drilling Assessment Report on the Clear Lake Property; 52p.

Basnett, R., May 25-June 5, 1990: Geochemical and Geological Assessment Report on the Clear Lake Property; 32p.

Basnett, R., July 5-19, October 2-8, 1990: Geochemical and Geological Assessment Report on the Clear Lake Property; 45p.

Campbell, R.B., 1967: Geology of Glenlyon Map-Area, Yukon Territory (105 L); Geological Survey fo Canada, Memoir 52.

Gabrielse, H., Templeman-Kluit, D.J., Blusson, S.L., and Campbell, R.B., 1980: Macmillan River Map 1398A; Geological. Survey of Canada.

Grapes, K.J., 1987, Lithological and Textural Study of the Clear Lake Fe-Zn-Pb-Ag-Ba Massive Sulphide Deposit, Yukon Territory, Canada; Unpublished M.Sc. thesis; Carleton University; 331p.

11.0 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 17 years.

3. I directly supervised the work in this report as Yukon Exploration Manager for Total Energold Corporation.

Date: [illegible]



Richard Basnett, B.Sc., P. Geo.

STATEMENT OF QUALIFICATIONS

I, RICK ZURAN hereby certify that:

1. I am a graduate of the University of British Columbia, having obtained a B.Sc. in Geology in 1987.

2. I have been engaged in mineral exploration since 1977 for base metals, uranium, and gold in Northwest Territories, Saskatchewan, Labrador, British Columbia and Yukon Territory.

3. I was employed by Total Energold Corporation as "Geologist" at the Clear Lake Project and participated in writing this report

Date:_____

Rick J. Zuran, B.Sc.

12.0 STATEMENT OF COSTS

Field work in 1992 was carried out on the Clear Lake property between March 1st and August 29th, 1992.

1.	**Physical Work**	
	A. Road Construction (March 6th to April 28th)	$12,400
	B. Line Cutting (52.2 km, March 6th to June 1st)	39,250
	C. Trenching (5 trenches, July 21st to 25th)	3,800
	D. Diamond Drilling (3,100.1 m @ $92.37/m) (June 15th to August 20th)	286,350
2.	**Geological, Geophysical, and Geochemical**	
	A. Fieldwork	
	R. Basnett, B.Sc.,P. Geo, of Whitehorse, Yukon. 54 days @ $400 per day	21,600
	A. Gomi, B.Sc., of Richmond, B.C. 94 days @ $350 per day	32,900
	M. Machida, M.Sc., of Richmond, B.C. 99 days @ $350 per day	34,650
	R. Zuran, B.Sc., of Whitehorse, Yukon 121 days @ $350 per day	42,350
	J. vanRanden, B.Sc., of Whitehorse, Yukon 80 days @ $300 per day	28,000
	W. vanRanden, B.C.I.T. Tech., of Whitehorse, Yukon. 82 days @ $300 per day	24,600
	K. McGinty, of Pelly Crossing. 23 days @ $175 per day	4,025
	B. Analytical Analyses	
	552 geochemical samples (21.5 km) (Area 23, 7.2km)	6,400
	25 core samples	300

C. Geophysical Surveys	
Gravity (33.5km @ $860.1/km)	28,800
IP/resistivity (38.7km @ $860.1/km)	33,300
PLMT (26.8 km @ $160/km)	4,300
D. Support Costs	
Camp Accomodation and Board	27,900
Fuel	1,500
Cook (149 days @ 135/d)	20,100
Radio Telephone & Couriers	12,500
Field Supplies	16,400
Aircraft Charter	74,800
Mobilization	25,350
Vehicles	22,550
Equipment Rental	11,100
Stationary, Maps and Supplies	7,400
E. Research and Report Preparation	
R. Basnett, P. Geo., 14 days @ $400/day	5,600
A. Gomi, B. Sc., 14 days @ $350/day	4,900
M. Machida, M. Sc., 14 days @ $350/day	4,900
R. Zuran, B. Sc., 14 days @ $350/day	4,900
Drafting and Publication	15,500
Total 1992 Assessment Work Credits	$858,425

L23+50W L21+50W L19+50W L18+50W L17+50W L16+50W L15+50W L14+50W L13+50W L12+50W L11+50W L10+50W L9+50W L8+50W L7+50W L6+50W L5+50W L4+50W L3+50W L2+50W

L7+00N L6+00N L4+00N L3+00N L2+00N L1+00N 0+00

L4+50E L5+50E L6+50E L7+50E L8+50E L9+50E L10+50E L11+50E L12+50E L13+50E L14+50E L15+50E L16+50E

92-67 92-68 92-69 92-70 92-71 92-72 92-73 92-74 92-75 92-76

CLEAR LAKE

BASIL LAKE

SCUMBAG LAKE

ANVIL LAKE

AIRSTRIP

CAMP

CLEAR

CLEAR

CLEAR

CLEAR

SUE

SUE

6 962 000N

6 961 000N

491 000E

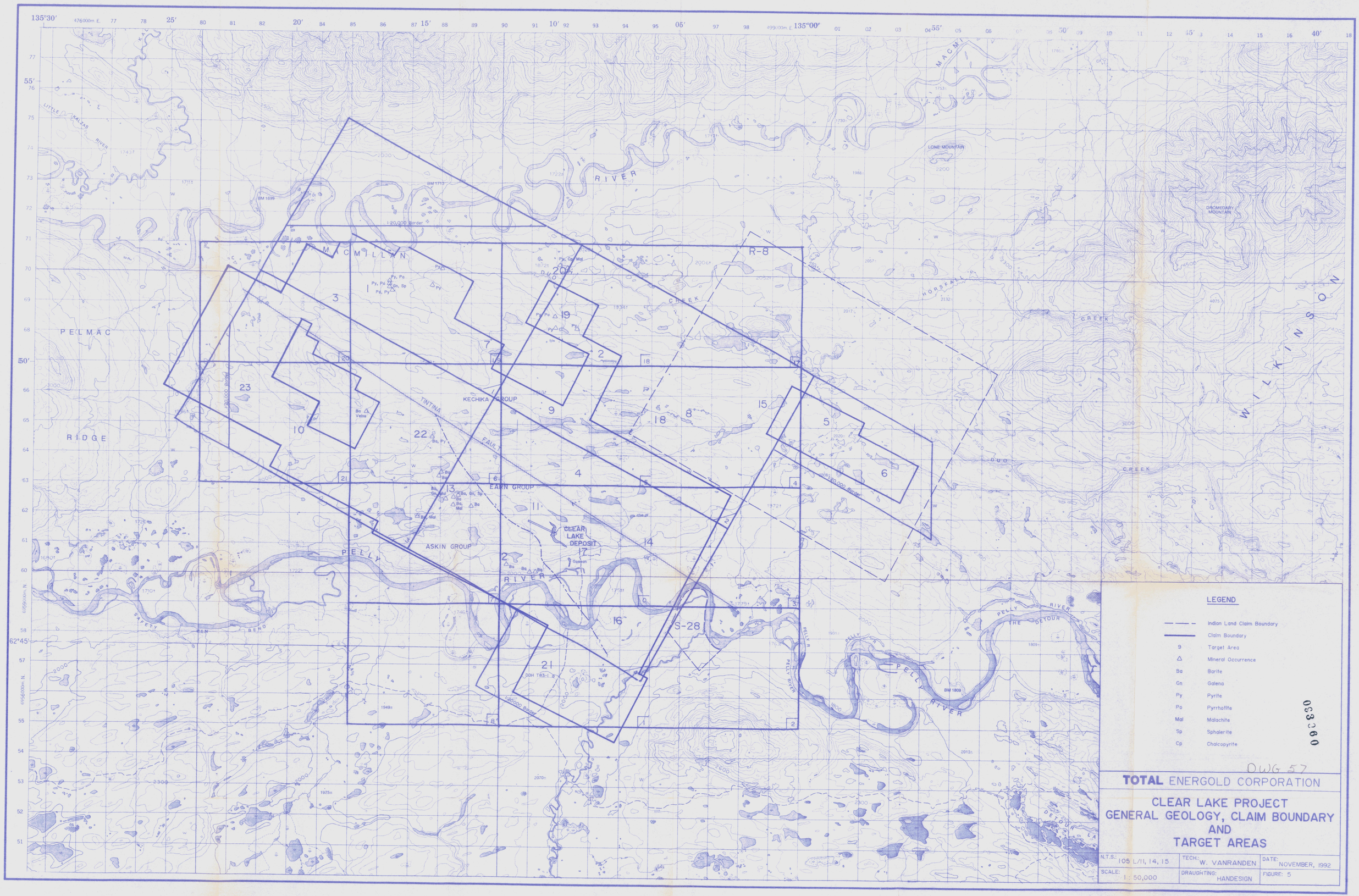
492 000E

DWG 56

CLEAR LAKE PROJECT
DRILL HOLE SITES
1992

093060

SCALE 1:10,000
AUGUST 21, 1992
FIGURE: 4



LEGEND

- Indian Land Claim Boundary
- Claim Boundary
- 9 Target Area
- △ Mineral Occurrence
- Ba Barite
- Gn Galena
- Py Pyrite
- Po Pyrrhotite
- Mal Malachite
- Sp Sphalerite
- Cp Chalcopyrite

033060

DWG 57

TOTAL ENERGOLD CORPORATION

CLEAR LAKE PROJECT
GENERAL GEOLOGY, CLAIM BOUNDARY AND TARGET AREAS

N.T.S.: 105 L/11, 14, 15	TECH.: W. VANRANDEN	DATE: NOVEMBER, 1992
SCALE: 1:50,000	DRAUGHTING: HANDESIGN	FIGURE: 5

LEGEND

- GRID LINES
- GEOPHYSICS-GRAVITY
- GEOPHYSICS-I.P.
- GEOCHEMISTRY
- PLMT
- GEOLOGICAL MAPPING
- 92-73 DIAMOND DRILLING

*NOTE: GRID LINES WITH GEOPHYSICS INFORMATION WERE CUT IN 1992.

093-60
DWG 54

500 0 500 1000

TOTAL ENERGOLD CORP.

CLAIM ASSESSMENT WORK 1992

DATE: NOVEMBER, 1992	DWG NO.: 6
N.T.S.: 105 L/14	SCALE: 1:20000

AREA 1
AREA 3
AREA 19
AREA 7
AREA 2
AREA 23
AREA 9
AREA 10
AREA 22
AREA 4
AREA 13
AREA 11
AREA 17
AREA 14
AREA 12
AREA 16
AREA 21
AREA 5
AREA 6
ASKIN GP
EARN GP
KECHIKA GP
Clear Lake
Busnook Lake
Kelly River
Tommy River
Duo Lake

SYMBOLS

- Fault (defined, assumed)
- Geologic contact
- Bedding (inclined, vertical, overturned)
- Foliation (inclined, vertical, S2)
- Vein
- Fold
- Anticline (defined, assumed)
- Syncline (defined, assumed)
- Airphoto linear
- Gossan
- Fossil locality
- Mineral showing
  - ba barite
  - gn galena
  - sp sphalerite
  - py pyrite
  - po pyrrhotite
  - mal malachite
- 78-1 Drill hole location (year—number)
- Lake sediment sample, reported as: Zn (ppm), Pb (ppm), Cu (ppm), Ag (ppm), Ba (ppm)
- Geochemical anomaly: anomalous values defined as: Zn ≥ 240 ppm; Pb ≥ 80 ppm; Cu ≥ 70 ppm; Ag ≥ 1.1 ppm; Ba ≥ 2700 ppm
- Ground gravity survey, residual gravity high (more than 0 mgal) (more than 0.5 mgal area is shallowed)
- Ground EM possible conductor axis trend (Maxmin II 444Hz, 1777 Hz, EM-17 1600 Hz)
- Airborne EM low resistivity area
- Induced Polarization survey, apparent resistivity low (less than 50Ωm)
- Induced Polarization survey, apparent chargeability high (more than 39 mV/V)
- Airborne or ground magnetic survey, magnetic high
- Ground gravity survey, terrain corrected Bouger gravity S.G. = 2.7 (base IS station S Assoc. Geoph. 1967)

G1 First property anomaly of Ground gravity survey interpretation, Allan Spector and Assc. (June 1981) and, centration of residual anomaly by Ideting, Explortair Services Ltd. (August, 1976)

LITHOLOGY LEGEND

INTRUSIVE ROCKS
(DEVONIAN, MESSOZOIC (?) OR MISSISSIPPIAN (?))

- MAFIC INTRUSIVE ROCKS to Gabbro, Diorite, to Quartz
- FELSITE

MISSISSIPPIAN AND/OR EARLIER
- CHERT PEBBLE CONGLOMERATE locally hematite and fuchsite gives fragments

EARN GROUP
MISSISSIPPIAN

- SKARN
- MASSIVE SULPHIDE
- MAFIC VOLCANIC FLOW ROCKS
- TUFF & Lapilli, to Ash
- CHERT dark gray, massive
- BRECCIA, CONGLOMERATE
- ARGILLITE/SHALE to massive, carbonaceous, to with minor siltstone, sandstone and thin limestone bands; to locally schistose, and/or cherty, & siltstones and thin limestone interbeds, to with thin light brown dolomite bands
- SANDSTONE to massive, to laminated
- LIMESTONE
- CHERT Dark green to brown, banded

UNCONFORMITY (ST. CYR FAULT)

ASKIN GROUP
DEVONIAN

- QUARTZITE
- DOLOSTONE locally replaced by chert
- ARGILLITE/SHALE locally recrystallized and metasomatized
- RHYOLITE/DACITE/ANDESITE

ROAD RIVER FORMATION
SILURIAN

- SHALE graptolitic

ORDOVICIAN

TINTINA FAULT

KECHIKA GROUP MENZIE CK FORMATION
ORDOVICIAN

- MAFIC VOLCANIC TUFF green, chloritic (formerly SK)
- VOLCANICS green chloritic tuffs intercalated with non-carbonaceous sediments, mudstones and limestones (formerly SK)
- SEDIMENTARY ROCKS non-calcareous mudstone, siltstone, chert, limestone and greywacke

YANGORDA FORMATION
- PHYLLITE calcareous intercalated with limestone and mafic volcanics (formerly SC)
- MAFIC METAVOLCANIC ROCKS fine to medium grain chloritic tuffaceous rocks (formerly SC)
- PHYLLITE calcareous, undifferentiated (formerly S)

MT. RYE FORMATION
- PHYLLITE chlorite + sericite ± biotite, may contain disseminated fine pyrite (formerly SC)
- PHYLLITE graphitic (formerly SC)
- PHYLLITE calcareous, graphitic (formerly SC)
- MAFIC METAVOLCANIC ROCKS chloritic tuffaceous rocks (formerly SC)
- PHYLLITE undifferentiated

CAMBRIAN

RABBITKETTLE FORMATION
ORDOVICIAN

- ARKOSITE diplomictic, cobbleroous, sandy (and / or clayey) with thin bedded limestone and cargillaceous

500 0 500 1000

TOTAL ENERGOLD CORP.

DWG 59

CLEAR LAKE PROJECT
COMPILATION MAP

.093060

by: A. GOM
R. ZURAN

DATE: OCTOBER 1982 | FIGURE 7
N.T.S. 106 1/14 | SCALE 1:50000

LITHOLOGY LEGEND

INTRUSIVE ROCKS

- MAFIC INTRUSIVE ROCKS — "dykes, Dunite - N Dunbar"
- FELSITE

MISSISSIPPIAN ANDOYA EARLIER

- CHERT PEBBLE CONGLOMERATE — "early transition with Basilica group Highcroft."

EARN GROUP

UNDIFFERENTIATED

- BANTE
- MASSIVE SULPHIDE
- MAFIC VOLCANIC FLOW ROCKS
- TUFF — K-bent; S-fel
- CHERT — dark grey, massive
- BRECCIA, CONGLOMERATE
- ARGILLITE/SHALE — dk mpacts, carbonaceous; lt. arth minor amounts of fine sand, siltstone, subordinate siltstone layers, minor amounts of fine sand, thin limestone interbeds. Earth thin light brown dolomitic lamin.
- SANDSTONE — dk massive, fel laminated
- LIMESTONE
- CHERT — Dark green to black, banded

HAMMER HILL THRUST

ASKIN GROUP

UNDIFFERENTIATED

- QUARTZITE
- DOLOSTONE — "easily replaceable by chert"
- ARGILLITE/SHALE — "easily replaceable with molybdenite"
- AMYGDALOIDAL ANDESITE

SILURIAN

ROAD RIVER FORMATION

UNDIFFERENTIATED

- SHALE — graphitic

TINTINA FAULT

KECHIKA GROUP — MIDDEN FORM

UNDIFFERENTIATED

- MAFIC VOLCANIC FLOWS — minor SEDIMENTARY ROCKS
- VOLCANICS — mafic volcanic with interspersed with calcareous sediments, limestone and limestone. (formerly SAS)
- SEDIMENTARY ROCKS — fine calcareous mudstone, siltstone, chert, limestone and polymictic

KAMAKOKOPIA FORMATION

- PHYLLITE — dk mica, interbedded with limestone and subordinate, thin chert beds (SS)
- MAFIC METAVOLCANIC ROCKS — Mafic equivalent of unit 6 mostly SS
- PHYLLITE — dk mica, undifferentiated (formerly S)

METAVOLCANICS

- F. PHYLLITE — dk mica, interspersed, + mica, may be tuffaceous, limestone interbeds (SS)
- PHYLLITE — dk mica, chert bands (SS)
- PHYLLITE — dk mica, graphitic (formerly SE-)
- MAFIC METAVOLCANIC ROCKS — Mafic equivalent of unit 6 mostly SS
- PHYLLITE — dk mica, undifferentiated

RABBITKETTLE FORMATION

UNDIFFERENTIATED

- CLASTIC — dk sandstone, siltstone, minor limestone + fn to broad limestone or chert breccia
- CARBONATE

DESCRIPTIVE SUBSCRIPTS

ALTERATION

- ka — kaolinization
- ch — chloritic
- ep — epidotic
- si — silicic
- ser — sericitic
- ca — calcitic
- sk — skarn
- ab — albitized

GENETIC

- ss — syngenetic
- pm — premineralization
- pt — post-mineralization

BEDDING

- mb — massive bedding
- wb — well bedded
- tb — thin bedded
- lb — laminated

ANGULARITY

- sr — subrounded
- ar — angular

AREA INDEX

19	16	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; 484 000E; 488 000E; 492 000E; 496 000E

SYMBOLS

Fault (defined, assumed)

Geologic boundary

Bedding (horizontal, topo-inflexion; dip, strike, overturned, overturned)

Foliation (S2) horizontal, inclined, vertical

Foliation (S3) horizontal, inclined, vertical

Joint, horizontal, inclined, vertical

Lineation: horizontal, inclined, vertical

Trend Attitude: horizontal, inclined, vertical

Mineral Lineation: horizontal, inclined, vertical

Kinkband: horizontal, inclined, vertical

Northern (arrow indicates plunge)

Northern (arrow indicates plunge)

Fold axial plane known, unknown

Antiformal line on plan/geophysics

Fossil locality

Lake sediment sample (defined, approx.)
Au (ppb) Ag (ppm) Cu (ppm) Pb (ppm) Zn (ppm)
Au (ppb) Ag (ppm) Cu (ppm) Pb (ppm) Zn (ppm)
(data indicates open side of symbol)

Drag fold (Geochem anomaly classified) anomalies defined as:
Au (ppb) Ag (ppm) Cu (ppm) Pb (ppm) Zn (ppm)
Au (ppb) Ag (ppm) Cu (ppm) Pb (ppm) Zn (ppm)

Soil gas/vac anomaly (defined)
Au (ppb) Ag (ppm) Cu (ppm) Pb (ppm) Zn (ppm)
Au (ppb) Ag (ppm) Cu (ppm) Pb (ppm) Zn (ppm)
(data indicates open side of anomaly)

Stream

Cut line

Road

Stream

Beaver

Open elevation (metres)

Terrain corrected Bouguer Gravity
E.S. = 2.7 Peter E. Walcott & Assoc. (April, 1991)

Complete Bouguer Gravity
E.S. = 2.67 Agar, Barrett & Assoc. (Aug., 1991)

Terrain corrected Bouguer Gravity
E.S. = 2.7 Dave Geophysics (Feb. 1991)

Resistivity Survey
E.S. = 2.6 Hunting Exploration Services. (May, 1977)
E.S. = 2.67 Geoterra. (July, 1988)

Magnetic Survey Proposed by one direction, one metre

IP Survey
E.S. = 2.67 Proposed by one direction, one metre

Electromagnetic Survey Proposed by one direction, one metre

IP survey
System: Proposed by one (line, then 50 - m
n = 2to n = 6 x 4
Peter E. Walcott & Assoc. (Jun, 1991)

IP survey
System: Chargeability high priority (line, then50)
n = 2to n = 6 x 4
Peter E. Walcott & Assoc. (Jun, 1991)

Geological boundary

Mineral fault

Surface trace projection of massive sulphides

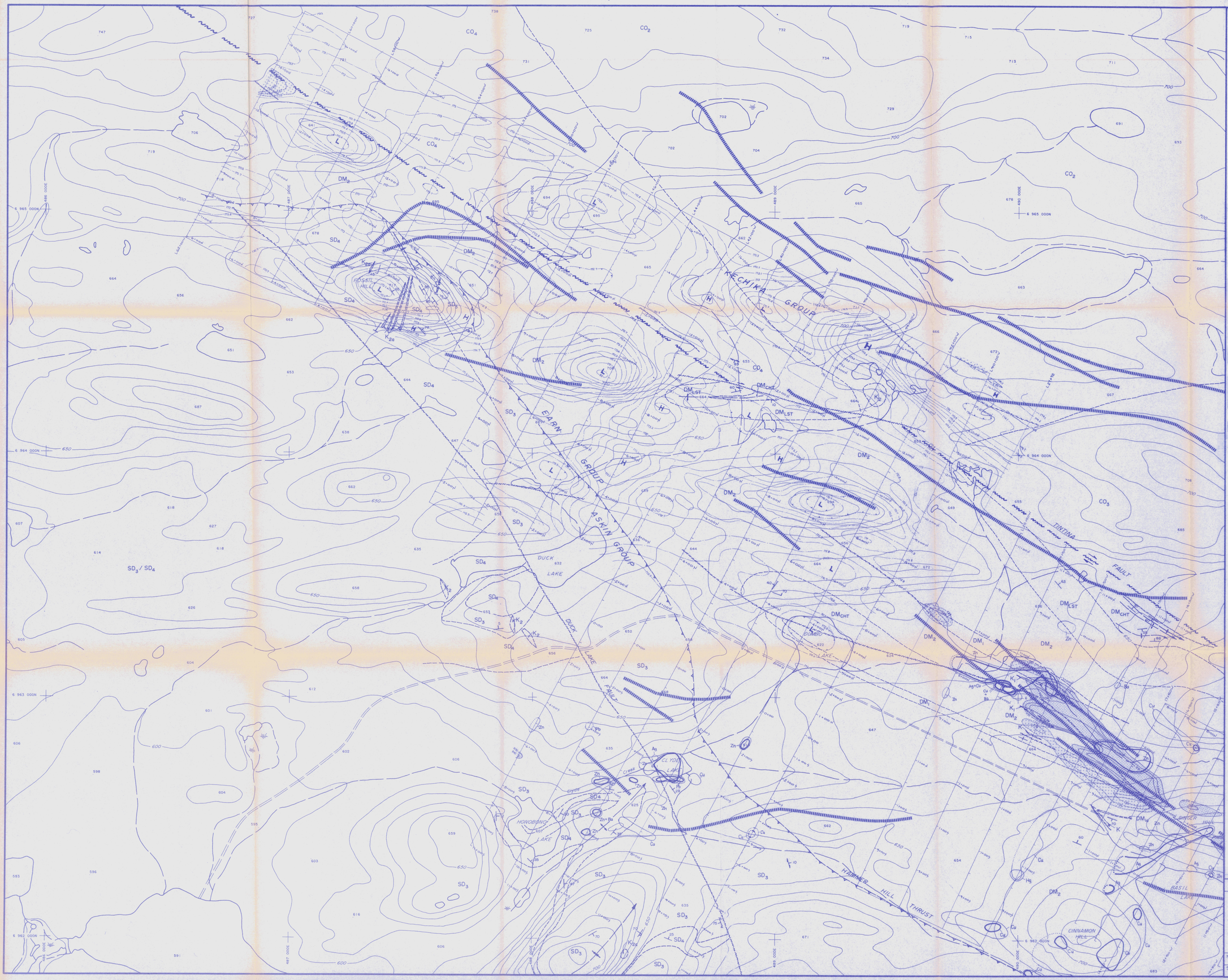
TOTAL ENERGOLD CORPORATION

093060 DWG 60

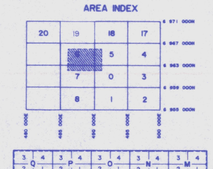
CLEAR LAKE PROJECT

COMPILATION MAP
AREAS CL, I1, I2, I3

N.T.S. : 105 L/14	TECH. : A. GOMI, R. ZURAN	DATE : OCTOBER 1992
SCALE : 1 : 5000	DRAUGHTING : HANDESIGN	FIGURE : 8 MAP No. : G-5-6-7 SE



AREA INDEX



ENLARGEMENT OF AREA



LITHOLOGY LEGEND

INTRUSIVE ROCKS

TERTIARY, MESOZOIC (?) OR MISSISSIPPIAN (?)

- Kg — MAFIC INTRUSIVE ROCKS a) Gabbro, Diorite b) Dolerite
- Ki — FELSITE

MISSISSIPPIAN AND/OR EARLIER

- DMcpC — CHERT PEBBLE CONGLOMERATE locally rhyolitic with fiamme

EARN GROUP

MISSISSIPPIAN

- DMb — BARITE
- DMs — MASSIVE SULPHIDE
- DMv — MAFIC VOLCANIC FLOW ROCKS
- DMt — TUFF a) bedded, b) lapilli
- DMc — CHERT dark grey, massive
- DMb — BRECCIA, CONGLOMERATE
- DMa — ARGILLITE/SHALE a) massive, carbonaceous, b) with minor lenticular, siltstone bands, c) with many recessive siltstone bands, d) with abundant carbonate nodules and fine limestone stringers, e) with thin fine-grained sandstone beds, f) with thin light brown dolomitic beds
- DMs — SANDSTONE a) massive, b) laminated
- DMLST — LIMESTONE
- DMCHT — CHERT Dark green to brown, banded

DEVONIAN

HAMMER HILL THRUST

ASKIN GROUP

DEVONIAN

- SD3 — QUARTZITE
- SD3 — DOLOSTONE locally replaced by chert
- SD2 — ARGILLITE/SHALE locally limonitic and micaceous
- SD1 — AMYGDALOIDAL ANDESITE

SILURIAN

ROAD RIVER FORMATION

SILURIAN

- SS — SHALE graphitic

ORDOVICIAN

TINTINA FAULT

KECHIKA GROUP MENZIE CK FORMATION

ORDOVICIAN

- CO4g — MAFIC VOLCANIC TUFF green, chloritic (formerly Mt.)
- CO4g — VOLCANICS green, chloritic tuffs intercalated with well-bedded, siliceous, mudstones and limestone. (formerly Mt2)
- CO4g — SEDIMENTARY ROCKS red-coloured mudstone, siltstone, chert, limestone and greywacke.

YANDRIDA FORMATION

- CO3g — PHYLLITE calcareous interbedded with limestone and siltstone. Also chloritic (formerly Mt)
- CO3g — MAFIC METAVOLCANIC ROCKS fine to medium grain chloritic schistose rocks (formerly Mv)
- CO3g — PHYLLITE siltaceous, undifferentiated (formerly S)

MT MYE FORMATION

- CO2g — PHYLLITE chloritic-sericitic ± biotite, may contain porphyroblasts of staurolite (formerly Mt)
- CO2g — PHYLLITE graphitic (formerly Sh)
- CO2g — PHYLLITE siltaceous, graphitic (formerly M1)
- CO2g — MAFIC METAVOLCANIC ROCKS chloritic rich schistose rocks (formerly M)
- CO2g — PHYLLITE undifferentiated

CAMBRIAN

RABBITKETTLE FORMATION

ORDOVICIAN

- CO1 — ARENITE dolomitic, siltaceous, with micaceous silty bedded limestone and calc-silicate

CAMBRIAN

DESCRIPTIVE SUBSCRIPTS

ALTERATION: ca calcareous; ch chloritic; si silicified; cg clay altered; ep epidote; ve vein(s); mp micaceous; sp sericite; gy gypsum; ck (chert replacement)

DETRITUS: pe pebbly; sa sandy; si silty

BEDDING: mm massive; la laminated; mo mottled; wavy wavy; ls lenticular; fis fenestrated

ANGULARITY: sr sub-rounded; ag angular

SYMBOLS

- Fault (defined, assumed)
- Geologic boundary
- Bedding: horizontal, tops unknown, tops known, vertical, overturned
- Foliation, (S_1): horizontal, inclined, vertical
- Foliation, (S_2): horizontal, inclined, vertical
- Joint: horizontal, inclined, vertical
- Lineation: horizontal, inclined, vertical
- Vein Attitude: horizontal, inclined, vertical
- Shearing: horizontal, inclined, vertical
- Antiform (arrow indicates plunge)
- Synform (arrow indicates plunge)
- Fold axial plane known, unknown
- Lineament from air photographs
- F — Fossil locality
- Lake sediment sample: (defined, approx.); results reported as: Zn (ppm), Pb (ppm), Cu (ppm), Ag (ppm) ND - No data
- Zn — Strong Soil Geochem anomaly (labelled); anomalies defined as: Zn≥ 240 ppm, Ag≥ 1.1 ppm, Pb≥ 80 ppm, Ba≥ 2700 ppm, Cu≥ 70 ppm
- Cu — Soil geochem anomaly (labelled); anomalies defined as: Zn≥ 150 ppm, Ag≥ 0.8 ppm, Pb≥ 60 ppm, Ba≥ 2700 ppm, Cu≥ 60 ppm (dots indicate open side of anomaly)
- Gossan
- 5+00S — Cut line
- Road
- Stream
- Swamp
- 653 — Spot elevation (metres)
- Terrain corrected Bouguer Gravity S.G. = 2.7 Peter E. Wallcott & Assoc. (April, 1991)
- Complete Bouguer Gravity S.G. = 2.9 Agar, Barrets & Assoc. (Aug. 1991)
- Terrain corrected Bouguer Gravity S.G. = 2.7 Crone Geophysics (Feb. 1990)
- Residual Gravity S.G. = 2.6 Kenting Exploration Services (May, 1977) S.G. = 2.67 Tachimenes (July, 1980)
- Maxmin 444Hz Possible conductor axis trend
- EM-17 1600Hz Possible conductor axis trend
- Maxmin II 1777Hz Possible conductor axis trend
- I.P. survey Apparent Resistivity low (less than 50 m) a = 25m n = 3 or 4 Peter E. Wallcott & Assoc. (Jun. 1991)
- I.P. survey Apparent Chargeability high (more than 36mV/V) a = 25m n = 3 or 4 Peter E. Wallcott & Assoc. (Jun. 1991)
- Geological boundary
- Inferred fault
- Subsurface projection of massive sulphides

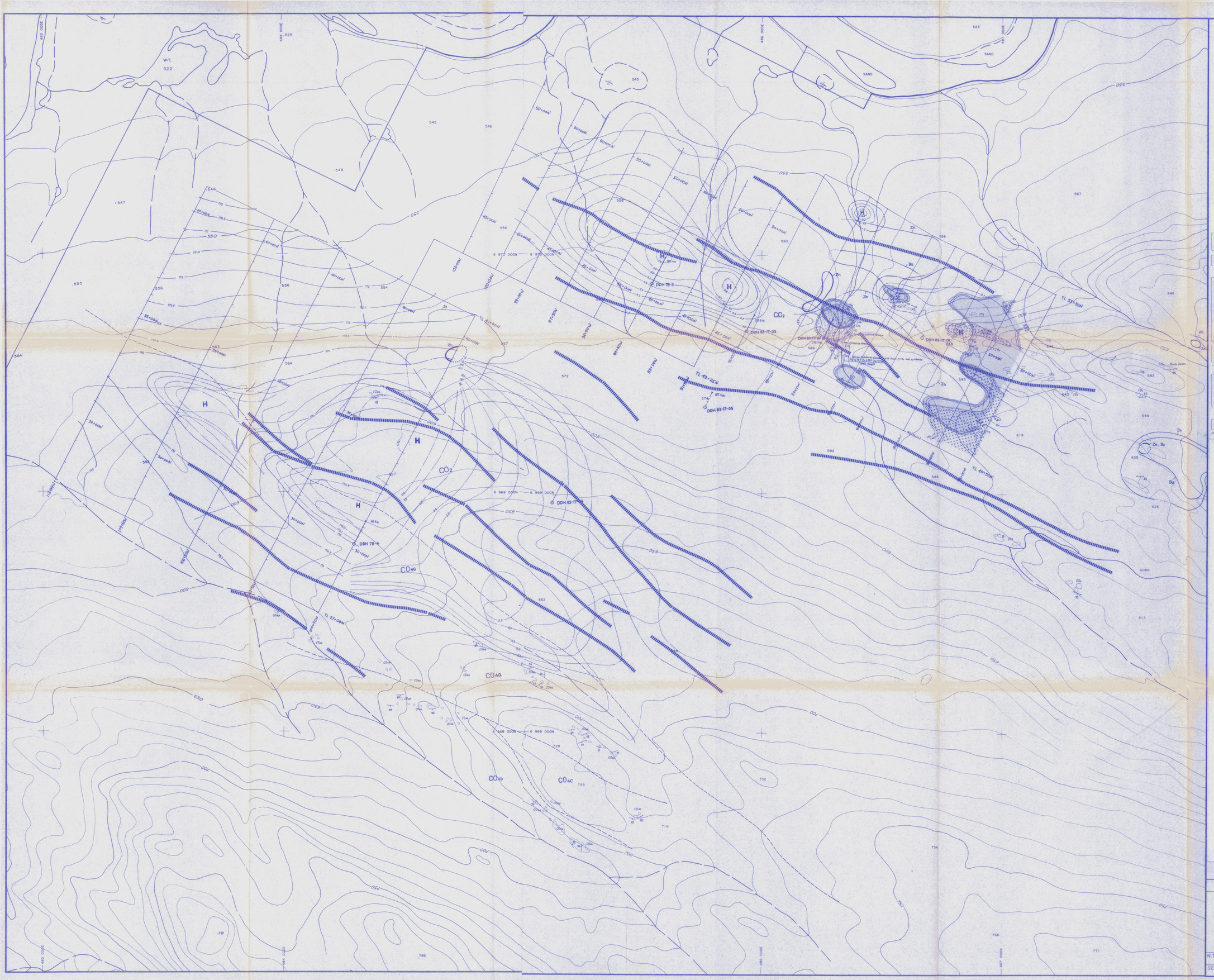
TOTAL ENERGOLD CORPORATION

093060 DWG 61

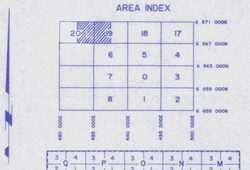
CLEAR LAKE PROJECT

COMPILATION MAP AREAS 13&22

N.T.S. : 105 L/14	TECH. : A. GOM, R. ZURAN	DATE : OCTOBER 1992
SCALE : 1 : 5000	DRAUGHTING : HANDESIGN	FIGURE : 9 MAP No. : 0-5-6-7 NW



AREA INDEX





ENLARGEMENT OF AREA

LITHOLOGY LEGEND

INTRUSIVE ROCKS
TERTIARY - MESOZOIC (?) OR MISSISSIPPIAN (?)

- Kg — MAFIC INTRUSIVE ROCKS e.g. Gabbro, Diorite, Kj Dolerz
- Kj — FELSITE

MISSISSIPPIAN AND/OR EARLIER

- CM(Pc) — CHERT FEISBLE CONGLOMERATE locally haloed/lite with fluorite group fragments.

EARN GROUP
MISSISSIPPIAN

- CMBa — BARITE
- CMs — MASSIVE SULPHIDE
- CMb — MAFIC VOLCANIC FLOW ROCKS
- CMt — TUFF ±Clastic to Arc
- CMc — CHERT dark grey, massive
- CMbr — BRECCIA, CONGLOMERATE
- CMa — ARGILLITE/SHALE ±Cpassive, carbonaceous; ±Cwith minor sandstone, siltstone bands; ±Cwith many sandstone-siltstone bands; ±Cdolomitic, exotic cobbles; ±Ccalcareous with fluid inclusions (bitumen); ±Cwith thin light brown dolomitic bands.
- DM — SANDSTONE ±Cargillaceous ±Cpyritized
- DMLS — LIMESTONE
- DMCh — CHERT Dark green to brown, banded

DEVONIAN

UNCONFORMITY (ST CYR FAULT?)

ASKIN GROUP
SILURIAN

- SDa — QUARTZITE
- SDb — DOLOSTONE locally replaced by chert
- SDa — ARGILLITE/SHALE locally dolomitic and micaceous
- SDb — AMYGDALOIDAL ANDESITE

SILURIAN

ROAD RIVER FORMATION
SILURIAN

- SR — SHALE graptolitic

ORDOVICIAN

UNCONFORMITY

KECHIKA GROUP
ORDOVICIAN — MENZIE CK FORMATION

- OOa — MAFIC VOLCANIC TUFF grey, chloritic (formerly Kf1)
- OOb — VOLCANICS green, chloritic tuffs intercalated with var.calcareous siltstone, mudstone and limestone (formerly Kf2)
- OOd — SEDIMENTARY ROCKS var.calcareous mudstone, siltstone, chert, limestone and greywacke

VANGORDA FORMATION

- OOc — PHYLLITE calcareous,interbedded with limestone and siltstone. Bas.clastics (formerly Kf3)
- OOb — MAFIC METAVOLCANIC ROCKS Bas to medium grain, chloritic tuffaceous, locally (formerly Kf)
- OOa — PHYLLITE calcareous, x-ralfferentiated (formerly f)

MT WYE FORMATION

- OOa — PHYLLITE chlorite ± sericite ± biotite, may contain calcareous lenses (formerly Kf)
- OOc — PHYLLITE graphitic (formerly Sf)
- OOc — PHYLLITE calcareous, graphitic (formerly Sf)
- OOb — MAFIC METAVOLCANIC ROCKS chloritic rich tuffaceous rocks (formerly Sf)
- OOa — PHYLLITE x-ralfferentiated

RABBITKETTLE FORMATION
ORDOVICIAN

- OO — ARENITE ±dolomitic, ±dolomitic, with micaceous silty banded limestone and rusty siltstone

CAMBRIAN

DESCRIPTIVE SUBSCRIPTS

ALTERATION: ca calcareous; ch chloritized; cl clay altered; ep epidotized; ser sericitic; si silicified; mg magnesian; ka kaolinitic; qz quartzitic; ch chert replacement

DETRITUS: gn gritty; sd sandy; sl silty

BEDDING: mas massive; lam laminated; cs cross-bedded; wav wavy; nod nodular; ls lenticular

ANGULARITY: ang angular; sbr subrounded; rd rounded

SYMBOLS

- Fault (defined, assumed)
- Geologic boundary
- Bedding: horizontal, tops unknown, tops known, vertical, overturned
- Foliation, (S_1): horizontal, inclined, vertical
- Foliation, (S_2): horizontal, inclined, vertical
- Joint: horizontal, inclined, vertical
- Lineation: horizontal, inclined, vertical
- Vein Attitude: horizontal, inclined, vertical
- Shearing: horizontal, inclined, vertical
- Antiform (arrow indicates plunge)
- Synform (arrow indicates plunge)
- Fold axial plane known, unknown
- Lineament from air photographs
- F — Fossil locality
- Lake sediment sample; (defined, approx.); results reported as: Zn (ppm), Pb (ppm), Cu (ppm), Ag (ppm) ND - No data
- Zn — Strong Soil Geochem anomaly (labelled); anomalies defined as: Zn ≥ 240 ppm, Ag ≥ 1.1 ppm; Pb ≥ 80 ppm, Ba ≥ 2700 ppm; Cu ≥ 70 ppm
- Cu — Soil geochem anomaly (labelled); anomalies defined as: Zn ≥ 150 ppm, Ag ≥ 0.8 ppm; Pb ≥ 50 ppm, Ba ≥ 2250 ppm; Cu ≥ 60 ppm; (dots indicate open side of anomaly)
- Gossan
- 8+00 S — Cut line
- Road
- Stream
- Swamp
- +653 — Spot elevation (metres)
- Terrain corrected Bouguer Gravity S.G. = 2.7 Peter E. Walcott & Assoc. (April, 1991)
- Complete Bouguer Gravity S.G. = 2.9 Ager, Barrets & Assoc. (Aug, 1981)
- Terrain corrected Bouguer Gravity S.G. = 2.7 Crone Geophysics (Feb, 1980)
- Residual Gravity S.G. = 2.6 Kenting Exploration Services (May, 1977) S.G. = 2.67 Techtrenx (July, 1980)
- Maxmin 444Hz Possible conductor axis trend
- EM-17 1600Hz Possible conductor axis trend
- Maxmin I 11 17779z Possible conductor axis trend
- I.P. survey Apparent Resistivity low (less than 50 m) a = 25m n = 3 or 4 Peter E. Walcott & Assoc. (Jun, 1991)
- I.P. survey Apparent Chargeability high (more than 36mV/V) a = 25m n = 3 or 4 Peter E. Walcott & Assoc. (Jun, 1991)
- Geological boundary
- Inferred fault
- Subsurface projection of massive sulphides

TOTAL ENERGOLD CORPORATION

093060 DWG 62

CLEAR LAKE PROJECT

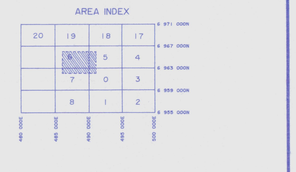
COMPILATION MAP AREAS 183

N.T.S. : 105 L/14	TECH. : A. GOMI M. MACHIDA	DATE : NOVEMBER, 1992
SCALE : 1 : 5000	DRAUGHTING HANDESIGN	FIGURE : 11



SURFACE GEOLOGY
AREA INDEX
LITHOLOGY LEGEND
INTRUSIVE ROCKS
EARN GROUP
ASKIN GROUP
KECHIKA GROUP
TINTINA FAULT
DUCK LAKE
DUMBO LAKE
CLYDE LAKE
HONOBONO LAKE
GINGER HILL
BASIL LAKE
CINNAMON HILL
CLEAR LAKE
SCUMBAG LAKE
HELICOPTER PAD
CAMP
SCHNOZEL LAKE
HAMMER HILL
ANVIL LAKE
OXBOW LAKE
TOTAL ENERGOLD CORPORATION
093060
DWG 63
CLEAR LAKE PROJECT
GEOLOGY
DIAMOND DRILLING
ROCK GEOCHEMISTRY
AREAS CL, 11, 12, 13, 17
N.T.S. : 105 L/14
TECH. : R. ZURAN
DATE : OCTOBER 1992
SCALE : 1 : 5000
DRAUGHTING : HANDESIGN
FIGURE : 12
MAP No. : 0-5-6-7 SE

AREA INDEX



LITHOLOGY LEGEND

INTRUSIVE ROCKS

— TERTIARY, MESOZOIC (?) OR MISSISSIPPIAN (?)

- K_2 MAFIC INTRUSIVE ROCKS a) Gabbro, Diorite; b) Dolerite
- K_1 FELSITE

— MISSISSIPPIAN AND/OR EARLIER

- $DM_4(K)$ CHERT PEBBLE CONGLOMERATE locally hematitic with fuchsite green fragments

EARN GROUP

— MISSISSIPPIAN

- DM_8 BARITE
- DM_4 MASSIVE SULPHIDE
- DM_6 MAFIC VOLCANIC FLOW ROCKS
- DM_5 TUFF a) Lapilli; b) Ash
- DM_4 CHERT dark grey, massive
- DM_3 BRECCIA, CONGLOMERATE
- DM_2 ARGILLITE/SHALE a) locally carbonaceous; b) with minor sandstone, siltstone bands; c) with many sandstone-siltstone bands; d) siliceous and/or argillaceous; e) calcareous with fine limestone interbeds; f) with thin light brown dolomitic bands.
- DM_1 SANDSTONE a) massive b) laminated
- DM_{LST} LIMESTONE
- DM_{CHT} CHERT dark green to brown, banded

— DEVONIAN

ASKIN GROUP

— DEVONIAN

- SD_4 QUARTZITE
- SD_3 DOLOSTONE locally replaced by chert
- SD_2 ARGILLITE/SHALE locally dolomitic and micaceous
- SD_1 AMYGDALOIDAL ANDESITE

— SILURIAN

ROAD RIVER FORMATION

— SILURIAN

- SS SHALE graptolitic

— ORDOVICIAN

TINTINA FAULT

KECHIKA GROUP MEDME OK FORMATION

— ORDOVICIAN

- OO_{4d} MAFIC VOLCANIC TUFF green, chloritic (formerly MV_1)
- OO_{4b} VOLCANICS green, chlorite tuffs interlaminated with red-coloured siltstone, mudstone and limestone. (formerly MV_2)
- OO_{4a} SEDIMENTARY ROCKS red-coloured mudstone, siltstone, chert, limestone and greenstone.

VANGORDA FORMATION

- CO_{3c} PHYLLITE calcareous interbedded with limestone and dolomite, Ade-Clastic (formerly SS_1)
- CO_{3b} MAFIC METAVOLCANIC ROCKS fine to medium grain chlorite influenced rocks (formerly SV_1)
- CO_{3a} PHYLLITE calcareous, unidifferentiated (formerly S_1)

MT MYE FORMATION

- CO_{2b} PHYLLITE chlorite ± sericite ± biotite, may contain calcareous laminae (formerly SS_2)
- CO_{2a} PHYLLITE graphitic (formerly S_2)
- CO_{1c} PHYLLITE calcareous, graphitic (formerly S_1)
- CO_{1b} MAFIC METAVOLCANIC ROCKS chlorite ± calcareous rocks (formerly S_1)
- CO_{1a} PHYLLITE undifferentiated

— CAMBRIAN

RABBITKETTLE FORMATION

— ORDOVICIAN

- CO_1 ARENITE dolomitic, calcareous, with micaceous silty banded limestone and calc-silicate

— CAMBRIAN

DESCRIPTIVE SUBSCRIPTS

ALTERATION:	ca	calcareous
	do	dolomitic
	si	silicified
	ch	chloritized
	ep	epidotic
	ser	sericitic
	gra	graphitic
	qz	quartz
	sk	skarn replacement
DEINTUS:	pa	partially
	m	moderately
	st	strongly
BEDDING:	ma	massive
	pl	planar
	wa	wavy
	lens	lenticular
	lam	laminated
	bed	bedded
ANGULARITY:	ba	bevelled
	rg	rounded

SURFACE GEOLOGY

- Outcrop pattern: grid controlled, superimposed.
- Geologic boundary projected to surface from drilling.
- Bedding: horizontal, tops unknown, tops known, vertical, overturned.
- Foliation, (S_1): horizontal, inclined, vertical.
- Foliation (S_2): horizontal, inclined, ve ..ual.
- Joint: horizontal, inclined, vertical.
- Lineation: horizontal, inclined, vertical.
- Vein Attitude: horizontal, inclined, vertical.
- Shearing: horizontal, inclined, vertical.
- Anticline (arrow indicates plunge).
- Syncline (arrow indicates plunge).
- Fold axial plane known, unknown.
- Lineament from air photographs.
- (F) Fossil locality.
- "Aiken 5" — Petrographic sample.
- 426, 75, 10, 0.1, 1800 (0.30m) — Rock chip sample. Assay results as: Zn(ppm), Pb(ppm), Cu(ppm), Ag(ppm), Ba(ppm) and/or Hg (ppb) (width in metres).
- 75, 10, 2, 0.1, 500 (0.12m) — Rock float sample. Assay results as: Zn(ppm), Pb(ppm), Cu(ppm), Ag(ppm), Ba(ppm) and/or Hg (ppb) (width in metres).
- Glacial striae
- 78-10 — Trench; Portal Cutter
- Diamond Drill Hole (year, hole number).
- 5+00S — Cut line
- Road
- Stream
- Swamp
- + 653 Spot elevation (metres)

093060

TOTAL ENERGOLD CORPORATION

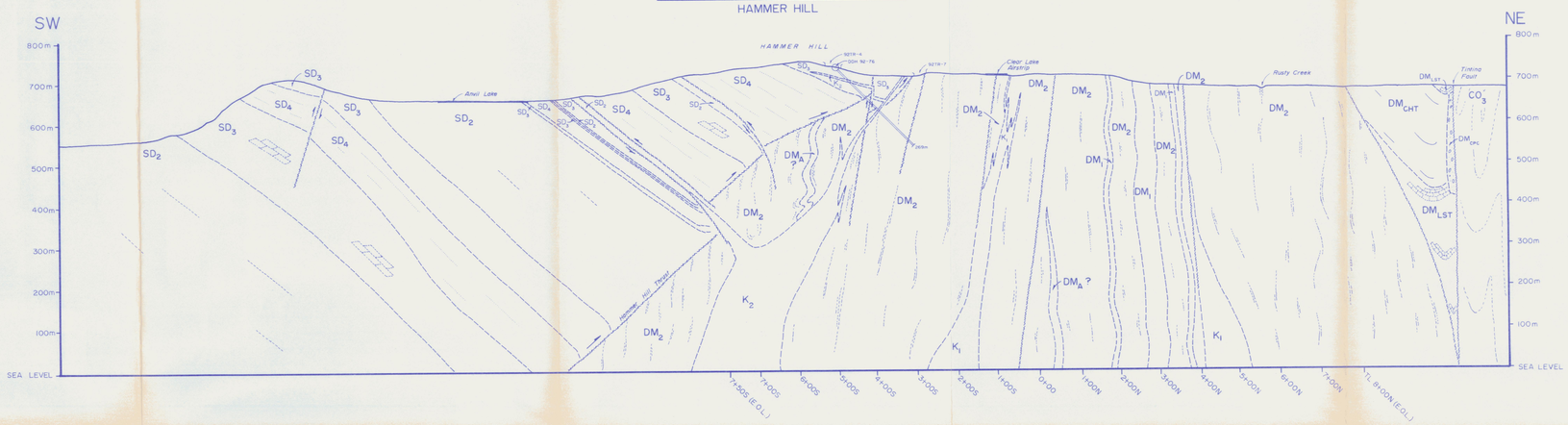
DWG 64

CLEAR LAKE PROJECT

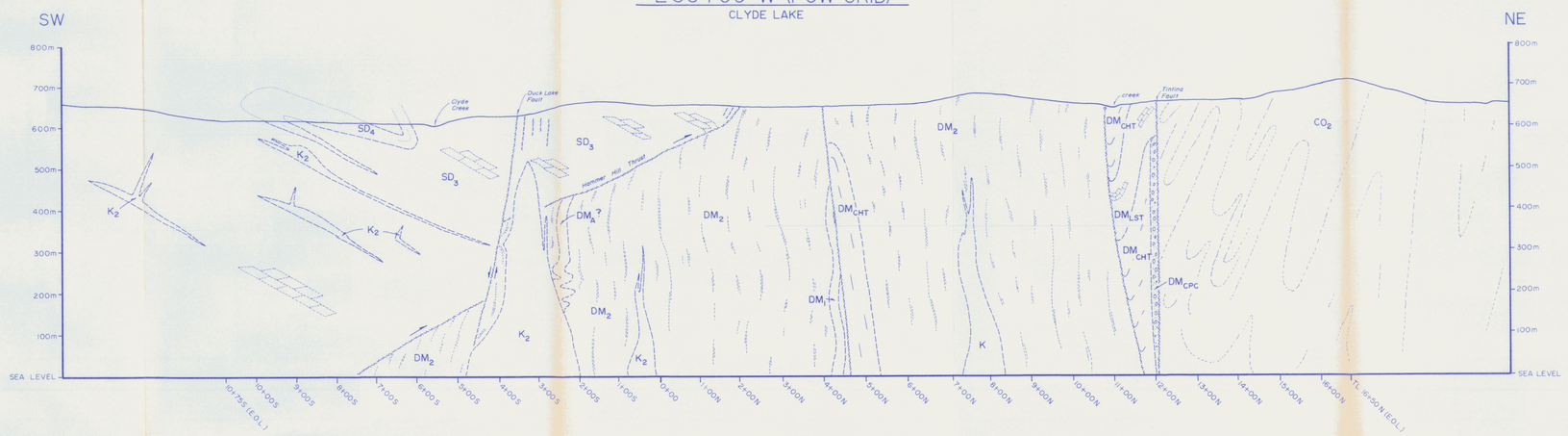
GEOLOGY
DIAMOND DRILLING,
ROCK GEOCHEMISTRY
AREAS 13&22

N.T.S. : 105 L/14	TECH. : R. ZURAN A. GOMI	DATE : SEPTEMBER, 1992
SCALE : 1 : 5000	DRAUGHTING : R. ZURAN, HANDESIGN	FIGURE : 13 MAP No. : 0-5-6-7-NW

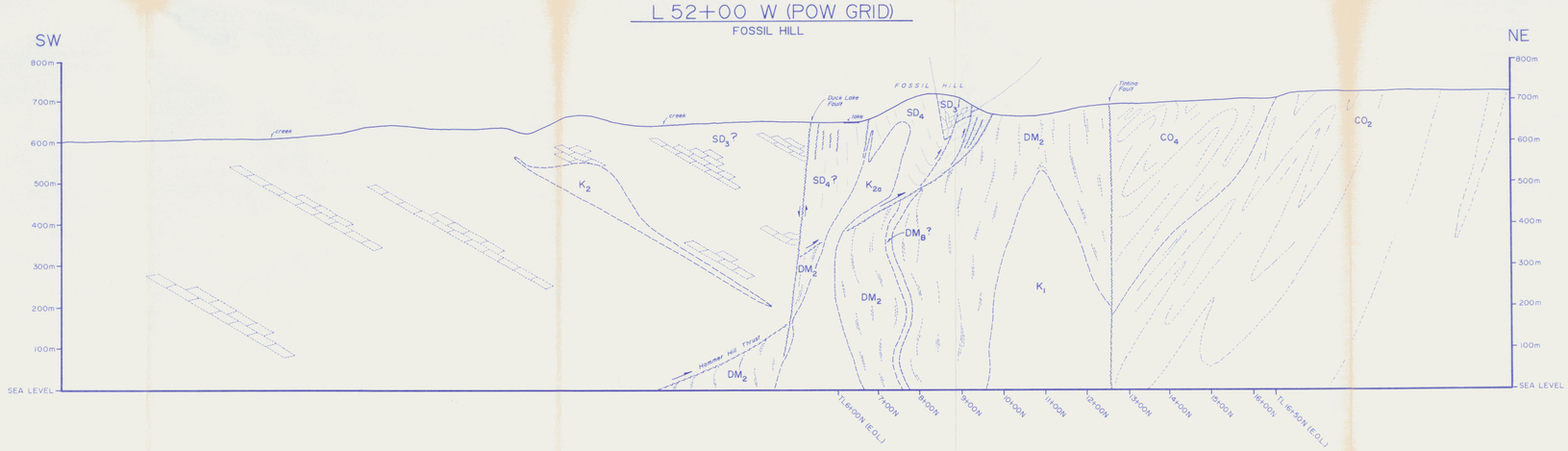
L 7+50 W (POW GRID)
HAMMER HILL



L 36+00 W (POW GRID)
CLYDE LAKE



L 52+00 W (POW GRID)
FOSSIL HILL



LITHOLOGY LEGEND

INTRUSIVE ROCKS
TERTIARY, MESOZOIC (?) OR MISSISSIPPIAN (?)

- K_2 MAFIC INTRUSIVE ROCKS a) Gabbro, Diorite; b) Diabase
- K_1 FELSITE

MISSISSIPPIAN AND/OR EARLIER

- DM_{CPC} CHERT PEBBLE CONGLOMERATE locally heterolithic with Kechika group fragments.

EARN GROUP
MISSISSIPPIAN

- DM_B BARITE
- DM_A MASSIVE SULPHIDE
- DM_6 MAFIC VOLCANIC FLOW ROCKS
- DM_5 TUFF a) Lapilli; b) Ash
- DM_4 CHERT dark grey, massive
- DM_3 BRECCIA, CONGLOMERATE
- DM_2 ARGILLITE/SHALE a) massive, carbonaceous; b) with minor sandstone, siltstone bands; c) with many sandstone siltstone bands; d) siliceous and/or siliceous; e) calcareous with thin limestone interbeds; f) with thin light brown dolomitic bands
- ? DM_1 SANDSTONE a) massive; b) laminated
- DM_{LST} LIMESTONE
- DM_{CHT} CHERT Dark green to brown; banded

DEVONIAN

HAMMER HILL THRUST

ASKIN GROUP
DEVONIAN

- SD_4 QUARTZITE
- SD_3 DOLOSTONE locally replaced by chert
- SD_2 ARGILLITE/SHALE locally dolomitic and micaceous
- SD_1 AMYGDALOIDAL ANDESITE

SILURIAN

ROAD RIVER FORMATION
SILURIAN

- OS SHALE graptolitic

ORDOVICIAN

KECHIKA GROUP MENZIE CK FORMATION
ORDOVICIAN

- CO_{4c} MAFIC VOLCANIC TUFF green, chloritic (formerly 6A1)
- CO_{4b} VOLCANICS green, chloritic tuffs interbedded with non-coloured siltstones, mudstones and limestones. (formerly 6A2)
- CO_{4a} SEDIMENTARY ROCKS non-coloured mudstone, siltstone, chert, limestone and greywacke.

VANGORDA FORMATION

- CO_{3c} PHYLLITE calcareous interbedded with limestone and dolostone. Also chloritic (formerly 5D)
- CO_{3b} MAFIC METAVOLCANIC ROCKS fine to medium grain chloritic tuffaceous rocks (formerly 5C)
- CO_{3a} PHYLLITE calcareous, undifferentiated (formerly 5)

MT MYE FORMATION

- CO_{2e} PHYLLITE chlorite ± sericite ± biotite, may contain calcareous laminae (formerly 3D)...
- CO_{2d} PHYLLITE graphitic (formerly 3E)
- CO_{2c} PHYLLITE calcareous, graphitic (formerly 3E1)
- CO_{2b} MAFIC METAVOLCANIC ROCKS chlorite rich tuffaceous rocks (formerly 3B)
- CO_{2a} PHYLLITE undifferentiated

CAMBRIAN

RABBITKETTLE FORMATION
ORDOVICIAN

- CO_1 ARENITE dolomitic, calcareous, with micaceous silty laminae limestone and calc-silicate

CAMBRIAN

TOTAL ENERGOLD CORPORATION

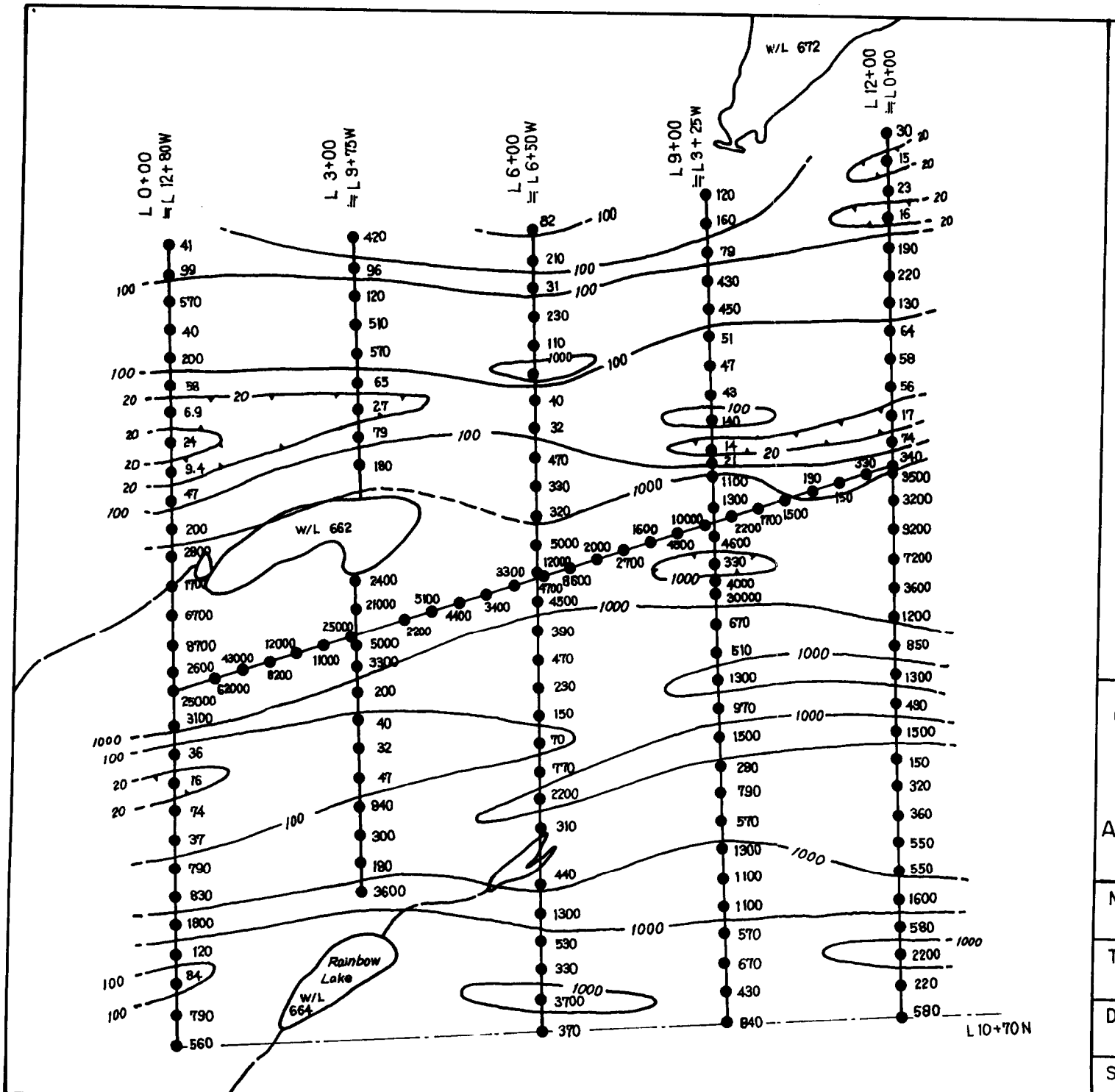
093060 DWG 65

CLEAR LAKE PROJECT

GEOLOGY CROSS-SECTIONS

HAMMER HILL, CLYDE LAKE, FOSSIL HILL

N.T.S.: 105 L/14	TECH.: R. ZURAN	DATE: OCTOBER 1992
SCALE: 1 : 5000	DRAUGHTING: R. ZURAN	FIGURE: 14



LEGEND

1000 Ωm

100

20

f=60 Hz.

T.N.

093060

OWG 66

CLEAR LAKE PROJECT

POWER LINE
MAGNETOTELLURIC SURVEY
(PLMT)
APPERENT RESISTIVITY (60 Hz)
AREA 4

N.T.S.: 105L	
TECH.: M. SAITO	DRAUGHTING: A. GOMI
DATE: OCTOBER 1992	
SCALE: 1 : 10,000	FIGURE: 15

AREA 3

AREA 1

L 112+50W
L 109+50W
L 106+50W
L 103+50W
L 100+50W
L 102+00W
L 100+50W
L 99+00W
L 97+50W
L 96+00W
L 94+50W
L 93+00W
L 91+50W
L 90+00W
L 88+00W
L 87+00W
L 85+00W
L 84+00W
L 82+00W

TL 41+00N
TL 48+60N

T.N.

LEGEND

1000 Ωm
100
20

f = 60Hz.

093060

DWG 67

TOTAL ENERGOLD CORPORATION

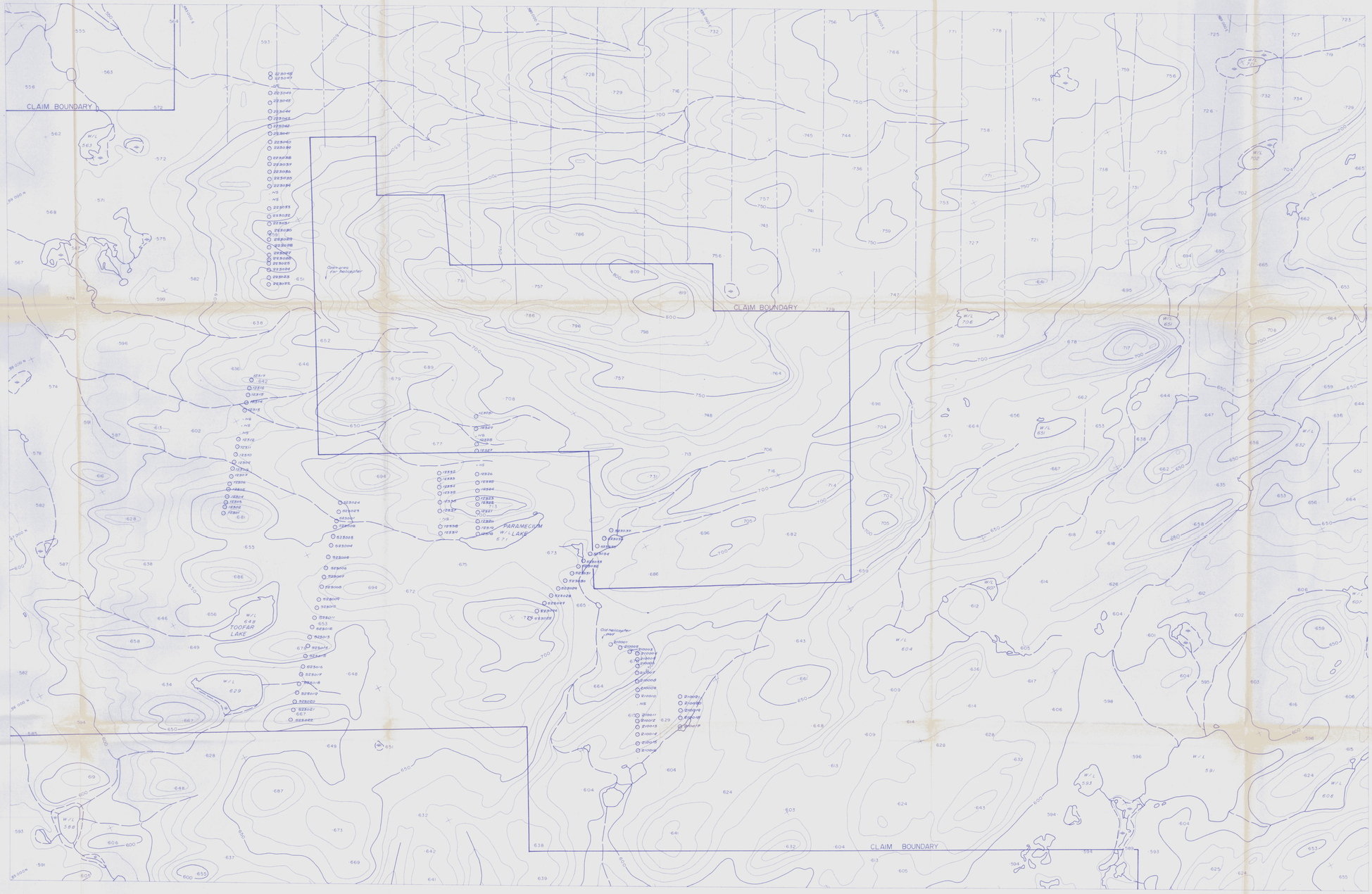
CLEAR LAKE PROJECT

POWER LINE MAGNETOTELLURIC SURVEY (PLMT)

APPERENT RESISTIVITY (60 Hz)

AREA 1, AREA 3

N.T.S.: 105L	TECH.: M. SAITO	DATE: OCTOBER 1992
SCALE: 1 : 10,000	DRAUGHTING: A. GOMI	FIGURE: 16



1	2
3	4

SYMBOLS—GEOCHEMISTRY

- soil sample
- soil sample (Pionar + Holman Sampler)
- silt sample
- rock chip sample (results on Geology maps)
- rock float sample (results on Geology maps)

093060

DWG 68

TOTAL ENERGOLD CORPORATION

CLEAR LAKE PROJECT
SAMPLE NUMBER LOCATIONS

N.T.S. 105 L/14	TECH. R. ZURAN	DATE OCTOBER 1992
SCALE 1 : 5000	DRAUGHTING R. ZURAN	FIGURE 18 MAP No. SHEET 3

Pacific Survey Corporation



AREA INDEX





ENLARGEMENT OF AREA

SYMBOLS—GEOCHEMISTRY

- soil sample
- soil sample (Pionjar + Holman Sampler)
- silt sample
- rock chip sample (results on Geology maps)
- rock float sample (results on Geology maps)

All assays reported as Zn (ppm), Pb (ppm), Cu (ppm), Ag (ppm), Hg(ppb), Bi(ppm)

Note: for sample location maps involving soil and silt samples the proper code should be used:

9 0 0 1 1 0 0 1

year
area
sampler
sample no.

colour code (Berol pencil crayon)

916	Possibly anomalous—yellow
918	Probably anomalous—orange
923	Highly anomalous—red

SYMBOLS—HYDROLOGY

- pH (NOREDOL)
- pH, eH (mV), conductivity (µS) (GOVERNMENT)
- pH (T.E.C./MITSUI)
- STAFF WATER COLUMN STATION

093060

DWG 69

TOTAL ENERGOLD CORPORATION

CLEAR LAKE PROJECT
SOIL GEOCHEMISTRY
AND
HYDROLOGY
(1992)

N.T.S. : 105 L/14	TECH. : R. ZURAN	DATE : OCTOBER 1992
SCALE : 1 : 5000	DRAUGHTING : R. ZURAN HANDESIGN	FIGURE : 19 MAP No. : 0-5-6-7 NW

AREA INDEX



SYMBOLS—GEOCHEMISTRY

- soil sample
- soil sample (Ponsar + Holman Sampler)
- silt sample
- rock chip sample (results on Geology maps)
- rock float sample (results on Geology maps)

All assays reported as Zn (ppm), Pb (ppm), Cu (ppm), Ag (ppm),Hg(ppb),Bi(ppm)

Note: for sample location maps involving soil and silt samples the proper code should be used:

0 0 2 1 2 0 1

- year
- area
- sampler
- sample no

colour code (Berol pencil crayon)

916	Possibly anomalous—yellow
918	Probably anomalous—orange
923	Highly anomalous—red

SYMBOLS—HYDROLOGY

- pH (NORECOL)
- pH, eH (mV), conductivity (µS) (GOVERNMENT)
- pH IT.E.C./MITSUI)
- STAFF WATER COLUMN STATION

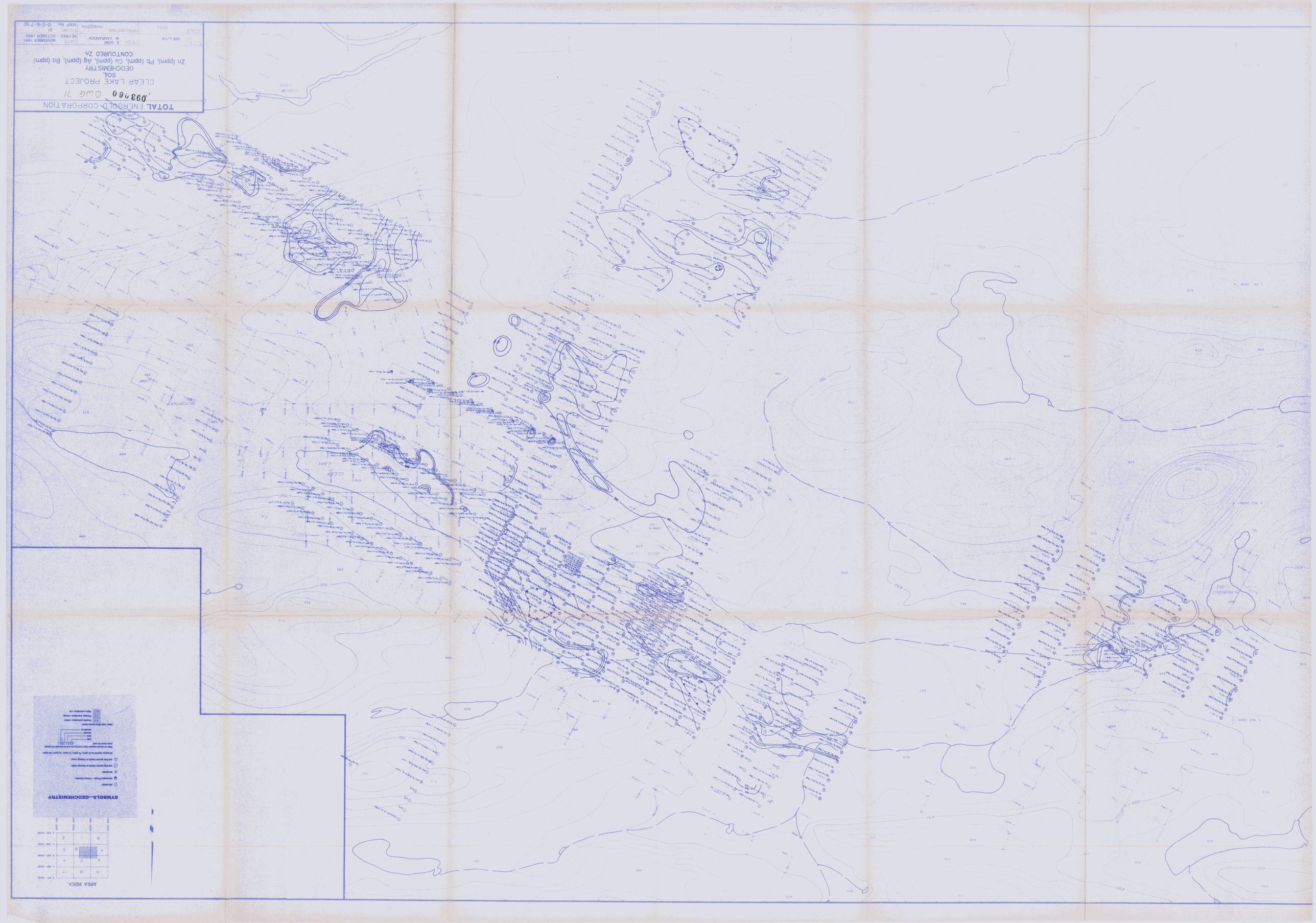
TOTAL ENERGOLD CORPORATION

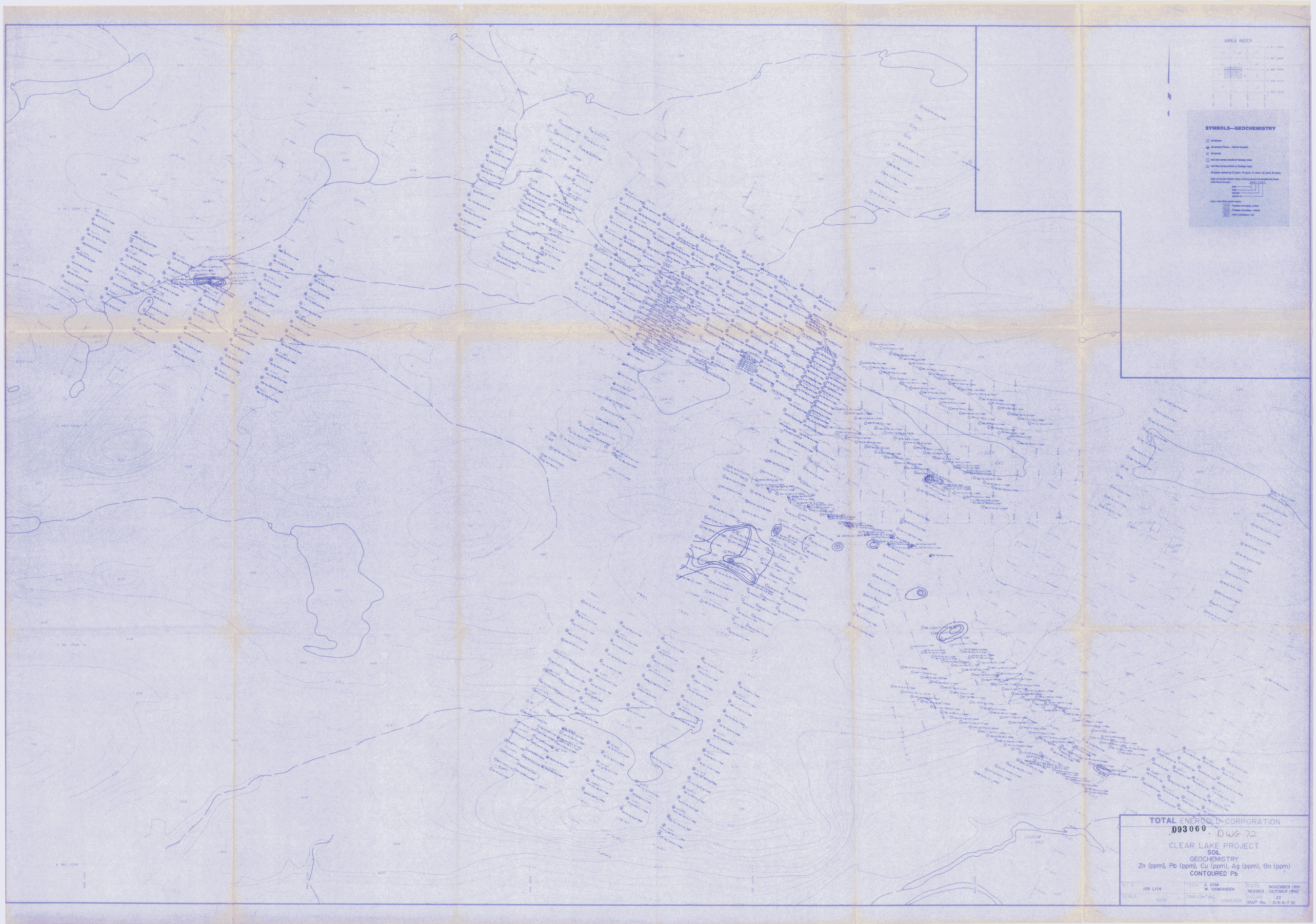
093060 DWG 70

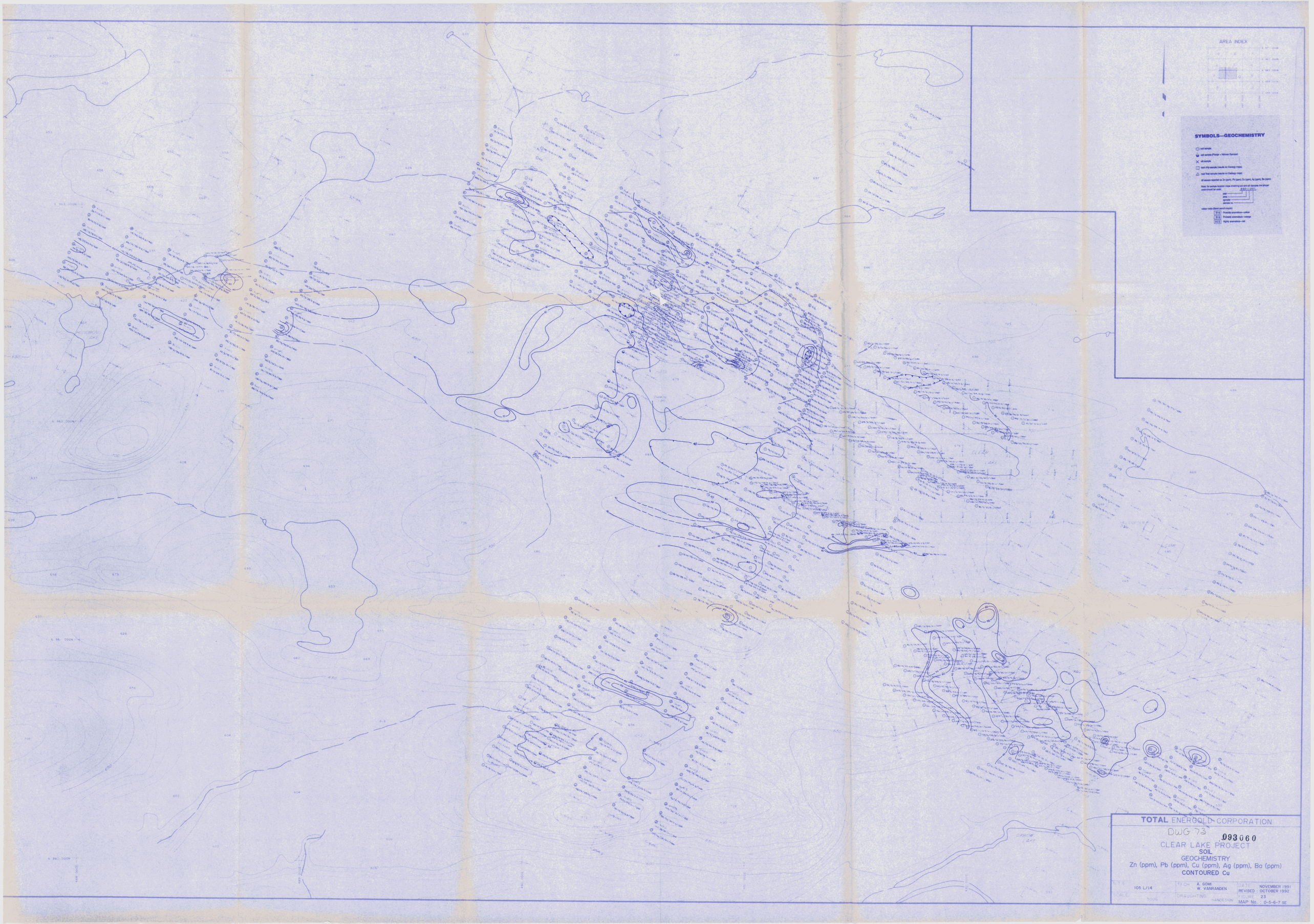
CLEAR LAKE PROJECT

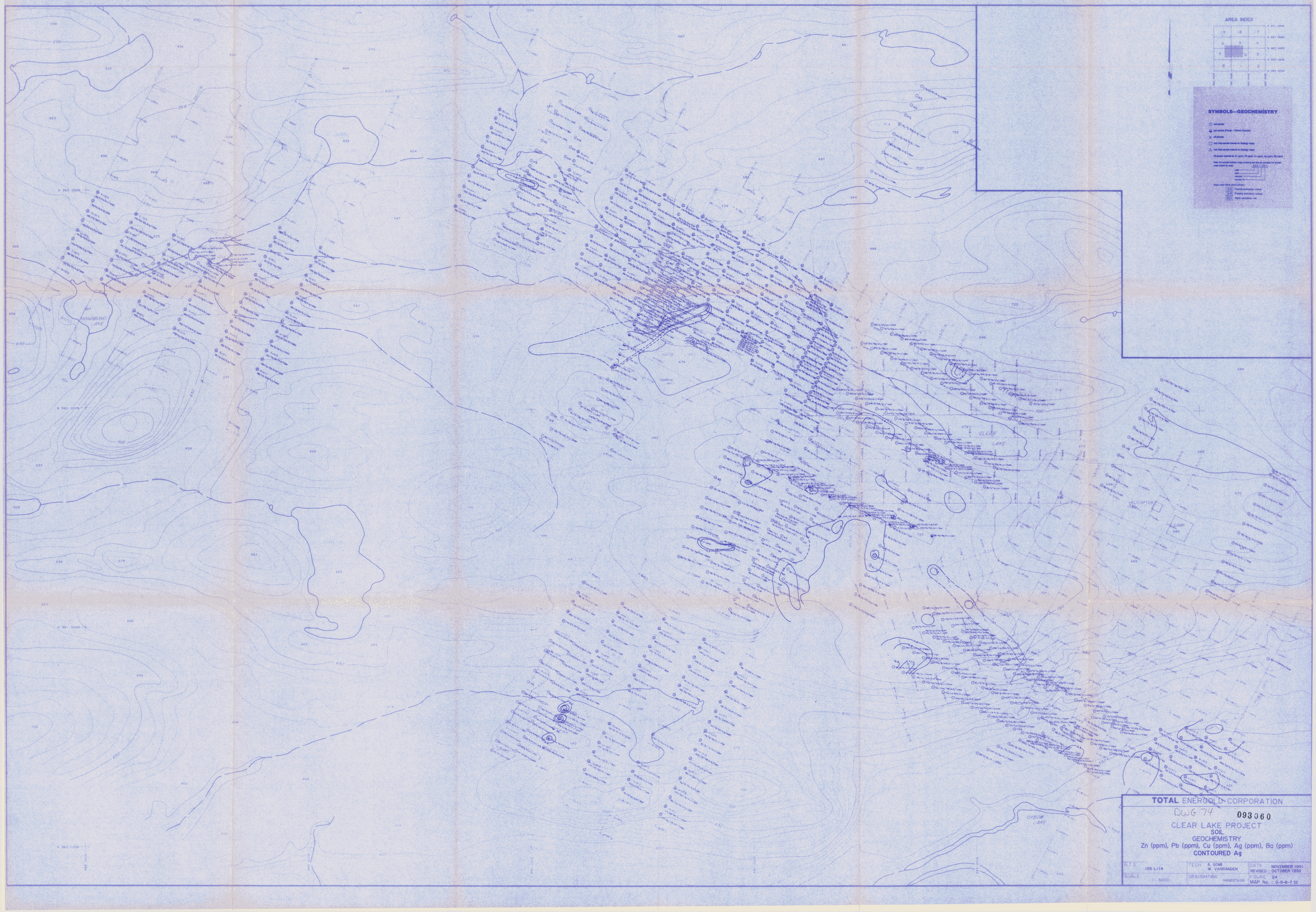
SOIL GEOCHEMISTRY
AND
HYDROLOGY
CONTOURED Hg (ppb)

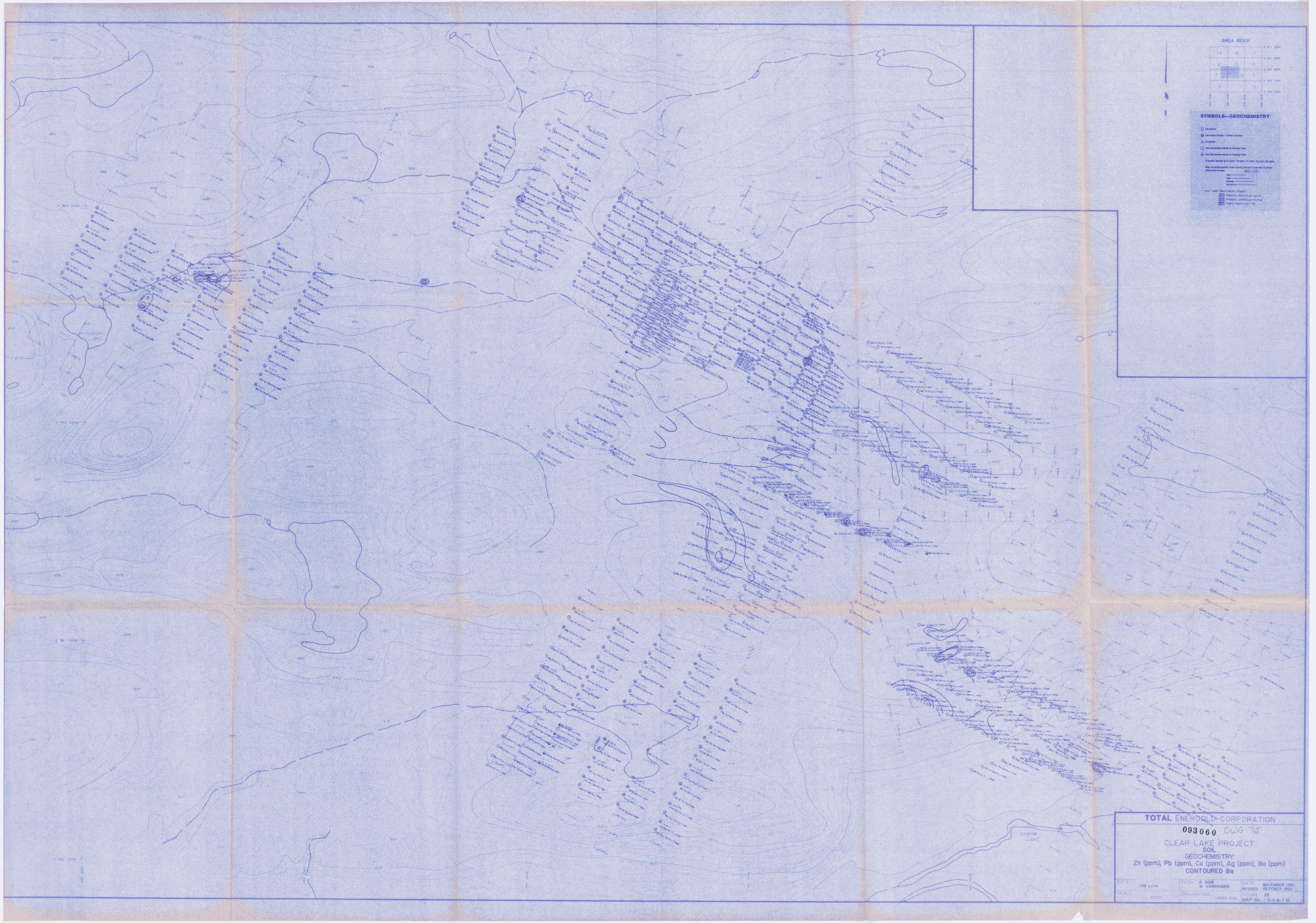
N.T.S. : 105 L/14	TECH : R. ZURAN, A. GOMI	DATE : OCTOBER 1992	
SCALE : 1:5000	DRAUGHTING : HANDESIGN	FIGURE : 20	MAP No. : 0-5-6-7 SE

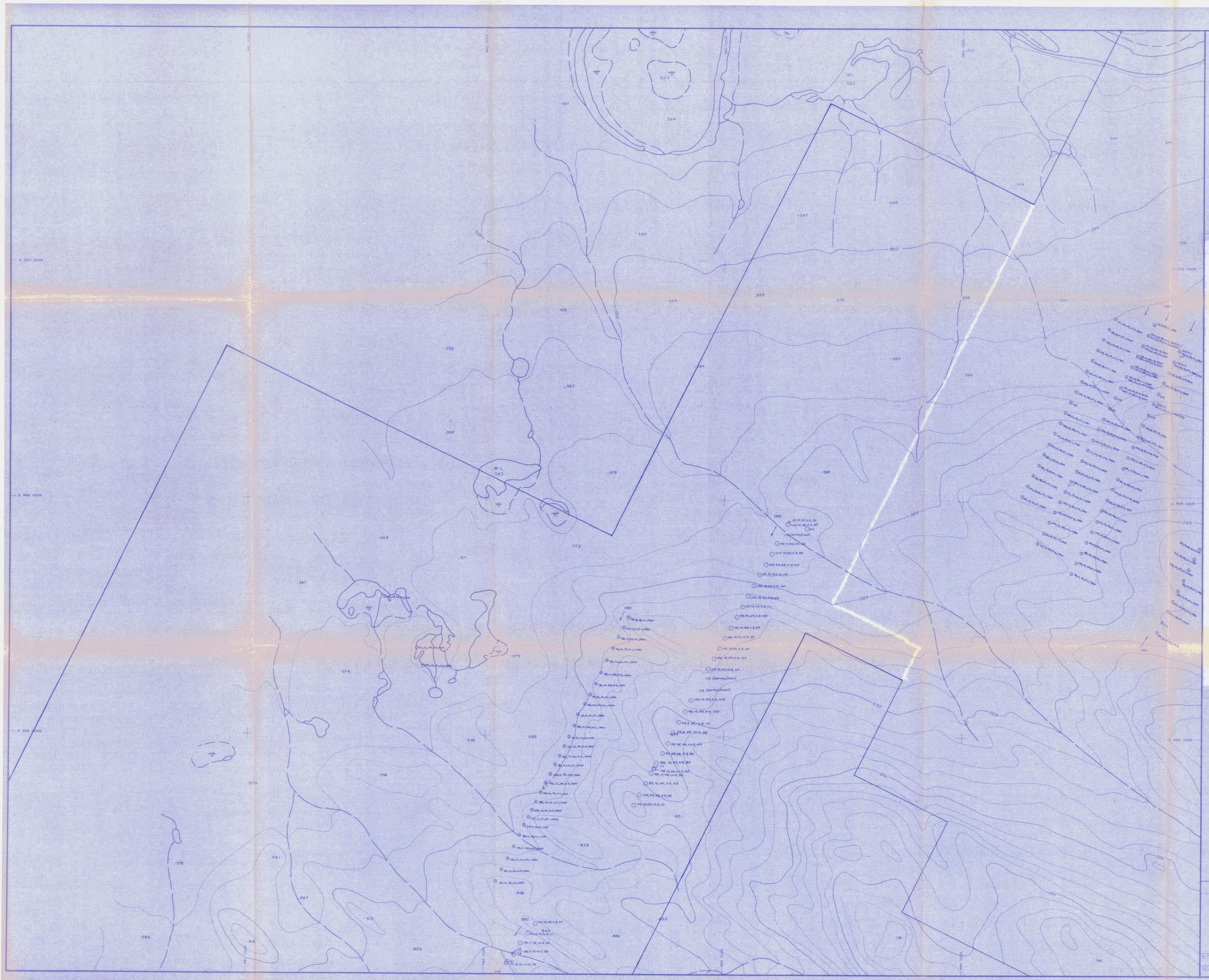

TOTAL ENERGOLD CORPORATION
093060 DWG 71
CLEAR LAKE PROJECT
SOIL
GEOCHEMISTRY
Zn (ppm), Pb (ppm), Cu (ppm), Ag (ppm), Ba (ppm)
CONTOURED Zn
N.T.S. 105 L/14
TECH A. GOM
W. VANRANDEN
DATE NOVEMBER 1991
REVISED : OCTOBER 1992
SCALE 5000
DRAUGHTING HANDESIGN
FIGURE 21
MAP No. : 0-5-6-7 SE
SYMBOLS—GEOCHEMISTRY
AREA INDEX


AREA INDEX
SYMBOLS—GEOCHEMISTRY
soil sample
soil sample (Florian + Helman Sampler)
silt sample
rock chip sample (results on Geology maps)
rock float sample (results on Geology maps)
All assays reported as Zn (ppm), Pb (ppm), Cu (ppm), Ag (ppm), Ba (ppm)
Note: for sample location maps involving soil and silt samples the proper data should be used:
SOIL
SILT
sample
sample no.
colour coats (Sierra sample analysis)
Possible anomalous—yellow
Possible anomalous—orange
Highly anomalous—red
CLEAR LAKE
OXBOW LAKE
TOTAL ENERGOLD CORPORATION
093060 DWG 72
CLEAR LAKE PROJECT
SOIL
GEOCHEMISTRY
Zn (ppm), Pb (ppm), Cu (ppm), Ag (ppm), Ba (ppm)
CONTOURED Pb
N.T.S. 105 L/14
TECH: A. GOMI W. VANRANDEN
DATE: NOVEMBER 1991
REVISED: OCTOBER 1992
SCALE 1:5000
DRAUGHTING HANDESIGN
FIGURE 22
MAP No.: 0-5-6-7.SE

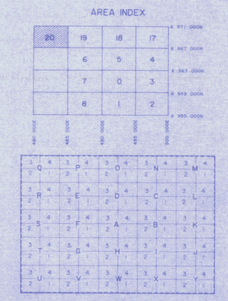

AREA INDEX
SYMBOLS—GEOCHEMISTRY
soil sample
soil sample (Florjar + Hillman Sampler)
silt sample
rock chip sample (results on Geology maps)
rock float sample (results on Geology maps)
All assays reported as Zn (ppm), Pb (ppm), Cu (ppm), Ag (ppm), Ba (ppm)
Note: for sample location maps involving soil and silt samples the proper case should be used.
9 5 0 1 1 2 3 1
year
area
sample
sample no.
colour scale (Barrel period crayon)
9-10 Probably anomalous—yellow
9-11 Probably anomalous—orange
9-12 Highly anomalous—red
CLEAR LAKE
OXBOW LAKE
TOTAL ENERGOLD CORPORATION
DWG 73
093060
CLEAR LAKE PROJECT
SOIL
GEOCHEMISTRY
Zn (ppm), Pb (ppm), Cu (ppm), Ag (ppm), Ba (ppm)
CONTOURED Cu
N.T.S. 105 L/14
TECH A. GOMI W. VANRANDEN
DATE NOVEMBER 1991
REVISED : OCTOBER 1992
SCALE 5000
DRAUGHTING HANDESIGN
FIGURE 23
MAP No. : 0-5-6-7 SE


AREA INDEX
SYMBOLS—GEOCHEMISTRY
HONOBONO LAKE
CLEAR LAKE
OXBOW LAKE
TOTAL ENERGOLD CORPORATION
DWG 74
093060
CLEAR LAKE PROJECT
SOIL
GEOCHEMISTRY
Zn (ppm), Pb (ppm), Cu (ppm), Ag (ppm), Ba (ppm)
CONTOURED Ag
N.T.S. 105 L/14
TECH. A. GOMI W. VANRANDEN
DATE NOVEMBER 1991
REVISED : OCTOBER 1992
SCALE 1:5000
DRAUGHTING HANDESIGN
FIGURE 24
MAP No. : 0-5-6-7 SE


AREA INDEX
SYMBOLS—GEOCHEMISTRY
CLEAR LAKE
OXBOW LAKE
TOTAL ENERGOLD CORPORATION
093060 DWG 75
CLEAR LAKE PROJECT
SOIL
GEOCHEMISTRY
Zn (ppm), Pb (ppm), Cu (ppm), Ag (ppm), Ba (ppm)
CONTOURED Ba
N.T.S. 105 L/14
TECH A. GOMI W. VANRANDEN
DATE NOVEMBER 1991
REVISED : OCTOBER 1992
SCALE 5000
DRAUGHTING HANDESIGN
FIGURE 25
MAP No. : 0-5-6-7 SE



AREA INDEX



ENLARGEMENT OF AREA

SYMBOLS—GEOCHEMISTRY

- soil sample
- soil sample (Pionjar + Holman Sampler)
- silt sample
- rock chip sample (results on Geology maps)
- rock float sample (results on Geology maps)

All assays reported as Zn (ppm), Pb (ppm), Cu (ppm), Ag (ppm), Ba (ppm) for 1991 and as Zn(ppm),Pb(ppm),Cu(ppm),Ag(ppm),Hg(ppb) for 1992
Note: for sample location maps involving soil and silt samples the proper code should be used:

9 9 0 1 1 2 0 1

year
area
sampler
sample no.

colour code (Berol pencil crayon)

916	Possibly anomalous—yellow
918	Probably anomalous—orange
923	Highly anomalous—red

SYMBOLS—HYDROLOGY

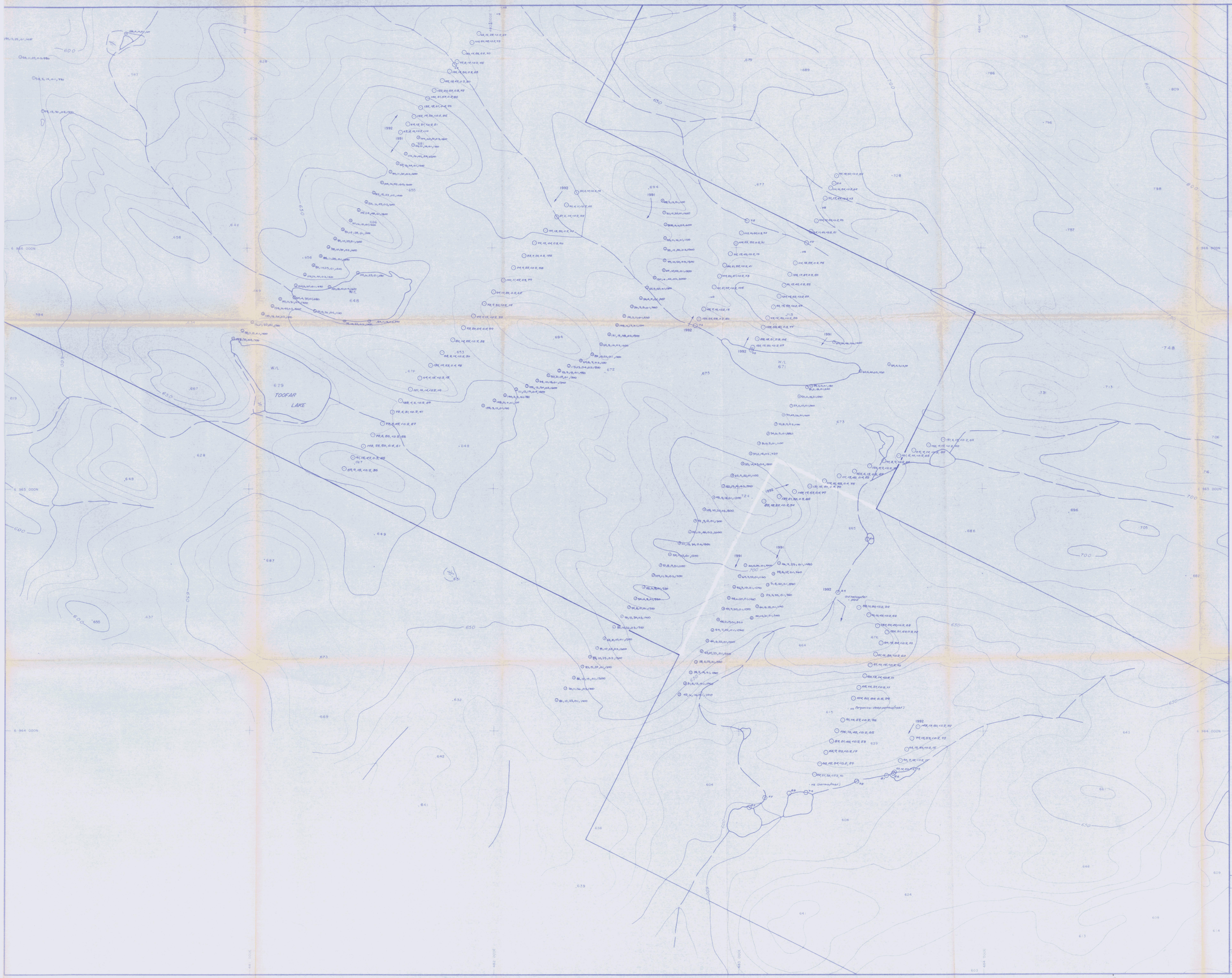
- pH (NOREODL)
- pH, eH (mV), conductivity (uS) (GOVERNMENT)
- pH (T.E.C./MITSUB)
- STAFF WATER COLUMN STATION

TOTAL ENERGOLD CORPORATION

093060 DWG 76

CLEAR LAKE PROJECT
SOIL GEOCHEMISTRY
AND
HYDROLOGY
AREA 23

N.T.S.: 105 L/14	TECH.: R. ZURAN, W. VANRANDEN	DATE: DECEMBER 1991 REVISED: OCTOBER 1992
SCALE: 1:5000	DRAUGHTING: HANDESIGN	FIGURE: 26 MAP No.: 20



AREA INDEX

20	19	18	17
21	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	Q	4/1	3/2	P	4/1	3/2	O	4/1	3/2	N	4/1
3/2	R	4/1	3/2	E	4/1	3/2	D	4/1	3/2	C	4/1
3/2	S	4/1	3/2	F	4/1	3/2	A	4/1	3/2	B	4/1
3/2	T	4/1	3/2	G	4/1	3/2	H	4/1	3/2	I	4/1
3/2	U	4/1	3/2	V	4/1	3/2	W	4/1	3/2	X	4/1

ENLARGEMENT OF AREA

SYMBOLS—GEOCHEMISTRY

- soil sample
- soil sample (Pionjar + Holman Sampler)
- silt sample
- rock chip sample (results on Geology maps)
- rock float sample (results on Geology maps)

All assays reported as Zn (ppm), Pb (ppm), Cu (ppm), Ag (ppm), Ba (ppm), for 1991 and as Zn(ppm),Pb(ppm),Cu(ppm),Ag(ppm),Hg(ppb) for 1992
Note: for sample location maps involving soil and silt samples the proper code should be used:

8 5 0 1 1 2 0 1
year
area
sampler
sample no.

colour code (Berol pencil crayon)

916	Possibly anomalous—yellow
918	Probably anomalous—orange
923	Highly anomalous—red

SYMBOLS—HYDROLOGY

- pH (NORECOL)
- pH, eH (mV), conductivity (µS) (GOVERNMENT)
- pH (T.E.C./MITSUI)
- STAFF WATER COLUMN STATION

TOTAL ENERGOLD CORPORATION

093C60 DWG 77

CLEAR LAKE PROJECT
SOIL GEOCHEMISTRY
AND
HYDROLOGY
AREA 23

N.T.S. 105 L/14	TECH. R. ZURAN, W. VANRANDEN	DATE: NOVEMBER 1991 REVISED: OCTOBER 1992
SCALE 1:5000	DRAUGHTING HANDESIGN	FIGURE: 27 MAP No.: 21

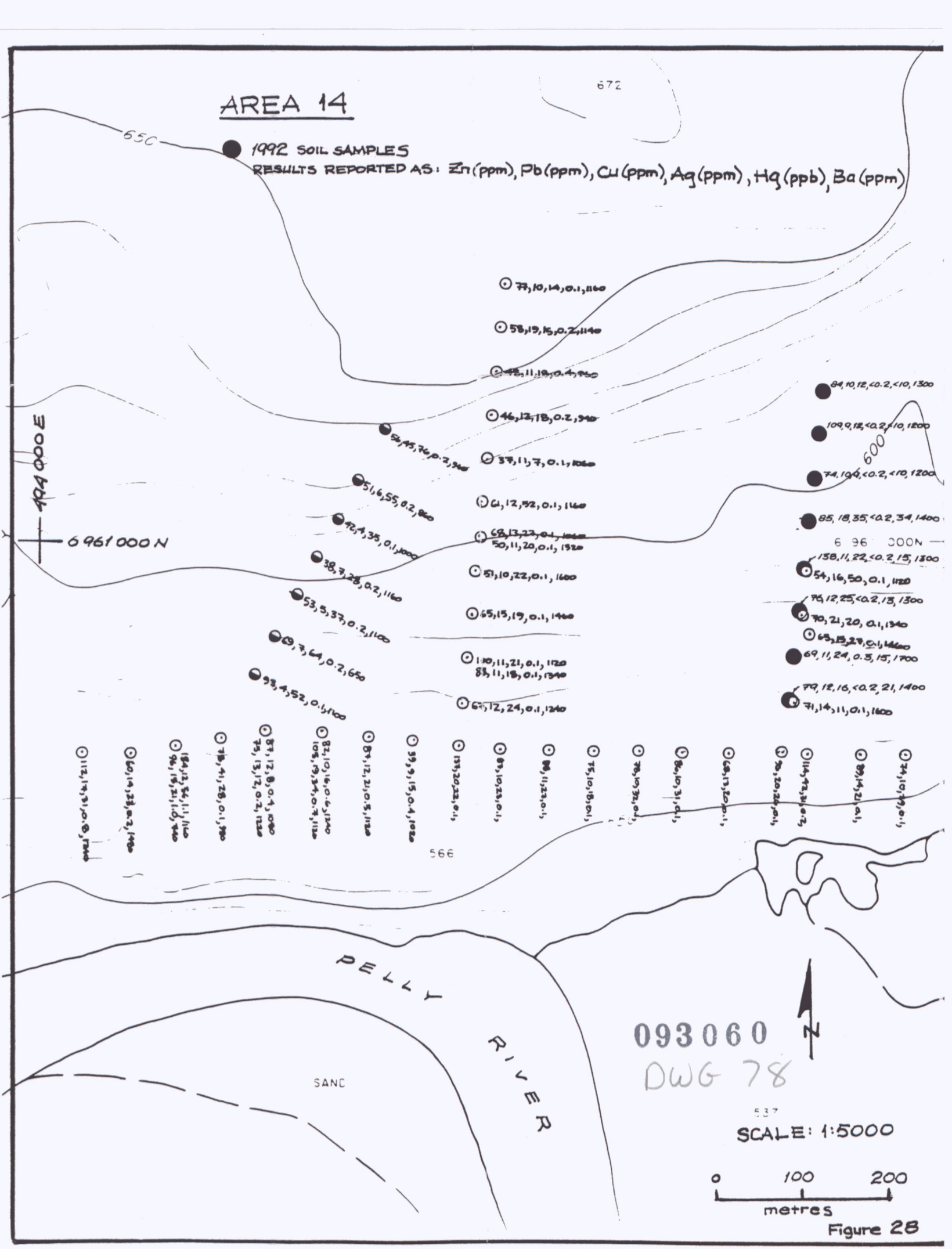

AREA 14
1992 SOIL SAMPLES
RESULTS REPORTED AS: Zn(ppm), Pb(ppm), Cu(ppm), Ag(ppm), Hg(ppb), Ba(ppm)
672
650
600
566
537
77,10,14,0.1,1160
58,19,15,0.2,1140
46,12,18,0.2,940
37,11,7,0.1,1060
51,6,55,0.2,860
42,4,35,0.1,1000
38,3,28,0.2,1160
53,5,37,0.2,1100
93,4,52,0.1,1100
84,10,12,<0.2,<10,1300
109,9,12,<0.2,<10,1200
74,19,<0.2,<10,1200
85,18,35,<0.2,34,1400
138,11,22,<0.2,15,1300
54,16,50,0.1,1120
76,12,25,<0.2,13,1300
70,21,20,0.1,1340
69,11,24,0.3,15,1700
79,12,16,<0.2,21,1400
71,14,11,0.1,1600
194 000 E
6 961 000 N
6 96 000N
PELLY
RIVER
SAND
093060
DWG 78
N
SCALE: 1:5000
0
100
200
metres

Figure 28

IP Pole-Dipole array

3+00W 2+00W 1+00W 0+00 1+00E 2+00E

RESISTIVITY LOW n=6 less than 100 m

CHARGEABILITY HIGH n=6 more than 40m V/V

SOIL

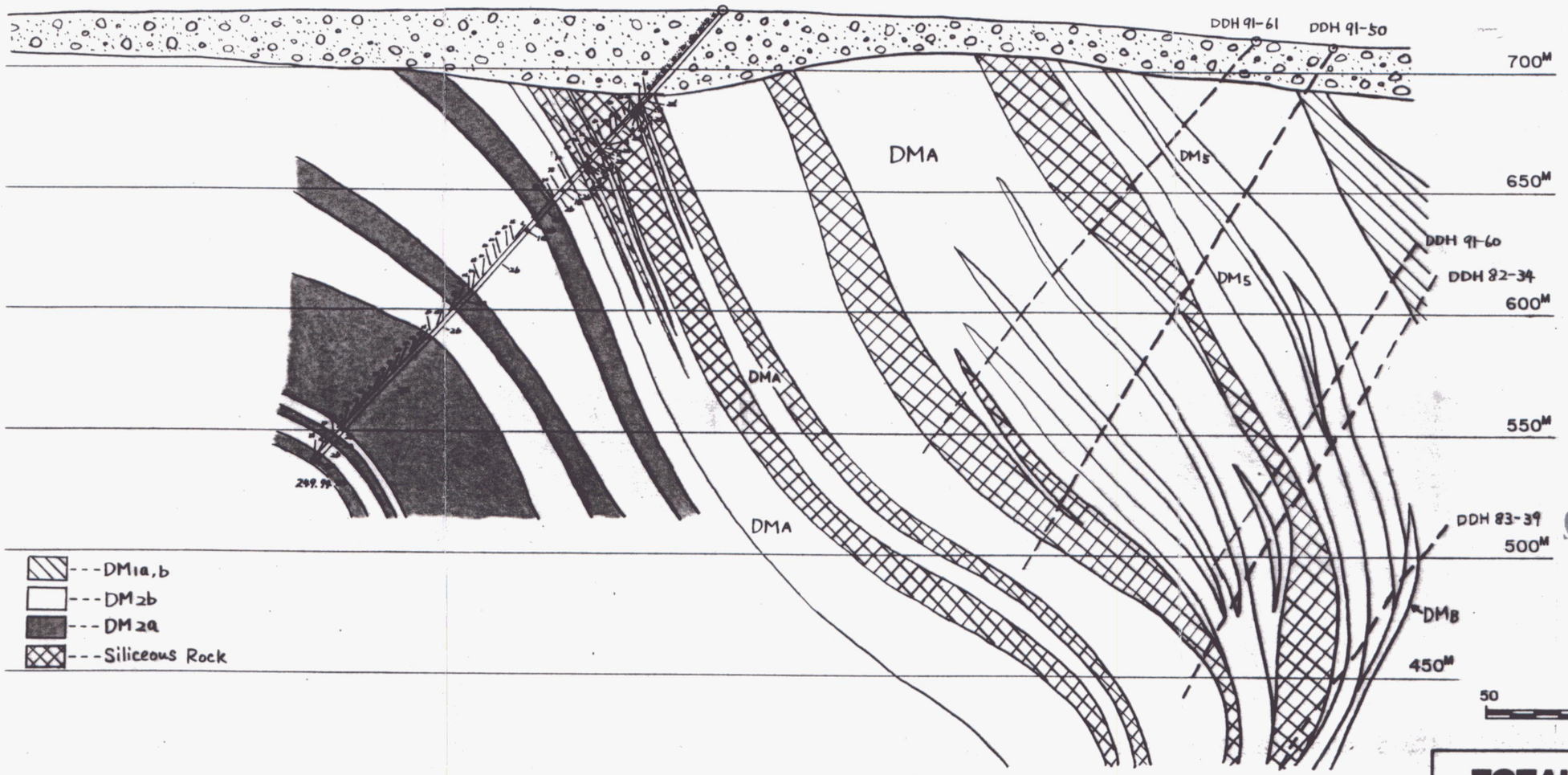
GEOCHEM Hg ANOMALY 0.565ppm

W

DDH 92-71 0.188ppm

PIN 0+00

E



SCALE

50 0 50 100

093060

DWG 79

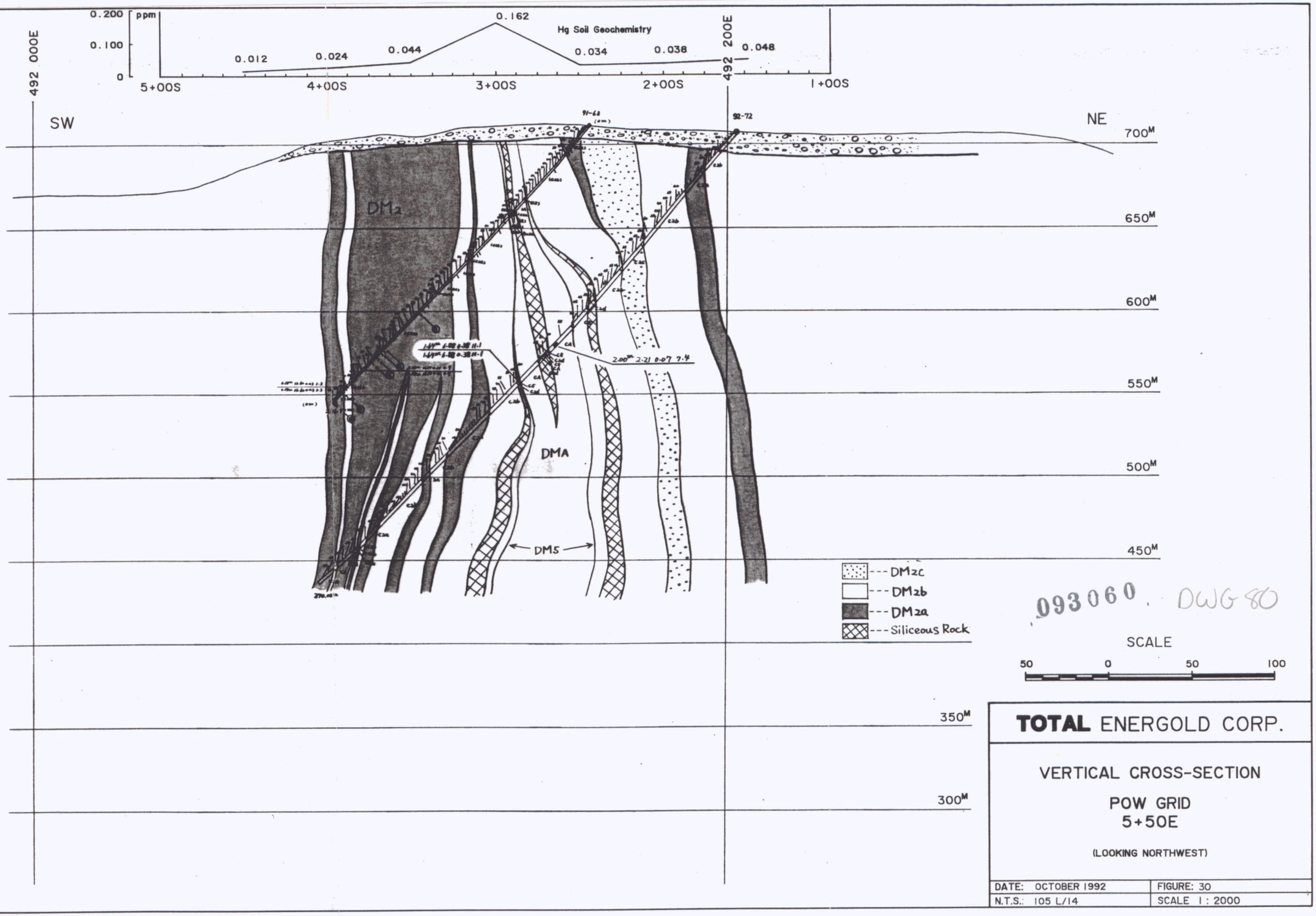
TOTAL ENERGOLD CORP.

VERTICAL CROSS-SECTION

PIN GRID
0+00

(LOOKING NORTH)

DATE: OCTOBER 1992	FIGURE: 29
N.T.S.: 105 L/14	SCALE 1 : 2000



093060 . DWG 80

SCALE

50 0 50 100

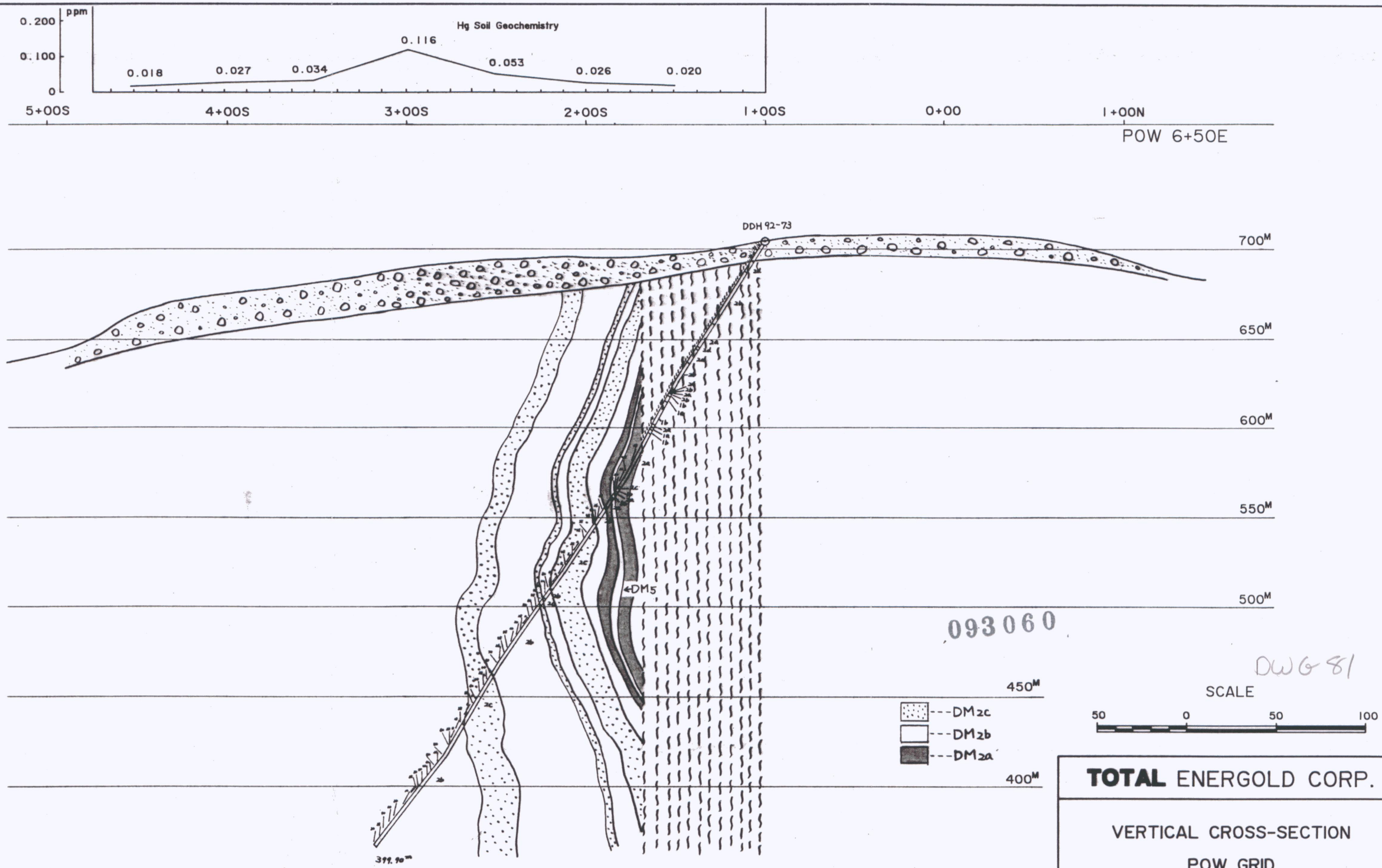
TOTAL ENERGOLD CORP.

VERTICAL CROSS-SECTION

POW GRID
5+50E

(LOOKING NORTHWEST)

DATE: OCTOBER 1992	FIGURE: 30
N.T.S.: 105 L/14	SCALE 1 : 2000



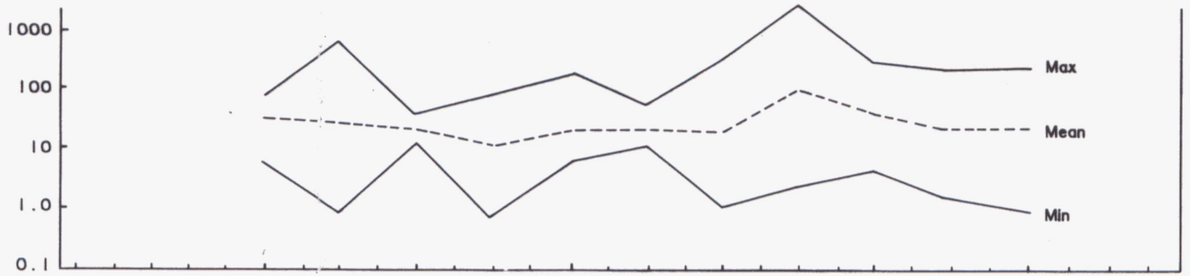
TOTAL ENERGOLD CORP.

VERTICAL CROSS-SECTION

POW GRID
6+50E

(LOOKING NORTHWEST)

DATE: OCTOBER 1992	FIGURE: 31
N.T.S.: 105 L/14	SCALE 1 : 2000



PLMT Resistivity
(without a power line)

8+50S 8+00S 7+50S 7+00S 6+50S 6+00S 5+50S 5+00S 4+50S 4+00S 3+50S 3+00S 2+50S

POW 13+50E

SW

Residual Gravity by MINDECO more than 0.6 mgal

NE

DDH 92-74

550M

500M

450M

400M

350M

250M

379.33 m

DM1a,b

DM2c

DM2b

DM2a

DWG 82

SCALE

50 0 50 100

093060

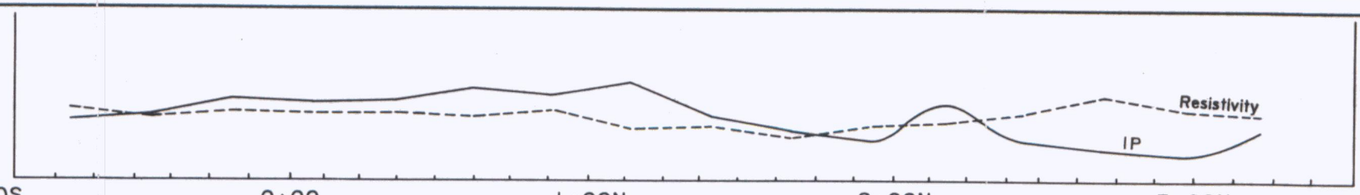
TOTAL ENERGOLD CORP.

VERTICAL CROSS-SECTION

POW GRID
13+50E

(LOOKING NORTHWEST)

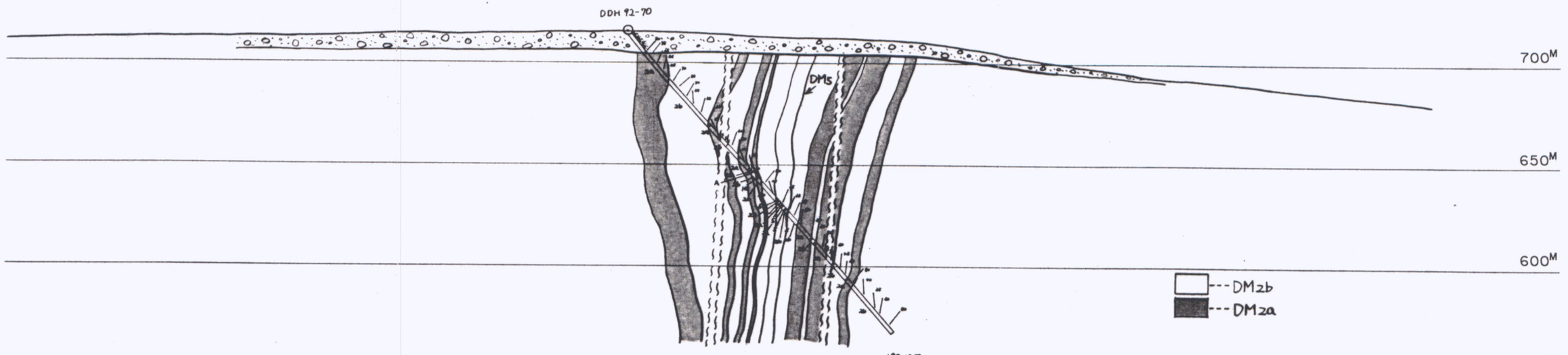
DATE: OCTOBER 1992	FIGURE: 32
N.T.S.: 105 L/14	SCALE 1 : 2000



2+00S 1+00S 0+00 1+00N 2+00N 3+00N 4+00N

POW 4+50W

SW NE



090850 DWG 83

SCALE

50 0 50 100

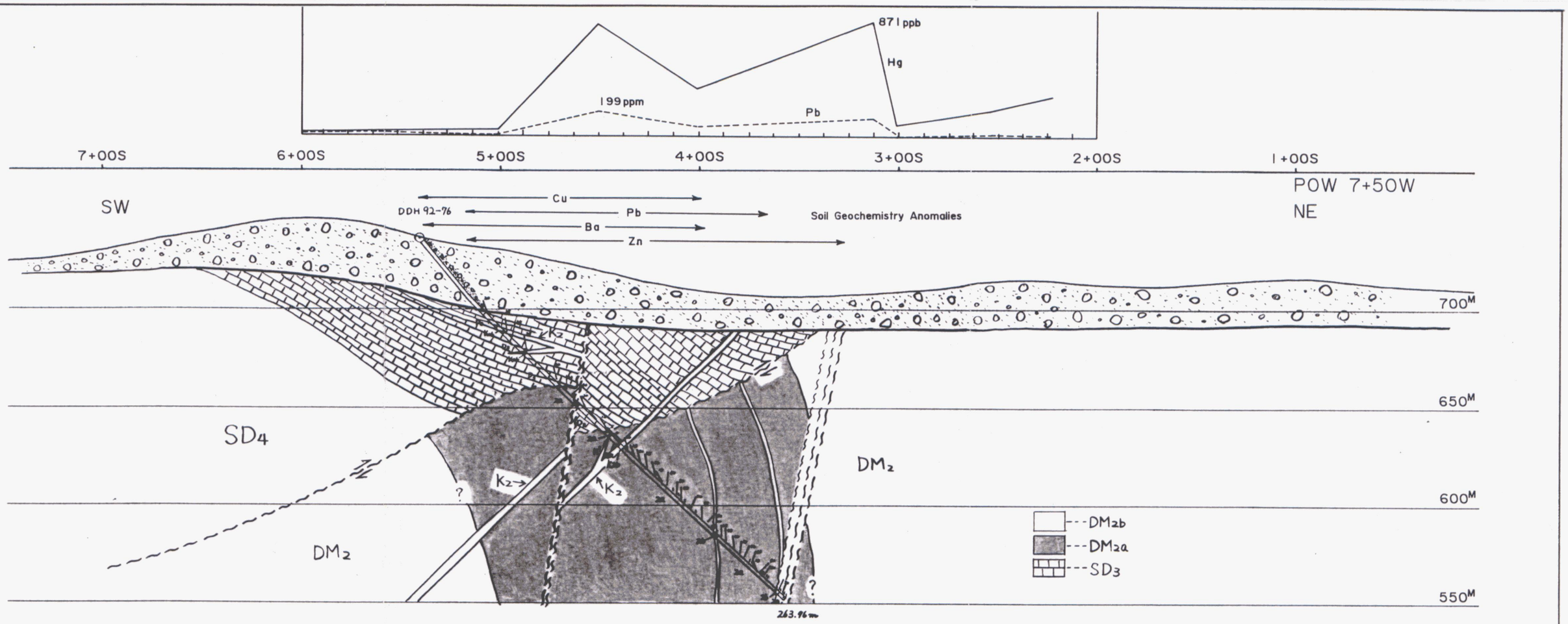
TOTAL ENERGOLD CORP.

VERTICAL CROSS-SECTION

POW GRID
4+50W

(LOOKING NORTHWEST)

DATE: OCTOBER 1992	FIGURE: 33
N.T.S.: 105 L/14	SCALE 1 : 2000



093060

SCALE DWG 84

50 0 50 100

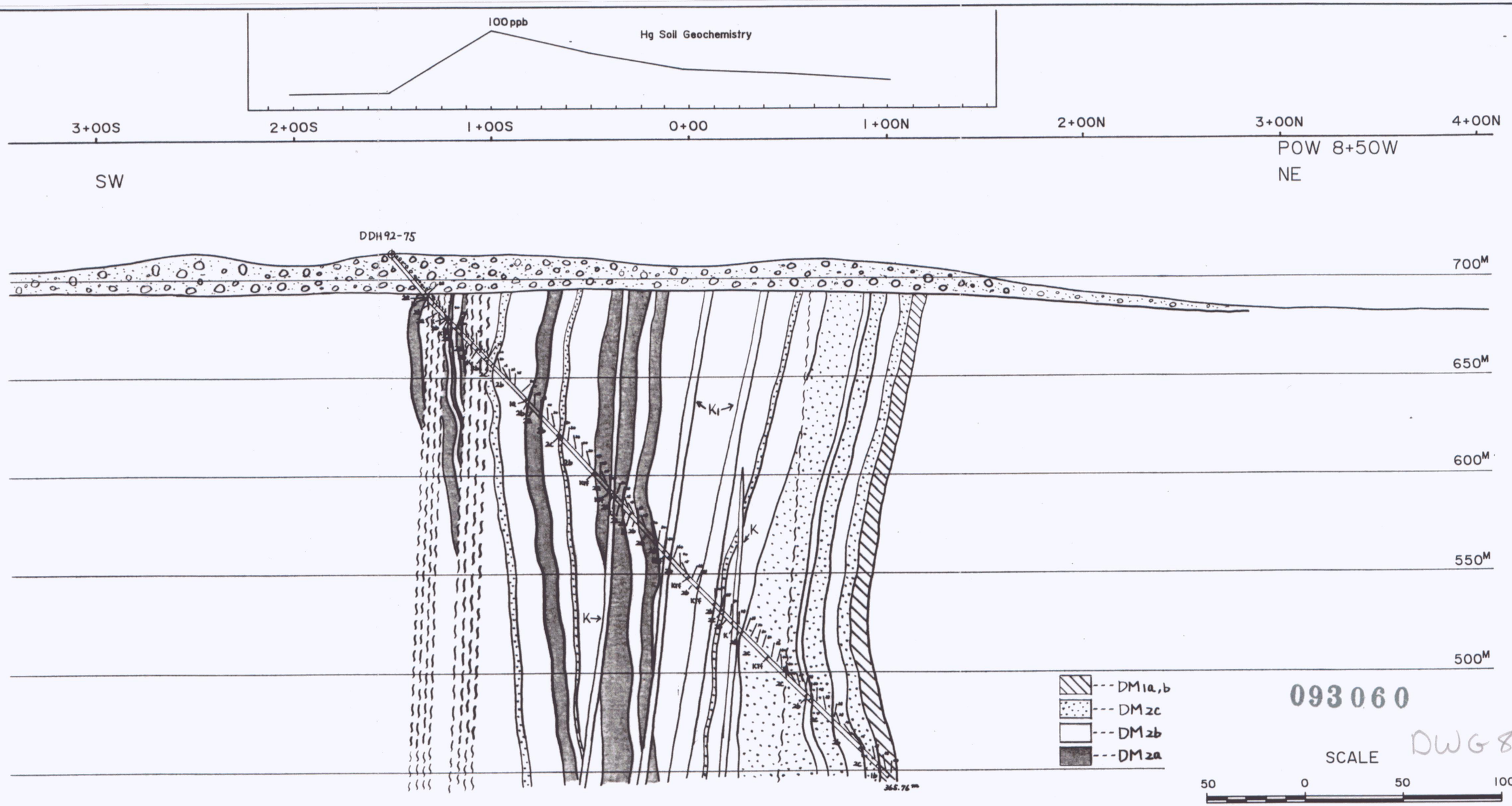
TOTAL ENERGOLD CORP.

VERTICAL CROSS-SECTION

POW GRID
7+50W

(LOOKING NORTHWEST)

DATE: OCTOBER 1992	FIGURE: 34
N.T.S.: 105 L/14	SCALE 1 : 2000



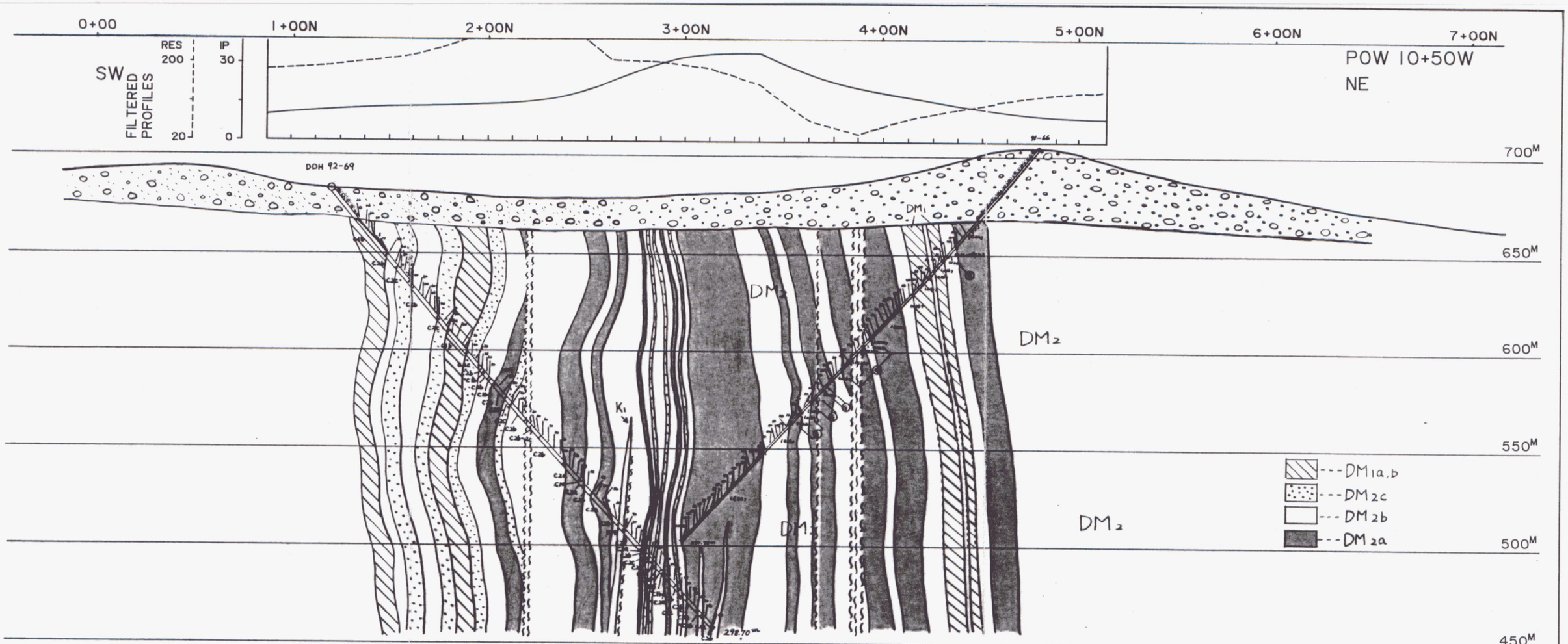
TOTAL ENERGOLD CORP.

VERTICAL CROSS-SECTION

POW GRID
8+50W

(LOOKING NORTHWEST)

DATE: OCTOBER 1992	FIGURE: 35
N.T.S.: 105 L/14	SCALE 1 : 2000



093060

DWG 86

SCALE

50 0 50 100

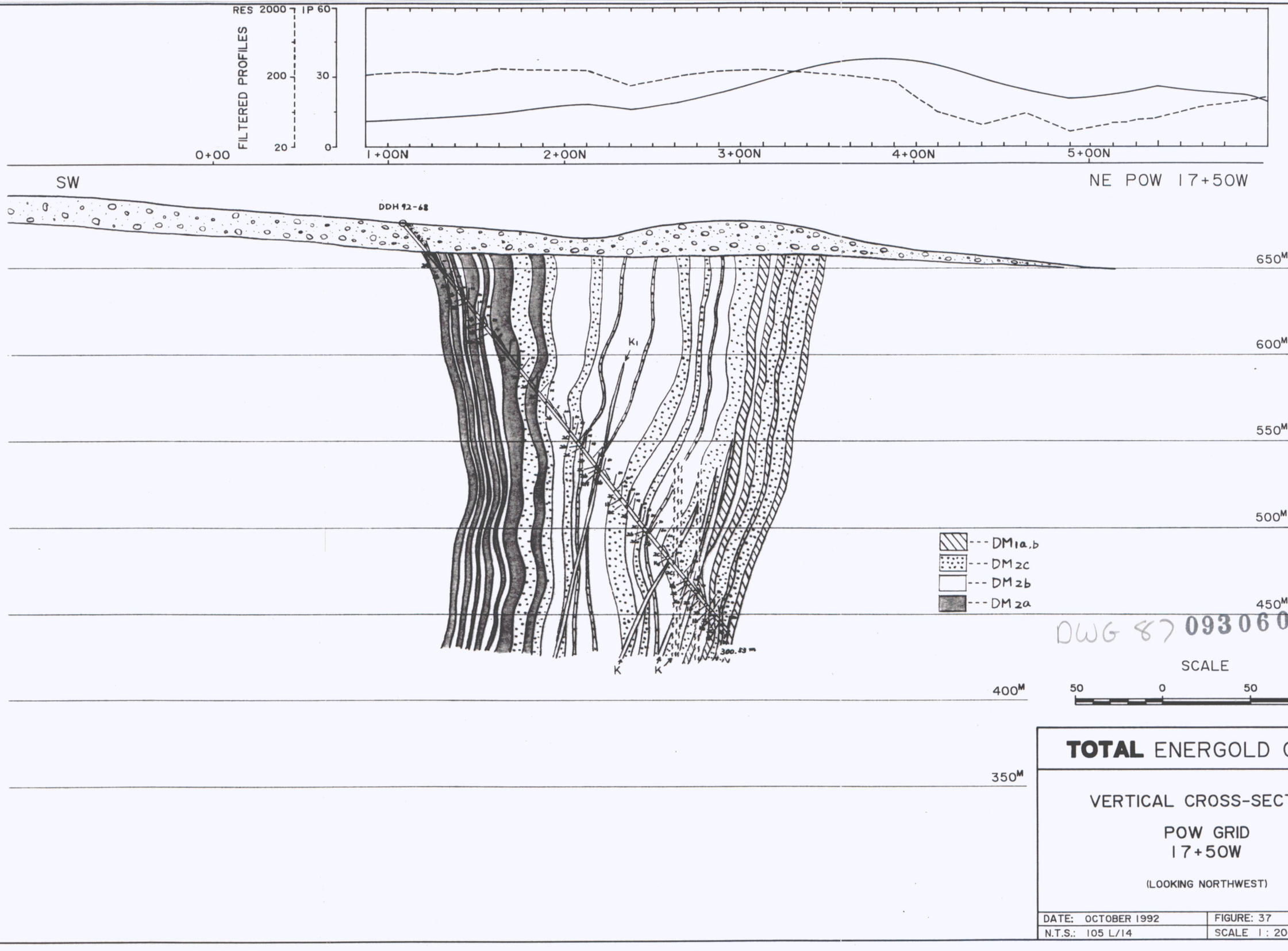
TOTAL ENERGOLD CORP.

VERTICAL CROSS-SECTION

POW GRID
10+50W

(LOOKING NORTHWEST)

DATE: OCTOBER 1992	FIGURE: 36
N.T.S.: 105 L/14	SCALE 1 : 2000



DWG 87 093060

SCALE

50 0 50 100

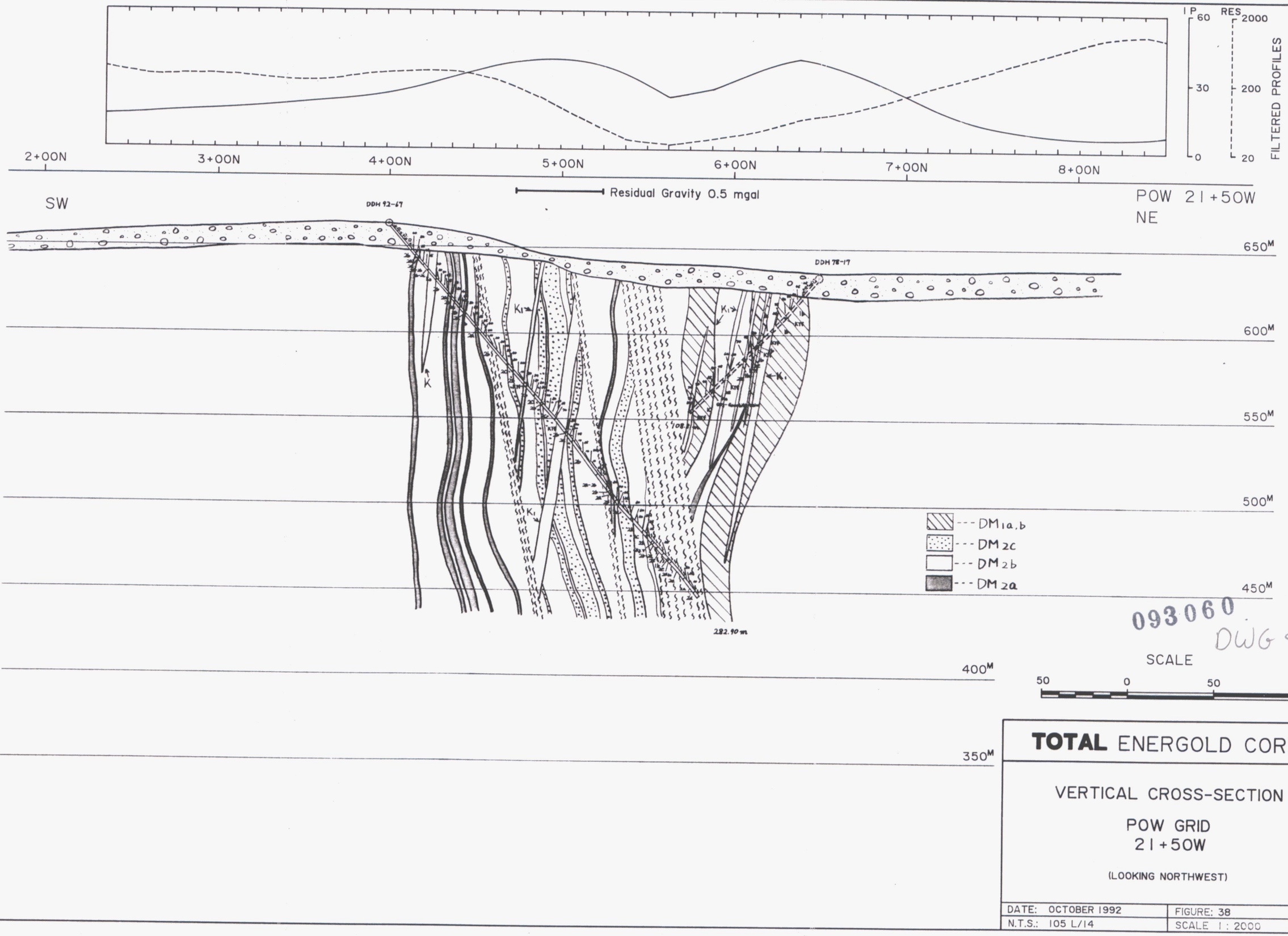
TOTAL ENERGOLD CORP.

VERTICAL CROSS-SECTION

POW GRID
17+50W

(LOOKING NORTHWEST)

DATE: OCTOBER 1992	FIGURE: 37
N.T.S.: 105 L/14	SCALE 1 : 2000



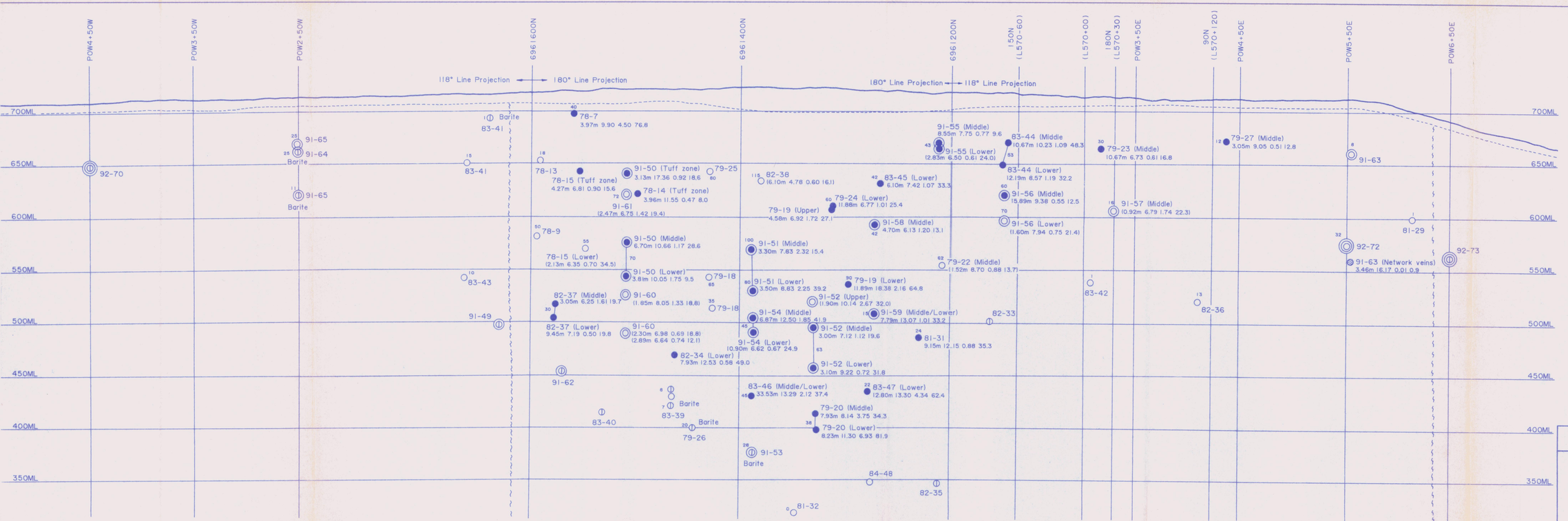
TOTAL ENERGOLD CORP.

VERTICAL CROSS-SECTION

POW GRID
21+50W

(LOOKING NORTHWEST)

DATE: OCTOBER 1992	FIGURE: 38
N.T.S.: 105 L/14	SCALE 1 : 2000



LEGEND

- Previous hole intersected ore
- Previous hole intersected - pyrite only
- Previous hole with no intersection
- DDH 1992 / DDH 1991: Hole intersected ore
- Hole intersected - pyrite only
- Barren hole

093060

50 0 50 100

TOTAL ENERGOLD CORP.

DWG 89

LONGITUDINAL SECTION
CLEAR LAKE DEPOSIT

A. GOMI

DATE : OCTOBER 1992	FIGURE : 39
N.T.S. : 105 L/14	SCALE 1 : 2000

APPENDIX A

Petrographic Studies

TOTAL ENERGOLD CORPORATION

LIST OF THIN SECTIONS AND POLISHED THIN SECTION

	SECTION	LABEL ON SPECIMEN	LOCATION
1.	INT-1	Z-13	POW 38+90W, 11+40N
2.	INT-2	G-2	300m SE of Toofar Lk
3.	INT-3	4362	POW 51+80W, 9+00N
4.	INT-4	Z-19	POW 54+65W, 8+35N
5.	INT-5	Z-20	POW 52+97W, 6+45N
6.	INT-6	Z-21	POW 17+50W, 13+00S
7.	INT-7	---	92-75, 236.6m
8.	INT-8	---	92-76, 61.00m, DM5a
9.	INT-9	---	92-76, 78.8m
10.	INT-10	---	92-76, 147.40m
11.	CLEAR-16	RB-Area 23 '91	Area 23
12.	CLEAR-17	---	79-18, 75m, DM3
13.	CLEAR-18	---	79-18, 110m, DM5b
14.	CLEAR-19	---	82-39, 247.5m, ba-tuff
15.	CLEAR-20	---	82-39, 358.4m, chert-tuff
16.	CLEAR-21	---	83-38A, 311.6m, DM5a?
*17.	CLEAR-22	---	91-60, 165.4m, DM5b+sph
18.	CLEAR-23	---	92-70, 112.92m, DM5a
19.	CLEAR-24	---	92-73, 165.7m, DM5a
20.	ASKIN-7	---	92-76, 119.00m, SD3
21.	ASKIN-8	---	92-76, 131.00m, SD3
22.	ASKIN-9	---	92-76, 135.70m, SD3

* Please make a polished thin section of this specimen.

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

P.O. BOX 39
8080 GLOVER ROAD,
FORT LANGLEY, B.C.
V0X 1J0
PHONE (604) 888-1323
FAX. (604) 888-3642

Attention Rick Zuran
Total Energold Corporation
Suite 21, 1114 First Avenue
Whitehorse, Yukon Y1A 1A3
Tel. [403] 668-6121 FAX 668-3968

JOB #068
Sept. 28/92

Dear Rick,

Re: Petrographic descriptions, 22 samples
from INT, CLEAR and ASKIN Suites

Summary
INT SUITE: Spatial relationship?
INT-1 is a multistage carbonatized breccia [fault breccia]

INT-2 is altered biotite hornblende granodiorite

INT-3 is a [quartz] feldspar feldspathized porphyry with rounded quartz [does not etch in HF] phenocrysts with outward radiation fibrous feldspathic overgrowths [do etch in HF]. There is a problem here because the overgrowths appear to be in optical continuity with quartz cores! Polygonal outlines with similar radiating internal texture occur throughout the groundmass. Are these feldspars (albite?) or feldspathoids? Similar in shape to leucite or pseudoleucite but anisotropic and do not stain. Nepheline does not occur with original quartz. An electron microprobe analysis would help resolve this problem.

INT-4, 5, 7 are plagioclase porphyries. They all contain polygonal outlines of the same mineral referred to in INT-3.

INT-6 is a felted altered monzodiorite. This is the only sample in the suite that produced a potassium stain. K-feldspar occurs interstitially and along margins of plagioclase laths.

INT-8, 9, 10 are crystal lithic tuffs/ash tuffs with varied intensity of brecciation and alteration which in some samples leaves only vestiges of the protolith. INT 10 has less conspicuous pumice(?) fragments.

CLEAR SUITE Samples are consistent with SED/EX environment
CLEAR-16 and 17 are sedimentary conglomerate and breccia respectively. CLEAR 17 lacks the finer matrix of CLEAR 16

supporting the coarser clasts. CLEAR 17 clasts are more elongate. Sheared/carbonaceous.

CLEAR 18 is classified as lithic tuff/lapilli tuff. Contains volcanic tuff and pumice clasts. No sedimentary component among coarser clasts.

CLEAR-19 is impure sedimentary barite veined by barite.

CLEAR-20 is "feldspathic" argillite. It was not classified as chert because it etches deeply and a significant amount of the microgranules of the groundmass are lath-shaped. A exhalite origin is not ruled out. A whole rock analysis would be useful to determine silica content.

CLEAR-21, 23 are crystal lithic tuff [ash tuff] with similarities to samples CLEAR 8, 9, 10 of the first suite. Spatial relationship???

CLEAR-22 lithic tuff/lapilli tuff. Clasts are lensoidal pumice. Gangue minerals between and altering clasts are carbonate [dolomite] sericite/muscovite, quartz lesser barite. Mineralized by sphalerite, pyrite, galena, tetrahedrite(?) traces of chalcopyrite.

CLEAR-24 crystal tuff, lacks conspicuous lithic fragments.

ASKIN SUITE
ASKIN-7 is crystalline carbonate [dolomite] showing brecciation, with both fine crushed textures and recrystallization.

ASKIN-8 and 9 are dolostones containing rounded quartz grains suspended in the microgranular dolomitic groundmass.

You will be invoiced for only 10 to the 20 photomicrographs provided [plus set-up charge]. I hope you will fine this report satisfactory.

Samples will follow by bus [collect].

Yours very truly,

Ken Northcote

K.E. Northcote, Ph.D., P.Eng. [604] 796-2068

INT-1
Multistage carbonatized breccia

Summary description
Pervasive carbonatized lithic (volcanic, dolomitic and probable replaced argillaceous sedimentary) fragments with lesser quartz and chert fragments occur in a multistage carbonate filled brecciated veined network. Among the lithic fragments are other distinct fragments and partially carbonate permeated fragments of undetermined clay-like material that has a siliceous appearance but etches deeply. The fragmental assemblage is cut by several stages of less dusted carbonate breccia infilling, accompanied by minor quartz and with minor interstitial clay. Consistent with fault breccia.

The apple green coloration suspected of being mariposite may well be mariposite although it was not recognized or confirmed in thin section. Most of the coloration is diffuse within carbonatized material.

Petrographic description
Pervasive carbonatization of polymictic lithic and crystal fragments range in size from (.05 mm to >1 cm). Lithic fragments (35%) are pervasively carbonatized but many retain a variety of primary volcanic (amygdaloidal and tuffaceous) textures. Although sedimentary lithic fragments are probably incorporated in the breccia but conclusive sedimentary textures are not conspicuous. Foliated carbonatized lithic fragments may represent sedimentary clasts. Clasts formed from aggregates of carbonate crystals/fragments are probably relics of original carbonate clasts. Carbonate "replacing" lithic fragments has a strong semiopaque dusting, particularly in replaced volcanic fragments. Conspicuous among the lithic fragments are distinct fragmental outlines composed of very fine (.01 to .05 mm) irregular bladed, feathery interlocking clusters of siliceous appearance, 15%. This material, however, etches deeply with HF, is unaltered, has low birefringence, fibrous low/moderate relief like chlorite, but too deeply etched. Clay occurs interstitially to carbonate but this material is cut by carbonate showing both sharp and diffuse margins. Distinct quartz grains (to >1.0 mm) are widely scattered (<1%) in the groundmass and minor, 2-3%, interlocking quartz grains are associated with late carbonate veins.

The breccia shows several stages of brecciation and generations of breccia infilling and veining by less dusted carbonate. Minor, 2%, clay in clusters of "book-like" grains (<.05 mm) occurs interstitially to carbonate veins.

The apple green coloration suspected of being mariposite may well be mariposite although it was not recognized or confirmed in thin section. The hand specimen shows some distinct grains in

INT-1 Continued

fractures but most of the coloration is diffuse within carbonatized material. Smithsonite(?) was suggested when it was thought that there was some spatial relationship between this sample and zinc mineralization.

Estimated percentages
Carbonatized lithic fragments 25%
Carbonate fragments 25%
Quartz/chert fragments (including those in lithic fragments) 5%
Undetermined clay-like material 15%
Veining/breccia infilling
Carbonate 25%
Quartz 2 - 3%
"Clay" 2%

INT - 2
Altered biotite hornblende granodiorite

Summary description
Hornblende granodiorite/quartz monzonite. Phase 1. Medium grained granitic texture. Composed of moderately to strongly sericite altered subhedral plagioclase; moderately chlorite lesser secondary amphibole altered hornblende; and strongly chlorite altered biotite. Groundmass composed of conspicuous coarse intercrystalline quartz and lesser K-feldspar.

Petrographic description
Plagioclase forms fine to medium subhedral interlocking crystals (0.2 to 2.0 mm) with moderate to strong microgranular felted sericite and semiopaque dusting. Clear albitic margins common. Interlocking with hornblende (0.2 to 3.0 mm) with weak poikilitic texture of small quartz and altered plagioclase grains. Moderate alteration to secondary amphibole and chlorite. Biotite is subhedral to anhedral (0.2 to >2.0 mm) in ragged bladed grains and basal plates showing strong alteration to chlorite which locally form interstitial masses. Quartz and K-feldspar form interstitial masses of coarse grains in optical continuity. Quartz (0.2 to >2.0 mm) is clear with slight linear dusting patterns and strained extinction. K-feldspar 0.2 to >2.0 mm) has patchy red-brown alteration dusting, conspicuous, intergrown with quartz. Small clusters of irregular opaque grains (.02 to 0.15 mm) magnetite occur in altered mafics. The section is cut by diffuse bifurcating microveinlets which locally swell, partially replacing plagioclase, filled with an altered grainy textured mineral with optical properties similar to pyroxene(?) (0.1 to <1 mm).

Estimated percentages
Plagioclase 30%
Quartz 15-20%
K-feldspar 15%
Altered hornblende 15%
Altered biotite 15-20%

Alteration assemblage (included in host percentages)
Sericite 15%
Clay 5%
Chlorite 10%
Secondary amphibole 5%

Veinlet
Pyroxene(?) (diopside?) <5%

INT-3
Feldspathized porphyritic quartz-plagioclase flow?/dyke?

Summary description
Quartz feldspar porphyry. Phase 2. Less than 10% coarser phenocrysts of subrounded quartz (with radiating feldspathic overgrowths) and sericite/carbonate altered plagioclase. In a fine/very fine grained feldspathic groundmass with very minor quartz within a thin discontinuous network of fine sericite. Polygonal outlines of feldspathic crystals with radiating internal fabric are abundantly disseminated throughout the groundmass.

Petrographic description
Quartz phenocrysts (0.5 to >1.5 mm) with rounded outlines and outward radiating feldspathic feathery overgrowths (to 0.3 mm) are sparsely, <5%, and unevenly disseminated throughout the groundmass. More abundantly, >5%, sericitic, lesser carbonate altered plagioclase pseudomorphs and irregular grains (0.4 to 2.0 mm) are also disseminated throughout the groundmass. In addition a few laths of sericite/muscovite altered mafic laths (to 2.0 mm) were noted.

The groundmass appears siliceous but HF treatment of an additional slab produced a uniform etched film except for quartz phenocryst cores, and strong sericite-altered fragments. The groundmass is composed of irregular featureless interlocking feldspathic grains (<.05 to 0.1 mm); with an abundance (30-35%) of conspicuous polygonal outlines (.05 to 0.3 mm) of feldspathic crystals with radiating fibrous internal fabric. A few of the coarser grains have quartz cores similar to the quartz phenocrysts. Otherwise these polygonal grains etch uniformly with the rest of the groundmass. There is 2% fine euhedral/subhedral (.02 to 0.2 mm) disseminated pyrite.

There is a superimposed thin discontinuous network of fine sericite (<.01 to 0.1 mm) throughout the groundmass.

Estimated percentages

Quartz phenocrysts 2-3%
Altered plagioclase 5-7%
Altered mafic 1%

Feldspathic (albitic) groundmass
Irregular outlines 45-50
Polygonal outlines 30-35%

Sericite network 8%
Pyrite 2%

INT - 4
Feldspathized plagioclase porphyry

Summary description
Feldspathized plagioclase porphyry. Phase 3. Consists of about 25-30% phenocrysts predominantly fine to medium grained sericitic (carbonate) altered plagioclase with lesser chlorite-carbonate-sericite/muscovite altered hornblende and biotite.

The groundmass is largely finer grained plagioclase laths, lesser mafics, both altered as in phenocrysts, but also contains abundant polygonal feldspathic grains, similar to those in INT-3 but coarser grained. A few contain quartz cores. Superimposed clots of carbonate. Widely disseminated clusters of hematitic pyrite and iron staining of some carbonate.

Petrographic description
Plagioclase phenocrysts (0.5 to 2.0 mm), varied intensity of fine (microgranular to .02 mm) felted sericite, lesser clusters of carbonate (<.05 to 0.2 mm) alteration. Some relict twinning. An 32-35). Altered mafic (hornblende > biotite), (0.4 to 4.0 mm) completely altered to intermixed clusters of chlorite-carbonate-sericite/muscovite. Most grains are long prismatic but few grains have cleavage remnants of biotite. Traces of disseminated euhedral crystals of apatite (0.05 to 0.1 mm)

The groundmass is composed of finer (<.05 to 0.3 mm) interlocking grains of plagioclase, sericitic as for phenocrysts. Fine grained (<.05 to 0.4 mm) altered mafic. However, most conspicuous are coarser (0.1 to 0.5 mm) polygonal feldspathic grains with radiating internal fabric and less altered than general groundmass. A few contain quartz cores. The polygonal shapes etch similar to interlocking lath shapes. Accessories include a small cluster of fine (.05 to 0.1 mm) euhedral apatite.

There is a weak overprint of carbonate and felted sericite clusters in the groundmass. Pyrite (hematitic) crystal outlines are disseminated throughout and occur in clusters in altered mafics (<.01 to 0.3 mm).

Estimated percentages

Phenocrysts
Altered plagioclase 20-25%
Altered hornblende 10-15%
Altered biotite 5%

Groundmass
Plagioclase laths 25%
Polygonal crystals 35%
Altered mafic 5%

INT-4 Continued

Accessories
Apatite trace

Hematitic pyrite 1%

Alteration (included in host)
Chlorite 5-8%
Carbonate 8%
Sericite 20%
Sericite/muscovite 3%

INT - 5
Altered plagioclase porphyry

Summary description
Altered plagioclase porphyry. Phase 3, similar to INT 4 and INT 7. Abundantly porphyritic; ghost-like outlines. Phenocrysts of sericitic (lesser carbonate) altered plagioclase. Lesser and finer grained mafic phenocrysts completely altered to chlorite.

Groundmass fine-grained sericite and carbonate altered plagioclase and lesser chlorite-altered mafic with less regular outlines than plagioclase. Groundmass contains polygonal outlines of less altered/completely altered plagioclase (albite?) with a fine radiating fabric as described in INT 3, 4 and 7. Scattered fine-grained quartz grains but quartz occurs mainly in fracture controlled veinlets with carbonate. Accessories include traces of apatite, and sphene/rutile, and an unidentified disseminated sphene-like mineral partly obscured by opaque dustings.

Petrographic description
Plagioclase phenocrysts (0.2 to >2.0 mm), Pseudomorphous replacement by (microgranular to 0.2 mm), felted sericite leaving ghost-like but distinct outlines of the former crystals. Mafic phenocrysts (0.2 to 1.0 mm) are less abundant than plagioclase, some pseudomorphs but generally irregular shapes completely altered to chlorite and less carbonate with associated opaque grains.

The groundmass is finer <0.5 to 0.2 mm) feldspathic, with indistinct interlocking grains with generally weak sericitic but stronger microgranular carbonate alteration occurring in clusters (.02 to 1.0 mm) which locally obscures the groundmass. Polygonal outlines of feldspathic grains (0.1 to 0.4 mm) occur throughout the groundmass as in INT 3, 4, 7, but are less distinct here. They show varied intensity of sericitic alteration from weak to complete. There are fine grained (<.05 to 0.5 mm) euhedral and anhedral quartz grains fragments, clusters of grains. Some of these appear to be isolated but most are in fracture controlled veinlets with carbonate.

Accessories include traces of apatite (0.1 mm), sphene/rutile and euhedral/anhedral outlines of unidentified grains altered to opaque dustings outlining grain margins and in fractures. Widely disseminated euhedral/subhedral pyrite grains (<.01 to 0.2 mm) and clusters.

Estimated percentages
Phenocrysts
Altered plagioclase 25-30%
Altered mafic 10-12%

INT-5 Continued

Groundmass
Altered plagioclase 35%
Polygonal plagioclase (albite) 10-15%
Quartz 2%

Accessories
Apatite traces
Sphene/rutile(?) traces
Undetermined (chromite-like internal reflection) 1 grain
Undetermined (sphene-like) 1-2%

Alteration
Sericite 20-25% (included with host)
Carbonate 20% (included with host)
Chlorite 5-8%

Veins/segregations
Carbonate 1-2%
Quartz 1-2%
Chlorite 1-2%
Pyrite 1%

INT - 6
Felted altered (micro) monzodiorite

Summary description
Monzodiorite. Phase 4. Fine/medium-grained loosely felted intergrowths of sericitic and dusted altered long prismatic plagioclase laths. Interlocking pseudomorphs of augite(?) completely altered to a semiopaque dusting with fine felted chlorite. K-feldspar follows the margins of some plagioclase grains and forms interstitial clusters among altered plagioclase and hornblende. Chlorite is conspicuous as plumose interstitial masses associated with ragged biotite blade remnants. Disseminated euhedral pyrite and unidentified long narrow opaque laths are commonly associated with biotite.

Petrographic description
Groundmass composed of long narrow (0.2 to 2.0 mm) loosely felted plagioclase crystals showing varied intensity of sericitic (microgranular to .05 mm) alteration from weak to complete felted replacement. Lesser carbonate clusters (<.05 to 0.2 mm). Margins of many crystals appear albitic but stained slab indicates some of these margins are K-feldspar overgrowths(?). Completely altered augite(?) pseudomorphs (0.2 to 1.0 mm) to strong brown-dusted felted chlorite. K-feldspar, as well as occurring at the margins of some plagioclase laths forms interstitial masses (0.2 to 0.5 mm) and shows a slight dusting. Chlorite occurs as continuous interstitial plumose masses (0.2 to 2.0 mm) among all the above assemblage. It is commonly associated with remnant blades (.05 to 0.2 mm) of biotite, some with very diffuse irregular outlines. Numerous scattered clusters of carbonate (0.1 to 0.5 mm). Long narrow (.05 to 0.8 mm) unidentified opaque ilmenite(?) laths and skeletal outlines are associated with altered mafics. Pyrite crystals (.01 to 0.2 mm) with euhedral/subhedral outline are also associated with altered mafics.

Estimated percentages

Plagioclase laths 40%
Altered augite 15-20%
Altered biotite 4-5%
K-feldspar 10%

Alteration
Sericite 20% (included with host)
Carbonate 5-6% (partly in host) also disseminated clusters 3%
Chlorite (interstitial) 10-15%

Opaques
Undetermined (ilmenite?) 3-4%
Pyrite 4-5%

INT - 7
Altered feldspar porphyry

Summary description
Feldspar porphyry. Phase 3, similar to INT-4, 5. Composed of abundant fine/medium-grained plagioclase completely altered to sericite and carbonate leaving ghost-like outlines of original grains. Less abundant mafic altered to chlorite-carbonate-opaque.

The groundmass is very fine crystalline plagioclase less altered than phenocrysts. Inconspicuous altered mafic grains. There are numerous polygonal feldspathic crystal outlines as noted in INT 3, 4, 5, less altered than phenocrysts and general groundmass. Widely scattered fine quartz grains occur but most are fracture controlled. There is an overprint of very fine carbonate crystals and clusters of crystals. The rock is cut by a wide spaced sericite-filled network with lesser carbonate and very minor quartz.

Petrographic description
Porphyritic, composed of (25 to 30%) altered plagioclase phenocrysts (0.5 to 3.0 mm) altered by very fine felted sericite and small carbonate clusters leaving ghost-like outlines of original crystals. Less abundant (5 to 8%) generally finer grained (0.2 to 0.5 mm) with scattered coarser grains (to 3.0 mm) of mafic altered to chlorite-carbonate-opaque, usually with very irregular outlines. Coarse grains subhedral.

The groundmass (30%) is very fine (.01 to .05 mm) interlocking feldspathic (plagioclase) generally less altered to sericite and carbonate than phenocrysts. Mafic content not conspicuous, (<5%) small (.05 mm) chlorite grains and clusters. Within the groundmass there are the same feldspathic polygonal outlines (15%) with radiating fabric as occur in INT 3, 4, 5. These are less altered than coarser phenocrysts and are coarser (0.2 to 0.4 mm) than the enclosing groundmass. In addition there are widely scattered (2%) irregular quartz grains (<.05 to 0.1 mm), a few coarser grains (to 0.3 mm), some isolated but more commonly in small fracture controlled clusters. The groundmass has an overprint (5-8%) of fine (.02 to .03 mm) euhedral crystals and clusters of crystals of carbonate.

The rock is cut by narrow distinct walled and diffuse microfractures forming wide-spaced networks filled by foliated sericite, carbonate.

Estimated percentages
Phenocrysts
Altered plagioclase 25-30%
Altered mafic 5-8%

Groundmass
Plagioclase 30%
Polygonal plagioclase 15%

INT -7 Continued

Altered mafic 3-4%
Quartz 2%

Alteration
Sericite, phenocrysts and groundmass (20%) included with host
Chlorite (5%) included with host
Carbonate
[a] Altered plagioclase phenocrysts (10%) included with host
[b] Disseminations in groundmass (5%)

Veinlets (5%)
Sericite, carbonate, very minor quartz

INT -8
Sericitized, carbonatized multistage breccia, remnants of crystal /lithic tuff protolith.

Summary description
Intense sericite/carbonate alteration and breccia infilling obscures protolith. Leaves ghost-like outlines of completely altered narrow plagioclase laths and semiopaque and opaque dusted fragments/shards of pumice (some with filled vesicles). This is consistent with altered crystal/lithic tuff (or ash tuff).

Petrographic description
Protolith composed of about 20% lath shaped pseudomorphs and irregular outlines of sericite replacing plagioclase(?) (<.05 to 1.0 mm) and a similar amount, about 20%, of "pumice" fragments/ shards (<.05 to 0.5 mm) which are semiopaque with brown translucent margins or abundantly opaque dusted. In some areas there are long slender deformed opaque filaments of probable volcanic origin. In addition there are abundantly disseminated (10%) carbonate fragments (0.1 to 0.5 mm) with irregular shaped weakly dusted outlines, which appear unrelated to carbonate alteration/veining. Minor <5%, scattered quartz grains (.05 to 0.1 mm). The groundmass among the crystal/lithic fragments is altered to felted/locally foliated microcrystalline sericite.

The protolith is largely obscured by strong sericitic alteration, clusters of weakly dusted carbonate and minor segregations of quartz, probably related to major veining associated with fracturing. Sericite also forms feathered aggregates along margins of some quartz grains. Overprint of disseminated pyrite, euhedral crystals (.01 to 0.2 mm). Clusters of crystals.

Crackle and dislocation breccia voids filled with coarse crystalline carbonate with weak dusting. Lesser discontinuous veins/segregations of quartz with irregular interlocking grains. Increasing intensity of alteration/veining/breccia infilling obliterates protolith textures.

Estimated percentages
Sericite
[a] Alteration of plagioclase(?)/lithic fragments 20%
[b] Alteration of groundmass, 30%

Carbonate
[a] Fragments 10%
[b] Veins/segregations/breccia void infilling

Quartz
[a] Crystal fragments 3-5%
[b] Segregations in protolith 2-3%
[c] Veins/breccia void infilling

Lithic fragments (pumice) 25-30%
Pyrite 7-10%

INT - 9
Sericitized, carbonatized multistage breccia with vestiges of crystal/lithic tuff (ash tuff) protolith.

Summary description
Similar to INT-8 but protolith textures obscured by more intense alteration. Leaves vestiges of protolith textures of ghost-like outlines of sericitized crystal fragments and semiopaque and opaque dusted fragments/shards of pumice. This, as for INT-8, is consistent with altered crystal/lithic tuff (or ash tuff).

Petrographic description
Protolith is composed of about 10-15% loosely felted sericitized pseudomorphs of plagioclase(?) laths (some with filamentous outlines) and about 15-20% strongly dusted lithic fragments (<.05 to >1.0 mm) less distinct than in INT-8 but by analogy are probably pumice. In addition there are scattered (5 to 8%) fragments (<.05 to >1.0 mm) of carbonate with varied intensity of dusting of weak to moderate iron stain. these fragments have no obvious relationship to veining/breccia infilling. Very minor (<1%) scattered irregular quartz fragments (to 0.2 mm)

The groundmass among crystal/lithic fragments is altered to felted locally foliated sericite (microgranular to .05 mm).

The protolith is obscured by strong sericitic alteration, clusters of weakly dusted carbonate (brecciated veins?) and minor quartz segregations. Sericite (to 0.2 mm) forms a few lensoidal outlines and rims around carbonate grains in plumose radiating clusters. Overprint of disseminated, 8-10%, euhedral/subhedral (<.05 to 0.2 mm). Crackle and dislocation breccia voids filled with coarse crystalline carbonate showing very weak dusting. With very minor associated fine/medium crystalline quartz segregations. Increasing intensity of alteration/veining/breccia infilling obliterates protolith textures.

Estimated percentages
Sericite
[a] Alteration of plagioclase/lithic fragments; 10-15%
[b] Alteration of groundmass 30-35%
[c] radiating clusters around carbonate fragments and isolated lensoidal clots 2%

Carbonate
[a] Fragments 5-7%
[b] Veins/segregations/breccia void infilling

Quartz
[a] Crystal fragments <1%
[b] Segregations in protolith (not detected)
[c] Veins/breccia void infilling
Lithic fragments (pumice); 25%
Undetermined "A" <<1%
Pyrite 8-10%

INT - 10
Altered felted crystal lithic tuff (ash tuff)

Summary description
Composed of small (ash size) carbonatized and sericitic lithic fragments, semiopaque fragments (pumice?) and scattered coarser fragments with quartz/carbonate cores rimmed by chlorite and sericite. Some of these grains have a conspicuous bright green colour in thin section. The lithic fragments are within a loose network of sericitized plagioclase laths. Felted chlorite clusters occur in interstices with associated very minor clusters of an unidentified acicular mineral. Disseminated fine grains of pyrite are disseminated throughout.
Note: Texture differs from INT 8 and 9, less conspicuous pumice(?).

Petrographic description (T.S. thin on one margin)
Altered lithic fragments (<.05 to 1.0 mm generally about 0.3 to 0.5 mm) with scattered fragments (>1.0 mm). Composed largely of irregular crystalline (<.01 to 0.3 mm) carbonate with lesser but varied abundance of microcrystalline sericite and clay?/chlorite? Some lithic fragments are near opaque and many have unusual patterns of contorted filamentous opaques suggesting pumice(?). Few coarse fragments (to 2.0 mm) with quartz and carbonate cores rimmed by concentric layers of chlorite and sericite. Widely scattered isolated fragments of carbonate (0.5 to 1.5 mm) and a few grains of quartz (0.1 to 0.2 mm).

The lithic fragments are set in a loose felted network of lath shaped pseudomorphs of plagioclase replaced by microgranular felted sericite. Interstices are filled with felted irregular bladed chlorite (.01 to .05 mm) with very minor associated acicular clusters of crystals of unidentified "A" which has very low birefringence, high refringence, indistinct extinction.

Disseminated euhedral pyrite (.01 to .05 mm) occurs throughout the groundmass.

Estimated percentages
Lithic fragments 45% (less than half of which are pumice?)
Plagioclase pseudomorphs 35%
Coarse fragments (quartz carbonate chlorite sericite) 5%
Coarse fragments carbonate <1%
Interstitial chlorite clusters 10%
Unidentified "A" <1%
Pyrite 0.5%
Sericite included with host
Carbonate included with host

11 **Clear - 16**
Quartz/argillite lithic clast conglomerate

Summary description
Conglomerate composed of fine to coarse subangular to angular clasts of siliceous and less siliceous silty argillite/argillite. Supported by fine grained groundmass of similar but more rounded lithic clasts accompanied by an abundance of rounded quartz grains. Although at least some clasts may be of volcanogenic (tuffaceous) origin only one possible volcanic and no intrusive clasts were noted. There is weak localized sericitic alteration of some lithic fragments. Consistent with sedimentary conglomerate. Note the differences in intensity of etching of clasts in Clear-16 (siliceous) vs Clear 20 (not siliceous) etched blocks.

Petrographic description
Conglomerate clasts polymictic (0.2 mm to >2.0 cm), in addition to mixed siliceous and less siliceous silty argillite/argillite, show subtle differences in slightly coarser grained mineral content and fabric. The groundmass of most clasts is composed of microgranular (<.0025 to .005 mm) irregular (some lath shaped) grains. Some clasts are slightly coarser to silty and some show distinct layering. Other clasts have a mottled brecciated appearance. From clast to clast there is a varied abundance of disseminated siliceous grains (<.01 to .05 mm) and clusters (.05 to 0.2 mm). Some clusters are irregular interlocking other radiating snowflake textures. In addition some clasts are cut by thin lensoids and discontinuous linear beaded (bedded) quartz grains and few scattered slightly coarser quartz grains (to 0.1 mm). One (1.0 mm) possible volcanic clast (opaque), containing disseminated quartz granules, was noted. Disseminated and layered clusters of euhedral pyrite (<.005 to .02 mm) occurs in amounts to 10% in a few clasts.

The groundmass supporting the coarser clasts is composed of finer grained (<.05 to >1.5 mm) more rounded clasts similar to the coarse clasts described above. In addition there are rounded quartz clasts/grains (<.05 to >1.5 mm) which constitute about 25% of the groundmass.

Scattered weak zones of sericitic alteration (to .02 mm) affect a few of the coarse clasts, more abundantly the finer clasts and as scattered foliated irregular clusters among the finer clasts of the groundmass.

The fine clasts of the groundmass are touching with interstices followed by microgranular opaques and sericitic partings. Associated iron-staining.

12 **Clear - 17**
Sedimentary lithic clast breccia

Summary description
As compared to Clear-16 the lithic fragments of Clear-17 are angular elongate, foliated. This sample contains similar clasts to Clear 16 but Clear 17 has an additional variety of clasts. In particular this sample contains a number of fine sandy quartz rich angular sandstones with a lithic component of fine sand-size angular intermixed pumice(?) and argillaceous fragments. The argillaceous clasts show a range of abundance of carbonaceous dusting. Many clasts show weak aligned sericitization. The most striking differences, as compared to Clear-16, are the lack of the fine component among and supporting the coarse clasts; a marked shear foliation with shear planes filled by microgranular carbonaceous opaque; and by a loose network of narrow discontinuous quartz (lesser associated carbonate) veinlets that pass from clast to clast or are displaced by shear planes. Some replacement of lithic clasts by carbonate and quartz was noted along some microfractures. Consistent with sedimentary breccia.

Petrographic description
Contains siliceous silty argillite/argillite fragments (to > 1.0 cm) similar to Clear 16, but shows an abundance of other types. Foliated and laminated clasts are common with foliation direction the same (but not consistently) in most clasts. Most conspicuous are fine-angular-grained (.05 to 0.2 mm) sandstone composed of interlocking grains of quartz (one zircon crystal), and lithic fragments composed of argillite/silty argillite with varied sericite content, and semiopaque pumice fragments (distinct from carbonaceous material in shears). Similar but finer (.01 to .05 mm) grains are suspended in an argillaceous groundmass, in other clasts, forming very fine sandy/silty argillite. Argillite, silty or sandy argillite clasts have varied abundance of microgranular carbonaceous dustings ranging from weak to near complete obscurity. No large fragments with volcanic textures were recognized.

Sericitization occurs in most clasts but with varied intensity ranging from traces to weak within and among clasts. The sericite is microgranular and aligned with clast foliation.

The rock has at least two generations of fracturing, forming a network of microveinlets ranging from incipient bleaching by silica through hairline quartz veinlets to thicknesses of 2.0 mm. Grain-size of quartz varied from microcrystalline in narrowest veinlets to (0.5 mm) in wider veinlets. Carbonate fills or is associated with quartz in some veinlets, and both may be accompanied by lesser sericite. Certain argillaceous clasts show conspicuous impregnation of quartz and carbonate along vein margins. The veinlets cut through adjacent fragments but are disrupted by later carbonaceous shear surfaces. There is a superimposed shear fabric with carbonaceous (minor sericite) infilled shear planes passing around and cutting through clasts.

13 **Clear - 18 (Thin patch in T.S.)**
Sheared foliated, weakly altered polymictic (volcano-sedimentary/volcanic) lithic tuff/lapilli tuff.

Summary description
Composed of a wide variety of volcanosedimentary (accessory?) and volcanic (pumice and tuff) clasts. Lensoidal, ranging from a few mm to >1.0 cm. Fragment supported with irregular distinct but "melding" contacts. No sedimentary component was observed among clasts as for Clear 16. Irregular quartz veinlets pass through adjacent clasts but are disrupted by shear planes. Sheared along foliation. Weak alteration overprint. Consistent with lapilli tuff (with a nagging thought about sedimentary breccia).

Petrographic description
Composed of a wide range of volcanosedimentary (accessory), volcanic and a few accidental clasts. Suspect that some of these fragments are siliceous but all etch in HF to some degree. Volcanosedimentary clasts have elongate shapes, are foliated have a microgranular/tuffaceous groundmass dusted to varied intensity and contain included coarser grains showing a range of grain sizes and abundance. These included grains are primarily siliceous (quartz)-carbonate-muscovite (<.01 to >0.1 mm) and range from nearly nil to about 5% in adjacent lithic clasts. Others are composed of minute weakly felted laths (feldspar?) and still others by minute angular siliceous clasts.

Pumice has quartz and sericite-filled vesicles of varied abundance, strong/moderate microgranular opaque dustings. Some contain rounded amygdule-like inclusions. Weakly altered by superimposed diffuse wispy patches and partings of microcrystalline sericite.

Superimposed crushed zones and shear planes are filled with microgranular opaque (carbonaceous) material.

Cut by distorted quartz veinlets which pass through adjacent lithic fragments but are disrupted by shear planes.

Lacks the sedimentary component separating clasts of Clear 16.

Estimated percentages
Lithic fragments (lapilli) 90%

Sericite
[a] Inclusions in lithic fragments, <1%
[b] Wispy patches/partings <1%

Quartz
[a] Inclusions in lithic fragments 1%
[b] Veins
[c] Amygdales in pumice

Clear 18 Continued

Carbonate
Inclusions in lithic fragments, <1%

Carbonaceous partings 5%

14 **Clear 19**
Shear foliated impure sedimentary barite, veined by barite

Summary description
Composed of shear foliated barite granules. Shear planes marked by microgranular opaque partings. Veined by coarser recrystallized barite. Consistent with sedimentary barite with remobilized, recrystallized barite veins.

Petrographic description
Composed of shear foliated microgranular barite with abundantly disseminated slightly coarser (to .05 mm) foliated barite laths. Weak/moderately dusted appearance. Contains lesser disseminated grains (<.05 to 0.1 mm) /clusters of grains of quartz interlaminated with barite. Scattered coarser lensoids of barite in foliation plane. Scattered coarser grains (.05 to 1.0 mm) of quartz in feathery long prismatic bent grains. Quartz vs barite conspicuous because of differences in R.I. Shear foliation planes masked by microgranular opaque nonreflective (carbonaceous) partings.

Disseminated pyrite (<.01 to 0.1 mm), and stringers of clusters of grains along foliation planes.

Estimated percentages
Barite 80 - 85%
Quartz 12-17%
Opaque partings 1-2 %
Pyrite 0.5-1%

15 **Clear - 20**
Laminated "feldspathic" argillite (etches deeply with HF)

Summary description
Microgranular (<.0025 to .005 mm) feldspathic groundmass. Weakly foliated by minute grains of sericite and irregular discontinuous branching fracture controlled partings. There are disseminated slightly coarser irregular siliceous grains. Disseminated anhedral and euhedral pyrite. Clear-20 etches deeply and uniformly in HF and it is mainly on this basis that it is not classified as chert. A silicate analysis might resolve this problem and confirm an exhalitive origin for this unit.

Petrographic description
Groundmass composed of feldspathic microgranules with an estimated 35% showing barely discernable foliated/weakly felted lath-like outlines. The remaining groundmass material is either irregular shaped or not discernable. There are no conspicuous differences in R.I. but this is not conclusive because of the abundance of minute sericite laths which are of different R.I. The stained slab provides a uniform deep etching of the microgranular groundmass which would is not anticipated with chert. Minute (<.005 to .02 mm) sericite laths are disseminated throughout the groundmass with moderate alignment. Locally slightly coarser (to.05 mm) foliated sericite forms irregular branching fracture controlled partings which approximately follow foliation. In addition there are scattered irregular coarser (.01 to .05 mm) siliceous? grains, 1 to 2%. There is no discernable differences in relief between the siliceous grains and the feldspathic groundmass!! Barite (<.01 to .06 mm) grains, 3% as irregular shaped grains occur throughout groundmass with some concentration in certain layers; some grains associated with sericite. An abundance of microgranular barite in the groundmass is not supported by R.I. differences. Pyrite is disseminated throughout as subhedral euhedral crystals (.005 to 0.1 mm, and clusters to 0.2 mm). Many have associated feathery quartz and aligned sericite at their margins lying in foliation plane. Cut by barite/sericite veinlets, traces quartz.

Estimated percentages
"Feldspathic" groundmass 80-85%
Sericite 8%
Siliceous grains (quartz) 3-4%
Barite 3%
Pyrite 0.5%

Veinlets
Barite + sericite (+ quartz) 3%

16 **Clear 21**
Carbonatized (quartz veined) felted crystal (lithic) tuff (ash tuff)

Summary description
Protolith texture obscured by carbonatization but irregular patches, among carbonate and quartz veins/breccia void infillings, show ghost-like felted altered crystal fragment outlines, abundant small lithic (pumice?) and vague outlines of coarser lithic (tuffaceous) fragments. These textures are consistent with crystal/lithic tuff.

Petrographic description
Protolith composed of altered felted laths of plagioclase (0.2 to 1.0 mm) pseudomorphous replacement by microgranular sericite/ clay(?). Irregular outlined lithic (pumice?) fragments (<.05 to 0.1 mm) composed of microgranular aggregates nonreflective opaque. Scattered vague outlines of larger (to 2.0 mm) angular lithic fragments of similar crystal tuff but containing more abundant quartz but lacking pumice(?) fragments; otherwise indistinguishable from protolith.

Groundmass is very fine tuffaceous, strong sericitic alteration, possible clay (low birefringence) intermixed, in foliated interstitial masses of irregular blades (microcrystalline to <.05 mm). Irregular quartz grains are most common in tuff lithic fragments but a few are isolated in protolith groundmass.

There is an overprint of clusters of fine grains (<.01 to >0.1 mm) of carbonate of clear, and red brown (sideritic) varieties. Most carbonate, however, is coarse crystalline (sideritic) forming vein systems with coarse crystalline quartz with together constitute about 80% of the T.S. Quartz shows effects of shearing. Fracture controlled segregations and veinlets of quartz and carbonate extend into the protolith. Euhedral pyrite (<.01 to .05 mm) is disseminated throughout protolith groundmass.

Estimated percentages
Protolith about 20%

Lithic fragments
[a] pumice about 2%
[b] crystal tuff about 1%

Sericite/clay(?)
[a] Plagioclase (?) pseudomorphs about 4%
[b] Groundmass about 9%

Pyrite
[a] disseminated in protolith 0.5%

Carbonate
[a] disseminated clusters 2%
[b] vein systems (with quartz)

Clear 21 Continued

Quartz
[a] disseminated grains in tuff lithic fragments 1%
[b] in protolith groundmass 0.5%
[c] vein systems with carbonate

17 **Clear - 22**
Mineralized, veined, altered, sheared lithic tuff/lapilli tuff

Summary description
Laminated, foliated lensoids of altered, mineralized lithic remnants (pumice), with interlaminated intermixed and segregated gangue of carbonate (dolomite) sericite/muscovite, quartz and lesser barite. The pumice contains abundantly disseminated pyrite. The gangue is mineralized by sphalerite containing minute blebs of galena, and traces of tetrahedrite(?) and by euhedral pyrite and traces of chalcopyrite. The protolith fragments are consistent with lithic tuff/lapilli tuff.

Petrographic description
Protolith fragments are largely (if not entirely) lensoidal pumice (0.4 mm to >1.0 cm). Vesicular (amygdaloidal) with deformed vesicles aligned with long dimensions of the foliated fragments. Vesicles filled with microgranular siliceous aggregates, lesser clear quartz, carbonate. Most pumice fragments contain abundantly disseminated very fine pyrite ranging from (<.0025 to .01 mm). Cut by beaded veinlets of slightly coarser pyrite. The pumice fragments show varied intensity of alteration to (microgranular/.05 mm) foliated sericite along elongate narrow lensoids (<.05 to 0.5 mm). Lensoids range in abundance from sparse to almost complete replacement. Microgranular carbonate fills discontinuous microfractures and forms elongate clusters of varied abundance similar to sericite. Diffuse patches of siliceous aggregates were noted associated with sericite and carbonate in lithic fragments. In addition pumice fragments show varied intensity of replacement by sphalerite and coarser (to 0.2 mm) euhedral pyrite which accompany sericite/carbonate noted above.

The most intense impregnation by gangue and sulphides results in almost total replacement of lithic fragments leaving skeletal frameworks of nonreflective opaques outlining the former lithic fragments.

The groundmass among lithic fragments is composed of segregated and intermixed coarser crystalline gangue mineralized by sulphides. In approximate order of relative abundance gangue minerals consist of interlocking crystals of carbonate (dolomite), (.05 to 0.4 mm); foliated/felted masses (to several mm) of sericite (.05 to 0.2 mm); quartz, (.05 to 0.3 mm); and barite, (0.1 to >1.0 mm). The gangue surrounds and fills voids between sulphide grains and broken grains. Quartz, sericite and carbonate form a plumose fabric paralleling foliation at the margins and between broken sphalerite grains.

Sphalerite in gangue forms coarse (<.05 to 1.5 mm, generally 0.5 mm) and brecciated clusters of crystals as compared to more diffuse impregnations in lithic fragments. It lacks the common exsolution blebs of chalcopyrite, although traces of chalcopyrite were noted. Galena; <1% occurs as small irregular blebs (<.0025

Clear-22 continued

to .05 mm) in or associated with sphalerite. Disseminated coarser grains (to 0.3 mm) and clusters of pyrite in gangue and lesser finer grained in sphalerite. Tetrahedrite(?) was noted as pale/medium brown-grey grains (<.05 to 0.3 mm) cutting sphalerite and as a few isolated coarser broken grains. Questioned because of weak anisotropism in one or two of the grains. Note: Would anticipate good sphalerite recovery in milling products.

Estimated percentages
Lithic fragments (pumice) 25%

Sericite
[a] in lithic fragments 5%
[b] in gangue 20%

Carbonate
[a] in lithic fragments 2%
[b] in gangue 20%

Quartz
[a] in amygdales (grains and siliceous aggregates) 2%
[b] in gangue 2%

Barite
[a] in gangue 3%

Sphalerite
[a] in lithic fragments 2-3%
[b] in gangue 8-10%

Pyrite
[a] in lithic fragments 2%
[b] in gangue and sphalerite 8-10%

Galena <1%

Tetrahedrite(?) traces.

18 **Clear 23**
Altered crystal lithic tuff (ash tuff)

Summary description
Protolith masked by strong sericitic and carbonate alteration but ghost-like outlines of interlocking crystal and lithic fragments in an altered tuffaceous matrix, are preserved. The rock has been sheared and crushed producing foliated lensoids between shear planes and a crackle fracture network among fragments. There are scattered clusters of pyrite crystals. The rock is cut by narrow sideritic carbonate and associated sericite. Disseminated pyrite throughout but coarser and more abundant in veinlets and associated segregations. Clear 23 is a crystal lithic tuff (ash tuff) and is less intensely altered than similar crystal lithic tuffs INT 8, 9, Clear 21.

Petrographic description
Composed of interlocking altered lithic and/or crystal fragments (<.05 to 0.3 mm) with regular foliated lath-like shapes and irregular shard-like outlines. These fragments are completely altered to felted microcrystalline sericite with a strong clotted carbonate overprint. In addition there is about 5% scattered lithic fragments of tuff (0.5 to >2.0 mm) with similar alteration but recognizable because of textural differences (more abundant quartz granules) and lacks the finer lithic and/or crystal fragments described above. Pumice fragments were not recognized but are suspected because of skeletal patterns of opaque dustings. Crystal fragments include about 3% disseminated irregular quartz grains (.05 to 0.2 mm) and carbonate grains with distinct outlines (to >1.0 mm) and with no apparent relationship to veins. The matrix among fragments is tuffaceous with similar sericite and carbonate alteration as fragments.

Exotic grains include quartz-sericite aggregates (0.8 mm) and one fragment tuff (1.5 mm) which contains a cluster (1.0 mm) of coarse siderite and lesser pyrite.

Disseminated, 3%, pyrite (<.05 to 0.1 mm, and clusters (to 0.3 mm) in groundmass and more abundant and coarser (to 0.2 mm) in clusters to (>1.5 mm) in carbonate sericite veins.

There is superimposed shear and crushed fabric marked by irregular lines of microgranular opaques. Shearing produces foliated interlocking lensoids of the groundmass and crushing produces a fine network among fragments. Cut by coarser grained sideritic carbonate, lesser sericite veinlets and segregations which impregnate the protolith.

Estimated percentages
Lithic fragments 65%
Groundmass 30%

Clear 23 Continued

Sericite
[a] Alteration 40%
[b] Veinlets 2%

Carbonate
[a] Fragments 2%
[b] Alteration 35%
[c] Veinlets 3%

Quartz
[a] Disseminated 3%

Opaque dusting <0.5%

Pyrite
[a] Disseminated 3%
[b] Veinlets 5%

19 **Clear 24**
Crystal tuff (Distinct from crystal lithic tuff)

Summary description
A homogeneous groundmass of felted broken very fine-grained laths of plagioclase showing varied intensity of alteration to sericite with patchy carbonate alteration overprint. Suggestion of outlines of lithic fragments with slight textural differences. A few large broken quartz grains rimmed by carbonate. The matrix between laths is extremely fine grained, intermixed sericite and clay(?) with fracture controlled siliceous impregnation. Scattered very fine quartz grains. Masked by an overprint of carbonate clots, of varied intensity, and broken carbonate veinlets. Cut by a loose network of narrow veinlets with diffuse margins composed of carbonate, clay, quartz, traces barite. Disseminated clusters of microgranular semiopaques and euhedral pyrite. Classified as crystal tuff rather than flow or dyke because of general fragmental texture.

Petrographic description
Groundmass is composed of uniformly felted laths of plagioclase (<.05 to 0.3 mm) showing varied intensity alteration to microcrystalline felted sericite with small clusters of carbonate. There are widely scattered lithic fragments (to 0.8 mm) with interlocking irregular plagioclase grains. In addition there are disseminated 2-3% anhedral quartz grains (<.05 to .07 mm) scattered throughout the groundmass. In addition, coarser (0.3 to 1.5 mm) subrounded, broken, quartz grains are widely scattered, 2%, throughout groundmass. Three large broken quartz fragments (to 1.0 mm) rimmed by microcrystalline carbonate were also noted. Similarly a few grains of barite (0.5 mm) are widely scattered in the groundmass. One grain euhedral apatite(?) (0.18 mm).

The matrix among the coarser component is composed of microcrystalline 20-30% sericite and clay with lesser 5-7% fracture controlled siliceous (quartz) impregnations.

There is an overprint of clusters of carbonate which range in size from (0.1 mm to>1.0 mm) and abundance from moderately disseminated to pervasive fracture controlled which locally obliterates the protolith. The carbonate shows varied intensity of dusting to becoming semiopaque.

The protolith is speckled by irregular (few regular) outlines of clusters of semiopaque microgranules. Widely disseminated <1%, euhedral to subhedral pyrite (.02 to .05 mm).

Estimated percentages
Altered plagioclase laths, 35% (included in alteration)
Sericite
[a] Altered plagioclase laths 25%
[b] Altered matrix 10%

Clear 24 Continued

Carbonate
[a] Isolated grains 2%
[b] Altered plagioclase laths 10%
[c] Small clusters (altered matrix) 20%
[d] Veinlets/large fracture controlled diffusions

Quartz
[a] Isolated grains 2-3%
[b] Diffuse impregnations 2-3%
[c] Veins 1%

Clay
[a] Altered matrix 10%
[b] Veinlets 5%
Apatite trace

Semiopaque clusters
[a] Dusting of carbonate 10%(?) included in carbonate
[b] Irregular clusters in groundmass 5-8%
Pyrite 1%

20 **Askin - 7**
Brecciated recrystallized carbonate

Summary description
Fine to coarse crystalline carbonate (dolomite) broken into finer crushed linear zones and "mylonitized" carbonate in shear planes containing lensoidal aggregates of quartz. Very minor clay with few quartz grains in late fractures.

No relict sedimentary textures observed.

Pyrite; 1%, disseminated clusters of very fine grains in late fractures.

Petrographic description
Most of the dolomite consists of interlocking fine (.05 to 0.1 mm) grains with a light to moderate dusting. Large fragments of coarser (to >2.0 mm) interlocking crystalline dolomite are embedded in the fine fraction. These coarse crystals have a lighter dusting. There has been several episodes of fracturing and brecciation of varied intensity locally with each impressing either fine granulation along fracture/shear surfaces, by recrystallization of dolomite along fractures or by introduction of minor amounts of carbonaceous(?) material, quartz and clay. Most of these fracture fillings have been dislocated by subsequent movement. There is about 1% disseminated and fracture controlled pyrite (<.01 to .05 mm).

Estimated percentages
Dolomite 90%
Quartz 5-6%
Clay 2-3%
Pyrite 1%

21 **Askin - 8**
Quartz granule bearing "dolostone"

Summary description
Microgranular massive carbonate (dolomite) groundmass containing about 8% disseminated fine grains rounded quartz grains supported by the carbonate groundmass.

Carbonate groundmass has microgranular dusting among grains.

Cut by coarser crystalline carbonate veins with only a slight dusting. These are closely followed by hairline discontinuous quartz veinlets.

Petrographic description
Very fine (microgranular to .02 mm) interlocking carbonate (dolomite) forms the groundmass. Darkened by dusting between grains. There are (10%) coarser crystalline dolomite crystals (.05 to 0.2 mm) uniformly disseminated throughout this groundmass. More conspicuously there is about 8% disseminated rounded to subrounded quartz grains with a wide range of grain sizes from (<.05 to 0.3 mm) generally with uniform to slightly strained extinction.

The rock is cut by a loose network of hairline fractures filled with recrystallized dolomite. In addition there is a coarser system of recrystallized dolomite veinlets, (<.05 to 5.0 mm) in width, with only slight dusting. These veinlets are closely followed by narrow (.05 to 0.3 mm) discontinuous quartz veinlets.

Estimated percentages
Dolomite groundmass 50-55%
Dolomite crystal disseminations 10%
Quartz clasts 8%
Dusting 5%?

Veins
Dolomite 30-35%
Quartz 3-4%

22 **Askin - 9**
Quartz granule-bearing dolostone

Summary description: As for Askin 8
Dolostone, composed of microgranular carbonate (dolomite). Similar to Askin-8 but shows weak layering by varied abundance and grain size of groundmass-supported, rounded quartz clasts which range from very fine to medium-grained (generally coarser grained than in Askin-8). Contains fairly evenly disseminated, very fine to fine grained carbonate clasts with less dusted appearance than microgranular groundmass. There are scattered irregular patches of microgranular opaque dustings among quartz granules in the quartz-rich layers. Varied intensity of opaque dustings result in a mottled appearance of the dolomitic groundmass. Cut by less dusted carbonate (dolomite) coarser crystalline veinlets, and numerous coarse to fine interlocking quartz veinlets, some with associated barite in their cores.

Petrographic description
Groundmass similar to Askin-8 but finer grained (microgranular) and shows some mottling by varied abundance of intergranular dusting. The rounded quartz clasts (12-15%) show a wide variation in grain size (<.05 to >0.5 mm) and produces a conspicuous bedding as a result of varied abundance of quartz. The quartz-rich layers contain patches of microgranular opaque material. As for Askin-7, the dolomite groundmass contains fairly uniformly disseminated (8%) dolomite crystals (<.05 to 0.1 mm) showing weaker dusting. One zircon grain noted (0.12 mm)

Cut by several vein systems both following and crossing bedding including hairline recrystallized dolomite veinlets, hairline quartz veinlets with carbonate, and wider veins (to >1.5 mm) of predominantly quartz, varied abundance of intermixed dolomite and a few with minor barite in their cores.

Estimated percentages
Dolomite groundmass 55%
Dolomitic crystals included in groundmass; 8%
Rounded quartz clasts; 12-15%

Dustings 5%?

Veins 20%
Quartz 12%
Carbonate 8%
Barite <1%

APPENDIX B

GEOPHYSICS: Gravity Survey (in folder)

PETER E. WALCOTT
& ASSOCIATES LTD

A LOGISTICAL REPORT

ON

GRAVITY SURVEYING

Clear Lake Area, Y.T.
62° 48'N, 135° 12'W
N.T.S. 105L/14

FOR

TOTAL ENERGOLD CORPORATION

Vancouver, British Columbia

093060

BY

PETER E. WALCOTT & ASSOCIATES LIMITED

Vancouver, British Columbia

OCTOBER 1992

PETER E. WALCOTT
& ASSOCIATES LTD

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APPENDIX

PERSONNEL EMPLOYED ON SURVEY

ACCOMPANYING MAPS - Scale 1:5000

	MAP POCKET
PROFILES OF TERRAIN CORRECTED BOUGUER GRAVITY, BOUGER GRAVITY AND SURFACE ELEVATION - AREA 3 GRID	W-493-1
CONTOURS OF TERRAIN CORRECTED BOUGUER GRAVITY - AREA 3	W-493-1G
CONTOURS OF SURFACE ELEVATION - AREA 3 GRID	W-493-1E
PROFILES OF TERRAIN CORRECTED BOUGUER GRAVITY, BOUGER GRAVITY AND SURFACE ELEVATION - AREA 11 GRID	W-493-2
CONTOURS OF TERRAIN CORRECTED BOUGUER GRAVITY - AREA 11	W-493-2G
CONTOURS OF SURFACE ELEVATION - AREA 11 GRID	W-493-2E
PROFILES OF TERRAIN CORRECTED BOUGUER GRAVITY, BOUGUER GRAVITY, SURFACE ELEVATION -Line 3000 W	W-493-3
-Line 2150 W	W-493-5

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POSTINGS OF TERRAIN CORRECTED BOUGUER GRAVITY & SURFACE ELEVATION
-Line 3000 W W-493-4
-Line 2150 W W-493-6

INTRODUCTION.

Between April 1st and 21st, 1992, Peter E. Walcott & Associates Limited carried out gravity surveying over parts of the Clear Lake property, located in the Clear Lake Area, Yukon Territory, for Total Energold Corporation.

The surveying was conducted out over two grids, respectively named the **POW AREA 11** & **AREA 3**, the lines of which were established in most places by a bulldozer.

Measurements of relative gravity were made every 25 metres along the lines. In addition elevations at each of the gravity stations were obtained with a theodolite and an electronic distance meter (EDM) by a crew from Total Energold Corporation.

Portions of three lines were unable to be covered due to (a) the steep topography and heavy snowcover on the southern ends of Lines 5200 & 5400 W, and (b) an omission by the linecutters to connect the two bulldozed portions of Line 5600 W. These were completed in June along with additional measurements on Lines 2150 W & 2770 W respectively.

After corrections were applied the data were plotted and presented in profile form at scale of 1:5000. In addition the results were presented in contour form on plan maps of the respective grids where applicable.

PROPERTY-LOCATION & ACCESS.

The property , encompassing the Clear Lake deposit, a shale-hosted lead-zinc-silver deposit, is situated some 36 kilometres east of the confluence of the Pelly and MacMillan Rivers in the Yukon Territory.

Access on the survey was obtained by means of fixed wing aircraft from Whitehorse, some 220 kilometres to the south - the property has a good all weather strip.

PURPOSE.

The gravity surveying was carried out (a) in an effort to see if any excess mass(es), that could be indicative of sulphide mineralization, was associated with the possible western projection of the favourable horizon on the Area 11 grid, and (b) to see if the same could exist with similarily postulated horizons on the Area 3 grid.

SURVEY SPECIFICATIONS.

The April gravity survey was carried out using a Sodin Prospector 200-T gravimeter. This instrument measures variations in the earth's gravitational field to an accuracy of plus or minus 0.01 milligals, and is thermostated to eliminate thermal drift corrections.

Values of observed gravity were obtained every 25 metres along the picket lines. Corrections for meter drift were made by tying-in to previously established base stations at intervals not exceeding three hours - fifteen base stations were established throughout the grids.

The elevation of the gravity stations - the locations of which were marked by large spikes - were determined by prism, rod and transit (Wild T1-A theodolite and an EDM). Errors in the tying-in of loops were kept to a minimal, and in most cases did not exceed 0.2 metres per loop. However considerable problems were encountered in these ties with the result that the elevations were not finalized until mid-May after the gravity metering crew had departed.

Water depth determinations were made at stations on the frozen lakes with the aid of an ice auger, and ball and chain.

The June survey was carried out using a Scintrex G-2 gravimeter which provides similar accuracies but is not equipped with an internal heating element.

Corrections were applied to the observed gravity for differences in elevation using a density of 2.7 gm/cc, water depth where applicable, and latitude to give the resultant Bouguer gravity.

In all some 32.8 kilometres of coverage were completed with the gravity method.

TERRAIN CORRECTIONS.

Gravity terrain corrections are needed to account for the upward pull of topographic features which are higher than the gravity station - hills - and the lack of downward pull from open spaces which are lower than the station - valleys.

In areas of rugged topography these can be higher than the anomalies being sought and uncertainties in them can limit the accuracy of the survey.

Calculations of these corrections can also require more time and effort than that expended in gathering the original data.

In this case corrections were made manually to compensate for the local topography by centering a transparent overlay over each station on the 1:2000 topographic map on which the grid has been correctly plotted, and estimating the average elevation within each compartment - out to zone D, outer radius 558 feet on Hammer correction tables. The algorithm used is for a segmented annulus with a horizontal top and bottom i.e. a flat top circular prism.

These corrections were applied to the Bouguer gravity and plotted as terrain-corrected Bouguer gravity.

DATA PRESENTATION.

Terrain-corrected Bouguer gravity, Bouguer gravity, surface elevation and water depths are shown in profile form for the POW Area 3 grid on Map No. W-493-1 at a scale of 1:5000. Contours of terrain-corrected Bouguer gravity and surface elevations (values posted) are also shown at the same scale on Maps W-493-1G & 1E.

Terrain corrected Bouguer gravity, Bouguer gravity, surface elevation (water depths not plotted as too shallow) are shown in profile form for the POW Area 11 grid at 1:5000 on Map W-493-2. Contours of terrain-corrected Bouguer gravity and surface elevation (values posted) are also shown on Map W-493-2G & 2E respectively.

Profiles of terrain-corrected Bouguer gravity, Bouguer gravity and surface elevation for Lines 3000 W (south extension) and 2150 W are presented on Maps W-493-3 & 5 respectively, while posting of terrain-corrected Bouguer gravity and surface elevation are given on Maps W-493-4 & 6.

OBSERVATIONS.

Although it is not within the writer's mandate to discuss the results he nevertheless would like to make a couple of observations.

A level change of some 0.2 to 0.4 milligals is suggested on L4200 W by the down the line contours on Map W-493-2G. This line was metered in two loops and tied to a base station located at 1250 N on the line. Observed gravity readings at stations 1225 N on Line 4000 W and station 1275 N on Line 4400 W are exactly the same for both loops - no drift in either loop - so any error would appear to be in the elevation loop - as mentioned previously the elevation was completed long after the metering and thus the the results were not calculated and field checked where questionable.

Errors in the calculation of the terrain correction over the hill on Lines 5200 and 5400 W could be substantial as the stations do not appear to be plotted correctly as evidenced by comparison with the elevations on the 1:2000 topographic blowup.

Respectfully submitted,

PETER E. WALCOTT & ASSOCIATES LIMITED

Peter E. Walcott, P.Eng.
Geophysicist

Vancouver,
British Columbia

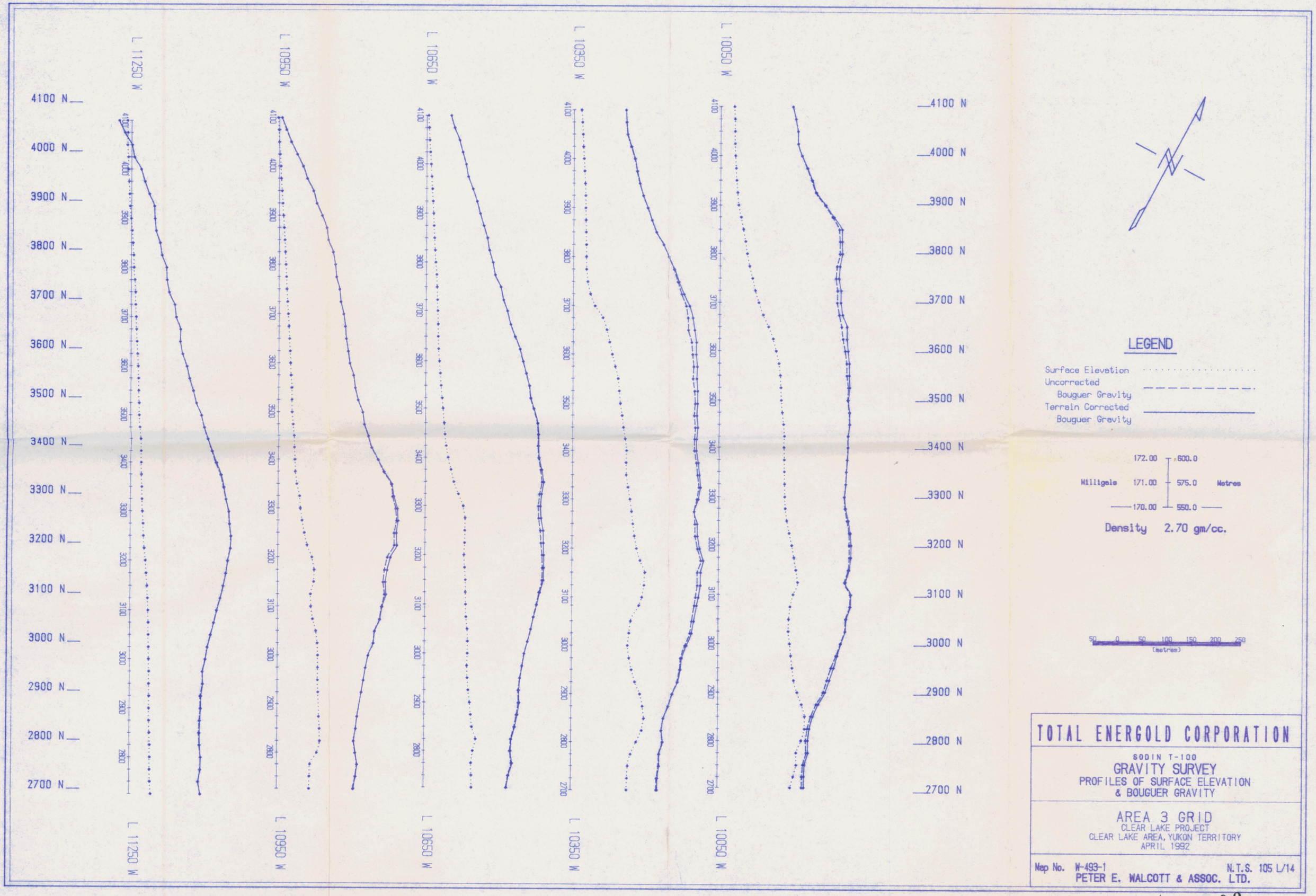
October 1992

APPENDIX

PETER E. WALCOTT
& ASSOCIATES LTD

PERSONNEL EMPLOYED ON SURVEY.

Name	Occupation	Address	Dates
Peter E. Walcott	Geophysicist	Peter E. Walcott & Associates Limited 605 Rutland Court Coquitlam, B.C. V3J 3T8	April 1st - 21st, 1992 June 13th - 17th, 1992 June 30th, 1992 Sept. 25th - 30th, 1992
D. Charlie	Helper	"	June 13th - 17th, 1992
J. Walcott	Typing	"	October 8th, 1992



TOTAL ENERGOLD CORPORATION

SODIN T-100

GRAVITY SURVEY

PROFILES OF SURFACE ELEVATION & BOUGUER GRAVITY

AREA 3 GRID

CLEAR LAKE PROJECT

CLEAR LAKE AREA, YUKON TERRITORY

APRIL 1992

Map No. W-493-1 N.T.S. 105 L/14

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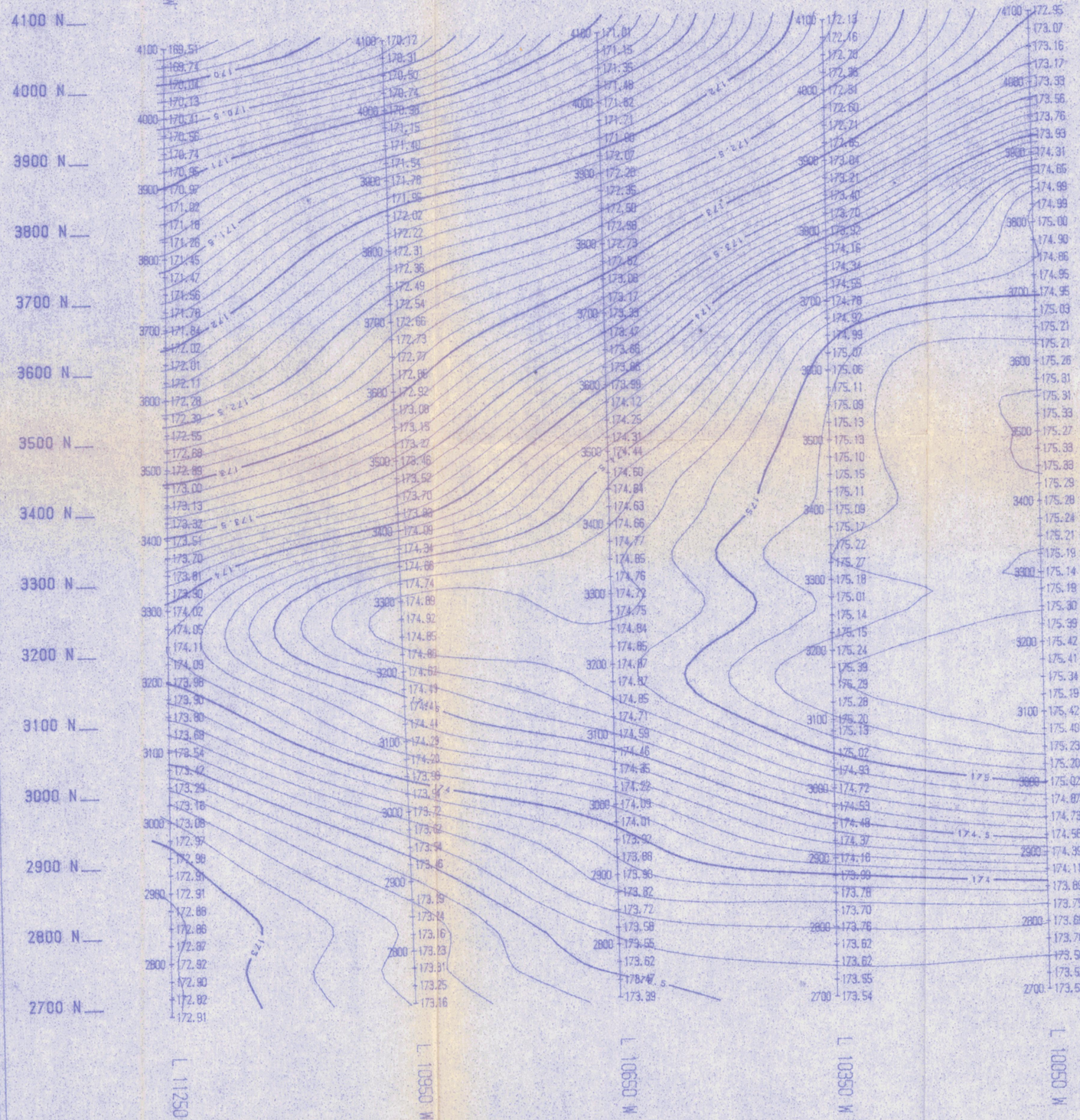
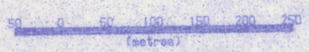
DWG 1







TOTAL ENERGOLD CORPORATION

SODIN T-100

GRAVITY SURVEY

CONTOURS OF
TERRAIN CORRECTED BOUGUER GRAVITY

AREA 3 GRID
CLEAR LAKE PROJECT
CLEAR LAKE AREA, YUKON TERRITORY
APRIL 1992

Map No. M-493-16 N.T.S. 105 L/14
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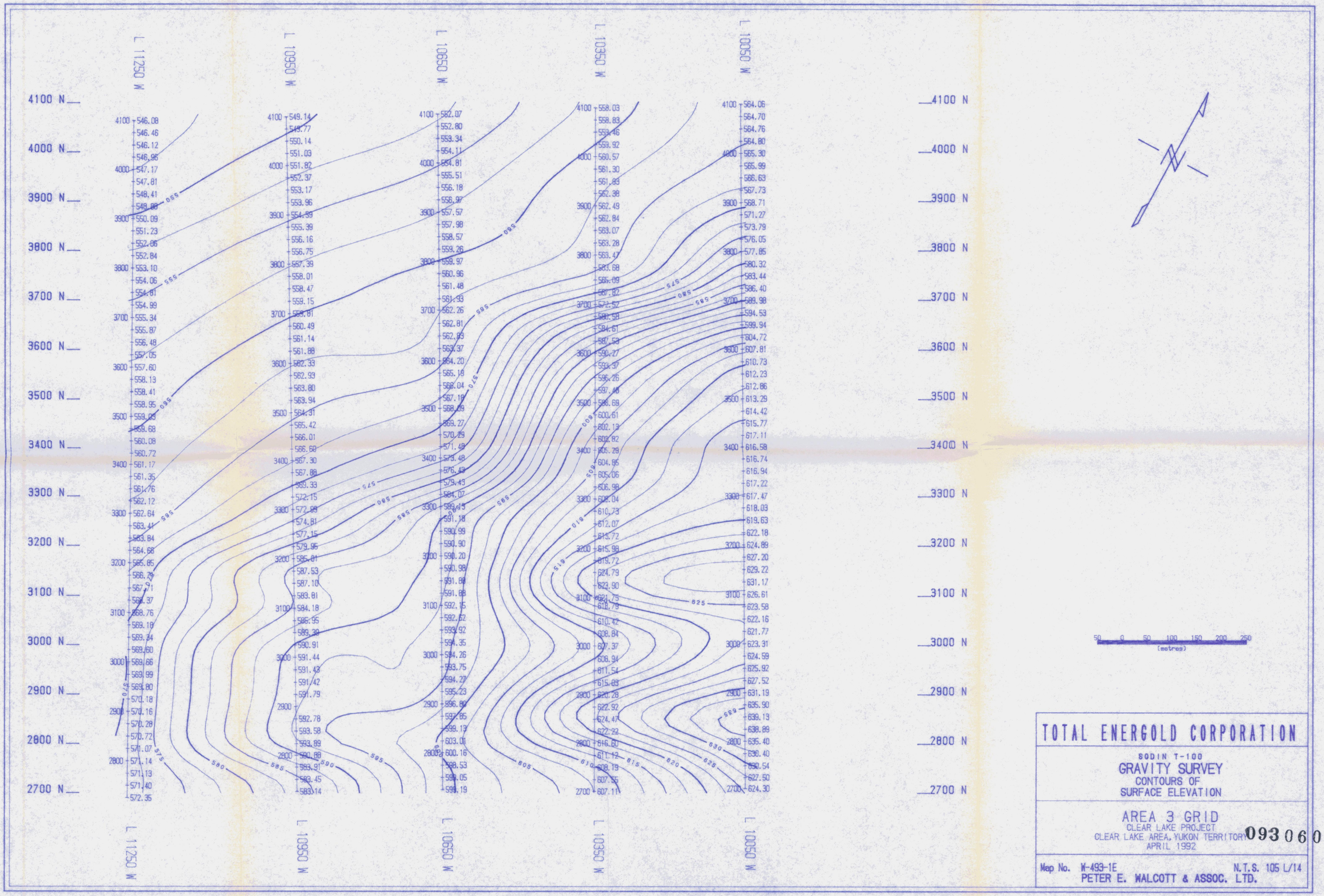

TOTAL ENERGOLD CORPORATION

SODIN T-100

GRAVITY SURVEY
CONTOURS OF
SURFACE ELEVATION

AREA 3 GRID
CLEAR LAKE PROJECT
CLEAR LAKE AREA, YUKON TERRITORY
APRIL 1992

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Map No. W-493-1E N.T.S. 105 L/14
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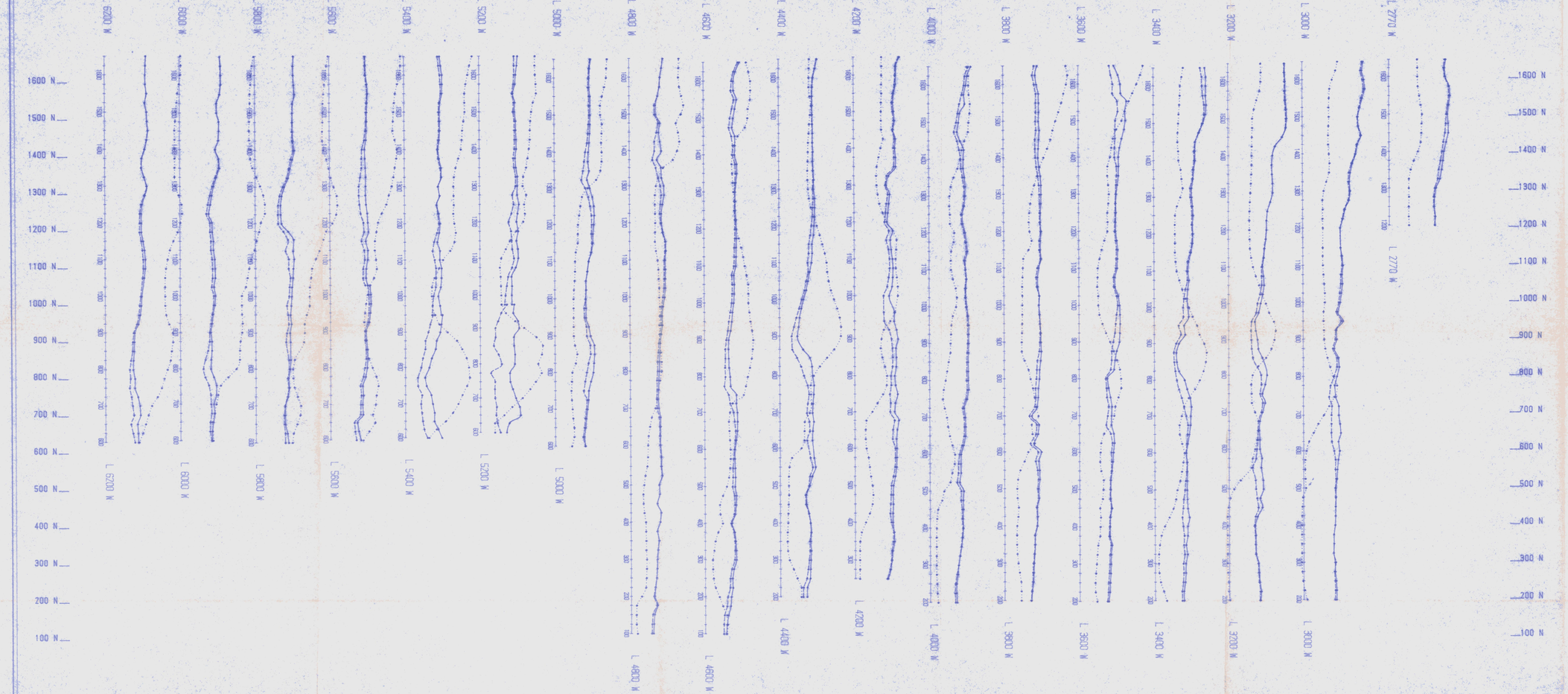
DWG (3)



LEGEND

Surface Elevation Uncorrected — Bouguer Gravity

Terrain Corrected Bouguer Gravity

	173.00	675.0	
Milligals	172.00	650.0	Metres
	171.00	625.0	

Density 2.70 gm/cc.

50 0 50 100 150 200 250 (metres)

093 060

TOTAL ENERGOLD CORPORATION

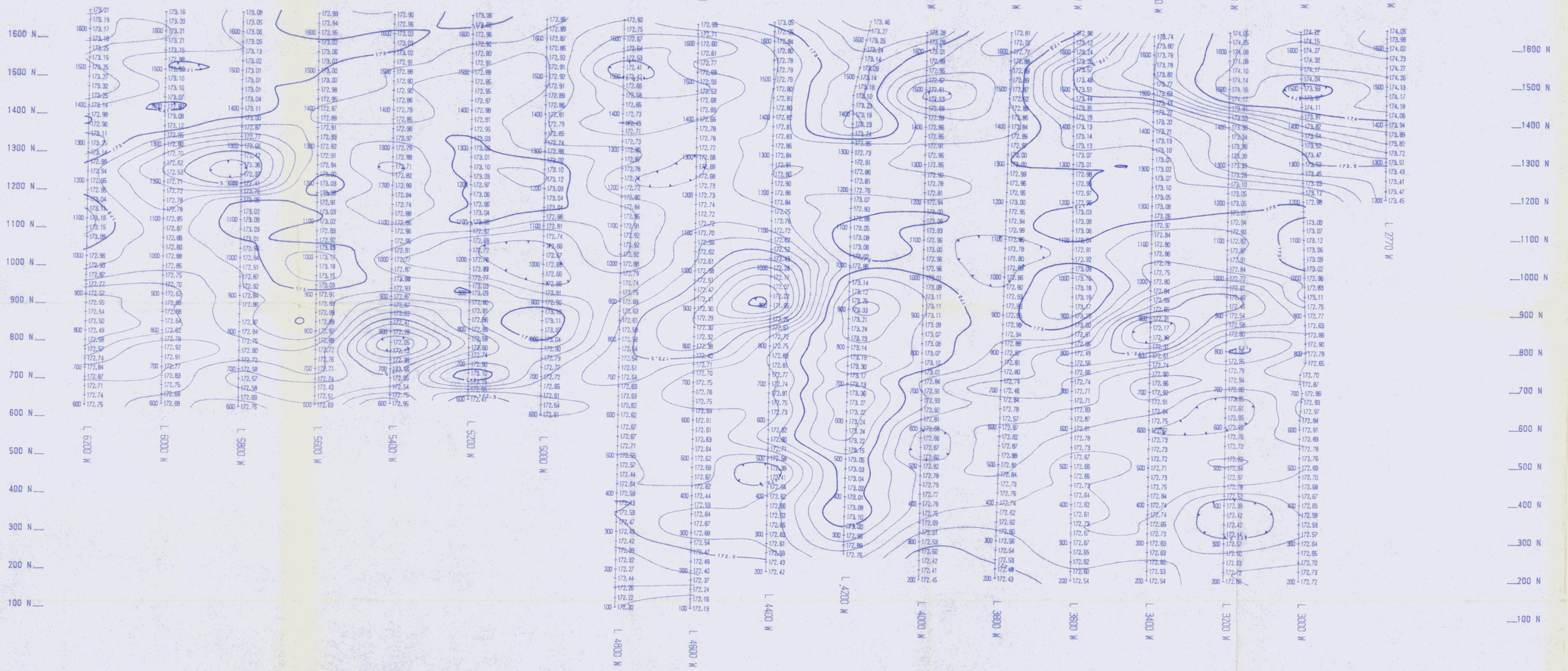
SODIN T-100

GRAVITY SURVEY
PROFILES OF SURFACE ELEVATION & BOUGUER GRAVITY

POW GRID
CLEAR LAKE PROJECT
CLEAR LAKE AREA, YUKON TERRITORY
APRIL 1992

Map No. W-493-2 N.T.S. 105 L/14

PETER E. WALCOTT & ASSOC. LTD.



DWGS 093060

TOTAL ENERGOLD CORPORATION

SODIN T-100

GRAVITY SURVEY

CONTOURS OF
TERRAIN CORRECTED BOUGUER GRAVITY

POW GRID
CLEAR LAKE PROJECT
CLEAR LAKE AREA, YUKON TERRITORY
APRIL 1992

Map No. W-493-2G N.T.S. 105 L/14

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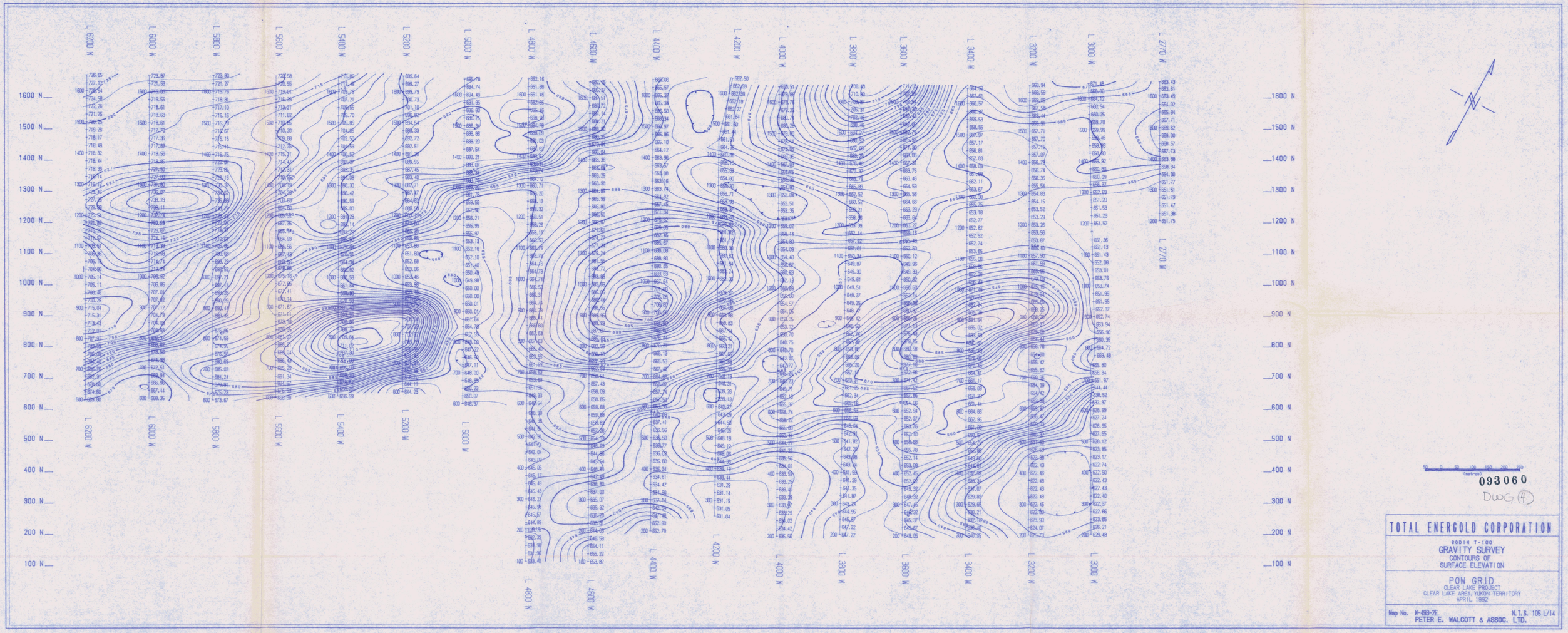


093060

DWG 4

TOTAL ENERGOLD CORPORATION

80DIN T-100

GRAVITY SURVEY

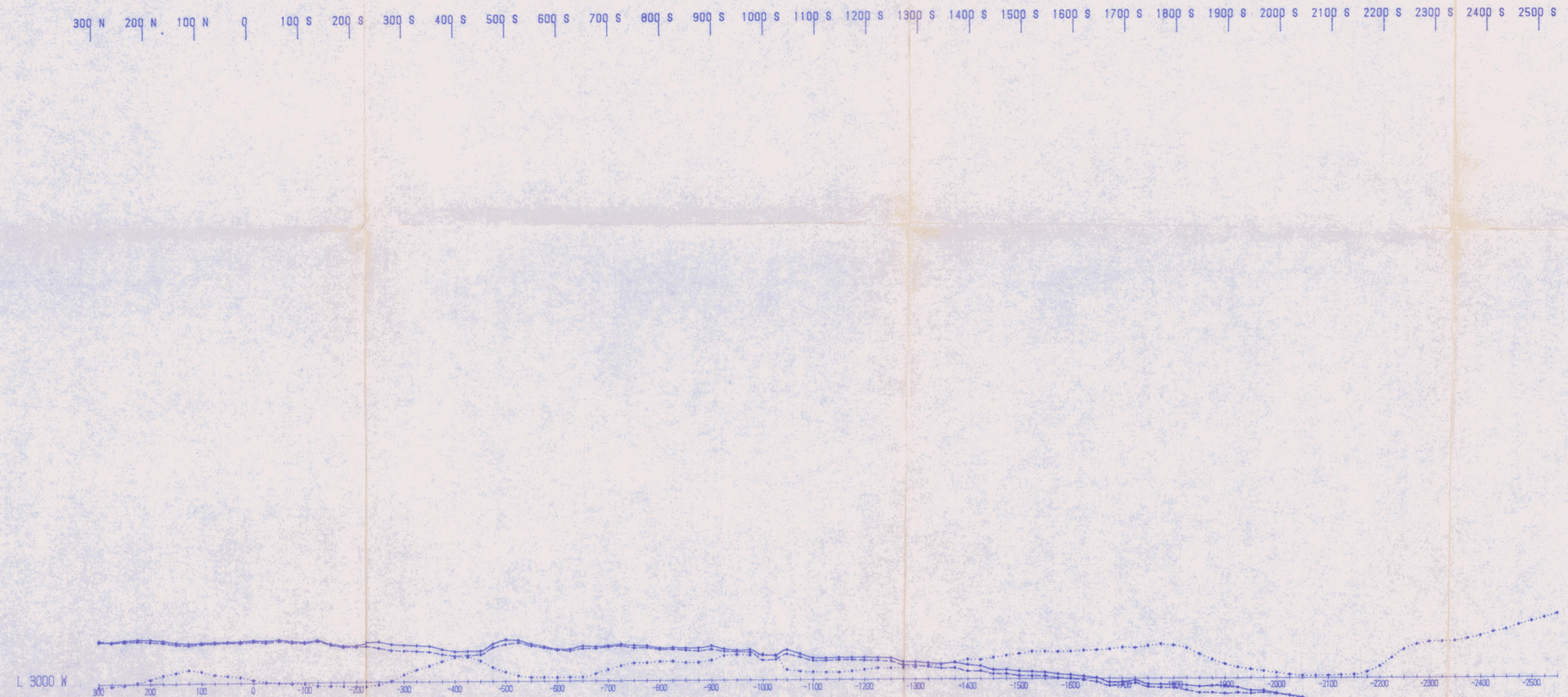
CONTOURS OF
SURFACE ELEVATION

POW GRID
CLEAR LAKE PROJECT
CLEAR LAKE AREA, YUKON TERRITORY
APRIL 1992

Map No. M-493-2E

N.T.S. 105 L/14

PETER E. WALCOTT & ASSOC. LTD.



LEGEND

Surface Elevation
Uncorrected
Bouguer Gravity
Terrain Corrected
Bouguer Gravity

	173.00	675.0	
Milligals	172.00	650.0	Metres
	171.00	625.0	

Density 2.70 gm/cc.

50 0 50 100 150 200 250
(metres)

093060

DWG ID

TOTAL ENERGOLD CORPORATION

SODIN T-100

GRAVITY SURVEY
PROFILES OF SURFACE ELEVATION & BOUGUER GRAVITY

POW GRID
CLEAR LAKE PROJECT
CLEAR LAKE AREA, YUKON TERRITORY
APRIL 1992

Map No. W-493-3 N.T.S. 105 L/14

PETER E. WALCOTT & ASSOC. LTD.

200 N 300 N 400 N 500 N 600 N 700 N 800 N



LEGEND

Surface Elevation .....

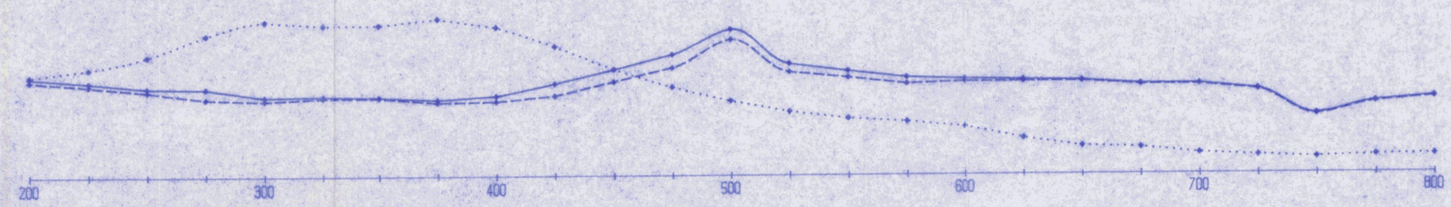
Uncorrected
Bouguer Gravity - - - - - - - - - -

Terrain Corrected
Bouguer Gravity ———————

	173.00	650.0	
Milligals	172.50	640.0	Metres
	172.00	630.0	

Density 2.70 gm/cc.

25 0 25 50 75 100 125
(metres)



093060

Dwg 9

TOTAL ENERGOLD CORPORATION

SCINTREX CG2

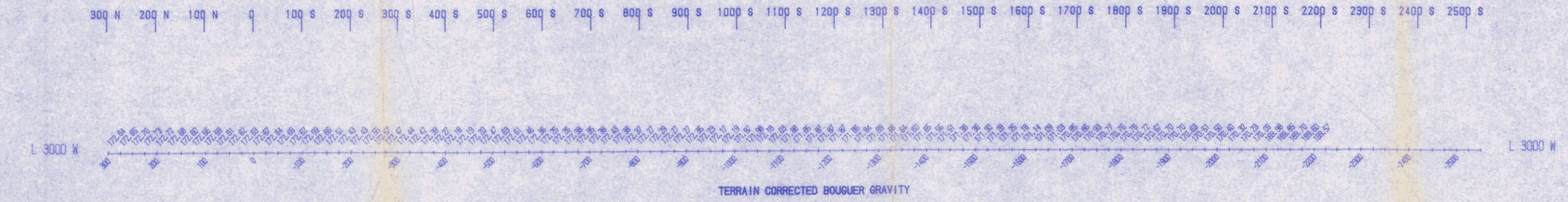
GRAVITY SURVEY

PROFILES OF SURFACE ELEVATION
& BOUGUER GRAVITY

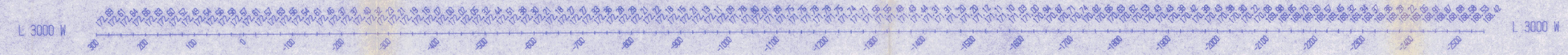
POW GRID
CLEAR LAKE PROJECT
CLEAR LAKE AREA, YUKON TERRITORY
JUNE 1992

Map No. W-493-5 N.T.S. 105 L/14

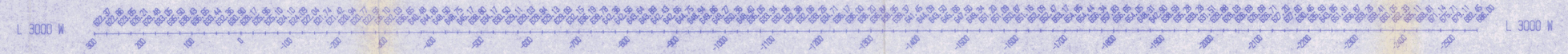
PETER E. WALCOTT & ASSOC. LTD.



TERRAIN CORRECTED BOUGUER GRAVITY



UNCORRECTED BOUGUER GRAVITY



SURFACE ELEVATION

50 0 50 100 150 200 250
(metres)

093060

DWG (B)

TOTAL ENERGOLD CORPORATION

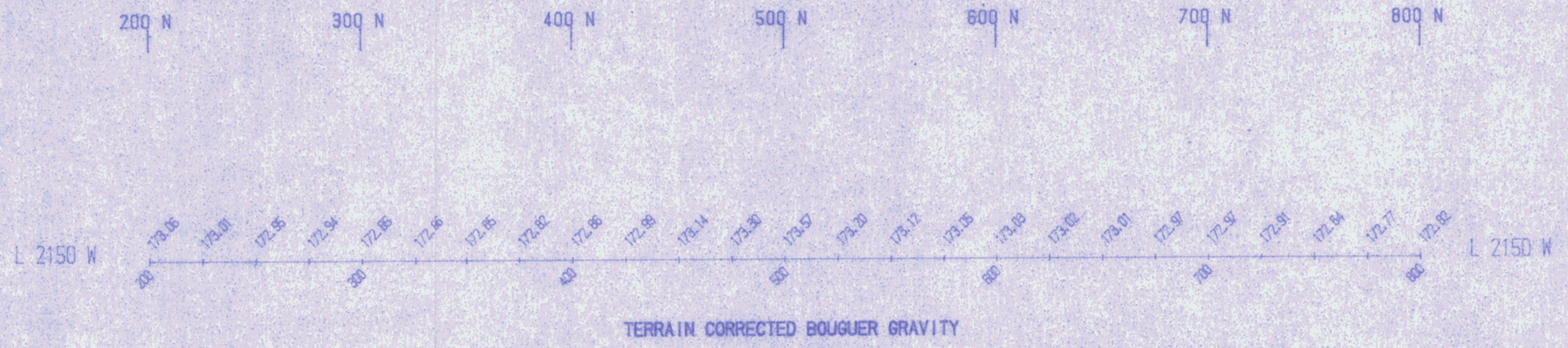
GODIN T-100

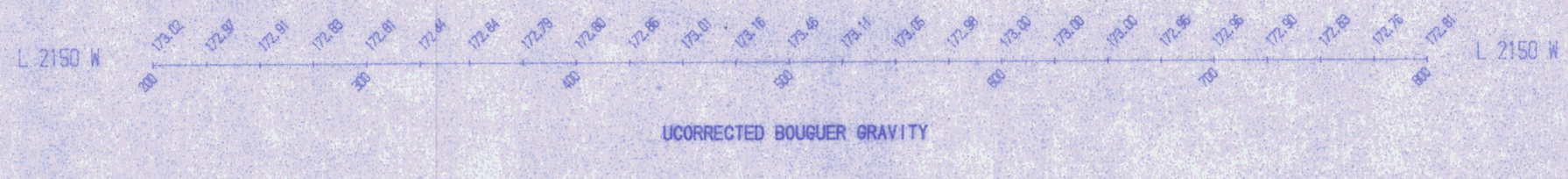
GRAVITY SURVEY
VALUES OF SURFACE ELEVATION
& BOUGUER GRAVITY

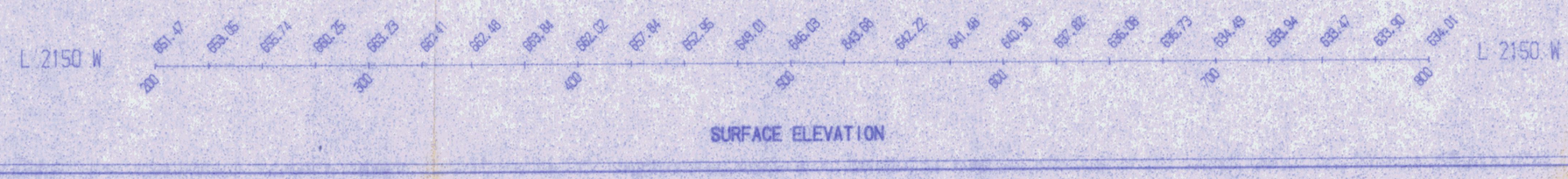
POW GRID
CLEAR LAKE PROJECT
CLEAR LAKE AREA, YUKON TERRITORY
APRIL 1992

Map No. M-493-4 N.T.S. 105 L/14

PETER E. WALCOTT & ASSOC. LTD.







25 0 25 50 75 100 125
(metres)

093060

DWG (7)

TOTAL ENERGOLD CORPORATION

•SCINTREX CG2

GRAVITY SURVEY
VALUES OF SURFACE ELEVATION
& BOUGUER GRAVITY

POW GRID
CLEAR LAKE PROJECT
CLEAR LAKE AREA, YUKON TERRITORY
JUNE 1992

Map No. M-493-6 N.T.S. 105 L/14

PETER E. WALCOTT & ASSOC. LTD.

APPENDIX C

GEOPHYSICS: I.P. Survey (in folder)

PETER E. WALCOTT
& ASSOCIATES LTD

A LOGISTICAL REPORT

ON

INDUCED POLARIZATION SURVEYING

Clear Lake Area, Y.T.
62° 48'N, 135° 12'W
N.T.S. 105L/14

FOR

TOTAL ENERGOLD CORPORATION

Vancouver, British Columbia

093060

BY

PETER E. WALCOTT & ASSOCIATES LIMITED

Vancouver, British Columbia

OCTOBER 1992

PETER E. WALCOTT
& ASSOCIATES LTD

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PROPERTY-LOCATION & ACCESS	2
PURPOSE	3
SURVEY SPECIFICATION	4
DATA PRESENTATION	6
OBSERVATIONS	7

APPENDIX

PERSONNEL EMPLOYED ON SURVEY

ACCOMPANYING MAPS - 1:2000

	Line #
I.P. PSEUDO SECTIONS	
PROFILES OF RESISTIVITY, CHARGEABILITY, METAL FACTOR	
LINE 250 W	W-493-7
LINE 2150 W	W-493-8
LINES 450,550,650 850 W	W-493-9

1:5000

CONTOURS OF APPARENT RESISTIVITY	a=25m n=4	POW W grid	W-493-10
" " " "	a=25m n=4	POW AREA 11	W-493-12
" " " "	a=25m n=3	POW AREA 1	W-493-14
CONTOURS OF APPARENT CHARGEABILITY	a=25m n=4	POW W grid	W-493-11
" " " "	a=25m n=4	POW AREA 11	W-493-13
" " " "	a=25m n=3	POW AREA 1	W-493-15

INTRODUCTION.

Between June 8th and July 4th, 1992, Peter E. Walcott & Associates Limited carried out induced polarization surveying over parts of a large property, encompassing the Clear Lake deposit, for Total Energold Corporation.

The surveying was carried out over three grids, referred to as the POW W, POW Area 1 & POW Area 11 respectively, the lines of most of which were established with the aid of a bulldozer.

Measurements (first to fourth separation) of apparent resistivity and chargeability - the I.P. response parameter - were made every 25 metres along the lines using the pole-dipole method of surveying with a 25 metre dipole.

In addition some gradient array surveying was undertaken on portions of Lines 250 W, 450 W, 550 W, 650 W, 850 W & 2150 W in an effort to better define targets for drilling.

Line 0 on the Pin grid was also read with the pole-dipole array for comparison with the 1991 gradient data.

The pole-dipole data are presented in contour form on individual pseudosections that accompany this report whereas those from the gradient work are shown in profile form on plan maps of the individual gradient blocks.

In addition the fourth separation resistivity and chargeability - third separation from Area 1 - are shown in contour form on Maps W-493-10 to 15 that accompany this report.

PROPERTY - LOCATION & ACCESS.

The property , encompassing the Clear Lake deposit, a shale-hosted lead-zinc-silver deposit, is situated some 36 kilometres east of the confluence of the Pelly and MacMillan Rivers in the Yukon Territory.

Access on the survey was obtained by means of fixed wing aircraft from Whitehorse, some 220 kilometres to the south - the property has a good all weather strip.

PURPOSE.

The purpose of the survey was to use the I.P. signature of the Clear Lake deposit obtained on the 1991 survey in an effort, directly or indirectly, combined with the results of other exploration methods to define other similar targets in the general area.

SURVEY SPECIFICATIONS.

The induced polarization (I.P.) survey was conducted using a pulse type system, the principal components of which are manufactured by Huntec Limited of Metropolitan Toronto, Ontario, and BRGM of Orleans, France.

The system consists basically of three units, a receiver (BRGM), a transmitter and a motor generator (Huntec). The transmitter, which provides a maximum of 2.5 kw d.c. to the ground, obtains its power from a 2.5 kw 400 c.p.s. three phase alternator driven by a gasoline engine. The cycling rate of the transmitter is 2 seconds "current-on" and 2 seconds "current-off" with the pulses reversing continuously in polarity. The data recorded in the field consists of careful measurements of the current (I) in amperes flowing through the current electrodes C_1 and C_2, the primary voltages (V) appearing between any two potential electrodes, P_1 through P_5, during the "current-on" part of the cycle, and the apparent chargeability (M_a) presented as a direct readout in millivolts per volt using a 200 millisecond delay and a 1000 millisecond sample window by the receiver, a digital receiver controlled by a micro-processor - sample window is actually the total of ten individual windows of 100 millisecond widths.

The apparent resistivity (ρ_a) in ohm metres is proportional to the ratio of the primary voltage and the measured current, the proportionality factor depending on the geometry of the array used. The chargeability and resistivity are called apparent as they are values which that portion of the earth sampled would have if it were homogeneous. As the earth sampled is usually inhomogeneous the calculated apparent chargeability and resistivity are functions of the actual chargeability and resistivity of the rocks.

The survey was carried out using the "pole-dipole" method of surveying. In this method the current electrode C_1, and the potential electrodes, P_1 through P_5, are moved in unison along the survey lines at multiples of the spacing "a" (the dipole) apart, while the second current electrode C_2 is kept constant at "infinity". The distance, "na" between C_1 and the nearest potential electrode generally controls the depth to be explored by the particular separation, "n", traverse. This method, though asymmetrical, gives good resolution and subsurface coverage.

The gradient array was employed on parts of the POW W grid in an effort to better localize anomaly positions for investigation by drilling. In this method the current electrodes are set out a large distance, 2A, apart - 1 to 3 kilometres - and a pair of potential electrodes, with a separation in the order of

SURVEY SPECIFICATIONS cont'd.

A/20, is used to traverse a rectangular area between them up to A by A in size. This method generally yields poor signal to noise ratios, particularly in areas of high conductivity, and poor resolution with depth.

In addition the "pole-dipole" method was employed on Line 0 on the Pin grid with readings taken at both 2 and 4 seconds "current-on" and "current-off".

In all some 3.6 kilometres of gradient coverage and some 36.3 kilometres of pole-dipole work were completed on the property.

DATA PRESENTATION.

The results of the pole-dipole work are shown in contour form on individual pseudosections at a scale of 1:2000. The ten point moving average - Fraser filter - of the apparent resistivity, chargeability and metal factor (M_a/ρ_a x 100) are also plotted as profiles on these plans.

The gradient array results are presented in profile form on individual plans of the respective gradient blocks on Maps W-493-7 to 9 respectively at 1:2000.

Contour maps of the fourth separation resistivity and chargeability results - third separation from Area 1, the latter due to lack of fourth separation values - have been prepared and plotted with the same contour intervals as used in 1991 at 1:5000 scale on Maps W-493-10 to 15. In fact the 1991 POW W grid has been replotted with the additions done this year - Maps W-493-10 11.

OBSERVATIONS

It can be seen on Map W-493-15 that parts of Lines 9000 to 9300 W and effectively all of Lines 9450 to 10200 W exhibit very low and sometimes negative chargeabilities.

These results are attributed to permafrost on the gently sloping to flat lying north facing slope on the south side of the Macmillan River where no current penetration is possible.

It is probable but unlikely that surveying would be more effective in late fall when sufficient melting might have occurred but the thickness of permafrost would need to be determined to better judge this option.

Respectfully submitted

PETER E. WALCOTT & ASSOCIATES LIMITED

Peter E. Walcott, P.Eng.
Geophysicist

Vancouver,
British Columbia

October 1992

APPENDIX

PETER E. WALCOTT
& ASSOCIATES LTD

PERSONNEL EMPLOYED ON SURVEY

Name	Occupation	Address	Dates
Peter Walcott	Geophysicist	Peter E. Walcott & Associates Limited 605 Rutland Court Coquitlam, B.C. V3J 3T8	June 11th - July 2nd, Aug 28th-31st, Sept 25th - Oct 4th 1992
R. Summerfield	Geophysical Operator	"	June 17th - July 4th 1992
P. Charlie	Geophysical Operator	"	June 8th - July 4th 1992
G. Karacunte	Helper	"	June 8th - July 4th 1992
D. Charlie	Helper	"	June 11th - July 1st 1992
J. Walcott	Typing	"	Oct. 13th, 1992

100 S | 0 | 100 N | 200 N | 300 N | 400 N | 500 N



PROFILES

CHARGEABILITY ————————
RESISTIVITY – – – – – – –
METAL FACTOR —— —— ——

CHARGEABILITY	RESISTIVITY	METAL FACTOR
30	100	150
15	10	75
0	1	0

Instruments: BRGM Elrec 6 Rx., Huntec 2.5 kw. Tx.

C1-C2 (2A) = 1.1 km.

C1 300S, 250W

C2 800N, 250W

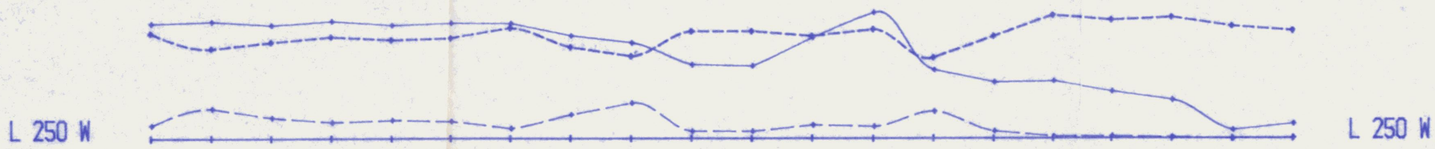
Dipole (a) = 25 ms.

Scale 1:2000

25 0 25 50 75 100 125
(metres)

090860

DWG 49



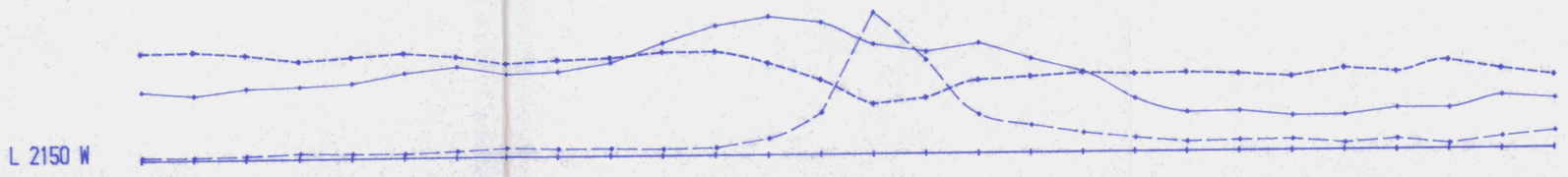
TOTAL ENERGOLD CORPORATION

GRADIENT ARRAY
INDUCED POLARIZATION SURVEY
PROFILES OF APPARENT CHARGEABILITY, RESISTIVITY & METAL FACTOR

L 250W, POW GRID
CLEAR LAKE PROJECT
CLEAR LAKE AREA, YUKON TERRITORY
JUNE 1992

Map No. W-493-7 N.T.S. 105 L/14
PETER E. WALCOTT & ASSOC. LTD.

200 N 300 N 400 N 500 N 600 N 700 N 800 N 900 N



PROFILES

CHARGEABILITY ——————
RESISTIVITY - - - - - - -
METAL FACTOR — — — —

CHARGEABILITY	RESISTIVITY	METAL FACTOR
30	100	150
15	10	75
0	1	0

Instruments: BRGM Elrec 6 Rx., Huntec 2.5 kw. Tx.

C1-C2 (2A) = 1.4 km.

C1 200S, 2150W

C2 1200N, 2150W

Dipole (a) = 25 ms.

Scale 1:2000

25 0 25 50 75 100 125
(metres)

090660

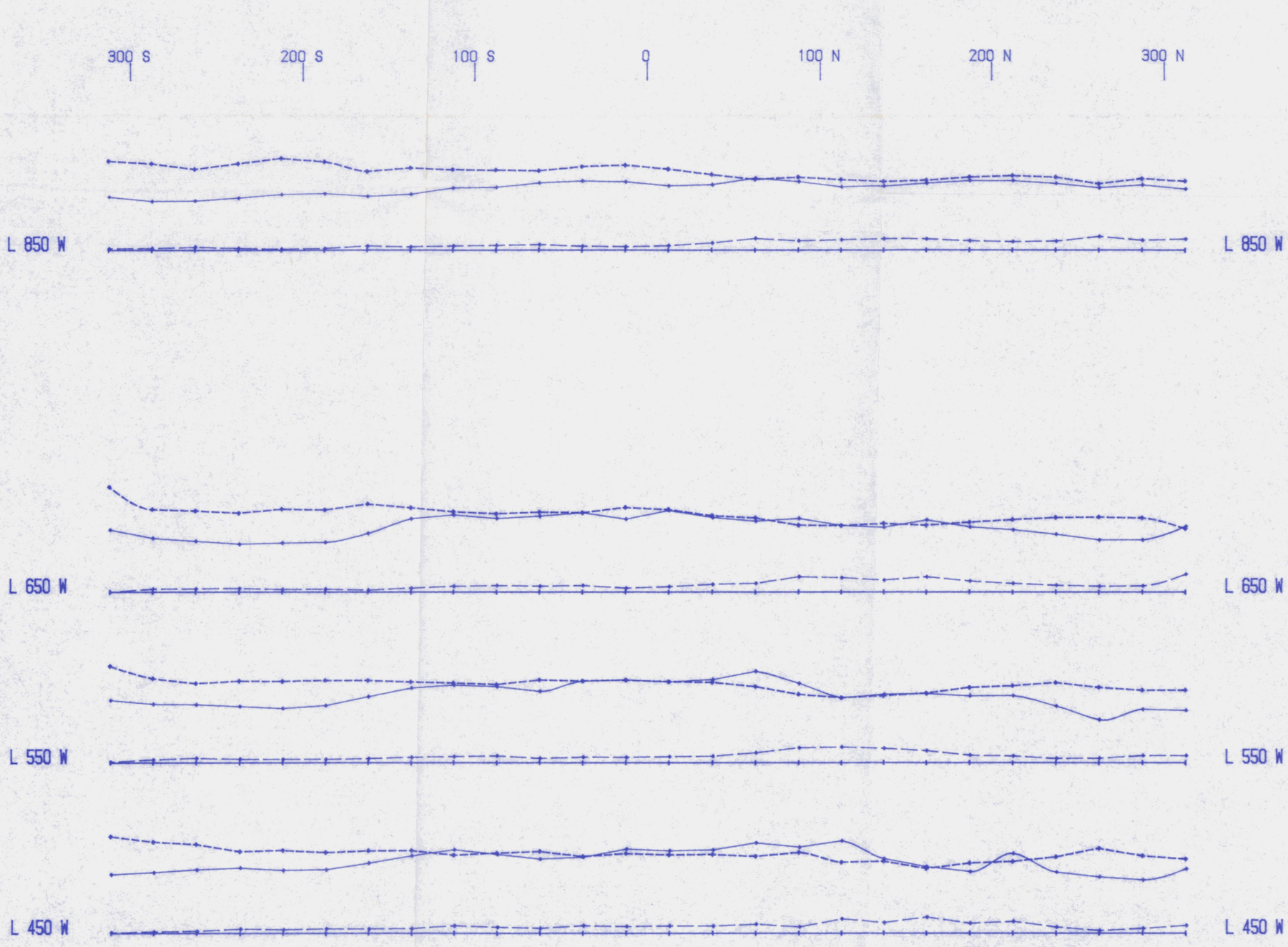
DWG 48

TOTAL ENERGOLD CORPORATION

GRADIENT ARRAY
INDUCED POLARIZATION SURVEY
PROFILES OF APPARENT CHARGEABILITY, RESISTIVITY & METAL FACTOR

L 2150W, POW GRID
CLEAR LAKE PROJECT
CLEAR LAKE AREA, YUKON TERRITORY
JUNE 1992

Map No. W-493-B
N.T.S. 105 L/14
PETER E. WALCOTT & ASSOC. LTD.





PROFILES

CHARGEABILITY
RESISTIVITY
METAL FACTOR

CHARGEABILITY	RESISTIVITY	METAL FACTOR
30	100	150
15	10	75
0	1	0

Instruments: BRGM Elrec 6 Rx., Huntec 2.5 kw. Tx.

C1-C2 (2A) = 1.2 km.

C1 600S, 750W

C2 600N, 750W

Dipole (a) = 25 ms.

Scale 1:2000

25 0 25 50 75 100 125
(metres)

090860

DWG 47

TOTAL ENERGOLD CORPORATION

GRADIENT ARRAY
INDUCED POLARIZATION SURVEY
PROFILES OF APPARENT CHARGEABILITY, RESISTIVITY & METAL FACTOR

POW GRID
CLEAR LAKE PROJECT
CLEAR LAKE AREA, YUKON TERRITORY
JUNE 1992

Map No. W-493-9 N.T.S. 105 L/14

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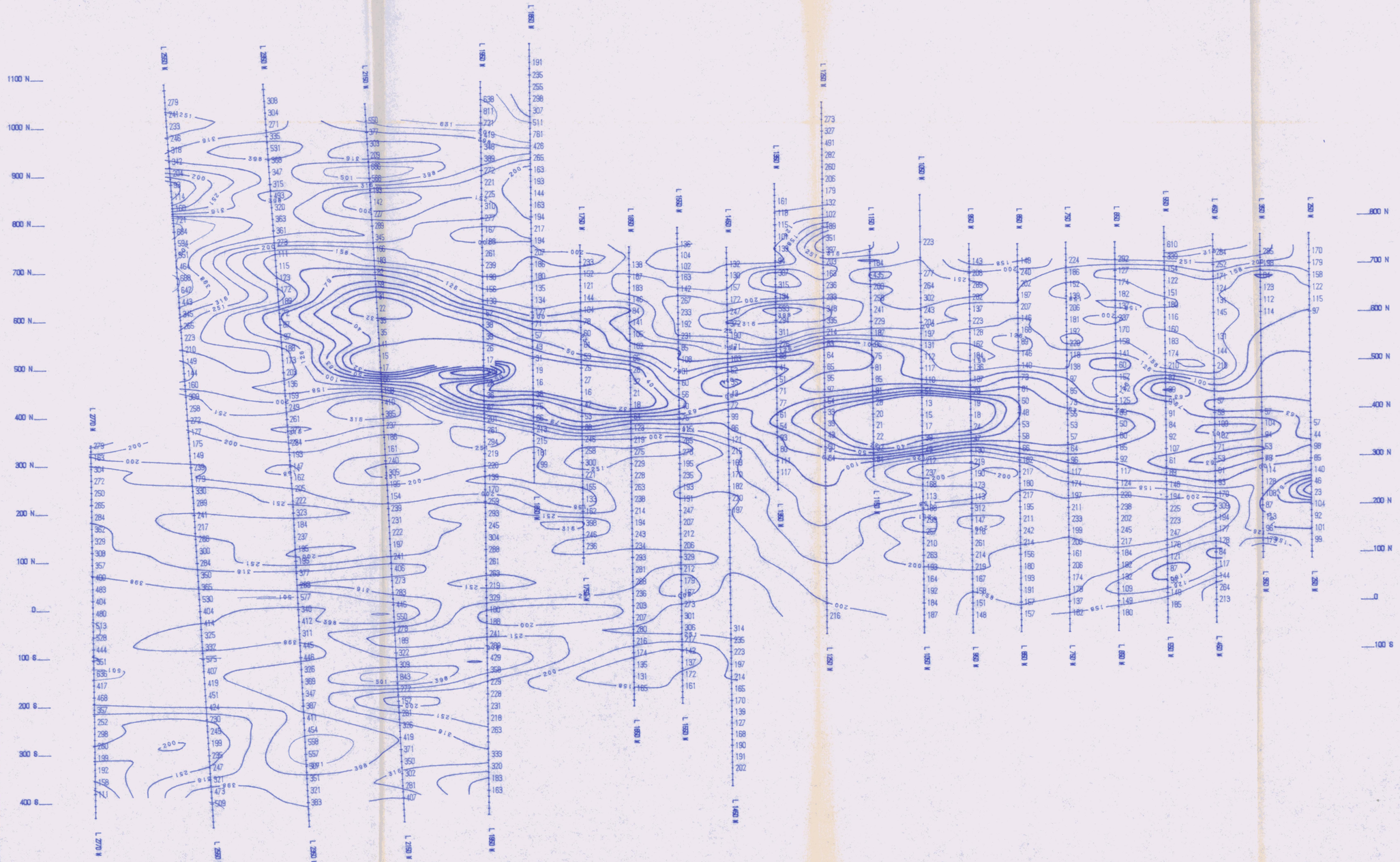


093090

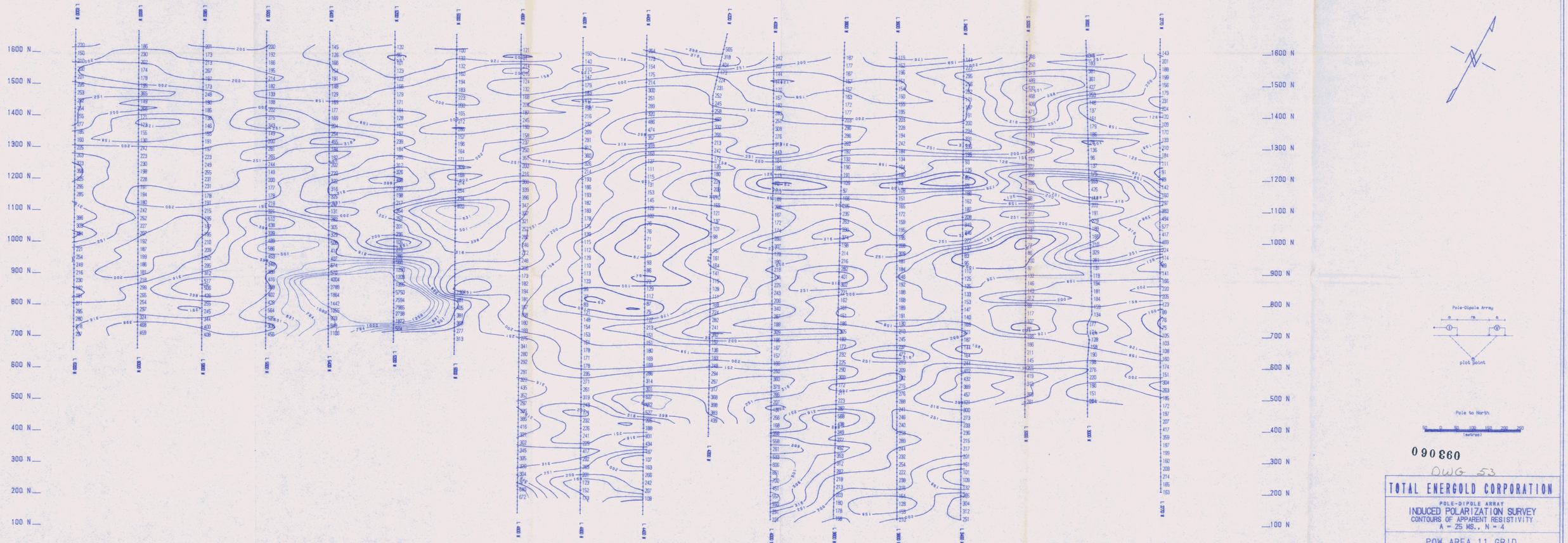
DWG 54

TOTAL ENERGOLD CORPORATION

POLE-DIPOLE ARRAY
INDUCED POLARIZATION SURVEY
CONTOURS OF APPARENT RESISTIVITY
A = 25 MS., N = 4

POW WEST GRID
CLEAR LAKE PROJECT
CLEAR LAKE AREA, YUKON TERRITORY
JUNE 1992

Map No. W-496-10 N.T.S. 105 L/14
PETER E. WALCOTT & ASSOC. LTD.



090060

DWG 53

TOTAL ENERGOLD CORPORATION

POLE-DIPOLE ARRAY

INDUCED POLARIZATION SURVEY

CONTOURS OF APPARENT RESISTIVITY

A = 25 MS., N = 4

POW AREA 11 GRID

CLEAR LAKE PROJECT

CLEAR LAKE AREA, YUKON TERRITORY

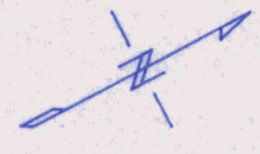
JUNE 1992

Map No. W-493-12 N.T.S. 105 L/14

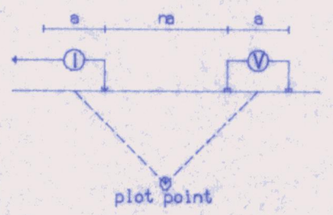
PETER E. WALCOTT & ASSOC. LTD.

4300 N | 4400 N | 4500 N | 4600 N | 4700 N | 4800 N | 4900 N | 5000 N | 5100 N | 5200 N | 5300 N

L 10200 W | L 10050 W | L 9900 W | L 9750 W | L 9600 W | L 9450 W | L 9300 W | L 9150 W | L 9000 W | L 8800 W | L 8700 W | L 8500 W | L 8400 W | L 8200 W | L 8050 W | L 7900 W



Pole-Dipole Array



Pole to South

0 90 E 0 93 0

50 0 50 100 150 200
(metres)

DWG 52

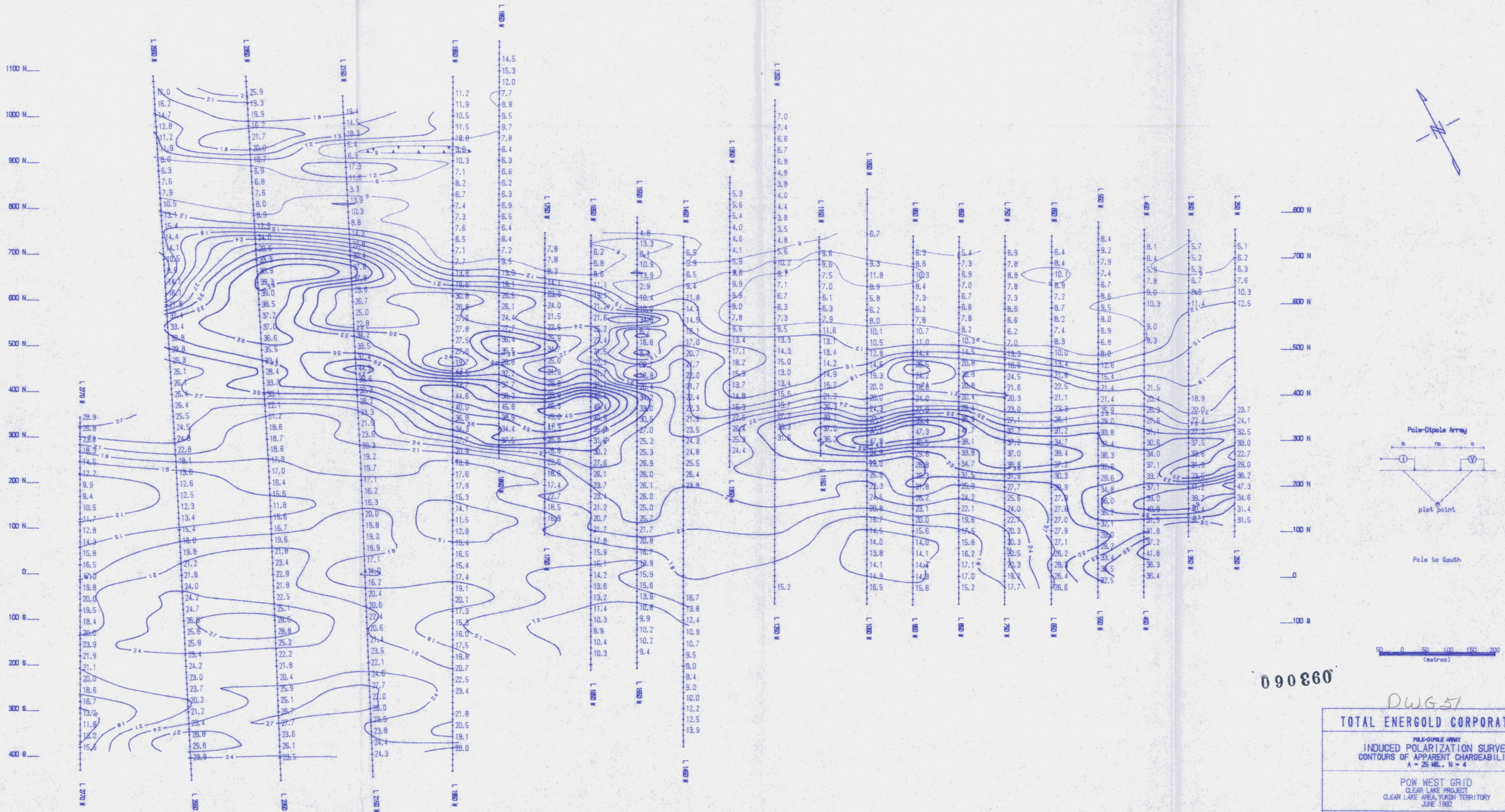
TOTAL ENERGOLD CORPORATION

POLE-DIPOLE ARRAY
INDUCED POLARIZATION SURVEY
CONTOURS OF APPARENT RESISTIVITY
A = 25 MS., N = 3

POW AREA 1 GRID
CLEAR LAKE PROJECT
CLEAR LAKE AREA, YUKON TERRITORY
JUNE 1992

Map No. W-465-14 | N.T.S. 105 L/14

PETER E. WALCOTT & ASSOC. LTD.



093060

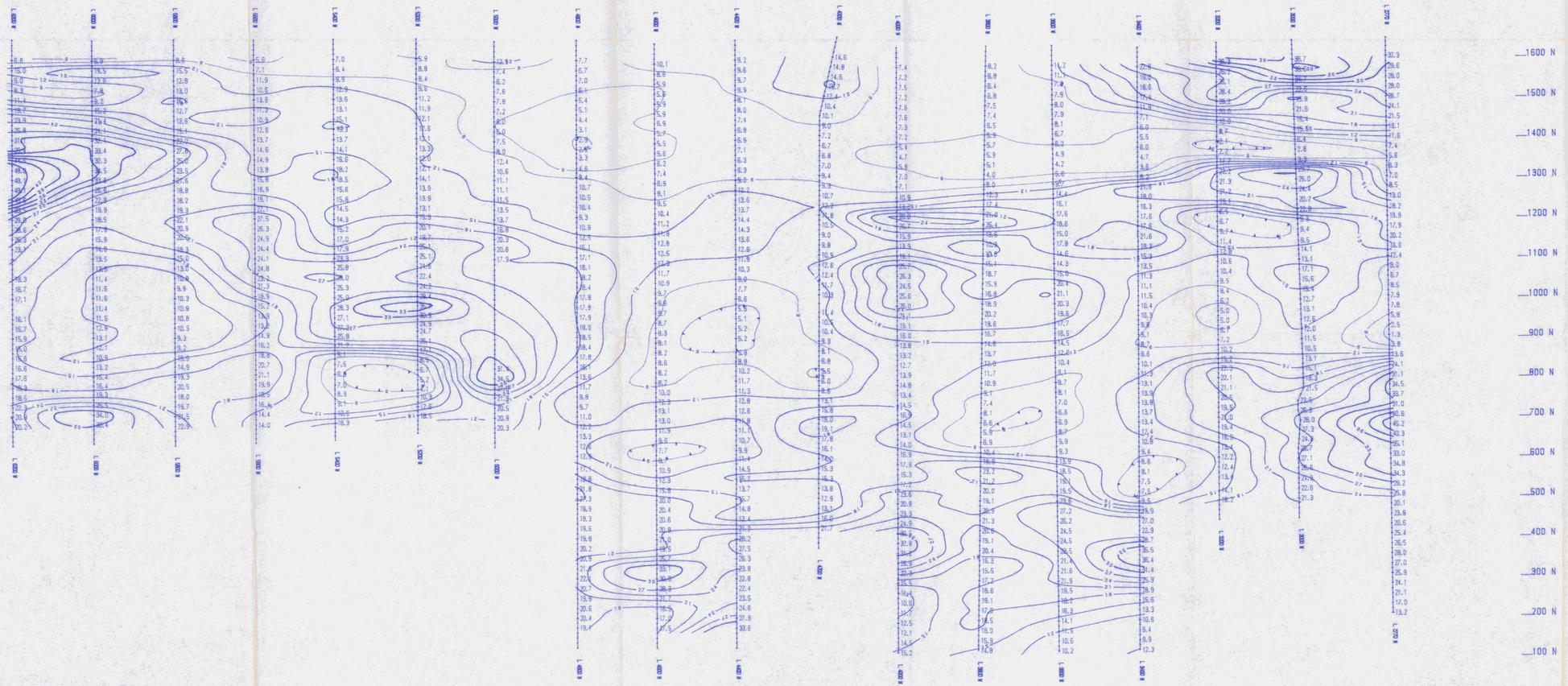
DWG 5/

TOTAL ENERGOLD CORPORATION

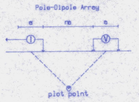
POLE-DIPOLE ARRAY
INDUCED POLARIZATION SURVEY
CONTOURS OF APPARENT CHARGEABILITY
A = 25 MS., N = 4

POW WEST GRID
CLEAR LAKE PROJECT
CLEAR LAKE AREA, YUKON TERRITORY
JUNE 1982

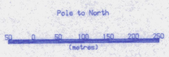
Map No. W-485-11 N.T.S. 105 L/14
PETER E. WALCOTT & ASSOC. LTD.







090060



DWG 50

TOTAL ENERGOLD CORPORATION

POLE-DIPOLE ARRAY

INDUCED POLARIZATION SURVEY

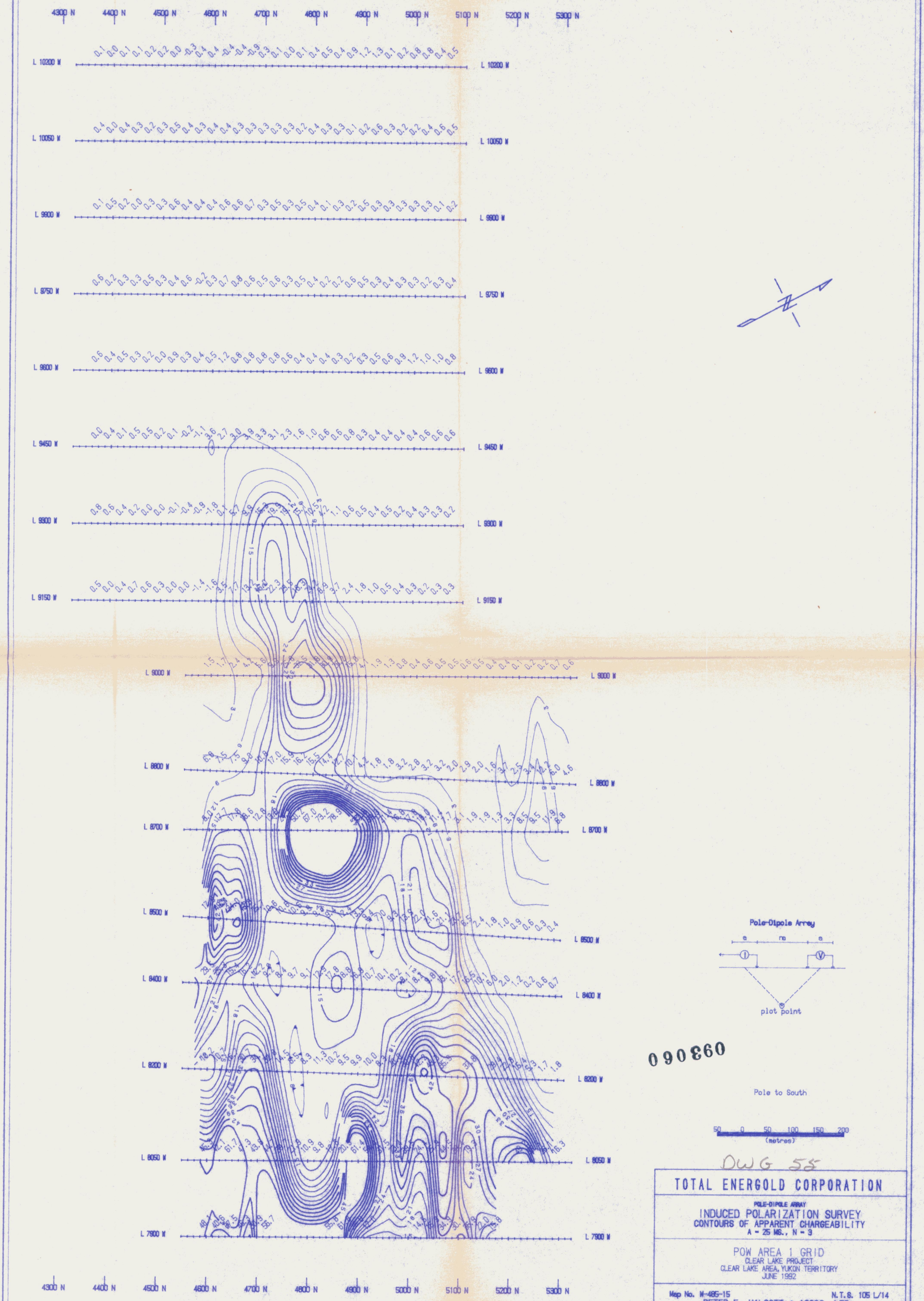
CONTOURS OF APPARENT CHARGEABILITY
A = 25 MS., N = 4

POW AREA 11 GRID

CLEAR LAKE PROJECT
CLEAR LAKE AREA, YUKON TERRITORY
JUNE 1992

Map No. K-493-13
PETER E. WALCOTT & ASSOC. LTD.

N.T.S. 105 L/14



093060

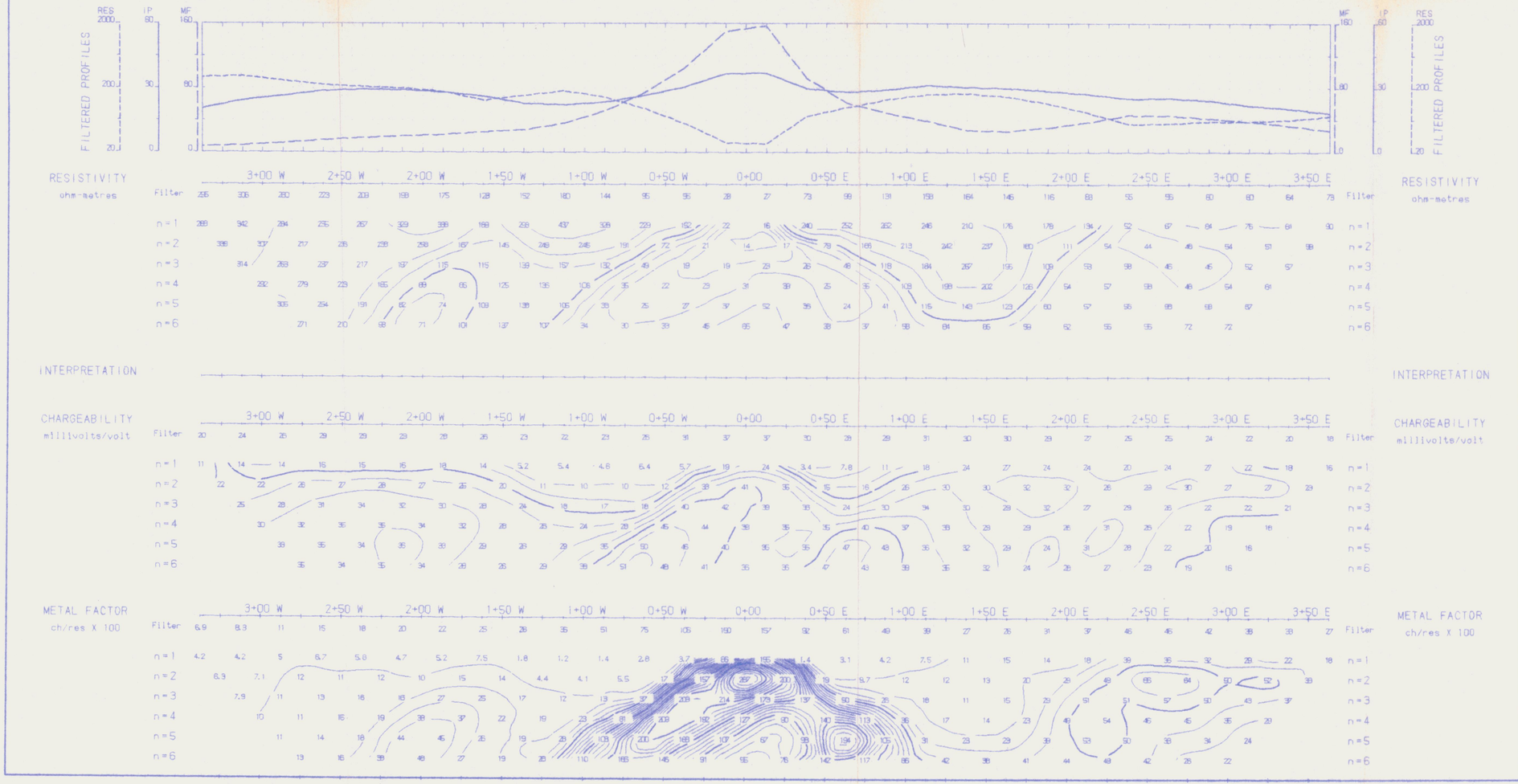
DWG 55

TOTAL ENERGOLD CORPORATION

POLE-DIPOLE ARRAY
INDUCED POLARIZATION SURVEY
CONTOURS OF APPARENT CHARGEABILITY
A = 25 MS., N = 3

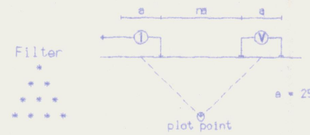
POW AREA 1 GRID
CLEAR LAKE PROJECT
CLEAR LAKE AREA, YUKON TERRITORY
JUNE 1992

Map No. M-485-15 N.T.S. 105 L/14
PETER E. WALCOTT & ASSOC. LTD.



Line 0

Pole-Dipole Array



Instrument: Huntec 2.5 kw. Tx., BRGM Elrec 6 Rx.
Frequency: 0.125 Hz.
Operators: P.E.W., R.S, P.C.

Logarithmic Contours 1, 1.5, 2, 3, 5, 7.5, 10,...

INTERPRETATION

Well defined, strong increase in polarization with or without marked decrease in resistivity.

Fairly well defined moderate increase in polarization.

Poorly defined polarization increase.

Resistivity feature.

Scale 1:2000

25 0 25 50 75 100 125
(metres)

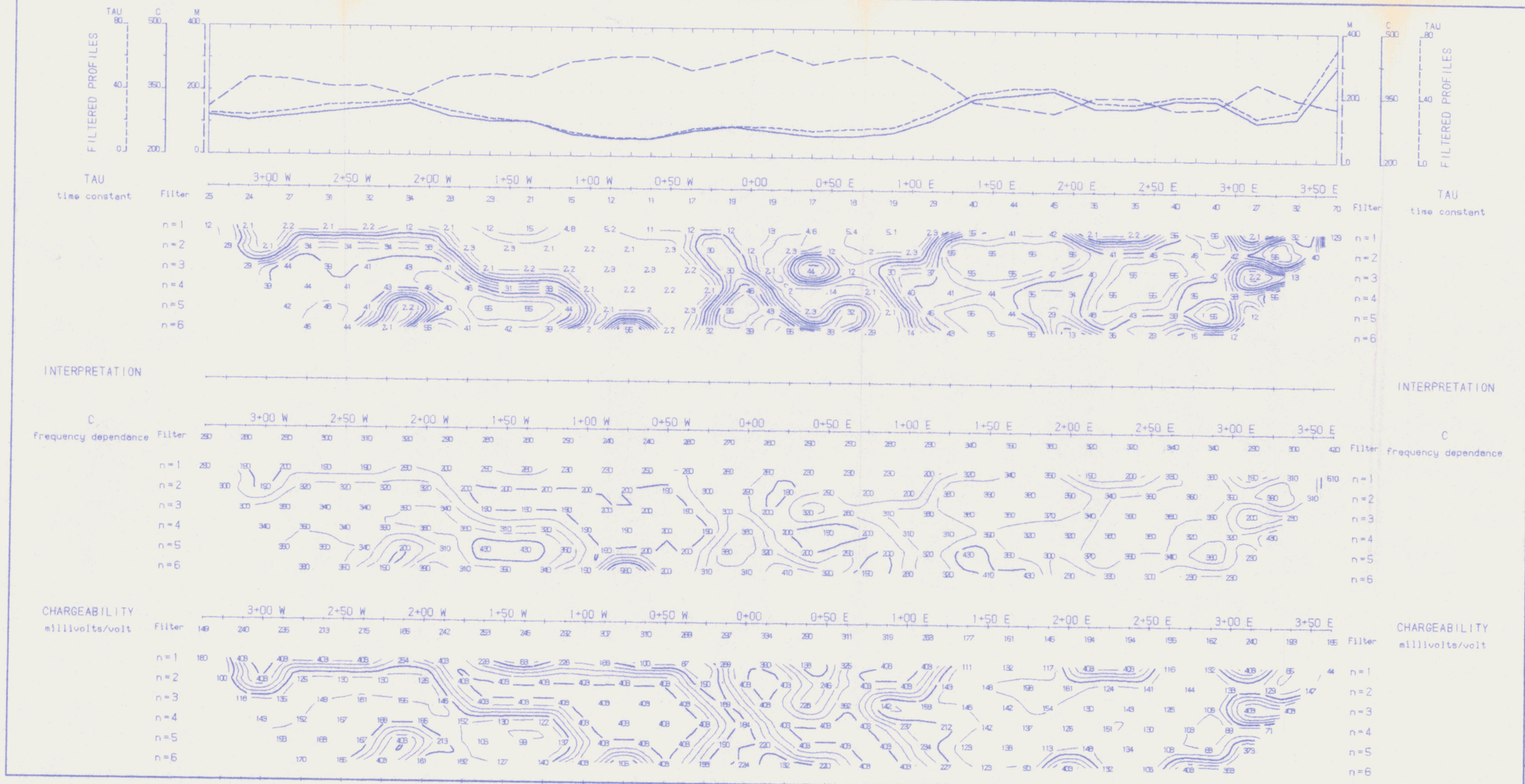
TOTAL ENERGOLD CORPORATION

INDUCED POLARIZATION SURVEY
PIN GRID
CLEAR LAKE PROJECT, Y.T.

Date: June 1992 N.T.S.: 105 L/14
Interpretation:

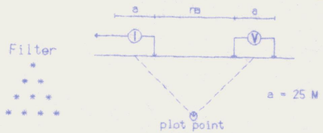
PETER E. WALCOTT & ASSOC. LTD.

090860 DWG 11



Line 0

Pole-Dipole Array



Instrument: Huntec 2.5 kw. Tx., BRGM Elrec 6 Rx.
Frequency: 0.063 Hz.
Operators: P.E.W., R.S. P.C.

Logarithmic Contours 1, 1.5, 2, 3, 5, 7.5, 10,...

INTERPRETATION

Well defined, strong increase in polarization with or without marked decrease in resistivity.

Fairly well defined moderate increase in polarization.

Poorly defined polarization increase.

Resistivity feature.

Scale 1:2000

25 0 25 50 75 100 125
(metres)

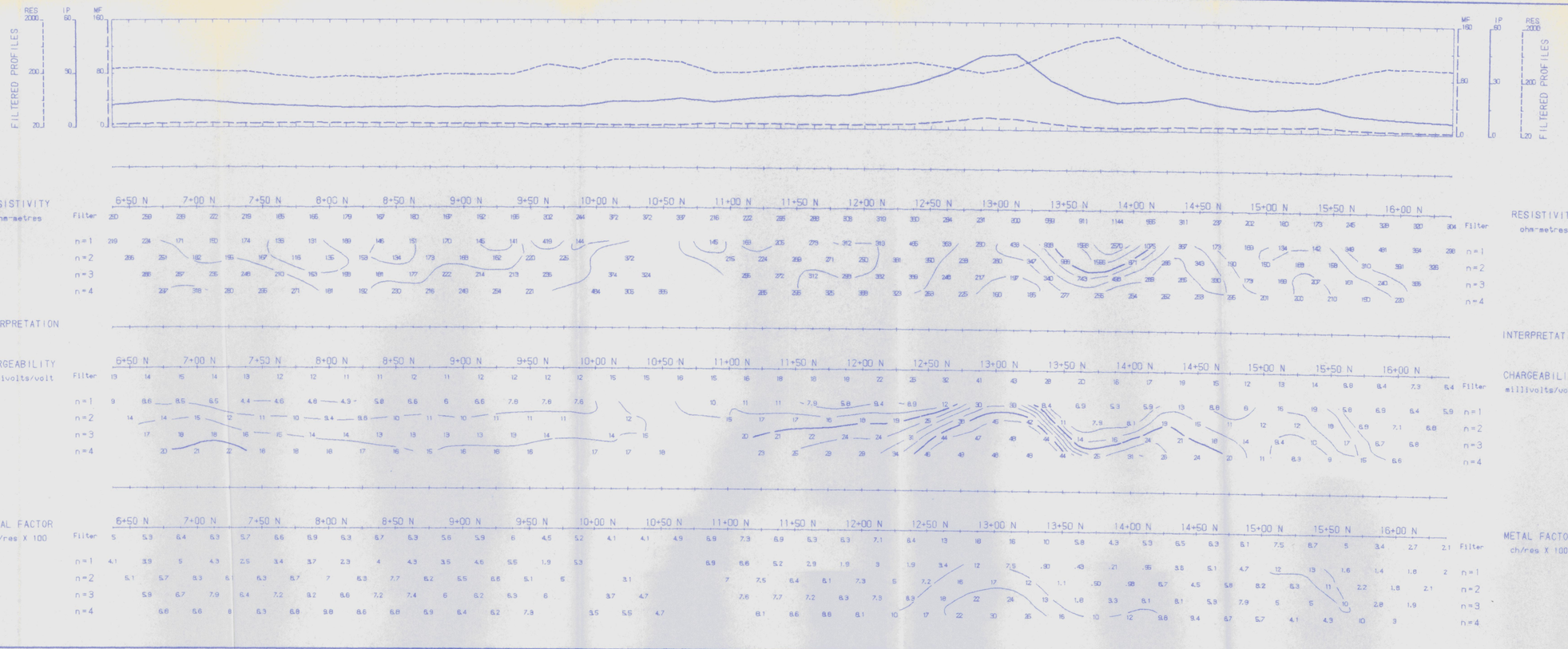
TOTAL ENERGOLD CORPORATION

INDUCED POLARIZATION SURVEY
PIN GRID
CLEAR LAKE PROJECT, Y.T.

Date: June 1992 N.T.S.: 105 L/14
Interpretation:

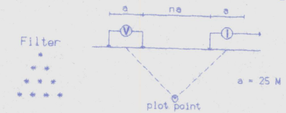
PETER E. WALCOTT & ASSOC. LTD.

090860 DWG (15)



Line 6200 W

Dipole-Pole Array



Instrument: Huntec 2.5 kw. Tx., BRGM Elrec 6 Rx.
Frequency: 0.125 Hz.
Operators: P.E.W., R.S, P.C.

Logarithmic Contours 1, 1.5, 2, 3, 5, 7.5, 10,...

INTERPRETATION

Well defined, strong increase in polarization with or without marked decrease in resistivity.

Fairly well defined moderate increase in polarization.

Poorly defined polarization increase.

Resistivity feature.

Scale 1:2000

25 0 25 50 75 100 125
(metres)

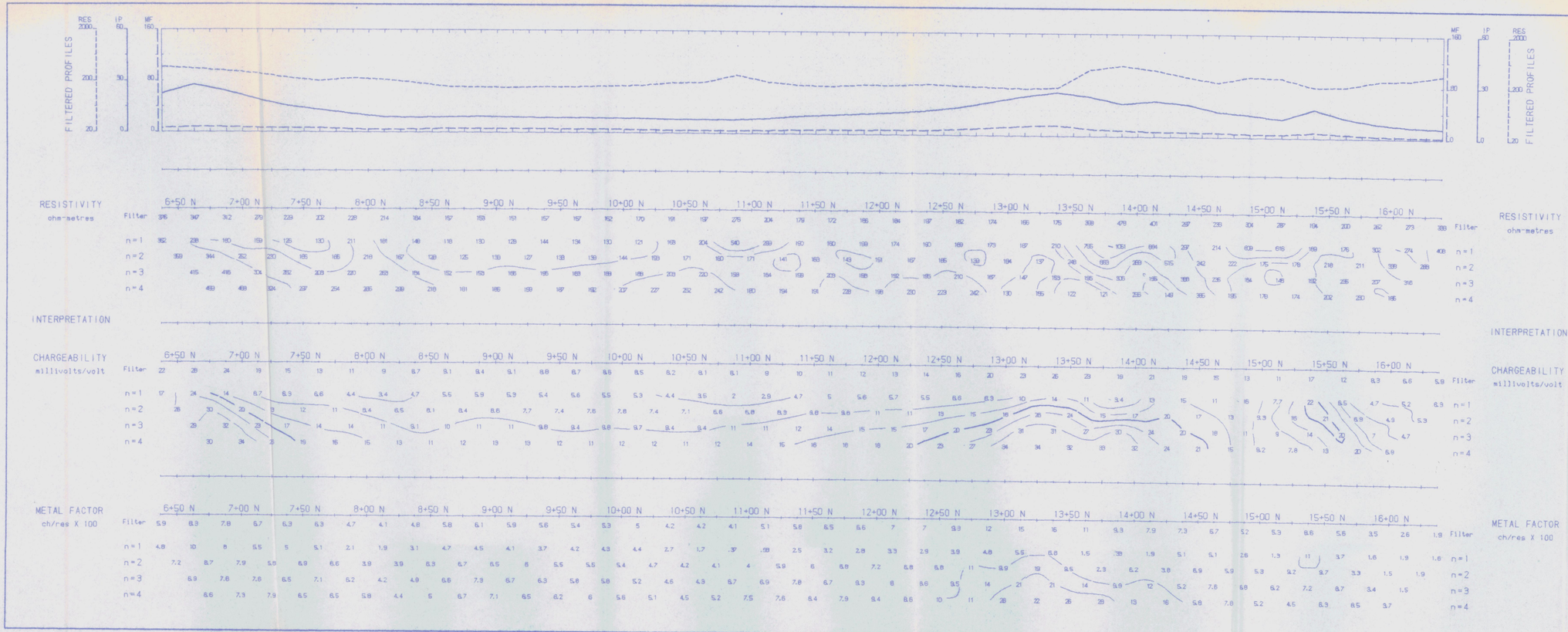
.DWG (13)
090360

TOTAL ENERGOLD CORPORATION

INDUCED POLARIZATION SURVEY
POW GRID
CLEAR LAKE PROJECT, Y.T.

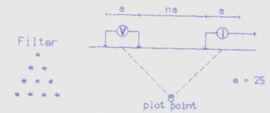
Date: June 1992 N.T.S.: 105 L/14
Interpretation:

PETER E. WALCOTT & ASSOC. LTD.



Line 6000 W

Dipole-Pole Array



Instrument: Huntec 2.5 kw. Tx., BRGM Elrec 6 Rx.
Frequency: 0.125 Hz.
Operators: P.E.W., R.S, P.C.

Logarithmic Contours 1, 1.5, 2, 3, 5, 7.5, 10,...

INTERPRETATION

Well defined, strong increase in polarization with or without marked decrease in resistivity.

Fairly well defined moderate increase in polarization.

Poorly defined polarization increase.

Resistivity feature.

090860

Scale 1:2500
25 0 25 50 75 100 125
(metres)

DWG (4)

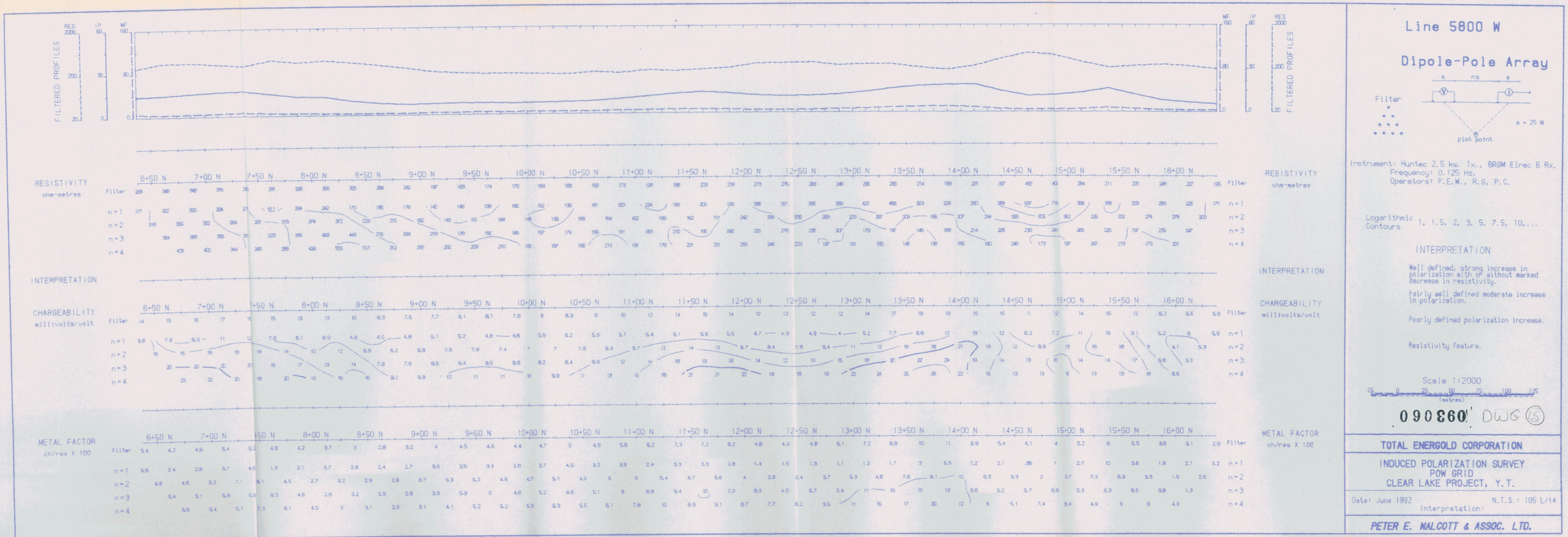
TOTAL ENERGOLD CORPORATION

INDUCED POLARIZATION SURVEY
POW GRID
CLEAR LAKE PROJECT, Y.T.

Date: June 1992 N.T.S.: 105 L/14

Interpretation:

PETER E. WALCOTT & ASSOC. LTD.



Line 5800 W

Dipose-Pole Array

Instrument: Huntec 2.5 kw. Tx., BRGM Elrec 6 Rx.
Frequency: 0.125 Hz.
Operators: P.E.W., R.S, P.C.

Logarithmic Contours 1, 1.5, 2, 3, 5, 7.5, 10,...

INTERPRETATION

Well defined, strong increase in polarization with or without marked decrease in resistivity.

Fairly well defined moderate increase in polarization.

Poorly defined polarization increase.

Resistivity feature.

Scale 1:2000

25 0 25 50 75 100 125
(metres)

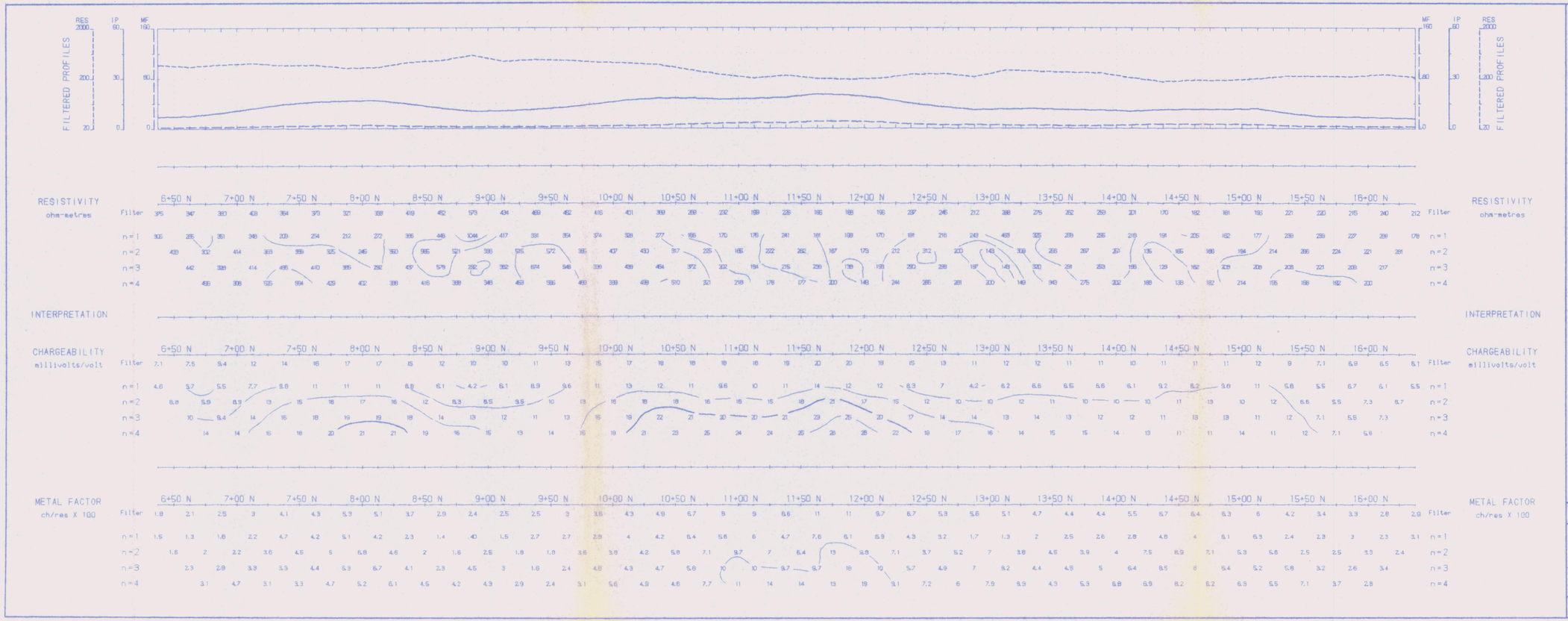
090860 DWG (5)

TOTAL ENERGOLD CORPORATION

INDUCED POLARIZATION SURVEY
POW GRID
CLEAR LAKE PROJECT, Y.T.

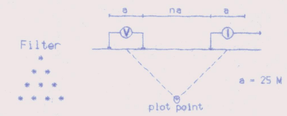
Date: June 1992 N.T.S.: 105 L/14
Interpretation:

PETER E. WALCOTT & ASSOC. LTD.



Line 5600 W

Dipole-Pole Array



Instrument: Huntec 2.5 kw. Tx., BRGM Elrec 6 Rx.
Frequency: 0.125 Hz.
Operators: P.E.W., R.S, P.C.

Logarithmic Contours 1, 1.5, 2, 3, 5, 7.5, 10,...

INTERPRETATION

Well defined, strong increase in polarization with or without marked decrease in resistivity.

Fairly well defined moderate increase in polarization.

Poorly defined polarization increase.

Resistivity feature.

Scale 1:2000

25 0 25 50 75 100 125
(metres)

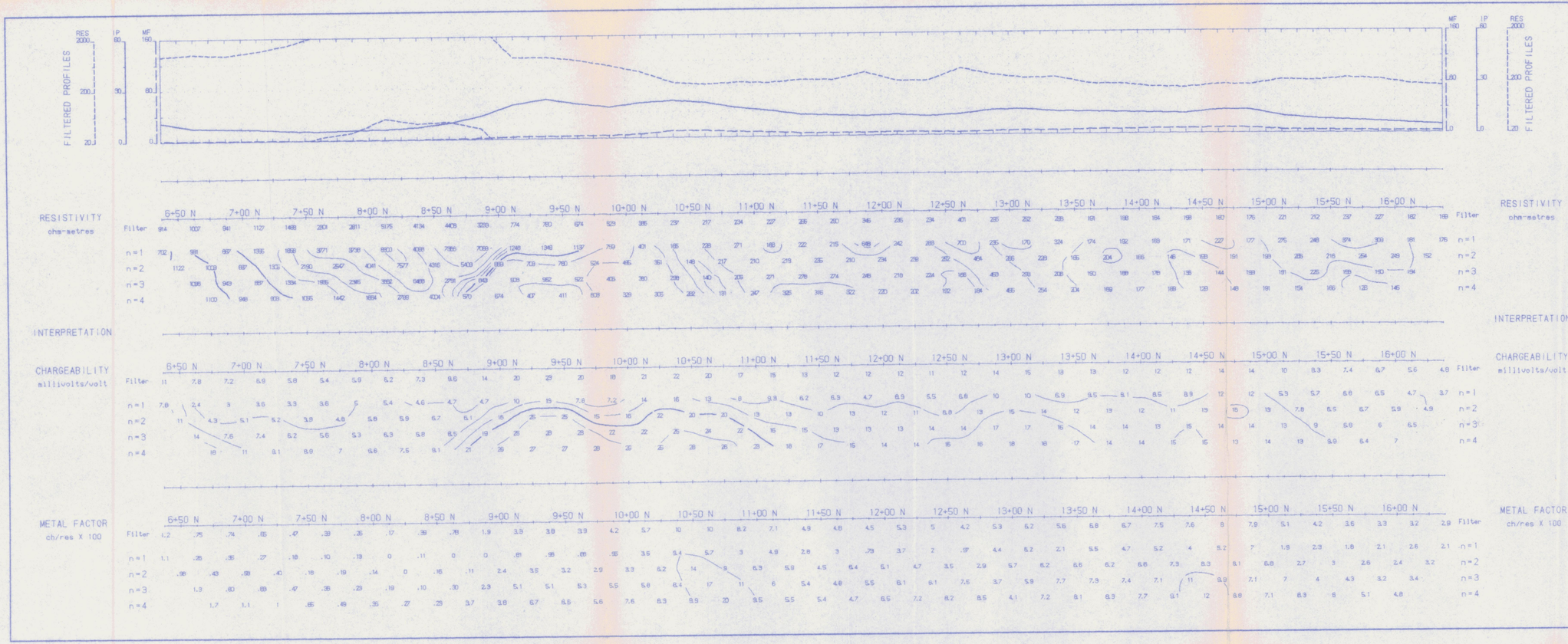
090883 DWG 16

TOTAL ENERGOLD CORPORATION

INDUCED POLARIZATION SURVEY
POW GRID
CLEAR LAKE PROJECT, Y.T.

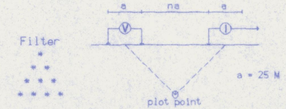
Date: June 1992 N.T.S.: 105 L/14
Interpretation:

PETER E. WALCOTT & ASSOC. LTD.



Line 5400 W

Dipole-Pole Array



Instrument: Huntec 2.5 kw. Tx., BRGM Elrec 6 Rx.
Frequency: 0.125 Hz.
Operators: P.E.W., R.S. P.C.

Logarithmic Contours 1, 1.5, 2, 3, 5, 7.5, 10,...

INTERPRETATION

Well defined, strong increase in polarization with or without marked decrease in resistivity.

Fairly well defined moderate increase in polarization.

Poorly defined polarization increase.

Resistivity feature.

Scale 1:2000

25 0 25 50 75 100 125
(metres)

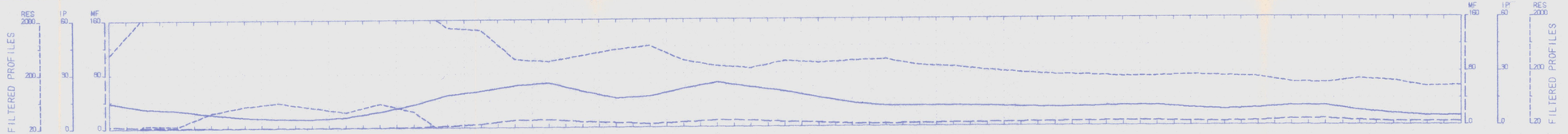
090603 DWG(17)

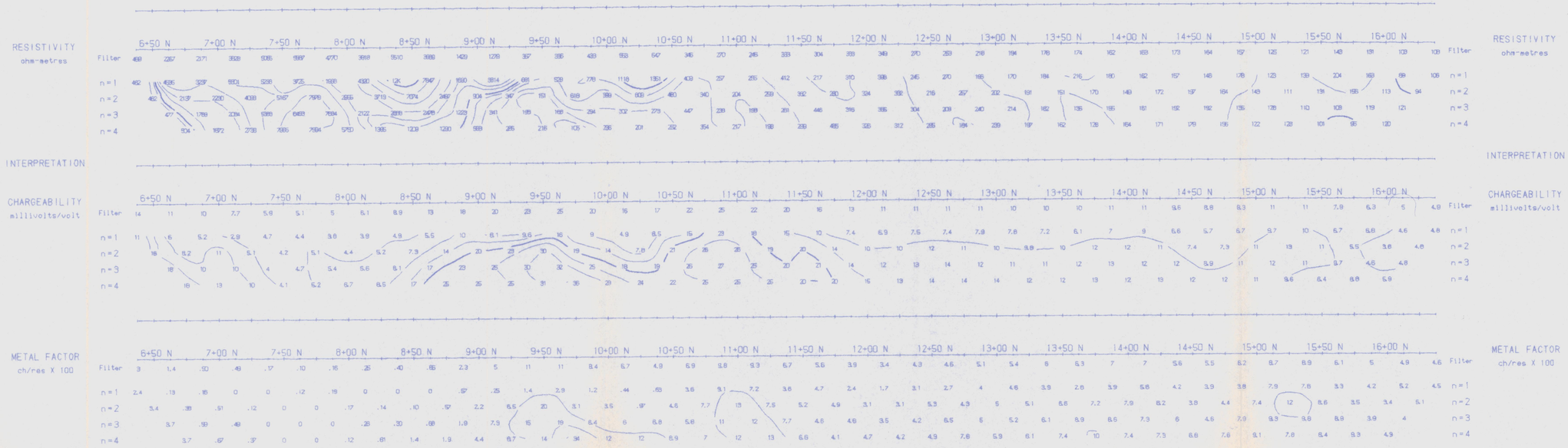
TOTAL ENERGOLD CORPORATION

INDUCED POLARIZATION SURVEY
POW GRID
CLEAR LAKE PROJECT, Y.T.

Date: June 1992 N.T.S.: 105 L/14
Interpretation:

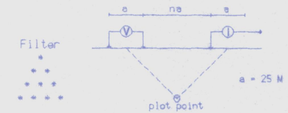
PETER E. WALCOTT & ASSOC. LTD.





Line 5200 W

Dipole-Pole Array



Instrument: Huntec 2.5 kw. Tx., BRGM Elrec 6 Rx.
Frequency: 0.125 Hz.
Operators: P.E.W., R.S., P.C.

Logarithmic Contours 1, 1.5, 2, 3, 5, 7.5, 10,...

INTERPRETATION

Well defined, strong increase in polarization with or without marked decrease in resistivity.

Fairly well defined moderate increase in polarization.

Poorly defined polarization increase.

Resistivity feature.

Scale 1:2000

25 0 25 50 75 100 125
(metres)

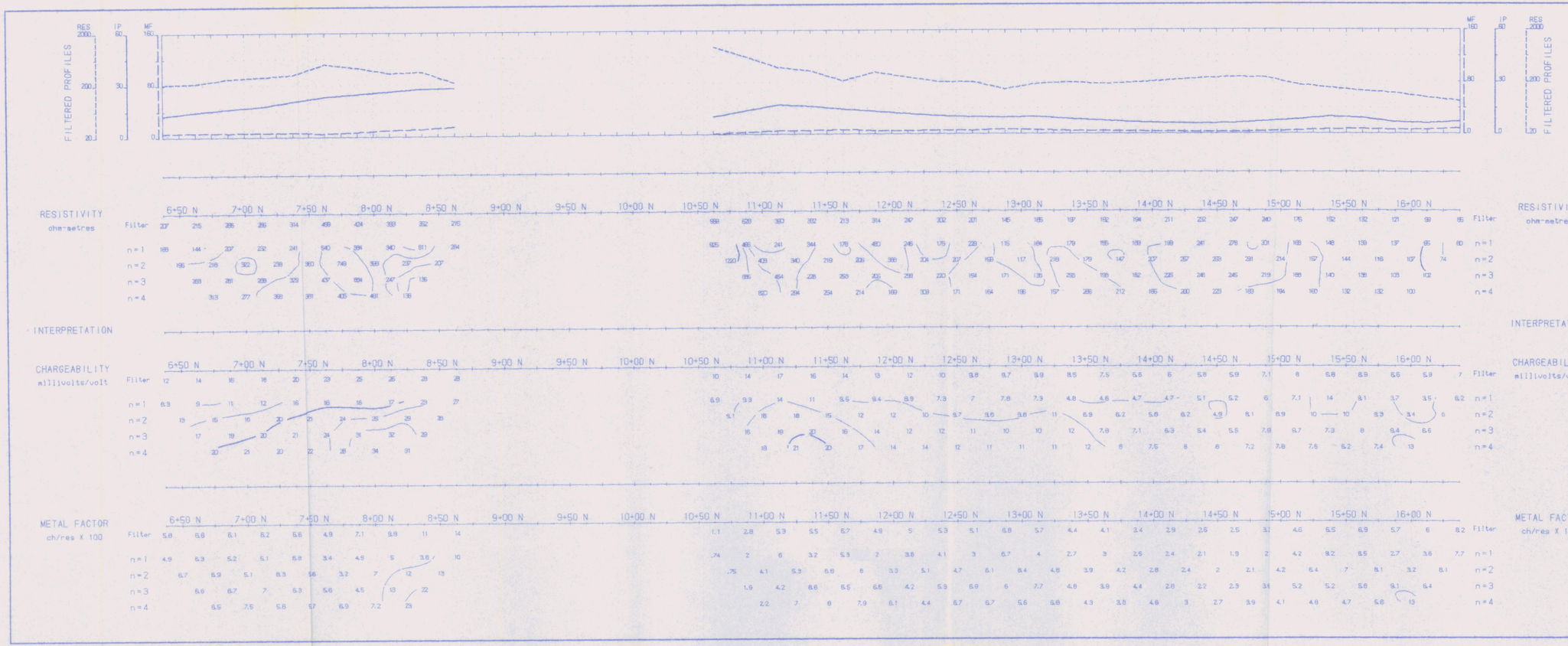
090660 DWG#8

TOTAL ENERGOLD CORPORATION

INDUCED POLARIZATION SURVEY
POW GRID
CLEAR LAKE PROJECT, Y.T.

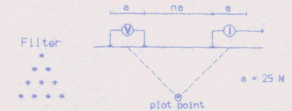
Date: June 1992 N.T.S.: 105 L/14
Interpretation:

PETER E. WALCOTT & ASSOC. LTD.



Line 5000 W

Dipole-Pole Array



Instrument: Huntec 2.5 kw. Tx., BRGM Elrec 6 Rx.
Frequency: 0.125 Hz.
Operators: P.E.W., R.S, P.C.

Logarithmic Contours 1, 1.5, 2, 3, 5, 7.5, 10,...

INTERPRETATION

Well defined, strong increase in polarization with or without marked decrease in resistivity.

Fairly well defined moderate increase in polarization.

Poorly defined polarization increase.

Resistivity feature.

Scale 1:2000

25 0 25 50 75 100 125
(metres)

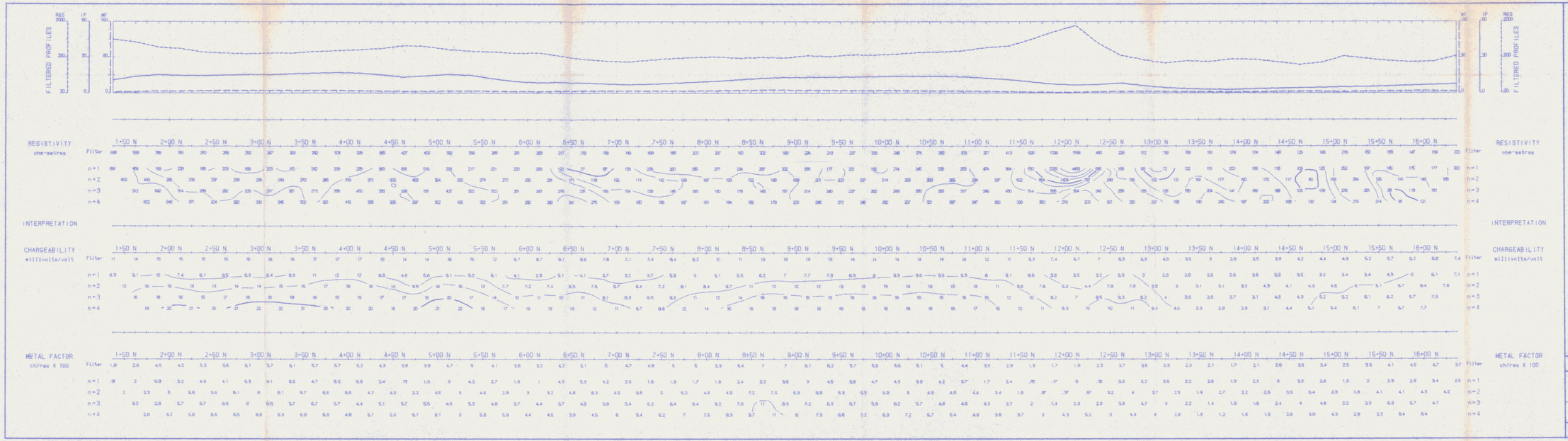
090880 DWG 19

TOTAL ENERGOLD CORPORATION

INDUCED POLARIZATION SURVEY
POW GRID
CLEAR LAKE PROJECT, Y.T.

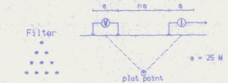
Date: June 1992 N.T.S.: 105 L/14
Interpretation:

PETER E. WALCOTT & ASSOC. LTD.



Line 4800 W

Dipole-Pole Array



Instruments: Huntec 2.5 kw. Tx., BRGM Elrec 6 Rx.
Frequency: 0.125 Hz.
Operators: P.E.W., R.S, P.C.

Logarithmic Contours 1, 1.5, 2, 3, 5, 7.5, 10....

INTERPRETATION

Well defined, strong increase in polarization with or without marked decrease in resistivity.

Fairly well defined moderate increase in polarization.

Poorly defined polarization increase.

Resistivity feature.

Scale 1:2000

0 25 50 75 100 125
(metres)

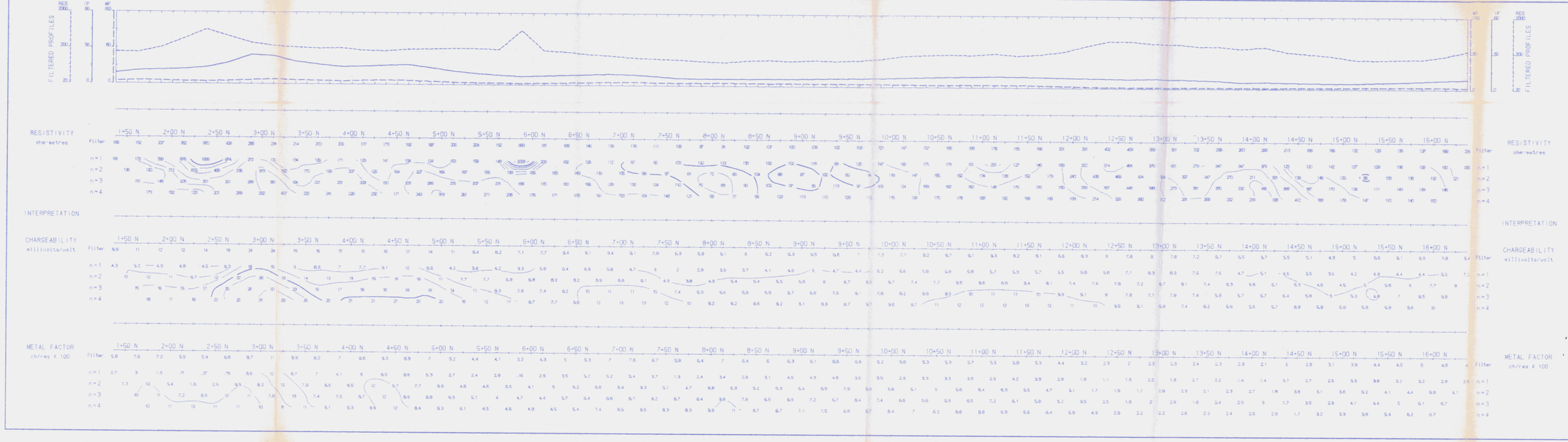
090860 DWG-20

TOTAL ENERGOLD CORPORATION

INDUCED POLARIZATION SURVEY
POW GRID
CLEAR LAKE PROJECT, Y.T.

Date: June 1992 N.T.S.: 105 L/14
Interpretation:

PETER E. WALCOTT & ASSOC. LTD.



Line 4600 W

Dipole-Pole Array



Instrument: Huntec 2.5 kw. Tx., BRGM Elrec 6 Rx.
Frequency: 0.125 Hz.
Operators: P.E.W., R.S. P.C.

Logarithmic Contours 1, 1.5, 2, 3, 5, 7.5, 10,...

INTERPRETATION

Well defined, strong increase in polarization with or without marked decrease in resistivity.

Fairly well defined moderate increase in polarization.

Poorly defined polarization increase.

Resistivity feature.

Scale 1:2000

0 25 50 75 100 125
(metres)

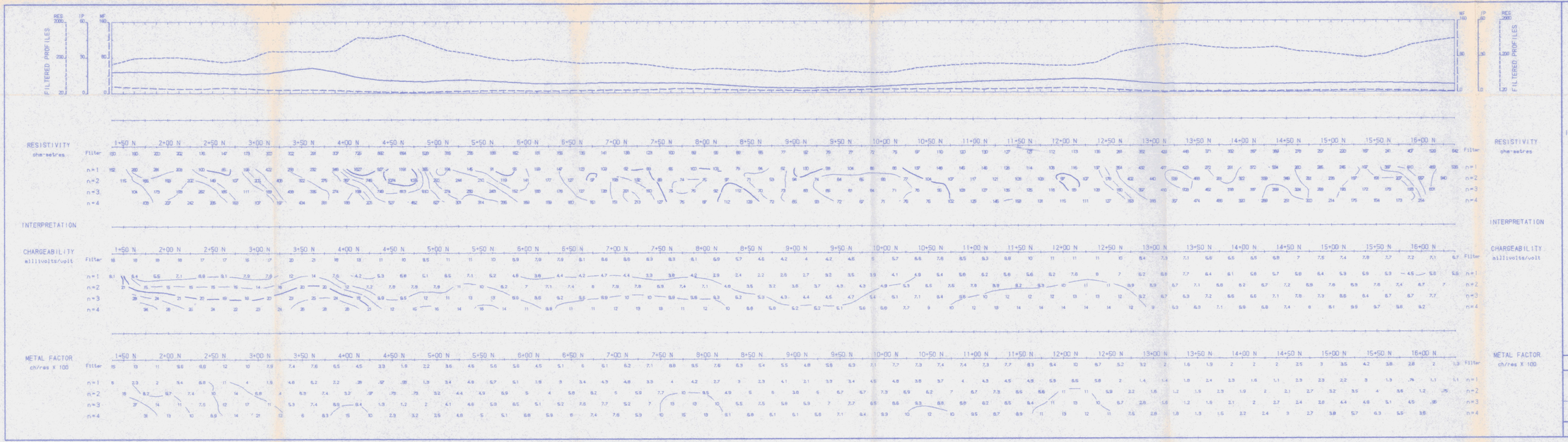
090660 DWG 21

TOTAL ENERGOLD CORPORATION

INDUCED POLARIZATION SURVEY
POW GRID
CLEAR LAKE PROJECT, Y.T.

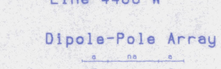
Date: June 1992 N.T.S.: 105 L/14
Interpretation:

PETER E. WALCOTT & ASSOC. LTD.



Line 4400 W

Dipole-Pole Array



Instrument: Huntec 2.5 kw. Tx., BRGM Elrec 6 Rx.
Frequency: 0.125 Hz.
Operators: P.E.M., R.S. P.C.

Logarithmic Contours 1, 1.5, 2, 3, 5, 7.5, 10....

INTERPRETATION

Well defined, strong increase in polarization with or without marked decrease in resistivity.

Fairly well defined moderate increase in polarization.

Poorly defined polarization increase.

Resistivity feature.

Scale 1:2000

0 25 50 75 100 125
(metres)

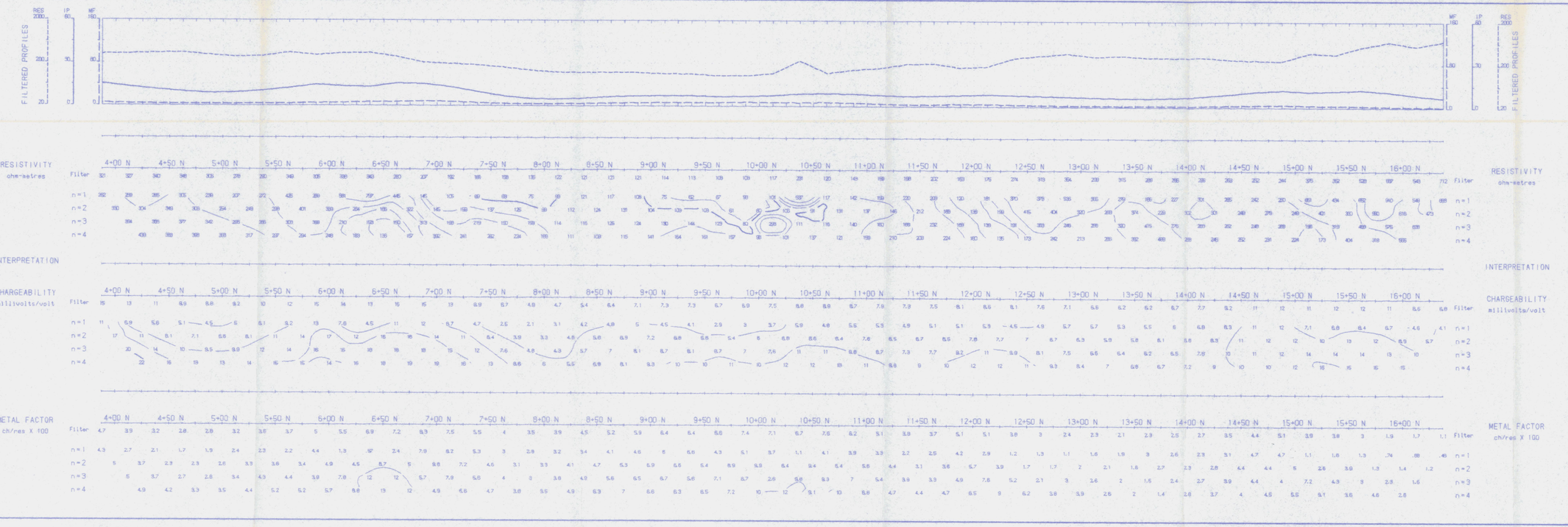
090860 DWG 23

TOTAL ENERGOLD CORPORATION

INDUCED POLARIZATION SURVEY
POW GRID
CLEAR LAKE PROJECT, Y.T.

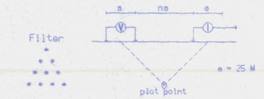
Date: June 1982 N.T.S.: 105 L/14
Interpretation:

PETER E. WALCOTT & ASSOC. LTD.



Line 4200 W

Dipole-Pole Array



Instrument: Huntec 2.5 kw. Tx., BRGM Elrec 6 Rx.
Frequency: 0.125 Hz.
Operators: P.E.W., R.S. P.C.

Logarithmic Contours 1, 1.5, 2, 3, 5, 7.5, 10,...

INTERPRETATION

Well defined, strong increase in polarization with or without marked decrease in resistivity.

Fairly well defined moderate increase in polarization.

Poorly defined polarization increase.

Resistivity feature.

Scale 1:2000 DWG23

25 0 25 50 75 100 125
(metres)

093060

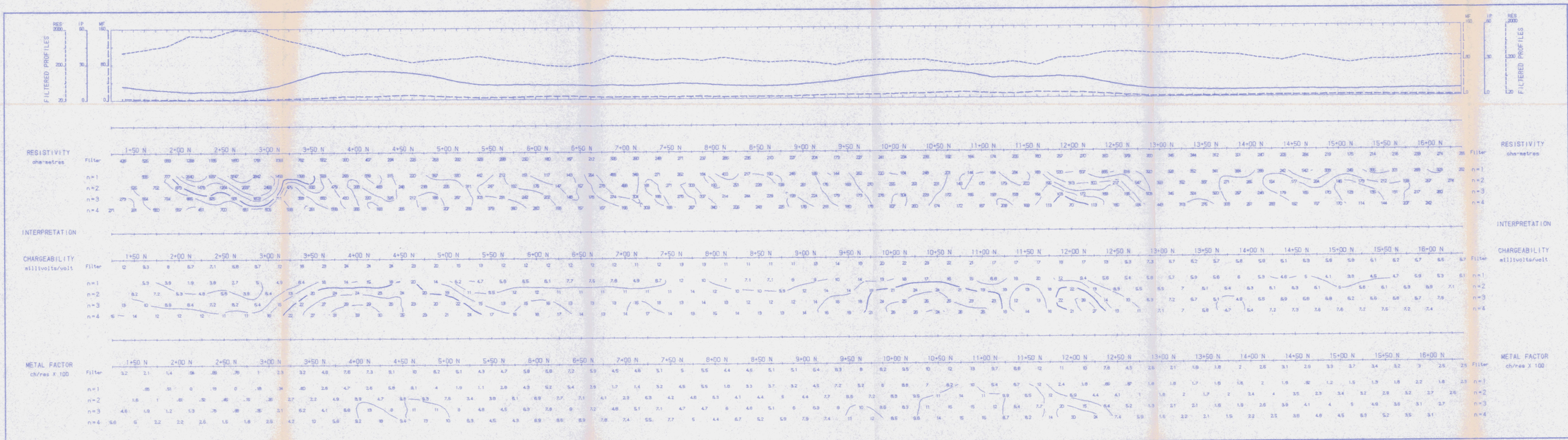
TOTAL ENERGOLD CORPORATION

INDUCED POLARIZATION SURVEY
POW GRID
CLEAR LAKE PROJECT, Y.T.

Date: June 1992 N.T.S.: 105 L/14

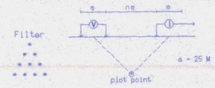
Interpretation:

PETER E. WALCOTT & ASSOC. LTD.



Line 4000 W

Dipole-Pole Array



Instrument: Huntec 2.5 kw. Tx., BRGM Elrec 6 Rx.
Frequency: 0.125 Hz.
Operators: P.E.W., R.S. P.C.

Logarithmic Contours 1, 1.5, 2, 3, 5, 7.5, 10,...

INTERPRETATION

Well defined, strong increase in polarization with or without marked decrease in resistivity.

Fairly well defined moderate increase in polarization.

Poorly defined polarization increase.

Resistivity feature.

Scale 1:2000

25 0 25 50 75 100 125
(metres)

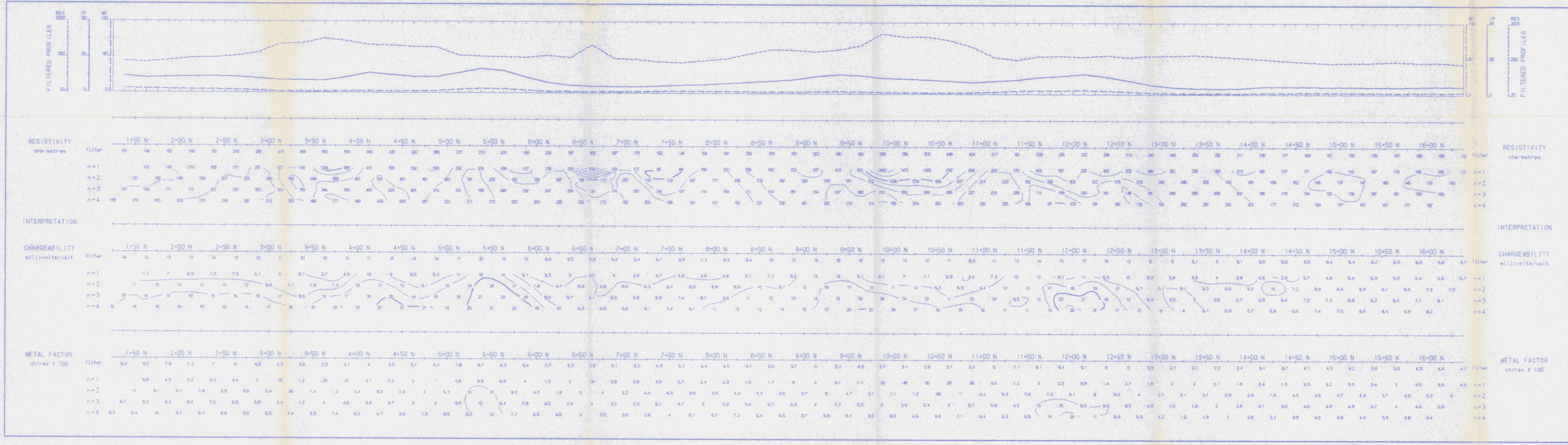
0 0 3 0 6 0 DWG24

TOTAL ENERGOLD CORPORATION

INDUCED POLARIZATION SURVEY
POW GRID
CLEAR LAKE PROJECT, Y.T.

Date: June 1992 N.T.S.: 105 L/14
Interpretation:

PETER E. WALCOTT & ASSOC. LTD.



Line 3800 W

Dipole-Pole Array



Instrument: Huntec 2.5 kw. Tx., BRGM Elrec 6 Rx.
Frequency: 0.125 Hz.
Operators: P.E.W., R.S. P.C.

Logarithmic Contours 1, 1.5, 2, 3, 5, 7.5, 10,...

INTERPRETATION

Well defined, strong increase in polarization with or without marked decrease in resistivity.

Fairly well defined moderate increase in polarization.

Poorly defined polarization increase.

Resistivity feature.

Scale 1:2000

0 25 50 75 100 125
(metres)

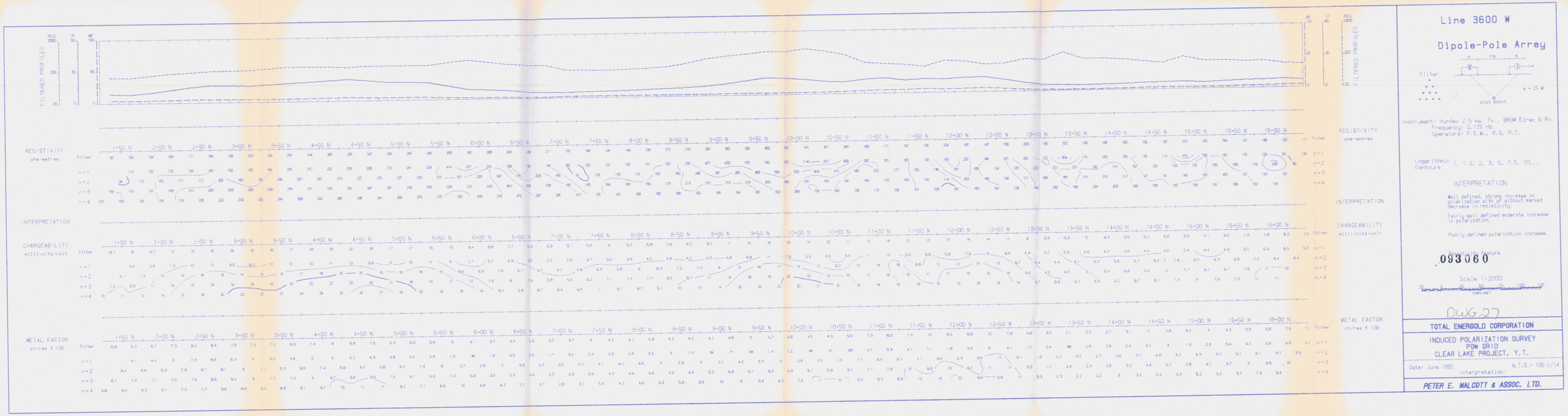
093060 DWG25

TOTAL ENERGOLD CORPORATION

INDUCED POLARIZATION SURVEY
POW GRID
CLEAR LAKE PROJECT, Y.T.

Date: June 1992 N.T.S.: 105 L/14
Interpretation:

PETER E. WALCOTT & ASSOC. LTD.



Line 3600 W

Dipole-Pole Array

Instrument: Huntec 2.5 kw. Tx., BRGM Elrec 6 Rx.
Frequency: 0.125 Hz.
Operators: F.E.W., R.S. P.C.

Logarithmic Contours: 1, 1.5, 2, 3, 5, 7.5, 10....

INTERPRETATION

Well defined, strong increase in polarization with or without marked decrease in resistivity.

Fairly well defined moderate increase in polarization.

Poorly defined polarization increase.

Interpretive feature.

093060

Scale 1:2000

0 25 50 75 100 125 150 175 200
(metres)

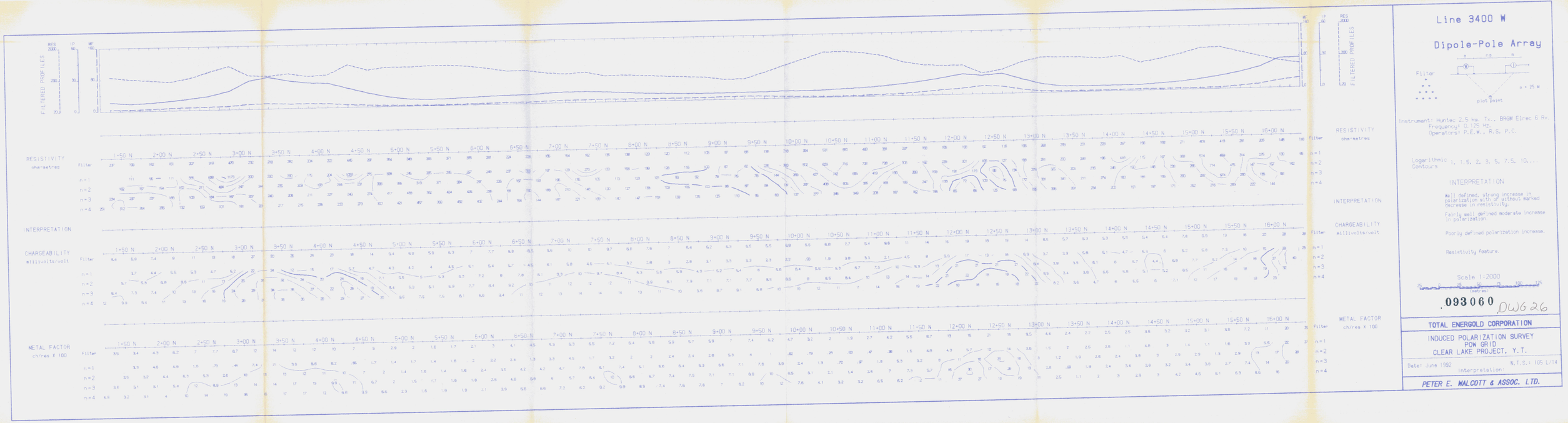
DWG 27

TOTAL ENERGOLD CORPORATION

INDUCED POLARIZATION SURVEY
POW GRID
CLEAR LAKE PROJECT, Y.T.

Date: June 1992 N.T.S. : 105 L/14
interpretation

PETER E. WALCOTT & ASSOC. LTD.



Line 3400 W

Dipose-Pole Array

Instrument: Huntec 2.5 kw. Tx., BRGM Elrec 6 Rx.
Frequency: 0.175 Hz
Operators: P.E.W., R.S., P.C.

Logarithmic Contours 1, 1.5, 2, 3, 5, 7.5, 10...

INTERPRETATION

Well defined, strong increase in polarization with or without marked decrease in resistivity.

Fairly well defined moderate increase in polarization

Poorly defined polarization increase.

Resistivity feature.

Scale 1:2000

0 25 50 75 100 125
(metres)

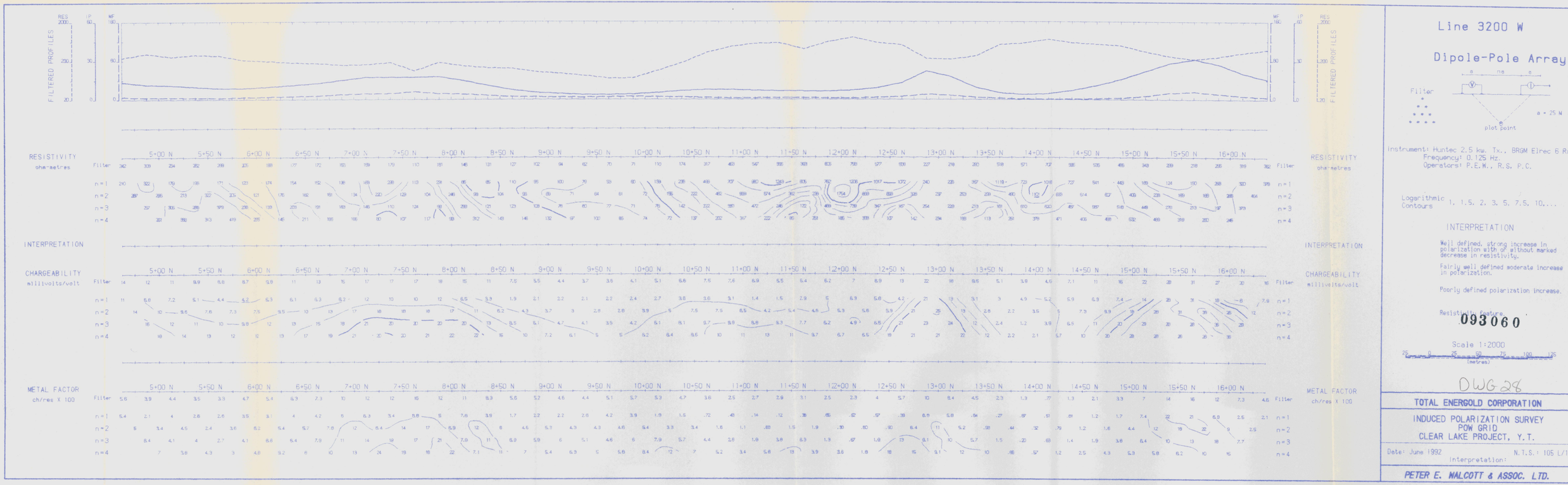
093060 DWG 26

TOTAL ENERGOLD CORPORATION

INDUCED POLARIZATION SURVEY
POW GRID
CLEAR LAKE PROJECT, Y.T.

Date: June 1992 Interpretation: N.T.S.: 105 L/14

PETER E. WALCOTT & ASSOC. LTD.



Line 3200 W

Dipole-Pole Array

Instrument: Huntec 2.5 kw. Tx., BRGM Elrec 6 Rx.
Frequency: 0.125 Hz.
Operators: P.E.W., R.S. P.C.

Logarithmic Contours 1, 1.5, 2, 3, 5, 7.5, 10,...

INTERPRETATION

Well defined, strong increase in polarization with or without marked decrease in resistivity.

Fairly well defined moderate increase in polarization.

Poorly defined polarization increase.

Resistivity feature

093060

Scale 1:2000

25 0 25 50 75 100 125
(metres)

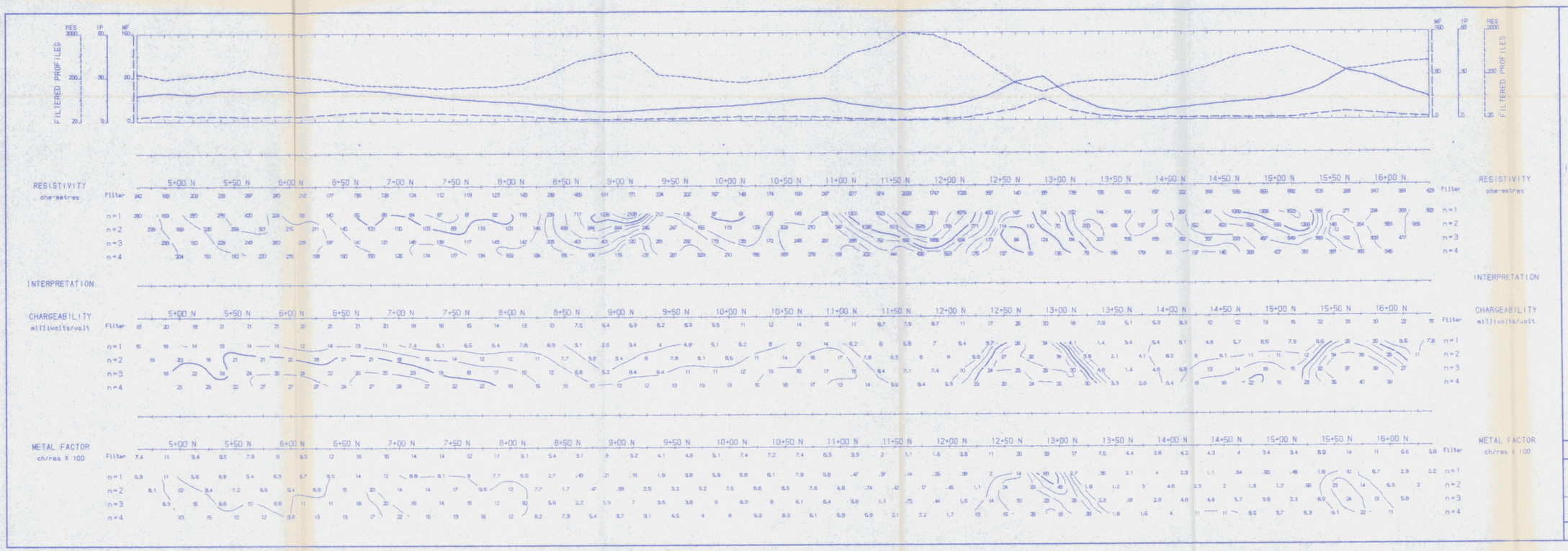
DWG 28

TOTAL ENERGOLD CORPORATION

INDUCED POLARIZATION SURVEY
POW GRID
CLEAR LAKE PROJECT, Y.T.

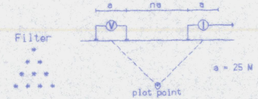
Date: June 1992 N.T.S.: 105 L/14
Interpretation:

PETER E. WALCOTT & ASSOC. LTD.



Line 3000 W

Dipole-Pole Array



Instrument: Huntec 2.5 kw. Tx., BRGM Elrec 6 Rx.
Frequency: 0.125 Hz.
Operators: P.E.M., R.S. P.C.

Logarithmic Contours 1, 1.5, 2, 3, 5, 7.5, 10,...

INTERPRETATION

Well defined, strong increase in polarization with or without marked decrease in resistivity.

Fairly well defined moderate increase in polarization.

Poorly defined polarization increase.

Resistivity feature.

Scale 1:2000

25 0 25 50 75 100 125
(metres)

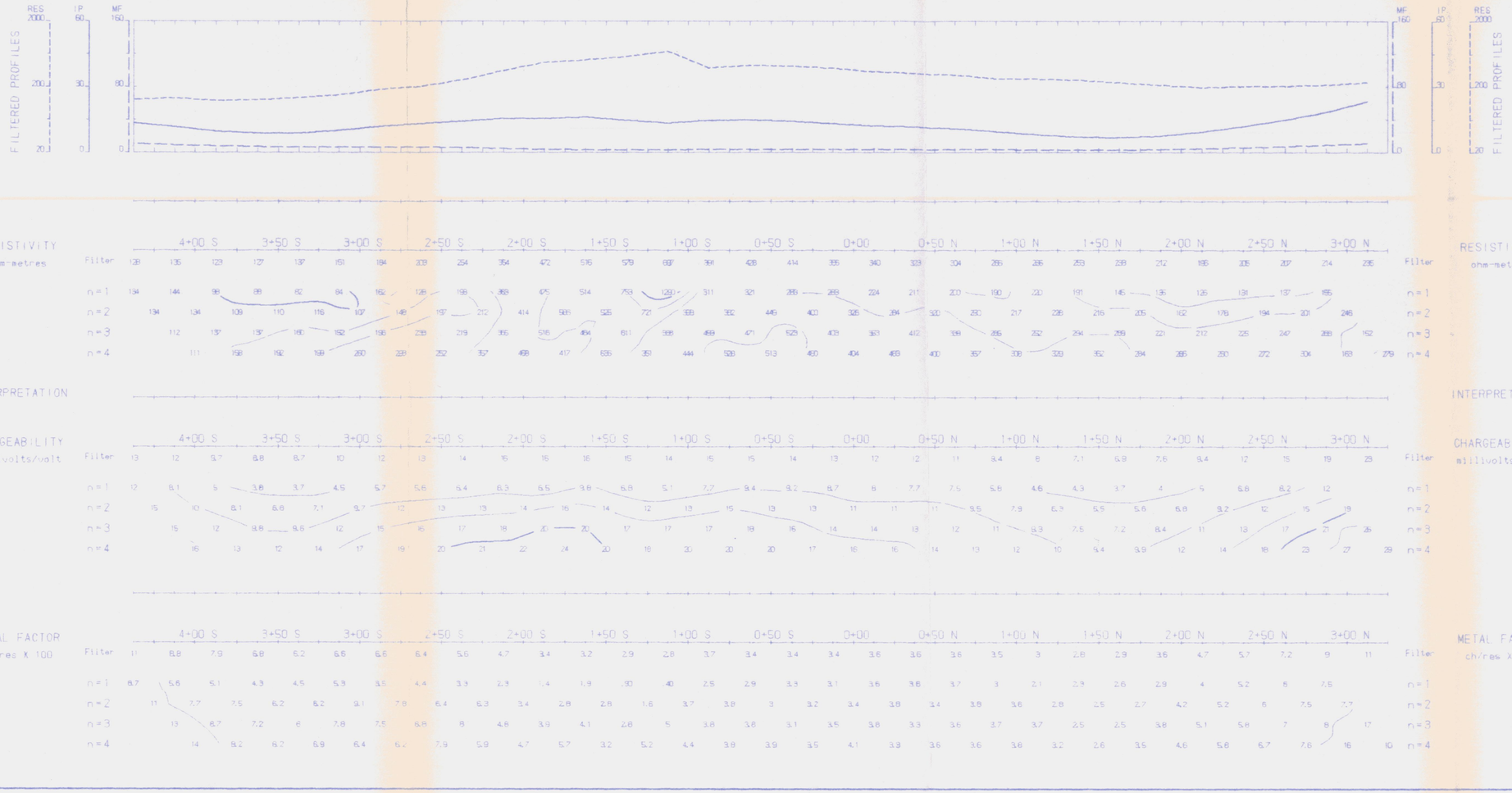
093060 DWG 29

TOTAL ENERGOLD CORPORATION

INDUCED POLARIZATION SURVEY
POW GRID
CLEAR LAKE PROJECT, Y.T.

Date: June 1992 N.T.S.: 105 L/14
Interpretation:

PETER E. WALCOTT & ASSOC. LTD.



Line 2770 W

Pole-Dipole Array



Instrument: Huntec 2.5 kw. Tx., BRGM Elrec 6 Rx.
Frequency: 0.125 Hz.
Operators: P.E.W., R.S., P.C.

Logarithmic Contours 1, 1.5, 2, 3, 5, 7.5, 10....

INTERPRETATION

Well defined, strong increase in polarization with or without marked decrease in resistivity.

Fairly well defined moderate increase in polarization.

Poorly defined polarization increase.

Resistivity feature.

093060

Scale 1:2000

25 0 25 50 75 100 125
(metres)

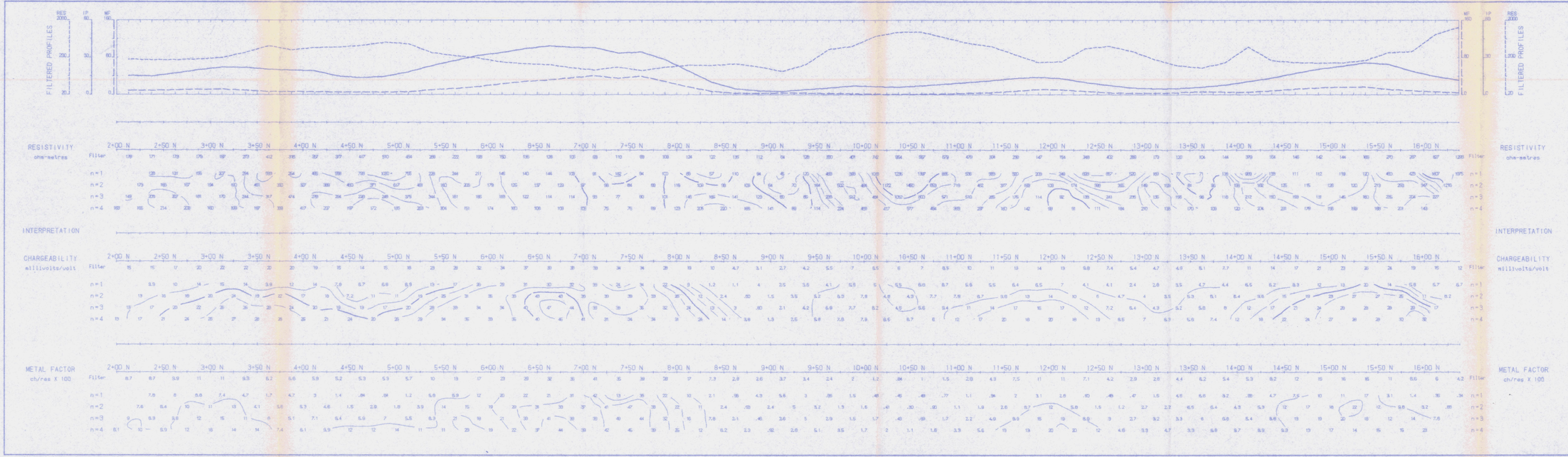
DWG 30

TOTAL ENERGOLD CORPORATION

INDUCED POLARIZATION SURVEY
POW GRID
CLEAR LAKE PROJECT, Y.T.

Date: 92/06/20 N.T.S.: 105 L/14
Interpretation:

PETER E. WALCOTT & ASSOC. LTD.



Line 2770 W

Dipole-Pole Array



Instrument: Huntec 2.5 ka. Tx., BRGM Elrec 6 Rx.
Frequency: 0.125 Hz.
Operators: P.E.W., R.S, P.C.

Logarithmic Contours 1, 1.5, 2, 3, 5, 7.5, 10,...

INTERPRETATION

Well defined, strong increase in polarization with or without marked decrease in resistivity.

Fairly well defined moderate increase in polarization.

Poorly defined polarization increase.

Resistivity feature.

093060

Scale 1:2000

0 25 50 75 100 125
(metres)

DWG 31

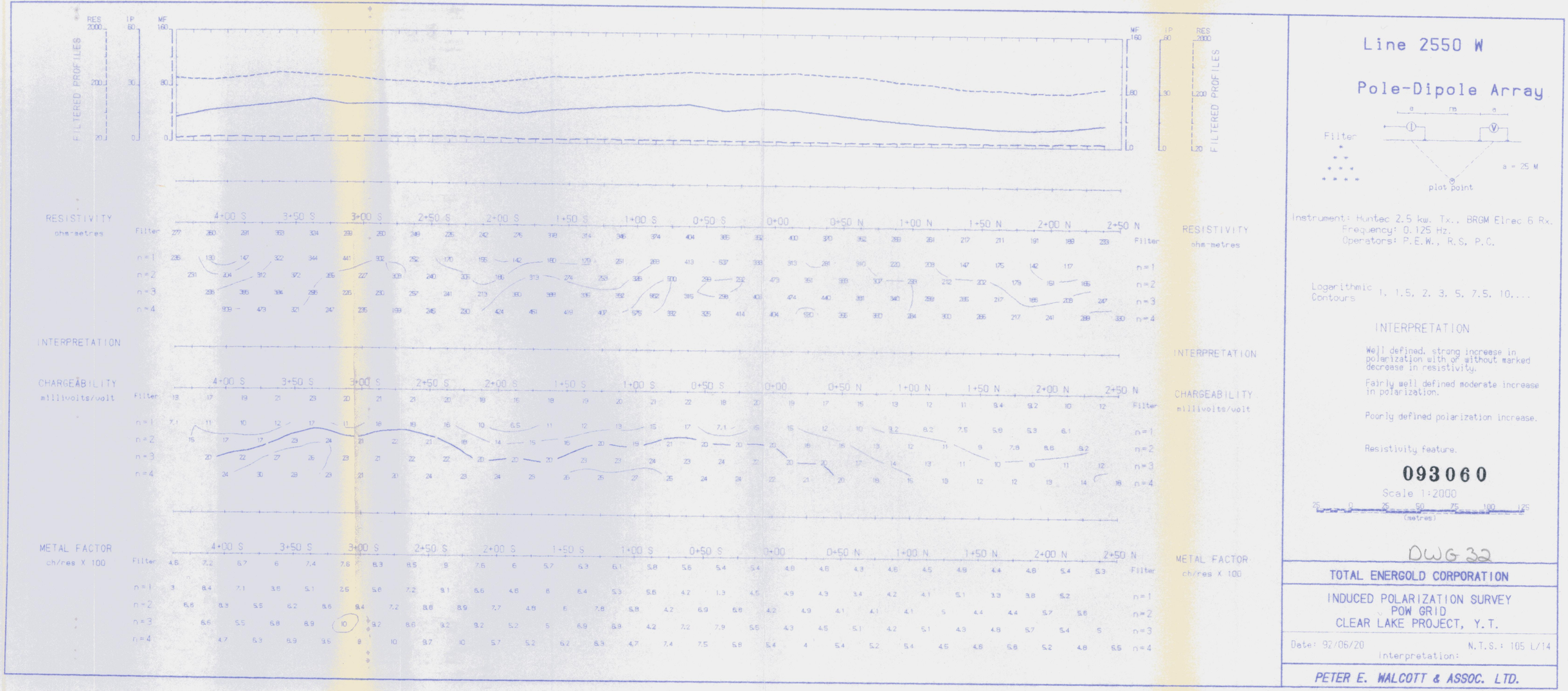
TOTAL ENERGOLD CORPORATION

INDUCED POLARIZATION SURVEY
POW GRID
CLEAR LAKE PROJECT, Y.T.

Date: June 1992 N.T.S.: 105 L/14

Interpretation:

PETER E. WALCOTT & ASSOC. LTD.



Line 2550 W

Pole-Dipole Array

Instrument: Huntec 2.5 kw. Tx., BRGM Elrec 6 Rx.
Frequency: 0.125 Hz.
Operators: P.E.W., R.S, P.C.

Logarithmic Contours 1, 1.5, 2, 3, 5, 7.5, 10...

INTERPRETATION

Well defined, strong increase in polarization with or without marked decrease in resistivity.

Fairly well defined moderate increase in polarization.

Poorly defined polarization increase.

Resistivity feature.

093060

Scale 1:2000

25 0 25 50 75 100 125
(metres)

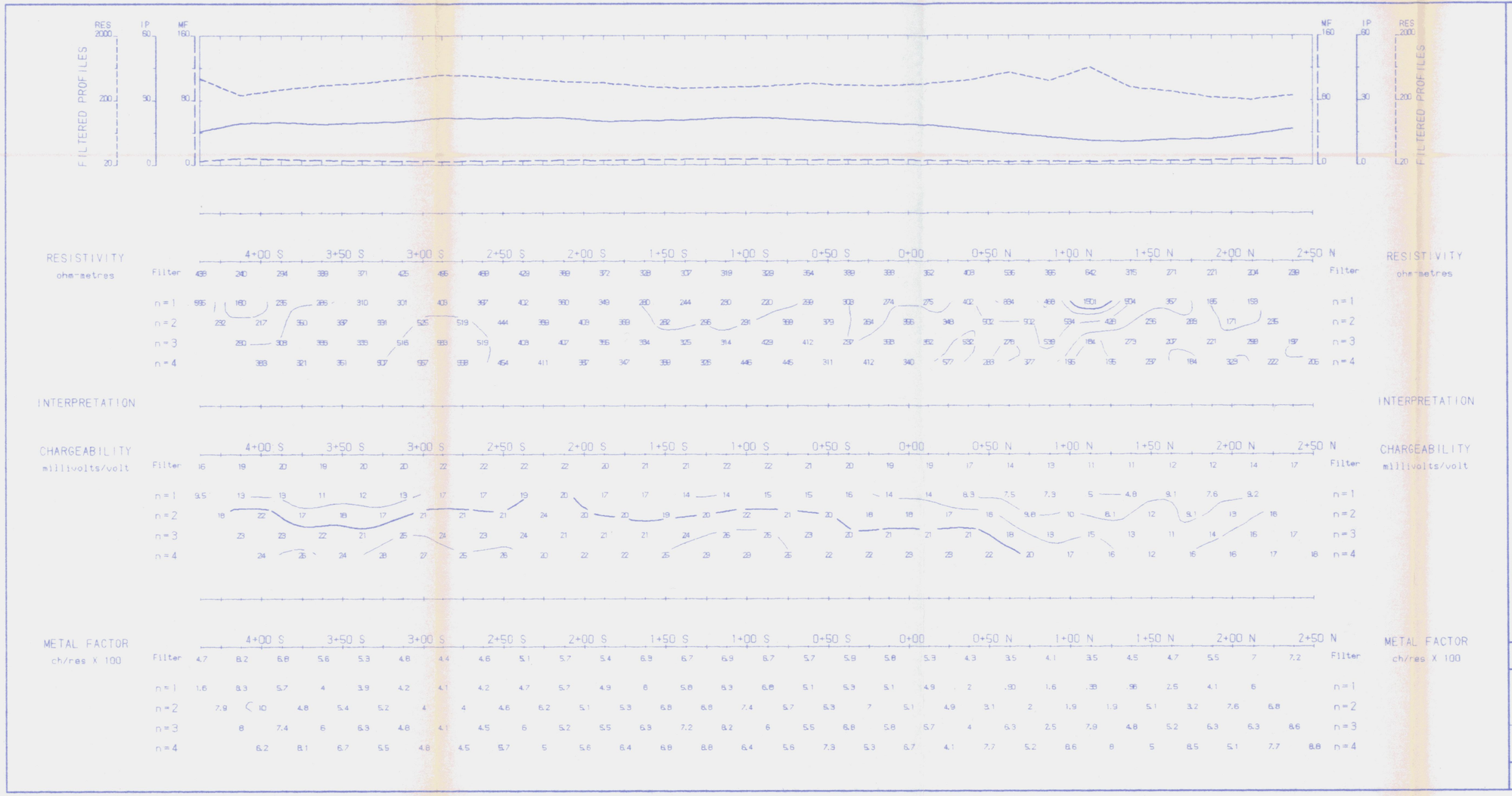
DWG 32

TOTAL ENERGOLD CORPORATION

INDUCED POLARIZATION SURVEY
POW GRID
CLEAR LAKE PROJECT, Y.T.

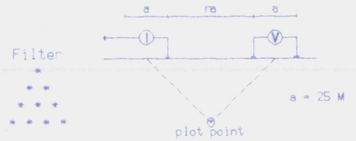
Date: 92/06/20 N.T.S.: 105 L/14
Interpretation:

PETER E. WALCOTT & ASSOC. LTD.



Line 2350 W

Pole-Dipole Array



Instrument: Huntec 2.5 kw. Tx., BRGM Elrec 6 Rx.
Frequency: 0.125 Hz.
Operators: P.E.W., R.S. P.C.

Logarithmic Contours 1, 1.5, 2, 3, 5, 7.5, 10,...

INTERPRETATION

Well defined, strong increase in polarization with or without marked decrease in resistivity.

Fairly well defined moderate increase in polarization.

Poorly defined polarization increase.

Resistivity feature.

093060

Scale 1:2000

25 0 25 50 75 100 125
(metres)

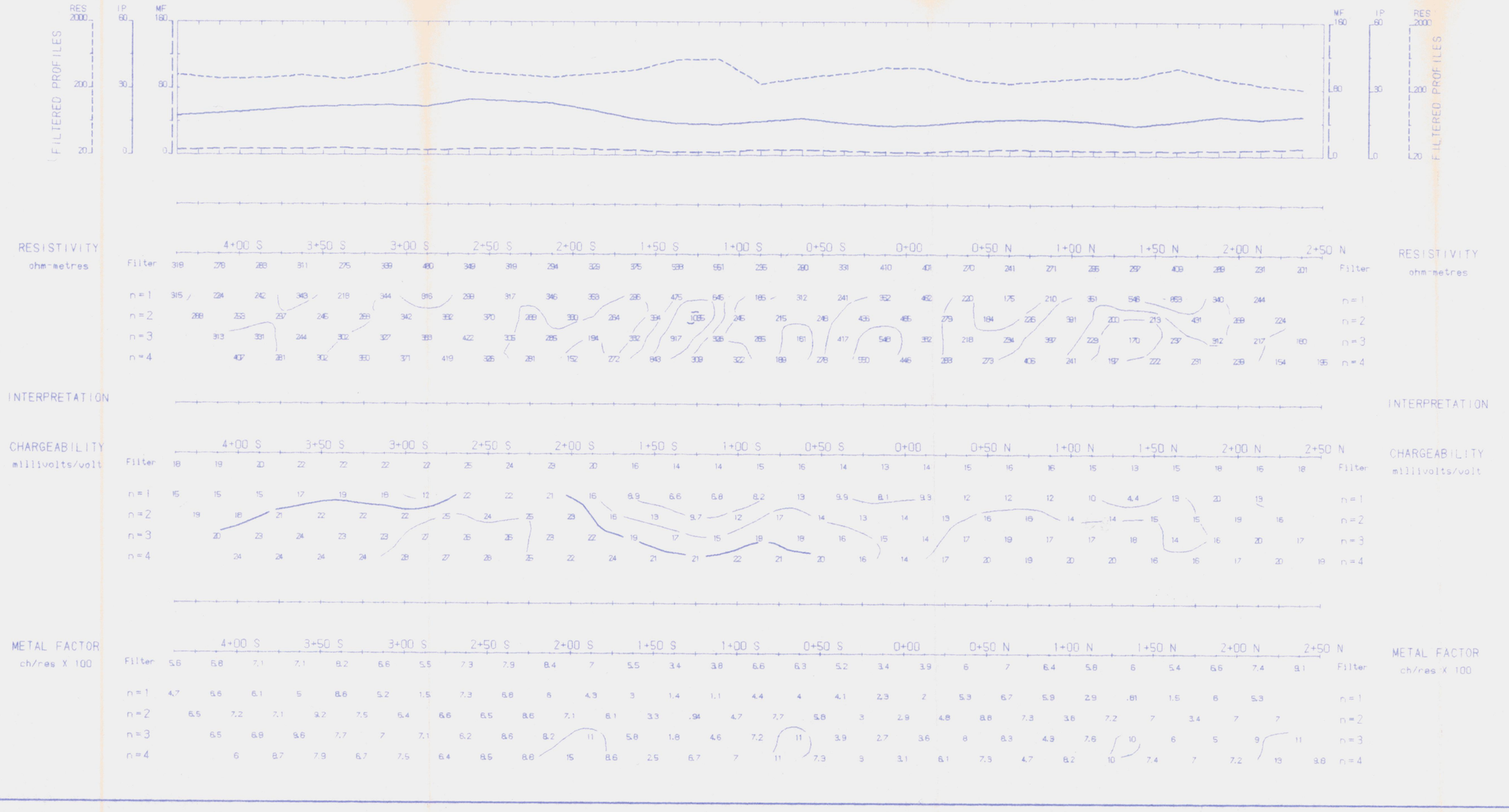
DWG 33

TOTAL ENERGOLD CORPORATION

INDUCED POLARIZATION SURVEY
POW GRID
CLEAR LAKE PROJECT, Y.T.

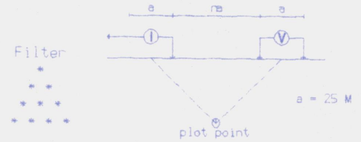
Date: 92/06/20 N.T.S.: 105 L/14
Interpretation:

PETER E. WALCOTT & ASSOC. LTD.



Line 2150 W

Pole-Dipole Array



Instrument: Huntec 2.5 kw. Tx., BRGM Elrec 6 Rx.
Frequency: 0.125 Hz.
Operators: P.E.W., R.S, P.C.

Logarithmic Contours 1, 1.5, 2, 3, 5, 7.5, 10,...

INTERPRETATION

Well defined, strong increase in polarization with or without marked decrease in resistivity.

Fairly well defined moderate increase in polarization.

Poorly defined polarization increase.

Resistivity feature.

093060

Scale 1:2000

25 0 25 50 75 100 125
(metres)

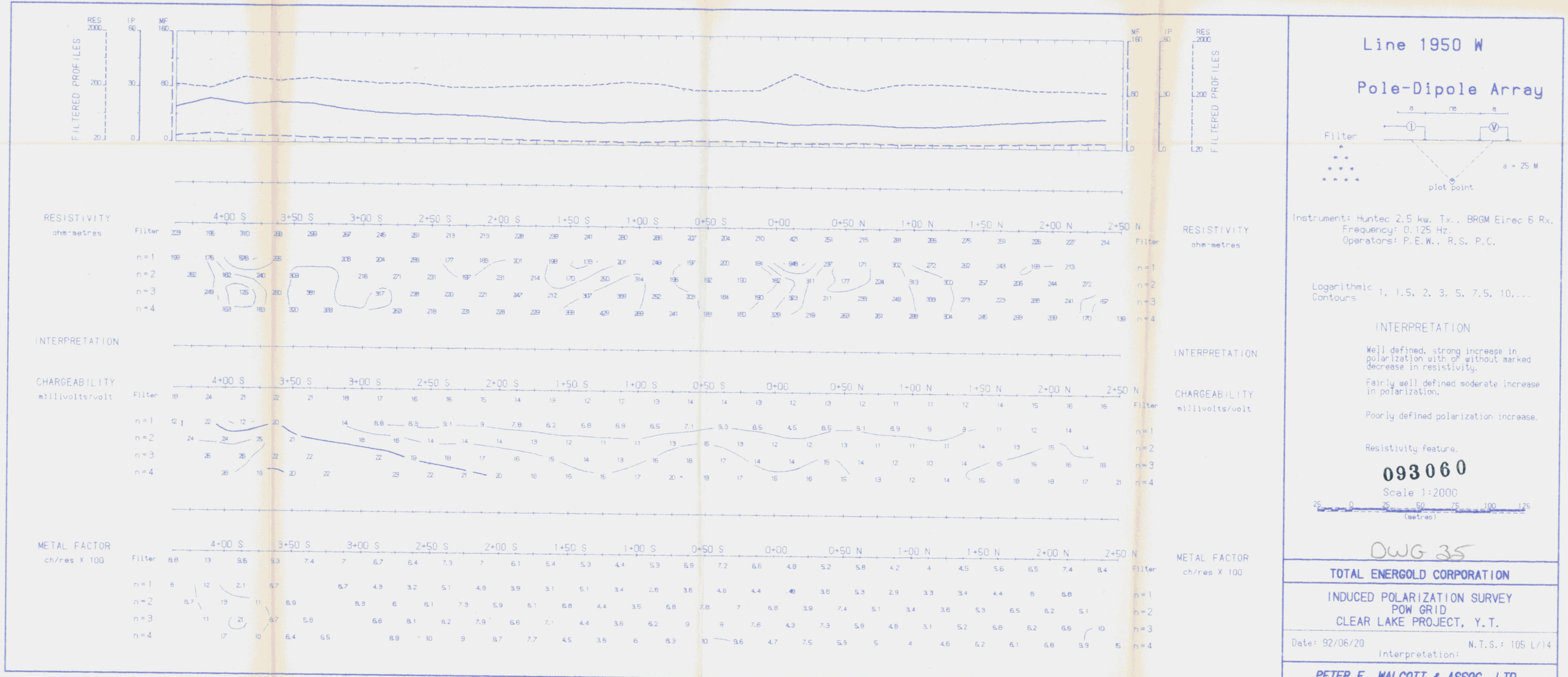
DWG 34

TOTAL ENERGOLD CORPORATION

INDUCED POLARIZATION SURVEY
POW GRID
CLEAR LAKE PROJECT, Y.T.

Date: 92/06/20 N.T.S.: 105 L/14
Interpretation:

PETER E. WALCOTT & ASSOC. LTD.



Line 1950 W

Pole-Dipose Array

Instrument: Huntec 2.5 kw. Tx., BRGM Elrec 6 Rx.
Frequency: 0.125 Hz.
Operators: P.E.W., R.S. P.C.

Logarithmic Contours: 1, 1.5, 2, 3, 5, 7.5, 10,...

INTERPRETATION

Well defined, strong increase in polarization with or without marked decrease in resistivity.

Fairly well defined moderate increase in polarization.

Poorly defined polarization increase.

Resistivity feature.

093060

Scale 1:2000

25 0 25 50 75 100 125
(metres)

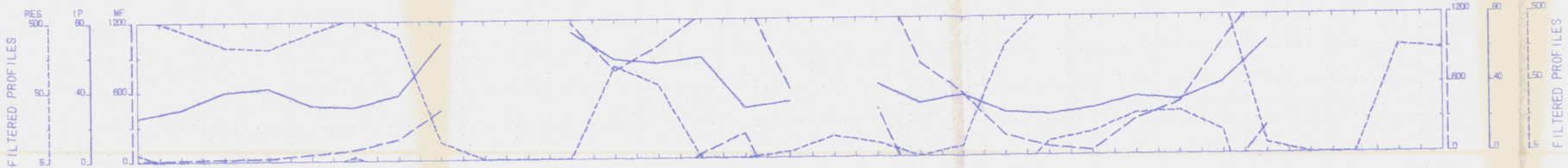
DWG 35

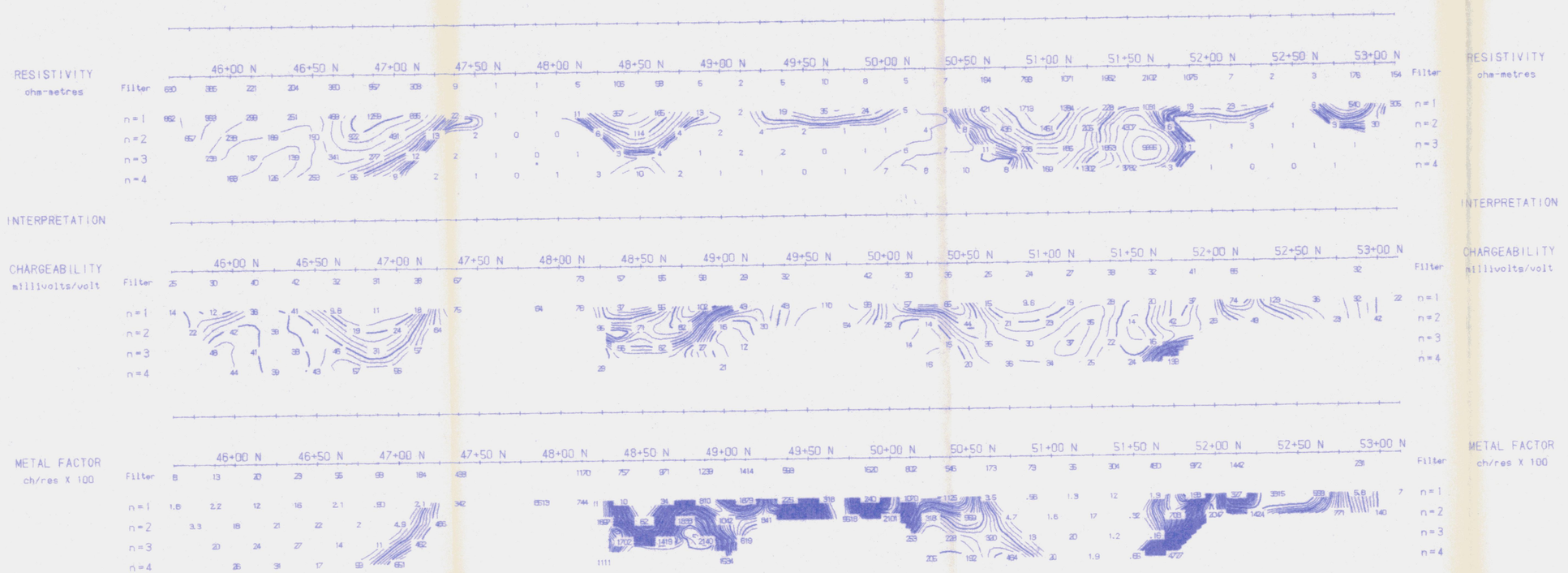
TOTAL ENERGOLD CORPORATION

INDUCED POLARIZATION SURVEY
POW GRID
CLEAR LAKE PROJECT, Y.T.

Date: 92/06/20 N.T.S.: 105 L/14
Interpretation:

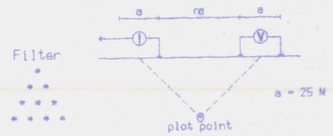
PETER E. WALCOTT & ASSOC. LTD.





Line 7900 W

Pole-Dipole Array



Instrument: Huntec 2.5 kw. Tx., BRGM Elrec 6 Rx.
Frequency: 0.125 Hz.
Operators: P.E.W., R.S, P.C.

Logarithmic Contours 1, 1.5, 2, 3, 5, 7.5, 10....

INTERPRETATION

Well defined, strong increase in polarization with or without marked decrease in resistivity.

Fairly well defined moderate increase in polarization.

Poorly defined polarization increase.

Resistivity feature.

093060

Scale 1:2000

25 0 25 50 75 100 125
(metres)

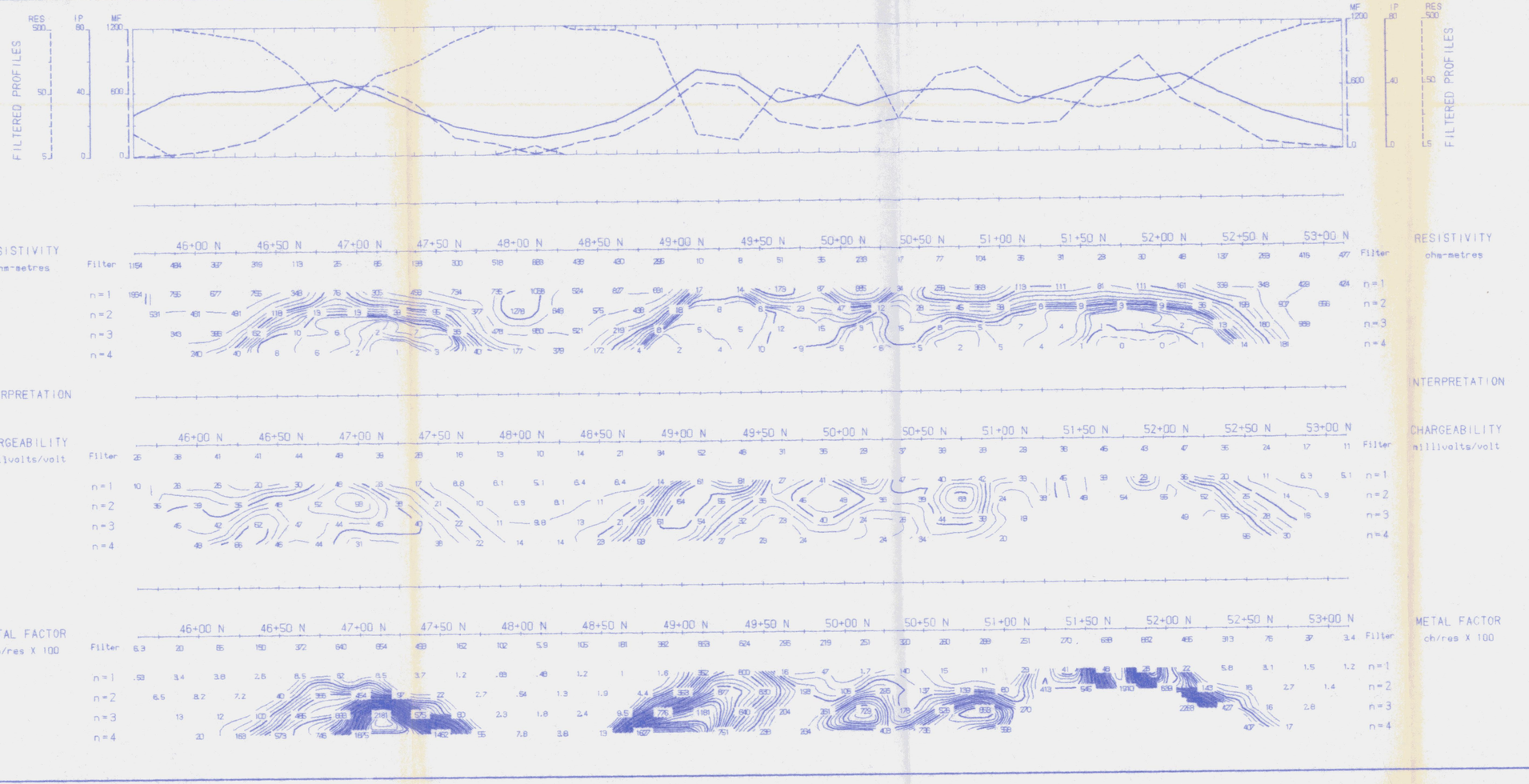
DWG 36

TOTAL ENERGOLD CORPORATION

INDUCED POLARIZATION SURVEY
PI GRID - AREA 1
CLEAR LAKE PROJECT, Y.T.

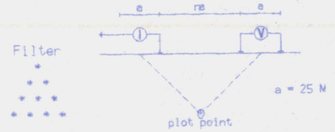
Date: 92/06/21 N.T.S.: 105L/14
Interpretation:

PETER E. WALCOTT & ASSOC. LTD.



Line 8050 W

Pole-Dipole Array



Instrument: Huntec 2.5 kw. Tx., BRGM Elrec 6 Rx.
Frequency: 0.125 Hz.
Operators: P.E.W., R.S, P.C.

Logarithmic Contours 1, 1.5, 2, 3, 5, 7.5, 10,...

INTERPRETATION

Well defined, strong increase in polarization with or without marked decrease in resistivity.

Fairly well defined moderate increase in polarization.

Poorly defined polarization increase.

Resistivity feature.

093060

Scale 1:2000

25 0 25 50 75 100 125
(metres)

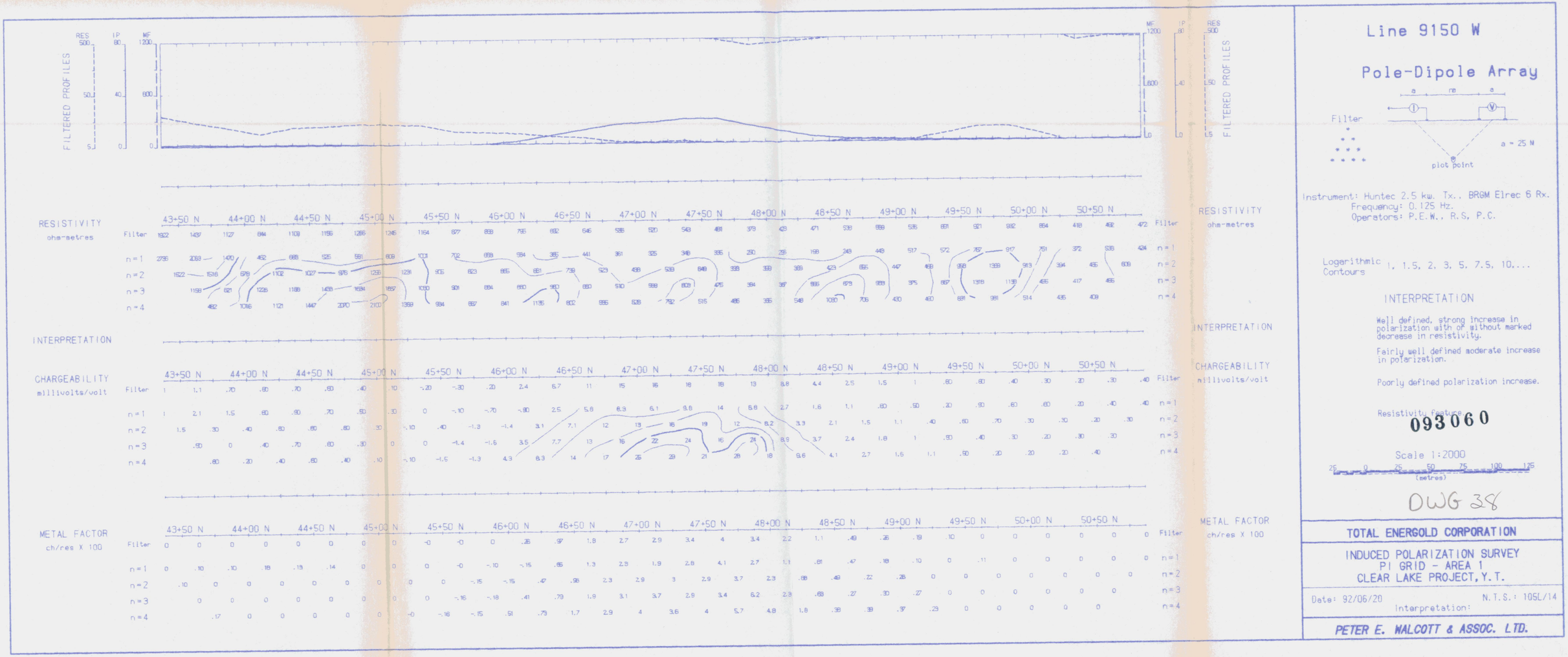
DWG 37

TOTAL ENERGOLD CORPORATION

INDUCED POLARIZATION SURVEY
PI GRID - AREA 1
CLEAR LAKE PROJECT, Y.T.

Date: 92/06/21 N.T.S.: 105L/14
Interpretation:

PETER E. WALCOTT & ASSOC. LTD.



Line 9150 W

Pole-Dipole Array

Instrument: Huntec 2.5 kw. Tx., BRGM Elrec 6 Rx.
Frequency: 0.125 Hz.
Operators: P.E.W., R.S, P.C.

Logarithmic Contours 1, 1.5, 2, 3, 5, 7.5, 10....

INTERPRETATION

Well defined, strong increase in polarization with or without marked decrease in resistivity.

Fairly well defined moderate increase in polarization.

Poorly defined polarization increase.

Resistivity feature

093060

Scale 1:2000

25 0 25 50 75 100 125
(metres)

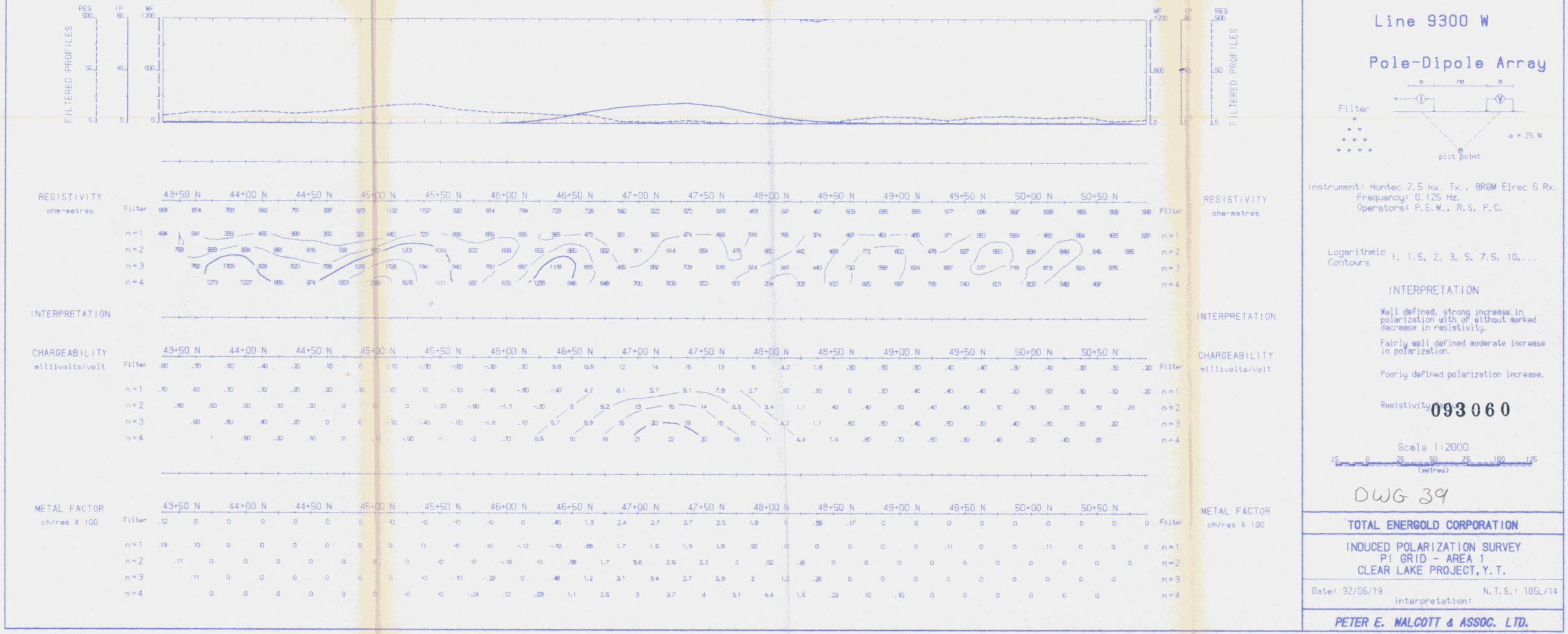
DWG 38

TOTAL ENERGOLD CORPORATION

INDUCED POLARIZATION SURVEY
P1 GRID - AREA 1
CLEAR LAKE PROJECT, Y.T.

Date: 92/06/20 N.T.S.: 105L/14
Interpretation:

PETER E. WALCOTT & ASSOC. LTD.



Line 9300 W

Pole-Dipole Array

Instrument: Huntec 2.5 kw. Tx., BRGM Elrec 6 Rx.
Frequency: 0.125 Hz.
Operators: P.E.W., R.S, P.C.

Logarithmic Contours 1, 1.5, 2, 3, 5, 7.5, 10,...

INTERPRETATION

Well defined, strong increase in polarization with or without marked decrease in resistivity.

Fairly well defined moderate increase in polarization.

Poorly defined polarization increase.

Resistivity Low

093060

Scale 1:2000

25 0 25 50 75 100 125
(metres)

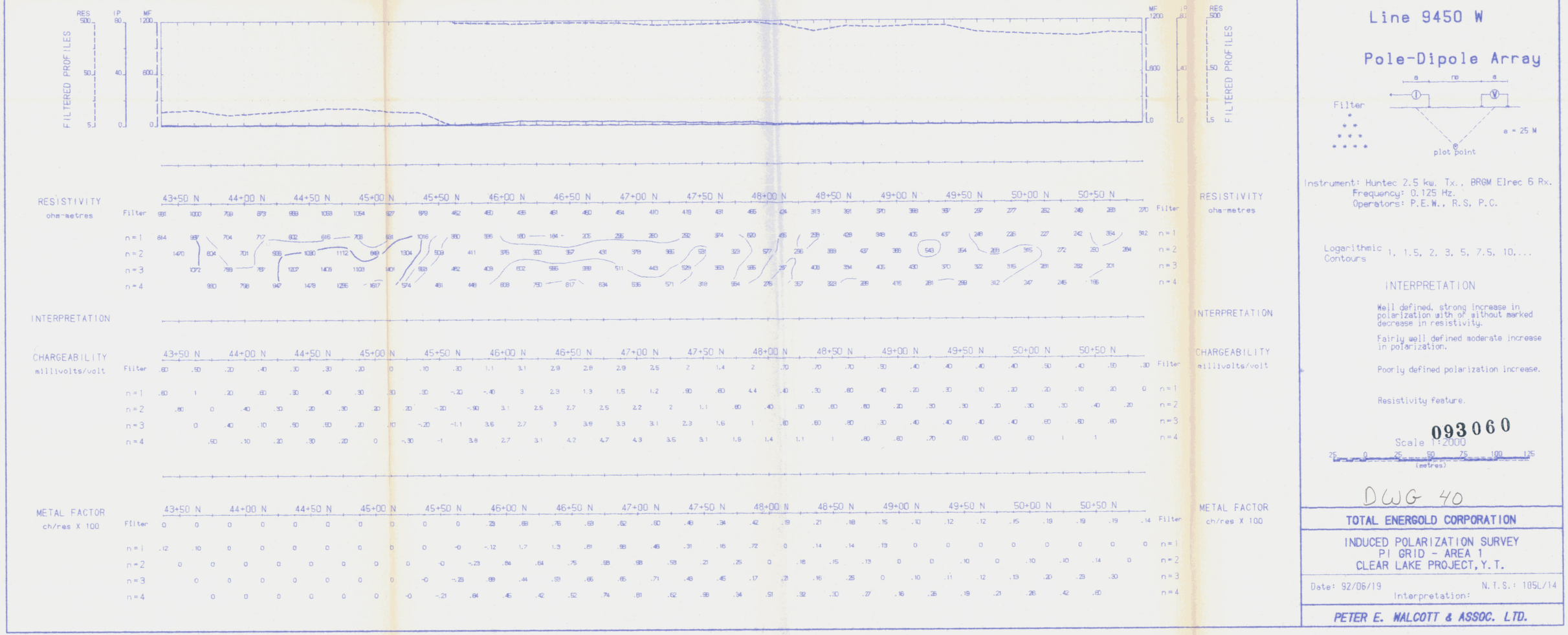
DWG 39

TOTAL ENERGOLD CORPORATION

INDUCED POLARIZATION SURVEY
P1 GRID - AREA 1
CLEAR LAKE PROJECT, Y.T.

Date: 92/06/19 N.T.S.: 105L/14
Interpretation:

PETER E. WALCOTT & ASSOC. LTD.



Line 9450 W

Pole-Dipole Array

Instrument: Huntec 2.5 kw. Tx., BRGM Elrec 6 Rx.
Frequency: 0.125 Hz.
Operators: P.E.W., R.S, P.C.

Logarithmic Contours 1, 1.5, 2, 3, 5, 7.5, 10,...

INTERPRETATION

Well defined, strong increase in polarization with or without marked decrease in resistivity.

Fairly well defined moderate increase in polarization.

Poorly defined polarization increase.

Resistivity feature.

093060

Scale 1:2000

25 0 25 50 75 100 125
(metres)

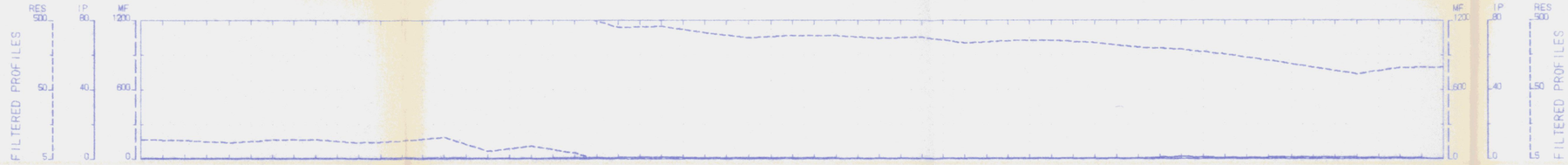
DWG 40

TOTAL ENERGOLD CORPORATION

INDUCED POLARIZATION SURVEY
PI GRID - AREA 1
CLEAR LAKE PROJECT, Y.T.

Date: 92/06/19 N.T.S.: 105L/14
Interpretation:

PETER E. WALCOTT & ASSOC. LTD.



RESISTIVITY
ohm-metres

INTERPRETATION

CHARGEABILITY
millivolts/volt

METAL FACTOR
ch/res X 100

43+50 N | 44+00 N | 44+50 N | 45+00 N | 45+50 N | 46+00 N | 46+50 N | 47+00 N | 47+50 N | 48+00 N | 48+50 N | 49+00 N | 49+50 N | 50+00 N | 50+50 N

Filter

n = 1

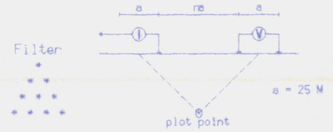
n = 2

n = 3

n = 4

Line 9600 W

Pole-Dipole Array



Instrument: Huntec 2.5 kw. Tx., BRGM Elrec 6 Rx.
Frequency: 0.125 Hz.
Operators: P.E.W., R.S, P.C.

Logarithmic Contours 1, 1.5, 2, 3, 5, 7.5, 10,...

INTERPRETATION

Well defined, strong increase in polarization with or without marked decrease in resistivity.

Fairly well defined moderate increase in polarization.

Poorly defined polarization increase.

Resistivity feature.

093060

Scale 1:2000

25 0 25 50 75 100 125
(metres)

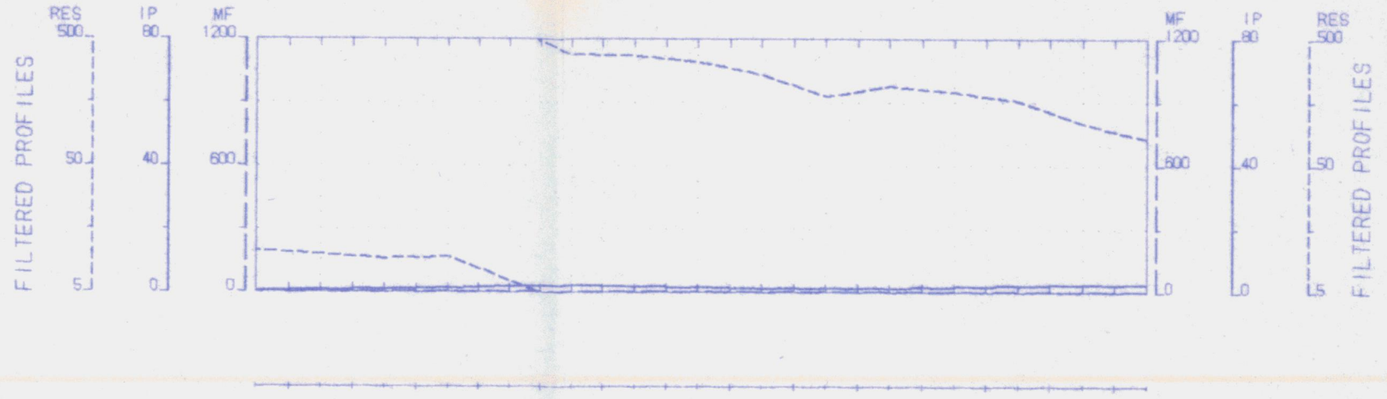
DWG 41

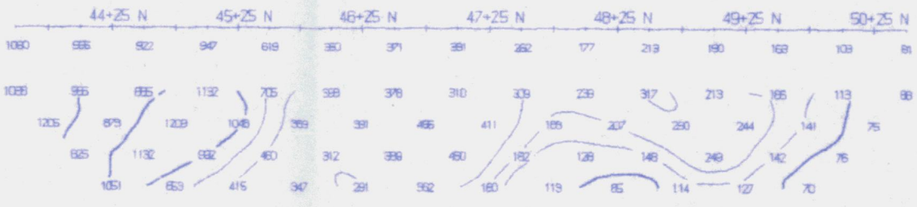
TOTAL ENERGOLD CORPORATION

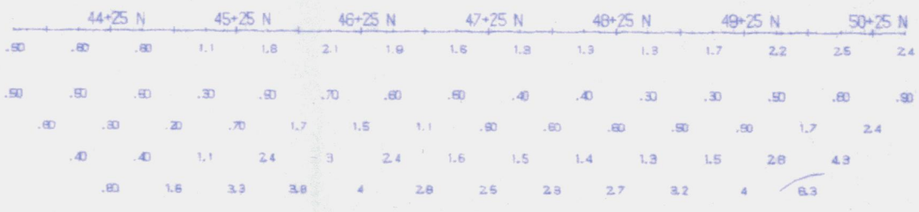
INDUCED POLARIZATION SURVEY
PI GRID - AREA 1
CLEAR LAKE PROJECT, Y.T.

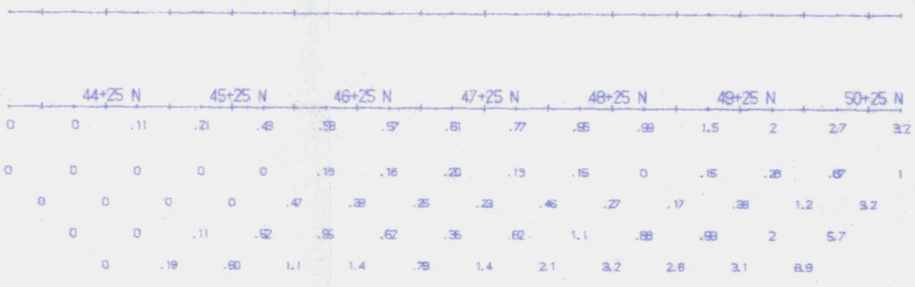
Date: 92/06/19 N.T.S.: 105L/14
Interpretation:

PETER E. WALCOTT & ASSOC. LTD.









RESISTIVITY
ohm-metres

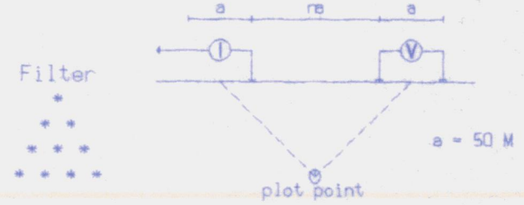
INTERPRETATION

CHARGEABILITY
millivolts/volt

METAL FACTOR
ch/res X 100

Line 9600 W

Pole-Dipole Array



Instrument: Huntec 2.5 kw. Tx., BRGM Elrec 6 Rx.
Frequency: 0.125 Hz.
Operators: P.E.W., R.S, P.C.

Logarithmic Contours 1, 1.5, 2, 3, 5, 7.5, 10,...

INTERPRETATION

Well defined, strong increase in polarization with or without marked decrease in resistivity.

Fairly well defined moderate increase in polarization.

Poorly defined polarization increase.

Resistivity feature.

093060

Scale 1:5000

50 0 50 100 150 200 250
(metres)

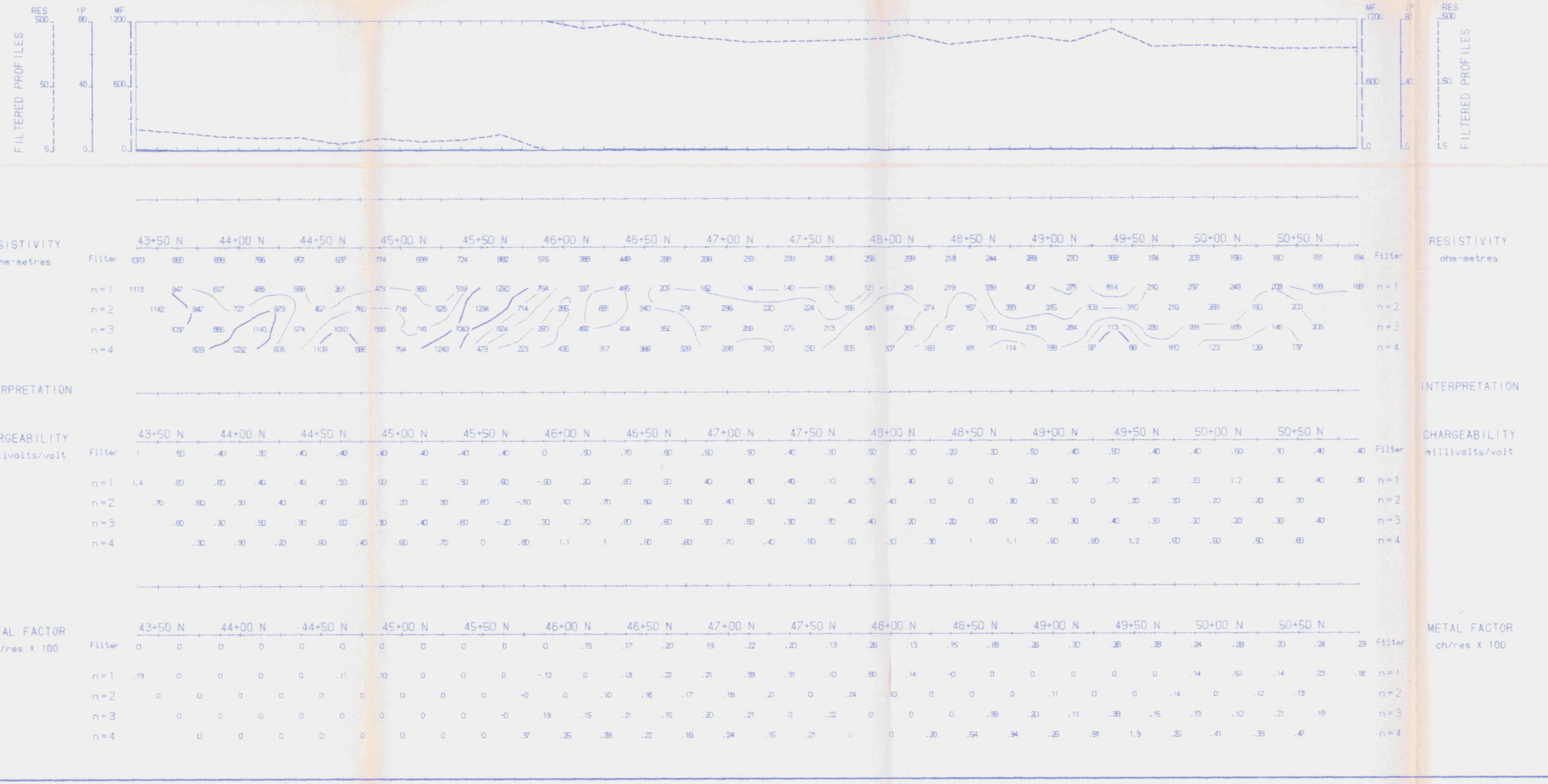
DWG 42

TOTAL ENERGOLD CORPORATION

INDUCED POLARIZATION SURVEY
PI GRID - AREA 1
CLEAR LAKE PROJECT, Y.T.

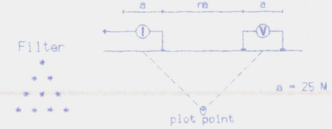
Date: 92/06/21 N.T.S.: 105L/14
Interpretation:

PETER E. WALCOTT & ASSOC. LTD.



Line 9750 W

Pole-Dipole Array



Instrument: Huntec 2.5 kw. Tx., BRGM Elrec 6 Rx.
Frequency: 0.125 Hz.
Operators: P.E.W., R.S. P.C.

Logarithmic Contours 1, 1.5, 2, 3, 5, 7.5, 10,...

INTERPRETATION

Well defined, strong increase in polarization with or without marked decrease in resistivity.

Fairly well defined moderate increase in polarization.

Poorly defined polarization increase.

Resistivity feature.

093060

Scale 1:2000

25 0 25 50 75 100 125 (metres)

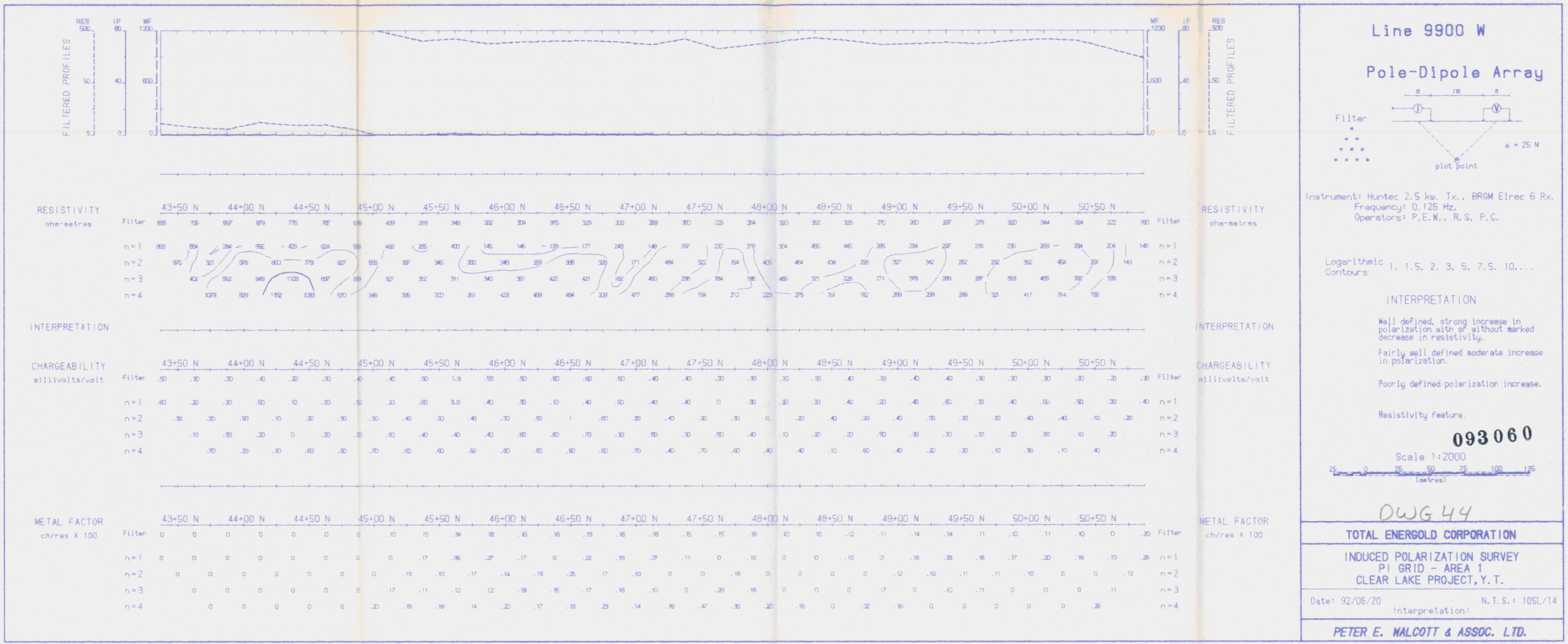
DWG 43

TOTAL ENERGOLD CORPORATION

INDUCED POLARIZATION SURVEY
P1 GRID - AREA 1
CLEAR LAKE PROJECT, Y.T.

Date: 92/06/20 N.T.S.: 105L/14
Interpretation:

PETER E. WALCOTT & ASSOC. LTD.



Line 9900 W

Pole-Dipole Array

Instrument: Huntec 2.5 kw. Tx., BRGM Elrec 6 Rx.
Frequency: 0.125 Hz.
Operators: P.E.W., R.S, P.C.

Logarithmic Contours 1, 1.5, 2, 3, 5, 7.5, 10,...

INTERPRETATION

Well defined, strong increase in polarization with or without marked decrease in resistivity.

Fairly well defined moderate increase in polarization.

Poorly defined polarization increase.

Resistivity feature.

093060

Scale 1:2000

25 0 25 50 75 100 125
(metres)

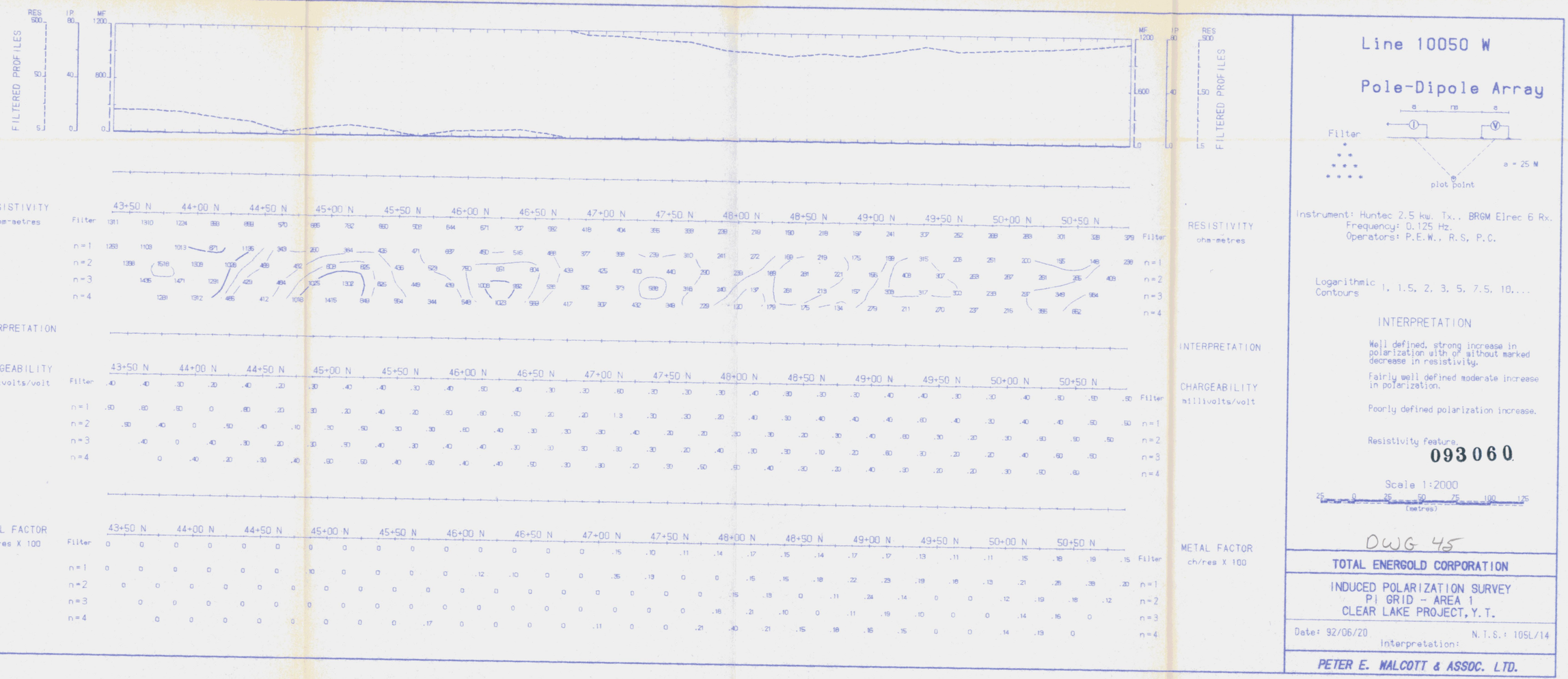
DWG 44

TOTAL ENERGOLD CORPORATION

INDUCED POLARIZATION SURVEY
PI GRID - AREA 1
CLEAR LAKE PROJECT, Y.T.

Date: 92/06/20 N.T.S.: 105L/14
Interpretation:

PETER E. WALCOTT & ASSOC. LTD.



Line 10050 W

Pole-Dipole Array

Instrument: Huntec 2.5 kw. Tx., BRGM Elrec 6 Rx.
Frequency: 0.125 Hz.
Operators: P.E.W., R.S, P.C.

Logarithmic Contours 1, 1.5, 2, 3, 5, 7.5, 10,...

INTERPRETATION

Well defined, strong increase in polarization with or without marked decrease in resistivity.

Fairly well defined moderate increase in polarization.

Poorly defined polarization increase.

Resistivity feature.

093060

Scale 1:2000

25 0 25 50 75 100 125
(metres)

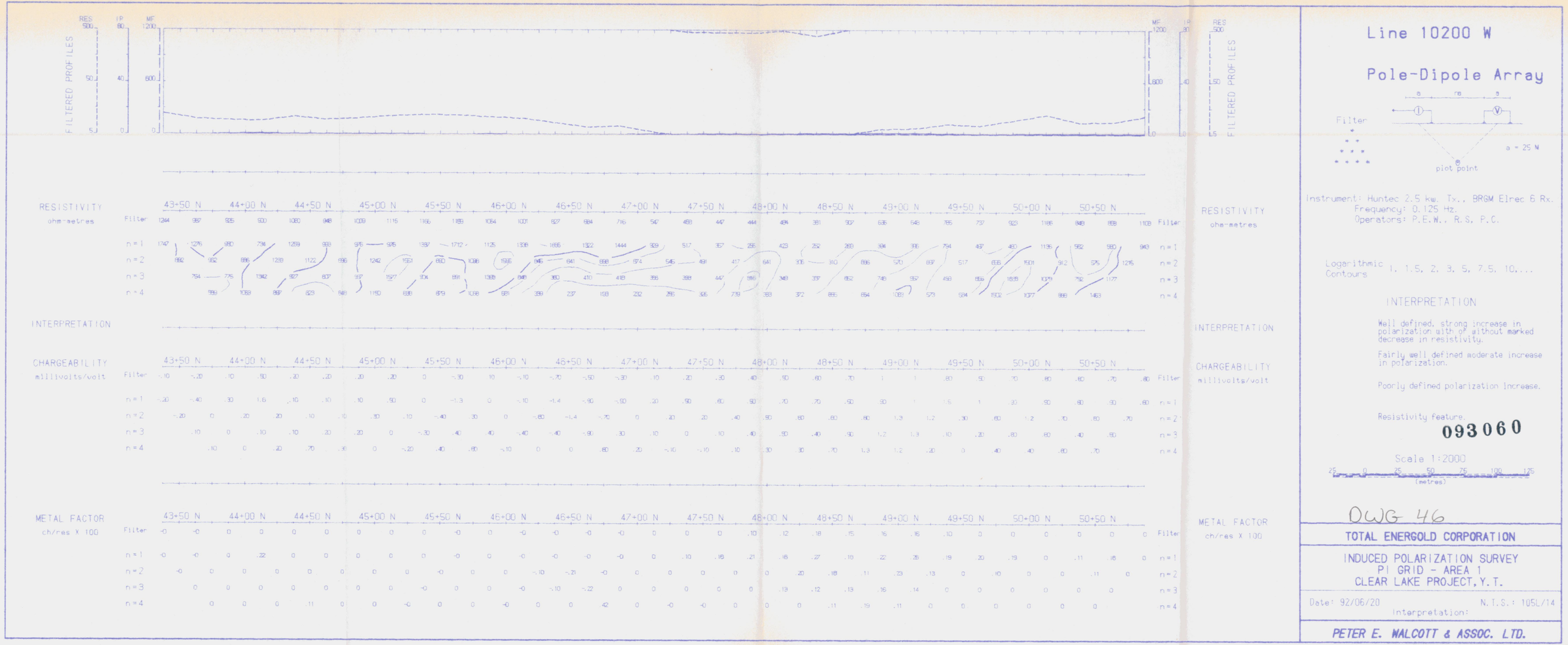
DWG 45

TOTAL ENERGOLD CORPORATION

INDUCED POLARIZATION SURVEY
PI GRID - AREA 1
CLEAR LAKE PROJECT, Y.T.

Date: 92/06/20 N.T.S.: 105L/14
Interpretation:

PETER E. WALCOTT & ASSOC. LTD.



Line 10200 W

Pole-Dipole Array

Instrument: Huntec 2.5 kw. Tx., BRGM Elrec 6 Rx.
Frequency: 0.125 Hz.
Operators: P.E.W., R.S. P.C.

Logarithmic Contours 1, 1.5, 2, 3, 5, 7.5, 10,...

INTERPRETATION

Well defined, strong increase in polarization with or without marked decrease in resistivity.

Fairly well defined moderate increase in polarization.

Poorly defined polarization increase.

Resistivity feature.

093060

Scale 1:2000

25 0 25 50 75 100 125 (metres)

DWG 46

TOTAL ENERGOLD CORPORATION

INDUCED POLARIZATION SURVEY
PI GRID - AREA 1
CLEAR LAKE PROJECT, Y.T.

Date: 92/06/20 N.T.S.: 105L/14
Interpretation:

PETER E. WALCOTT & ASSOC. LTD.

APPENDIX D

Geochemical/Assay Analytical Procedures, Hg Histograms, and Results.

BONDAR-CLEGG

June 12, 1992

Mr. R. Basnett
Total Energold Corporation

FAX: 403-668-3968

Dear Mr. Basnett:

Thank you for allowing Bondar-Clegg to Quote on your 1992 analytical requirements. Your samples will be soil and stream sediment samples. We understand that you are unsure of the number of samples that your project will produce. Our prices are aggressive, but if your project is going to generate more than 5000 samples our price may be adjusted accordingly.

Bondar-Clegg is pleased to offer the following analytical services:

Sample Preparation

Soil and Sediment Samples

1. The whole sample will be dried at 60 C and screened to -80 mesh particle fraction, unless an alternative fraction is requested.

Your cost for soil sample preparation per sample: $ 1.25 Cdn.

Note:

All sample over size material will be stored for 90 days free of charge, after which Bondar-Clegg's routine storage charges will apply.
All sample pulps will be stored for one year free of charge, after which Bondar-Clegg's routine storage charges will apply.

TOTAL ENERGOLD QUOTE 92: 2

Analytical Determinations

Clear Lake Soil Package

1. Geochemical determination of Ag, Cu, Pb and Zn using a HNO3/HCl extraction-Flame AAS measurement, detection levels of 0.1, 1, 2 and 1 ppm.

Your cost per sample: $ 5.50 Cdn.

To add Ba by XRF, detection level of 20 ppm: $3.50 Cdn.

2. I. C. Plasma determination of Ag, Cu, Pb, Zn, and Ba* using HNO3/HCl extraction.

Your cost per sample: $ 5.00 Cdn.

* This element may not be completely digested and therefor may be low.

To add Hg analysis using a HNO3/HCl extraction-Cold Vapour AAS, detection level of 0.010 ppm, to the above package add: $ 2.50 Cdn

Quality Control Procedures

Bondar-Clegg will supply, at no extra cost, all quality control data obtained during the analysis of Total Energold samples.

Service Turnaround

All data will be available within 10 to 14 days from our receipt of the samples. RUSH service of 4 to 5 days can be provided for Au on small batches of samples at no extra cost to Total Energold.

Computer Services

Bondar-Clegg's "Access Information System" allows our clientele to retrieve data, check the completion status of analytical work in progress, merge and sort files, perform on-line statistics, send computer messages to Bondar-Clegg staff, or, leave messages for your own people in their respective "mail box".

All of the above functions are available at no cost to the user, other than long distance charges associated with accessing the nearest Data Pac Communication Node.In addition, all analytical reports can be FAXED to your field offices.

We at Bondar-Clegg take great pride in giving high quality and professional service and will do our best to live up to that ideal while handling your samples. If you have any questions please call the undersigned. We are looking forward to working with you on this project over the next months.

Sincerely yours,

R.K.Rogers
Chief Assayer

George Cartwright
Manager Western Operations

BC
BONDAR-CLEGG

Mr. Richard Basnett
Total Energold
FAX: (403) 668-3968

BARIUM ANALYSIS BY XRF

X-ray fluorescence spectroscopy is an instrumental method of analysis in which the sample is placed in a beam of x-rays. These x-rays cause the elements of the sample to give off (or fluoresce) secondary x-rays which have a unique wavelength for each element. The instrument measures the intensity of the different wavelengths and they are compared to those obtained from running samples with known element concentrations in order to calculate the concentration of the elements of interest in the samples.

GEOCHEMICAL ANALYSIS FOR Cu, Ag, Pb and Zn

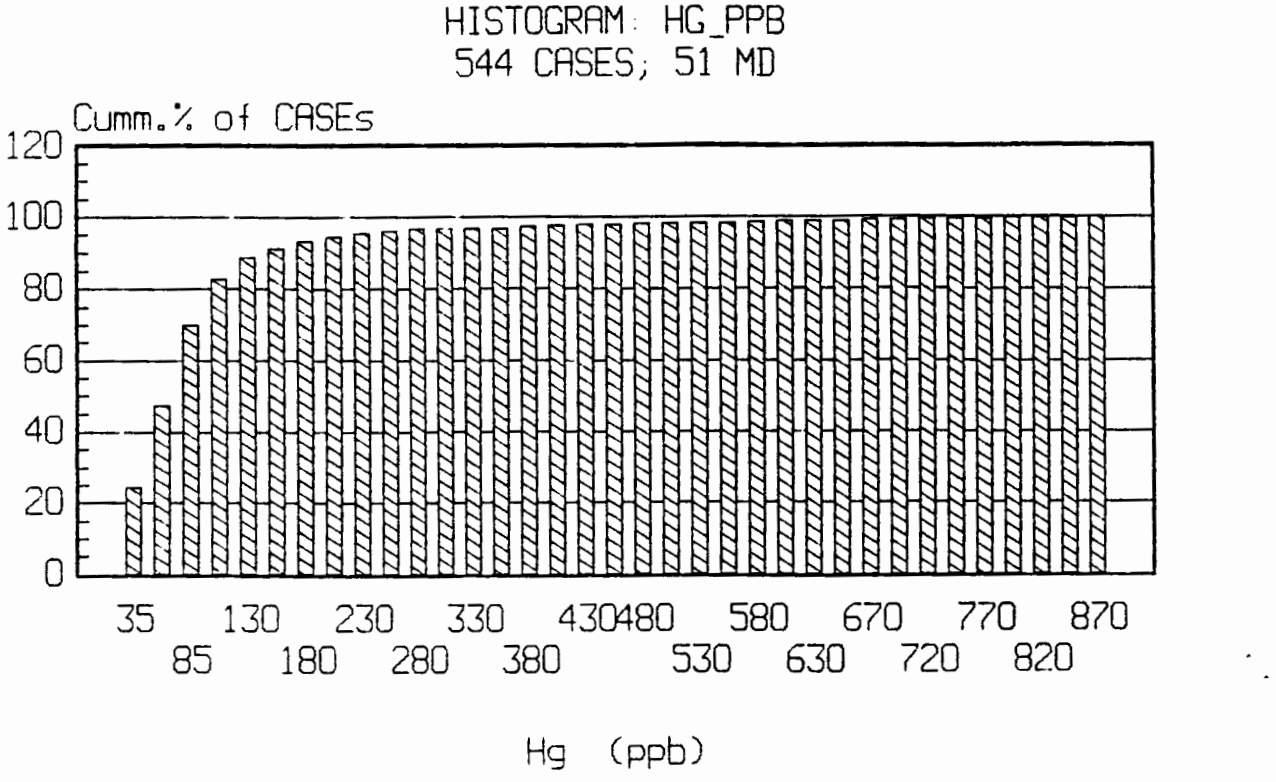
These elements are analyzed routinely by Atomic Absorption Spectroscopy (AAS) following the dissolution of the sample with aqua regia. AAS is an instrumental method of analysis in which a sample that has been put into an aqueous solution is aspirated into the flame of the instrument for measurement of the concentration of the element(s) of interest. A light source emits light at the wave length of the element to be measured in a beam that passes through the flame. The atoms of the element in the flame absorb the light in proportion to the concentration of the element in the sample solution. This absorption is compared to those measured when a series of standard solutions has been aspirated in order to determine the concentration of the element in the sample solution.

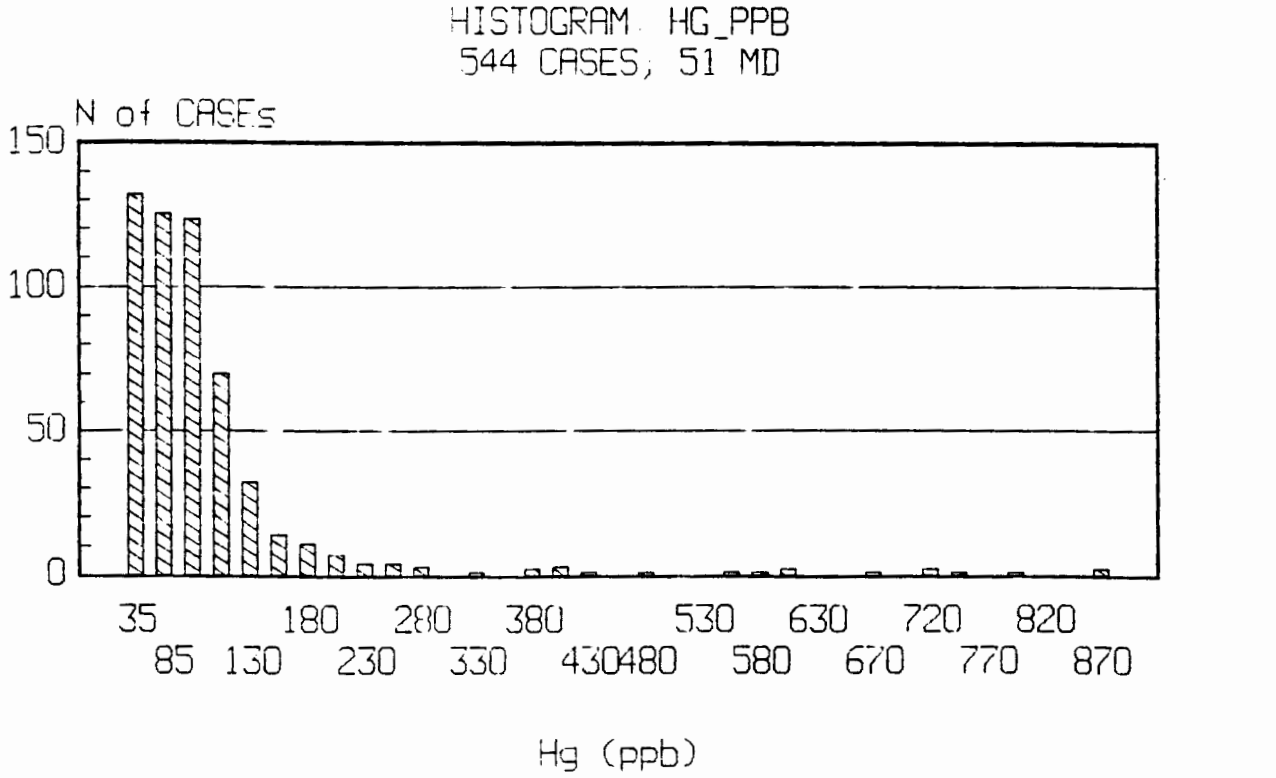
Should you need additional information, please contact me at (604) 985-0681.

Sincerely,

Rick McCaffrey
Manager, Geochem Department

css/pc: graphs	HISTOGRAM: HG_PPB 544 CASES; 51 MD			
	N of CASEs	% of CASEs	Cum.N of CASEs	Cum.% of CASEs
10. - 34.600	132	24.26	132	24.26
34.600 - 59.200	125	22.98	257	47.24
59.200 - 83.800	123	22.61	380	69.85
83.800 - 108.400	70	12.87	450	82.72
108.400 - 133.	32	5.88	482	88.60
133. - 157.600	14	2.57	496	91.18
157.600 - 182.200	11	2.02	507	93.20
182.200 - 206.800	7	1.29	514	94.49
206.800 - 231.400	4	.74	518	95.22
231.400 - 256.	4	.74	522	95.96
256. - 280.600	3	.55	525	96.51
280.600 - 305.200	0	.00	525	96.51
305.200 - 329.800	1	.18	526	96.69
329.800 - 354.400	0	.00	526	96.69
354.400 - 379.	2	.37	528	97.06
379. - 403.600	3	.55	531	97.61
403.600 - 428.200	1	.18	532	97.79
428.200 - 452.800	0	.00	532	97.79
452.800 - 477.400	1	.18	533	97.98
477.400 - 502.	0	.00	533	97.98
502. - 526.600	0	.00	533	97.98
526.600 - 551.200	1	.18	534	98.16
551.200 - 575.800	1	.18	535	98.35
575.800 - 600.400	2	.37	537	98.71
600.400 - 625.	0	.00	537	98.71
625. - 649.600	0	.00	537	98.71
649.600 - 674.200	1	.18	538	98.90
674.200 - 698.800	0	.00	538	98.90
698.800 - 723.400	2	.37	540	99.26
723.400 - 748.	1	.18	541	99.45
748. - 772.600	0	.00	541	99.45
772.600 - 797.200	1	.18	542	99.63
797.200 - 821.800	0	.00	542	99.63
821.800 - 846.400	0	.00	542	99.63
846.400 - 871.	2	.37	544	100.00


HISTOGRAM: HG_PPB
544 CASES; 51 MD
Cumm.% of CASEs
120
100
80
60
40
20
0
35
85
130
180
230
280
330
380
430480
530
580
630
670
720
770
820
870
Hg (ppb)


HISTOGRAM: HG_PPB
544 CASES; 51 MD
N of CASEs
150
100
50
0
35
85
130
180
230
280
330
380
430480
530
580
630
670
720
770
820
870
Hg (ppb)

Bondar-Clegg & Company Ltd.
130 Pemberton Avenue
North Vancouver, B.C.
V7P 2R5
Tel: (604) 985-0681
Fax: (604) 985-1071

BONDAR-CLEGG

Geochemical Lab Report

REPORT: V92-00303.0 (COMPLETE)

DATE PRINTED: 24-APR-92
PROJECT: 21223 PAGE 1

SAMPLE NUMBER	ELEMENT UNITS	HG PPM
S4 111096		0.066
S4 111097		0.037
S4 111098		<0.010
S4 111099		0.040
S4 111100		0.080
S4 111101		0.036
S4 111102		0.035
S4 111103		0.072
S4 111104		0.052
S4 111105		0.042
S4 111106		0.058
S4 111107		0.081
S4 111108		0.086
S4 111109		0.099
S4 111110		0.078
S4 111111		0.068
S4 111112		0.122
S4 311065		0.049
S4 311066		0.078
S4 311067		0.084
S4 311068		0.045
S4 311069		0.075
S4 311070		0.180
S4 311071		0.019
S4 311072		0.083
S4 311073		0.071
S4 311074		0.051
S4 311075		0.063
S4 313102		0.145
S4 313103		0.084
S4 313104		0.039
S4 313105		0.038
S4 313106		0.050
S4 313107		0.049
S4 313108		0.040
S4 313109		0.099

Bondar-Clegg & Company Ltd.
130 Pemberton Ave.
North Vancouver, B.C.
V7P 2R5
(604) 985-0681 Telex 04-352667

BONDAR-CLEGG

A DIVISION OF INCHCAPE INSPECTION & TESTING SERVICES

Geochemical Lab Report

DATE PRINTED: 26-JUN-92

REPORT: V92-00518.0 (COMPLETE)

PROJECT: CLEAR LAKE PAGE 1

SAMPLE NUMBER	ELEMENT UNITS	Ag PPM	Cu PPM	Pb PPM	Zn PPM	Hg PPM	Ba* PPM
S1 L00N 00		<0.2	33	21	103	0.090	1700
S1 L00N 050E		0.3	26	14	81	0.188	1400
S1 L00N 100E		<0.2	29	14	79	0.070	1400
S1 L00N 150E		<0.2	34	18	65	0.058	1300
S1 L00N 200E		0.2	39	13	115	0.034	1200
S1 L00N 250E		0.2	28	13	83	0.054	1400
S1 L00N 300E		<0.2	44	15	87	0.061	1200
S1 L00N 350E		<0.2	16	16	124	<0.010	1400
S1 L00N 400E		<0.2	25	11	80	0.042	1400
S1 L00N 050W		<0.2	46	14	87	0.069	1100
S1 L00N 100W		<0.2	18	10	46	0.022	1100
S1 L00N 150W		<0.2	32	10	77	0.012	1000
S1 L00N 200W		<0.2	16	9	68	<0.010	1100
S1 L00N 250W		0.5	79	73	110	0.565	1200
S1 L00N 300W		0.3	78	20	96	0.135	1400
S1 L00N 350W		<0.2	34	27	172	0.042	1900
S1 L200S 00		<0.2	14	17	89	<0.010	1100
S1 L200S 050E		<0.2	18	25	74	0.011	1300
S1 L200S 100E		<0.2	24	13	85	0.039	1300
S1 L200S 150E		<0.2	27	13	88	0.057	1300
S1 L200S 200E		<0.2	50	13	100	0.090	1200
S1 L200S 050W		<0.2	16	10	60	0.010	1100
S1 L200S 100W		2.7	65	3733	79	3.958	1400
S1 L200S 150W		0.2	38	36	88	0.116	1300
S1 L200S 200W		<0.2	27	15	94	0.058	1400
S1 L200S 250W		<0.2	23	12	83	0.039	1300
S1 L200S 300W		0.2	27	14	90	0.059	1400
S1 L200S 350W		<0.2	26	11	82	0.065	1500
S1 L200S 400W		0.3	34	15	106	0.058	1600
S1 L400S 00		1.9	65	1475	150	5.199	1300
S1 L400S 050E		0.4	64	27	394	0.261	1800
S1 L400S 100E		<0.2	29	14	135	0.084	1600
S1 L400S 150E		0.4	100	17	350	0.096	1300
S1 L400S 200E		<0.2	75	17	2518	0.079	1600
S1 L400S 050W		0.3	30	66	103	0.190	1400
S1 L400S 100W		<0.2	32	18	82	0.058	1400
S1 L400S 150W		0.5	42	27	119	0.077	1500
S1 L400S 200W		<0.2	26	13	91	0.050	1400
S1 L400S 250W		0.3	33	24	143	0.059	1600
S1 L400S 300W		0.3	33	16	105	0.075	1500

PLOTTED RZ

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V7P 2R5
(604) 985-0681 Telex 04-352667

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A DIVISION OF INCHCAPE INSPECTION & TESTING SERVICES

Geochemical Lab Report

REPORT: V92-00518.0 (COMPLETE)

DATE PRINTED: 26-JUN-92

PROJECT: CLEAR LAKE

SAMPLE NUMBER	ELEMENT UNITS	Ag PPM	Cu PPM	Pb PPM	Zn PPM	Hg PPM	Ba* PPM
S1 L400S 350W		0.3	26	12	84	0.058	1400
S1 L400S 400W		0.2	29	14	97	0.047	1600
S1 L250W 050N		0.5	73	15	102	0.113	1300
S1 L250W 100N		<0.2	30	13	89	0.053	1300
S1 L250W 150N		0.3	31	14	84	0.054	1500
S1 L250W 200N		0.2	37	14	78	0.046	2100
S1 L250W 250N		<0.2	27	11	233	0.029	1400
S1 L250W 300N		<0.2	16	12	110	0.046	1300
S1 L250W 350N		<0.2	45	20	366	0.049	1300
S1 L250W 400N		<0.2	29	16	215	0.109	1300
S1 L250W 450N		<0.2	21	13	183	0.068	1600

PLOTTED RZ

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"

Bondar-Clegg & Company Ltd.
130 Pemberton Avenue
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Fax: (604) 985-1071

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Geochemical Lab Report

REPORT: V92-00730.0 (COMPLETE)

DATE PRINTED: 22-JUL-92
PROJECT: CLEAR LAKE PAGE 1

SAMPLE NUMBER	ELEMENT UNITS	Ag PPM	Cu PPM	Pb PPM	Zn PPM	HG PPM
S1 PIN L0+00 1+00W		0.4	55	12	91	0.087
S1 PIN L0+00 1+25W		<0.1	21	9	61	0.017
S1 PIN L0+00 1+50W		<0.1	52	13	103	0.074
S1 PIN L0+00 1+75W		<0.1	58	11	96	0.096
S1 PIN L0+00 2+00W		<0.1	23	9	61	0.020
S1 PIN L0+00 2+25W		<0.1	20	9	87	<0.010
S1 PIN L0+00 2+50W		0.5	64	50	92	0.404
S1 PIN L0+00 2+75W		<0.1	20	15	61	0.013
S1 PIN L0+00 3+00W		0.2	70	10	98	0.099
S1 PIN L0+00 3+25W		<0.1	30	22	95	0.066
S1 PIN L0+00 TL3+50W		0.1	30	23	190	0.042
S1 POW L5+50E 1+50S		<0.1	23	10	71	0.048
S1 POW L5+50E 2+00S		0.2	24	10	70	0.038
S1 POW L5+50E 2+50S		<0.1	25	10	82	0.034
S1 POW L5+50E 3+00S		0.6	173	14	185	0.162
S1 POW L5+50E 3+50S		<0.1	47	25	235	0.044
S1 POW L5+50E 4+00S		0.2	19	14	183	0.024
S1 POW L5+50E 4+50S		0.2	18	31	1720	0.012
S1 POW L6+50E 1+50S		<0.1	19	10	64	0.020
S1 POW L6+50E 2+00S		<0.1	22	8	86	0.026
S1 POW L6+50E 2+50S		<0.1	48	16	95	0.053
S1 POW L6+50E 3+00S		0.3	59	20	518	0.116
S1 POW L6+50E 3+50S		0.5	43	15	168	0.034
S1 POW L6+50E 4+00S		<0.1	25	12	91	0.027
S1 POW L6+50E 4+50S		0.2	21	15	555	0.018
S1 POW L7+50E 1+50S		<0.1	29	15	151	0.026
S1 POW L7+50E 2+00S		<0.1	45	10	67	0.024
S1 POW L7+50E 2+50S		<0.1	13	12	84	0.013
S1 POW L7+50E 3+00S		<0.1	15	10	126	<0.010
S1 POW L7+50E 3+50S		<0.1	27	13	77	0.022
S1 POW L7+50E 4+00S		0.3	72	15	120	0.098
S1 POW L7+50E 4+50S		0.3	42	18	215	0.078
S1 POW L7+50E 5+00S		0.2	58	12	96	0.058
S1 POW L8+50E 1+50S		0.2	57	11	92	0.066
S1 POW L8+50E 2+00S		0.3	56	11	90	0.069
S1 POW L8+50E 2+50S		0.4	66	11	122	0.075
S1 POW L8+50E 3+00S		0.4	50	10	87	0.062
S1 POW L8+50E 3+50S		0.2	29	10	127	<0.010
S1 POW L8+50E 4+00S		0.1	29	10	76	0.020
S1 POW L8+50E 4+50S		0.2	43	11	92	0.030

Bondar-Clegg & Company Ltd.
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V7P 2R5
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Geochemical Lab Report

REPORT: V92-00730.0 (COMPLETE)

DATE PRINTED: 22-JUL-92
PROJECT: CLEAR LAKE PAGE 2

SAMPLE NUMBER	ELEMENT UNITS	Ag PPM	Cu PPM	Pb PPM	Zn PPM	HG PPM
S1 POW L8+50E 5+00S		0.2	60	12	87	0.055
S1 POW L9+50E 1+50S		<0.1	41	11	77	0.042
S1 POW L9+50E 2+00S		0.1	41	16	91	0.029
S1 POW L9+50E 2+50S		<0.1	28	9	131	0.017
S1 POW L9+50E 3+00S		<0.1	24	11	69	0.019
S1 POW L9+50E 3+50S		0.2	42	9	95	0.080
S1 POW L9+50E 4+00S		0.2	32	12	82	0.029
S1 POW L9+50E 4+50S		<0.1	30	10	79	0.017
S1 POW L9+50E 5+00S		<0.1	43	11	118	0.037
S1 POW L10+50E 1+50S		<0.1	16	8	82	0.012
S1 POW L10+50E 2+00S		<0.1	36	13	79	0.029
S1 POW L10+50E 2+50S		0.2	49	11	90	0.021
S1 POW L10+50E 3+00S		0.2	23	7	74	0.013
S1 POW L10+50E 3+50S		0.1	30	11	79	0.026
S1 POW L10+50E 4+00S		<0.1	47	12	89	0.045
S1 POW L10+50E 4+50S		<0.1	23	<2	56	0.014
S1 POW L10+50E 5+00S		0.1	41	10	192	0.046
S1 POW L11+50E 1+50S		0.1	41	12	74	0.030
S1 POW L11+50E 2+00S		<0.1	39	12	92	0.021
S1 POW L11+50E 2+50S		<0.1	59	12	104	0.059
S1 POW L11+50E 3+00S		0.2	44	10	76	0.050
S1 POW L11+50E 3+50S		0.3	54	10	99	0.081
S1 POW L11+50E 4+00S		0.1	35	9	68	0.037
S1 POW L11+50E 4+50S		<0.1	39	10	80	0.040
S1 POW L11+50E 5+00S		0.2	47	10	131	0.058
S1 POW L12+50E 1+50S		0.1	44	9	118	0.014
S1 POW L12+50E 2+00S		0.4	65	11	87	0.098
S1 POW L12+50E 2+50S		<0.1	44	9	75	0.058
S1 POW L12+50E 3+00S		<0.1	39	9	73	0.030
S1 POW L12+50E 3+50S		<0.1	41	12	80	0.037
S1 POW L12+50E 4+00S		<0.1	35	9	68	0.043
S1 POW L12+50E 4+50S		0.2	57	12	132	0.066
S1 POW L12+50E 5+00S		<0.1	16	15	184	<0.010
S1 POW L13+50E 1+50S		0.1	55	11	107	0.043
S1 POW L13+50E 2+00S		0.1	8	9	78	0.012
S1 POW L13+50E 2+50S		0.1	37	9	63	0.031
S1 POW L13+50E 3+00S		<0.1	37	9	67	0.028
S1 POW L13+50E 3+50S		<0.1	34	9	68	0.025
S1 POW L13+50E 4+00S		0.4	43	17	170	0.052
S1 POW L13+50E 4+50S		<0.1	30	10	69	0.024

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Geochemical Lab Report

REPORT: V92-00730.0 (COMPLETE)

DATE PRINTED: 22-JUL-92
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SAMPLE NUMBER	ELEMENT UNITS	Ag PPM	Cu PPM	Pb PPM	Zn PPM	HG PPM
S1 POW L13+50E 5+00S		<0.1	10	3	68	0.010
S1 POW L6+50W BL 0+00		0.1	23	12	76	0.092
S1 POW L6+50W 0+50N		0.3	35	16	69	0.078
S1 POW L6+50W 1+00N		<0.1	12	13	52	0.010
S1 POW L6+50W 1+50N		0.2	22	12	60	0.046
S1 POW L6+50W 2+00N		<0.1	26	12	87	0.053
S1 POW L6+50W 0+50S		<0.1	14	12	68	0.012
S1 POW L6+50W 1+00S		<0.1	14	11	62	0.019
S1 POW L6+50W 1+50S		0.2	33	15	102	0.052
S1 POW L6+50W 2+00S		<0.1	12	12	72	0.017
S1 POW L6+50W 2+50S		<0.1	27	38	106	0.122
S1 POW L6+50W 3+00S		0.4	62	35	128	0.255
S1 POW L6+50W 3+50S		0.2	46	40	169	0.229
S1 POW L6+50W 4+00S		0.3	55	39	165	0.254
S1 POW L6+50W 4+50S		0.2	52	27	158	0.176
S1 POW L6+50W 5+00S		0.2	40	28	125	0.109
S1 POW L6+50W 5+50S		<0.1	14	9	77	0.016
S1 POW L6+50W 6+00S		<0.1	14	12	94	0.011
S1 POW L7+50W BL 0+00		0.2	30	11	87	0.050
S1 POW L7+50W 0+50N		0.1	56	25	90	0.090
S1 POW L7+50W 1+00N		0.2	31	13	80	0.051
S1 POW L7+50W 1+50N		0.2	36	12	90	0.080
S1 POW L7+50W 2+00N		0.2	47	15	127	0.170
S1 POW L7+50W 0+50S		0.1	14	10	62	0.024
S1 POW L7+50W 1+00S		<0.1	47	15	133	0.093
S1 POW L7+50W 1+50S		<0.1	69	12	108	0.070
S1 POW L7+50W 2+00S		0.1	57	32	157	0.377
S1 POW L7+50W 2+50S		0.2	63	24	133	0.201
S1 POW L7+50W 3+00S		0.4	54	22	97	0.127
S1 POW L7+50W 3+12S		0.4	73	164	179	0.871
S1 POW L7+50W 4+00S		0.5	44	90	245	0.386
S1 POW L7+50W 4+50S		0.5	46	199	205	0.864
S1 POW L7+50W 5+00S		0.2	28	13	79	0.067
S1 POW L7+50W 5+50S		0.2	18	15	146	0.013
S1 POW L7+50W 6+00S		0.2	17	11	84	<0.010
S1 POW L8+50W BL 0+00		0.2	29	13	91	0.050
S1 POW L8+50W 0+50N		0.1	38	18	109	0.043
S1 POW L8+50W 1+00N		<0.1	27	13	79	0.036
S1 POW L8+50W 1+50N		0.3	32	16	70	0.042
S1 POW L8+50W 2+00N		0.2	34	26	87	0.071

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Geochemical Lab Report

REPORT: V92-00730.0 (COMPLETE)

DATE PRINTED: 22-JUL-92
PROJECT: CLEAR LAKE PAGE 4

SAMPLE NUMBER	ELEMENT UNITS	Ag PPM	Cu PPM	Pb PPM	Zn PPM	HG PPM
S1 POW L8+50W 0+50S		0.2	35	15	103	0.069
S1 POW L8+50W 1+00S		0.2	56	18	160	0.101
S1 POW L8+50W 1+50S		0.2	23	13	75	0.018
S1 POW L8+50W 2+00S		<0.1	20	12	63	0.020
S1 POW L8+50W 2+50S		0.2	56	16	106	0.098
S1 POW L8+50W 3+00S		0.4	50	23	128	0.198
S1 POW L8+50W 4+00S		0.2	56	29	119	0.135
S1 POW L8+50W 4+50S		0.4	41	78	176	0.475
S1 POW L8+50W 5+00S		0.4	54	62	171	0.372
S1 POW L8+50W 5+50S		0.4	48	105	192	0.704
S1 POW L8+50W 6+00S		0.5	55	26	175	0.206
S1 POW L27+70W 12+00N		0.3	36	14	97	0.051
S1 POW L27+70W 13+50N		<0.1	33	16	74	0.035
S1 POW L27+70W 14+00N		<0.1	49	15	111	0.041
S1 POW L27+70W 14+50N		0.2	56	14	95	0.084
S1 POW L27+70W 15+00N		0.2	44	14	115	0.061
S1 POW L27+70W 15+50N		0.2	42	14	107	0.059
S1 POW L30+00W 13+00N		0.2	26	15	83	0.045
S1 POW L30+00W 13+50N		<0.1	32	13	118	0.050
S1 POW L30+00W 14+00N		0.1	43	50	103	0.060
S1 POW L30+00W 16+00N		0.2	45	14	125	0.067
S1 POW L30+00W 16+50N		0.1	12	11	76	0.010
S1 POW L32+00W 13+00N		0.2	52	16	106	0.049
S1 POW L32+00W 15+00N		0.2	27	17	86	0.035
S1 POW L32+00W 15+50N		0.2	44	14	73	0.056
S1 POW L32+00W 16+00N		0.2	63	16	94	0.074
S1 POW L32+00W 16+50N		0.3	39	15	109	0.046
S1 POW L34+00W 12+00N		0.2	40	14	106	0.063
S1 POW L34+00W 12+50N		0.4	28	7	40	0.032
S1 POW L34+00W 13+00N		0.1	44	14	106	0.055
S1 POW L34+00W 13+50N		0.3	35	12	77	0.107
S1 POW L34+00W 14+00N		<0.1	42	13	112	0.044
S1 POW L34+00W 15+50N		0.1	46	14	106	0.046
S1 POW L34+00W 16+00N		0.2	35	12	82	0.020
S1 POW L34+00W 16+50N		0.2	43	12	102	0.086

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Geochemical Lab Report

REPORT: V92-00746.0 (COMPLETE)

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PROJECT: CLEAR LK PAGE 1

SAMPLE NUMBER	ELEMENT UNITS	Ag PPM	Cu PPM	Pb PPM	Zn PPM	Hg PPM
S1 PIN L1+00N BL 0+00		0.5	48	16	90	0.110
S1 PIN L1+00N 0+50E		0.5	34	19	73	0.139
S1 PIN L1+00N 1+00E		0.3	70	12	74	0.106
S1 PIN L1+00N 1+50E		0.2	26	13	59	0.035
S1 PIN L1+00N 0+50W		0.4	33	9	64	0.101
S1 PIN L1+00N 1+00W		0.3	22	10	74	0.076
S1 PIN L1+00N 1+50W		0.3	25	13	83	0.076
S1 PIN L1+00N 2+00W		<0.2	24	11	72	0.073
S1 PIN L1+00N 2+50W		0.2	25	12	79	0.076
S1 PIN L1+00N 3+00W		0.2	23	12	64	0.071
S1 PIN L1+00N 3+50W		0.7	58	11	81	0.127
S1 PIN L1+00N 4+00W		0.5	33	34	82	0.385
S1 PIN L1+00N 4+50W		0.3	28	13	93	0.059
S1 PIN L2+00N BL 0+00		<0.2	23	13	76	0.083
S1 PIN L2+00N 0+50W		0.3	37	16	134	0.097
S1 PIN L2+00N 1+00W		0.4	60	12	79	0.124
S1 PIN L2+00N 1+50W		0.2	23	12	87	0.073
S1 PIN L2+00N 2+00W		0.5	67	15	77	0.110
S1 PIN L2+00N 2+50W		<0.2	23	10	61	0.047
S1 PIN L2+00N 3+00W		0.7	31	10	72	0.090
S1 PIN L2+00N TL3+50W		0.7	51	23	83	0.157
S1 POW L3+50W 1+50S		0.5	32	34	94	0.064
S1 POW L3+50W 2+00S		2.3	76	535	185	4.487
S1 POW L3+50W 2+50S		0.5	33	13	83	0.081
S1 POW L3+50W 3+00S		0.4	31	11	86	0.076
S1 POW L3+50W 3+50S		0.5	42	51	150	0.170
S1 POW L3+50W 4+00S		0.6	51	20	168	0.126
S1 POW L3+50W 4+50S		0.4	26	11	88	0.073
S1 POW L3+50W 5+00S		0.7	53	55	198	0.244
S1 POW L3+50W 5+50S		0.4	50	58	147	0.129
S1 POW L3+50W 6+00S		0.8	71	52	148	0.220
S1 POW L3+50W 6+50S		0.6	47	14	94	0.099
S1 POW L3+50W 7+00S		0.4	48	9	75	0.140
S1 PIN L9+50W BL 0+00		0.4	29	9	77	0.084
S1 PIN L9+50W 0+50N		0.4	49	11	76	0.132
S1 PIN L9+50W 0+50S		0.5	49	13	143	0.156
S1 POW L9+50W 1+00S		0.7	58	21	201	0.217
S1 POW L10+50W BL 0+00		0.5	37	11	69	0.102
S1 POW L10+50W 0+50N		0.4	46	13	76	0.083
S1 POW L10+50W 0+50S		0.5	55	13	352	0.066

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Geochemical Lab Report

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REPORT: V92-00787.0 (COMPLETE)

PROJECT: CLEAR LAKE PAGE 1

SAMPLE NUMBER	ELEMENT UNITS	Ag PPM	Cu PPM	Pb PPM	Zn PPM	Hg PPM	Ba* PPM
S1 POW P-L7+50W 5+25S		0.8	59	252	167	1.796	
S1 POW 8P-L11+50E 7+75S		0.3	30	14	90	0.101	
S1 POW P-L13+50E 6+25S		0.5	32	14	174	0.116	
R2 4351		<0.2	3	24	22	0.025	240
R2 POW 8P-L11+50E 7+75S		0.4	30	9	76	0.042	1400
R2 POW P-L13+50E 4+75S		0.3	37	16	271	0.118	2200
R2 POW P-L13+50E 5+25S		1.1	58	39	357	0.176	1900
R2 POW P-L13+50E 5+75S		0.6	43	15	168	0.127	1600
R2 POW P-L13+50E 6+75S		0.6	49	18	226	0.088	3700

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Geochemical Lab Report

REPORT: V92-00835.0 (COMPLETE)

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PROJECT: CLEAR LAKE PAGE 1

SAMPLE NUMBER	ELEMENT UNITS	Ag PPM	Cu PPM	Pb PPM	Zn PPM	Hg PPM
S1 POW TRL6+50W 4+60S		0.5	63	44	186	0.315
S1 POW TRL6+50W 4+65S		0.3	60	34	166	0.271
S1 POW TRAL6+50W 4+70S		0.5	57	86	392	0.547
S1 POW TRBL6+50W 4+70S		0.3	60	10	129	0.112
S1 POW TRAL6+50W 4+75S		0.5	55	79	192	0.670
S1 POW TRBL6+50W 4+75S		0.6	49	87	319	0.586
S1 POW TRL6+50W 4+80S		0.5	57	64	169	0.595
S1 POW TRL6+50W 4+85S		0.4	53	24	150	0.193
S1 POW TRL6+50W 4+90S		0.4	55	51	205	0.399
S1 POW TRL7+50W 2+70S		0.3	52	31	153	0.259
S1 POW TRL7+50W 2+75S		0.4	55	20	109	0.154
S1 POW TRL7+50W 2+77S		0.9	59	14	104	1.061
S1 POW TRAL7+50W 2+80S		0.3	52	17	120	0.159
S1 POW TRBL7+50W 2+80S		0.3	55	10	107	0.112
S1 POW TRL7+50W 2+85S		0.3	59	13	110	0.123
S1 POW TRL7+50W 2+90S		0.4	53	18	99	0.135
S1 POW TRL7+50W 4+85S		0.3	41	111	263	0.748
S1 POW TRL7+50W 4+90S		0.7	54	97	282	0.706
S1 POW TRAL7+50W 4+95S		1.1	51	416	203	3.193
S1 POW TRBL7+50W 4+95S		0.3	37	118	146	0.793
S1 POW TRL7+50W 5+00S		0.9	63	364	211	2.435
S1 POW TRL7+50W 5+05S		0.4	45	29	151	0.224
S1 POW BPL7+50W 5+25S		0.9	45	516	150	3.732
S1 POW TRL8+50W 11+37S		0.3	17	16	136	0.055
R2 4352		0.7	81	16	79	0.040
R2 4353		1.5	8	150	5	0.053
R2 4354		0.6	23	21	1303	0.045
R2 4355		<0.2	9	14	296	0.023
R2 4356		<0.2	13	13	502	0.022
R2 4357		<0.2	1	3	156	<0.010
R2 4358		<0.2	2	6	31	0.058

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Geochemical Lab Report

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PROJECT: CLEAR LAKE

SAMPLE NUMBER	ELEMENT UNITS	Ag PPM	Cu PPM	Pb PPM	Zn PPM	Hg PPM
S1 L14+50W 0+00		0.4	54	20	87	0.106
S1 L14+50W 0+50S		<0.2	70	19	125	0.099
S1 L14+50W 1+00S		0.2	68	18	133	0.107
S1 L14+50W 1+50S		0.2	67	17	131	0.105
S1 L14+50W 2+00S		0.2	71	19	127	0.141
S1 L14+50W 2+50S		<0.2	78	21	104	0.110
S1 L14+50W 3+00S		0.2	50	17	128	0.021
S1 L14+50W 3+50S		<0.2	56	16	87	0.021
S1 L19+50W 0+00N		<0.2	65	20	94	0.104
S1 L19+50W 0+50N		<0.2	57	19	95	0.044
S1 L19+50W 1+00N		<0.2	64	18	105	0.114
S1 L19+50W 1+50N		0.2	66	19	109	0.084
S1 L19+50W 2+00N		0.3	33	18	101	0.050
S1 L19+50W 0+50S		0.2	68	16	100	0.086
S1 L19+50W 1+00S		0.2	40	15	91	0.062
S1 L19+50W 1+50S		0.6	67	33	124	0.237
S1 L19+50W 2+00S		<0.2	46	17	81	0.059
S1 L19+50W 2+50S		0.2	55	22	112	0.057
S1 L19+50W 3+00S		0.3	49	17	103	0.068
S1 L19+50W 3+50S		<0.2	36	18	70	0.011
S1 L19+50W 4+00S		0.4	85	18	76	0.128
S1 L19+50W 4+50S		<0.2	50	18	116	0.068
S1 123001		<0.2	16	8	63	<0.010
S1 123002		<0.2	31	12	64	0.021
S1 123003		<0.2	56	19	132	0.085
S1 123004		0.4	51	18	132	0.096
S1 123005		0.4	57	21	140	0.086
S1 123006		0.3	57	20	122	0.072
S1 123007		0.2	42	18	95	0.050
S1 123008		0.3	56	19	126	0.063
S1 123009		<0.2	17	8	72	0.045
S1 123010		0.2	56	17	86	0.070
S1 123011		<0.2	78	50	107	0.093
S1 123012		<0.2	28	16	62	0.027
S1 123013		<0.2	16	5	79	0.056
S1 123014		<0.2	17	7	88	0.055
S1 123015		<0.2	18	11	56	0.024
S1 123016		<0.2	17	15	51	0.017
S1 123017		0.3	48	15	100	0.077
S1 123018		<0.2	50	15	126	0.067

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Geochemical Lab Report

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PROJECT: CLEAR LAKE

SAMPLE NUMBER	ELEMENT UNITS	Ag PPM	Cu PPM	Pb PPM	Zn PPM	Hg PPM
S1 123019		0.3	51	18	88	0.074
S1 123020		0.3	81	33	128	0.077
S1 123021		<0.2	40	12	73	0.026
S1 123022		<0.2	53	15	66	0.069
S1 123023		<0.2	52	19	124	0.067
S1 123024		0.2	40	15	91	0.052
S1 123025		0.3	39	17	123	0.050
S1 123026		0.2	55	18	114	0.075
S1 123027		<0.2	40	11	64	0.021
S1 123028		<0.2	70	17	104	0.096
S1 123029		<0.2	47	17	91	0.063
S1 123030		<0.2	54	16	110	0.064
S1 123031		<0.2	50	18	95	0.054
S1 123032		0.3	50	16	103	0.077
S1 123033		0.2	56	22	109	0.071
S1 123034		<0.2	46	15	75	0.016
S1 123035		<0.2	52	21	86	0.041
S1 123036		<0.2	51	20	104	0.073
S1 123037		<0.2	72	21	101	0.105
S1 123038		<0.2	16	7	45	0.013
S1 123039		0.2	58	22	122	0.080
S1 210001		<0.2	30	10	58	0.024
S1 210002		<0.2	42	16	96	0.052
S1 210003		<0.2	49	20	134	0.062
S1 210004		0.3	57	21	137	0.072
S1 210005		<0.2	34	15	59	0.010
S1 210006		<0.2	36	16	61	0.060
S1 210007		<0.2	15	10	51	0.010
S1 210008		<0.2	14	13	50	0.011
S1 210009		<0.2	21	14	65	0.011
S1 210010		0.5	54	20	104	0.029
S1 210011		<0.2	27	14	91	0.056
S1 210012		<0.2	46	16	106	0.065
S1 210013		<0.2	46	21	87	0.023
S1 210014		<0.2	20	9	62	0.017
S1 210015		<0.2	34	15	66	0.029
S1 210016		<0.2	38	21	82	0.010
S1 210017		0.2	54	14	97	0.073
S1 210018		<0.2	15	7	66	0.011
S1 210019		<0.2	36	13	66	0.015

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Geochemical Lab Report

REPORT: V92-01055.0 (COMPLETE)

DATE PRINTED: 10-SEP-92

PROJECT: CLEAR LAKE

SAMPLE NUMBER	ELEMENT UNITS	Ag PPM	Cu PPM	Pb PPM	Zn PPM	Hg PPM
S1 210020		<0.2	53	15	79	0.073
S1 210021		<0.2	50	17	143	0.072
S1 223022		<0.2	25	13	77	<0.010
S1 223023		0.2	58	63	143	0.062
S1 223024		0.2	47	16	82	0.063
S1 223025		<0.2	45	17	88	0.056
S1 223026		<0.2	36	14	98	0.055
S1 223027		0.5	62	15	180	0.037
S1 223028		0.3	56	25	97	0.056
S1 223029		<0.2	40	15	77	0.049
S1 223030		<0.2	25	8	75	0.028
S1 223031		<0.2	22	9	73	0.017
S1 223032		0.4	55	17	98	0.105
S1 223033		0.4	54	17	134	0.105
S1 223034		<0.2	40	15	65	0.060
S1 223035		0.3	34	13	84	0.054
S1 223036		0.3	51	17	116	0.044
S1 223037		<0.2	41	14	68	0.022
S1 223038		0.3	38	14	131	0.062
S1 223039		0.3	69	20	93	0.142
S1 223040		0.3	72	14	94	0.111
S1 223041		0.3	60	18	136	0.085
S1 223042		0.2	54	18	125	0.100
S1 223043		0.2	19	5	62	0.047
S1 223044		0.4	65	23	127	0.100
S1 223045		0.3	54	16	104	0.083
S1 223046		0.2	24	11	92	0.065
S1 223047		0.2	38	16	108	0.082
S1 223048		0.2	32	10	87	0.069
S1 523001		<0.2	14	6	81	0.055
S1 523002		0.2	35	13	99	0.077
S1 523003		0.3	44	12	79	0.090
S1 523004		0.3	26	7	83	0.152
S1 523005		<0.2	22	9	74	0.058
S1 523006		0.3	42	11	100	0.079
S1 523007		0.2	36	10	94	0.062
S1 523008		<0.2	30	9	78	0.019
S1 523009		<0.2	12	4	49	0.033
S1 523010		0.4	64	20	93	0.099
S1 523011		<0.2	25	14	80	0.038

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DATE PRINTED: 10-SEP-92

REPORT: V92-01055.0 (COMPLETE)

PROJECT: CLEAR LAKE PAGE 4

SAMPLE NUMBER	ELEMENT UNITS	Ag PPM	Cu PPM	Pb PPM	Zn PPM	Hg PPM
S1 523012		<0.2	14	3	58	0.030
S1 523013		0.4	53	19	139	0.078
S1 523014		<0.2	15	4	64	0.015
S1 523015		<0.2	14	16	101	0.019
S1 523016		<0.2	6	4	188	0.069
S1 523017		<0.2	31	6	72	0.041
S1 523018		<0.2	45	3	73	0.067
S1 523019		<0.2	86	6	72	0.056
S1 523020		0.4	50	22	142	0.061
S1 523021		0.3	47	15	91	0.085
S1 523022		<0.2	15	9	59	0.036
S1 523023		<0.2	11	4	76	0.049
S1 523024		<0.2	14	6	50	0.019
S1 523025		<0.2	37	18	85	0.034
S1 523026		0.3	56	21	139	0.085
S1 523027		0.4	57	19	148	0.079
S1 523028		0.4	50	15	131	0.070
S1 523029		0.4	53	16	119	0.075
S1 523030		0.4	40	13	111	0.062
S1 523031		0.2	13	6	155	0.082
S1 523032		<0.2	9	5	126	0.046
S1 523033		<0.2	9	3	91	0.064
S1 523034		<0.2	10	5	161	0.065
S1 523035		<0.2	14	4	65	0.055
S1 523036		<0.2	15	4	106	0.040
S1 523037		<0.2	13	6	131	0.069

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Geochemical Lab Report

REPORT: V92-01061.0 (COMPLETE)

DATE PRINTED: 11-SEP-92
PROJECT: CLEAR LAKE PAGE 1

SAMPLE NUMBER	ELEMENT UNITS	Ag PPM	Cu PPM	Pb PPM	Zn PPM	Hg PPM	Ba* PPM
S1 L12E 0+00		<0.2	22	11	138	0.015	1300
S1 L12E 0+50N		<0.2	35	18	85	0.034	1400
S1 L12E 1+00N		<0.2	9	10	74	<0.010	1200
S1 L12E 1+50N		<0.2	12	9	109	<0.010	1200
S1 L12E 2+00N		<0.2	12	10	84	<0.010	1300
S1 L12E 0+50S		<0.2	25	12	76	0.013	1300
S1 L12E 1+00S		0.3	24	11	69	0.015	1700
S1 L12E 1+50S		<0.2	16	12	79	0.021	1400
S1 L21+50W 0+00		<0.2	17	9	54	0.049	1500
S1 L21+50W 0+50N		<0.2	37	20	80	0.094	1200
S1 L21+50W 2+00N		<0.2	30	11	66	0.067	1200
S1 L21+50W 0+50S		<0.2	34	13	70	0.077	1200
S1 L21+50W 2+25S		<0.2	23	11	72	0.016	1400
S1 L21+50W 2+50S		<0.2	6	9	70	0.011	1100
S1 L21+50W 3+00S		<0.2	15	17	51	0.054	1100
S1 L21+50W 3+50S		<0.2	11	13	72	0.011	1000
S1 L21+50W 4+00S		<0.2	67	10	72	0.115	1200
S1 L21+50W 4+50S		<0.2	45	15	71	0.079	1300
S1 L23+50W 0+00		<0.2	50	14	118	0.123	1400
S1 L23+50W 0+50S		<0.2	32	14	103	0.069	1800
S1 L23+50W 1+00S		<0.2	47	12	77	0.100	1200
S1 L23+50W 1+50S		<0.2	12	12	56	<0.010	1100
S1 L23+50W 2+25S		<0.2	52	16	127	0.107	2100
S1 L23+50W 3+00S		<0.2	29	15	94	0.054	1800
S1 L23+50W 3+50S		<0.2	53	20	84	0.076	1400
S1 L23+50W 5+00S		<0.2	36	12	102	0.097	1500
S1 L25+50W 0+00		<0.2	58	35	116	0.108	8100
S1 L25+50W 0+50N		<0.2	35	16	77	0.056	1700
S1 L25+50W 1+00N		<0.2	17	11	54	0.037	1400
S1 L25+50W 1+50N		<0.2	31	12	68	0.064	1200
S1 L25+50W 2+00N		<0.2	45	16	81	0.084	1200
S1 L25+50W 0+50S		<0.2	40	10	88	0.081	1100
S1 L25+50W 1+00S		<0.2	36	9	90	0.074	1000
S1 L25+50W 1+50S		<0.2	39	16	124	0.108	1300
S1 L25+50W 2+00S		<0.2	28	11	77	0.077	1500
S1 L25+50W 2+50S		<0.2	34	19	161	0.070	1300
S1 L27+70W 0+00		<0.2	22	18	140	0.016	1700
S1 L27+70W 0+50N		<0.2	36	10	59	0.075	1200
S1 L27+70W 1+00N		<0.2	19	13	75	0.015	1100
S1 L27+70W 1+50N		<0.2	29	10	79	0.067	1100

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Geochemical Lab Report

REPORT: V92-01061.0 (COMPLETE)

DATE PRINTED: 11-SEP-92
PROJECT: CLEAR LAKE PAGE 2

SAMPLE NUMBER	ELEMENT UNITS	Ag PPM	Cu PPM	Pb PPM	Zn PPM	Hg PPM	Ba* PPM
S1 L27+70W 2+00N		<0.2	35	18	103	0.068	1300
S1 L27+70W 0+50S		<0.2	38	12	80	0.060	1400
S1 L27+70W 1+00S		<0.2	19	9	66	0.040	1800
S1 L27+70W 1+50S		<0.2	43	13	122	0.093	1300
S1 L27+70W 2+00S		<0.2	42	12	112	0.100	1500
S1 L27+70W 2+50S		<0.2	42	14	110	0.101	1400
S1 L27+70W 3+00S		<0.2	48	15	136	0.095	1400
S1 L27+70W 3+50S		<0.2	16	11	56	0.013	1400
S1 L27+70W 4+00S		<0.2	32	14	92	0.060	1100
S1 L27+70W 5+00S		<0.2	16	14	51	<0.010	1400
S1 1280W 10S		<0.2	53	17	135	0.141	2200
S1 1280W 70S		<0.2	21	9	45	0.056	1400
S1 1280W 100S		<0.2	46	12	122	0.102	1800
S1 1280W 160S		0.3	34	5	49	0.081	1400
S1 1280W 200S		<0.2	46	14	103	0.106	2100
S1 1280W 250S		<0.2	57	17	141	0.173	2700
S1 1280W 300S		<0.2	59	15	88	0.136	1300
S1 1280W 350S		<0.2	46	14	110	0.165	2200
S1 1280W 400S		<0.2	60	17	121	0.172	1900
S1 1280W 450S		<0.2	59	15	113	0.194	1800
S1 1280W 500S		<0.2	24	16	69	0.024	1500
S1 1280W 550W		<0.2	42	17	82	0.054	1400
S1 1280W 600W		<0.2	45	17	91	0.083	1400

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Geochemical Lab Report

REPORT: V92-01087.0 (COMPLETE)

DATE PRINTED: 11-SEP-92

PROJECT: CLEAR LAKE

SAMPLE NUMBER	ELEMENT UNITS	Au PPB	Ag PPM	Cu PPM	Pb PPM	Zn PPM	Hg PPM	Ba* PPM
R2 3217			<0.2	13	7	45	<0.010	80
R2 3218			<0.2	6	6	63	<0.010	90
R2 3219			<0.2	4	6	22	<0.010	410
R2 3220		8	<0.2	14	24	10	0.012	5100
R2 3221		<5	1.1	53	63	8	0.056	3700
R2 3222			<0.2	8	14	22	<0.010	380
R2 3223			<0.2	4	9	51	<0.010	260
R2 3224		<5	<0.2	13	31	50	<0.010	5300
R2 3225			<0.2	<1	179	32	0.014	>20000
R2 3226			<0.2	3	11	39	<0.010	970
R2 3227		<5	<0.2	7	201	71	<0.010	>20000
R2 3228		<5	<0.2	7	18	11	<0.010	12900
R2 3229		<5	0.5	25	36	10	0.049	9100
R2 3230		<5	0.3	34	29	80	0.027	1500
R2 3231		52	<0.2	2	8	12	<0.010	830
R2 3232			<0.2	6	10	9	<0.010	720
R2 3233			<0.2	6	16	35	<0.010	5000
R2 3234		<5	<0.2	4	7	10	<0.010	9400
R2 3235		<5	0.3	90	33	565	0.056	6000
R2 3236			<0.2	26	34	16	0.013	2100
R2 3237		<5	<0.2	50	10	12	<0.010	2700
R2 3238			<0.2	36	23	459	0.039	3400
R2 4359			<0.2	7	9	284	0.222	
R2 4360			0.4	12	8	6668	0.381	
R2 4361			<0.2	10	5	299	0.046	
R2 4362			<0.2	3	23	36	<0.010	4400
R2 4363			<0.2	6	63	206	0.033	
R2 4364			<0.2	7	9	15	<0.010	
R2 4365			<0.2	31	34	91	<0.010	2500
R2 4366			<0.2	4	11	26	<0.010	790

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Certificate of Analysis

REPORT: V92-00152.4 (COMPLETE)

DATE PRINTED: 28-FEB-92
PROJECT: NONE GIVEN

SAMPLE NUMBER	ELEMENT UNITS Hg PCT	SAMPLE NUMBER	ELEMENT UNITS Hg PCT
R2 6223	0.0166	P4 E6134	0.0092
R2 6225	0.0162	P4 E6139	0.0058
R2 6266	0.0026	P4 E6176	0.0035
R2 6271	0.0058	P4 E6178	0.0027
R2 6308	0.0070	P4 E6181	0.0038
R2 6355	0.0088	P4 E6221	0.0054
R2 6358	0.0125	P4 E6258	0.0044
R2 6468	0.0012	P4 E6275	0.0030
R2 6471	0.0097	P4 E6310	0.0015
R2 6473	0.0089	P4 E6312	0.0034
R2 6480	0.0038	P4 E6336	0.0033
R2 6488	0.0070	P4 E6337	0.0018
R2 6489	0.0066	P4 E6338	0.0032
R2 6664	0.0046	P4 E6340	0.0027
R2 6665	0.0006	P4 E6342	0.0025
R2 6666	0.0011	P4 E6344	0.0042
R2 6667	0.0018	P4 E6352	0.0032
P4 E6009	0.0032	P4 E6371	0.0029
P4 E6010	0.0006	P4 E6374	0.0021
P4 E6011	0.0043	P4 E6377	0.0019
P4 E6012	0.0025	P4 E6382	0.0035
P4 E6022	0.0052	P4 E6394	0.0055
P4 E6023	0.0055	P4 E6395	0.0048
P4 E6024	0.0036	P4 E6436	0.0031
P4 E6039	0.0046	P4 E6438	0.0024
P4 E6040	0.0047	P4 E6440	0.0044
P4 E6041	0.0062	P4 E6461	0.0032
P4 E6065	0.0086	P4 E6468	0.0010
P4 E6066	0.0009	P4 E6501	0.0048
P4 E6067	0.0073	P4 E6504	0.0060
P4 E6102	0.0074	P4 E6507	0.0045
P4 E6103	0.0077	P4 E6510	0.0042
P4 E6104	0.0085	P4 E6513	0.0041
P4 E6114	0.0054	P4 E6525	0.0043
P4 E6115	0.0051	P4 E6526	0.0016
P4 E6116	0.0040	P4 E6561	0.0057
P4 E6117	0.0101	P4 E6563	0.0045
P4 E6120	0.0050	P4 E6565	0.0045
P4 E6121	0.0043		
P4 E6131	0.0034		

Northern Analytical Laboratories ltd.

09-Sep-92 date

Assay Certificate

Total Energold

WO#13737

Sample #	Ag ppm	Pb ppm	Zn ppm
1551	278.4	781	>10000
1552	59.4	396	1550
1553	9.1	343	>10000
1554	14.6	1021	2010
1555	28.5	258	5310
1556	21.4	1577	560
1557	16.3	2850	>10000
1558	25.1	1159	3160
1559	1.5	2060	5130
1560	6.1	644	8310
1561	13.0	427	3600
1562	4.5	554	6030
1563	10.8	653	8240
1564	9.6	750	>10000
1565	6.3	649	4630
1566	5.9	582	1920
1567	4.8	987	>10000
1568	7.4	713	>10000
1569	4.6	572	>10000
1570	2.8	468	>10000
1571	4.0	835	1690
1572	11.1	3820	>10000
1573	6.5	785	6060
1574	1.2	679	>10000
1575	0.4	67	>10000

Certified by

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Northern Analytical Laboratories ltd.

09-Sep-92 date

Assay Certificate

Total Energold

WO#13737

Sample #	Zn %
1551	1.66
1553	1.12
1557	3.59
1564	1.25
1567	1.05
1568	2.21
1569	1.06
1570	1.81
1572	6.88
1574	7.36
1575	1.11

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APPENDIX E

Diamond Drill Logs (in binder)

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CLEAR LAKE PROJECT 1992
Acid Tests

HOLE	FOOTAGE	METERAGE	ANGLE
92-67	200	60.96	-50.0°**
92-67	400	121.92	-49.0°**
92-67	600	182.82	-53.0°*
92-67	800	243.84	-47.5°*
92-67	928	282.85	-53.0°***
92-68	206	62.79	-53.8°**
92-68	400	121.92	-51.5°**
92-68	600	182.88	-53.0°***
92-68	806	245.67	-51.3°***
92-68	986(EOH)	300.5	-51.3°**
92-69	207	63.09	-50.8°**
92-69	400	121.92	-49.5°***
92-69	606	184.71	-48.3°**
92-69	806(BQ)	245.67	--- *
92-69	976(BQ)	297.48	-47.0°**
92-70	200	60.96	-48.0°***
92-70	400	121.92	-48.8°***
92-70	600	182.88	-49.5°**
92-71	206	62.79	-49.0°***
92-71	396	120.70	-48.8°**
92-71	600	182.88	-47.0°**
92-71	806	245.67	-48.9°**
92-72	206	62.79	-50.7°***
92-72	400	121.92	-49.6°**
92-72	606	184.71	-46.5°***
92-72	806	245.67	-45.6°*
92-72	1000	304.80	-47.0°***
92-72	1214	370.03	-40.6°**
92-73	206	62.79	-58.0°**
92-73	400	121.92	-61.0°**
92-73	600	182.88	-56.1°**
92-73	817	249.02	-55.2°**
92-73	1007	306.93	-60.0°*
92-73	1207	367.89	-52.6°**
92-74	207	63.09	-57.5°***
92-74	407	124.05	-56.2°***
92-74	607	185.01	-52.1°***
92-74	807	245.97	-49.7°***
92-74	1007	306.93	-48.0°***
92-74	1200	365.76	-48.7°**

093060

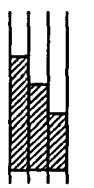
92-75	206	62.79	-47.0°***
92-75	407	124.05	-47.7°***
92-75	606	184.71	-48.5°***
92-75	806	245.67	-45.0°***
92-75	996	303.58	-44.5°***
92-75	1196	364.54	-45.0°***
92-76	256	78.03	-45.0°**
92-76	406	123.75	-44.8°***
92-76	596	181.66	-43.4°***
92-76	846	257.86	-42.6°***

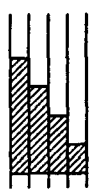
Note: *** = Good Acid Etch; straight,continuous, easily seen.
** = Acceptable Acid Etch; slightly curved, faint but clear.
* = Poor Acid Etch; curved faint or discontinuous, unreliable.
All core NQ size except where noted.

TOTAL ENERGOLD CORPORATION

DRILL LOG

PROJECT CLEAR LAKE	**GROUND ELEV.** 661.30 m
HOLE No. 92-67	**BEARING** 25.0°
LOCATION 4+00N, POW L21+50W 6282840 N 900544 E	**DIP** -50°
	TOTAL LENGTH 282.9 m
LOGGED BY MINORU MACHIDA	**HORIZONTAL PROJECT**
DATE 21 June, 92'	**VERTICAL PROJECT**
CONTRACTOR	**ALTERATION SCALE**
CORE SIZE NQ	
DATE STARTED	
DATE COMPLETED	**TOTAL SULPHIDE SCALE**
DIP TESTS 60.96m -50.00° 121.92m -49.00° 182.82m -53.00° 243.84m -47.50° 282.85m -53.00°	





DRILL CALCULATIONS/HOLE SUMMARY

PURPOSE to test IP and Gravity anomaly and to intersect the north west extension of Clear Lake deposite

REASON FOR SHUT DOWN Failed to intersect expected mineralization.

PERTINENT GEOLOGY

0 - 20.0m OVERBURDEN
20.0 - 23.1m C2b ARGILLITE
23.1 - 25.15m C2a ARGILLITE
25.15 - 26.00m C2c ARGILLITE
26.00 - 30.60m C2a-2b ARGILLITE
30.60 - 34.70m C2b-2c ARGILLITE
34.70 - 42.10m K3 MONZONITE
42.10 - 53.60m C2b ARGILLITE
53.60 - 55.65m C2a ARGILLITE
55.65 - 58.60m C2b ARGILLITE
58.60 - 63.60m C2a ARGILLITE
63.60 - 67.10m C2b ARGILLITE
67.10 - 68.60m C2a ARGILLITE
68.60 - 79.20m C2b ARGILLITE
79.20 - 80.10m C2a ARGILLITE
80.10 - 107.20m C2b ARGILLITE
107.20 - 111.60m C2c ARGILLITE
111.60 - 121.00m C2b ARGILLITE
121.00 - 123.40m KTf FELSITE
123.40 - 130.70m C2b ARGILLITE
130.70 - 136.40m C2c ARGILLITE
136.40 - 137.40m C2b ARGILLITE
137.40 - 149.50m C2c ARGILLITE
149.50 - 158.80m KTf FELSITE
158.80 - 159.50m C2b ARGILLITE
159.50 - 165.50m C2c ARGILLITE
165.50 - 189.60m C2b ARGILLITE
189.60 - 201.50m C2a-2b ARGILLITE
201.50 - 202.70m C2b ARGILLITE
202.70 - 204.30m C2a ARGILLITE
204.30 - 208.20m C2b ARGILLITE
208.20 - 221.30m C2c ARGILLITE
221.30 - 231.30m C2b ARGILLITE
231.30 - 234.50m C2c ARGILLITE
234.50 - 239.60m C2b ARGILLITE
239.60 - 240.80m Qtz vein
240.80 - 244.70m C2b-2c ARGILLITE
244.70 - 249.20m C2e CALCAREOUS ARGILLITE
249.20 - 253.00m C1b CALCAREOUS SANDSTONE
253.00 - 253.90m C2e CALCAREOUS ARGILLITE
253.90 - 255.90m C2e BRECCIATED CALCAREOUS ARGILLITE
255.90 - 268.30m C2e CALCAREOUS ARGILLITE
268.30 - 278.20m C2a ARGILLITE
278.20 - 282.90m C2d SILICIFIED ARGILLITE

E.O.H.

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION Si A	ALTERATION Ca B	ALTERATION G C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
0				0 - 20.0 m OVERBURDEN													
1																	
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	
11																	
12																	
13																	
14																	
15																	

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION Si A	ALTERATION Ca B	ALTERATION G C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
15		O		OVERBURDEN													
16		O															
		O															
17		O															
		O															
18		O															
		O															
19		O															
		O															
20				20.0 - 23.1 C2b ARGILLITE													
21		C2b	40	Black, fine grain, relatively massive													
				argillite with minor silt laminae													
22				Silt laminae are 2mm - 5mm wide.													
23			23.1						23.00m: fine grain pyrite patch								
				23.1 - 25.15 C2a ARGILLITE					1.5cm in diameter.								
24		C2a	50	Black, fine grain, massive argillite													
				with few silt or fng S.S laminae.													
25																	
		C2c	25.15 50	25.15 - 26.0 C2c ARGILLITE													
26			26.0	Black - dark gray, silt or fng sand bonded													
			35	argillite. Silt or fng sand bands are													
27		C2a ~2b		1mm - 10mm wide													
				25.8m: Local Qtz injection.													
28				26.0 - 30.6 C2a-2b ARGILLITE													
29			45	Black, relatively massive argillite with													
				minor silt bands.													
30																	

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE		GEOLOGICAL DESCRIPTION	ALTERATION Si A	ALTERATION Ca B	ALTERATION G C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
30																		
31			30.6 /40	30.6 – 34.7	C2b-2C ARGILLITE Black-gray, fine grain argillite with major silt or fng sand bands. Silt or fng sand bands are 2mm – 15mm wide.													
32		C2b ~2C	/55							32.5m: Pyrite patch 1.5cm in diameter in Sand band								
33			/45															
34																		
35			/40 38.7	34.7 – 42.1	K3 MONZONITE Greenish light gray – greenish brown, massive, fng – mdg monzonite with minor hematite. Mafic minerals altered to chlorite or epidote. Localy Qtz injection vein 2mm – 5mm in width. Fng chilled margin along the wall rock.					33.5m: Pyrite bleb in fng Sand band								
36																		
37																		
38		K3																
39																		
40																		
41																		
42			/40 42.1	42.1 – 53.6	C2b ARGILLITE Black – dark gray, fng argillite with silt or fng Sand bands. Silt or fng sand bands are 2mm – 7mm wide.													
43			/30															
44		C2b																
45																		

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION Si A	ALTERATION Ca B	ALTERATION G C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
45		C2b	40	48.6 - 49.2m, 50.8 - 53.0m : Shear Zone Strongly brecciated argillite and Qtz injection with some gauge. Graphite is heavy on shear plane.													
46																	
47			45														
48																	
49			45														
50		C2b	35														
51																	
52																	
53			53.6	53.6 - 55.65 C2a ARGILLITE Black, massive, fng argillite with few silt bond.													
54		C2a															
55																	
56		C2b	55.65 50	55.65 - 58.6 C2b ARGILLITE Black, massive fng argillite with minor silt or fng sand band (max 10mm in width)													
57																	
58			50														
59		C2a	58.6	58.6 - 63.6 C2a ARGILLITE Black, relatively massive, fng argillite.													
60																	

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION Si A	ALTERATION Ca B	ALTERATION G C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
60				60.8 m: Qtz injection vein 2cm in width													
61			60	62.6 - 62.75 m: Qtz injection													
		C2a															
62				61.0 - 63.6 m: Section is graphitic													
			30														
63			45														
			63.6	63.6 - 67.1 C2b ARGILLITE													
64				Black, fng argillite with minor silt bands (max 10mm in width)													
65			45	Section is graphitic.													
		C2b		64.6 - 64.9 m: Qtz injection is at 20° to C.A.													
66			15														
67			67.1	67.1 - 68.6 C2a ARGILLITE													
		C2a		Black, relatively massive, fng argillite													
68				67.1 - 67.3 m: Section is relatively graphitic													
			68.6														
69			50														
70			50	68.6 - 79.2 C2b ARGILLITE													
				Black, fng argillite with silt or fng sand bands. Silt or fng sand bands are 1mm - 10mm wide.													
71																	
		C2b															
72				71.8 - 72.5 m: Section is relatively fng sand rich. Qtz injection													
73			50						73.55 m: Pyrite bleb 5mm in diameter in Qtz injection vein								
74				73.1 - 73.6 m: Qtz injection													
75																	

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
75			50														
76																	
77		C2b	30														
78																	
79			30														
79				79.2 – 80.1 C2a ARGILLITE													
			79.2	Black, massive, fng argillite													
80		C2a															
			80.1	80.1 – 107.2 C2b ARGILLITE													
81			35	Black, fng argillite with fng sand or silt bands. fng sand or silt bands													
82				are 1mm – 20mm wide.													
			45														
83																	
84		C2b															
			60														
85									85.5m: Pyrite patch 1.5cm in diameter in fng sand band.								
86																	
87			40														
88																	
89			10														
90																	

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION Si A	ALTERATION Ca B	ALTERATION G C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
90				88.7 - 96.5 m: Shear Zone Strongly brecciated argillite and Qtz injection vein with some black gauge. Brecciated zone containing fragments of argillite, fng sand stone and Qtz injection. Graphite is heavy in the section.													
91																	
92																	
93																	
94																	
95																	
96																	
97		C2b	20	97.6 - 97.8 m: Section containing fng sand stone and Qtz injection													
98			40														
99																	
100			30														
101																	
102			40														
103																	
104			40														
105																	

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE		GEOLOGICAL DESCRIPTION	ALTERATION Si A	ALTERATION Ca B	ALTERATION C C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
105																		
106		C2b	/30															
107				107.2	107.2 – 111.6 C2c ARGILLITE Black – gray, fng argillite with numerous fng sand bands. Section is graphitic and containing Qtz injection.					Pyrite blebs are 107.2m, 108.2m and 110.85m.								
108																		
109		C2c	/40															
110																		
111			/30															
112				111.6	111.6 – 121.0 C2b ARGILLITE Black, relatively massive, fng argillite													
113																		
114			/40															
115																		
116		C2b	/10		116.8 – 121.0m: Shear Zone. Strongly brecciated argillite, Qtz injection and fng sand stone, with heavy graphite.													
117			S															
118			S															
119			S															
120			S S S

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A (Si)	ALTERATION B (Ca)	ALTERATION C (G)	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
120		C2b															
121			121.0	121.0 – 123.4 KTf FELSITE White - light gray, fng - mdg Felsite with sharp HW and FW contacts. Section silicified and sericitization.													
122		KTf															
123			123.4														
124			38	123.4 – 130.7 C2b ARGILLITE Black, fng argillite with fng sand or silt bands.													
125																	
126			60	Qtz injection predominantly are 123.4 – 123.6 m, 124.2 – 124.4 m, 127.8 – 128.2 m													
127		C2b															
128			50														
129																	
130																	
131			130.7 60	130.7 – 136.4 C2c ARGILLITE Black, fng argillite with numerous silt or fng sand bands. Silt or fng sand bands are 1mm – 10mm wide.													
132																	
133		C2c															
134			50	Qtz injection predominantly are 132.3 – 132.5 m, 136.1 m.													
135																	

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION Si A	ALTERATION Ca B	ALTERATION C C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
135		C2c	50														
136			136.4														
137		C2b	50	136.4 - 137.4 C2b ARGILLITE													
			137.4	Black, relatively massive, fng argillite with minor silt bands.													
139																	
140			40														
		C2c		137.4 - 149.5 C2c ARGILLITE													
141				Black - dark gray, fng argillite with numerous fng sand bands. Fng sand bands are 1mm - 10mm wide.													
142				Section containing Qtz stockwork predominantly.													
143			50														
144				143.4m: Qtz vein 2cm in width at 50° to C.A.													
145																	
146			60	146.5m: Qtz vein 1cm in width, at 60° to C.A.													
147																	
148			65														
149			70														
150		KTf	149.5														

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION Si A	ALTERATION Ca B	ALTERATION G C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
150				149.5 – 158.8 KTf FELSITE													
151				White – light gray, fng, hard Felsite with siderite stock work.													
152				Section is silicified and weakly sericitization.													
153																	
154		KTf															
155																	
156																	
157																	
158																	
159		C2b	159.8 / 50 / 159.5	158.8 – 159.5 C2b ARGILLITE Black, relatively massive argillite 158.8 – 159.0 m: Qtz injection vein													
160																	
161				159.5 – 165.5 C2c ARGILLITE Black, fng argillite with numerous silt or fng sand bands. Silt or fng sand bands are 1mm – 10mm wide.													
162		C2c	60	Mdg clastic pyrite in layer in fng sand stone band.													
163				Bedding is younging up the hole ?													
164			40	162.5 – 163.2 m: Qtz injection predominantly													
165																	

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION Si A	ALTERATION Ca B	ALTERATION G C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
165		C2c	166.5 /45	165.5 – 189.6 C2b ARGILLITE Black, fng argillite with minor silt or fng sand bands. Locally microfolding.													
166																	
167																	
168				171.4 – 171.8 m, 172.8 – 173.3 m: Shear Zone Strongly brecciated argillite with some gauge. Brecciated zone containing fragments of argillite, fng sandstone and Qtz injection. Graphite is heavy on the sheared plane.													
169			/10														
170																	
171			/30														
172		C2b															
173																	
174			/40														
175			/35														
176			0														
177																	
178																	
179																	
180			/10														

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION Si A	ALTERATION Ca B	ALTERATION G C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
180																	
181			/40	182.00 – 185.5m: Section containing Qtz injection predominantly with graphite.													
182																	
183			S S S														
184		C2b	S S S														
185																	
186																	
187																	
188			0	188.00 – 189.6m: as same as 182.00–185.5m													
189																	
189.6				189.6 – 201.5 C2a-2b ARGILLITE													
190			/30	Black, relatively massive, fng argillite with little silt or fng sand bands.													
191																	
192		C2a ~2b	S /S /10 S	191.2–191.9m, 192.8–193.4m, 195.0–201.5m Shear Zone													
193			S S S /S /10	Strongly brecciated argillite and Qtz injection with some black gauge. Graphite is heavy in matrix.													
194			S S														
195																	

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION		ALTERATION Si A	Ca B	G C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
195																		
196																		
197		C2a ~2b																
198																		
199			15															
200																		
201				201.5 - 202.7	C2b ARGILLITE													
			201.5		Black - dark gray, fng argillite with silt bands													
202		C2b	30															
			202.7		201.5 - 202.2m : Qtz injection predominantly													
203																		
204		C2a		202.7 - 204.3	C2a ARGILLITE													
			204.3		Black, massive, fng argillite													
					203.5 - 203.6m : Qtz injection predominantly													
205																		
206		C2b		204.3 - 208.2	C2b ARGILLITE													
					Black, fng argillite with minor silt or fng sand bands.													
207																		
			40		204.3 - 207.8m : Shear Zone													
208			208.2		Brecciated zone containing fragments of argillite, fng sand stone and Qtz injection in graphitic matrix.													
209		C2c																
210																		

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE		GEOLOGICAL DESCRIPTION	ALTERATION Si A	ALTERATION Ca B	ALTERATION G C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
210			60	208.2 - 221.3	C2c ARGILLITE													
211					Black - gray, fg argillite with numerous silt or fng sand bands.													
212					Section containing Qtz injection with moderate graphite and has microfolding structure.													
213																		
214					209.8 - 211.6m: Brecciated or mylonitic argillite with fragments of Qtz injection and fng sand stone.													
215			35															
216		C2c			213.2 - 213.8m: Qtz injection predominantly.													
217			10		214.5 - 215.4m: Shear Zone Intensely brecciated argillite with fragments of Qtz injection, fng sand in very graphitic matrix.													
218																		
219					218.5 - 219.0m: same as 214.5 - 215.4m													
220			60															
221			45		220.0 - 221.3m: same as 214.5 - 215.4m													
222			221.3	221.3 - 231.3	C2b ARGILLITE Black - dark gray, brecciated or mylonitic argillite with predominant Qtz injection													
223		C2b	S S S S		221.3 - 223.0m: Qtz injection vein with intense graphite													
224			60															
225																		

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A (Si)	ALTERATION B (Ca)	ALTERATION C (G)	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
225				223.0 – 227.4m : mylonitic ~ brecciated argillite with intense graphite.													
226			/30						225.3m : Pyrite bleb in mylonitic argillite.								
227				227.4 – 231.3m : Brecciated zone with fragments of Qtz injection in very graphitic matrix.													
228		C2b															
229																	
230																	
231			50 / 231.3	231.3 – 234.5 C2c ARGILLITE Black – dark gray, fng argillite containing numerous fng sand bands					231.3m : Pyrite patch 7mm in diameter in fng sand band.								
232																	
233		C2c	/65														
234																	
235			234.5														
236			/25	234.5 – 239.6 C2b ARGILLITE Black, fng argillite with silt or fng sand bands.					236.6m : Pyrite bleb 1cm x 5cm								
237		C2b															
238				237.5 – 239.6m : Brecciated zone with fragments of Qtz injection, argillite and fng sand stone in very graphitic matrix.													
239																	
240		Qtz	239.6														

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE		GEOLOGICAL DESCRIPTION	ALTERATION Si A	ALTERATION Ca B	ALTERATION G C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
240		Qtz		239.6 - 240.8	Qtz vein													
241			240.8		White, Qtz injection vein with sharp contact with HW and FW.													
242				240.8 - 244.7														
243		C2b -2c			C2b-2c ARGILLITE													
244					Brecciated argillite containing fragments of Qtz injection in very graphitic matrix.					244.7m: Pyrite patch 4cm in diameter.								
245			244.7		Section has local mylonitic structure.													
246																		
247		C2e		244.7 - 249.2	C2e CALCAREOUS ARGILLITE (Silicified)													
248					Dark gray, hard (silicified), very graphitic argillite with predominant Qtz injection (calcareous)													
249			249.2		247.3 - 249.2m: weakly crushed.													
250				249.2 - 253.0	C1b CALCAREOUS SAND STONE													
251		C1b			Dark gray, relatively massive, calcareous sand stone - silt stone containing fine graphitic film.													
252			25															
253			253.0	253.0 - 253.9	C2e CALCAREOUS ARGILLITE													
254		C2e	253.9		Black - dark gray, calcareous argillite													
255		C2e																

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A (Si)	ALTERATION B (Ca)	ALTERATION C (Q)	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
255		C2e		253.9-255.9 C2e BRECCIATED CALCAREOUS ARGILLITE													
256			255.9	Brecciated calcareous argillite with white calcite matrix. Argillite breccias are 3mm–15mm in diameter.					254.8-255.9m: Sphalerite disseminated in argillite breccia. Reddish brown ~ yellowish brown sphalerite.		254.80-255.90	1.10	1575				
257																	
258				255.9-268.3 C2e CALCAREOUS ARGILLITE													
259				Dark gray-gray calcareous argillite with intense Qtz injection.													
260				Section containing local fng sandy parts (1a~1b).													
261		C2e		Section is sheared strongly with very very graphitic matrix.													
262																	
263				HCl reacts.													
264																	
265																	
266																	
267				268.3-278.2 C2a ARGILLITE													
268			268.3	Black, massive fng argillite with local silt or fng sand bands up 1%.													
269		C2a															
270																	

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
270																	
271			/30	272.3m : Qtz injection vein 1.0cm in width at 20° to C.A.													
272																	
273			/30	273.5-273.7m : frag Sand stone (1b)													
274		C2a															
275																	
276				276.1-278.2m : Section is strongly crushed and very graphitic.													
277			/10														
278			278.2	278.2-282.9 C2d SILICIFIED ARGILLITE													
279				Black - dark gray, hard, brecciated, silicified argillite with very very graphitic matrix.													
280																	
281		C2d															
282																	
283			282.9														
		End of Hole															

TOTAL ENERGOLD CORPORATION

DRILL LOG

PROJECT CLEAR LAKE	**GROUND ELEV.** 673.02 m	**DRILL CALCULATIONS/HOLE SUMMARY**
HOLE No. 92-68	**BEARING** 28.0°	PURPOSE to test IP anomaly and to intersect the north west extension of Clear Lake deposite REASON FOR SHUT DOWN Failed to intersect expected mineralization
LOCATION 1+08N, pow L17+50W 62384.91N 90278.14E	**DIP** -50°	PERTINENT GEOLOGY
LOGGED BY MINORU MACHIDA	**TOTAL LENGTH** 300.53 m	
DATE 26 June, 92'	**HORIZONTAL PROJECT**	
CONTRACTOR	**VERTICAL PROJECT**	
CORE SIZE NQ	**ALTERATION SCALE** absent slight moderate intense	
DATE STARTED		
DATE COMPLETED	**TOTAL SULPHIDE SCALE** < 1% 1%—5% 5%—25% 25%—50% < 50%	
DIP TESTS 62.79m -53.80° 121.92m -51.50° 182.88m -53.00° 243.67m -51.30° 300.50m -51.30°		

0 - 22.15m OVERBURDEN
22.15 - 36.58m C2a ARGILLITE
36.58 - 39.55m C2b ARGILLITE
39.55 - 49.35m C2a ARGILLITE
49.35 - 52.43m C2b ARGILLITE
52.43 - 56.23m C2a ARGILLITE
56.23 - 58.62m C2b ARGILLITE
58.62 - 66.73m C2a ARGILLITE
66.73 - 70.50m C2b ARGILLITE
70.50 - 73.46m C2a ARGILLITE
73.46 - 75.50m C2b ARGILLITE
75.50 - 82.91m C2a-2b ARGILLITE
82.91 - 106.14m C2a ARGILLITE
106.14 - 115.30m C2c ARGILLITE
115.30 - 121.30m C2a ARGILLITE
121.30 - 130.98m C2c ARGILLITE
130.98 - 153.00m C2b ARGILLITE
153.00 - 160.65m C2c ARGILLITE
160.65 - 163.45m C2b ARGILLITE
163.45 - 165.00m C2c ARGILLITE
165.00 - 177.50m C2b ARGILLITE
177.50 - 178.90m C2c ARGILLITE
178.90 - 179.10m KTf FELSITE
179.10 - 181.10m C2b ARGILLITE
181.10 - 181.50m KTf FELSITE
181.50 - 181.70m C2a ARGILLITE
181.70 - 182.10m C1a SAND STONE
182.10 - 195.80m C2b ARGILLITE
195.80 - 196.00m C1a SANDSTONE
196.00 - 200.84m C2c ARGILLITE
200.84 - 201.50m C1b SAND STONE
201.50 - 206.56m C2c ARGILLITE
206.56 - 218.00m C2b ARGILLITE
218.00 - 222.30m C2c ARGILLITE
222.30 - 225.70m C2b ARGILLITE
225.70 - 226.70m C2c ARGILLITE
226.70 - 237.00m C2b ARGILLITE
237.00 - 244.04m C2c ARGILLITE
244.04 - 245.95m K3 MONZONITE
245.95 - 260.69m C2c ARGILLITE
260.69 - 262.48m K3 MONZONITE
262.48 - 265.26m C2c ARGILLITE
265.26 - 268.93m K3 MONZONITE
268.93 - 271.58m C2c ARGILLITE
271.58 - 279.30m C1b SANDSTONE
279.30 - 280.70m C2b ARGILLITE
280.70 - 284.79m C1b SANDSTONE
284.79 - 287.84m C2c ARGILLITE
287.84 - 288.24m K3 MONZONITE
288.24 - 291.69m C2c ARGILLITE
291.69 - 294.44m C1b SANDSTONE
294.44 - 299.13m C2c ARGILLITE
299.13 - 300.53m C1b SANDSTONE

E.O.H

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
0				0.0m - 22.15m OVERBURDEN													
5																	
10																	
15																	

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION Si A	ALTERATION Ca B	ALTERATION K C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
15																	
20																	
21																	
22			5														
22.15				22.15 – 36.58 C2a ARGILLITE													
23		C2a	10	Black, massive, fng argillite with little silt bands.													
24		C2a															
25				25.10 – 29.26m : Shear Zone.													
26				Brecciated argillite and Qtz injection.													
27		C2a		Graphite is heavy in the matrix.													
28																	
29																	
30		C2a															

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION Si A	ALTERATION Ca B	ALTERATION G C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
30			10														
31																	
32				33.23 – 33.38m. Qtz injection vein at 5° to C.A.													
33		C2a	10														
34																	
35																	
36																	
37			36.58	36.58 – 39.55 C2b ARGILLITE Black, fng argillite with minor silt bands. Relatively massive. Slightly graphitic on the bedding plane.													
38		C2b	10														
39			5														
40			39.55	39.55 – 49.35 C2a ARGILLITE Black, fng massive argillite with local Qtz injection vein.													
41																	
42		C2a	0	41.35 – 44.05m: Weakly sheared zone with moderate graphite.													
43																	
44																	
45			10														

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION Si A	ALTERATION Ca B	ALTERATION G C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
45									45.13m : Pyrite bleb 1cm in diameter								
46				46.63 – 46.85m : Qtz injection vein 7mm in width at 5° to C.A.													
47		C2a		44.50 – 45.63m : Shear Zone Weakly brecciated argillite and Qtz injection in moderate graphitic matrix													
48																	
49			/5														
			49.35	49.35 – 52.43 C2b ARGILLITE Black, fng argillite with minor silt bands.													
50									49.90m – 50.00m : Pyrite blebs 1cm in diameter in Qtz injection vein.								
51		C2b	/20	49.35 – 50.60m : Qtz injection predominantly													
52																	
			52.43														
53			/40	52.43 – 56.23 C2a ARGILLITE Black, massive, fng argillite													
54		C2a	/10	54.78m, 55.15m : Qtz injection vein 1cm in width.													
55																	
			/40														
56			56.23	56.23 – 58.62 C2b ARGILLITE Black, fng argillite with fng Sand or silt bands													
57		C2b															
58			/40														
			58.62														
59		C2a															
60																	

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE		GEOLOGICAL DESCRIPTION	ALTERATION Si A	ALTERATION Ca B	ALTERATION G C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
60				58.62 - 66.73	C2a ARGILLITE													
61			50															
62																		
63		C2a	50															
64																		
			45		65.50 - 65.90m : Weakly sheared zone with Qtz injection, moderate graphitic.													
65																		
66					66.63m : Qtz - siderite Vein 1.5cm in width at 40° to C.A.													
			40	66.73														
67		C2b	35	66.73 - 70.50	C2b ARGILLITE													
68					Black, fng argillite with silt bands.													
69																		
			45		69.70 - 70.50m : Slightly brecciated argillite with Qtz injection. slightly graphitic					69.30m : Pyrite patches 2mm X 30mm in fng sand section.								
70				70.50														
71				70.50 - 73.46	C2a ARGILLITE													
			50		Black, massive, fng argillite with little silt bands.													
72		C2a																
73																		
				73.46	C2b ARGILLITE													
74			50	73.46 - 75.50	Black - dark gray, fng argillite with silt or fng sand bands.													
		C2b	20		Locally containing Qtz injection.													
75																		

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE		GEOLOGICAL DESCRIPTION	ALTERATION Si A	ALTERATION Ca B	ALTERATION G C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
75		C2b	75.50		73.78-74.08m: Weakly sheared with Qtz injection.													
76			5															
77					75.50-82.91 C2a-2b ARGILLITE													
			40		Black, fng argillite wite local fng sand bands.													
78										77.85m: Pyrite blob 7mm in diameter								
		C2a -2b	30		79.24-79.74m: crushed.													
79										79.24m: Pyrite band 4mm in width.								
80																		
81			5															
					82.40m: Qtz injection with slight graphite													
82			10															
83			82.91		82.91-106.14 C2a ARGILLITE													
84					Black, fng, massive argillite with local minor silt bands													
85																		
86		C2a	5															
87																		
88			5															
89																		
90																		

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
90			/20														
91																	
92																	
93			/30														
94																	
95																	
96																	
97		Ca	/40														
98																	
99																	
100			/45														
101				101.1m: Qtz injection vein 1cm in width of 70° to C.A.													
102			/50	102.05m: Qtz injection vein or stockwork													
103																	
104			/40														
105																	

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION Si A	ALTERATION Q B	ALTERATION G C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
105		C2a	45														
106			106.14														
				106.14–115.30 C2c ARGILLITE													
107			50	Black – dark gray, fng argillite with numerous silt or fng sand bands													
108				106.34 – 106.64m: slightly brecciated argillite with Qtz injection													
109				107.30 – 108.40m: Slightly brecciated argillite with Qtz injection and graphite.													
110		C2c		109.10 – 110.00m: Qtz injection with moderate graphite.													
111				110.15 – 110.85m: Qtz injection with moderate graphite, slightly sheared.													
112			70														
113				112.60 – 113.10m: Shear zone moderately sheared argillite with Qtz injection													
114			60														
115			115.30														
116				115.30 – 121.30 C2a ARGILLITE													
117				Black, fng argillite with minor silt bands.													
118		C2a	70														
119									119.60m: Pyrite bleb 1cm in diameter								
120			45														

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION Si A	ALTERATION Ca B	ALTERATION G C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
120		C2a	40														
121			121.30	121.30 - 130.98 C2c ARGILLITE													
122				Black – dark gray, argillite with numerous silt bands.													
123			50	122.83 – 130.98m : moderately folded section													
124				with local predominant Qtz injection													
125				and slight graphite													
126		C2c	80														
127																	
128																	
129																	
130									130.98m: Pyrite bleb 5mm in diameter								
131			45														
132			130.98	130.98 - 153.00 C2b ARGILLITE													
133		C2b	40	Black, fng argillite with numerous silt bands.													
134																	
135			5														

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION Si A	ALTERATION Ca B	ALTERATION G C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
135																	
136																	
137				137.78 – 138.20m : Shear Zone Intensly brecciated argillite, frg sand stone and Qtz injection. Slightly graphitic.													
138			10														
139				139.60 – 141.12m : Shear Zone Intensly brecciated argillite, Qtz injection and frg sand stone. Moderately graphitic													
140																	
141			5														
142		C2b															
143																	
144			5	144.67m : Qtz injection 5cm in width.													
				144.98 – 145.18m : Shear Zone Moderately sheared argillite with graphite and Qtz injection													
145																	
146			60	146.27 – 146.45m : as same as 144.98 – 145.18m													
147			30	145.70 – 150.00m : slight graphite on shear plane					148.75m : Pyrite bleb 1cm in diameter								
148																	
149			20														
150																	

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION Si A	ALTERATION Ca B	ALTERATION G C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
150		C2b	0														
151																	
				151.50 - 156.00m : slight graphite on shear or bedding plane.													
152																	
153			153.00 / 40	153.00 - 160.65 C2c ARGILLITE													
154				Black - dark gray, fng argillite with numerous silt, fng sand bands.													
155																	
156																	
157		C2c	/ 65														
158																	
159				159.40 - 159.55m : Qtz injection at 5° to C.A.													
160				159.85 - 160.65m : Shear Zone													
			160.65	Moderately brecciated argillite. Qtz injection with some gauge.													
161																	
162		C2b	/ 70	160.65 - 163.45 C2b ARGILLITE													
163				Black, relatively massive, fng argillite													
			163.45														
164				163.45 - 165.00 C2c ARGILLITE													
165		C2c		Black, fng argillite with minor silt													
				165.00m - 165.10m : Qtz injection													

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION Si A	ALTERATION Ca B	ALTERATION G C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
165				165.00–177.5 C2b ARGILLITE													
166				Black, relatively massive, fng argillite.													
			/45														
167			/20														
168																	
169																	
			/45														
170																	
171		C2b															
172																	
			\80														
173				174.0m: Qtz injection-vein 9cm in width													
174																	
175			/40														
176																	
177																	
			/50														
			177.5	177.5–178.9 C2c ARGILLITE													
178		C2c		Black–dark gray, fng argillite with													
179			178.9 179.1	numerous silt bands.													
				178.9–179.1 KTf FELSITE													
180		C2b		Greenish white, fng felsite.													

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION Si A	ALTERATION Ca B	ALTERATION G C	FRACT INTENSITY
180		C2b	60	179.1 – 181.10 C2b ARGILLITE				
181			181.10	Black fng argillite with silt, fng sand bands.				
		KTf						
182		C2a	181.50 / 181.90	179.1 – 179.7 m : Shear Zone				
		C1a	182.10	Slight – moderate sheared argillite, Qtz – injection with graphite				
183			60					
184				181.10 – 181.50 KTf FELSITE				
			50	Pale green, fng felsite with Qtz injection vein 3cm in width.				
185				181.50 – 181.70 C2a ARGILLITE				
186				Black, fng argillite with Qtz injection				
187		C2b	10	181.70 – 182.10 C1a SAND STONE				
188				Light gray, fng sand stone with minor Qtz injection				
189				182.10 – 195.80 C2b ARGILLITE				
190				Black, fng argillite with numerous				
				silt, fng sand bands.				
191				Silt or fng sand bands are 2mm – 10mm wide.				
192				188.65 – 188.85 m : Qtz injection				
193			50	190.20 – 192.40 m : Shear Zone				
				Slightly brecciated argillite with Qtz injection and graphite				
194								
195								

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS

a 5%
b 5%-30%
c 30-50%

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION Si A	ALTERATION ⊕ B	ALTERATION ⊖ C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
195		C2b / C1a	195.80 / 196.00 / 80	195.80-196.00 C1a SAND STONE Light gray, fng sand stone, massive.													
196																	
197				196.00-200.86 C2c ARGILLITE Black, fng argillite with fng sand bands.													
198		C2c	80	Section containing local Qtz injection													
199				vein.													
200			40														
201		C1b	200.86 / 201.50	200.86-201.50 C1b SAND STONE Gray-Light gray, fng sand stone													
202				Section is slightly brecciated with Qtz													
203				injection.													
204		C2c	50	201.50-206.56 C2c ARGILLITE Dark gray, argillite with silt or fng sand													
205				bands up 30% Section containing local Qtz injection vein													
206				:204.80m, 205.41m.													
207		C2b	206.56 / 60	206.56-218.00 C2b ARGILLITE Black, fng argillite with silt or fng sand													
208				bands up 10%.													
209				208.80-209.78m: Shear Zone Brecciated argillite with fragments of					209.63m: Pyrite patch 1cm in								
210			45	fng sand stone and Qtz injection,					diameter in fng sand band.								
				in moderately graphitic matrix													

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
210				209.78 – 210.40m : KTf Pale green, fng felsite with calcite – qtz stockwork.													
211			45														
212				211.80m : Qtz injection													
213																	
214		C2b	40														
215																	
216			50														
217																	
218			50 218.0	218.0 – 222.3 C2c ARGILLITE Dark gray – gray argillite with fng sand bands up 40% fng sand bands are max 20cm wide					218.00m : fng pyrite band 1cm in width in fng sand band								
219		C2c	45														
220																	
221			50														
222			up fine coarse	222.3m : Sedimentary structure indicates younging up.													
223			222.3	222.3 – 225.70 C2b ARGILLITE Black, fng argillite with fng sand bands up 20%													
224		C2b	60														
225																	

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION Si A	ALTERATION Ca B	ALTERATION Cr C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
225		C2b	60	225.53m: weakly sheared with Qtz injection													
226			225.7	225.7-226.7 C2c ARGILLITE													
		C2c		Black - dark gray, fng argillite with fng sand bands up 40%.													
227			226.7														
228				226.7-237.0 C2b ARGILLITE													
				Black - dark gray, fng argillite with fng sand bands up 20-30%.													
229			70														
230																	
231		C2b	95	231.65-231.80m: fng Sand stone.													
232				232.90m: slightly brecciated with Qtz injection													
233			60														
234				234.20m: KTf fragment 4cm in diameter													
235																	
236			70														
237			237.0														
				237.0-244.04 C2c ARGILLITE													
238			60	Black - dark gray fng argillite with fng sand bands up 40%													
		C2c															
239				237.0-237.10m: fng sand stone													
240																	

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A (Si)	ALTERATION B (Ca)	ALTERATION C (G)	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
240			/10	238.05–238.65m : mylonitic – brecciated argillite containing fragments of Qtz injection and fng sand stone in graphitic matrix													
241																	
242		C2c	/50														
243																	
244			/70	244.04–245.85 K3 MONZONITE													
			244.04	Greenish gray – gray, fng–mdg monzonite containing hematite 1% <													
245		K3															
			245.85														
246				245.85–260.69 C2c ARGILLITE													
247			/70	Gray argillite with numerous sand bands up 50% with moderate graphite and Qtz injection.													
248			/80														
249			/70	245.85–248.13m : moderately brecciated argillite and fng sand with Qtz injection in graphitic matrix.													
		C2c	/40														
250				249.00–249.63m } same as 245.85–248.13m													
251				250.13–253.90m }													
252			/30														
253																	
254																	
255																	

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A (Si)	ALTERATION B (Ca)	ALTERATION C (G)	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
255			60														
256																	
257																	
		C_{2c}	80														
258																	
259			70	259.29 – 260.69m: Slightly brecciated argillite with Qtz injection.					259.19m: Pyrite bleb 7mm in diameter in sandstone band								
260			69 @ 260.69	260.69 – 262.48 K_3 MONZONITE													
261		K_3		Greenish gray fng monzonite with sharp contact with HW and FW.													
262			30 @ 262.48														
263				262.48 – 265.26 C_{2c} ARGILLITE													
264		C_{2c}	80	Dark gray argillite with fng sand band up 50%													
				267.48 – 263.58m: Intensely brecciated argillite with Qtz injection in very													
265			30 @ 265.26	graphitic matrix.													
266				264.86 – 265.26m: same as 262.48 – 263.58m													
267		K_3		265.26 – 268.93 K_3 MONZONITE													
268				same as 260.69 – 262.48m													
269			60 @ 268.93	268.93 – 271.58 C_{2c} ARGILLITE													
270		C_{2c}		Black – gray argillite with numerous fng sand bands up 50%													

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A (Si)	ALTERATION B (Ca)	ALTERATION C (Cl)	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
270				Section is sheared strongly.													
271		C2c	/10	Brecciated zone containing fragments of													
			271.58	argillite, Qtz injection and fns sand stone													
272				with very very graphitic matrix													
273				271.58-279.30 C1b SAND STONE													
				Dark gray - gray fns sand stone with													
274			/10	argillite bands up 20%, containing													
				local Qtz injection.													
275				Section indicates micro folding locally													
		C1b	/20														
276																	
277																	
278																	
279																	
			279.30	279.30-280.70 C2b ARGILLITE													
280				Black, fns argillite with silt and													
		C2b		fns sand bands up 30%.													
281			280.70														
				280.70-284.79 C1b SAND STONE													
282			70	Dark gray - gray sand stone with argillite													
		C1b		bands up 40%.													
283																	
				Section containing Qtz injection													
284			80	and slighty brecciated													
285			284.79														

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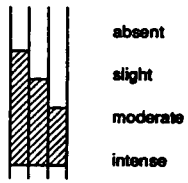
DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
285			70	284.39–287.84 C2c ARGILLITE													
286				Black – dark gray argillite with numerous													
		C2c		fng sand bands up 50%													
287				287.62–287.84 m: Qtz injection													
			80	287.84–288.24 K3 MONZONITE													
288		K3	60	Greenish gray – light gray fng monzonite													
			80														
289				288.24–291.69 C2c ARGILLITE													
		C2c		Gray argillite with numerous sand													
290				bands up to 50%													
291			30	Section is slightly ~ moderately sheared													
			291.69	containing Qtz injection and graphite													
292																	
				291.69–294.44 C1b SAND STONE													
293		C1b		Dark gray – gray sand stone with													
				Black argillite up 30%													
294			70	Section is brecciated and containing													
			294.44	brecciated sand stone, Qtz injection and													
295				argillite.													
				294.44–299.13 C2c ARGILLITE													
296				Black – gray argillite with fng sand													
		C2c		bands up 40–50%.													
297			50	295.15–296.13 m: Shear Zone													
				Strongly brecciated argillite with													
298				fragments of fng sand stone and Qtz													
				injection in graphitic matrix													
299			299.13	298.23–299.13 m: mylonitic argillite					Dark gray – gray sand stone with								
		C1b		with fragments of sand stone and Qtz.					minor argillite up 20%								
300			300.53	299.13–300.53 C1b SAND STONE													

TOTAL ENERGOLD CORPORATION

DRILL LOG

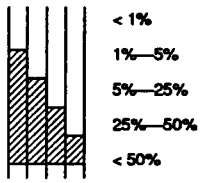
PROJECT	CLEAR LAKE
HOLE No.	92-69
LOCATION	1+20N, POWL 10+50W 62071.21 N 90907.58 E
LOGGED BY	MINORU MACHIDA
DATE	30, June, 92'
CONTRACTOR	
CORE SIZE	NQ: 0 – 228.60 m BQ: 228.60 – 298.70 m
DATE STARTED	
DATE COMPLETED	
DIP TESTS	63.09 m −50.80° 121.92 −49.50° 184.71 −48.30° 297.48 −47.00
GROUND ELEV.	683.51 m
BEARING	29.0°
DIP	−50°
TOTAL LENGTH	298.70 m
HORIZONTAL PROJECT	
VERTICAL PROJECT	

ALTERATION SCALE



absent
slight
moderate
intense

TOTAL SULPHIDE SCALE



< 1%
1%—5%
5%—25%
25%—50%
< 50%

DRILL CALCULATIONS/HOLE SUMMARY

PURPOSE to test IP anomaly and to intersect the northwest extension of Clear Lake deposite.

REASON FOR SHUT DOWN Failed to intersect expected mineralization

PERTINENT GEOLOGY

0 – 21.50 m OVER BURDEN
21.50 – 22.56 m C1b CALCAREOUS SAND STONE
22.56 – 22.66 m OVER BURDEN
22.66 – 44.40 m C1b CALCAREOUS SAND STONE
44.40 – 53.20 m C2b ARGILLITE
53.20 – 66.13 m C2c ARGILLITE
66.13 – 87.60 m C2b ARGILLITE
87.60 – 95.55 m C2C ARGILLITE
95.55 – 110.00 m C1b SANDSTONE
110.00 – 120.40 m C2c ARGILLITE
120.40 – 122.60 m C2b ARGILLITE
122.60 – 123.10 m C1b SANDSTONE
123.10 – 126.70 m C2b ARGILLITE
126.70 – 127.30 m C1b SANDSTONE
127.30 – 131.30 m C2b ARGILLITE
131.30 – 139.50 m C2a ARGILLITE
139.50 – 144.50 m C2c ARGILLITE
144.50 – 155.30 m C2b ARGILLITE
155.30 – 166.42 m C2b-2c ARGILLITE
166.42 – 184.50 m C2b ARGILLITE
184.50 – 196.00 m C2a ARGILLITE
196.00 – 196.90 m C1a SANDSTONE
196.90 – 199.35 m C2a ARGILLITE
199.35 – 205.40 m C2b ARGILLITE
205.40 – 219.70 m C2a ARGILLITE
219.70 – 225.83 m C2b ARGILLITE
225.83 – 229.62 m KTf FELSITE
229.62 – 243.25 m C2b ARGILLITE
243.25 – 244.75 m C2a ARGILLITE
244.75 – 246.25 m C2b ARGILLITE
246.25 – 248.80 m C2c ARGILLITE
248.80 – 251.86 m C2b ARGILLITE
251.86 – 254.70 m C2c ARGILLITE
254.70 – 258.78 m C2b ARGILLITE
258.78 – 259.90 m KTf FELSITE
259.90 – 260.40 m C1b SAND STONE
260.40 – 260.90 m KTf FELSITE
260.90 – 264.60 m C2a ARGILLITE
264.60 – 265.10 m C1b ARGILLITE
265.10 – 269.33 m C2b ARGILLITE
269.33 – 272.58 m C2c ARGILLITE
272.58 – 275.82 m C2b ARGILLITE
275.82 – 285.80 m C2a ARGILLITE
285.80 – 289.70 m C2b ARGILLITE
289.70 – 296.57 m C2a ARGILLITE
296.57 – 298.70 m C2b ARGILLITE
E.O.H

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
0				0 - 21.50m OVERBURDEN													
5																	
10																	
15																	

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION Si A	ALTERATION Ca B	ALTERATION G C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
15																	
20		C1b	21.50	21.50-22.56 C1b CALCAREOUS SAND STONE Black-gray, calcareous sand stone with argillite up 30-40%.													
21																	
22			22.56														
23			30	22.56-22.66 OVERBURDEN													
24			35	22.66-46.40 C1b CALCAREOUS SAND STONE Dark gray-gray, fng. calcareous sand stone with black argillite up 30-40%. HCl reacts sandy section moderately ~ intensely													
25		C1b	45														
26																	
27																	
28			40														
29																	
30																	

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A (Si)	ALTERATION B (Ca)	ALTERATION C (G)	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
30			/30														
31				32.40m : calcite vein 10cm in width													
32			0														
33																	
34			/45														
35			/45														
36		C1b															
37																	
38				37.65-37.80m : calcite-Qtz vein													
39			/5														
40																	
41																	
42			/10														
43																	
44			70														
45		C2b	44.90														

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION Si A	ALTERATION Ca B	ALTERATION G C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
45				44.40–53.20 C2b ARGILLITE													
46				Black – dark gray, fn; argillite													
				with fn; calcareous sand bands													
47				up 20%													
48				Calcareous sand bands react HCl													
		C2b		slightly.													
49																	
50				49.55–49.65m: Qtz vein													
			60														
51																	
52			40														
53			53.20	53.20–66.13 C2c ARGILLITE													
				Black – dark gray, argillite with													
54				fn; slightly calcareous sand bands													
			40	up 30–50%.													
55																	
56			50	Sand bands react HCl slightly.													
		C2c															
57			50	Section containing local calcite vein													
58																	
			45														
59																	
			50														
60																	

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A (Si)	ALTERATION B (Ca)	ALTERATION C (G)	FRACT INTENSITY
60								
61								
62								
63		C2c	/30					
64			/30					
65			/40					
66			66.13	66.13 – 87.60 C2b ARGILLITE				
67				Black – dark gray orgillite with				
68				fng sand bands up 20–30%.				
69			/50	Sand bands react HCl slightly.				
70				67.80m – 68.70m: Section containing calcite–Qtz vein up 15%				
71		C2b	/40	70.30m: calcite – Qtz vein				
72			/40	71.00 – 71.60m: Calcite vein 2mm–5mm in width predominantly				
73								
74			/45					
75			/60					

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION Si A	ALTERATION Ca B	ALTERATION G C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
75				75.17 - 75.37m : Qtz vein													
76				76.80 - 76.90m : Calcite - Qtz vein 1mm - 5mm predominantly					77.4m : Pyrite patches 2cm x 5cm in argillite								
77			L40														
78			L45	77.80 - 78.00m : Calcite - Qtz vein predominantly													
79		C1b		78.60 - 80.30m : Brecciated Zone Brecciated argillite with Qtz injection in graphitic matrix													
80																	
81			L40						80.80m : Pyrite bleb 1cm in diameter								
82				82.50 - 82.90m : Calcite vein 5mm in width up 30%													
83			L45 L40						83.30m : Pyrite patch 1cm x 6cm								
84			L5														
85																	
86			L40														
87				87.10 - 87.30m : Brecciated Zone Brecciated argillite with Qtz injection in slightly graphitic matrix													
88			82.60														
89		C2c	70	87.60 - 88.55 C2c ARGILLITE Gray - dark gray fng argillite with slightly calcareous sand bands up 40-50%													
90			80														

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION Si A	ALTERATION Ca B	ALTERATION G C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
90																	
91																	
92		C2c	70														
93			50														
94				94.50 – 95.55m: calcite-Qtz vein 1mm – 7mm in width up 20%													
95			60														
96			95.55	95.55 – 110.00 C16 SAND STONE Dark gray – gray, fng sand stone with black argillite bands up 30-40%.													
97			45														
98				sand stone react HCl slightly													
99		C16	70														
100																	
101			60														
102			50														
103																	
104																	
105			70														

1-2.80

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION Si A	ALTERATION Ca B	ALTERATION C C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
105				105.40 – 106.90m: Moderately brecciated zone with fragments of sand stone, Qtz injection and argillite in graphitic matrix													
106																	
107		C1b	70														
108									108.40m: Pyrite bleb 1cm in diameter								
109			60														
110			110.00														
111				110.00 – 120.90 C2c ARGILLITE Black – dark gray, fnz argillite with silt or fnz sand bands up 30%.													
112				110.00 – 112.55m: Shear Zone Brecciated argillite and sand stone with Qtz injection in graphitic matrix													
113			40														
114		C2c		113.90 – 114.10m: someas 110.00 – 112.55m													
115			70														
116																	
117				117.00 – 120.40m: Brecciated – mylonitic argillite with Qtz injection and sand stone fragments in graphitic matrix.													
118																	
119																	
120																	

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE		GEOLOGICAL DESCRIPTION	ALTERATION Si A	ALTERATION Ca B	ALTERATION G C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
120		C2c	45/ 120.40															
121				120.40 – 122.60	C2b ARGILLITE													
		C2b			Black, relatively massive argillite													
122					with silt bands up 10%.													
123		C1b	122.60 / 123.10 / 90	122.60 – 123.10	C1b SAND STONE													
					Black – dark gray coarse grain sand													
124					stone with minor argillite and graphite													
		C2b			up 30%													
125																		
				123.10 – 126.70	C2b ARGILLITE													
126			/40		Black, fng argillite with fng sand bands													
					up 20%													
127		C1b	126.70 5/ 127.30	126.70 – 127.30	C1b SAND STONE													
					same as 122.60 – 123.10m													
128																		
				127.30 – 131.30	C2b ARGILLITE													
129		C2b			Black. relatively massive argillite with													
					fng sand bands up 10%.													
130																		
			80		128.70 – 129.10m : Qtz injection													
131			80															
			131.30	131.30 – 139.50	C2a ARGILLITE													
132					Black. fng. massive argillite													
					with minor sand bands up 5%													
133		C2a	80															
					132.10 – 132.20m : fng sand band.													
134																		
135																		

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION Si A	ALTERATION Ca B	ALTERATION G C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
135				135.65 – 135.70m: frg sand stone													
136			80														
137		C2a															
138			50														
139																	
140			80														
			139.50	139.50-144.50 C2c ARGILLITE													
141				Black - dark gray, frg argillite with frg sand bands up 30~40%													
142		C2c	85														
143				Section is brecciated slightly ~ moderately with Qtz injection and graphitic material													
144			80														
145			144.50	144.50-155.30 C2b ARGILLITE													
146			70	Black frg argillite with frg sand bands up 20-30%					147.20m: Pyrito patch 2cm in diameter								
147		C2b		Section containing Qtz injection 25%													
148			45														
149																	
150																	

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A (Si)	ALTERATION B (Ca)	ALTERATION C (G)	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
150																	
151																	
			/40														
152		C2b															
153																	
154																	
155				155.30 -166.42 C2b-2c ARGILLITE													
156			155.30	Black-gray argillite with fng sand bands up 10~40? %.													
157																	
158				Section is strongly brecciated with numerous Qtz injection 20~80%.													
159		C2b -2c															
160																	
161																	
			/30														
162																	
163																	
164			/30														
165																	

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION Si A	ALTERATION Ca B	ALTERATION C C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
165		C2b -2c	166.92 /40	166.92 - 184.50 C2b ARGILLITE Black, relatively massive argillite with minor silt or sand bands up 10-20%													
167																	
168																	
169				167.90 - 170.0m: Shear Zone Brecciated argillite with Qtz injection in graphitic matrix.													
170																	
171																	
172		C2b	/40	172.80 - 175.00m: same as 167.90 - 170.0m													
173																	
174																	
175			/40														
176																	
177																	
178																	
179			/40														
180																	

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION Si A	ALTERATION Ca B	ALTERATION G C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
180			/40														
181																	
182		C2b	/10														
183																	
184			/20														
			184.50	184.50-196.00 C2a ARGILLITE													
185				Black, massive, fine argillite with minor silt bands up 5%.													
186																	
187				186.50-186.90m: Qtz-calcite injection vein 1mm-5mm in width 30%													
188			/40														
189		C2a		188.90-188.15m: Qtz injection													
190			/50														
191																	
192																	
193																	
194			/50														
195																	

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION Si A	ALTERATION Ca B	ALTERATION G C	FRACT INTENSITY
195		C2a						
196			196.00	196.00–196.90 C1a SAND STONE Gray-light gray, fng, massive sand stone with Qtz injection vein				
		C1a						
197			196.90 / 45					
198		C2a		196.90–199.35 C2a ARGILLITE Black, fng, massive argillite				
199			199.35	199.35–205.40 C2b ARGILLITE Black – dark gray argillite with fng sand bands up 25–30%				
200								
201				198.45–202.60m: Slightly brecciated zone with Qtz injection				
202		C2b	/ 45					
203								
204				204.50–204.90m: shear zone with Qtz injection and graphite				
205			205.40	205.40–219.70 C2a ARGILLITE Black, fng, massive argillite with minor silt band up 5%				
206			80					
207		C2a						
208			/ 70					
209								
210								

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION Si A	ALTERATION Ca B	ALTERATION C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
210																	
211																	
212			80						213.6 m: Pyrite bleb 1cm in diameter								
213																	
214																	
215		C2a															
216																	
217																	
218			10														
219																	
220			218.7	219.70 - 225.83 C2b ARGILLITE													
221				Black - dark gray, fng argillite with fng sand bands up 20-30%													
222				221.38 - 222.50 m: Shear Zone													
223		C2b		Brecciated argillite with fragments of Qtz injection and sand stone in graphitic matrix													
224			30														
225																	

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION Si A	ALTERATION Ca B	ALTERATION G C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
225		C2b		225.40 – 225.83m : same as 221.38 – 222.80m													
226			225.83														
				225.83 – 229.62 KTf FELSITE													
227				White – pale green, fng. felsite.													
		KTf															
228																	
229																	
			229.62														
230				229.62 – 243.25 C2b ARGILLITE													
				Black – dark gray argillite with													
231				sand bands up 20 – 30%													
			70														
232				229.62 – 230.90m : Brecciated Zone													
				Brecciated argillite with fragments of													
233				Qtz injection in graphitic matrix													
		C2b	70														
234				234.30 – 235.80m : same as 229.62 – 230.90m													
235																	
			40														
236			45														
237																	
238																	
			45														
239																	
240																	

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE		GEOLOGICAL DESCRIPTION	ALTERATION Si A	ALTERATION Ca B	ALTERATION G C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
240																		
241		C2b	50															
242																		
243				243.25	243.25–244.75 C2a ARGILLITE													
244		C2a	30		Black, relatively massive argillite with sand bands up 5%													
245				244.75														
		C2b	45	244.75–246.25	C2b ARGILLITE													
246				246.25	Black–gray, argillite with sand bands up 10–20%.													
247		C2c			247.00–248.85m: Brecciated Zone													
248					Brecciated argillite with Qtz injection fragments in very graphitic matrix.													
249				248.80														
			50	246.25–248.80	C2c ARGILLITE													
250					Gray–dark grey, argillite with numerous fng sand bands up 40–50%													
251		C2b																
252			40	248.80–251.86	C2b ARGILLITE													
				251.86	Black–dark gray, argillite with sand bands up 30%.													
253		C2c		251.86–254.70	C2c ARGILLITE													
254					Gray, fng argillite with numerous sand bands up 50%													
255			50	254.70	Section containing Qtz injection 30%													

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION Si A	ALTERATION Ca B	ALTERATION G C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
255				254.70-258.78 C2b ARGILLITE													
256				Black-dark gray, relatively massive													
257		C2b	/50	argillite with sand bands up 10-20%													
258																	
259		KTf	/50 258.78 /50	258.78-259.90 KTf FELSITE													
260				Pale green; fng felsite													
261		C1b / KTf	259.90 / 260.90	259.90-260.40 C1b SAND STONE													
262				Dark gray, fng-mdg sand stone													
263		C2a		with fine argillite bands up 5%													
264				260.40-260.90 KTf FELSITE													
265		C1b	40/ 264.60	same as 258.78-259.90m													
				260.90-264.60 C2a ARGILLITE													
				Black, fng, massive argillite													
				with minor sand bands up 3%.													
266				264.60-265.10 C1b ARGILLITE													
				Dark gray-gray, relatively massive													
267		C2b		sand stone.													
			45/	265.10-269.33 C2b ARGILLITE													
268				Black, argillite with fng sand bands													
				up 20-30%.													
269																	
270		C2c	/40	269.33													

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION Si A	ALTERATION Ca B	ALTERATION G C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
270				269.33–272.58 C2c ARGILLITE													
271				Dark gray argillite with numerous													
		C2c		sand bands up 40%.													
272				Section locally slightly sheared with Qtz													
				injection in graphitic matrix.													
			272.58														
273				272.58–275.82 C2b ARGILLITE													
274			/45	Black, fng, relatively massive argillite													
		C2b		with fng sand bands up 10–15%.													
275				274.50m: Qtz injection vein													
			/30														
276			275.82														
				275.82–285.80 C2a ARGILLITE													
277			/40	Black, massive fng argillite with													
				minor sand bands up 5%													
279																	
281		C2a	/40														
280																	
281																	
282																	
			/45														
284																	
285																	

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION Si A	ALTERATION Ca B	ALTERATION G C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
285		C2a															
286			286.80 / 50	285.80 - 289.70 C2b ARGILLITE Black - dark gray argillite with frg sand bands up 20-25 %													
287																	
288		C2b															
289			40	289.40 - 289.70m : Qtz injection													
			289.70	289.70 - 296.57 C2a ARGILLITE													
290				Black - dark gray, argillite with minor frg sand bands up 5-10%.													
291			60														
292																	
293		C2a		293.83m : Qtz injection vein													
294				294.80 - 296.57m : Qtz injection up 20%													
				296.40 - 296.57m : Brecciated argillite													
295																	
296																	
				296.57 - 298.70 C2b ARGILLITE													
297			296.57 / 60	Black - dark gray, argillite with sand bands up 20%					297.50m : Pyrite patch 2cm x 4cm in sand band.								
298		C2b	60	Section containing Qtz injection up 10%													
299			298.70														
		End of Hole															
300																	

DDH 92-70

m	m	actual m	core rec. %
0 – 14.02	14.0	0.9	6.4
14.02 – 16.76	2.7	2.7	100
16.76 – 18.90	2.1	1.9	90.5
18.90 – 21.03	2.1	2.1	100
21.03 – 23.16	2.1	1.9	90.5
23.16 – 24.69	1.5	0.8	53.3
24.69 – 26.21	1.5	1.3	86.7
26.21 – 28.35	2.1	1.9	90.5
28.35 – 30.48	2.1	1.7	80.9
30.48 – 32.31	1.8	1.8	100
32.31 – 35.05	2.7	2.7	100
35.05 – 36.76	1.7	1.6	94.1
36.76 – 38.40	1.6	1.6	100
38.40 – 39.93	1.5	1.5	100
39.93 – 42.06	2.1	2.1	100
42.06 – 43.89	1.8	1.8	100
43.89 – 44.81	0.9	0.9	100
44.81 – 46.63	1.8	1.8	100
46.63 – 48.77	2.1	2.1	100
48.77 – 51.51	2.7	2.7	100
51.51 – 53.64	2.1	1.8	85.7
53.64 – 55.78	2.2	1.9	86.4
55.78 – 57.91	2.1	2.1	100
57.91 – 60.35	2.4	2.4	100
60.35 – 61.87	1.5	1.5	100
61.87 – 64.19	2.7	2.7	100
64.19 – 67.06	2.9	2.9	100
67.06 – 67.97	0.9	0.9	100
67.97 – 69.19	1.2	1.2	100
69.19 – 71.63	1.4	1.4	100
71.63 – 73.76	2.1	2.1	100
73.76 – 75.90			
75.90 – 77.72			
77.72 – 79.55			
79.55 – 81.08			
81.08 – 83.82			
83.82 – 86.26			
86.26 – 89.00			
89.00 – 91.44			
91.44 – 92.27			
92.27 – 95.09			
95.09 – 96.93			
96.93 – 99.06			
99.06 – 102.11			
102.11 – 105.16			
105.16 – 108.20			
108.20 – 111.25			
111.25 – 114.30			
114.30 – 115.82			
115.82 – 117.81			
117.81 – 120.70			
120.70 – 123.44			
123.44 – 126.19			
126.19 – 128.32			
128.32 – 130.15			
130.15 – 132.16			
132.16 – 134.11			
134.11 – 137.46			
137.46 – 138.99			
138.99 – 140.51			
140.51 – 142.95			
142.95 – 145.27			
145.27 – 147.22			
147.22 – 149.05			
149.05 – 151.18			
151.18 – 153.62			
153.62 – 156.67			
156.67 – 159.41			
159.41 – 161.24			
161.24 – 163.37			
163.37 – 166.12			
166.12 – 169.16			
169.16 – 172.21			
172.21 – 173.74			
173.74 – 175.56			
175.56 – 177.39			
177.39 – 179.22			
179.22 – 181.66			
181.66 – 182.88			
182.88 – 185.93			
185.93 – 188.37			
188.37 – 191.41			
191.41 – 194.46			
194.46 – 197.51			
197.51 – 198.12			E.O.H.

TOTAL ENERGOLD CORPORATION

DRILL LOG

PROJECT
CLEAR LAKE

HOLE No.
92-70

LOCATION
POW 4+50W
0+50N
61733.23N
91408.28E

LOGGED BY
ATSUSHI GOMI

DATE
15 July, 1992

CONTRACTOR
Kluane Drilling

CORE SIZE
NQ

DATE STARTED
July 11, 1992 2nd shift

DATE COMPLETED
July 14, 1992 2nd shift

DIP TESTS (ACID TEST)

60.96 m	-48.0°
121.92	-48.8°
182.88	-49.5°

GROUND ELEV.
715.25 m

BEARING
30.0°

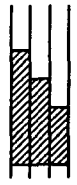
DIP
-50°

TOTAL LENGTH
198.12 m

HORIZONTAL PROJECT

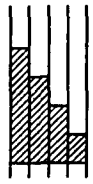
VERTICAL PROJECT

ALTERATION SCALE



absent
slight
moderate
intense

TOTAL SULPHIDE SCALE



< 1%
1%—5%
5%—25%
25%—50%
< 50%

DRILL CALCULATIONS/HOLE SUMMARY

PURPOSE to intersect northwest extention of the Clear Lake orebody.
REASON FOR SHUT DOWN intersected very minor sulphide and thin tuff beds which are "ore horizon" of Clear Lake orebody and drilled through to footwall.

PERTIENT GEOLOGY

0 - 13.12	OVERBURDEN	
13.12 - 31.38	C2a	ARGILLITE
31.38 - 61.90	C2b	ARGILLITE
61.90 - 68.80	C2a	ARGILLITE
68.80 - 83.40	C2b	ARGILLITE
83.40 - 90.20	C2a	ARGILLITE
90.20 - 92.49	C2b	ARGILLITE
92.49 - 92.57	CA	MASSIVE SULPHIDE (vein pyrite ?)
92.57 - 96.73	C2b	ARGILLITE
96.73 - 97.08	C1a	SANDSTONE
97.08 - 99.82	C2a	ARGILLITE
99.82 - 111.12	C2b	ARGILLITE
111.12 - 111.14	C5	ASH TUFF
111.14 - 112.92	C2a	ARGILLITE
112.92 - 113.10	C5	ASH TUFF
113.10 - 115.48	C2a	ARGILLITE
115.48 - 115.55	C5	ASH TUFF
115.55 - 117.64	C2a	ARGILLITE
117.64 - 117.81	C5	ASH TUFF
117.81 - 119.30	C2b	ARGILLITE
119.30 - 119.40	C5	ASH TUFF
119.40 - 119.60	C2b	ARGILLITE
119.60 - 119.70	C5	ASH TUFF
119.70 - 126.95	C2b	ARGILLITE
126.95 - 137.58	C2a	ARGILLITE
137.58 - 139.81	C2b	ARGILLITE
139.81 - 153.80	C2a	ARGILLITE
153.80 - 163.57	C2b	ARGILLITE
163.57 - 167.70	C2a	ARGILLITE
167.70 - 198.12	C2b	ARGILLITE
E.O.H.		

PAGE 1 OF 14 | PROJECT CLEAR LAKE | HOLE No. 92-70

DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION Ca A	Si B	Gr C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
0				0 – 13.12 OVER BURDEN no core.													
5	6																
10																	
		C2a	80	13.12 – 31.38 C2a ARGILLITE weathered, blocky, very fine-grained, massive-slightly													
(Yh02) 15	100	C2a	37	banded, black argillite, limonite and secondary calcite fills hair cracks.													

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
15				C2a ARGILLITE (continued)													
	100	C2a	75	dark black, massive - slightly banded with silt, very fine													
			37	-grained. bedding 70 - 75° to core axis and cleavage													
(16.76)				30 - 40° to core axis.													
	91	C2a	80														
			32	blocky crushed.													
(18.90)																	
	100	C2a	70														
20																	
		C2a							9X12mm fine-grained pyrite lens								
(21.03)		C2a	65														
		C1b	21.95														
	91		22.15						fine-grained pyrite in sandy layer.								
		C2a	15														
(23.16)		C2a		blocky crushed.													
	53																
									very fine pyrite grains in sandy to silty layer.								
(24.69)																	
25		C2a	40														
	87		25.50														
		C2c	25.75	medium-grained sandy to silty interbed.					15cm coarse to medium-grained pyrite dissem. layer.								
			55														
(26.21)																	
		C2a															
	91			dark gray, slightly banded argillite.					fine-grained pyrite in sandy to silty layer.								
			45														
(28.35)									fine-grained pyrite disseminated.								
	81	C2a															
30			35						sheared, graphitic and pyritic.								

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
30	81			C2a ARGILLITE (continued)													
(30.48)		C2a		dark gray massive to slightly banded argillite. partly													
			51.38	sheared and brecciated with qtz. network intrusion.													
	100	C2b	60	31.38 – 61.90 C2b ARGILLITE													
(32.39)			65	dark gray, finely banded with silt layers.													
	100	C2b	70														
35																	
(35.05)			60														
	94	C2b	65	sheared, graphitic					fine to medium-grained pyrite bands in argillite.								
			75	sheared													
(36.76)			80														
	100	C2b	75														
			85														
(38.40)			70														
	100	C2b							very fine-grained pyrite band in argillite.								
(39.93)				slightly sheared													
40				40.3 – 40.7 numerous siderite-qtz veins and networks.					coarse-grained pyrite band 1cm thick.								
	100	C2b	55														
			45														
(42.06)			30														
	100	C2b	70														
			90	Siderite-qtz. veins and networks up to 2cm thick.													
(43.99)	100	C2b															
45			35														
(44.81)																	

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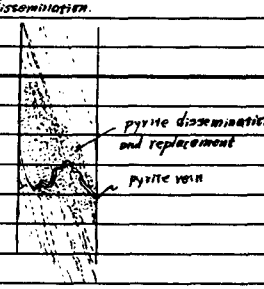
DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
45		C2b	60	C2b ARGILLITE (continued)													
				dark gray, finely banded, graphitic and sheared. numerous													
				qtz. stringers and lenses cut through. very fine-grained													
(46.63)				pyrite lenses up to 0.8cm thick embedded in argillite.													
		C2b	10	fine-grained pyrite disseminated around 46.8m.													
				graphitic, sheared, minor quartz veining													
(48.77)			37														
50																	
		C2b	37														
				minor siderite-qtz. veining at 5 - 10 degrees to core													
			45	axis.													
(51.51)		C2b															
(53.64)				Siderite-quartz veining along cleavages.													
		C2b	55														
55																	
(55.78)			45	Slumping structure													
				1 X 2.5cm pyrite lens.													
		C2b		up to 5mm thick pyrite bands in argillite													
			86						minor pyrite veining up to 3mm width.								
(57.91)			35														
		C2b	35														
60			65														

PROJECT

HOLE No.

DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
60			60	C2b ARGILLITE (continued)													
(60.35)		C2b							61.0 – 62.5 numerous pyrite veins up to 3mm width scatter.								
(61.87)		C2a	61.90 18	61.90 – 68.80 C2a ARGILLITE black to dark gray, massive to slightly banded, very fine grained argillite.					63.50 3mm pyrite veining replaces argillite lamina to pyrite dissemination.								
(64.19)																	
65		C2a															
(69.06)		C2a															
(69.91)			68.80	68.8 sheared, graphitic clay 2cm. with quartz veining					65.5 – 67.5 minor pyrite veins up to 2mm width scatter								
(69.19)		C2b		68.80 – 83.40 C2b ARGILLITE dark gray, graphitic, sheared, banded with fine silt					69.9 2mm thick pyrite layers. irregular shape								
70		C2b		bands and rarely pyrite interbeds, intruded by numerous siderite-quartz veining and networks.					70.33 2cm width sphalerite-pyrite-quartz vein. 70.68 2mm width sphalerite-quartz vein cut at 20 degrees to core axis.								
(71.63)		C2b	15						72.0 fine-grained pyrite lenses up to 1cm X 4cm in sandy to silty argillite layers.								
(73.76)		C2b	5	sheared, shinny submetalic graphite flakes with argillite fragments. 73.48 – 73.84 massive milky quartz vein cut at 35 degrees to core axis.													
75																	

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
75		C2b	70	C2b ARGILLITE (continued)													
				sheared, numerous siderite-quartz veining													
(75.90)		C2b															
(77.72)		C2b	60	fine banded with silky layers.													
(79.55)			45						79.4 - 83.4 pyrite-quartz veins and networks								
80									scatter. width 1 - 5mm. number and width of								
		C2b							veining increase toward depth.								
(81.08)		C2b	50														
				83.40 - 90.20 C2a ARGILLITE black, fine-grained, massive.					coarse-grained pyrite veins, up to 5 mm.								
		C2a	83-40	slightly sheared													
(83.82)				83.40 - 83.90 massive milky siderite-quartz vein													
		C2a															
85																	
			20						85.7 3mm width sphalerite-pyrite-siderite-								
(86.26)		C2a	15						quartz vein.								
				88.85 - 89.05 massive milky quartz vein													
(89.00)																	
90		C2a															

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
90		C2a	90.20	90.20 – 92.49 C2b ARGILLITE													
		C2b	60	dark gray, fine banded with silt, hair veining of quartz -siderite scattering. minor pyrite lenses in beds.													
(91.44)		C2b	30														
		CA	92.49 / 92.57	92.49 – 92.57 CA MASSIVE SULPHIDE (pyrite vein ?)					92.49 – 92.57 fine-grained pyrite with minor brown sphalerite. (thick vein ?) concordant to bedding.								
(93.27)		C2b	45	92.57 – 96.73 C2b ARGILLITE					92.57 – 92.80 sphalerite-galena-pyrite-quartz veins up to 3 mm width cut through.								
95			10														
(95.09)		C2b	5														
		C1a	96.73	96.73 – 97.08 C1a SANDSTONE													
(96.93)			97.08	medium – fine grained, gray sandstone. reverse grading.													
		C2a	10	97.08 – 99.82 C2a ARGILLITE													
				dark gray, fine-grained, massive argillite.													
(99.06)		C2a															
			99.82	99.82 – 111.12 C2b ARGILLITE													
100				dark gray, fine-grained, banded. more dominant													
		C2b	80	argillitic layers (nearly C2a).													
				101.6 – 105.5 more argillite dominant.					101.6 fine-grained pyrite beds in argillite								
(102.11)									101.4 sphalerite-pyrite-siderite-quartz nodule in argillite (deformed vein ?).								
		C2b	20						scattered pyrite-quartz veins.								
105																	

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
105				C2b ARGILLITE (continued)													
(105.16)		C2b															
				calcarious C2b													
			25														
(108.20)																	
		C2b															
110																	
				calcarious C2b													
		-65-	68														
(111.75)				111.12 - 111.14 C5 ASH TUFF pale greenish gray, fine					111.25 - 111.50 fine-grained pyrite band up to								
		C2a		111.14 - 112.92 C2a ARGILLITE					8mm thick in argillite.								
				dark gray, massive, graphitic and pyritic													
		-C5-	112.92 70 25	112.92 - 113.10 C5 ASH TUFF pale gray, fine, pyritic													
				pale gray, fine-grained, slightly banded with black argillite.													
		C2a		pyritic. with minor worm holes? up to 2mm diameter.													
(114.30)																	
115																	
		-65-	65 80						115.10 - 115.16 brown sphalerite - pyrite - quartz								
				115.48 - 115.55 C5 ASH TUFF					vein in argillite.								
(115.82)		C2a		116.3 fine-grained pyrite bands up to 8mm thick in													
			25	black argillite.													
			40	117.61 - 117.64 C2a ARGILLITE with worm holes? up to 2mm.													
		-C5-		117.64 - 117.81 C5 ASH TUFF													
(117.81)			60	brownish pale gray, fine-grained, slightly banded with													
		C2b		black argillite. minor pyrite disseminated.													
		-C5-	119.30	119.30 - 119.40 C5 ASH TUFF mixed with black argillite													
120		C2b	119.90 65	119.60 - 119.70 C5 ASH TUFF mixed with argillite and pyrite													

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
120		C2b	75	C2b ARGILLITE (continued)													
(120.70)		C2b	50						121.7 - 122.1 fine-grained pyrite dissemination								
(123.44)		C2b	65	124.32 - 126.95 slightly sheared, numerous quartz intrusion along argillite cleavages.													
125			70														
(126.19)		C2b															
		C2a	126.95	126.95 - 137.58 C2a ARGILLITE black to dark gray, fine-grained, massive, partly graphitic intruded by numerous siderite-quartz veins and networks.													
(129.32)		C2a	50														
130																	
(130.15)		C2a															
(132.16)		C2a															
(134.11)		C2a															
135																	

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE		GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
135		C2a	50		C2a ARGILLITE (continued)													
(137.46)		C2b	137.58	137.58 – 139.81	C2b ARGILLITE dark gray, fine-grained, finely banded. intruded by numerous siderite-quartz networks.													
(138.99)			139.81	139.81 – 153.80	C2a ARGILLITE													
140																		
(140.51)		C2a	50		black to dark gray, fine-grained, massive, slightly banded argillite. minor silt band. intruded by few siderite-quartz veins.													
(142.35)		C2a	52		144.4 – 149.3 sheared, brecciated to gray clay and gauges. very silty graphitic.													
145																		
(145.71)		C2a																
(147.22)		C2a																
(149.05)		C2a	70															
150																		

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	FRACT INTENSITY
150		C2a	60	C2a ARGILLITE (Continued) dark gray. massive to slightly banded.				
(151.18)		C2a	50	153.17 – 153.44 sheared & graphitic fragments				
(153.62)		C2b	153.80	153.80 – 163.57 C2b ARGILLITE dark gray. fine-grained. weakly banded with silt layers. occasionally intruded by quartz or siderite-quartz-calcite veins and networks. black argillite is more dominant (nearly C2a).				
155		C2b	50					
(156.67)		C2b	45					
(159.41)			35					
160		C2b						
(161.24)		C2b	50 / 80	162.20 small cross laminae in 1cm unit.				
(163.37)		C2a	163.57 / 75	163.57 – 167.70 C2a ARGILLITE black. fine-grained, massive. 163.88 3cm sheared.				
165								

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
165		C2a		C2a ARGILLITE (continued)													
(166.12)		C2a	80														
		---	167.70	167.70 – 198.12 C2b ARGILLITE													
		C2b		dark gray. fine-grained, massive to slightly banded with minor silt lamina. intruded numerous calcite-siderite-quartz veins. slightly calcareous.													
(169.16)																	
170		C2b															
(172.21)		C2b															
(173.74)		C2b	40														
175																	
(175.56)		C2b		175.6 – 176.8 Sheared. some calcite-quartz veining along sheared planes.													
(177.39)		C2b		177.4 – 177.6 slightly sheared. calcite-quartz veins intruded along sheared planes.													
(179.22)																	
180																	

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
180		C2b		180.7 – 183.2 slightly sheared and intruded quartz-calcite-siderite veins and lenses along sheared planes.													
(181.66)		C2b															
(182.88)		C2b	35														
				184.4 1cm X 2cm pyrite lens.													
185			50	184.9 1cm X 3cm pyrite lens.													
(185.93)		C2b															
			50	slightly sheared and intruded by calcite-quartz veins and networks.													
(188.37)		C2b															
190			70	minor calcite-quartz networks.													
(191.41)		C2b	85														
(194.46)			80														
195																	

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
195		C2b	55	C2b ARGILLITE (continued) very massive (nearly C2a).													
			10														
(197.51)																	
(198.12)				198.12m End of the hole													
200																	

DDH 92-71

		Actual m	Core rec. %
0 – 29.26	29.3	0.05	
29.26 – 44.50	15.2	0.08	
44.50 – 45.11	0.6	0.25	
45.11 – 47.55	2.5	2.4	
47.55 – 50.60	3.1		
50.60 – 53.64	3.0		
53.64 – 56.69	3.1		
56.69 – 59.74	3.1		
59.74 – 62.79	3.1		
62.79 – 65.84	3.1		
65.84 – 67.36	1.5		
67.36 – 68.88	1.5		
68.88 – 71.93	3.0		
71.93 – 74.98	3.1		
74.98 – 78.03	3.0		
78.03 – 81.08	3.1		
81.08 – 84.12	3.0		
84.12 – 87.17	3.1		
87.17 – 90.22	3.1		
90.22 – 93.27	3.1		
93.27 – 96.32	3.1		
96.32 – 99.36	3.0		
99.36 – 101.80	2.4		
101.80 – 104.85	3.1		
104.85 – 107.90	3.1		
107.90 – 110.95	3.1		
110.95 – 114.30	3.4		
114.30 – 117.35	3.1		
117.35 – 119.66			
119.66 – 122.53			
122.53 – 125.58			
125.58 – 128.32			
128.32 – 131.37			
131.37 – 133.20			
133.20 – 135.94			
135.94 – 137.77			
137.77 – 139.60			
139.60 – 140.82			
140.82 – 143.87			
143.87 – 146.91			
146.91 – 149.96			
149.96 – 153.00			
153.00 – 156.06			
156.06 – 159.11			
159.11 – 162.15			
162.15 – 165.20			
165.20 – 168.25			
168.25 – 171.30			
171.30 – 173.74			
173.74 – 176.17			
176.17 – 178.61			
178.61 – 180.75			
180.75 – 183.79			
183.79 – 186.54			
186.54 – 189.28			
189.28 – 192.02			
192.02 – 195.07			
195.07 – 198.12			
198.12 – 200.56			
200.56 – 201.47			
201.47 – 203.91			
203.91 – 206.04			
206.04 – 208.18			
208.18 – 209.09			
209.09 – 212.14			
212.14 – 214.88			
214.88 – 217.93			
217.93 – 219.15			
219.15 – 221.28			
221.28 – 224.33			
224.33 – 227.38			
227.38 – 230.43			
230.43 – 233.48			
233.48 – 236.52			
236.52 – 239.57			
239.57 – 241.10			
241.10 – 244.14			
244.14 – 245.67			
245.67 – 248.59			
248.59 – 249.94			

E.O.H.

TOTAL ENERGOLD CORPORATION

DRILL LOG

PROJECT CLEAR LAKE	**GROUND ELEV.** 724.29 m
HOLE No. 92-71	**BEARING** 270.0°
LOCATION PIN 0+00 0+55 W 61420.83 N 91505.28 E	**DIP** − 50°
	TOTAL LENGTH 249.94 m
LOGGED BY ATSUSHI GOMI	**HORIZONTAL PROJECT**
DATE	**VERTICAL PROJECT**
CONTRACTOR Kluane Drilling	**ALTERATION SCALE**
CORE SIZE NQ	absent slight moderate intense
DATE STARTED	
DATE COMPLETED	**TOTAL SULPHIDE SCALE**
DIP TESTS (ACID TEST) 62.79 m −49.0° 120.70 −48.8° 182.88 −47.0° 245.67 −48.9°	< 1% 1%—5% 5%—25% 25%—50% < 50%

DRILL CALCULATIONS/HOLE SUMMARY

PURPOSE to examine IP low resistivity at depth and geochem Hg anomaly down extension.

REASON FOR SHUT DOWN Failed to intersect expected mineralizations at depth.

PERTIENT GEOLOGY

0 − 44.50	OVER BURDEN	
44.50 − 49.65	C2d	SILICEOUS ARGILLITE
49.65 − 50.15	CA	MASSIVE SULPHIDE
50.15 − 52.40	C2d	SILICEOUS ARGILLITE
52.40 − 53.14	CA	MASSIVE SULPHIDE
53.14 − 53.66	C2d	SILICEOUS ARGILLITE
53.66 − 53.86	CA	MASSIVE SULPHIDE
53.86 − 71.13	C2d	SILICEOUS ARGILLITE
71.13 − 71.35	CA	MASSIVE SULPHIDE
71.35 − 74.62	C2d	SILICEOUS ARGILLITE
74.62 − 74.92	CA	MASSIVE SULPHIDE
74.92 − 75.38	C2d	SILICEOUS ARGILLITE
75.38 − 75.56	CA	MASSIVE SULPHIDE
75.56 − 82.45	C2d	SILICEOUS ARGILLITE
82.45 − 82.75	CA	MASSIVE SULPHIDE
82.75 − 83.20	C2d	SILICEOUS ARGILLITE
83.20 − 83.53	CA	MASSIVE SULPHIDE
83.53 − 87.00	C2d	SILICEOUS ARGILLITE
87.00 − 93.85	CA	MASSIVE SULPHIDE
93.85 − 97.77	C2b	ARGILLITE
97.77 − 98.00	C1b	SANDSTONE
98.00 − 103.50	C2b	ARGILLITE
103.50 − 114.00	C2a	ARGILLITE
114.00 − 119.96	C2b	ARGILLITE
119.96 − 120.64	C1a	Sandstone
120.64 − 154.20	C2b	ARGILLITE
154.20 − 163.20	C2a	ARGILLITE
163.20 − 180.00	C2b	ARGILLITE
180.00 − 232.50	C2a	ARGILLITE
232.50 − 235.00	C2b	ARGILLITE
235.00 − 238.00	C2a	ARGILLITE
238.00 − 245.40	C2b	ARGILLITE
245.40 − 249.94	C2a	ARGILLITE
E.O.H.		

PAGE 1 OF 17	PROJECT CLEAR LAKE	HOLE No. 92-71													
DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
0				0 - 44.50 OVER BURDEN from about 18.0m, black argillite fragments in shape (probably deeply weathered argillite below over burden) no core recovered.													
5																	
10																	
15																	

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
15				OVER BURDEN (Continued)													
				no core recovered.													
20				about 25m depth, return stage of tricone drilling is black argillite, quartz, pyrite. (probably deeper than 25m is decomposed argillite cut by pyrite-quartz networks.)													
25																	
(29.26) 30				greenish diaritic rock, chloritized. probably pebble of a Kechika Group member.													

PAGE 3 OF 17	PROJECT	HOLE No. 92-71													
DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
30				OVER BURDEN (continued) no core recovered.													
35																	
40																	
(44.50)				siliceous tuffaceous rock. porphyllite and dark gray siliceous													
45				argillite (2d) pebbles.													

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
45 (45.11)		C2d	55 / 55 / top facing / 27	44.50 – 49.65 C2d SILICEOUS ARGILLITE (C2c siliceous) gray to dark gray, fine to medium, finely banded with fine-grained sand and silt. moderately siliceous. intruded by numerous irregular pyrite network. reverse grading observed in sandy bands.					45.0 – 87.0 0.1 – 3cm width pyrite veins and networks randomly intrude. occasional sphalerite co-exists with pyrite.								
(47.55)		C2d	reverse grading observed in sandy band. / 50 / top facing						45.8–46.3 medium-grained brown sphalerite-quartz networks								
50		A	40 / 49.65	49.65 – 50.15 A MASSIVE SULPHIDE					48.7–49.7 medium to fine grained brown sphalerite-quartz networks and dissemination. Zn estimated grade 0.5% Zn.								
(50.60)		C2d	50.15 / 75	50.15 – 52.40 C2d SILICEOUS ARGILLITE (C2c siliceous) gray, medium-grained, finely banded with sand and silt.					52.2 6cm brown medium-grained sphalerite with pyrite in irregular veining. Zn estimated grade 3% Zn.								
		A	70 / 52.40	52.40 – 53.14 A MASSIVE SULPHIDE				ZZ	numerous pyrite network.								
		C2d	53.14						53.7 minor sphalerite dissemination in pyrite.								
(53.64)		A	53.66 / 53.86 / 35	53.66 – 53.86 A MASSIVE SULPHIDE brown gray, medium-grained, siliceous, irregularly mixed with argillite (C2c, C2b) fragments.					numerous pyrite network.								
55		C2d		slightly brecciated and intruded by quartz networks.													
				53.86 – 71.13 C2d SILICEOUS ARGILLITE (C2c siliceous) gray, fine to medium, banded with fine-grained sand and silt. siliceous. intruded by numerous irregular pyrite network.					55.35 – 56.25 minor brown sphalerite grains dissemination in brecciated and silicified argillite. Zn estimated grade 0.5% Zn. numerous pyrite network. 57.7 – 58.3 minor brown sphalerite grains dissemination in silicified argillite with pyrite. Zn estimated grade 1 % Zn. gypsum precipitation in cracks.								
(56.69)		C2d	60														
60			80						59.68 minor galena-sphalerite dissemination.								
(59.74)																	

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
60		C2d	60	C2d SILICEOUS ARGILLITE (continued)					numerous pyrite irregular veins and networks.								
				60.05 5cm thick pyrite band.					width 0.1 to 1.5 cm.								
				60.65 - 61.05 5-12cm pyrite lens and siliceous argillite alternation.					60.75 minor sphalerite dissemination.								
(62.79)		C2d	50	numerous pyrite irregular veins and networks.													
65																	
(65.84)			48	numerous pyrite irregular veins and networks,													
(67.36)		C2d	50 top facing	reverse grading observed in a sandy unit.													
(68.88)			top facing	reverse grading observed in a sandy unit.													
70		C2d	~ A	69.85 - 71.00 slightly fractured and sheared													
		A	71.13 71.35	71.13 - 71.35 A MASSIVE SULPHIDE					gypsum in cracks.								
				bronzy gray, coarse-grained pyrite.													
(71.93)		C2d	60	71.35 - 74.62 C2d SILICEOUS ARGILLITE (C2b siliceous)					72.4 minor sphalerite dissemination and hair veins.								
				gray, fine to medium grained, slightly banded, siliceous argillite. intruded by numerous pyrite networks.													
75		A	70	74.62 - 74.92 A MASSIVE SULPHIDE					74.62 - 74.92 pyrite with pale tan brown sphalerite								
(74.98)									(74.70 - 74.78 sphalerite concentrates. Zn estimate 7%)								

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
75		A	70	74.92 – 75.38 C2d SILICEOUS ARGILLITE (C2b silceous)													
				75.38 – 75.56 A MASSIVE SULPHIDE					75.96 minor sphalerite specs.								
		C2d	70	75.56 – 82.45 C2d SILICEOUS ARGILLITE (C2c silceous)													
				dark gray to gray, fine to medium-grained, banded with													
			78	silt, silceous, intruded by numerous pyrite veining.													
									numerous pyrite veining. 0.1 – 3cm in width.								
(78.03)																	
		C2d	70														
80			73														
		C2d															
		A	84.94	80.94 – 81.05 MASSIVE SULPHIDE													
(81.08)			81.05														
		C2d		3 – 8 mm thick very fine-grained pyrite bands in argillite.													
			78														
		A	82.45 82.75	82.45 – 82.75 A MASSIVE SULPHIDE													
		C2d		82.75 – 83.20 C2d SILICEOUS ARGILLITE pyrite breccia and nodules.													
		A	83.20 83.53	83.20 – 83.53 A MASSIVE SULPHIDE reverse grading?													
		C2d	65														
		A	83.97														
(84.12)			84.12	83.97 – 84.12 MASSIVE SULPHIDE													
		C2d		83.53 – 87.00 C2d SILICEOUS ARGILLITE (C2b silceous)													
85																	
		C2d	80	dark gray, fine-grained, slightly banded argillite,													
				silceous, intruded by numerous pyrite veins.													
		A	86.02 86.23	86.03 – 86.23 MASSIVE SULPIDE													
		C2d															
			87.00														
(87.17)			25	87.00 – 93.85 A MASSIVE SULPHIDE					no sphalerite observed in pyrite.								
				brassy gray, coarse to medium-grained, slightly decomposed					gypsum precipitation in open cracks in pyrite.								
				massive pyrite.													
		A															
90																	

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION		ALTERATION A	B	C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
90 (90.22)		A			A MASSIVE SULPHIDE (continued)													
(93.27)		A	93.85		irregular boundary.													
		C2b	70	93.85 – 97.77	C2b ARGILLITE													
95		C2b																
(96.32)		C2b																
		C1b	70 97.77 98.00 top facing	97.77 – 98.00	C1b SANDSTONE													
					pale gray, medium-grained, banded with argillitic lamina.													
					normal grading observed.													
(99.36)			75	98.00 – 103.50	C2b ARGILLITE													
100		C2b	60															
(101.80)		C2b	70 70 103.50															
				103.50 – 114.00	C2a ARGILLITE													
			75		black, fine-grained, massive to slightly banded argillite													
105 (104.85)																		

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
105		C2a	80 / 85	C2a ARGILLITE (continued) black to dark grey, fine-grained, slightly banded.													
(107.90)		C2a															
110																	
(110.95)		C2a															
(114.30)		C2b	114.00	114.00 – 120.64 C2b ARGILLITE													
115		C2b															
(117.35)		C2b		sheared, graphitic.													
(119.66)			119.56														
120																	

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
120		C1a	L 5	119.96 - 120.64 C1a SANDSTONE													
			120.64	gray, medium-grained, massive sandstone. graphitic.													
		C2b		120.64 - 154.20 C2b ARGILLITE													
				dark gray, fine-grained, banded with silt. minor quartz													
				networks.													
(122.55)		C2b	80														
125																	
(125.58)		C2b	55														
			55														
(128.32)		C2b	65														
			65														
130			50														
(131.37)		C2b	55														
(133.20)		C2b	60														
			75														
			65														
135			65														

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
135				C2b ARGILLITE (continued)													
(135.94)		C2b	80														
(137.77)		C2b	65														
(139.60)																	
140			60														
(140.82)		C2b	50														
			40														
(143.81)			30														
145		C2b	20														
(146.91)			30														
		C2b	60														
150			85														
(149.36)																	

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
150		C2b	40	C2b ARGILLITE (continued) slightly sheared and intruded numerous quartz veins and stockworks. 151.83 0.5-1cm thick pyrite-quartz layers in argillite 151.83-151.90 pale greenish yellow sericitic layers with quartz. (tuff horizon intruded by quartz?)													
(153.00)		C2b	75 / 45														
		C2b	154.20	boundary C2b to C2a is not clear.													
155		C2a	60	154.20-163.20 C2a ARGILLITE black to dark gray, fine-grained, massive to slightly banded with silt.													
(156.06)		C2a		158.46-158.55 slightly sheared, brecciated													
(159.11)																	
160		C2a	25	160.60-160.80 quartz stockworks in sandy bands.													
(162.15)		C2a															
		C2b	163.20	163.20- C2b ARGILLITE dark gray, fine-grained, slightly banded and sheared, intruded by quartz veins along bedding planes. graphitic.													
165			45														

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
165				C2b ARGILLITE (continued)													
(165.20)		C2b															
(168.25)		C2b		168.50 0.7cm fine grained pyrite band.													
170		C2b															
(171.30)		C2b															
(173.74)		C2b															
175																	
(176.17)		C2b															
(178.61)		C2b															
180																	

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
180																	
(180.75)		C2a	15														
(183.79)			10														
185		C2a	5														
(186.54)		C2a	20														
(189.29)			20														
190		C2a															
(192.02)		C2a	20														
195			~	slightly sheared.													

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	FRACT INTENSITY
195			~~	sheared.				
(195.09)				almost massive black argillite.				
		C2a						
			5					
(198.12)				minor silt bands.				
		C2a	20					
200								
(200.58)			15	minor silt bands.				
(201.47)		C2a						
			10					
(203.91)		~ C2a ~	15	slightly crushed. graphitic on clearages.				
205			20					
(206.04)		C2a	20	minor silt bands				
(208.18)		C2a	25					
(209.09)			20					
210								

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
210		C2a		C2a ARGILLITE black, fine-grained, massive argillite. very minor silt bands. bead angles are almost parallel to core axis.													
(212.14)		C2a		slightly crushed. graphitic.													
(214.88)																	
215		C2a	20	slightly crushed.													
(217.53)		C2a	15														
(219.15)			20														
220		C2a	30														
(221.23)		C2c		sheared. graphitic. slightly sheared.													
(224.33)		C2a															
225																	

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
225		C2a	0	C2a ARGILLITE (continued)													
				black, fine-grained, massive argilite. graphitic.													
				intruded scattered hair veinlets of quartz.													
(227.38)		C2a															
230			15														
(230.43)		C2a															
				slightly crushed. graphitic.													
		C2b	35 top facing	232.7 1cm X 1.5cm pyrite nodule in silty layer.													
				normal grading observed in silty layer.													
(233.49)		C2b															
235			235.00														
		C2a		235.00 - 238.00 C2a ARGILLITE													
(236.52)		C2a	50														
			238.00	238.00 - C2b ARGILLITE													
		C2b		grey to dark grey, fine-grained, finely banded with silt.													
(239.57)																	
240		C2b	50														

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
240		C2b		C2b ARGILLITE (continued)													
(241.10)		C2b	30 / 25 / 15	black to dark gray, fine-grained, banded with silt and sand. intruded numerous hair veinlets of quartz.													
(244.14)		C2b															
245			245.40	245.17 7cm x 0.5cm pyrite-quartz nodule													
(245.67)		C2a	25 / 35	245.40 - 249.94 C2a ARGILLITE black, fine-grained, massive to slightly banded. intruded by numerous hair veinlets of quartz. slightly graphitic on cleavages.													
(248.59)		C2a	35														
250																	
249.94			20	249.94 m End of the hole													
255																	

92 - 72

			actual	rec.
0	– 15.24	15.2	0	0%
15.24	– 17.07	1.8	1.4	78
17.07	– 19.51	2.4	1.5	63
19.51	– 21.64	2.1	1.5	71
21.64	– 22.86	1.2	1.1	92
22.86	– 23.77	0.9	0.9	100
23.77	– 24.99	1.2	0.8	67
24.99	– 26.21	1.2	0.6	50
26.21	– 28.04	1.8	1.5	83
28.04	– 29.75	1.7	0.7	41
29.75	– 31.09	1.4	1.4	100
31.09	– 33.22	2.1	0.9	43
33.22	– 34.44	1.2	1.2	100
34.44	– 37.80	2.4	1.4	41
37.80	– 39.01	1.2	1.2	100
39.01	– 41.33	1.7	1.7	100
41.33	– 42.67	1.3	0.8	61
42.67	– 46.02	3.3	1.1	33
46.02	– 47.55	1.5	1.5	100
47.55	– 50.60	3.1	0.7	23
50.60	– 51.82	1.2	1.1	92
51.82	– 53.64	1.8	1.4	78
53.64	– 54.86	1.2	1.2	100
54.86	– 56.69	1.8	0	0
56.69	– 57.30	0.6	0.6	100
57.30	– 58.52	1.2	1.2	100
58.52	– 60.53	2.0	2.0	100
60.53	– 61.57	1.0	1.0	100
61.57	– 64.31			
64.31	– 65.84			
65.84	– 68.58			
68.58	– 70.10			
70.10	– 71.93			
71.93	– 74.07			
74.07	– 77.11			
77.11	– 80.16			
80.16	– 81.69			
81.69	– 84.12			
84.12	– 87.17			
87.17	– 89.0			
89.61	– 92.66			
92.66	– 95.10			
95.10	– 97.54			
97.54	– 99.36			
99.36	– 102.41			
102.41	– 104.85			
104.85	– 106.38			
106.38	– 108.51			
108.51	– 110.64			
110.64	– 113.08			
113.08	– 116.13			
116.13	– 119.18			
119.18	– 120.09			
120.09	– 121.62			
121.62	– 123.75			
123.75	– 125.58			
125.58	– 128.02			
128.02	– 130.15			
130.15	– 133.20			
133.20	– 136.25			
136.25	– 139.29			
139.29	– 142.65			
142.65	– 145.69			
145.69	– 148.74			
148.74	– 149.66			
149.66	– 151.18			
151.18	– 154.23			
154.23	– 157.28			
157.28	– 160.32			
160.32	– 163.37			
163.37	– 166.42			
166.42	– 169.47			
169.47	– 172.52			
172.52	– 175.56			
175.56	– 178.61			
178.61	– 181.66			
181.66	– 184.71			
184.71	– 187.76			
187.76	– 190.80			
190.80	– 193.85			
193.85	– 196.90			
196.90	– 199.95			
199.95	– 203.00			
203.00	– 206.04			
206.04	– 209.09			
209.09	– 211.23			
211.23	– 214.56			
214.56	– 217.63			
217.63	– 220.68			
220.68	– 223.72			
223.72	– 227.08			
227.08	– 230.12			
230.12	– 233.17			
233.17	– 236.22			
236.22	– 239.27			
239.27	– 241.40			
241.40	– 244.45			
244.45	– 245.67			
245.67	– 248.72			
248.72	– 250.85			
250.85	– 253.90			
253.90	– 256.95			
256.95	– 259.99			
259.99	– 262.74			
262.74	– 265.48			
265.48	– 266.40			
266.40	– 268.83			
268.83	– 271.88			
271.88	– 274.62			
274.62	– 277.67			
277.67	– 279.50			
279.50	– 282.24			
282.24	– 285.29			
285.29	– 288.34			
288.34	– 291.39			
291.39	– 293.22			
293.22	– 295.35			
295.35	– 296.88			
296.88	– 300.84			
300.84	– 302.06	1.2	1.2	
302.01	– 303.89			
303.89	– 306.02			

306.02 –	306.93			
306.93 –	308.15			
308.15 –	309.98	1.83	1.70	92
309.98 –	310.90			
310.90 –	312.12			
312.12 –	313.03			
313.03 –	314.86			
314.86 –	316.38			
316.38 –	318.21			
318.21 –	319.74			
319.74 –	321.56			
321.56 –	324.00			
324.00 –	326.44			
326.44 –	328.57			
328.57 –	331.32			
331.32 –	334.06			
334.06 –	337.11			
337.11 –	340.15			
340.15 –	342.60			
342.60 –	345.64			
345.64 –	348.39			
348.39 –	351.43			
351.43 –	354.48			
354.48 –	357.53			
357.53 –	360.88			
360.88 –	363.93			
363.93 –	366.98			
366.98 –	370.02			
	E.O.H.			

TOTAL ENERGOLD CORPORATION
DRILL LOG

PROJECT CLEAR LAKE	**GROUND ELEV.** 707.00 m
HOLE No. 92-72	**BEARING** 208°
LOCATION POW 5+50E 1+57S 61362.92N 92343.15E	**DIP** -50°
	TOTAL LENGTH
LOGGED BY ATSUSHI GOMI	**HORIZONTAL PROJECT**
DATE	**VERTICAL PROJECT**
CONTRACTOR Kluane Drilling	**ALTERATION SCALE** absent, slight, moderate, intense
CORE SIZE NQ	
DATE STARTED	
DATE COMPLETED	**TOTAL SULPHIDE SCALE** < 1%, 1%—5%, 5%—25%, 25%—50%, < 50%

DIP TESTS (ACID TEST)

62.79 m	-50.7°
121.92	-49.6°
184.71	-46.5°
245.67	-45.6°
309.80	-47.00°
370.03	-40.6°

DRILL CALCULATIONS/HOLE SUMMARY

PURPOSE to intersect unit A and possible zinc mineralization and stockwork type zinc mineralization which was intersected by DDH91-63 at upper levels.

REASON FOR SHUT DOWN

PERTINENT GEOLOGY

0 - 15.24 m		OVER BURDEN
15.24 - 31.20	C2b	ARGILLITE
31.20 - 47.20	C2a	ARGILLITE
47.20 - 88.00	C2b	ARGILLITE
88.00 - 107.50	C2c	ARGILLITE
107.50 - 131.73	C2b	ARGILLITE
131.73 - 138.80	C2d	SILICEOUS ARGILLITE
138.80 - 152.48	C5	LAPILLI TUFF
152.48 - 172.23	CA	MASSIVE SULPHIDE
172.23 - 172.80	C5	TUFF
172.80 - 174.50	C2d	SILICEOUS ARGILLITE
174.50 - 175.09	C5	TUFF
175.09 - 176.05	CA	MASSIVE SULPHIDE
176.05 - 181.86	C2d	SILICEOUS ARGILLITE
181.86 - 197.08	CA	MASSIVE SULPHIDE
197.08 - 198.72	C5	TUFF
198.72 - 200.40	C2d	SILICEOUS ARGILLITE
200.40 - 223.78	C2b	ARGILLITE
223.78 - 261.10	C2a	ARGILLITE
261.10 - 276.40	C2b	ARGILLITE
276.40 - 281.85	C2a	ARGILLITE
281.85 - 320.30	C2b	ARGILLITE
320.30 - 331.30	C2a	ARGILLITE
331.30 - 337.00	C2b	ARGILLITE
337.00 - 339.95	C1b	SANDSTONE
339.95 - 340.20	C2b	ARGILLITE
340.20 - 354.30	C2a	ARGILLITE
354.30 - 357.06	C6	MAFIC ROCK
357.06 - 370.03	C2a	ARGILLITE
		E.O.H.

MINERALIZATION (ZINC)

134.3 - 134.6 m	Sphalerite dissem. 2% Zn
136.6 - 137.7	Sphalerite dissem. network 1% Zn
143.0 - 143.6	Sphalerite dissem. 6% Zn
145.18 - 145.23	Sphalerite dissem. 8% Zn
146.55 - 146.62	Sphalerite dissem. 10% Zn
147.75 - 149.75	Sphalerite dissem. 1% Zn
153.05 - 153.22	Sphalerite breccias 2% Zn
154.62 - 159.80	Sphalerite dissm. breccias 1% Zn
164.25 - 170.93	Sphalerite dissem. network 5% Zn
184.73 - 184.83	Sphalerite dissem. 2% Zn
197.08 - 198.72	Sphalerite dissem. 8% Zn 1% Pb
198.88 - 198.93	Sphalerite dissem. 2% Zn
329.67	1-2mm sphalerite vein
338.02	3cm sphalerite - quartz vein
357.58	1-3mm sphalerite-pyrite vein

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
0				0 – 15.24 OVER BURDEN no core recovered													
5																	
10																	
15																	

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	FRACT INTENSITY
15				15.24 – 31.20 C2b ARGILLITE				
(15.24)	78	C2b	40	dark gray, fine-grained, finely banded with silt layers, calcareous, decomposed and slightly weathered.				
(17.07)	63	C2b	20 / 70	intruded by minor siderite-quartz veins. sheared.				
(19.51)								
20	71	C2b	35	sheared				
(21.64)	92	C2b						
(22.84)	100	C2b	30					
(23.77)	67							
(24.99)		C2b	30					
25	50	C2b	40					
(26.21)	83	C2b		sheared.				
(28.04)	41	C2b		sheared intensively.				
(29.75)								
30	100							

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
30		C2a	31.20	31.20 – 47.20 C2a ARGILLITE black, fine-grained, massive to finely banded, sheared. minor siderite-quartz veinlets.													
(31.09)		C2a	30														
	43		40														
(33.22)	100	C2a															
(34.44)																	
35		C2a															
	41																
(37.98)	100	C2a	20														
(39.01)																	
40	100	C2a		40.90 – 56.69 intensively sheared to black argillite fragments. minor siderite-quartz veinlets.													
(41.33)	62																
(42.67)		C2a															
	38																
45																	

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
45				C2a ARGILLITE (continued) intensively sheared.													
(46.02)	100	C2a															
			49.20	47.20 – 88.00 C2b ARGILLITE													
(47.55)		C2b		dark gray to black, fine-grained, finely banded with silt layers. intruded by minor siderite-quartz veinlets.													
	23			47.5 – 56.7 most intensively sheared to fine fragments and flakes of black argillite. very minor quartz-siderite veins.													
50																	
(50.0)	92	C2b															
(51.82)	78	C2b		intensively sheared.													
(53.64)	80	C2b	40														
(54.86)				slightly sheared.													
55	0			no core recovered. may be a major sheared zone.													
(56.69)	100	C2b		slightly sheared.													
(57.30)	100	C2b															
(58.52)	100	C2b		59.0 – 60.8 (approximate) numerous ankerite (siderite?) – quartz networks in slumped argillite.													
60			35														

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
60	100		40	C2b ARGILLITE (continued)													
(60.53)	100	C2b															
(61.57)		C2b	30														
		C2b	40														
	100		62.80														
		C2c		62.80 – 67.70 C2c ARGILLITE													
				dark grey, fine to medium grained, well-banded with													
(64.31)			25	sand and silt layers. minor siderite-quartz veining.													
65	100	C2c															
(65.94)		C2c															
	100		40														
			67.70														
		C2b	20	67.70 – 88.00 C2b ARGILLITE													
(68.58)				dark grey, fine-grained, finely well-banded with silt													
	100	C2b	30	layers. very minor siderite-quartz veinlets.													
70																	
(70.10)	100	C2b															
(71.93)			30	calcareous, especially silty bands.													
	100	C2b															
			~~														
(74.07)																	
75	100		43														

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
75				C2b ARGILLITE (Continued)													
	100	C2b	35	dark gray, fine-grained, finely well-banded with silt.													
				minor siderite-quartz networks.													
(77.11)																	
	100	C2b	50														
			60														
80																	
(80.16)	100	C2b		80.6 - 80.8 sheared to argillite flakes.													
(81.69)	100	C2b		minor folding texture.													
(84.12)																	
85																	
	100	C2b		slightly sheared													
(87.17)		C2b	30														
			88.00	88.00 - 107.50 C2c ARGILLITE													
	100	C2c		dark gray, fine-grained, well-banded with silt.													
(89.61)																	
90	100			89.94 - 91.10 sheared. (89.94 - 90.40 intensive)													

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	FRACT INTENSITY
90				C2c ARGILLITE (continued)				
				gray to dark gray, fine-grained, well-banded with silt.				
	100	C2c						
(92.66)			35					
	100	C2c						
				well-banded structure.				
95								
(95.10)			38					
	100	C2c						
			~~	96.7 5cm sheared.				
(97.54)			40					
	100	C2c						
(99.36)								
100								
				Slightly graphitic.				
	100	C2c						
(102.41)			35					
	100	C2c						
(104.85)								
105								

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
105	100	C2c		C2c ARGILLITE (continued)													
(106.38)		C2c	45														
	100		107.50	107.50 – 131.73 C2b ARGILLITE													
		C2b		dark grey to black, fine-grained, finely banded with minor silt bands.													
(108.51)	100	C2b															
110			15														
(110.64)	100	C2b	30														
			35														
(113.08)	100	C2b	35														
115			20														
(116.13)	100	C2b	35														
				118.40 – 119.25 intensively sheared to gray clay and argillite subrounded breccias.													
(119.18)																	
120	100																

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	% Zn	% Pb	oz/t Ag	COMPOSITE ASSAYS
120 (120.09)	100	C2b	35	C2b ARGILLITE (continued)													
(121.62)	100	C2b															
(123.75)	100	C2b	45														
125			50	125.20 – 125.60 slightly sheared													
(128.58)	100	C2b	40														
(128.02)	100	C2b	45														
130				130.0 – 130.35 slightly sheared													
(130.15)		C2b	45														
	100	C2d	131.73	131.73 – 138.80 C2d SILICEOUS ARGILLITE (C2c siliceous) gray, medium-grained, banded argillite with silt and sand. intruded by numerous pyrite stockworks, disseminated by pyrite patches and blebs. minor siderite-quartz network and hair veinlets irregularly cut. 131.73 – 134.6 brecciated and filled by pyrite matrix.					131.73 – numerous pyrite stockworks and dissemination.								
(133.28)	100	C2d	15 40 35						134.3 – 134.6 brown coarse-grained sphalerite grains and veinlets. estimated grade 2% Zn.		134.30 – 134.60	0.30	1551	1.66	0.0781	278.4	
135											134.60 – 136.60	2.00	1552	0.1550	0.0596	59.4	

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION Ca A	ALTERATION Si B	ALTERATION Gr C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	% Zn	% Pb	oz/t Ag	COMPOSITE ASSAYS
135	100	C2d	32	C2d SILICEOUS ARGILLITE (continued)					135.4 minor sphalerite grains dissemination.								
			35	136.8 – 138.8 highly silicified argillite (C2c siliceous) slightly brecciated and intruded by numerous quartz and pyrite networks.					136.6 – 137.7 brown coarse-grained sphalerite dissemination and networks, with pyrite and quartz networks, estimated grade 1% Zn.		136.60-137.70	1.10	1553	1.12	0.0343	9.1	
(136.25)											137.70-139.70	2.00	1554	0.2010	0.1021	14.6	
	100	C2d		137.50 – 137.62 massive pyrite with sphalerite minor dissemination.													
				138.36 – 138.46 massive pyrite.					138.55, 138.72 minor coarse-grained brown sphalerite dissemination.								
		C5	138.80	138.80 – 152.48 C5 LAPILLI TUFF													
(139.29)		C5	60	pale grain, fine-grained, banded with black argillite fragments. fine-grained pyrite disseminated. numerous							139.70-141.70	2.00	1555	0.5310	0.0258	28.5	
140																	
	100	C5	45	pyrite blebs and breccias embedded. minor siderite quartz veinlets cut through.					140.02 minor brown coarse-grained sphalerite dissemination.								
				142.1 5x7cm black argillite breccia in tuff.					140.30 very minor sphalerite dissemination.		141.70-143.00	1.30	1556	0.0560	0.1577	21.4	
				142.8 minor silicified band with brecciation in tuff.					141.67 minor brown sphalerite dissemination.								
(142.65)			45						142.50 minor brown sphalerite dissemination.								
	100	C5							143.00 – 143.60 brown coarse-grained sphalerite dissemination with fine-grained pyrite along bedding. (143.35 – 143.60 very coarse-grained sphalerite blebs) estimated grade 6% Zn.		143.00-143.60	0.60	1557	3.59	0.2850	16.3	
											143.60-145.60	2.00	1558	0.3160	0.1159	25.1	
145																	
									145.18 – 145.23 brown coarse-grained sphalerite disseminations. estimated grade 8% Zn.		145.60-147.75	2.15	1559	0.5130	0.2060	1.5	
(145.69)			45						146.55 – 146.62 brown coarse-grained sphalerite dissemination. estimated grade 10% Zn.								
	100	C5	40														
				147.75 – 149.75 brecciated. contains subangular pyrite breccias (0.5 to 5cm diameter). siliceous and compact.					147.75 – 149.75 brown coarse to fine-grained sphalerite grains and veinlets dissemination in siliceous tuff. estimated grade 1% Zn.		147.75-149.75	2.00	1560	0.8310	0.0649	6.1	
(148.74)	100	C5															
(149.65)																	
150	100		20														

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	% Zn	% Pb	% Ag	COMPOSITE ASSAYS
150	100	C5		C5 LAPILLI TUFF (Continued) pale gray, fine-grained, banded with patches and argillitic bands.													
(151.18)		C5	55														
	100	A		152.48 – 172.23 C A MASSIVE SULPHIDE bronzy greyish yellow, metallic, framboidal to coarse-grained pyrite irregular breccia and beds wid. black argillite, tuff and sphalerite breccias in tuffaceous matrix. open cracks and gaps between breccias are often filled by calcite.					153.05 – 153.22 brown coarse-grained sphalerite breccias (1–7mm) with pyrite breccias in tuff. estimated grade 2% Zn.		152.48–154.62	2.14	1561	0.3600	0.0427	13.0	
(154.23)									154.62 – 159.80 brown coarse-grained sphalerite breccias (1–20mm) and dissemination randomly with pyrite or in pyrite in tuff matrix. estimated grade 1% Zn.		154.62–156.62	2.00	1562	0.6030	0.0554	4.5	
155	100	A		brecciated.							156.62–158.62	2.00	1563	0.8240	0.0653	10.8	
(157.28)	100	A		brecciated.							158.62–159.80	1.18	1564	1.25	0.0780	9.6	
160											159.80–161.80	2.00	1565	0.4630	0.0649	6.3	
(160.32)	100	A	55	160.42 less breccias and more pyritic. black siliceous argillite very angular breccias dominant.							161.80–163.80	2.00	1566	0.1920	0.0582	5.9	
(163.37)	100	A		164.5 – 165.1 angular siliceous black argillite and tuff breccias in pyrite matrix.					164.25 – 170.93 breccias disseminated or veined by coarse-grained brown sphalerite in pyritic matrix. breccias are siliceous tuff and siliceous black argillite.		164.25–166.25	2.00	1567	1.05	0.0987	4.8	
165																	

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	% Zn	% Pb	% Ag	COMPOSITE ASSAYS
165																	
	100	CA		CA MASSIVE SULPHIDE (continued)					estimated grade 5% Zn								
(166.42)											166.25–168.25	2.00	1568	2.21	0.0713	7.4	
	100	CA									168.25–170.25	2.00	1569	1.06	0.0572	4.6	
				168.07 – 168.68 gray tuff and black argillite angular breccias in pyrite matrix. (breccia size 1–5cm)													
(169.47)				169.12 – 170.48 gray sandstone and black argillite angular breccias in pyrite matrix. (breccia size 0.5–5cm)													
170											170.25–170.93	0.68	1570	1.81	0.0468	2.8	
	100	CA									170.93–172.23	1.30	1571	0.1690	0.0835	4.0	
				irregular contact.													
		C5	172.23	172.23 – 172.80 C5 TUFF pale gray, fine-grained, banded ash tuff.													
(172.52)		C5	50														
			172.80	172.80 – 174.50 C2d SILICEOUS ARGILLITE (C2a siliceous) highly brecciated, dark gray to black, siliceous argillite in pyrite matrix.													
	100	C2d															
			174.50	174.50 – 175.09 C5 TUFF pale gray, fine-grained, banded ash tuff.													
		C5	175.09														
175			50														
		CA		175.09 – 176.05 CA MASSIVE SULPHIDE brassy gray yellow, metallic, with minor tuff and argillite bx.													
(175.56)			176.05														
				176.05 – 181.86 C2d SILICEOUS ARGILLITE (C2a siliceous) dark gray to black, fine-grained, massive, siliceous argillite, invaded by numerous irregular pyrite veins and networks.													
	100	C2d															
(178.61)																	
	100	C2d	55														
180																	

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
180				C2d SILICEOUS ARGILLITE (continued)													
	100	C2d		slightly brecciated, intruded by numerous pyrite veins and networks.													
(181.66)			181.86	181.86 – 197.08 C A MASSIVE SULPHIDE													
				bronzy grayish yellow metallic, coarse-grained to framboidal, massive pyrite.													
	100	C A		184.3 8 cm brecciated and filled by gypsum veinlets.													
(184.71)									184.73 – 184.83 brown fine-grained sphalerite dissemination in pyrite. 2± Zn estimated.								
185				numerous conform structure in pyrite													
	100	CA															
				187.78 0.5 cm gypsum vein.													
(187.76)																	
	100	CA		189.09 – 189.35 very calcareous (limestone lens or inter-layer?)													
190																	
(190.80)				massive pyrite without texture.													
	100	CA															
(193.85)																	
195	100	CA															

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	% Zn	% Pb	g/t Ag	COMPOSITE ASSAYS
195				CA MASSIVE SULPHIDE (Continued)													
	100	CA															
(196.90)		C5	197.08 / 50	197.08 – 198.72 C5 TUFF pale gray, fine-grained, finely banded, pyritic. pyrite veins and networks intruded.					197.08 – 198.72 brown coarse-grained sphalerite dissemination in tuff. sphalerite aggregates and small grains along tuff bedding planes. Zn 8%, Pb 1%		197.08-198.72	1.64	1572	6.88	0.3820	11.1	
	100	CA	198.72 / 198.90	198.72 – 198.90 CA MASSIVE SULPHIDE							198.72-198.93	0.21	1573	0.6060	0.0765	6.5	
(199.95)		C2d		198.90 – 200.40 C2d SILICEOUS ARGILLITE (C2b siliceous) dark gray, fine-grained, banded with silt. intruded					198.88 – 198.93 minor brown sphalerite dissemination in siliceous argillite.								
200			200.40	numerous pyrite networks.													
				200.40 – 200.45 sheared zone. black argillitic clay.													
	100	C2b	45	200.40 – 273.78 C2b ARGILLITE black to dark gray, fine-grained, banded with silt. minor veining of pyrite and pyrite-quartz veins.													
			45														
(203.00)	100	C2b	45														
205			50														
(206.04)	100	C2b	50														
			~~	208.9 5cm sheared to black clay													
(209.09) 210	100	C2b	75														

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	FRACT INTENSITY
210	100	C2b	70	C2b ARGILLITE (Continued)				
(211.23)				211.59 1.5cm fine-grained pyrite interlayer.				
	100	C2b	40					
(214.56)			40					
215	100	C2b	48					
(217.63)	100	C2b		218.0 – 219.4 slightly sheared and intruded irregular quartz stock works.				
220								
(220.68)	100	C2b	50	reverse grading is observed in sandy layer.				
				224.50 1.5cm thickness pyrite lens.				
(223.72)			223.72	223.72 – 261.10 C2a ARGILLITE				
225	100	C2a	50	black, fine-grained, massive with minor silt band. occasionally contains pyrite blebs and pyrite veinlets.				

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	FRACT INTENSITY
225				C2a ARGILLITE				
	100	C2a	45					
				226.95 3cm thickness pyrite band.				
(227.08)			45	229.65 1cm thickness pyrite band.				
	100	C2a						
230								
(230.12)			40					
	100	C2a	50	232.45 1cm thickness pyrite band.				
				232.54 – 233.05 irregular quartz veins and stockworks.				
(233.17)								
	100	C2a	60					
235								
				235.57 1 x 25cm pyrite lens.				
(236.22)			40					
	100	C2a		237.0 – 250.2 intensively sheared and crushed, fairly graphitic with minor quartz intrusion.				
(239.27) 240	100	C2a						

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
225.5 – 229.8 occasional pyrite veinlets.								

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	FRACT INTENSITY
240	100	C2a	60	C2a ARGILLITE (continued)				
				intensively sheared.				
(241.40)				black to dark gray, fine-grained, massive to slightly				
	100	C2a		banded with silt bands.				
(244.45)								
245								
(245.67)			80					
	100	C2a						
			70					
				248.0 – 250.2 intensively sheared.				
(248.72)								
	100	C2A						
250								
(250.85)			90					
	100	C2a						
				slightly sheared.				
(253.90)								
255	100	C2a						

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
255				C2a ARGILLITE (continued)													
	100	C2a	10	black, fine-grained, massive. occasional thin bands of silt.													
(256.95)																	
	100	C2a															
(259.99)																	
260			70														
		C2a	70	261.2 - 261.4 slightly sheared.													
			261.10														
	100	C2b	75	261.10 - 276.40 C2b ARGILLITE													
				black to dark gray, fine-grained, slightly banded with thin layers of silt.													
(262.74)																	
	100	C2b	60														
265																	
(265.48)																	
	100	C2b	45														
(266.40)			50														
	100	C2b	40														
(268.92)																	
	100	C2b	45														
270			50														

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	FRACT INTENSITY
270				C2b ARGILLITE (continued)				
		C2b		black, fine-grained, slightly banded with silt.				
				partly intruded minor quartz veinlets.				
(271.88)				271.64 - 271.74 coarse-grained pyrite dissemination band.				
		C2b						
(274.62)			43	274.62 – 274.68 sheared quartz veins with graphite				
275				flakes and breccias.				
		C2b		276.16 two 1.2 X 2.5 cm pyrite lenses in argillite.				
			276.40	276.40 – 281.85 C2a ARGILLITE				
		C2a	43	black, fine-grained, massive. rarely embedded thin layers				
				of silt. minor quartz veinlets intrusion.				
(277.67)		C2a						
(279.50)								
280								
		C2a	49					
			281.85	281.85 – 320.30 C2b ARGILLITE				
(282.24)				dark gray, fine-grained, banded with silt.				
		C2b						
285								

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	FRACT INTENSITY
285				C2b ARGILLITE (continued)				
(285.29)		C2b	45 / 40 / 40	dark gray, fine to medium-grained, well-banded with silt or sand size layers.				
(288.34)		C2b						
290		C2b						
(291.39)		C2b	50 / 50					
(293.22)		C2b		293.30 – 294.70 quartz veinlets and network intruded along bedding planes.				
295								
(295.35)		C2b	40					
(296.88)		C2b	70	296.40 – 302.06 sheared intensively to black clay and argillite fragments, fairly graphitic. Minor quartz intrusion.				
300								

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	FRACT INTENSITY
300	100	C2b	10	C2b ARGILLITE (continued)				
(300.94)	100	C2b		dark gray to black, fine to medium-grained, well-bedded argillite. sheared and crushed intensively to angular fragments and black clay. fairly graphitic. partly intruded by quartz veining.				
(302.66)	100	C2b	10					
(303.89)	100			303.5 – 305.0 intensively sheared. fairly graphitic.				
305		C2b	10					
(306.02)	100	C2b	30					
(306.93)	100	C2b	45	307.0 – 309.0 intensively sheared. very graphitic.				
(308.15)	92	C2b		307.8 – 310.6 intensive quartz veining. fairly graphitic.				
(309.98)								
310	100							
(310.90)	100	C2b	40					
(312.12)	100		25					
(313.03)	100	C2b	40	312.33 – 313.00 white milky quartz vein. no mineralization.				
(314.86)				323.00 – 314.50 numerous quartz networks.				
315	100		40					

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	FRACT INTENSITY
315	100	C2b	40	C2b ARGILLITE (continues) black to dark gray, fine-grained, well-banded argillite. occasional minor quartz veining. 316.75 1-2cm thickness pyrite-quartz band.				
(316.38)	100	C2b						
(318.21)	100	C2b	25					
(319.74)								
320	100	C2a	28	320.30 – 331.80 C2a ARGILLITE black, fine-grained, massive to slightly banded mudsilt.				
			320.30					
(321.56)	100	C2a	23	slightly crushed.				
(324.00)	100	C2a	23					
325			22					
(326.04)	100	C2a						
(328.57)	100	C2a	30					
330								

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
328.67 2cm pyrite band. 329.67 1-2mm brown sphalerite-quartz vein. angle 50°.								

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
330		C2a	~ ~ ~	C2a ARGILLITE (continued)					329.85 0.5cm pyrite band.								
									330.00 1.5 X 4 cm pyrite blob in argillite.								
			331.30	331.30 – 337.00 C2b ARGILLITE													
(331.32)		C2b	45	dark gray, fine-grained, well-banded wrt. silt.													
				330 – 334 slightly core crushed													
			70														
(334.06)			32														
335																	
		C2b		335.3 – 335.6 quartz veining to graphitic shear.					335.36 tinny sphalerite spec in quartz vein.								
			40	337.00 – 337.95 C1b SANDSTONE (nearly C2c)													
			337.00														
(337.11)		C1b		gray, fine to medium grained, finely banded with thin													
			337.95	argillite bands, graphitic, intruded by quartz veinlets													
		C2b	45	and networks, slightly sheared, micro-folding structure.					338.02 3cm sphalerite-graphite-quartz vein								
				337.95 – 340.20 C2b ARGILLITE					angle 50° pullaud to argillite bedding.								
				dark gray, fine-grained, well-banded.													
340																	
(340.15)			340.20	340.20 – 354.30 C2a ARGILLITE													
		C2a		dark gray, fine-grained, massive to slightly banded.													
(342.60)			up facing	grading indicates reverse grading.													
		C2a	30														
345																	

PROJECT

HOLE No.

DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
345	100	C2a		C2a ARGILLITE (continued)													
(345.64)				black, fine-grained, massive to slightly banded with silt. minor quartz veining.													
	100	C2a	30														
(348.39)				massive, solid argillite.													
	100	C2a	50 / 45														
350																	
(351.43)				slightly banded argillite (nearly C2b).													
	100	C2a	45 / 45														
			357.90	354.30 – 357.06 C6 MAFIC ROCK (sill or dyke)													
(354.48)		v v	40	greenish yellow, coarse-grained, granular, compact.													
355		v v		consists of granular gray quartz, greenish feldspar, epidotized													
	100	C6 v		mafic minerals and small (1-2 mm diameter) amygdaloids.													
		v v		(ex- mafic dyke?)													
			357.06 / 45	357.20 – 357.40 sheared and cemented by quartz					357.58 1-3mm brown sphalerite-pyrite-quartz								
(357.53)				veining.					vein. angle 60°.								
	100	C2a															
360																	

PAGE 25 OF 25 | PROJECT | HOLE No.

DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
360	100	C2a		C2a ARGILLITE (continued)													
(360.88)																	
	100	C2a	30														
(363.93)			25														
365																	
	100	C2a	20														
			35														
(366.98)			40														
	100	C2a															
370																	
(370.03)				370,03 m End of the hole													
375																	

TOTAL ENERGOLD CORPORATION
DRILL LOG

PROJECT CLEAR LAKE	**GROUND ELEV.** 702.45 m
HOLE No. 92-73	**BEARING** 208° AZ
LOCATION POWGRID L6+50E 1+00S 61095.25 N 92315.72 E	**DIP** -60.0° @ COLLAR
	TOTAL LENGTH 399.90m (1312')
LOGGED BY R. ZURAN	**HORIZONTAL PROJECT**
DATE JULY 27, 1992	**VERTICAL PROJECT**
CONTRACTOR KLUANE DRILLING	**ALTERATION SCALE**
CORE SIZE NQ	absent slight moderate intense
DATE STARTED JULY 25th 12:00 noon	
DATE COMPLETED JULY 30th 5:13 pm	**TOTAL SULPHIDE SCALE**
DIP TESTS 62.79m (206') -58.0° 121.92m (400') -61.0° 182.88m (600') -56.1° 249.02m (817') -55.2° 306.93m (1007') -60.0° (collar) 367.89m (1207') -52.1°	< 1% 1%—5% 5%—25% 25%—50% < 50%

DRILL CALCULATIONS/HOLE SUMMARY

PURPOSE: to intersect target DM_A (massive sulphide unit) and to test southern extension of ore body 200m below massive sulphide intersection by DDH 81-29.

REASON FOR SHUT DOWN: unsuccessful intersection of target 50m past expected intersection of DM_A.

PERTINENT GEOLOGY:

0.00 - 12.19m	Overburden
12.19 - 19.02m	DM_{2d} Argillite
19.02 - 53.20m	DM_{2b} Argillite
53.20 - 68.65m	DM_{2a} Argillite
68.65 - 70.24m	DM_{2d} Argillite
70.24 - 79.11 m	DM_{2a} Argillite
79.11 - 96.50m	DM_{2b} Argillite
96.50 - 97.45m	DM_{2a} Argillite
97.45 - 97.52m	DM_{2b} Argillite
97.52 - 97.84m	DM_{2a} Argillite
97.84 - 98.87m	DM_{2b} Argillite
98.87 - 100.88m	DM_{1b} Sandstone
100.88 - 104.50m	DM_{1a} Sandstone
104.50 - 119.60m	DM_{1b} Sandstone
119.60 - 121.00m	DM_{2a} Argillite
121.00 - 122.42m	DM_{1a} Sandstone
122.42 - 124.48m	DM_{1b} Sandstone
124.48 - 158.55m	DM_{2a} Argillite
158.55 - 159.17m	DM_{2c} Argillite
159.17 - 161.67m	DM_{1b} Sandstone
161.67 - 163.18m	DM_{2a} Argillite
163.18 - 166.36m	DM_{5b} Ash Tuff (K,?)
166.36 - 172.82m *	DM_{2a} Argillite (Calcareous intervals)
172.82 - 183.22m	DM_{2b} Argillite
183.22 - 227.36m	DM_{2c} Argillite
227.36 - 233.78m	DM_{2b} Argillite
233.78 - 237.65m	DM_{2c} Argillite
237.65 - 284.64m	DM_{2b} Argillite
284.64 - 316.08m	DM_{2c} Argillite
316.08 - 399.90 (E.O.H.)	DM_{2b} Argillite

Average Recovery 98%

* DM_{2b} defined as < 30cm of silty/sandy laminae over 1.00m "MINOR SILTY-SANDY INTERBEDS"
DM_{2c} " " > 30cm " " " " " 1.00m " MAJOR " " "

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION Si A	ALTERATION ca B	ALTERATION arg C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
0				0-12.19m OVERBURDEN													
5																	
10				12.19-12.78 DM2a ARGILLITE													
				#1 12.19-19.02 Fault Zone + Bx: dk grey argillically altered + matrix supported bx local limonite in matrix (5%). Clasts subA (knowg. size) 30% chaotic silica stringers <1mm wide.												
	60	DM 2a		(12.78-15.98) (LOST CORE)													
15	5	LOST															

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE		GEOLOGICAL DESCRIPTION	ALTERATION Si A	ALTERATION ca B	ALTERATION arg. C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
15					(LOST CORE (cont'd))													
16	5	LOST		15.98-16.69	DM_{2d} ARGILLITE (same as before)													
17		DM_{2d}																
		LOST		16.69 - 17.72	(LOST CORE)													
18	22	LOST																
		DM_{2d}		16.69 - 19.02	DM_{2d} ARGILLITE (same as before)													
19				19.02 - 20.52	DM_{2b} ARGILLITE													
	43	DM_{2b}			19.02 - 20.52 Lt. grey cleaved, argillite < 5% silica stringers. Local, jarosite 5% (19.10m)													
20																		
21				20.52 - 24.26	(LOST CORE)													
22	16	LOST																
23																		
				24.26 - 26.36	DM_{2b} ARGILLITE (same as before)													
24	44				24.26 - 25.00 Dk grey brown argillite, massive, 5% white-yellow silica stringer (< 1mm) and bx. Chaotic													
25																		
		DM_{2b}			25.00 - 26.36 20% chaotic silica stringers (< 1mm wide) + bx FH gouge (26.00 - 26.10m).													
26	42																	
27		LOST		26.36 - 27.61	(LOST CORE)													
					27.61 - 29.04 Pale grey green argillite bx, 5' FH. + gouge													
28	70				with fragments (up to 7cm) of DM_{2b} (Sandstone)													
		DM_{2b}		27.61 - 29.04	DM_{2b} ARGILLITE (same as before)													
29	65																	
		LOST		29.04 - 31.38	(LOST CORE)													
30	15																	

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION		ALTERATION Si A	Ca B	arg. C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
30				31.38-32.13	DM2b ARG. Dk grey crushed argillically altered argillite													
31	15	LOST			+ Fault gouge (70%)													
32	47	DM2b																
				(32.13-33.63)	(LOST CORE)													
33	33	LOST			33.63-34.30 Dk grey crushed argillically altered argillite													
					+ 70% fault gouge													
34		DM2b		33.63-34.30	DM2b ARGILLITE (same as before)													
				(34.30-36.63)	(LOST CORE)													
35	11			36.63-36.97	DM2b ARGILLITE													
		LOST			Dk grey-brown crushed argillite / 10%													
36	20				Silica in 60% fault gouge													
37	29	DM2b																
	37	LOST		(36.97-37.76)	(LOST CORE)													
38		DM2b			37.76-38.10 Moderate brown (37.76-37.86) argillite													
					becoming v. graphitic towards 38.10 → 70-90% Flt. gouge													
39	12	LOST		(38.10-39.71)	(LOST CORE)													
		DM2d		39.71-39.93	DM2d ARGILLITE - Lt. Grey blocky with 3% jarosite Amonite													
40		LOST		(39.93-40.35)	(LOST CORE)													
	72	DM2b		40.35-41.96	DM2b ARGILLITE													
41					40.35-41.96 Moderate grey silica (10%) / calcite (10%)													
					Inj-str. fault bx + 65% grey gouge													
42	48	LOST		(41.96-43.21)	(LOST CORE)													
43				43.21-45.45	DM2b - Fault breccia (clast supported) with													
					5-10% dk grey crushed argillite and silica gouge													
44	100	DM2b			Frag. often elongated to shearing - 2 × ¼ cm avg size.													
					Local patches 2×3cm limonite (wk) stain <5%.													
45	23				Frag. larger 4-5cm across @ bottom of interval.													

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A (si)	ALTERATION B (ca)	ALTERATION C (arg.)	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
45																	
	1	DM_{2b}															
46	35																
47				45.45-50.72 LOST CORE													
		LOST															
48																	
	6																
49																	
50																	
			30°														
		DM_{2b}		50.92-50.97 DM_{2b} ARGILLITE (same as before)													
51		LOST		50.97-52.35 LOST CORE													
52	44			52.35-53.20 DM_{2b} ARGILLITE (same as before)													
		DM_{2b}															
53				53.20-59.65 DM_{2a} ARGILLITE.													
		DM_{2a}		53.20-54.65 80% Dk brown-black fault gouge +													
54				crushed argillite													
	46																
55																	
				54.65-59.22 LOST CORE													
				59.22-59.74 DM_{2a} ARGILLITE													
56				50% Dk brown fault gouge & crushed													
				argillite. Locally silicious @ 59.22-59.30													
57		LOST															
	19																
58																	
59																	
		DM_{2a}															
60	34	LOST		59.74-68.65 LOST CORE													

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION ca A	ALTERATION si B	ALTERATION arg C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
60																	
	1			LOST CORE (Cont'd)													
61																	
62																	
		LOST															
63																	
64																	
	3																
65																	
66																	
		CORE															
67																	
68				68.65-68.88 DM2d ARGILLITE													
				Blocky - silica injected fault breccia													
69		DM2d															
		LOST		68.88-70.24 LOST CORE													
	36			70.24-71.21 DM2a ARGILLITE													
70																	
				70.24-71.24 Dk brown to black cleaved argillite with local													
		DM2a		40% black gouge + crushed argillite. Local <1% limestone													
71	61			Silica stringers (<1mm wide)													
				71.21 - 75.02 LOST CORE													
72		LOST		73.02-73.76 DM2a " " Dk brown to black cleaved (every 2mm)													
	30			Argillite with 80% crushed argillite and fault gouge between													
73				73.50 & 73.76													
		DM2a															
74																	
	25	LOST															
75				73.76-75.86 LOST CORE													

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION CA A	ALTERATION SI B	ALTERATION arg C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
75																	
	23	LOST	75	75.86-76.50 DM2A Dk brown to black cleaved argillite with 80% crushed argillite + fault gouge throughout interval.													
76		DM2A															
		LOST		76.50-77.08 LOST CORE													
77	62		70	77.08-79.11 Dk brown to black cleaved argillite with 30% crushed argillite + fault gouge. 5% local crushed silica.													
78		DM2A	65	+ bx (frags 2-3cm with wk (<5%) local limonite stain.)													
79				77.08-79.11 DM2A ARGILLITE													
	54	DM2b		79.11-79.50 DM2b Grey breccia frags 2-3cm, local ja (1%) + 10% gouge													
80				79.50-80.77 LOST CORE													
		LOST	70	80.77-81.00 Grey laminated argillite.													
81		DM2b		81.00-81.34 Crushed argillite + 5% silica in 80% dk grey fault gouge.													
82	31			81.34-84.53 DM2b ARGILLITE (same as before)													
		LOST		84.53-84.43 LOST CORE													
83				84.53-84.43 Fault breccia (frags angular 1/2cm avg. size). Grey 20% gouge.													
84	5																
		DM2b	72														
85																	
	5	LOST		84.43-85.87 LOST CORE													
86				85.87-85.95 DM2b fault bx + silica injection													
	30	LOST / DM2b		85.95-86.38 LOST CORE													
87	7	LOST		86.38-86.56 DM2b 80% Dk grey fault gouge + crushed argillite.													
				86.56-87.42 LOST CORE													
88	53	DM2b		87.42-87.48 DM2b Dk grey - black fault breccia (4cm frag.)													
				87.48-87.91 LOST CORE													
89	43	LOST		87.91-88.59 DM2b Dk grey bx + 20% gouge <5% silica (crushed)													
		DM2b		88.59-89.09 LOST CORE													
90	60			89.09-90.24 DM2b Dk grey crushed argillite + 85% gouge													

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION		ALTERATION ca A	si B	org C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
90	68	DM2b			silicified @ 90.19-90.24													
91	14	LOST		90.24-91.57	LOST CORE													
				91.51-91.86	DM2b Fault breccia + 10% gouge - blocky													
92	13	DM2b																
		LOST		91.86-93.17	LOST CORE													
93	44			93.17-93.57	DM2b Silica filled feather fractures - Brecciated													
		DM2b			and sheared Dk. grey argillite													
94	0			93.57-96.50	LOST CORE													
				96.50-96.62	DM2a ARGILLITE													
95	0	LOST			Dk grey - black crushed and cleavage argillite + 50%													
96	13				black fault gouge.													
		DM2a																
97	32	LOST	50	96.62-97.45	LOST CORE													
		DM2b		97.45-97.52	DM2b ARGILLITE Grey laminated / DM2a 97.52-97.84 DM2a crushed													
98	37	LOST		97.84-98.42	LOST CORE													
		DM2b		98.42-98.87	DM2b ARGILLITE Fault + gouge + bx (3+1cm frags)													
99	17	DM1a		98.87-99.02	DM1b SANDSTONE Grey													
		LOST			98.87-99.02 bx-sheared w 20% si / ca strg. (1mm) chaotic													
100				99.02-100.88	LOST CORE													
101	34			100.88-101.39	DM1a SANDSTONE													
		DM1a			Lt grey broken core, 10% chaotic si str.													
102	20			101.39-103.06	LOST CORE													
		LOST		103.06-104.50	DM1a Silica injected fault breccia -													
103	50				consolidated. Angular frag. 1cm avg. size - 25%													
		DM1a	30		silica flooding (diffuse margins). Clast supported,													
104					matrix.													
	62			104.50-105.81	DM1b SANDSTONE													
105		DM1b			104.50-105.20 laminated lt. grey sandstone with					10								

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION ca A	ALTERATION si B	ALTERATION arg C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
105																	
		DM_{1b}	105.20	5% silica stringers					105.20 Py. fragment 1cm in diameter - fine gr								
106	62	LOST		105.20-105.81 Fault Zone of various character													
			105.81-106.98	LOST CORE													
107			106.98-113.08	DM_{1b} (105.20-106.98) is a consolidated mud supported fault													
				bx with angular frag. of 60% DM_1, 20% DM_2 & 20%													
108				milky quartz in a dk grey mud matrix (60%).													
	97			(105.25-105.40) Lt. off beige intensely clay altered													
109				fragment - perhaps ashtoff													
				(105.40-105.81) Loosely consolidate fault bx of													
				70% crushed argillite & gouge + 30% sandstone and milky													
110				quartz frags <1cm avg. size.													
		DM_{1b}															
111																	
	95			106.98-113.08 Silica flooded sub angular fragments													
112				+ crushed silica and sandstone fragments with up to 10%													
				graphitic slip planes (1-2cm wide) throughout interval													
113				20% gouge avg. (lt. grey)													
		LOST	113.08-113.91	LOST CORE													
114			113.91-119.60	DM_{1b} SANDSTONE (laminated)													
	70		113.91-118.35	Fault Zone; crushed graphitic													
115				argillite (50%) crushed silica & sandstone fragments													
				(30%) + 20% fault gouge. (114.32-114.61) greenish													
116		DM_{1b}		(tuff?) argillically altered gouge. (114.61-115.00) Silica					116.40-116.49 fine grain irregular py. patch								
				flooded sandstone? bx.					9x3cm								
117	100																
118			118.35	Folded, laminated, weakly cracked sandstone.													
				Silica stringers @ 55°CA 2mm widest irregular, discontin.													
119																	
120	100	DM_{2a}	119.60-121.00	DM_{2a} ARGILLITE													

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION ca A	ALTERATION si B	ALTERATION arg C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
120																	
	100	DM_{2a}		(DM2a ARGILLITE Contld) - Local brecciated silica													
121				(40%) + graphitic slip planes. Locally laminated													
		DM_{1a}		121.00-122.42 DM1a SANDSTONE													
122				Silica injected crackle bx. interbedded with DM_{2a}													
	98			laminated. + fault bx with graphitic slip planes near													
123		DM_{1b}		bottom of interval (122.30-122.42)													
124				122.42-124.48 DM1b SANDSTONE													
				Lt. grey silica injected (str = 15%; 3mm wide avg.)													
125				wk crackle bx laminated (1mm wide) sandstone.					125.44-125.47 Irregular patch of fine grain								
	100			Moderately calcareous					Argille 1½ x 2cm.								
126																	
				124.48-138.79 DM2a ARGILLITE													
127				Dk grey to black v. graphitic argillite, locally bx, locally													
128				injected with silica, local fault bx and crushed silica													
	100			with gouge. Cleavage surfaces shiny black													
129		DM_{2a}		(125.94-126.75) Silica injected crackle bx. 30% white													
				silica in between cracks.													
130				(130.75-133.50) Silica injected - feather fractures (<1mm)													
				+ discontinuous stringers; Local shear planes (Graphitic)													
131	100			(133.50-134.60) Black shiny massive; v. graphitic													
				(134.60-137.25) Silica injected - feather fractures +													
132				discontinuous stringers. Local shear planes (Graphitic)													
133																	
134	100								134.92 Disseminated py along lamellae @ 60° TCA								
									1-2mm wide lab beds.								
135	100																

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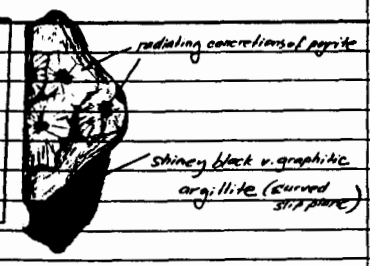
DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION ca A	si B	arg C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
135				(136.00-137.00) - Shiney v. graphitic black arg. - slip planes					135.53-135.61 2 irregular fine grain patches each 2x1cm of pyrite								
136	100																
137		DM2a		(137.25-137.80) Intensely crackled silica veinlet injected bx; 35% white silica.													
138	92		40						138.35-138.40 Lg patch 3x4cm of fine grain pyrite locally crackled - remobilized?								
139		LOST		138.74-139.17 LOST CORE													
				DM2a ARGILLITE					139.08-139.23 (See Sketch)								
				139.17-157.82 v. graphitic, locally bx, locally silica injected & crushed deformed silica & argillite													
140	92		20	Graphitic slip planes common													
141																	
142																	
143	97	DM2a	15 1cm														
144			5 clear						140.45 & 140.67 elongated 3x0.02cm fine grain py crosscutting calcareous stringers.								
145																	
146	93		1cm														
147																	
148			5 0 1cm.	(148.50-153.75) massive <1% ca/si network - stringers					148.67 Crackled fine grain py 4x1/4cm elongated to cleavage								
149	99		45 py 1cm						149.86-150.00 Primary beds 3-5mm of fine grain py 45° rca								
150																	



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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION ca A	ALTERATION si B	ALTERATION org C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
150																	
151	99	DM_{2a}		(DM2a ARGILLITE Contd)					150.00-156.67 Trace - 2% fine grain irregular discontinuous patches and disseminations of pg. Locally wispy, < 1cm long elongated to cleavage/laminations and locally associated with feather silica stringers.								
152	95																
153				(153.75-157.87) Faulted and brecciated argillite with 15% local fault gouge over interval. Local silica injection & crushed argillite & silica increasing towards end of interval. Ca fragment 157.25-157.40m of DM1b. - Graphitic shear planes common.													
154																	
155	90																
156																	
157																	
158	77	LOST		157.87-158.55 LOST CORE													
		DM_{2c}		158.85-158.87 DM_{2c} ARGILLITE													
159	80	ARGILLITE		30% silica injected - 30% laminated. Graphitic stringers flat-lying													
				158.87-159.17 LOST CORE													
160																	
161	93	DM_{1b}		159.17-161.67 DM_{1b} SANDSTONE													
				Lt grey laminated SST. with uniform (1 every 2cm) silica stringers ⊥ to laminae					161.44m 3-4 1mm disseminations of Py brown sphalerite between breccia fragments								
162		DM_{2a}		161.67-163.18 DM_{2a} ARGILLITE													
163	87			Shear - bx zone; graphitic shear planes + gouge 10%. Crushed silica & graphitic argillite elongated to shearing avg. size: 3/4 x 1/4 cm. Sharp lower contact - shear.													
164		DM_{3b} (altered K-)															
165	99			163.18-166.34 DM_{3b} ASH TUFF (altered Felsite ??)					163.18-166.34 1% fine grained py occurring								

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION (DM5b ASHTUFF Cont'd)	ALTERATION ca A	ALTERATION si B	ALTERATION arg C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
165																	
166	99	DM5b (K?)	80	Pale lt greenish-beige with oft white-cream splotches (1cm avg. size.); interbedded with sheared and crushed silica and graphitic argillite. Contacts, upper & lower sharp. Could also be an argillically altered felsite dyke.					as blebs (1-4mm) in crushed argillite interbeds.								
167																	
168	95		50	166.36-172.82 * DM2a ARGILLITE - with calcareous intervals													
169		DM2a	35	Fault zone: bx with graphitic shear planes (10% gouge). Two intervals (169.00-169.50) and (170.00-172.00) of fine grain crackled													
170				massive calcareous brownish-grey argillite. Intervals injected with calcite. Sharp bottom contact with DM2b - graphitic breccia - fault.													
171	98		20						171.90m 4x5cm fine grain irregular patch of py @ shear plane								
172			20														
173																	
174	91		55	172.82-185.22 DM2b ARGILLITE Grey with lt. grey silty-sandy laminations. Local contorted/soft sediment deformation. Local feather fractures injected with silica < 3%.					173.28 4.5x1cm irregular patch of fine grain pyrite occuring as a crackled lens associated with silica ∥ to laminae								
175																	
176	100	DM2b	15														
177			1cm. 26	(177.50) - Tangential cross-bedding					177.09 1x2cm irregular patch of fine gn crackled py associated with silica; elongated to laminae.								
178	98								178.90 1x½cm block of fine grain py, silica and lt. brown sphalerite								
179			40														
180																	

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION ca A	ALTERATION si B	ALTERATION arg C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
180				DM2b ARGILLITE (Cont'd)													
181																	
182	95	DM_{2b}	45														
183				183.22-193.21 DM2c ARGILLITE													
184	98		fau	(183.98) Grey with light grey silty sandy laminae. Local faults/													
				zones of (186.20-187.75), (189.00-190.58) and (192.00													
185				-193.21m). All typically graphitic with crushed argillit													
				and silica networks/crushed silica breccias. Local													
186				deformed bedding and tangential crossbedding													
187	95	DM_{2c}															
188				188.56													
189	100		fau 15														
190																	
191	92		45														
192	86		42														
193			80														
	LOST			193.21-193.55 LOST CORE													
194	100	DM_{2c}		193.63-214.20 DM2c ARGILLITE													
195																	

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION (DM80 ARGILLITE Cont'd)	ALTERATION ca A	ALTERATION si B	ALTERATION arg C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
195	100		45	Grey - lt grey argillite with local silty/sandy laminae >30%. Local minor faults - bx (15% of interval). Local soft sediment deformation. Local folding & deformation. Minor fault zones @ (193.55 - 195.00) & (198.00 - 200.00) metres. Local crushed argillite bx & minor 10-30% silica.													
196	94		60														
197			15														
198	96																
199		DM2c															
200			23														
201	100																
202																	
203			35														
204	96																
205																	
206																	
207	100		30														
208			5														
209	96																
210																	

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION		ALTERATION ca A	ALTERATION si B	ALTERATION org C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
210					DM2c ARGILLITE (Cont'd)													
211	96	DM2c	15, 25															
212			20															
213	86		0, 5															
214		LOST		214.20-214.62	LOST CORE													
215				214.62-218.71	DM2c ARGILLITE													
216	100	DM2c	80, 66		Grey to lt grey silty banded argillite (~60% silty lamine).													
217					218.40 - 218.71 Fault zone 30% crush silica & crushed DM2c - graphitic slip planes.													
218																		
219	87	LOST		218.71-219.03	LOST CORE													
220				219.03-227.36	DM2c ARGILLITE													
221	93	DM2c	0, 60		Grey to lt. grey silty banded argillite with local silica (white) injected fault breccia zones; They occur at 219.03-219.40m, 221.15-221.30m, 222.10-222.50m, 226.56-226.86m. Breccia frag. typically elongated to shear along a graphitite plane, 30 % are white crushed or deformed silica. Avg size 1 x 1/4 cm.													
222																		
223	100		40															
224																		
225	94																	

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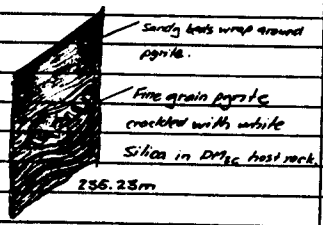
DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION Ca A	ALTERATION Si B	ALTERATION Arg C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
225				(DM2c ARGILLITE Contd)													
226	91	DM2c	45														
227			50	227.36-235.78 DM2b ARGILLITE													
228				Dk grey argillite with <20% silty bands/laminae. Local deformed laminae. Silica stringers (230.60-231.60) 15% at gentle & to laminae; 15° TCA													
229	100			Silica injected (60%) fault bx zone 232.48-232.70m 90° TCA.													
230																	
231		DM2b	40														
232	97		30														
233			80														
234			30	233.78-237.65 DM2c ARGILLITE													
235			45	Grey argillite with >3% silty and sandy laminae. Sandy band @ 234.85-234.50m ~45° TCA. Local					234.50m - 6x2cm blebs of crackled fine grain py (60%) + white silica (40%). Elong. parallel to bedding.								
236	98	DM2c	25	milky white stringers avg 1/2 cm wide (10%) @ 80-90° TCA.					235.23m Same as above but smaller (3x1cm)								
237			30						235.23m " " " " (2½x½cm)								
238	98	DM2b	50	237.65-284.40 DM2b ARGILLITE (interbedded w/ DM2c) Grey to lt grey silty to sandy (5-70%) locally laminated argillite. Local soft-sediment deformation. Local (238.90-239.12m) sandy lens; graded bedding.					238.59m fine gn crackled py + (5%) white silica 8mm dia.								
239			50														
240			15	minor faults - graphitic shear planes (minor <1% at interval. Local sandy lenses sometimes graded					238.71m fine gn crackled py (10%) white silica 1½ cm dia.								



PROJECT CLEAR LAKE

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION (DM2b ARGILLITE int. w DM2c Cont'd)	ALTERATION ca A	ALTERATION si B	ALTERATION arg C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
240																	
			32	showing stratigraphic tops.					240.74m 2 blobs of nodular crackled fine gn. py. both								
241									with 5-10% off-white silica ~ 1cm. dia.								
	100		35						241.30 - 241.80m <1% fine gn. diss. py associated								
242			50						with silica stringers (avg. 2mm wide; irregular								
			40						and discontinuous.).								
243									243.43. Fine gn. crackled py nodule 4x1cm.								
244	98		40														
245																	
246																	
		DM2b	50														
247	98		40														
248			45														
249				(249.50-249.80m) sandy lens. 0° TCA.													
			0														
250																	
	97																
251																	
252									252.91m Fine gn. crackled py nodule 2x1cm.								
			39														
253	98		25														
254																	
255																	

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION (DM2b ARGILLITE int. w DM2c Cont'd)	ALTERATION A (ca)	ALTERATION B (si)	ALTERATION C (arg)	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
255																	
256																	
257	98		F 24														
258			F 26														
259			F 18						259.23-259.40m <1% fine gr. pg. as elongated (8×2mm avg. size) cracked masses with 5% silica and parallel to silty laminae.								
260	97																
261																	
262		DM_{2b}															
263	99		80 F 20														
264									264.78m Fine gr pg. nodule 5×1½ cm, cracked with 5% silica and elongated to silty laminae.								
265																	
266	98		F 20						266.30-266.40m Fine gr. "brown" sph (60%) + pg (40%) as an elongated lens 40° TCA Subparallel to silty laminae (20° TCA). 8mm × 9cm long. wrapping around core.								
267			F 45														
268	100								267.85 irregular patches of fine grain H. brown-honey sph (60%) / pg (40%). 2 patches: 5×2cm & 4×1cm avg. sizes, Sub parallel to laminae								
269																	
270																	

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION (DM2b ARGILLITE m1. & DM2c Cont'd)	ALTERATION ca A	si B	org C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
270																	
271									271.30-271.36m Fine gr. py (7%), H. brown sph. (25%), and off white silica (5%) as an elongated mass 5cm x 6mm; cross cutting silty laminae and associated with silica injection.								
272	100																
273																	
274																	
275	100																
276		DM2b		(276.10-276.25) Stylolites @ 30-50° TCA. - silica													
277																	
278	100																
279																	
280																	
281	100																
282									282.62 Fine gr. diss. py associated with silica injection 1x4cm avg. size								
283	87								283.70 2 8mm dia. crackled blebs of fine gr py (6%) and off white silica (40%)								
284				284.40 - 284.64 LOST CORE													
285	97%	LOST DM2c	50	284.64 - 291.89 DM2c ARGILLITE													

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION ca A	si B	org C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
285				DM2c ARGILLITE (Cont'd)													
286	97		15	Grey to lt. grey silty-sandy laminated argillite with local graphitic shear planes, soft sediment deformation, sandy lenses, and local discontinuous white silica stringers <30% along shear planes and folds.													
287			40														
288		DM2c	40	(287.50-287.78m) sandy lens, laminae 40° TCA.					287.63m Fine grain pyrite blob 3/4 cm dia - crackled with 5% white silica								
289	100			(288.70m) Graphitic shear plane @ 40° TCA + bx.													
290			32														
291				291.39-291.81 LOST CORE													
292		LOST															
293	87		38	291.81-316.08 DM2c ARGILLITE Grey-lt. grey silty-sandy laminated argillite w/ local fault planes, stringer networks and sandy lenses.													
294		DM2c	80 32	(294.00m graphitic shear plane)													
295				(295.75-295.95m) sandy lens; graded					295.67m Fine grain blob 3×1cm - crackled py 5% off white silica								
296	95			(296.10m) tangential x-laminae showing tops					295.98m Fine gn py. blob 3×2cm - crackled w/ 5% off white silica; elongated to laminae.								
297			60 80 40	(296.85m) graphitic slip plane													
298	95			(297.70m) graphitic slip plane + bx @ 40° TCA.					298.70m Fine grain disseminations of py (diss <1mm dia.) in the axis of soft-sed-def fold of silty laminae								
299				299.30 Feather silica-injected stringers @ 70-80° TCA. laminae @ 65° TCA and locally deformed.													
300	100		70						300.00m. Fine gn py blobs (50% py/50% qtz) 2×4cm								

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION (DM2c ARGILLITE Cont'd)	ALTERATION ca A	ALTERATION si B	ALTERATION org C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
300									in a shear breccia injected with qtz.								
301	100		80/60	(301.30m) Graphitic slip plane @ 60°TCA													
302																	
303			55														
304	97																
305			70	(305.20m) Graphitic slip plane @ 70°TCA.													
306				(306.00m) Graphitic slip plane + white silica (30%) and fragmented silty laminae													
307	99	DM2c															
308				(308.00 - 309.30m) Graphitic slip planes + folded silty laminae													
309	95																
310																	
311									310.20m Fine gn.py. blob 3x1cm; cracked w 5% off-white silica elongated & sandy laminae.								
312	99		75	(312.00 - 316.08) Fault, shear plane + bx zone with local folded silty laminae, crush argillite / white qtz. towards end of interval. <10% Fault gouge local. Discontinuous chaotic silica stringers ½cm wide avg. - 10-20% of interval.					311.38m Fine gn.py. blob 2½cm dia., cracked w off-white silica.								
313									312.86m Fine gn.py. blob 3cm dia., cracked w off-white silica within a graphitic shear-bx silica injected zone.								
314	97																
315																	

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION (DM_{2c} ARGILLITE Cont'd)	ALTERATION A (ca)	ALTERATION B (si)	ALTERATION C (erg)	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
315				↓													
	97	DM_{2c}		316.08-348.76 DM_{2b} ARGILLITE (interbedded w sandy lenses)													
316				Grey silty laminated argillite (<30% silty laminae)													
317			10	with local sandy interbeds. Local faulting, silica													
	97		38	networks - stringers and breccia noted.													
318																	
319			34														
320																	
			15														
321	100																
				(321.50m) Folded laminae.													
322		DM_{2b}	33														
				(321.90-322.10m) Sandy lens with 20% wide silica network;													
323			25	Chaotic. Sheared @ F.W													
			8	(323.43-323.90m) Normal graded sandy lens, fining					323.40m Fine grain crackled pg. rock with 5%								
324	98			upwards. 1cm q/z veinlet (milky white) around base					off-white silica near top of sandy lens. 2x1cm								
				Lens 8° TCA.					elongated parallel to sandy lens. 35° TCA								
325			10	(324.80-325.23m) Normal graded sandy lens, 25% q/z													
				(milky white - off yellow) network @ F.W. Lens 10° TCA.													
326			15														
	96		28	(327.64-327.68) OFF white silica veinlet @ 40° TCA													
327				coincident with silty laminae													
			58														
328				(328.60 - 329.60m) Fault zone with local 25% crushed													
329	100			white silica and graphitic argillite. 20-40° TCA.													
330																	

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION (Contd. (DM_{2b} ARGILLITE int. bedded w/ sandy bands)	ALTERATION ca A	ALTERATION si B	ALTERATION org. C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
330																	
331	100		60														
332	95			(332.00-332.10m) Soft-sediment deformation													
333				(333.80-334.60m) Silica injected (20%) fault bx with angular clasts (Argillite aug. 1x2cm) - sheared graphitic margins on FW & HW. Fl's 60-80° TCA													
334	100		60-80	(334.55m) Sandy lens 3cm thick 70° TCA.													
336																	
336		DM_{2b}															
337			80														
338	100		50						337.40-338.85 3% fine disseminations of py occurring as laminae and elongated masses coincident with silty laminae - primary. Range from 1x½cm to 1x4cm in size. 50° TCA								
339			80	(338.50-340.00) Fine <1mm wide chaotic feather, Silica filled fracture cut across silty laminae (Foliation?)													
340			35														
341	100		45	- Cleavage oblique to silty laminae					340.05-340.18 3% fine disseminations of py occurring as elongated masses coincident with silty laminae - primary. 10x2mm avg. size 35° TCA								
342			30														
343			50						341.62-341.64 2cm wide band of py dissemination parallel to bedding @ 36° TCA. 341.93 ½cm band of py diss. 342.26 ½ x 4cm band of diss. py parallel to bedding								
344	100		80														
345																	

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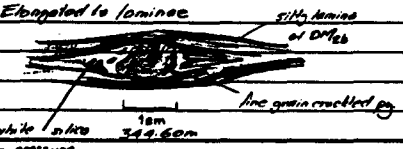
HOLE No. 92-73

DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION ca A	si B	arg C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
345				(DM2b ARGILLITE int. w sandy lenses Cont'd)													
	100			(345.00 - 345.34m) Sandy lense - soft sed. defl. on laminae					342.48 1-2cm band of pyrite disseminations								
346			50						around core parallel to silty laminae; 28° TCA								
				(346.51-347.00m) Sandy lens @ 58° TCA. fining upwards					Cleavage is 39° TCA								
347	100	DM2b		downhole. Streaks of argillite interbeds noted. weak					344.60m Fine grain pyrite nodule; crackled w								
				tangential x-bedding confirms tops					off-white silica particularly in pressure shadows.								
348				(348.52-348.74m) Sandy lens - no laminae					Elongated to laminae								
				(348.76m) Graphitic shear plane @ 80° TCA													
349		LOST	80	348.76-349.05 LOST CORE													
	90		42	349.05-359.06 DM2b ARGILLITE													
350			30	Grey - lt. grey argillite with <30% silty laminae.					in pressure shadow.								
351				Local silica feather dewatering fractures													
									345.92m 2 small (2cm x 4mm) elongated								
352				(349.70m) Silica filled feather dewatering fractures ⊥ to					masses of fine grain pyrite								
			40	silty laminae @ 50 TCA; Center of large fold													
353	100			(351.00m) Silica injected fault plane @ 30° TCA													
			40														
354		DM2b	40	(354.60-355.00m) Several parallel graphitic shear planes													
				@ 40° TCA													
355																	
	100		40														
356																	
			40														
357																	
	83		50														
358																	
359																	
		LOST		359.06-359.66 LOST CORE													
360	184	DM2b		359.66-361.47 DM2b ARGILLITE													

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION (DM2b ARGILLITE Cont'd)	ALTERATION ca A	si B	arg C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
360									360.62m Fine gn. py nodule; crackled with 6%								
361	84	DM2b	65						white silica 3x2 cm. Elongated to silty laminae								
		LOST		361.47-361.81 LOST CORE													
362				361.81-399.90 (E.O.H.) DM2b ARGILLITE													
363	98			Grey silty laminated argillite (<30%) with local faulting													
				and silica stringer networks. Local shearing and contorted													
364				silty laminae near end of interval.													
365				362.00-370.33 Fault Zone of 15% black local gouge,													
366				15% crush and injected white qtz (90%) and yellow													
				white iron carbonate (10%) + 70% graphitic and silty													
367	99	DM2b		argillite. (362.80-363.56) 70% milky quartz with													
				iron carbonate. Angles to core axis range from 80-90°													
368				@ HW to 20-30° @ FW.													
369	90		20														
370				370.33-373.00 Massive fine grain grey argillite with													
				silica stringers every 10cm @ 40-70° TCA and 1mm													
371				to 1cm wide. No silty laminae													
372	100		10														
373				373.00-373.50 30-40% white qtz (90%) +													
				yellow white iron carbonate as wavy bedd. following													
374				silty laminae @ 5-10° TCA.													
375	97			373.50-377.00 Chaotic silica stringer network 15-20%													

PAGE 26 OF 27 | PROJECT CLEAR LAKE | HOLE No. 92-73

DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION (DMsb ARGILLITE Cont'd)	ALTERATION ca A	ALTERATION si B	ALTERATION arg C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
375																	
376	99		65	including <5% yellowish-white iron carbonate. Most stringers avg. 3mm in width and are coincidental with a 30-52° TCA cleavage												
377			18														
378	100			377.00-380.09 Disrupted, colored and discontinuous silty laminated grey argillite with fine <1mm chaotic silica stringer network													
379																	
380			30														
381	100	DM_{2b}	30														
382			30						382.42m 1Pregular fine grain mass of py 1/2 cm diameter.								
383				383.00-384.00m Silica (10%) injected shear zone. Subparallel disrupted silty laminae. Shearing 40° TCA.													
384	93		40														
385																	
386																	
387			40 28	387.00m Cleavage 40° TCA; Silty laminae 28° TCA					387.38 Small lens of disseminated flamboidal py 15x4mm. Elongated to silty laminae.								
388	100								388.55-389.25m 3% fine grain pyrite lenses, bands, laminae, finely diss. and coincident with silty laminae								
389			45														
390	97			389.49-389.90m Silica injected fault-breccia zone. 5mm milky quartz band @ 389.60. Graphitic crushed													

PAGE 27 OF 27 | PROJECT CLEAR LAKE | HOLE No. 92-73

DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION ca A	ALTERATION si B	ALTERATION arg C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
390				(DM2b ARGILLITE Cont'd)													
	1		40	argillite shear planes													
391	97			390.00-394.25 Few (<10%) silty laminae locally													
				contorted and disrupted by 5-10% silica stringers													
392				avg. 3mm wide 40-70° TCA.													
			30														
393									392.75-393.20m Fine gn py; cracktd in								
		DM2b							elongated masses subparallel to silty laminae								
									and crosscutting laminae. Avg size 5x2mm.								
394	96		35						<4% of interval. Associated with fine (1-2mm)								
				394.25-396.00 Local shearing and disrupted silty					white silica stringers - chaotic.								
395				laminae.													
			10														
396																	
	100		25														
397																	
				398.00-399.00 Folded and contorted silty laminae													
398				crosscut by contorted white silica stringer network													
				(15%)													
399	95		30														
				399.90m E.O.H. 399.90 END OF HOLE - massive DM2b; no silty													
400				laminae. Feather silica filled fractures (10%)													
				@ 0° TCA.													

TOTAL ENERGOLD CORPORATION
DRILL LOG

PROJECT
Clear Lake

HOLE No.
92-74

LOCATION
POW 13+50E
4+50S
60474.55N
92788.07E

LOGGED BY
MINORU MACHIDA

DATE
10 Aug. 92'

CONTRACTOR
Iuane Drilling

CORE SIZE
NQ

DATE STARTED
5 Aug. 92'

DATE COMPLETED
10 Aug 92'

DIP TESTS (ACID TEST)

63.09m	-57.50°
124.05m	-56.20°
185.01m	-52.10
245.97m	-49.70°
306.93m	-48.00°
365.76m	-48.70°

GROUND ELEV.
543.19m

BEARING
210° in UTM

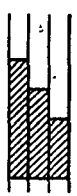
DIP
-60°

TOTAL LENGTH
370.33m

HORIZONTAL PROJECT

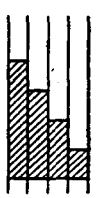
VERTICAL PROJECT

ALTERATION SCALE



absent
slight
moderate
intense

TOTAL SULPHIDE SCALE



< 1%
1%—5%
5%—25%
25%—50%
< 50%

DRILL CALCULATIONS/HOLE SUMMARY

PURPOSE : to intersect target massive sulphide unit southeastern extension of ore body in Area 17.

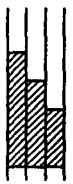
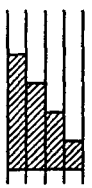
REASON FOR SHUT DOWN : unsuccessful intersection of target

PERTINENT GEOLOGY :

0 – 9.97m	OVER BURDEN	
9.97 – 17.77m	C2c	ARGILLITE
17.77 – 23.05m	C1b	SANDSTONE
23.05 – 27.10m	C2c	ARGILLITE
27.10 – 28.40m	C1b	SANDSTONE
28.40 – 29.00m	C2c	ARGILLITE
29.00 – 29.70m	C1b	SANDSTONE
29.70 – 34.00m	C2b	ARGILLITE
34.00 – 35.96m	C2c	ARGILLITE
35.96 – 43.90m	C2b	ARGILLITE
43.90 – 44.40m	C2c	ARGILLITE
44.40 – 57.70m	C2b	ARGILLITE
57.70 – 58.10m	C1b	SANDSTONE
58.10 – 62.90m	C2c	ARGILLITE
62.90 – 66.60m	C2b	ARGILLITE
66.60 – 68.58m	C2a	ARGILLITE
68.58 – 73.76m	C2b	ARGILLITE
73.76 – 75.29m	C2a	ARGILLITE
75.29 – 77.21m	C2b	ARGILLITE
77.21 – 78.14m	C2c	ARGILLITE
78.14 – 79.78m	C2a	ARGILLITE
79.78 – 83.22m	C2b	ARGILLITE
83.22 – 83.60m	C2c	ARGILLITE
83.60 – 92.94m	C2b	ARGILLITE
92.94 – 94.30m	C2a	ARGILLITE
94.30 – 99.47m	C2b	ARGILLITE
99.47 – 102.80m	FAULT ZONE (C2b)	
102.80 – 106.98m	C2b	ARGILLITE
106.98 – 110.70m	C2a	ARGILLITE
110.70 – 114.69m	C2b	ARGILLITE
114.69 – 116.84m	C2a	ARGILLITE
116.84 – 120.18m	C2b	ARGILLITE
120.18 – 122.90m	C2a	ARGILLITE
122.90 – 136.15m	C2b	ARGILLITE
136.15 – 137.35m	C2a	ARGILLITE
137.35 – 140.80m	C2b	ARGILLITE
140.80 – 142.34m	C2a-2b	ARGILLITE
142.34 – 147.04m	C2b	ARGILLITE
147.04 – 147.97m	C2a	ARGILLITE
147.97 – 160.03m	C2b	ARGILLITE
160.03 – 161.83m	C2c	ARGILLITE
161.83 – 162.88m	C2b	ARGILLITE
162.88 – 168.40m	C2c	ARGILLITE
168.40 – 172.86m	C2b	ARGILLITE
172.86 – 174.15m	C2a	ARGILLITE
174.15 – 189.20m	C2b	ARGILLITE
189.20 – 189.50m	C1b	SANDSTONE
189.50 – 207.85m	C2b	ARGILLITE
207.85 – 215.09m	C2c	ARGILLITE
215.09 – 215.90m	C2b	ARGILLITE
215.90 – 223.90m	C2c	ARGILLITE
223.90 – 224.60m	C1b	SANDSTONE
224.60 – 225.50m	C2a	ARGILLITE
225.50 – 229.60m	C2b	ARGILLITE
229.60 – 232.78m	C2c	ARGILLITE
232.78 – 236.42m	C2b	ARGILLITE
236.42 – 237.62m		GRAY WACKE
237.62 – 238.57m	C2b	ARGILLITE
238.57 – 238.77m		GRAY WACKE
238.77 – 244.30m	C2b	ARGILLITE
244.30 – 246.77m	C2a	ARGILLITE
246.77 – 252.76m	C2b	ARGILLITE
252.76 – 254.20m	C2a	ARGILLITE
254.20 – 256.66m	C2c	ARGILLITE
256.66 – 266.30m	C2b	ARGILLITE
266.30 – 274.02m	C2a	ARGILLITE
274.02 – 274.62m	C2c	ARGILLITE
274.62 – 279.10m	C2a	ARGILLITE
279.10 – 279.15m	C1b	SANDSTONE
279.15 – 281.00m	C2a	ARGILLITE
281.00 – 283.00m	C2c	ARGILLITE
283.00 – 285.00m	C2a	ARGILLITE
285.00 – 286.85m	C2b	ARGILLITE
286.85 – 291.80m	C2a	ARGILLITE
291.80 – 292.20m	C1a	SANDSTONE
292.20 – 293.90m	C2a	ARGILLITE
293.90 – 294.00	C1a	SANDSTONE
294.00 – 294.55	C2a	ARGILLITE
294.55 – 295.30	C2c	ARGILLITE
295.30 – 296.76	C2a	ARGILLITE
296.76 – 298.10	C2b	ARGILLITE
298.10 – 300.86	C2a	ARGILLITE
300.86 – 302.56	C2b	ARGILLITE
302.56 – 305.50	C2a	ARGILLITE

TOTAL ENERGOLD CORPORATION

DRILL LOG

PROJECT	GROUND ELEV.	DRILL CALCULATIONS/HOLE SUMMARY
		92-74 . cont'd
HOLE No. 92-74	BEARING	PERTINENT GEOLOGY
LOCATION	DIP	305.50 – 306.40m C2c ARGILLITE 306.40 – 308.65m C2a ARGILLITE 308.65 – 312.70m C2b ARGILLITE 312.70 – 313.10m C1a SANDSTONE 313.10 – 318.30m C2a ARGILLITE 318.30 – 318.87m C1b SANDSTONE 318.87 – 320.50m C2a ARGILLITE 320.50 – 321.00m C1b SANDSTONE 321.00 – 331.34m C2a ARGILLITE 331.34 – 331.54m C1b SANDSTONE 331.54 – 332.54m C2b ARGILLITE 332.54 – 333.24m Qtz Vein 333.24 – 334.86m C2b ARGILLITE 334.86 – 337.05m C2a ARGILLITE 337.05 – 337.50m C1a SANDSTONE 337.50 – 342.30m C2a ARGILLITE 342.30 – 342.90m C1b SANDSTONE 342.90 – 344.65m C2c ARGILLITE 344.65 – 353.55m C2b ARGILLITE 353.55 – 356.70m C2a ARGILLITE 356.70 – 365.30m C2b ARGILLITE 365.30 – 370.33m C2c ARGILLITE
	TOTAL LENGTH	
LOGGED BY	HORIZONTAL PROJECT	
DATE	VERTICAL PROJECT	
CONTRACTOR	ALTERATION SCALE  absent slight moderate intense	
CORE SIZE		
DATE STARTED		
DATE COMPLETED	TOTAL SULPHIDE SCALE  < 1% 1%—5% 5%—25% 25%—50% < 50%	
DIP TESTS		

PAGE 1 OF 25 | PROJECT Clear Lake | HOLE No. 92-74

DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION Si A	ALTERATION Ca B	ALTERATION G C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
0		O		0 - 9.97m OVERBURDEN.													
1		O															
2		O															
3		O															
4		O															
5		O															
6		O															
7		O															
8		O															
9		O															
10		O	9.97														
		C2c	120	9.97 - 17.77 C2c ARGILLITE													
11			10.67	Black to dark gray argillite													
12			30	with silt or fine sand bands up to													
13		C2c	30	30%.													
				Sections are slightly graphitic.													
14				14.10m Qtz vein 1.0cm in wide													
15			10														

PAGE 2 OF 25 | PROJECT Clear Lake | HOLE No. 92-74

DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION Si A	ALTERATION Ca B	ALTERATION G C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
15			10														
16		C2c	30	15.60–15.90m: Qtz injection predominantly					16.15m, 16.45m: Pyrite patches 5mm x 2cm in diameter.								
17			40	17.50m: core crushed, black gouge													
18			17.77	17.77–23.05m C1b SANDSTONE													
19		C1b	10	Dark gray fng–mdg sandstone with black argillite up to 10%.													
20																	
21			0	Section is relatively massive, containing graphite up to 40% locally													
22		C1b		19.00–19.80m: Qtz vein with local py blebs, in up to 2cm in wide at 0–10° to C.A.													
23			35														
24			23.05	23.05–27.10m C2c ARGILLITE													
		C2c	20	Black to dark gray fng argillite with silt or fng sand bands up to 30%.													
25			10														
26																	
27			27.10	27.10–28.40m C1b SANDSTONE													
28		C1b	15	Dark gray to black fng sandstone with black argillite up to 10%.													
		C2c	28.40 40	28.40–29.00m C2c ARGILLITE													
29		C1b	29.00	Dark gray argillite with fng sand bands up to 30%...													
30		C2b	29.70														

PAGE 3 OF 25 | PROJECT Clear Lake | HOLE No. 92-74

DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION Si A	ALTERATION Ca B	ALTERATION C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
30			20	29.00 – 29.70m C1b SANDSTONE same as 27.10 – 28.40 m													
31																	
32		C2b	25	29.70 – 34.00m C2b ARGILLITE Black, fng argillite with fng sand bands up to 10%. Section contains local Qtz small vein.													
33																	
34			39.0 25														
35		C2c		34.00 – 35.96m C2c ARGILLITE Black to dark gray argillite with numerous sand bands up to 40%. Section is crushed and graphitic													
36		C2c	80 35.96														
37				35.96 – 43.90 C2b ARGILLITE Black, relatively massive, fng argillite with minor sand bands up to 10%.													
38																	
39		C2b	95	38.10 – 39.00m: Section is sheared with Qtz injection and black gouge.													
40																	
41			80														
42			70 60														
43			70	43.90 – 44.40 C2c ARGILLITE Black to dark gray argillite with sand bands up to 30%.					43.90m: Py bleb 1cm in diameter								
44		C2c	80														
45		C2b															

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A (Si)	ALTERATION B (Ca)	ALTERATION C (G)	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
45				44.40-57.70 C2b ARGILLITE Black to dark gray argillite with silt or fng sand bands from 5% to 30%. 44.80-48.15m: Section is sheared to black gouge													
46																	
47																	
48			60														
49																	
50			50														
51		C2b	60	51.30-52.10m: Section is crushed with black gouge and Qtz injection.													
52			70	52.20-52.70m: Crushed with Qtz injection													
53			40														
54			40														
55			50														
56			70														
57			60	57.70-58.10m C1b SANDSTONE Dark gray fng sandstone with minor argillite up to 10%.													
58		C1b	57.70 58.10	58.10-62.90 C2c ARGILLITE Black to dark gray argillite with sand bands up to 30%													
59		C2c	50	59.90-60.60m: sheared with Qtz injection													
60			55														

PAGE 5 OF 25 | PROJECT Clear Lake | HOLE No. 92-74

DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION Si A	ALTERATION Ca B	ALTERATION G C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
60			55 55 40														
61		C2c							61.47m: Pyrite bleb 1cm in diameter								
62			60														
63			90 62.90 60	62.90 - 66.60 C2b ARGILLITE													
64			40	Black argillite with fng sands bands up to 20%.													
65		C2b															
			60	64.52 - 65.00m } sheared with black gouge													
66			1	65.33 - 65.73m }													
			20	65.93 - 66.15m: Qtz vein 3cm in width													
67			66.60 20	66.60 - 68.58 C2a ARGILLITE													
68		C2a	80	Black, relatively massive, fng argillite with minor fng sand bands up to 10%													
69			68.58 30	68.58 - 73.76 C2b ARGILLITE													
70				Black to dark gray argillite with fng sand bands up to 20%.													
71		C2b	35 60	Locally containing sandstone layer 5cm in width at 20° to C.A.													
72			90	71.50 - 71.80m: Sheared with black gouge and Qtz injection.												8	
73			30														
74			73.76	73.76 - 75.29 C2a ARGILLITE													
75		C2a		Black to dark gray argillite with minor sand bands up to 5%													

PAGE 6 OF 25 | PROJECT Clear Lake | HOLE No. 92-74

DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION Si A	Ca B	G C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
75		C2a	76.29														
76		C2b		75.29 – 77.21 C2b ARGILLITE Black to dark gray argillite containing local sandstone layers up to 10cm in width.													
77			60 77.21						77.40 m: Pyrite bleb 1cm in diameter								
78		C2c	40 78.14	77.21 – 78.14 C2c ARGILLITE Dark gray argillite with sand bands up to 50%.													
79		C2a	49 79.78	78.14 – 79.78 C2a ARGILLITE Black, massive, fng argillite					79.24 – 79.54 m: Section containing pyrite bands from 1mm to 5mm in width								
80		C2b	35						80.00 – 80.36 m: Section containing pyrite bands up to 7%, from 2mm to 15mm in width.								
81				79.78 – 83.22 C2b ARGILLITE Black to dark gray argillite with sand bands up to 20%.													
82									82.15 – 82.25 m: Section with disseminated pyrite to pyrite bands up to 3%								
83			20 83.22	83.22 – 88.60 C2c ARGILLITE Dark gray argillite with numerous sand bands up to 30%													
84		C2c	83.60 30						83.32 m } Pyrite blebs 3cm x 0.5cm 83.60 m }								
85			20														
86		C2b	85 60	83.60 – 92.94 C2b ARGILLITE Black, fng argillite with sand bands up to 10%.					84.43 – 85.03 m: Section containing pyrite bands up to 1% > in brecciated zone.								
87				84.60 – 84.85 m } brecciated with Qtz 85.26 – 85.48 m } injection fragments and black gouge													
88			40						85.86 – 86.66 m: Pyrite bands and pyrite veins that cut the bedding plane up to 5% in the section with Qtz injection 87.70 – 93.37 m: Section containing local pyrite bands and pyrite vein from 2mm to 7mm in width								
89																	
90																	

PAGE 7 OF 25 | PROJECT Clear Lake | HOLE No. 92-74

DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION Si A	Ca B	G C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
90				90.20 – 92.05m: Qtz injection folded predominantly.													
91		C2b	30														
92																	
			30														
93			92.94	92.94 – 94.30 C 2a ARGILLITE													
		C2a		Black, relatively massive, fng argillite													
94			25	92.67 – 92.77m: Qtz vein 10cm in width at 50° to C.A.					94.30m: Pyrite band 1cm in width								
			94.30														
			10	93.67 – 93.82m: Qtz injection predominantly													
95																	
96			20	94.30 – 99.47 C2b ARGILLITE					95.10 – 97.80m: small pyrite vein and disseminated pyrite bands locally								
		C2b		Black, fng argillite with sand bands up to 10%													
97				96.22m: Qtz injection													
98			35	98.10 – 98.40m: Sheared with Qtz injection													
									98.17 – 99.37m: disseminated pyrite bands and small pyrite vein that cut the bedding plane up to 1%								
99			40														
			99.47														
100				99.47 – 102.80 FAULT ZONE													
		Fault		Sheared to almost black gouge with min or Qtz injection													
101		Zone															
102																	
103			55	102.80 – 106.98 C2b ARGILLITE													
104		C2b		Black, fng argillite with sand bands up to 10%.													
105																	

PAGE 8 OF 25 | PROJECT Clear Lake | HOLE No. 92-74

DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION Si A	ALTERATION Ca B	ALTERATION G C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
105			50	104.90 - 105.15m: Qtz injection													
106		C2b	60														
				106.48 - 106.68m: Qtz injection													
107			45														
			106.98 60	106.98-110.70 C2a ARGILLITE													
108			55	Black, massive, fng argillite with minour silt bands up to 1%>.													
109		C2a							109.71m: sphalerite with minor pyrite in Qtz small vein 3mm in width								
110																	
111			111.70	110.70-114.69 C2b ARGILLITE													
			45	Black to dark gray, fng argillite with sand or silt bands up to 20%.					110.90 - 111.40m: some small sphalerite grains (brown-yellow) with pyrite in Qtz small vein or Qtz chaos vein								
112				Section may contain some tuffaceous small bands.													
113		C2b		111.45m: tuffaceous layer 1.5cm in width at 50° to C.A.					111.86m: Pyrite blob 1cm in diameter								
114				111.56 - 114.10m: brecciated slightly with minor black gouge. Section containing mungous Qtz injection up to 30%.													
114.69																	
115																	
116		C2a		114.69-116.84 C2a ARGILLITE													
117			116.84 60	Black, massive, fng argillite													
118			40	116.84-120.18 C2b ARGILLITE													
119		C2b	40	Black, fng argillite with silt or fine tuff? bands up to 15%.													
120																	

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION Si A	ALTERATION Ca B	ALTERATION G C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
120		C2a	120.18 40	120.18 – 122.90 C2a ARGILLITE Black, massive, fng argillite with minor sand bands up to 1% Section containing local Qtz small veins from 1mm to 5mm in width.													
121																	
122			85														
123			122.90	122.90 – 136.15 C2b ARGILLITE Black, relatively massive, fng argillite with sand bands up to 10–15%. Section is blocky totaly.													
124																	
125		C2b	80	123.64 – 125.27m: Shear Zone brecciated to 80% black gouge with 5% Qtz injection fragments.													
126																	
127			60														
128			90	128.80m: Qtz injection													
129			80														
130																	
131			85														
132				132.58 – 132.90m: Sheared Zone brecciated black argillite with black gouge containing 10% graphite													
133			90														
134		C2b	75	133.90m } Qtz injection vein 134.10m }													
135																	

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE		GEOLOGICAL DESCRIPTION	ALTERATION Si A	Ca B	G C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
135		C2b	80		135.10 – 136.15 m: Section with 15% Qtz injection.													
136			136.15	136.15 – 137.35	C2a ARGILLITE													
		C2a	65		Black, massive, fng argillite with local Qtz injection													
137			137.35															
138			90	137.35 – 140.80	C2b ARGILLITE					137.80 m: Pyrite bleb 1cm x 0.5cm								
139		C2b	75		Black, fng argillite with sand bands up to 20%													
					139.50 – 140.80 m: Section containing 20% Qtz injection veins													
140			140.80	140.80 – 142.34	C2a-2b ARGILLITE													
141					Black, fng argillite with sand bands up to 10%													
142		C2a-2b	45		Section is slightly siliceous and containing 7% Qtz injection veins													
143			142.34															
144			65	142.34 – 147.04	C2b ARGILLITE													
		C2b	70		Black, relatively massive, fng argillite with sand bands up to 10%.													
145																		
146			70															
147			147.04	147.04 – 147.97	C2a ARGILLITE													
		C2a			Black, massive, fng argillite													
148			147.97		147.27 m: Qtz injection vein 3cm in width.													
149		C2b	65															
150																		

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE		GEOLOGICAL DESCRIPTION	ALTERATION Si A	ALTERATION Ca B	ALTERATION C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
150			70	147.97-160.03	C2b ARGILLITE Black, relatively massive, argillite with sand bands up to 10-15% 151.65m: sand band is calcareous slightly													
151																		
152			60															
153			65															
154			70															
155					155.50-161.83m: Predominant Qtz injection													
156		C2b	80		Section is sheared slightly with 30-40% Qtz injection veins and graphite.													
157			25							157.40m: Pyrite blebs 1cm in diameter								
158																		
159																		
160			30															
161		C2c	160.03	160.03-161.83	C2c ARGILLITE Dark gray argillite with sand bands up to 40%.													
162		C2b	161.83 60	161.83-162.88	C2b ARGILLITE Black to dark gray, fng argillite with sand bands up to 20%. Section containing 15% Qtz injection vein.					162.80m: disseminate pyrite band 1.5cm in width.								
163																		
164		C2c																
165																		

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION Si A	Ca B	G C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
165		C2c		162.88-168.40 C2c ARGILLITE					162.88 - 165.00 m: Pyrite bands in								
166				Dark gray to gray, sandy argillite					Qtz injection up to 10%								
				with numerous Qtz injection vein													
167				up to 40%.					164.18m: sphalerite vein 5cm x 0.5cm								
				Section is brecciated with Qtz injection					166.33m: Pyrite bleb 5cm x 1cm								
168				fragments in graphitic matrix.					166.78m: sphalerite vein 0.5cm in width								
			168.40						at 80° to C.A.								
169			35	168.40 - 172.86 C2b ARGILLITE					166.93 - 167.05m: sphalerite small veins								
				Black, fng argillite with fng sand					1mm - 2mm in width.								
170			45	or silt bands up to 20%.													
		C2b							171.20m: Pyrite band 3mm in width								
171				169.06 - 169.70m: Brecciated slightly with					at 45° to C.A.								
				Qtz injection fragments.					171.50m: Pyrite band 6mm in width								
172			40	170.26m: Qtz injection vein 5cm in width					at 40° to C.A.								
				at 60° to C.A.													
173			50														
		C2a	172.86	172.86-174.15 C2a ARGILLITE													
174				Black, massive, fng argillite													
			174.15														
			40														
175																	
				174.15 - 189.20 C2b ARGILLITE													
176			40	Black to dark gray argillite with sand													
				bands up to 10 ~ 20%.													
177		C2b	35														
				177.25m: Qtz injection vein 2cm in width													
178			45						178.77m: disseminate pyrite band								
				178.70m: Qtz vein 4mm in width.					0.8cm in width at 45° to C.A.								
179																	
180			45														

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION Si A	ALTERATION Ca B	ALTERATION G C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
180			45	179.52-185.80m: sandy bands are slightly calcareous													
181			45														
182			45														
183			40														
184		C2b	45														
185			50	189.20-189.50 C1b SANTSTONE													
186			45	Dark gray mdg sandstone with minour argillite up to 10%					187.70m: disseminate pyrite band 7mm in width (syngenetic)								
187																	
188			50						188.61m: Redish brown sphalerite in Qtz vein 1cm in width								
189		C1b 189.20 189.50	45	189.50-207.85 C2b Argillite					188.70m: Redish brown sphalerite in Qtz vein 3cm in width								
				Black fng argillite with sand bands up to 20%.					189.40m: Pyrite bleb 1cm in diameter								
190			45														
191			55	190.10-195.90m: sandy bands are calcareous													
192		C2b	45	191.50m: Qtz vein 2cm in width													
193			45	193.45m: Qtz injection vein 3cm in width													
194				191.60m: Grading in sandy layer indicates younging down													
195			70														

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A (Si)	ALTERATION B (Ca)	ALTERATION C (G)	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
195			90														
196			50														
197									197.45m: Pyrite bands 1cm wide in sandy layer.								
198			90	198.30–198.40m: Qtz injection vein													
199			30						198.50m: Pyrite blob 0.5cm x 2.0cm								
200			20														
201		C2b	35	200.02–207.85m: Sandy parts are slightly calcareous													
202			30														
203			35	203.50m: Qtz vein 5mm wide at 40° to C.A.													
204			50														
205			40														
206			35														
207			40						207.00m: Pyrite blob 1.5cm x 0.4cm								
208			30	207.85–215.09 C2c ARGILLITE Black to dark gray, fg argillite with calcareous sand bands up to 30%.													
209		C2c	30						209.65m: Pyrite band 1.5mm wide at 35° to C.A.								
210			30														

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
210		C2c	35														
211																	
212			40														
213			30														
214			30	215.09–215.90 C2b ARGILLITE Black fng argillite with minor sand bands.													
215			30														
216		C2b	215.09 215.15 215.94 50	215.90–223.90 C2C ARGILLITE Black to dark gray, fng argillite with calcareous sand bands up to 30%.													
217			45														
218			50	216.70–217.50m: Qtz injection vein 10%.													
219			35	217.40–217.53 m: Very calcareous													
220		C2c															
221			40	218.33–218.53m: Brecciated sandstone with Qtz injection fragment and gouge													
222			45														
223				223.90–224.60 C1b SANDSTONE Dark gray, fng sandstone with argillite up to 15%													
224		C1b	70 60 228.90	Section is brecciated slightly with Qtz fragments and graphite													
225		C2a	229.60														

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE		GEOLOGICAL DESCRIPTION	ALTERATION Si A	Ca B	G C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
225		C2a	50	224.60–225.50	C2a ARGILLITE					up hole 226.92m								
226			225.50		Black, massive, fng argillite													
227		C2b	70	225.50–229.50	C2b ARGILLITE					calcareous silt / black argillite								
228			55		Black to dark gray, fng argillite with sand bands up to 10–15%.													
229			30		226.77–226.95m: Very calcareous silt stone.													
230			229.50		Lamination between calcareous silt and black argillite indicate younging down.					down hole								
231		C2c		229.50–232.78	C2c ARGILLITE					229.60m: Pyrite blob – vein in Qtz injection vein 2cm x 0.4cm								
232					Dark gray, argillite with sand bands up to 30–40%					232.38m / 232.68m } Pyrite patch – vein 5cm x 1cm in Qtz injection vein								
233			232.78 80		Section is brecciated with 20% Qtz injection vein fragments													
234		C2b	90	232.78–236.42	C2b ARGILLITE													
235			60		Black, fng argillite with fng sand bands up to 25%.													
236			45 236.42	236.42–237.62	GRAY WACKE													
237		GRAY WACKE	45		Black to dark gray, csg graywacke with argillite bands up to 5%.													
238		C2b	237.62 65	237.62–238.57	C2b ARGILLITE													
239		GRAYWACKE	238.57		Black, fng argillite with sand bands up to 10% and graywakey's small section.													
240		C2b	60	238.57–238.77	GRAY WACKE													
					same as 236.42 – 237.62 m													

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION Si A	ALTERATION Ca B	ALTERATION G C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
240				238.77–244.30 C2b ARGILLITE													
241			/40	Black to dark gray argillite with fng sand bands up to 241.68–241.83m: brecciated with black gouge and Qtz injection fragments					240.58m pyrite band 8mm wide at 50° to C.A								
242		C2b	/10														
243			/40														
244																	
			244.30	244.30–246.77 C2a ARGILLITE													
245			50	Black, fng, massive argillite with minour sand bands up to 3%.					246.17m: pyrite bleb 1cm in diameter								
246		C2a	/20														
			246.77														
247			/60	246.77–252.76 C2b ARGILLITE													
248			/80	Black, fng, relatively massive argillite with fng sand bands from 5mm to 7cm in width up to 20%.													
249		C2b	/20														
250				250.22–250.35m: Qtz injection vein predominantly													
251			/50														
252			/45														
			252.76	252.76–254.20 C2a ARGILLITE													
253				Black, fng, massive argillite with minour sand bands up to 3%.													
254		C2a	/50	254.20m: Qtz injection vein 1cm wide													
			254.20														
255		C2c	/40														

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE		GEOLOGICAL DESCRIPTION	ALTERATION Si A	ALTERATION Ca B	ALTERATION G C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
255		C2c	40	254.20–266.66	C2c ARGILLITE													
256					Black to dark gray, fng argillite with sand bands up to 20%													
257			266.66															
258			50	266.66–266.30	C2b ARGILLITE													
259			35		Black to dark gray, fng argillite with sand bands or sand layer up to 20%													
260			40		Section is relatively graphitic.													
					257.86 – 258.25m } brecciated argillite with													
					267.65 – 266.30m } Qtz injection fragments in graphitic matrix													
261			30															
262		C2b	60															
263			30															
264																		
265																		
266																		
			266.30															
267				266.30–274.02	C2a ARGILLITE													
			45		Black, massive fng argillite with													
			C1a		some sandstone layers up to 5%.													
268		C2a								267.72m: Pyrite band 1cm wide at 45° to C.A.								
					267.52 – 267.80m: Sandstone layer (C1a)													
269					with Qtz injection stockworks													
270					266.92 – 266.77m: Calcareous silt													

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION Si A	ALTERATION Ca B	ALTERATION G C	FRACT INTENSITY
270		C2a		269.77 - 270.15m }				
271				270.57 - 270.77m } Brecciated Zone with Qtz				
272				271.37 - 271.67m } injection fragments in				
				272.45 - 272.95m } graphitic matrix.				
273								
274	*	C2c	279.02 60 274.62	274.02 - 274.62 C2c ARGILLITE Dark gray to gray argillite with sand bands from 1cm to 5cm wide up to 40%.				
275		C2a	60	274.62 - 279.10 C2a ARGILLITE Black, relatively massive, argillite with minor sand bands up to 2%.				
276								
277			30					
278				279.10 - 279.15 C1b SANDSTONE				
279		T C2a	15 279.10 C1b 20	279.15 - 281.00 C2a ARGILLITE Black to dark gray, fng argillite				
280								
281		C2c	30 281.00	281.00 - 283.00 C2c ARGILLITE Dark gray, argillite with sand up to 40%.				
282			30					
283			40 283.00	283.00 - 285.00 C2a ARGILLITE Black, fng, massive argillite with local sand layers from 1cm to 5cm wide.				
284		C2a	45					
285			285.00					

[LEGEND]
*: Repetitive normal graded beds.
T coarse grain
↓ fine grain

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE		GEOLOGICAL DESCRIPTION	ALTERATION Si A	ALTERATION Ca B	ALTERATION G C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
285		C2b	80	285.00 - 286.55	C2b ARGILLITE													
286		C2b	80		Black to dark gray argillite with sand bands up to 20%.													
			80	286.55														
287																		
288		T?	30	286.55 - 291.80	C2a ARGILLITE													
289		C2a	25		Black, massive, fng argillite with local sand layers from 2cm to 10cm wide.													
290			45															
291			45															
292		C1a		291.80 - 292.20	C1a SANDSTONE													
		T		292.20 - 293.90	C2a ARGILLITE													
293		C2a			Black, fng, massive argillite with minour sand bands up to 7%.													
294		C2a	C1a	293.90 - 294.00	C1a SANDSTONE													
		C2c		294.00 - 294.55	C2a ARGILLITE													
295				294.55 - 295.30	C2c ARGILLITE													
296		C2a			Dark gray argillite with some sandy layers													
				295.30 - 296.76	C2a ARGILLITE													
297		C2b	80		Black, fng argillite with minour sand bands													
				296.76 - 298.10	C2b ARGILLITE													
298				298.10 - 300.86	C2a ARGILLITE													
299	44	C2a	45		Black, fng argillite with some sand layers from 2cm to 10cm wide.													
300																		

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION Si A	ALTERATION Ca B	ALTERATION G C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
300		C2a															
301		C2b	300.86	300.86–302.56 C2b ARGILLITE Dark gray, argillite with sand bands up to 20%. Section is brecciated slightly with Qtz injection fragments													
302			302.56														
303				302.56–305.50 C2a ARGILLITE Black to dark gray, fng argillite with some sand layers up to 5%.													
304		C2a															
305			305.50	305.50–306.40 C2c ARGILLITE Dark gray argillite with folded sand bands up to 40%.					Section indicates Folding structure								
306		C2c	306.40														
307		C2a		306.40–308.65 C2a ARGILLITE Black, massive, fng argillite													
308																	
309			308.65	308.65–312.70 C2b ARGILLITE Dark gray, argillite with sand bands up to 20%.													
310																	
311		C2b		311.10–312.70m: Brecciated argillite and sandstone with Qtz injection fragments and graphite													
312			312.70	312.70–313.10 C1a SANDSTONE Gray, massive, mdg–fng sandstone													
313		C1a	313.10														
314		C2a		313.10–318.30 C2a ARGILLITE Black, fng, massive argillite with some sand layers from 1cm to 12cm wide up to 5%													
315																	

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION Si A	ALTERATION Ca B	ALTERATION G C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
315																	
316			60														
317		C2a	25 / 40														
318			65														
		C1b	318.30	318.30 – 318.87 C1b SANDSTONE													
319			318.87	Dark gray, fng sandstone													
		C2a		318.87 – 320.50 C2a ARGILLITE					Section indicates Folding structure								
320				Black, fng argillite with Qtz injection veins in brecciated zone.													
		C1b	320.50	320.50 – 321.00 C1b SANDSTONE													
321			321.00	Dark gray to gray fng – mdg sandstone with Qtz injection 40%.													
322			80														
323			90														
324				321.00 – 331.34 C2a ARGILLITE													
		C2a	10 / 30	Black to dark grey, fng massive argillite with sand or silt bands up to 5%.													
325																	
326			50	321.00 – 321.60 m: Section containing 60% Qtz injection in brecciated zone													
327			65														
328			55														
329			20														
330																	

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION Si A	ALTERATION Ca B	ALTERATION G C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
330		C2a	60														
331			30	331.34 - 331.54 C1b SANDSTONE													
		C1b	331.34 / 331.54														
332		C2b		331.54 - 332.54 C2b ARGILLITE Black to dark gray argillite with 10% sand stone layers													
333		Qtz Vein	332.54 / 333.24	333.24 - 334.86 Qtz vein Qtz injection vein in brecciated argillite													
334		C2b															
335			334.86														
336		C2a		333.24 - 334.86 C2b ARGILLITE same as 331.54 - 332.54 m													
337			65	334.86 - 337.05 C2a ARGILLITE Black, fng, massive argillite													
		C1a	337.05 / 337.50	337.05 - 337.50 C1a SANDSTONE Gray, mdg sandstone with Qtz vein 10cm in width													
338			50														
339																	
		C2a		337.50 - 342.30 C2a ARGILLITE Black, fng, massive argillite with sand bands up to 5%.													
340																	
341																	
342				342.30 - 342.90 C1b SANDSTONE Dark gray, fng sandstone with 30% argillite and 30% Qtz injection													
		C1b	342.30 / 55 / 342.90														
343									343.28m: Pyrite blob ~ Pyrite patch 2cm x 1cm as a brecciated fragment								
344		C2c		342.90 - 344.65 C2c ARGILLITE Black to dark gray argillite with sand stone up to 30%. Section brecciated almost.													
345		C2b	344.65														

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION Si A	ALTERATION Ca B	ALTERATION G C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
345			50	344.65–353.55 C2b ARGILLITE Black to dark gray, fng argillite with sand bands up to 15%.													
346			85														
347				345.26–350.00m: Section containing calcareous sandy bands													
348			60						348.70m: Pyrite patch 4cm X 1cm in sandy layer.								
349			80														
350		C2b		350.85–353.55m: Section containing calcareous sandy bands													
351			15														
352			70	352.45m: Tangensial cross laminae indicates younging TOP					352.00m: Pyrite patch 5cm X 2cm in sandy layer at 70° to C.A.								
353			4														
354			60	353.55–356.70 C2a ARGILLITE Black to dark gray argillite with sand bands up to 7%.													
355		C2a															
356			90	354.80m: Grading and tangensial cross laminae indicate younging top													
357			60	356.70–365.30 C2b ARGILLITE Black to dark gray argillite with calcareous sand bands up to 15%													
358		C2b	60														
359			90														
360																	

PAGE 25 OF 25 | PROJECT Clear Lake | HOLE No. 92-74

DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION Si A	ALTERATION Ca B	ALTERATION G C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
360																	
361																	
362		C2b	95														
363			60														
364				364.45cm: Grading indicates younging down													
365			65														
			365.30	365.30-370.33 C2c ARGILLITE					365.95m: Pyrite bleb 6cm x 2cm in calcareous sand band.								
366			80	Dark grey argillite with calcareous sand bands up to 30%.													
367		C2c	70	366.35cm: Grading indicates younging TOP					366.40m: disseminated Pyrite band 5cm wide at 50° to C.A.								
368			55														
369			45	368.34 - 369.24m: Brecciated ~ mylonite zone Brecciated argillite with 50% Qtz injection fragments and graphite. looks like mylonite.					368.79m: Pyrite patch 4cm x 1cm in sand layer.								
370			70														
		E.O.H.	370.33m														

DDH 92-15

0 -	25.30	0.2
25.30 -	26.21	0.55
26.21 -	27.13	0.45
27.13 -	28.96	0.35
28.96 -	29.90	0.35
29.90 -	30.78	1.3
30.78 -	32.31	0.65
32.31 -	33.53	0.6
33.53 -	34.44	0.3
34.44 -	35.36	0.9
35.36 -	37.19	0.7
37.19 -	38.71	0.8
38.71 -	40.23	0.9
40.23 -	42.06	1.9
42.06 -	44.50	
44.50 -	46.63	
46.63 -	49.38	
49.38 -	51.82	
51.82 -	54.25	
54.25 -	57.00	
57.00 -	59.74	
59.74 -	62.79	
62.79 -	65.84	
65.84 -	68.58	
68.58 -	71.02	
71.02 -	72.85	
72.85 -	75.29	
75.29 -	77.42	
77.42 -	80.16	
80.16 -	81.38	
81.38 -	83.21	
83.21 -	85.04	
85.04 -	87.17	
87.17 -	88.39	
88.39 -	91.62	
91.62 -	94.49	
94.49 -	95.40	
95.40 -	96.93	
96.93 -	99.97	
99.97 -	101.50	
101.50 -	103.63	
103.63 -	106.68	
106.68 -	107.90	
107.90 -	109.73	
109.73 -	111.56	
111.56 -	114.60	
114.60 -	117.04	
117.04 -	119.79	
119.79 -	122.83	
122.83 -	125.88	
125.88 -	127.71	
127.71 -	129.84	
129.84 -	132.89	
132.89 -	134.72	
134.72 -	136.25	
136.25 -	138.38	
138.38 -	141.43	
141.43 -	142.65	
142.65 -	145.08	
145.08 -	148.13	
148.13 -	151.18	
151.18 -	154.23	
154.23 -	157.28	
157.28 -	160.32	
160.32 -	163.37	
163.37 -	166.42	
166.42 -	169.47	
169.47 -	172.52	
172.52 -	174.96	
174.96 -	177.70	
177.70 -	180.75	
180.75 -	183.79	
183.79 -	186.84	
186.84 -	190.20	
190.20 -	193.24	
193.24 -	196.29	
196.29 -	199.34	
199.34 -	201.78	
201.78 -	204.83	
204.83 -	206.04	
206.04 -	209.09	
209.09 -	212.14	
212.14 -	215.19	
215.19 -	217.63	
217.63 -	220.37	
220.37 -	221.89	
221.89 -	224.33	
224.33 -	227.38	
227.38 -	230.43	
230.43 -	233.48	
233.48 -	236.52	
236.52 -	239.57	
239.57 -	242.62	
242.62 -	245.67	
245.67 -	248.72	
248.72 -	251.76	
251.76 -	254.81	
254.81 -	257.86	
257.86 -	259.99	
259.99 -	263.04	
263.04 -	266.09	
266.09 -	269.14	
269.14 -	272.19	
272.19 -	275.25	
275.25 -	278.28	
278.28 -	279.81	
279.81 -	282.85	
282.85 -	285.90	
285.90 -	287.73	
287.73 -	290.47	
290.47 -	293.83	
293.83 -	295.35	
295.35 -	295.96	
295.96 -	298.09	
298.09 -	300.53	
300.53 -	303.58	
303.58 -	305.10	
305.10 -	307.85	
307.85 -	309.68	
309.68 -	311.81	
311.81 -	314.86	
314.86 -	316.69	
316.69 -	319.74	
319.74 -	321.87	
321.87 -	324.92	
324.92 -	327.05	
327.05 -	328.27	
328.27 -	329.79	
329.79 -	331.01	
331.01 -	333.45	
333.45 -	334.98	
334.98 -	337.11	
337.11 -	340.16	
340.16 -	341.38	
341.38 -	343.51	
343.51 -	346.25	
346.25 -	349.30	
349.30 -	351.43	
351.43 -	352.53	
352.53 -	353.87	
353.87 -	355.09	
355.09 -	358.92	
358.92 -	359.66	
359.66 -	362.71	
362.71 -	365.76	E.O.H.

TOTAL ENERGOLD CORPORATION

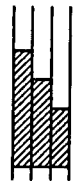
DRILL LOG

PROJECT	CLEAR LAKE
HOLE No.	92-175
LOCATION	POW L8+50W 1+50S 61742.26 N 90959.40 E
LOGGED BY	ATSUSHI GOMI
DATE	August 23, 1992
CONTRACTOR	Kluane Drilling
CORE SIZE	NQ
DATE STARTED	August 15, 1992 second shift
DATE COMPLETED	August 19, 1992 second shift

DIP TESTS	Acid test
124.05 m	-47.7°
184.71	-48.5
245.67	-45.0
303.59	-44.5
364.54	-45.0

GROUND ELEV.	712.74 m
BEARING	28°
DIP	-50°
TOTAL LENGTH	365.76 m
HORIZONTAL PROJECT	
VERTICAL PROJECT	

ALTERATION SCALE



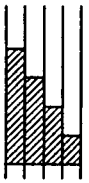
absent

slight

moderate

intense

TOTAL SULPHIDE SCALE



< 1%

1%—5%

5%—25%

25%—50%

< 50%

DRILL CALCULATIONS/HOLE SUMMARY

PURPOSE : To investigate northwest extention of Clear Lake orebody and related stratigraphy, and geochemical anomalies of Hg and Ba in soil.

REASON TO SHUT DOWN : Failed to intersect massive sulphide beds or barite-tuff beds and drilled into footwall of the ore horizon.

Ⓟ: PETROGRAPHIC SAMPLE

GEOLOGY SUMMARY :

0 - 25.30	OVERBURDEN	
25.30 - 27.13	C 2a	ARGILLITE
27.13 - 27.50	C 1b	SANDSTONE
27.50 - 34.44	C 2b	ARGILLITE
34.44 - 34.60	C 1a	SANDSTONE
34.60 - 41.16	C 2a	ARGILLITE
41.16 - 41.37	C 1a	SANDSTONE
41.37 - 41.90	K	DIORITE PORPHYRY
41.90 - 42.06	C 2b	ARGILLITE
42.06 - 43.76	K	DIORITE PORPHYRY
43.76 - 44.08	C 2a	ARGILLITE
44.08 - 44.25	Ktf	FELSITE
44.25 - 45.25	C 2a	ARGILLITE
45.25 - 48.35	K	DIORITE PORPHYRY
48.35 - 52.50	C 2a	ARGILLITE
52.50 - 64.45	C 2b	ARGILLITE
64.45 - 64.80	K	DIORITE PORPHYRY
64.80 - 70.35	C 2b	ARGILLITE
70.35 - 75.50	C 2c	ARGILLITE
75.50 - 99.97	C 2b	ARGILLITE
99.97 - 100.65	C 1a	SANDSTONE
100.65 - 101.85	C 2b	ARGILLITE
101.85 - 110.80	C 2a	ARGILLITE
110.80 - 124.10	C 2b	ARGILLITE
124.10 - 126.40	C 2c	ARGILLITE
126.40 - 150.48	C 2b	ARGILLITE
150.48 - 150.60	Ktf	FELSITE
150.60 - 161.86	C 2a	ARGILLITE
161.86 - 164.47	Ktf	FELSITE
164.47 - 166.92	C 2a	ARGILLITE
166.92 - 167.70	K	ANDESITIC INTRUSIVE
167.70 - 172.60	C 2a	ARGILLITE
172.60 - 178.50	C 2b	ARGILLITE
178.50 - 178.90	C 1b	SANDSTONE
178.90 - 184.30	C 2b	ARGILLITE
184.30 - 196.10	C 2a	ARGILLITE
196.10 - 203.36	C 2b	ARGILLITE
203.36 - 207.57	Ktf	FELSITE
207.57 - 221.54	C 2b	ARGILLITE
221.54 - 222.50	Ktf	FELSITE
222.50 - 228.55	C 2b	ARGILLITE
228.55 - 239.77	Ktf	FELSITE
239.77 - 245.90	C 2b	ARGILLITE
245.90 - 246.85	C 2c	ARGILLITE
246.85 - 253.28	C 2b	ARGILLITE
253.28 - 257.03	K	DIORITIC INTRUSION
257.03 - 261.00	C 2b	ARGILLITE
261.00 - 278.58	C 2c	ARGILLITE
278.58 - 278.83	Ktf	FELSITE
278.83 - 306.00	C 2c	ARGILLITE
306.00 - 309.40	C 2b	ARGILLITE
309.40 - 325.60	C 2c	ARGILLITE
325.60 - 344.30	C 2b	ARGILLITE
344.30 - 356.70	C 2c	ARGILLITE
356.70 - 365.76 E.O.H.	C 1b	ARGILLITE

PAGE 1 OF 25	PROJECT CLEAR LAKE	HOLE No. 92-75												
DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION Ca A	ALTERATION Si B	ALTERATION Grp C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
0				0 - 25.30 OVER BURDEN													
	1																
5																	
	1																
10																	
	1																
15																	

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
15				OVER BURDEN (continued)													
	1																
20																	
	1																
25				pebbles of quartzite, sandstone, black shale and diorite.													
(25.30)	60	2a		25.30 - 27.13 C2a ARGILLITE													
				black to dark gray, fine-grained, sheared argillite.													
(26.21)	49	2a		26.45 - 26.55 sheared to medium-grained gray clay.													
(27.13)			85	27.13 - 27.50 C1b SANDSTONE													
	92	1b		dark gray, medium-grained massive sandstone.					27.30 0.5cm coarse-grained pyrite dissemination band.								
		2b	20 27.50														
		2b		27.50 - 34.44 C2b ARGILLITE													
(28.96)	37	2b		black to dark gray, fine-grained argillite.													
30				29.10 - 29.90 sheared to flaky argillite													
(29.96)																	

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
30	100	2b		C2b ARGILLITE (continued) sheared to blocky and flaky argillite.													
(30.78)	42	2b															
(32.31)	49	2b															
(33.53)	33	2b															
(34.44)	100	1a	34.60	34.44 – 34.60 C1a SANDSTONE gray, medium-grained, massive, siliceous													
35		2a		34.60 – 41.16 C2a ARGILLITE													
(35.36)	38	2a		black, fine-grained, massive, slightly graphitic argillite. sheared to blocky argillite.													
(37.19)	53	2a															
(38.71)	59	2a															
40																	
(40.23)		2a															
	100	1a	41.16	41.16 – 41.37 C1a SANDSTONE gray, medium-grained, intruded by numerous quartz veining, siliceous.													
		K	41.37						41.90 – 41.96 6cm medium to fine-grained pyrite band. sheared.								
		2b	41.90														
(42.06)			42.06	41.37 – 41.90 K DIORITE PORPHRY pale greenish gray, medium-grained, chloritic-sericitic altered, massive intrusion.													
	100	K		41.98 – 42.06 C2b ARGILLITE dark gray, sheared.													
		2a	43.76	42.06 – 43.76 K DIORITE PORPHRY dark greenish gray, medium-grained													
		K	44.08														
(44.50)		2a	44.25	44.20 – 44.50 intensively sheared to flaky and clay argillite													
45	100	2a		43.76 – 44.08 C2a ARGILLTE black, sheared to flaky argillite.													

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	B	C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
45		K	45.25 40	44.08 - 44.25 Ktf pale greenish gray, sheared, altered. (similar to C5).													
				44.25 - 45.25 C2a ARGILLITE black, fine-grained, sheared, graphitic.													
				45.25 - 48.35 K pale to dark greenish gray, medium-grained, massive,													
(46.63)		K		porphyritic intrusive. altered to chlorite and sericite.													
				partly mixed with black argillite bands (xenolith ?).													
		2a	48.35 30	48.35 - 52.50 C 2a ARGILLITE													
(49.38)		2a	60	black, fine-grained, massive to slightly banded. sheared													
50				to blocky and flaky argillite. slightly graphitic.													
		2a		48.33 - 48.80 medium-grained sandy argillite.													
(51.82)		2a	30 52.50														
		2b		52.50 - 64.45 C2b ARGILLITE													
				black, fine-grained, sheared to shinny graphitic flakes													
				and blocks. fairly graphitic.													
(54.25)		2b		sheared to graphitic flaky argillite. very minor quartz													
55		2b		veining.													
(57.00)		2b															
				58.3 - 59.9 extremely sheared and brecciated to black													
(59.74)				clay and argillitic, graphitic fragments.													
60																	

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE		GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
60					C2b ARGILLITE (continued)													
		2b	75															
			40															
(62.79)		2b	75															
		K	64.45	64.45 – 64.80	K DIORITIC PORPHYRY													
			64.80		pale to dark greenish gray, fine- to medium-grained, massive,													
65		2b	40		porphyritic intrusive.													
				64.80 – 70.35	C2b ARGILLITE													
(65.34)		2b			dark gray to black, fine-grained, sheared argillite,													
					fairly graphitic, intruded by quartz veins.													
										68.08 1 X 2cm pyrite lens.								
(68.58)		2b																
70				70.35 – 75.50	C2c ARGILLTE													
		2c	70.35 75		dark gray, fine to medium-grained, well-banded with													
(71.02)		2c			sand and silt layers. slightly graphitic.													
			25															
(72.85)		2c																
75			60															

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
75		2c	45	C2c ARGILLITE (continued)													
(75.28)			75 50														
				75.50 – 99.97 C2b ARGILLITE													
		2b		black, fine-grained, slightly banded with silt. fairly													
			30	graphitic with minor quartz veining.													
(77.42)			80														
		2b	30														
				79.0 – 79.5 numerous quartz veining and stockwork													
80			30														
(80.16)		2b	30						80.98 2x3 cm pyrite nodule								
(81.38)		2b															
(83.21)		2b	15 ~	84.9 slightly sheared.													
85																	
(85.84)		2b	20														
			45														
(87.17)		2b	35	88.1 – 92.4 slightly sheared and brecciated.													
(88.39)		2b															
90																	

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
90		2b	45	C2b ARGILLITE (continued) slightly sheared.													
(91.62)		2b	5														
(94.49)				sheared, fairly graphitic.													
95																	
(95.40)		2b															
(96.93)		2b	90 35 25	98.39 - 99.08 thick quartz vein.					98.97 - 98.99 pyrite breccias in graphitic sheared zone.								
(99.97)			rock														
100		1a	99.97 60	99.97 - 100.65 C1a SANDSTONE gray, medium-grained, massive sandstone. minor quartz veining.													
		2b	100.65 45	100.65 - 101.85 C2b ARGILLITE black, fine-grained, slightly banded with silt layers. slightly sheared.													
(101.50)		2a	101.85 30	101.85 - 110.80 C2a ARGILLITE black, fine-grained, massive. slightly sheared. fairly graphitic. minor quartz stringers.													
(103.63)		2a															
105																	

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
105		2a	15	C2a ARGILLITE (continued)													
			20														
(106.68)		2a	25														
(107.90)		2a	25														
(108.73)																	
110		2a	45														
		2b	110.80 35	110.80 – 124.10 C2b ARGILLITE													
				black to dark gray, fine-grained, banded with silt layers, very minor quartz-siderite veining.													
(111.56)		2b	40	113.28 – 113.32 quartz networks and veins in brecciated argillite.													
(114.60)																	
115		2b	40 TOP FACING ⇧														
			40	116.5 grading in silty layer shows normal grading.													
(117.04)		2b	35														
(119.79)																	
120			30														

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
120		2b		C2b ARGILLITE (continued)													
				slightly graphitic.													
(122.83)		2b															
		2c	124.10 30 50	124.10 – 126.40 C2c ARGILLITE													
125				gray, medium-grained, slightly banded sandy argillite.													
		2c	TOP FACING ⇧	normal grading observed in sandy layers.													
(125.83)			32 126.40														
		2b		126.40 – 150.48 C2b ARGILLITE													
				dark gray to black, fine-grained, banded argillite.													
(127.71)		2b	50	minor siderite-quartz veining.													
(129.84)																	
130			TOP FACING ⇧														
		2b	20	grading in silty layers shows normal grading													
(132.89)			25														
		2b															
(134.72)																	
135																	

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
135		2b		C2b ARGILLITE (continued)													
(136.25)		2b	33 / 32 / 70	137.32 0.3cm coarse-grained pyrite layer.													
(138.38)		2b															
140		2b	40														
(141.43)		2b	40	tuffaceous lens.													
(142.65)		2b		143.03 pale green gray, tuffaceous lens up to 1cm thick in sheared graphitic argillite. (altered Kef?) tuffaceous band and lens. 144.48 a small tuffaceous fragment													
145																	
(145.09)		2b	TOP FACING 30	up to 1cm in sheared argillite. 143.03m enlargement (altered Kef?) 143.60 5cm pale green gray, tuffaceous lens with quartz injection. (altered Kef?)													
(148.13)		2b							148.70 medium-grained pyrite dissemination.								
150			43														

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
150		2b / Kfs / 2a	159.48 / 159.60 / 40	C2b ARGILLITE (continued)					150.13 a 0.8cm thick pyrite lens and layer.								
				150.48 – 150.60 Kfs FELSITE														
				yellowish pale green gray, medium-grained intrusive.													
(151.18)				150.60 – 161.86 C2a ARGILLITE													
		2a	45	black, fine-grained, massive, slightly graphitic argillite,													
				partly brecciated and intruded by quartz veining and													
				stockworks.													
(154.23)			60						155.35 a 1cm medium-grained pyrite band.								
155																	
			60	155.30 – 156.50 sheared fairly moderately to black argillite													
		2a		flakes and clay. slightly graphitic.													
(157.28)																	
		2a	20														
160																	
(160.32)				160.76 – 162.64 brecciated to subrounded white quartz,													
		2a		andesitic rock, black argillite breccias surrounded by black													
				argillitic matrix.													
			161.86	161.86 – 164.47 Kfs FELSITE													
			40	yellowish pale green gray, medium-grained, partly amygdaloid													
		Kfs		mixed with black argillitic band and veinlets. partly brecciated.													
(163.39)																	
			164.47	164.47 – 166.92 C2a ARGILLITE					164.45 coarse-grained pyrite dissemination.								
165		2a	65	black, fine-grained, massive, graphitic argillite.													

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
165		2b		C2a ARGILLITE (continued)													
				165.4 extremely sheared to graphitic fragments.													
(166.42)				slightly sheared.					166.62 1X2cm pyrite nodule.								
		K	166.92 60	166.92 – 167.70 K ANDESITIC INTRUSIVE													
			167.70	pale greenish gray, medium-grained, altered to chlorite,													
		2a		intruded by quartz veining and blows.													
				167.70 – 172.60 C2a ARGILLITE													
				black, fine-grained, massive to slightly banded.													
(169.47)			55														
170																	
		2a															
(172.52)			172.60 25	172.60 – 176.50 C2b ARGILLITE													
		2b		black, fine-grained, slightly banded with silt layers,													
			25	partly sheared.													
(174.96)																	
175			30														
			32	175.76 – 178.18 sheared to graphitic argillite flakes													
		2b		and fragments, intruded by quartz veinings and blows.													
									177.0 1X4cm pyrite lens.								
(177.70)		2b															
			178.50	178.50 – 178.90 C1b SANDSTONE													
		1b		dark gray, medium-grained, massive sandstone.					178.7 medium-grained pyrite dissemination.								
			178.94	178.90 – 184.30 C2b ARGILLITE													
		2b	15	black, fine-grained, banded with silt layers.													
180																	

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
180		2b		C2b ARGILLITE (continued)													
(180.75)			30	black, fine-grained, slightly banded with silt bands.													
		2b	50														
			35														
(183.19)			184.30	184.30 – 196.10 C2a ARGILLITE													
		2a		black, fine-grained, massive argillite. very minor graphite.													
185		2a															
(186.84)		2a	25														
190																	
(190.20)		2a	20														
			40														
			40														
(193.24)		2a							193.85 4cm thick tinny pyrite leases aggregate in argillite. core angle 40 degrees.								
195			30														

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
195		2a	196.10 / 55	C2b ARGILLITE (continued)													
				196.10 – 203.36 C2b ARGILLITE													
(196.29)		2b	50	black to dark gray, fine-grained, slightly banded with thin silt layers. minor siderite-quartz veinlets.													
		2b	50						199.3 0.3cm pyrite band.								
			50														
(199.34)																	
200		2b	UP FACING						200.35 0.3 cm pyrite bands.								
									200.88 0.8cm pyrite band.								
									201.30 1cm pyrite band.								
(201.78)		2b	52	202.0 grading and cross laminae suggest normal grading.					201.47 1cm pyrite dissemination band.								
			203.36 / 35	203.36 – 207.57 Ktf FELSITE													
		Ktf		pale green gray, medium to coarse-grained, feldspar blasted.													
(204.83)				204.5 – 207.3 coarse-grained, porphyritic. mafic minerals are altered to chlorite, felspars are altered													
205		Ktf		to partly epidote. phenocrysts are up to 3 mm euhedral.													
(206.04)		Ktf															
				C2b ARGILLITE													
		2b	207.57	207.57 – 221.54 207.57 – 209.0 brecciated and intruded by quartz veining and stockworks. minor pyrite dissemination.					207.8 some pyritic layers and pyrite dissemination in sheared argillite.								
(209.09)																	
		2b	60 / 55														
210																	

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
210		2b	40 / 30	C 2b ARGILLITE (continued) dark grey, well-banded with silt layers.													
(212.14)		2b	25	213.6 – 214.1 sheared w graphitic fragments.													
215																	
(215.19)		2b	40 / 25 / 15	well-banded argillite.													
(219.63)		2b		219 several slumping and micro-fold structures.					219.77 fine-grained pyrite dissemination bands.								
220				grading indicates normal grading.					220.3 fine-grained pyrite dissemination bands.								
(220.37)		2b	50 TOP PICKING 65														
				221.54 – 222.50 kf FELSITE													
(221.89)		kf	222.50	pale yellowish green grey, medium-grained, massive intrusion.													
		2b		boundaries are sheared and irregular against argillite.													
				222.50 – 228.55 C2b ARGILLITE													
			TOP PICKING	black, fine-grained, sheared argillite. minor quartz veining.													
(224.33)		2b	65	grading indicates normal grading.													
225																	

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
225				C2b ARGILLITE (continued)													
		2b	15														
(229.88)		2b	TOP FACING 35														
		Kfs	228.55 25	228.55 - 239.77 Kfs FELSITE (partly dacitic) pale yellowish green grey, medium to coarse-grained, granular, massive to porphyritic intrusive. Consisting of 1-3mm chloritized mafic, up to 4mm epidotized feldspar and pale grey quartz. cutting argillite structure. minor laumontite(?) veins.												
230																	
(230.93)		Kfs															
(233.49)		Kfs															
235																	
		Kfs															
236.52)		Kfs															
239.77)				239.77 - 245.90 C2b ARGILLITE sharp boundary.													
240		2b	239.77 40														

PROJECT CLEAR LAKE

HOLE No. 92-75

DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
240		2b	60	C2b ARGILLITE dark gray to black, fine-grained, well-banded argillite. slightly graphitic.													
(242.62)		2b	55 30 55														
245		2b															
(245.67)		2c	245.30 40 246.85	245.30 – 246.85 C2c ARGILLITE gray, fine to medium-grained, well-banded with silt layers.													
		2b		246.85 – 253.28 C2b ARGILLITE													
(248.72)		2b		249 slumping and microfolding structures.													
250		2b															
(251.96)		2b	50 45														
254.80		K	253.28 55	253.28 – 257.03 K DIORITIC INTRUSION pale green gray, fine to medium-grained, massive to porphyritic intrusion. cutting argillite structure. included thick quartz veins.													
255																	

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
255		K		K DIORTIC INTRUSION (continued)													
			257.03														
		2b	45	257.03 – 261.00 C2b ARGILLITE													
(257.86)				dark gray, fine to medium-grained, finely banded with													
			50	side bands. fine to medium-grained pyrite disseminated													
		2b	45	layers are embedded.													
(259.93)				minor siderite-quartz veinings.													
260																	
		2b															
			261.00														
				261.00 – 278.58 C2c ARGILLITE													
			65	dark gray to gray, fine to medium-grained, very well-banded													
		2c		partly calcareous, and graphitic, minor thin band of													
				fine-grained pyrite.													
(263.04)			65														
		2c															
			70														
265																	
			70														
(266.09)				well-banded.													
		2c															
									267.8 – 274.6 fine-grained pyrite thin layers in								
			75						argillite.								
(269.14)																	
270		2c	60														

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
270		2c	58	C2c ARGILLITE (continued)													
			63														
(272.19)		2c	67														
			62														
275																	
(275.25)		2c	50														
			TOP FACING	grading indicates normal grading.													
			50														
(276.28)		Kff	278.58	278.58 - 278.83 Ksf FELSITE													
		2c	278.83 60	pale yellowish green white, medium-grained, massive													
279.11)			56	intrusion. concordant to argillite bedding.													
280				278.83 - 306.00 C2c ARGILLITE													
		2c	TOP FACING	dark gray to gray, fine to medium-grained, well bedded.													
				poorly calcareous.													
			57														
82.85)		2c	61														
			60	284.3 - 285.4 sheared and mineded by minor quartz veining.													
285																	

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION Ca A	ALTERATION Si B	ALTERATION Grp. C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
285		2c	70	C2c ARGILLITE (continued) grading in silty layers indicates normal grading.					285.36 1 x 5cm pyrite lens.								
(285.50)		2c	50	slightly calcareous.													
(287.73)		2c	10						287.78 1 x 3cm pyrite lens.								
			40														
290																	
(290.47)		2c	35	290.8 – 291.8 slightly sheared, graphitic, calcareous													
				292.0 – 293.5 intensively sheared and intruded by quartz veining very graphitic. (fault zone?)													
(293.83)		2c	30														
295				294.0 – 296.5 sheared and crushed. fairly graphitic.													
(295.35)																	
(295.96)		2c	70														
(298.09)		2c	25	very well-banded argillite.													
300			30														

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
300		2c		C2c ARGILLITE (continued)													
(300.53)			35														
		2c	40														
(303.58)																	
		2c	55	304.6 – 305.1 sheared, graphitic. numerous quartz veins and networks injection.													
305																	
(305.10)		2c															
			306.00	306.00 – 309.40 C2b ARGILLITE													
		2b		dark grey, fine-grained, well-banded, slightly graphitic argillite. intruded by numerous quartz networks.													
(307.85)			50														
		2b															
(309.68)			309.40	309.40 – 325.60 C2c ARGILLITE													
			37	dark grey, fine-grained, very well-banded, graphitic argillite. crushed to platy slice of beddings.													
310																	
		2c	35														
(311.81)			45														
		2c															
(314.86)																	
315			40														

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
315		2c	40	C2c ARGILLITE (continued)													
				grey, fine-grained, well-banded argillite.													
(316.69)		2c	50														
				microfolding texture.													
(319.74)			25														
320		2c															
(321.87)		2c	50	microfolding texture.													
				slightly sheared													
(324.93)			50														
325																	
		2b	325.60	325.60 – 344.30 C2b ARGILLITE													
				dark grey, fine-grained, well-banded argillite.													
				minor quartz veining.													
(327.06)			25														
(328.27)			25														
329.79)																	
330			18	slightly sheared													

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
330		2b		C2b ARGILLITE (continued) gray, fine-grained, well-banded argillite. very minor quartz veining. slightly graphitic. core generally competent.													
(331.01)		2b	10						331.62 1.5X4cm pyrite bed.								
(333.45)		2b															
(334.98)				334.7 microfolding structure.													
335		2b	10														
(337.11)		2b	10 5														
340																	
(340.16)		2b		340.0 – 341.4 extremely sheared to graphitic flakes and black argillite fragments. minor quartz intrusions. (faulting plane ?)													
(341.38)		2b	15														
(343.51)		2b															
			344.30	344.30 – 356.70 C2c ARGILLITE													
345		2c		gray, fine-grained, well-banded argillite. calcareous.													

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION Ca A	ALTERATION Si B	ALTERATION Grp C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
345		2c		C2c ARGILLITE (continued) grey, fine-grained, well-banded argillite. calcareous, crushed along bedding planes.													
(346.25)		2c	15														
				348.1 – 349.3 sheared to black argillite fragments. submetalic graphite on sheared planes. minor quartz stringers.													
(349.30)																	
350		2c		slightly crushed.													
(351.43)		2c															
(352.53)		2c		well-banded. calcareous.													
(353.69)			35														
355																	
(356.69)		2c	28														
			356.70	356.70 – 365.76 C1b SANDSTONE grey, fine-grained, well-banded argillite sandstone, calcareous. core is generally crushed.													
(356.92)		1b		well-banded. calcareous.													
(359.66)			35														
360																	

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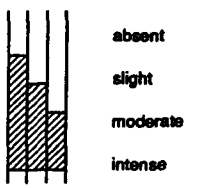
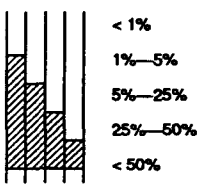
DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION Ca A	ALTERATION B	ALTERATION C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
360		1b	30	C1b SANDSTONE (continued) grey, fine-grained, well-banded sand or silty argillitic sandstone, calcareous, poorly crushed or sheared along bedding planes.													
(362.91)		1b	45	363.1 – 364.2 slightly sheared or crushed, submetallic graphite on sheared planes, minor siderite-quartz networks.													
365			48	calcareous, minor siderite-quartz networks.													
(365.76)				365.76m End of the Hole													

TOTAL ENERGOLD CORPORATION

DRILL LOG

PROJECT CLEAR LAKE	**GROUND ELEV.** 735.38 m
HOLE No. 92-76	**BEARING** 028° AZ
LOCATION L 7+50W 5+40S POW GRID 61365.27 N 90875.95 E	**DIP** -50°
	TOTAL LENGTH 263.96m
LOGGED BY RICK ZURAN	**HORIZONTAL PROJECT**
DATE AUGUST 23, 1992	**VERTICAL PROJECT**
CONTRACTOR KLUANE DRILLING	**ALTERATION SCALE**  absent slight moderate intense
CORE SIZE NQ	
DATE STARTED AUGUST 15th, 1992	
DATE COMPLETED AUGUST 20th, 1992	**TOTAL SULPHIDE SCALE**  < 1% 1%—5% 5%—25% 25%—50% < 50%
DIP TESTS 78.03m (256') -45.0° 123.75m (406') -44.8° 181.66m (596') -43.4° 257.86m (846') -42.6°	

DRILL CALCULATIONS/HOLE SUMMARY

PURPOSE: to test outcrop below Pb-Hg soil geochem for mineralization; and to investigate possible remobilized Zn-Pb as stockwork along the EARN-ASKIN contact.

REASON FOR SHUT DOWN: Completed objective. Vein-Stockwork mineralization with sphalerite, galena, pyrite and barite encountered within Askin Group rocks.

PERTINENT GEOLOGY:

0.00 - 50.55m	Overburden	
50.65 - 59.74 m	K_{2b} Micro-Porphyritic Diabase Sill	
62.70 - 78.80 m	SD_3 Dolostone	
78.80 - 79.05 m	K_{2b} Micro-Porphyritic Diabase Dyke	
79.05 - 103.88m	SD_3 Dolostone *	82.46-83.08 Barite Vein-Stockwork Breccia with 15% sph, tr galena, 5% py.
103.88 - 116.95 m	DM_{2a} Argillite	
116.95 - 136.50m	SD_3 Dolostone	
136.60 - 138.75m	DM_{2a} Argillite	
138.75 - 139.10 m	K (?-DM_0-Exhalite)	
139.10 - 145.85m	DM_{2a} Argillite	
145.85 - 148.10 m	K_{2b} Micro-Porphyritic Diabase Dyke	
148.10 - 211.53 m	DM_{2a} Argillite	
211.53 - 212.00 m	DM_{2b} Argillite	
212.00 - 253.56m	DM_{2a} Argillite	
253.00 - 266.34m	DM_{2b} Argillite	
256.34 - 263.96m	DM_{2a} Argillite	

(P) = PETROGRAPHIC SAMPLE (Lithology Column)
A = ASSAY
G = GEOCHEM

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION ca A	ALTERATION Si B	ALTERATION graph C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
0				0-60.55m OVERBURDEN - glacial clay and gravels.													
1																	
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	
11																	
12																	
13																	
14																	
15																	

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A (ca)	ALTERATION B (si)	ALTERATION C (graph)	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
15				(OVERBURDEN Cont'd)													
16																	
17																	
18																	
19																	
20																	
21																	
22																	
23																	
24 24.58		OB		24.13 - 24.54 OVERBURDEN : clayey and dolomitic gravels													
25				24.54 - 33.33 LOST CORE													
26 26.71	9	LOST															
27																	
28	3	CORE															
29																	
30																	

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION (LOST CORE Cont'd)	ALTERATION ca A	ALTERATION si. B	ALTERATION graph. C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
30																	
	1																
31																	
	3	LOST															
32																	
33																	
33.53		OB		33.53-33.93 OVERBURDEN: frag. of glacial erratics: chert bx, granodiorite													
34				33.93-42.78 LOST CORE													
35																	
		LOST															
36	7																
37																	
38																	
39																	
39.14		CORE															
40																	
41																	
	12																
42																	
43				42.78-43.58 OVERBURDEN: milled glacial intrusive & sedimentary rock													
43.58		OB															
44				43.58-49.13 LOST CORE													
	11	LOST															
45																	

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION (LOST CORE Cont'd)	ALTERATION A (Si)	B (Ca)	C (graph)	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	% Zn % Pb	% Ag (g/t) Cu (ppm)	% Ba (ppm) Hg (ppb)	COMPOSITE ASSAYS
45																	
46 46.02	11	LOST															
47	7	CORE															
48																	
49 49.38		OB		49.13-49.38 OVERBURDEN: milled intrusive erratic & glacial gravels													
		LOST		49.38-50.55 LOST CORE													
50	23		60 14	50.55-50.62 SD_3? dk grey fn.gn. equigranular lam. (1-2mm wide) qtz sst + calcareous matrix													
50.90		SD_3	20	50.62-50.90 SD_3 DOLOSTONE dk grey fn.gn poorly lam., qtz str. @ 60° TCA													
51		LOST	20	across lam.: 10% brecciated pale beige frag. (avg. size 1mm) minor qtz detritus					51.46-51.64 20% of surface area stained with								
52				50.90-51.20 LOST CORE					yellow, jarosite - irregular patches occupying								
	90	SD_3		51.20-54.56 SD_3 DOLOSTONE					fracture areas. Trace fine disseminated py.		52.00-53.00		3217 G	0.0045 0.0007	<0.2 13	80 10	
53				51.20-51.43 Fault zone: semi-consolidated, mud supported					also along fracture surfaces.								
				80% greyish-green calcareous clay gouge + 20% heterolithic bx.							53.09-53.95		3218 G	0.0063 0.0006	<0.2 6	90 10	
53.95				Fragments range 2x1cm to 2mm and avg 4x6mm in size													
54 54.56	100			51.43-52.90 Brecciated grey dolostone with wk													
		LOST		jarosite stained qtz-sand (fine) matrix - 25%; Slicken-													
55	87			sides @ 40° TCA (52.75m). Minor 3% qtz detritus (<1mm)													
55.78			80	52.90-54.56 Mottled grey and lt. grey dolostone (micritic dolostone) with													
56	100			local zones tainted lt. pale brown (sparry dolostone) with 2% graphite													
56.69				along irregular 'crackled' fractures at (53.16-53.24) and													
57		SD_3	80	(54.10-54.18). Weak dolomitic matrix through interval							57.27-57.75		3219 G	0.0022 0.0006	<0.2 4	410 10	
58	90			54.56-54.72 LOST CORE													
			40														
59			40	54.56-59.74 SD_3 DOLOSTONE													
			35° contact	54.56-57.50 Dk grey fine-med.gn. dolostone with local							59.74-60.10		3220 G	0.0010 0.0024	<0.2 14	5100 12	
59.74				(<5%) feather silica injection. Local stylolites (55.70m)													
60	98	K															

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION ca A	si B	graph C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	% %Zn %Pb	% Sr Ag Cu (ppm)	% Ba (ppm) Hg (ppb)	COMPOSITE ASSAYS
60				57.50-59.74 Dk grey with mottled tainted brown (20%) massive dolostone locally crackled. Silica str 10-20% @ 40° TCA avg 3mm wide - planar following joints. Sharp FW. contact													
61	98	K_{2b}	10° chill margin								61.10-61.20		3221 G	0.0008 0.0065	1.1 53	3700 0.056	
62			12° contact														
62.79				59.74-62.70 K_{2b} MICRO-PORPHYRITIC DIABASE SILL					59.74-62.70 5-7% pervasive disseminated pyrite throughout sill. Slightly more abundant along HW contact. Pyrite is altering to limonite								
63				Brownish with mottled blue-green patches with pervasive argillic alteration. Local micro-porphyritic texture - ophitic texture 60%. Brecciated along chill margins with caught up fragments of dolostone @ (59.95-60.32m), (61.98-62.10m) & (62.25-62.49m). Sharp HW, FW contacts with narrow breccia (10cm), chill margins @ 10-12° TCA. Argillically altered													
64	93	SD_3															
65																	
65.84		LOST									66.00-66.15		3222 G	0.0022 0.0014	<0.2 8	380 10	
66	79			62.70-65.64 SD_3 DOLOSTONE (micritic) (sparry) Grey to mottled tainted brown (20%) calcareous dolostone, local silica stringers (10%) - planar uniform; 10% med gn. qtz debris													
67			65														
67.67																	
68				65.64-65.85 LOST CORE													
69	97	SD_3		65.85-73.35 SD_3 DOLOSTONE (micritic) (sparry) Grey to mottled tainted brown (20%) calcareous dolostone, with local dolomite stringers, local stylolites with graphite residue (<1%) and local cracked healed bx with diffuse fragments. Crackle bx ⇒ 70.90-73.35m.													
70																	
70.41																	
71	96		Healed Crackle Bx						71.35m Tr. fine disseminated py. 71.55m Tr. fine gn. diss. py along stylolites								
72											72.64-74.98		3223 G	0.0051 0.0009	<0.2 4	260 10	
72.84																	
73																	
74	41	LOST		73.35-74.79 LOST CORE													
74.98																	
75																	

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION CA A	ALTERATION SI B	ALTERATION graph C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
														%Zn %Pb	Cu(ppm) Au(ppb)	Ba(ppm) Hg(ppb)	
75				74.79- 78.80 SD_3 DOLOSTONE													
76 76.59	100	SD_3		Grey to local patches of tainted brown dolostone. Local breccias (healed) common in this interval. Broken core					76.00 - 76.75 Tr + fine diss. py. along fractures in bx								
77 77.72	89			occassional laminae but difficult to read because of broken core													
78 78.94	100	p. $\frac{1}{4}$mm K_2b	10° FW 60°	75.70-75.80 Broken core; healed bx: frag. angular to sub-angular, range 1mm - 10cm across. Frags. are 99% SD_3.													
79				76.00-76.75 Fault breccia - healed; frag. angular to sub angular; range 1mm - 10cm. Avg. 2cm across. At 76.45 are subangular to subrounded more uniform in size avg ¾cm							78.99-79.04		3224 G P	0.0050 0.0031	<0.2 13	5800 10	
80	93			10% - 20% local discontinuous chaotic dolomite stringers 1mm - 2cm wide; avg ¾ cm wide.													
81 81.08				76.78 - 78.80 Broken core; crackled healed bx with local dolomite str. 5-10%.													
82	99																
83		SD_3	Bx Sub Vn 45°	78.80-79.05 K_{2b} MICRO-PORPHYRITIC DIABASE (DYKE?)					78.80-79.05 3-7% fine diss. anhedral py.		82.54-83.20	0.66m	1574 A	7.36 0.0679	1.2		
84 83.82				Brownish microporphyritic intrusive with 20-25% off white silicified dolomite fragments; subangular avg. ¾cm in size.					pervasive through dyke. By occurring as fine (1-5mm wide) str. in to FW bx.								
85 85.34	100			Fokkers altering to kaolinite (<1mm long) - argillic alt. Sharp HW (12° TCA) & FW (60° TCA) contacts. FW contact													
86				seeps into bx @ a shallow angle (5-10% TCA) on that side "Pebble Dyke"													
87	92		Bx Sub Vn 45°	79.05-98.32 SD_3 DOLOSTONE (B_{ix})													
88 88.59				Grey sparry and micritic dolostone breccia and crackle bx fault planes with local veinlets and mineralized stockwork-bx.													
89	100			79.35 - 79.70 Heterolithic Bx; well defined equidimensional-frag. bx with sharp HW contact of 25° TCA and irregular FW contact ~75°. Fragments are angular-subangular range 1mm - 1.5cm across; mostly 4mm across and consist of 85% dolostone (micritic/sparry) - silicified dolostone, 10% chert and whitish dolomite (barren?) fragments and 5%					79.35-79.70 1% v. fine diss. py superimposed on micritic dolostone bx frag. 80-30. 5% v. fine py. py along irregular shear surface ~20° TCA.		88.60-89.00		3225 G	0.0032 0.0199	20.2 <1	>20,000 14	
90																	

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION (SD3 DOLOSTONE Cont'd)	ALTERATION ca A	ALTERATION si B	ALTERATION graph C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	% %Zn %Pb	% Sn Ag Cu(ppm)	% Ba(ppm) Hg(ppb)	COMPOSITE ASSAYS
90				silicified argillite (DM2d). Local stylolitic boundaries													
91	100			on grains. Clasts 90%, Matrix (silica-dolomite) 10%.													
91.74				79.70-82.46 Subangular breccia-crackle bx with													
92				local elongated frag ~ 20° TCA. Mineralized shear plane													
				20° TCA @ 80.30m.													
93	100	SD3		* 82.46-83.08 BARITE VEIN-STWK-Bx + diss. sph. HW @ 75° TCA					82.46-83.08 15% lt. brown med grain euhedral								
				FW @ 45° TCA. Clasts Avg. 5cm across of micritic-sparry					sphalerite as disseminations and clusters of dissemin-		93.60-93.80		3226 G	0.0039 0.0011	<0.2 3	970 <10	
94 94.18				(grey) SD3 with overprinted (brown-lt. brown) mineralization. Clasts 60-70% angular					ations + Tr blackjack and/or galena - med. grain.								
				to subangular, Matrix is off white and 30-40%. Matrix					(galena ? is noted @ FW contact.) Tr-3% v. fine grain								
				is composed of 10% dolomite-silica + 90% tabular to acicular					pyrite and limonite along irregular fracture surfaces.								
95	100			to massive barite. Crystals avg 7×1½mm in size are euhedral;					Yellow-brn colour noted along contact of clast &								
96 96.33			dol. Str. network (10%)	Euhedral x-tals found in central part of vn-stwk-bx.					matrix diffusing into clast.								
			(96.80)	83.08-98.32. Crackle bx & brecciated SD3 grey to locally													
97	82			dk grey; massive texture. Local white-yellow brn barite-					87.20 Trace coarse grain galena with 1% med								
				qtz-dolomite veinlets + bx between 86.22-89.00 (10% of interval)					grain subeuhedral lt. brown sph. in brecciated								
98				and at 93.10m. More distinct veinlets + bx @ 63° TCA avg. 2cm					barite stringer ½ cm wide ∥ to laminae @ 23° TCA.								
				wide.					Host rock yellow-brown								
98.75		LOST		98.32-99.39 LOST CORE					88.45 Tr fine py as an irregular patch 1cm across.								
99	74			99.39-103.88 SD3 DOLOSTONE					93.10m - Medium to coarse grain sph. in an irregular								
100			30	Grey brecciated/crackle breccia dolostone with local					patch 5×1½cm with a 7×3mm blob of coarse								
101 101.19				barite stringers and veinlets (5% of interval). Bx					grain galena along a barite-dolomite veinlet								
		SD3		at FW (70° TCA) consists of subangular dolostone clasts					1cm wide @ 35° TCA.								
102	98			avg. 1cm across with barite matrix. Barite increasing													
				to 30% at contact. FW = Fault contact, low angle													
103 103.02				thrust.													
				103.20							103.30 - 103.40		3227 G	0.0071 0.0201	<0.2 7	720000 <10	
	82			103.88-106.98 DM2a ARGILLITE					104.55-106.98 3% fine grain disseminated py		103.84 - 103.88		3228 G	0.0011 0.0018	<0.2 7	12900 <10	
104 104.65				Dk grey to black carbonaceous argillite with local					in fine laminae (1mm thick) or bands up to		103.88 - 104.00		3229 G	0.0010 0.0036	0.5 25	9100 49	
105	92			off white dolomite stringers (avg width 1mm) ∥ to bedding					1cm wide. Concordant with silty laminae (bedding)								

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DEPTH METERS 105	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION (DM2a ARGILLITE Cont'd)	ALTERATION ca A	Si B	graph C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	% Zn % Pb	% Au Cu (ppm)	% Ba (ppm) Mo (ppm)	COMPOSITE ASSAYS
106	92	DM_{2a}		3-7% o/interval. Local tangential X-bedding in silty laminae.					laminae are wispy and X-bedding noted.								
				* 105.30m 5cm wide sliver of DM_{3a} - "ash tuff/andesite." argillically altered.					105.30-105.35m. 2% diss. py in DM_{3a} frag. - fine grain.								
106.98																	
107		LOST		106.98 - 107.43 LOST CORE													
108	89			107.43 - 116.95 DM_{2a} ARGILLITE					107.43-111.87 Fine grain disseminated py as bedded laminae and secondary veinage and fracture fillings avg. 1mm wide. Range from 1mm - 5mm wide. 38-70° TOA. 1% of interval								
109				Dk grey massive argillite with <1% silty and argillite laminae. Local silica and barite stringers <5% of interval cutting across laminae at various angles													
110.05																	
110																	
111	91	DM_{2a}		Major thrust fault from 111.87-116.95 o/crush argillite 90%; crushed silica (white grs.) 8%; and 2% crushed dolomite + barite(?). HW @ 90° TOA. FW not clear. (111.75m) 1/2 planar barite stringers @ 40° TCA, 1-3mm wide cut across silty laminae @ 45° TCA.													
111.87																	
112																	
113	97																
114																	
114.60																	
115																	
116	92										115.80 - 116.70		3230 G	0.0080 0.0028	0.3 34	1500 27	
117				116.95 - 117.65 SD_s DOLOSTONE (silicified)													
117.65		SD_s		Grey fault brecciated, silicified, partly (5%) replaced by chert, dolostone. 5% qtz detritus - med. grain.													
118		LOST		117.65 - 118.15 LOST CORE													
119	82	SD_s		118.15 - 120.90 SD_s DOLOSTONE (brx)													
				Grey intensely brecciated = "mylonitized" dolostone with local med-grain quartz detritus							119.45 - 119.80		3231 G P	0.0012 0.0008	<0.2 2	830 10	
120																	

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION (SD3 DOLOSTONE Cont'd)	ALTERATION ca A	si B	graph C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	% Zn % Pb	% Cu (ppm)	% Ba (ppm) Hg (ppb)	COMPOSITE ASSAYS
120																	
120.40	82	SD3 LOST	50 20	120.40-120.74 LOST CORE													
121																	
122	89			120.74-136.50 SD3 DOLOSTONE													
123				"mylonitized" 120.74-121.80 Intense -dolostone breccia. Clast													
123.44				supported with 5-10% crush silico-dolomite matrix. Avg													
124	96		5	clast size 4mm - subangular frags range 1mm to 2cm													
				across. Fault zone													
125																	
125.27			5	125.15 121.80-128.73 Grey dolostone moderately crackled with							125.15 -125.20		3232 G	0.0009 0.0010	<0.2 6	720 10	
126				dark laminae 5-20° TCA. Dolomite-qtz stringers at all													
127	98	SD3	3	angles to core axis. (Dol: qtz => 70:30%) Stringers/vein													
				lets are 30-40% between 124.60-125.27. Stylolites													
128				noted locally where tainted brown sparry dolostone is													
128.33				in contact with micritic grey dolostone (ie 123.44m)													
129				128.73-133.75 Facies change within the dolostone. 20%													
	100			qtz grains noted in a dominantly sparry dolostone. Dolomite-													
130				qtz stringers vary from 5-90° TCA and represent 10-20° of													
				interval. Avg width 2mm; up to 1cm wide and follow							130.30 -130.50		3233 G P	0.0035 0.0016	<0.2 6	5000 10	
131				fracture planes													
131.37																	
132				133.75 - 135.87 Grey micritic dolostone interbedded with													
	100			grey tainted brown sparry dolostone with local beds/laminae													
133				noted 1mm-1cm wide. 10% of interval consist of dolomite													
			35	qtz stringers 70-90° TCA one every 5cm; 2-7mm													
134			80 20	wide													
134.42																	
135	100			135.87-136.50 Dolomite-qtz stringer healed dolostone crackle													

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION (SD$_3$ DOLOSTONE (Cont'd))	ALTERATION ca A	ALTERATION si B	ALTERATION graph C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	% Zn % Pb	% Ag Cu (ppm)	% Ba (ppm) Mo (ppb)	COMPOSITE ASSAYS
135																	
136		SD_3		braccia; clasts angular and avg. 1½ cm in size													
	100			FW. is v. graphitic with fault gouge - not sure of angle.													
137				136.50-138.75 DM$_{2a}$ ARGILLITE							136.00 -136.08		3234 G	0.0010 0.0007	<0.2 4	9400	
137.96		DM_{2a}		136.50-137.00 Charcoal black graphitic fault gouge							136.70 -136.80		3235 G	0.0565 0.0033	0.3 90	6000 56	
138				137.00-138.38 Massive (<1%) silty laminae													
				138.68-138.75 charcoal black graphitic fault gouge													
139	100	K							138.57m v. fine grain pyrite as a 3x½ cm blob.								
				138.75-139.10 K ? (Exhalite-Tuff ?) DYKE					139.25 v. fine grain pyrite as a 3mm diameter blob.								
140				Intensely argillically altered lt. pale beige-grey dyke													
140.51				HW - fault contact @ 40° TCA; FW: 35° TCA. Mixed / brecciated													
141				with DM$_{2a}$. 3% disseminated euhedral mineral - malachite ?													
142	100			139.10-146.85 DM$_{2a}$ ARGILLITE													
		DM_{2a}		Dk grey massive (silty laminae <<1%) argillite with 2"													
143				2cm wide bands of K ? (or DM$_3$?) @ 30° TCA at 141.10m							142.80 -143.00		3236 G	0.0016 0.0034	<0.2 26	2100 15	
145.56				141.50m; dykes ? Argillite is locally injected with dolomite -													
144				qtz (70:30 %) veinlet + bx @ 143.90m.													
				143.30-144.00 Fault + bx + 10% rbl-qtz injection + gouge.													
145				30° TCA. Barite stringer 5x 5cm @ 144.90m. 30° TCA.					144.70-145.85 fine grain pyrite as bands 2mm -								
	97								5mm wide // to cleavages and bx planes. Associated								
				∧ DM$_{5a}$ - XTALL TUFF ??					with dolomite and barite stringers. Py 3% of interval								
146				145.85-148.10 K_{2b} MICRO-PORPHYRITIC DIABASE (DYKE cont'd)					145.86-148.10 fine grain pyrite as elongated blobs								
146.61				Beige carbonate-amygdaloids (5%) propylitically altered					80-90° TCA, 5cm x 2mm locally within chill margins								
147		K_{2b} or DM_{5a}		micro-porphyritic diabase dyke with 10cm chill margins					of dyke.								
				@ FW & HW. Phenocrysts include sub-euhedral plagioclase													
148	86			X-tals <0.6mm and lineated 70-90° TCA (30%); subeuhedral-							147.30 -147.40		3237 G	0.0012 0.0010	<0.2 50	2700 <10	
				hexagonal dk brown - black x-tals 2mm avg size (5%); subeuhedral													
149		DM_{2a}		green rhombic carbonate ? 1mm avg size (3%); dolomite Altered													
149.35				amygdaloids up to 5mm across - oval // long axis 70-90° TCA in													
150	100			dark to lt beige matrix. Local irregular injections of white dolomite vn													

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION (DM2a ARGILLITE Cont'd)	ALTERATION ca A	ALTERATION si B	ALTERATION graph C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
150																	
150.23	100		30	148.10 - 160.32													
151	100		25														
151.99			15														
153	92		20														
153.92			25	153.80m - dolomite injection; irregular stringers / patches with silica (10%)													
159	100	DM2a	25														
155																	
155.14																	
158	100																
158.36																	
157	100		35														
157.15																	
158	100		30														
158.19																	
159	82		25														
159.41																	
160																	
160.32		LOST	80	160.32 - 160.62 LOST CORE													
161			45	160.62 - 169.47 DM2a ARGILLITE													
162.45			15														
163		DM2a	15														
164	95		5														
164.94																	
165	95																

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION (DM2a ARGILLITE (Cont'd))	ALTERATION Ca A	Si B	graph C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	% Zn % Pb	% Sb Ag (ppm)	% Ba (ppm) W (ppb)	COMPOSITE ASSAYS
165			F0														
166	91								166.85m Fine grain py as disseminated masses along a silty laminae; 2 blobs 2½ × ½ cm & 3cm × 3mm.								
166.72																	
167		DM_{2a}	F20														
168	100		F35														
169			F5														
169.47		LOST		169.47-169.85 LOST CORE													
170			F30	169.85-172.21 DM_{2a} ARGILLITE					169.85-172.21 Tr py as fine grain diss patches coincident with laminae.								
171	86	DM_{2a}		Dk grey to light grey. Locally sheared & injected with qtz and carbonate along sandy lens @ 171.00-171.20m.													
172			F25														
172.21		LOST		172.21-172.76 LOST CORE													
173	70																
174				172.76-176.78 DM_{2a} ARGILLITE													
174.04			F15	Dk grey argillite. Locally sheared & injected with qtz along a graphitic plane @ 175.10-175.60m.													
		DM_{2a}															
175			F30														
	100										175.50 -175.60		3238	0.0459 0.0023	<0.2 86	3400 39	
176			F40														
176.78		LOST		176.78-177.24 LOST CORE													
177			F50														
177.24				177.24-179.83 DM_{2a} ARGILLITE					177.62m Two blobs 1 × ½ cm & 5 × 3mm of fine grain crackled py disseminated with qtz								
178	85	DM_{2a}		Dk grey argillite with local greater silt lens @ 177.90. Irregular 1cm wide qtz-carbonate veinlet at 'bottom' of lens.													
179																	
179.83																	
180		LOST		179.83-180.35 LOST CORE													

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION (LOST CORE Cont'd)		ALTERATION ca A	si B	graph C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
180			45	180.35-182.57	DM2a ARGILLITE.													
181	81	DM2a			Dk grey argillite locally sheared and injected with													
					qtz carbonate stringers (5% of interval); avg width of													
182					stringers 2mm.													
182.57		LOST		182.57-183.11	LOST CORE													
183																		
	78	DM2a	45 50	183.11-185.01	DM2a ARGILLITE.													
184					Dk grey argillite locally sheared with faint sandy lens @													
185.01			30 45		183.80m.													
185		LOST		185.01-185.43	LOST CORE													
186	77		25															
				185.43-188.37	DM2a ARGILLITE													
186.84					Dk grey argillite locally sheared with ft. grey sand lens													
187	71	DM2a			@ 187.88m													
			45															
188																		
188.37		LOST		188.37-188.70	LOST CORE													
189			40															
	86	DM2a	50	188.70-190.80	DM2a ARGILLITE													
190			35		Dk grey sheared argillite with local qtz injections @ 190.20													
190.80				190.80-191.14	LOST CORE													
191		LOST																
	84			191.14-195.68	DM2a ARGILLITE													
192					Dk grey dominantly massive argillite with a local graded													
192.44					sand lens @ 194.25m. Sheared at top end of interval													
193		DM2a																
194	92		70															
195																		

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION (DM2a Cont'd)	ALTERATION ca A	ALTERATION si B	ALTERATION graph C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
195																	
195.68	92	DM_{2a}															
196		LOST		195.68-196.11 LOST CORE													
	77			196.11-199.34 DM_{2a} ARGILLITE													
197				Dk grey sheared argillite with local carbonate and													
197.51				qtz stringers (<6%) avg. 2mm wide along graphitic													
198	86	DM_{2a}		shear planes													
198.73			25														
199	100																
199.34		LOST															
200				199.34-199.80 LOST CORE.													
	70		60														
200.86			45	199.80-206.65 DM_{2a} ARGILLITE													
201				Dk grey argillite locally sheared and injected with off													
	63			white qtz-carbonate stringers & blebbes at chaotic													
202				angles to core axis (<10% of interval)													
202.98																	
203	100	DM_{2a}	30														
	92																
203.81																	
204			20														
	84																
205																	
205.15			40														
206	91								205.47 Tr. disseminated a band 3/4 cm wide @								
206.65									70° TCA coincident with silty laminae.								
207		LOST		206.65 - 207.02 LOST CORE													
207.02	70																
207.87				207.02 - 209.40 DM_{2a} ARGILLITE													
208		DM_{2a}		Dk grey argillite intensely sheared lower third of interval													
	100																
209																	
209.40				209.40-209.67 LOST CORE													
209.67		LOST															
210	85			209.67-211.23 DM_{2a} ARGILLITE													

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION (DM2a ARGILLITE contd)	ALTERATION cc A	ALTERATION si B	ALTERATION graph C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
210																	
211.23	85	DM_{2a}	30	211.23-211.53 LOST CORE													
		LOST	20														
212	75	DM_{2b}		211.53-212.00 DM_{2b} ARGILLITE. Dk grey argillite with lt. grey silty laminae (~20%). Clear. agr is oblique to laminae.													
212.45																	
213 213.05	100																
214 214.23	86			212.00-220.37 DM_{2a} ARGILLITE Dk grey argillite, locally sheared, with 2% off white qtz-carbonate stringers at all angles to core axis/vary													
	100		45														
215				width 1mm wide. T													
215.19																	
216	75	DM_{2a}	45														
216.71			90						216.80m Tr di:ss. med grain sub euhedral py 2mm wide coincident with silty laminae @ 80° TCA.								
217																	
218	95		45	Local laminated (1-2mm wide) fine grain sandy lens 218.30-218.40m.													
218.54																	
219	89		35														
220																	
220.37		LOST		220.37-220.74 LOST CORE													
221	76		15	220.74-225.25 DM_{2a} ARGILLITE Dk grey argillite dominantly massive with 2 local veinlets of off white qtz-carbonate @ 90° TCA and 1cm wide and coincident with silty laminae													
221.89			20														
222																	
223	88	DM_{2a}	40														
224.05																	
224																	
225	84																

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION (DM2a ARGILLITE Cont'd)	ALTERATION ca A	ALTERATION si B	ALTERATION graph C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
225																	
225.25	84	DM2a															
		LOST		225.25-226.10 LOST CORE													
226			45														
			50	226.10-232.87 DM2a ARGILLITE													
227				Dk grey argillite locally sheared with local deformed													
	83			q/z-carbonate injections between silty laminae at													
228				bottom of interval (2-3cm wide all together)													
229																	
		DM2a	70														
230				229.75-230.05 Bouma sequence with tops towards													
230.12				bottom of hole. Lt grey near coarser and with													
231			68	carbonate stringers at this end dissapating as the													
	100			sequence becomes finer													
232																	
232.87			40														
233		LOST		232.87-253.36 LOST CORE													
			50														
234				253.36-235.91 DM2a ARGILLITE													
	84		60	Dk grey argillite - 70% of interval intensely sheared.													
235				Local q/z-carbonated stringers disturbed where													
			65	Shearing v. intense. Stringers 1-5mm wide 10% of					235.50 Pyrite blob 3x9cm elliptical in shape.								
235.91				interval.					Fine grain, cracked with 6% off white q/z-								
236		LOST	65	235.91-236.36 LOST CORE					carbonate								
237																	
	85		65	236.36-240.79 DM2a ARGILLITE													
238			28	Dk grey argillite sheared at upper 10% of interval													
238.94				including a silica injected sand lens													
239																	
	89																
240																	

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DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION (DM2a ARGILLITE Cont'd)	ALTERATION A (ca)	ALTERATION B (Si)	ALTERATION C (Graph)	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
240																	
240.79	69	DM_{2a}															
241		LOST	90	240.79 - 241.22 LOST CORE													
242	86			241.22 - 246.28 DM_{2a} ARGILLITE Dk grey locally sheared argillite. Qtz-carbonate chaotic stringer network subparallel to shearing ¼ of interval at bottom. 20% of entire interval.													
243																	
243.84		DM_{2a}	80														
244																	
245																	
246	93								246.20 2 fine grain pyrite blobs; 3x½ cm and ½ cm dia. Cracked with off white qtz.								
246.28		LOST		246.28 - 246.63 LOST CORE													
247	79	DM_{2a}		246.63 - 248.41 DM_{2a} ARGILLITE Intensively sheared and crushed argillite 45% crushed off-white qtz-carbonate in upper ⅓rd of interval													
248																	
248.41		LOST		248.41 - 248.80 LOST CORE													
249	100																
250				248.80 - 253.56 DM_{2a} ARGILLITE													
250.24				Dk grey argillite locally sheared at top of interval													
251		DM_{2a}															
252	91		80	Local sand lens - faint; coarser fraction towards bottom of hole.													
253																	
253.29		LOST		253.29 - 253.56 LOST CORE													
254	92	DM_{2b}	70	253.56 - 256.34 DM_{2b} ARGILLITE													
255																	

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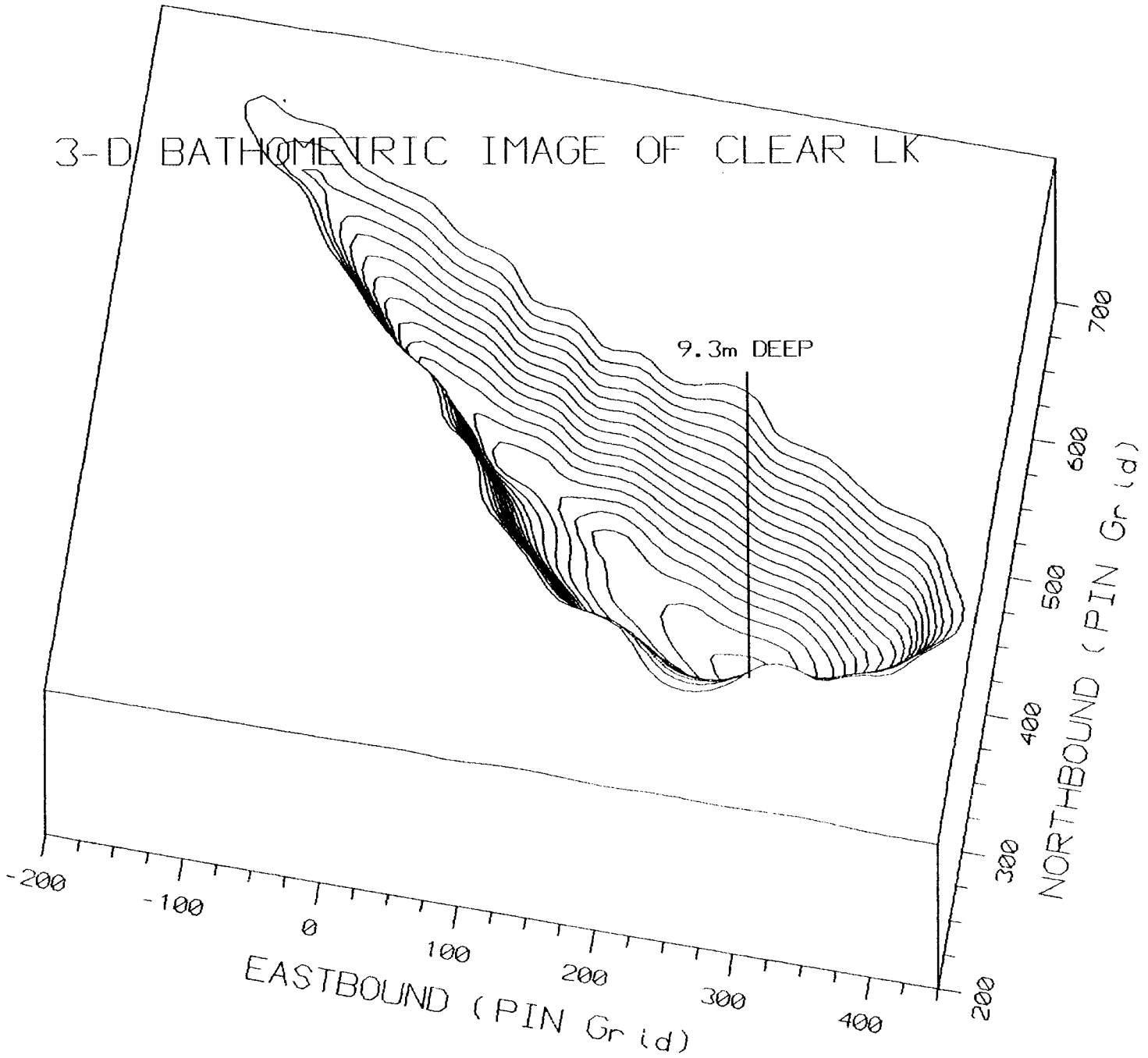
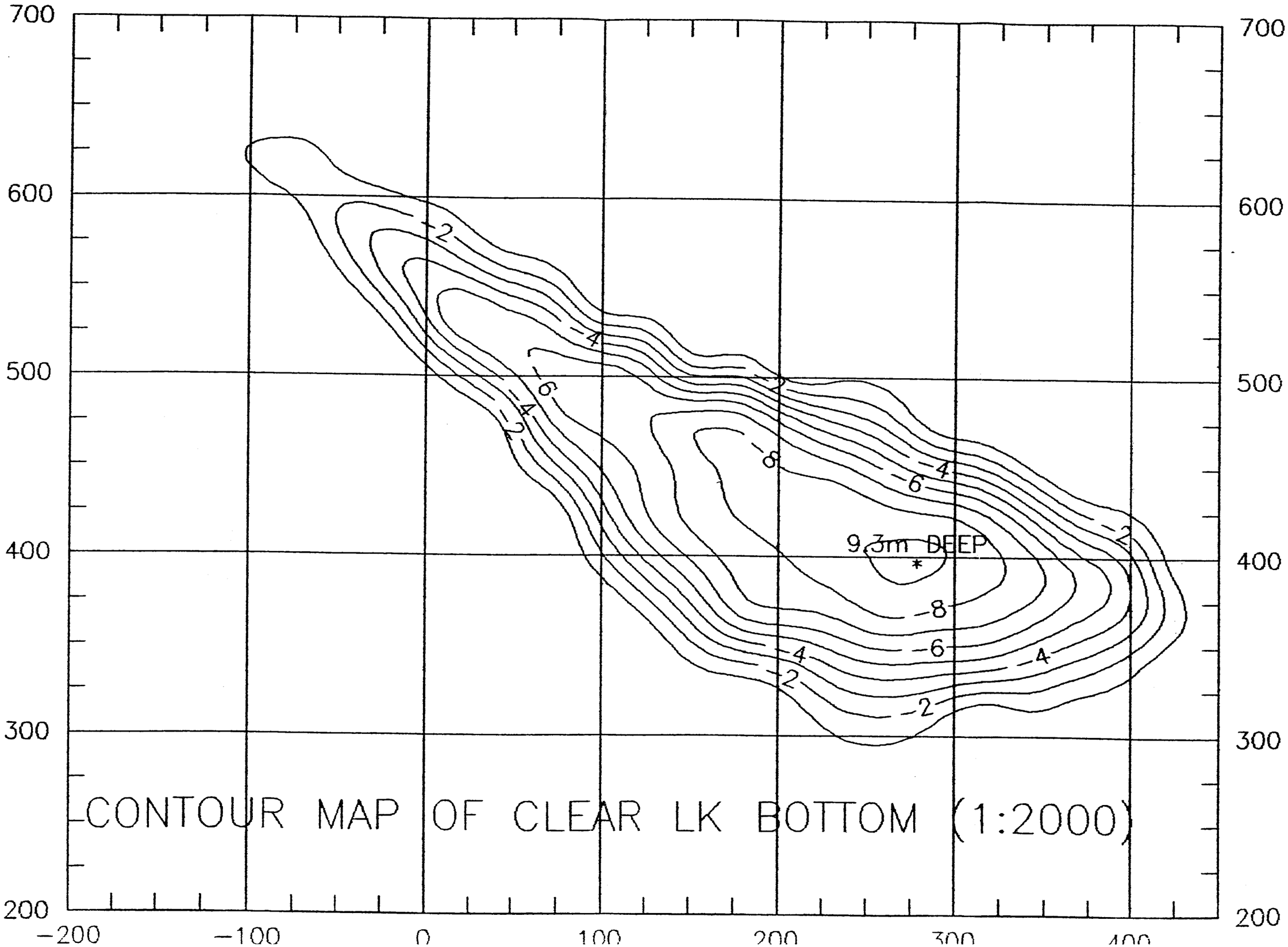
DEPTH METERS	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION (DM2b ARGILLITE (Cont'd))	ALTERATION ca A	ALTERATION si B	ALTERATION graph C	FRACT INTENSITY	MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	INTERVAL	WIDTH	ASSAY NUMBER	%	%	%	COMPOSITE ASSAYS
255																	
	91	DM_{2b}		Dk grey argillite with lt. grey silty laminae and q/z - carbonate injection (20°A) in local shearing at towards bottom of interval.													
256 256.34		LOST															
		DM_{2b}		256.34 - 256.58 LOST CORE													
257																	
	92			256.58 - 263.96 DM_{2a} ARGILLITE													
258				Dk grey argillite with local curved shearing at													
				various angles; steepening towards middle of hole													
259 259.58				w.r.t. core axis. Crush q/z-carbonate associated													
		DM_{2a}		with shear zones; Local Qtz-carbonate injection													
260				at bottom of interval - brittle fracture.													
261	100			Graded sand lens @ 262.50 - 262.80m with coarser													
				fraction towards top of hole.													
262 262.13																	
263	100																
263.96				263.96 E.O.H													
264																	
265																	
266																	
267																	
268																	
269																	
270																	

APPENDIX F

Clear Lake Bathometric Data Point, 1:2,000
Contour Map of Clear Lake Bottom, 1:2,000
3-D Bathometric Image of Clear Lake

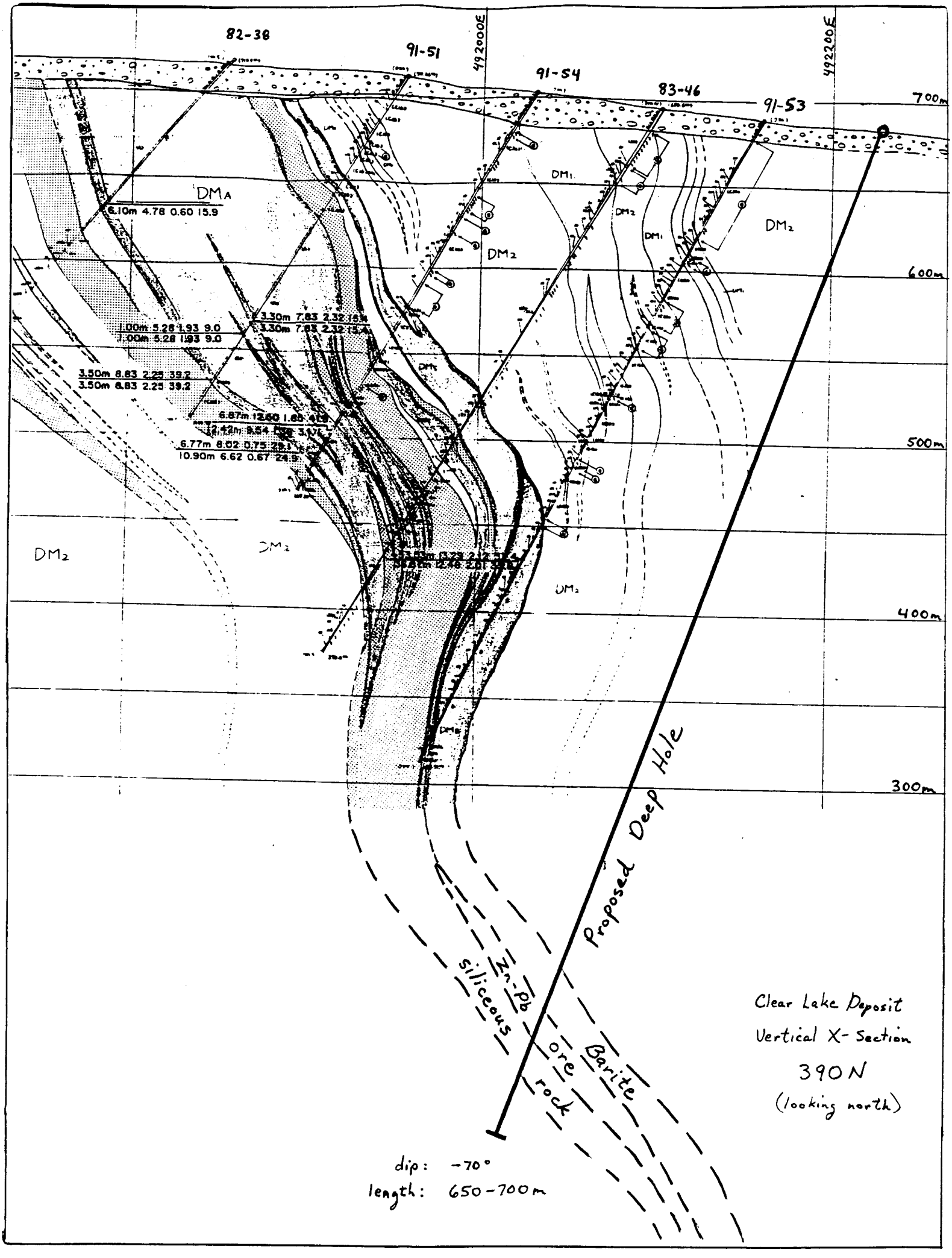

3-D BATHOMETRIC IMAGE OF CLEAR LK
9.3m DEEP
-200
-100
0
100
200
300
400
EASTBOUND (PIN Gr id)
200
300
400
500
600
700
NORTHBOUND (PIN Gr id)


700
600
500
400
300
200
-2
-4
-6
-8
9.3m DEEP
CONTOUR MAP OF CLEAR LK BOTTOM (1:2000)
-200
-100
0
100
200
300
400

CLEAR LAKE BATHOMETRIC DATA PTS.(1:2000)

APPENDIX G

Proposed Deep Hole, Section 390N


82-38
91-51
91-54
83-46
91-53
492000E
492200E
700m
600m
500m
400m
300m
DMA
6.10m 4.78 0.60 15.9
DM1
DM2
3.30m 7.83 2.32 15.4
1.00m 5.28 1.93 9.0
3.50m 8.83 2.25 39.2
6.77m 8.02 0.75 28.1
10.90m 6.62 0.67 24.9
Proposed Deep Hole
Zn-Pb
siliceous
ore
Barite
rock
Clear Lake Deposit
Vertical X-Section
390N
(looking north)
dip: -70°
length: 650-700m

APPENDIX H

Geology & Drill Hole Sketch Map

KIECHIKA GROUP

TINTINA FAULT

DM LST (Sandy limestone)

DM CHT (Chert)

DM CPC (Conglomerate)

DM LST (Sandy limestone)

DM CHT (Chert)

SCUMBAG LAKE

CLEAR LAKE

BASIL LAKE

CAMPSITE

EARN GROUP

ASKIN GROUP

87-17 -47° 75

92-67 -50° 282.9m

91-66 -50° 271.0m

92-68 -50° 300.5m

92-69 -50° 298.7m

91-64 -50° 258.2m

91-65 -70° 182.0m

92-70 198.1m -50° 198.1m

92-71 -50° 249.9m

92-73 -60° 399.9m

91-63

81-29

81-30

78-16

92-74

92-75 -50° 365.8m

92-76 -50° 264.0m

Resistivity low in deep, plus Hg Pb geochem anomaly

Hg geochem anomaly

Pb, Ba geochem anomaly.

TR-4 TR-5 TR-7 TR-9 (outcrop) TR-11 (outcrop)

Baffle

tuff

POW Grid North

PIN Grid North (UTM North)

Magnetic North

SNAFU Grid North

19.5° 27.5° 4.5°

LEGEND

- Known Clear Lake orebody
- Interpreted extension of mineralized horizon
- Shale dominant zone (2a, 2b, 2c, 2d)
- Sandstone dominant zone (1a, 1b)
- Calcareous zone (2e, 2f, etc.)
- Graphite rich sheared zone often quartz injection as networks, veinlets and lenses.
- Lapilli tuff
- Drill hole carried out (outside of known orebody)
- Bedding observed in outcrops
- Bedding estimated by drill log
- TR Trench

付図 1

CLEAR LAKE PROJECT YEAR 1992 DRILL HOLE SITE

1 : 10,000

August 21, 1992