

GEOLOGICAL, GEOPHYSICAL, GEOCHEMICAL

1982 EXPLORATION ACTIVITIES OF THE
TCHAIKAZAN RIVER PROJECT
TASEKO LAKE AREA, B.C.

April - October 1982

This report covers the following mineral claims held by
Suncor Inc.:

547	Lyra	984	Echo-4	1093	SUN-14
548	Helena	985	Echo-7	1142	SUN-15
918	Cougar-1	1059	SUN-1	1143	SUN-16
919	Cougar-2	1060	SUN-2	1144	SUN-17
920	Cougar-3	1061	SUN-3	1145	SUN-18
921	Cougar-4	1062	SUN-4	1146	SUN-19
922	Cougar-5	1063	SUN-5	1147	SUN-20
923	Cougar-6	1064	SUN-6	1148	SUN-21
924	Cougar-7	1065	SUN-7	1231	SUN-22
925	Cougar-8	1066	SUN-8	1253	SUN-24
926	Echo-1	1067	SUN-9	1259	SUN-31
927	Echo-2	1068	SUN-10	1260	SUN-32
942	Echo-5	1069	SUN-11	1274	SUN-38fr.
965	Cougar-10	1070	SUN-12	1275	SUN-39fr.
983	Echo-3	1071	SUN-13	1277	SUN-41fr.

on N.T.S. Sheets 92 0 / 4 and 5
centered on 51° 11'N 123° 39'W
in the Clinton Mining Division

by: Paul A. Hawkins, P.Eng.
Calgary, Alberta
January 17, 1983

Suncor Report #9174

Part 3
of 4

GEOLOGICAL BRANCH
ASSESSMENT REPORT

10,774

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1.0 INTRODUCTION

Suncor's Tchaikazan River property hosts a porphyry system with copper and molybdenum mineralization and peripheral gold and silver mineralization. This report covers exploration activities carried out by Suncor during the 1982 field season on the 20,188.22 hectares which now make up the property. Some of the geological mapping carried out during the early field season on SUN 1-14 mineral claims is documented in Suncor Report #9151 (Hawkins, P.A., 1982 c).

A crew of eleven Suncor staff was on site at the Fishem Lake Camp site to conduct the field program which consisted of geological mapping, soil sampling, stream sediment sampling, rock sampling, limited prospecting, geophysics, and some physical work.

Geological mapping was carried out at a scale of 1:10,000 over the whole property with some detailed mapping at 1:1000 and 1:500 in selected areas near the Hub area trenches. The main area of interest on the property occurs in the vicinity of the Hub area on the Tchaikazan River (drawing no. 82-075B).

In the geochemical program a total of 1475 samples were collected as shown in Table 1.1.

A program of additional soil sampling was conducted over the expanded Hub area grid which was cut in the fall of 1981 (drawing no. 82-106). Further soil samples were also collected elsewhere over interesting areas. A total of 1000 soil samples were collected on the property. On Little Creek 42 stream sediment samples were collected.

During geological mapping and prospecting 308 rocks were collected for geochemical analysis while 125 rocks showed enough encouragement to be sent for assay. A number of other rock samples were also retained for possible future study. Prospecting activities yield a number of new showings of secondary copper minerals.

TABLE 1.1

TCHAIKAZAN RIVER PROJECT

SAMPLE TYPES COLLECTED

Stream Sediment Samples	42
Soil Samples	1000
Rock Samples for Geochemical Analysis	308
Rock Samples for Assays	<u>125</u>
	1475

Magnetometer and VLF-EM surveys were undertaken on the 64.55 km of the Hub Grid plus 4.45 km of detailed magnetometer. For the VLF-EM survey, Seattle Washington, was used as the transmitting station.

Physical work consisted of road maintenance, line cutting, limited trenching and claim post location surveys. The claim post survey was carried out under contract by McElhanney and Associates. The above physical work is described later in Section 5.0.

1.1 LOCATION AND ACCESS

The Tchaikazan River project is located just west of the Taseko Lakes in south central British Columbia some 210 km (130 miles) north of Vancouver. The property is also 156 km from Williams Lake by air but can also be reached by road along the Bella Colla highway to Lee's Corners then south to the Lord River Mine Development road, a distance of some 270 km. The property can also be reached by small aircraft using the Fishem Lake Airfield (800 m in length).

Weekly servicing was obtained out of Williams Lake using both 4 wheel drive vehicles and helicopter support. A Bell Jet Ranger III on Term Charter was based out of the Fishem Lake Airfield. The base camp was located on the south end of Fishem Lake adjacent to the Fishem Lake Airfield.

The property is located within the Tyraughton Trough just adjacent to the Coast Plutonic Complex. Several promising prospects are located nearby; Fish Lake (Cu, Au) 35 km to the north, Poison Mountain (Cu), 75 km to the west, Lord River (Au) 8 km to the south east and Banner (Cu), 13 km east. Several other claim blocks exist in the area held by individuals and companies but are not at an advanced stage of exploration.

The claims covered by this report stretch from the north side of Yohetta Valley down through the Gunn Valley and up both the Tchaikazan and Falls river valleys from the west side of Taseko Lake. The claims in the area are partially accessible by road, primarily the Lord River Mine Development road. The greater portion of the claim however are accessible only by helicopter with ease. An extensive network of pack horse trails was developed by early prospecting crews in the 1940's. These trails provided some access on foot to several areas during the 1982 field season. The trails are not wide enough for vehicle access.

1.2 PHYSIOGRAPHY

The Taseko Lake area lies within the Coast Range Mountains. The area is cut by several U shaped valleys. The largest of which is the Taseko Lake Valley. It runs north-south and is one of the great U shaped valleys of the Cordilleran Interior System. This forms the eastern boundary of the property. Several other valleys run approximately north-north-easterly and are of glacial origin. The melt water from the many glaciers in the area is very cloudy and carries a lot of sediment; causing the Tchaikazan River and the Taseko Lake to be very cloudy and almost a turquoise color. The other streams and lakes with run off or ground water sources run clear.

The wide valleys and alpine terrain in the area show a transition from a well forested valley bottom to upper open alpine slopes to glacial ice fields. Elevations range from about 4350' to RCAF Peak at 9400'. The tree line lies between 6500' and 7000'.

Discontinuous permafrost is present in many of the alpine slopes. Frost boils and mud flows are present on some slopes. During the spring run off period some areas of high angle slopes are mobile and fluid transport of soil is evident.

1.3 PROPERTY HISTORY AND PREVIOUS EXPLORATION

Prospecting in the Taseko Lake area in 1945 led to the discovery of gold and silver mineralization in the vicinity of the Tchaikazan River. This work was carried out under the supervision of Dr. Harry Warren of the University of British Columbia. The showings occur within the Charlie Group. The Charlie Group is located on Tchaikazan River, Zelon Option Map 81-075B. Limited sampling of these showings was undertaken and native gold, silver and hissite, a gold telluride, were found to occur in the quartz vein. Further investigations were carried on during the winter of 1946-47. The mineralization was described in a paper written by Warren in the Royal Society Transactions (Warren, Harry V., 1947). The Charlie Group was optioned to Conwest for further development, however the option was allowed to lapse. No specific details regarding the work carried out is known.

In 1954 copper and molybdenum mineralization was located along the banks of the Tchaikazan River. Further trenching and sampling of the mineralization was also done. Harry Warren carried out a biogeochemical study of molybdenum on the property (Warren, Harry V., 1965).

Between 1966 and 1967 Falconbridge carried out limited soil sampling, a magnetometer survey, shallow trenching and eight drill holes totalling 1250 feet. In 1968 Copper Range Exploration Co. built a road from Fishem Lake to the Cu-Mo showings and carried out further trenching and a further magnetometer survey.

In 1969 Rio Tinto Exploration optioned the property and carried out detailed work on the property until 1973 when it dropped its option. Rio carried out a detailed soil sampling program around the Hub area which revealed a significant Cu-Mo anomaly in the Hub area. Further trenching on this anomaly did not intersect sufficient mineralization to explain the soil anomaly (Troup A.C. and Peterson D.B., 1971). A magnetometer and induced polarization survey was carried out and revealed an extensive area of increased chargeability over the property with a roughly circular chargeability depression

in the centre of the grid area (Forminoff P.J., and Peterson D.B., 1971).

Rio Tinto carried out some 1501' in seven holes of diamond drilling but did not interest sufficient mineralization to continue. In 1973 it dropped the option.

In 1979 Zelon Chemicals Ltd. (owned by John Hajek, a former Rio Tinto employee) optioned the property from Harry Warren. Zelon Chemicals carried out some limited prospecting and mapping in 1980. Late in 1980 Suncor optioned the property from Zelon Chemicals.

In 1981 a limited program of geological mapping, geochemical sampling and prospecting was carried out a five man crew. A new grid was also cut with its origin at the Hub Trenches. Additional acreage was acquired in the summer and fall of 1981 to bring the project area up to 13,000 hectares. Work carried out on the project in 1981 is covered by Suncor Report #9046 (Hawkins, P.A., 1981) and #9047 (Hawkins, P.A., 1982 a). The majority of the work was confined to the Tchaikazan Valley. A limited amount of mapping was carried out elsewhere in the property.

Limited work was carried out in the Pond Creek area and near the Haho showing. Rock sampling in the area indicated the presence of several promising areas which warranted further follow-up and prospecting.

During the early part of 1982 field season geological mapping was carried out over SUN 1-14 mineral claims. The mapping program was at a scale of 1:10,000 and was documented in Suncor Report #9151 (Hawkins, P.A., 1982 c). This report will update the early 1982 season mapping.

2.0 GEOLOGY

The property is located just east of the margin of the coast Plutonic Complex in a basin of sedimentary and volcanic rocks called the Tyraughton Trough which forms part of the Intermontaine Belt. Locally the property appears to be part NW trending belt of Cretaceous sediments and volcanics intruded by several recent felsic intrusive centres of Late Cretaceous or early Tertiary age.

Regional mapping carried out by the G.S.C. in the 1960's (Tipper, H.W., 1968) and (Tipper, H.W., 1978) was directed more towards the sedimentary rocks than the volcanics and intrusives. The sedimentary rocks are discussed extensively in G.S.C. Paper 67-54 (Jeletzky, J.A. and Tipper, H.W., 1968). Therefore the G.S.C. mapping of the volcanics in the area is not reliable on a detailed scale.

The Cretaceous sediments and volcanics of the Taseko Lake area are probably part of the Taylor Creek Group. No attempt was made to correlate rock units by field staff with any type section. Sedimentary rocks in the project area include: shale, conglomerates, arkose, argillates, mudstone and sandstone. Volcanic and associated pyroclastic rocks in the area are: andesites, basalts, greywacke, tuff and agglomerates. Intrusive rocks of the area are: feldspar porphyry, quartz feldspar porphyry, granodiorite, diorite, pegmatite, felsite and lamprophyre dikes. The amount of alteration present sometimes hampers the field identification of rock type.

The field determinations of rock unit names appears to a consist problem in the Tchaikazan river area. A number of intrusives appear to be contemporaneous with similiar composition volcanic flows. Alteration makes it difficult to distinguish between some andesites and basalts. Another problem is with the pyroclastics where tuffs, greywacke and conglomerate grade into each other. A number of rock samples for thin sections were selected and they will be examined at a later date to solve these problems.

A number of porphyry intrusive occur on the property. They occur apparently both as plugs and as dike or sills. Lack of good out crop prevents complete mapping. In the Hub area trenches where the most explored intrusive is exposed low grade copper and molybdenum mineralization occurs. Potassic, phyllic and propylitic alteration is also present (Curtis, L.W., 1981). Several other intrusives in the area show secondary copper minerals such as malachite in isolated vein showings.

The property was mapped at a scale of 1:10,000 by Suncor field staff. During the early part of the field season a set of field mapping units were developed. Mapping was carried out by pace and compass methods using Suncor's own color airphotos (1:27,000) and enlargements of topographical maps. Structural data was also collected.

2.1 DESCRPTION OF ROCK UNITS

Rock unit names developed from early field mapping during the first part of the 1982 field season. Several modifications will likely be required before a satisfactory set of units and correlations can be made. The severe alteration in some areas hampered field determination. The gradations of some of the volcanics into sediments was also a major problem. A simplified table of field mapping units is provided however a more detailed description of units follow.

TABLE 2.1

TCHAIKAZAN RIVER PROJECT

TABLE OF FIELD MAPPING UNITS

- 7. Lamprophyre dykes
- 6e Fault breccia (commonly mineralized)
- 6c Granodiorite, granite, pegmatite veins/dikes
- 6b Feldspar porphyry
- 6a Quartz-feldspar porphyry (also quartz-eye felsites)
- 5d Diorite, quartz diorite
- 5c Breccia/stockwork zones associated (probably) with folding and faulting (generally riddled with quartz-carbonate veins)
- 5b Quartz-carbonate veins with dark alteration envelopes
- 5b Green to very light grey andesite - dacite dikes, stocks, chill margins (magnetic)
- 5a Porphyritic hornblende andesite (may belong in group 6)
- 4d Miscellaneous volcanic ejecta (tuffs, agglomerates, bombs, lapillica)
- 4c Argillaceous arenite (muddy arkoses and wackes)
- 4b Grey, green, brown greywacke-conglomerates
- 4a Grey, grey, black andesite/basalt flows
- 3d Argillilites (siltstones, mudstones, shales)
- 3c Purple-mauve greywacke conglomerates
- 3b Purple-mauve basalts
- 3a Black-grey basalts
- 2b Arkose
- 2a Quartz-pebble conglomerate
- 1 Black shale

TABLE 2.2

TCHAIKAZAN RIVER PROJECT

ROCK UNIT DESCRIPTION

BLACK SHALE (UNIT 1)

- black, fine grained, often exhibiting laminar banding fissile
- slately cleavage
- invariably shows rusting
- commonly found interbedded with argillite
- weathers to black blocky material
- occasional disseminated pyrite

QUARTZ PEBBLE CONGLOMERATE (UNIT 2a)

- generally buff to greenish and containing a fine matrix (less than 10%) often limonitic
- outcrops seen on north side of Yohetta Valley are typical

ARKOSE (UNIT 2b)

- tan to pinkish brown also greenish to greyish often lithic fragments generally medium grained but poorly sorted
- well bedded and resistant unit
- best outcrop exposure occurs in the lower half of airstrip creek

CONGLOMERATE (UNIT 2c)

- new unit to include conglomerates from 3c and 4b
- largely made up of lithic fragments of older adjacent units usually volcanics
- medium to very coarsely grained

BLACK-GREY BASALTS (UNIT 3a)

- fine grained to aphanitic
- vesicular, often containing olivine or pseudomorphs after olivine, also amygdular varieties present
- basaltic flows
- sometimes magnetic
- vary from black to grey to dark green in color
- occasionally with pyroclastic fragments or lithic fragments ferom the edge of flows
- amphiboles often visible

DARK PURPLE - BASALTS (UNIT 3b)

- fine to medium grained
- purple, often vesicular and porphyritic phenocrysts and generally plagioclase
- may contain lithic fragments
- often grades into a dark green andesite-basalt
- vary from denser darker, very well indurated rocks to less dense poorly indurated rock which is normally highly weathered, but still retains its characteristic volcanic appearance

PURPLE-MAUVE GREYWACKE (UNIT 3c)

- very fine grained to very coarse grained
- color varies from dark grey to green to brownish to light grey and green to mauve to deep purple
- sometimes conglomeratic
- poorly sorted and polymictic often exhibiting graded bedding
- unit may also include biotite often exhibiting graded and lapille tuffs
- clastics were subangular to subrounded
- no preferred orientation in clasts
- varied from poorly to well indurated
- in many cases it was difficult to distinguish from greywacke and tuffs
- purple and green tinted soils are commonly below or covering such this unit and is likely the weathering product

ARGILLITES (UNIT 3d)

- massive bedded to banded fine grained sediments periodically exhibiting festoon bedding, and flame structures (this unit may include some tuffs) color is variable from black through blacks to browns to light green)
- commonly interbedded with black shale

GREEN-GREY-BLACK ANDESITE/BASALT FLOWS (UNIT 4a)

- commonly massive or porphyritic
- with small lithic fragments
- dark colored
- commonly vesicular with feldspars and pyrite
- disseminated pyrite sometimes present
- not always clear if unit is flow or not
- amygdules range in size from a few mm to several cm in length
- characteristically ellipsoidal and elongate in the direction of flow
- flows often cross cut by quartz carbonate veins
- veining has undergone chlorite alteration in some areas

GREEN-GREY-BROWN GREYWACK (UNIT 4b)

- similar to Unit 3c
- in some areas conglomeratic
- green to purple to grey coarse grained with a
finer grained matrix
- fragments may be chert, unknown lithic fragments,
purple basalt, greenish basalt/andesite, or rounded
feldspar grains
- several types may exist

SANDSTONE (UNIT 4c)

- medium to coarse grained and well sorted
- clast composition is varied and impure
- a siltly-clayey matrix is common but not always present
- light grey to brown in color usually massive, some beds visible on north side of Yohetta Valley

PYROCLASTICS (VOLCANICLASTICS) (UNIT 4d)

- volcanic clastics tuffs, agglomerates
- clastics generally sub angular to angular
- tuffs appear sometimes to be welded
- generally characterized clasts with chill rims in a fine grained matrix
- tuffs were low color index, aphanitic, commonly mineralized with disseminated pyrite
- agglomerates were rare

PORPHYRITIC HORNBLENDE ANDESITE (UNIT 5a)

- a mesocratic olive green groundmass, contains amphibole laths. The groundmass is fine grained to aphenitic
- some amphibole crystals up to 1 cm in length
- randomly oriented

GREEN TO VERY LIGHT GREY ANDESITES (UNIT 5b)

- mesocratic to leucocratic and porphyritic phenocrysts and microphenocrysts are hornblende and white feldspar in a green groundmass

FELSITES (UNIT 6)

- grey to white to buff aphanitic rock exhibiting concoidal fracture
- fine grained to aphanitic

QUARTZ-FELDSPAR PORPHYRY (UNIT 6a)

- mesocratic to melanocratic rock phenocrysts quartz, white feldspar (1 cm long), and hornblende
- matrix varies from fine to coarse grained
- ratio between felsic and mafic varies
- phenocrysts reach up to 5 cm in size but average 4 mm
- commonly carries pyrite and occasional chalcopyrite
- usually exhibits argillitic alteration
- pyrite and magnetite common

FELDSPAR PORPHYRY (UNIT 6b)

- there are several textural variations
- crowded hornblende - feldspar porphyry - dominated by phenocrysts of white feldspar and hornblende
- sparse hornblende porphyry - dominated by aphanitic groundmass with white feldspars and hornblende
- porphyry breccia - essentially sparse porphyry with fragments of country rocks
- phenocrysts sizes: feldspar (12 mm), hornblende (3 mm)
- mineralogical variation involves replacement of hornblende by biotite in the periphery of the hub stock, as well as zonation of sulphides from molybdenite and chalcopyrite disseminations in the inner zone to increasing pyrite outward

GRANODIORITE, GRANITE, PEGMATITE (UNIT 6c)

- granodiorite - medium grained pinkish beige rock containing white and pink feldspars (ratio 9:1), quartz and biotite
- granite - medium grained pinkish beige rock containing white and pink feldspars (ratio 6:4), quartz and biotite
- pegmatite veins (rare) - very coarse grained leucocratic rock containing microcline and quartz

LAMPROPHYRE DIKES (UNIT 7)

- melanocratic green to dark grey to black porphyritic rock containing phenocrysts of hornblende (?) and rare feldspar

2.2 PROPERTY GEOLOGY

The property was mapped at a scale of 1:10,000. The property geology is presented on 4 map sheets: Warren Crown Grants Area 82-255B, RCAF Peak Area 82-202B, Yohetta Valley 82-164 and the Mark Creek Area 82-244C. An overall picture is presented at a scale of 1:25,000 on the Property Geology 82-293D.

Some of the rock units used may be revised especially unit 4b and 4c which included incorrectly some basalts. This problem was due to alterations and the fine grained nature of the units.

Structural data was collected over all mapped areas and is presented on individual map sheets. This data has not been fully evaluated as of yet.

2.3 ECONOMIC GEOLOGY

A number of new areas of interest have been defined from geological mapping and analysis carried out during the 1982 field season. The new showings located are all related to structures associated with the various porphyry systems on the property. The area of interest has been enlarged greatly with the 1982 exploration.

The individual new areas show largely fracture mineralizations and relate to porphyry systems. Typical porphyry alteration is present in many areas on the property. The individual showing areas are located on Drawing 82-202.

Barndoor Area

The Barndoor showing is located in SUN-12 on a ridge west of Pond Creek on the south side of the Yohetta Valley. The area has several occurrences of malachite and silver minerals. Typically they occur in narrow fractures of either quartz carbonate or quartz epidote. The best values were obtained from sample (AS 1203) where rusty malachite was present in a quartz epidote vein. This sample assayed 9.4% copper and 2.4 ounces per ton silver. The silver mineral is not yet known. Other samples yielded good values in copper, however, they were over narrowed vein widths. A listing of the samples assayed is provided in Table 2.3.1.

The showing occurs in a highly altered area with many quartz carbonate fractures. As many as five fracture directions were seen in one outcrop. The geology consists of andesite and basalt flows with some apparent similiar composition dikes which appear to cross cut the flows. A grey-wacke also occurs. A barren 2 metre wide quartz vein is also present.

TABLE 2.3.1

BARNDOR ASSAY SAMPLING LISTING

ASSAY SAMPLE NUMBER	GEOCHEMICAL SAMPLE NUMBER	SAMPLE DESCRIPTION	% Cu	Au Ounces Per Ton	Ag Ounces Per Ton
AS 1008	SB0092	Rusty Fault Beccia	--	0.002	0.12
AS 1009	SB0014	Gray Basalt With Disseminated Pyrite	--	0.000	0.12
AS 1032	RP0010	Malachite In Chlorite-Quartz Carbonate Vein	2.05	--	--
AS 1203	DD0173	Malachite In Quartz-Epidote Vein	9.40	0.000	2.40
AS 1204	SB 0080	Andesite	0.07	0.000	0.02
AS 1215 ✓	KL 0222	Carbonate-Epidote Vein	0.49	0.014	0.16
AS 1216 ✓	SB 0082	Quartz-Carbonate Vein	0.64	0.018	0.12

Ravioli Ridge Area

This group of showings which occur on a ridge between Airstrip Creek and Pond Creek is now called Ravioli Ridge. The first showing discovered by Suncor staff in the area was the Haho showing which consists of malachite azurite and chalcopryrite in a quartz-carbonate vein material present in overburden. Several shallow trenches which exist in the area would indicate some prospecting before Suncor's activity, perhaps by Prism Resources which previously held a claim in the immediate area.

The mineralized boulders present at the Haho showing now have been mapped to occur over an area of 20 X 40 metres. In a 1 metre deep trench mineralized boulders were found to be present to 1 bottom of the trench. Poor overburden and time restrictions prevented deepening the trench.

Prospecting and geological mapping in the area yielded a number of malachite bearing fractures. The mineral occurrences were typically malachite with some traces of chalcopryrite. Significant silver values are also present in some samples. Silver values may be related to degree of silicification. An Assay Sample Listing is provided in Table 2.3.2

TABLE 2.3.2

RAVIOLI RIDGE ASSAY SAMPLE LISTING

ASSAY SAMPLE NUMBER	GEOCHEMICAL SAMPLE NUMBER	SAMPLE DESCRIPTION	Cu %	Au Ounces Per Ton	Ag Ounces Per Ton
AS 1010 ✓	RP0007	Boulder With Malachite-Gzurite From Haho Area	1.57	0.000	10.22
AS 1012 ✓	RP009	Malachite From New Showing UTM 450050E 5670600N	2.97	0.000	0.52
AS 1217 ✓	KL0229	Boulder With Malachite Haho	12.25	0.024	28.64
AS 1218	DD0210	Fault Breccia Containing Malachite Pyrolusite, Pyrite, Sericite Present	.08	0.000	0.14
AS 1219	DD0211	Fault Breccia, Similiar to DD0210 But More Rusty	.08	0.000	1.38
AS 1220 ✓	DD0220	Boulder of Breccia, Well Silicified Containing Malachite and Azurite	.43	0.000	10.72
AS 1221	DD0221	Boulder Similiar To DD0220	.08	0.000	1.40
AS 1222	DD0222	Boulder Similiar to DD0220 Containing Malachite	.08	0.000	.22
AS 1223 ✓	DD0223	Strongly Silicified Breccia With Abundant Cavities With Azurite	.08	0.000	10.98
AS 1224 ✓	DD0224	Rusty Breccia, Silicified With Malachite, Azurite Weathered	.47	0.000	3.28
AS 1226 ✓	SB0084	Boulder With Malachite Azurite	3.16	0.000	6.26
AS 1232 ✓		Boulders	1.96	.006	10.52

SUN-15 Area

Mineral Claim SUN-15 covers a portion of the ridge which is directly west of Mark Creek. The ridge section of the claim has well exposed outcrops with very steep slopes.

A number of showings of malachite and chalcopryrite with epidote occur near several gossan zones. These showings are located in carbonate and quartz-carbonate veins, brecciated zones, and along fractures in the country rock.

The area geology consists of on the east side of the ridge interbedded sediments dipping south and on the west side of the ridge greywacke or andesites. Most of the showings occur in the greywacke.

TABLE 2.3.3
SUN-15 AREA SAMPLE LISTING

ASSAY SAMPLE NUMBER	GEOCHEMICAL SAMPLE NUMBER	DESCRIPTION	Cu %	Pb %	Zn %	Au	Ag
AS 1002	DD0029	Altered Breccia Exhibiting Colliform Rims of Fragments Pb or Zn Minerals		.16	.13		0.00
AS 1003	DD0030	Fault Breccia South of DD0029		.16	.09		0.00
AS 1004	DD0031	Fault Breccia Same as DD0029		.05	.04		0.00
AS 1005	KL0024	Quartz Stringer In Volcanic Rock Along Lord River Road				0.000	0.14
AS 1024	KL0065						
AS 1031	DD0047	N/A		.02	.07		0.00
AS 1033	RP0043	Quartz Carbonate Vein 6 cm Wide Weak Malachite	.01			0.000	0.12
AS 1036	RP0055	Talus Grab Sample With Malachite and Chalcopyrite In Epidote Calcite Vein	.23				
AS 1037	RP0056	N/A		.01	.01	0.000	
AS 1042	DD0060	Rusty Broken Altered Greywacke With Quartz Carbonate Veins		.01	.01		0.00
AS 1043	DD0061	Same As Area As DD0060		.02	.01		0.00
AS 1045	JR0001		0.81	0.00	.02	0.000	
	RP0042	Malachite From West Side of Ridge	.26	0.00	.02		0.02
	RP0061	Greywacke	.00	0.00	.01	0.000	

Amazon Ridge Area

A number of mineral showings exist on a ridge just west of Pond Creek. This ridge area is now called Amazon Ridge. This area comprises 4 mineral claims SUN-5, 12, 14 and 37. Malachite, azurite, chrysocolla, native copper and native silver are present in mineral occurrences in this area.

The rocks in the northern part of the ridge are composed of porphyritic andesites, usually with hornblende and feldspar phenocrysts. The southern portion of the ridge is comprised of mainly clastic sediments, commonly hematized. The sediments range from a greywacke conglomerate to fine grained argillites.

The area rocks are cut by numerous lamprophyre and feldspar porphyry dikes which strike NNW and NE. Strong structural deformation is also present paralleling these dikes. Cross cutting quartz carbonate veins are also common in the area.

The mineralization present in the area is not confined to any one rock type but appears to be largely structurally controlled. One showing of malachite-azurite is located in an argillite unit along a joint face. The altitude of the front face is 312° and near vertical associated with the mineralization are cross-cutting quartz veins with epidote present along the joint faces. In the adjacent host sediment a quartz carbonate vein at 095° 23° also carries malachite and azurite. Malachite and azurite were also found in a feldspar porphyry dike associated with jointing surfaces again. The porphyry dike which strikes 165° and is near vertical, has four fracture directions present in it. The fractures occur at 300° 71°, 272° 50°, 258° 76°, 229° 25°. In this mineral occurrence there was no epidote present.

Native copper and possible silver occur in a 1 cm wide open spacing filling vein of quartz and malachite. Sample DD0163 was obtained but was not assayed due to the presence of native copper. Other samples such as DD0160 returned as high as 9.41% copper and 2.44 ounces per ton silver. Sample AS 0408 which was obtained from a fracture zone bearing malachite and chrysocolla returned 4.09% total copper but

TABLE 2.3.4
AMAZON RIDGE AREA SAMPLE LISTING

ASSAY SAMPLE NUMBER	GEOCHEMICAL SAMPLE NUMBER	SAMPLE DESCRIPTION	Cu	Au	Ag
AS 1081	CL0164	Quartz Vein With Malachite And Epidote	0.03	0.000	.06
AS 1082	CL0165	Fine Grained Green Dike About 15 cm Wide With Malachite	2.89	0.000	.04
AS 1083	CL0166	Feldspar Porphyry Dike With Malachite	.08	0.000	.06
AS 1092	KL0198	Porphyritic Still With Malachite And Azurite	3.95	.000	1.02
AS 1093	KL0199	Carbonate Vein Containing Malachite Azurite and Likely Native Silver	1.32	0	1.32
AS 1095	DD0159	Quartz-Carbonate Vein With Malachite Azurite	.29	0	.26
AS 1096	DD0160	Altered Basalt With Chrysicolla and Malachite	9.41	.020	2.44
AS 1097	DD0161	Stockwork Breccia In Altered Basalt	3.58	.000	.78
AS 1098	DD0162	Epidote Vein Containing Quartz-Carbonate With Azurite and Malachite	.31	.000	.32
AS 1099	DD0164	Carbonate Filled Fault Breccia		.000	
AS 1100	DD0166	Boulder of Breccia With Malachite	1.26	.000	0.70
AS 0408		Fracture Zone With Malachite, Chrysicolla About 0.4 m Wide *Oxide Copper Assay 4.04% cu	4.09	.000	0.82

this is almost totally made up of copper oxide since it returned 4.04% oxide copper. Most well mineralized samples from narrow veins returned values of over 1% copper and usually values near 1 ounce of silver.

The 7724' Peak Area

A number of showings have been found on an unnamed peak just west of Fishem Lake. The peak at 7724' stands out as it is almost isolated from the other peaks in the area. The showings occur on the ridge running south east from the peak. Malaclite with minor azurite disseminated chalcopyrite and rare pyrite. The malachite and azurite appear associated with minor folding in the sediments in which they occur. They also appear as fracture coatings in the intrusive rocks in the adjacent areas.

A number of gossan zones occur on this peak and appear to be associated with multiple intrusives of feldspar porphyry and quartz-feldspar porphyry. These intrusions show typical porphyry alteration. No assay were ran on samples from this area. The best geochemical value was 2312 ppm copper, most other values were very low. The rocks of this area are highly weathered and previously present sulphides appear to have been leached out. Fresher rock samples may yield better results.

Warren Crown Grants

The Warren Crown Grants are the historical centre of the Tchaikazan River project. Extensive prospecting relocated the Charlie and Big Vein discovered by Dr. Harry Warren and crew in the 1940's. Their location was later confirmed by a property visit by Dr. Warren. The Charlie vein which is very narrow; about 10 cm wide, returned gold values up to 0.542 ounces per ton with up to 4.61 ounces per ton silver from grab samples.

Assays from the Big Vein return values of only 0.054 ounces per ton gold but did give values of up to 140.02 ounces per ton silver with 21.3% copper. Warren had obtained similiar values in his sampling.

Sampling from another narrow quartz vein in the avalanche creek valley returned values of 0.342 ounces gold with 9.00 ounces silver and 13.68% copper. A number of other samples in the Warren Crown Grant area returned somewhat lower values. The area remains still today the centre of exploration.

The gold and silver mineralization present in the Warren Crown Grants is considered peripheral mineralization to the porphyry intrusive exposed in the Hub Trenches. Mineralizations in the trenches grade below 0.2% copper and 0.02% molybdenum disulfide (Hawkins, P. A., 1981) but this is in an IP chargeability low. Higher grade mineralization may exist at the contact of the porphyry intrusive with the adjacent country rock. The contact may exist near the baseline at 2 + 50N where no outcrop exists. The Charlie vein is some 1.5 km further north of that point. The talus slope shown on Warren Crown Grants Area - Geology (Drawing 82-255B) above the hub area covers the contact of the intrusive. No outcrop is visible on the south side of the river in the adjacent area.

West and up slope of the switch back road which traverses the talus slope near the Hub area several outcrop of feldspar porphyry occur in contact with a highly fractured basalt. In the basalt and porphyry at least three fracture directions are present. A small amount of chalcopryrite is present on these surfaces yielding copper values of 0.04%.

The rock does have about 1% pyrite present however. A black shale band is also present with outcrops of greywacke. These rocks are strongly altered. Detailed mapping of this area is shown on Drawing 82-295B.

The Hub area trench was remapped again this year as black-grey basalts (Unit 3a), quartz feldspar porphyry (Unit 6a) and feldspar porphyry (Unit 6b) as shown on Drawing 82-296B. Full evaluation of this area will await diamond drilling as the target area is overburden and talus covered.

3.0 GEOCHEMISTRY

The geochemistry program consisted of two densities of sampling governed by whether the survey was reconnaissance or detailed in nature. In both types of surveys soil, stream sediment and rock samples were collected.

During geological mapping when mapping at a scale of 1:10,000 samples were collected on a reconnaissance basis. No specific sampling density was employed. Soil sampling was employed as a reconnaissance tool in several areas such as the Echo-5 area, Thiller Creek and the Tchaikazan delta area along the old Fishem Lake road. On these soil sampling surveys, samples were collected normally every 50 meters, in some areas however, this was reduced to 25 meters.

The Hub area grid which in 1981 was extensively sampled was subjected to expanded detailed sampling with the new larger cut grid. Soil samples were collected every 25 meters along the lines which were 250 meters apart. Also sampled were the tie lines. On the Hub Area grid any outcrop occurring on it was sampled. This high density rock sampling was also undertaken in other interesting areas where showings occur.

In soil sampling the "B" soil horizon was collected at a depth of between 4-10 cm. Sample data such as color, composition, texture and level of organics were recorded at the time of sampling on "Suncor Sample Record" forms. In areas of outcrop rock samples were taken in preference to soil samples.

Due to cost restrictions all rock samples collected were not sent out for analysis, however a representative sample was retained for possible future study. All samples collected appear on the sample location maps however only those with results have results plotted.

Where it was possible a unweathered rock sample was obtained however in areas such as the Warren Crown Grants it was sometimes impossible to get an unweathered sample. Weathering in some areas was speeded by the severe alteration evident. Gossan zones were especially hard areas to obtain fresh rock samples from.

3.1 SAMPLE AND DATA HANDLING

Soil and stream sediment samples were collected in 4" X 10" kraft water proof paper bags and then air dried before shipment. Samples were shipped by PWA express to Calgary. Rock samples were collected in 8" X 12" clear plastic bags and sealed with green plastic ties. Samples with obvious sulfide mineralization were sent for assay as opposed to geochemical analysis.

Routine geochemical analysis on rocks and all other geochemical analysis was carried out by Chemex Labs Ltd. Assaying was conducted by Loring Laboratories Ltd.

Field data was recorded on Suncor's "Geochemical Sample Record" forms while lab results were key punched upon receipt back from the lab. The project data was processed using Suncor's in-house computer software on a Univac Model 1100 computer. The summary statistics and a complete data listing is provided in the Appendix.

3.2 ANALYTICAL TECHNIQUE

Selected mineralized rock samples were assayed specifically for one or more of the following: Cu, Pb, Zn, Ni, MoS₂, Au, and Ag. Standard assay procedures were used at Loring Laboratories Ltd. 629 Beaverdam Road.

All soil and stream sediment samples were analysed for Cu, Pb, Zn, Ni, Mo and Ag. Geochemical analysis carried out on rocks consisted of Cu, Pb, Zn, Ni, Mo, Au and Ag. All geochemical samples were sent to Chemex Labs Ltd., 2021 - 41st Avenue N.E., Calgary, Alberta. The analytical procedures Chemex used is outlined below:

1. Geochemical samples (soils, silts) are dried at 80° C for a period of 12 to 24 hours. The dried sample is sieved to -80 mesh fraction through a nylon and stainless steel sieve.
Rock geochemical materials are dried, crushed and pulverised to -100 mesh.
2. A 1.0 gram portion of the sample is weighed into a calibrated test tube.
The sample is digested using hot 70% HClO₄ and concentrated HNO₃. Digestion time: 2 - 3 hours.
3. Sample volume is adjusted to 25 mls, using demineralized water.
Sample solutions are homogenized and allowed to settle before being analyzed by Atomic Absorption procedures (see attached information on AAS).
4. Detection limits using Techtron AA475 (Varian) atomic absorption unit:

Copper	1.0 ppm
Molybdenum	1.0 ppm
Zinc	1.0 ppm
Lead	1.0 ppm
Nickel	1.0 ppm
Silver	0.1 ppm

5. When analyzing lead, nickel, silver, interferences due to sample matrices are eliminated by analysis with a deuterium source Hydrogen continuum lamp.

The following is procedure for determination of gold by fire assaying as conducted by Chemex:

PRECONCENTRATION AND ATOMIC ABSORPTION ANALYSES

1. A 1 assay ton (29.166g) sample is weight into a 30 g crucible, 1 mg of Ag is added as a collected agent.
2. Enough flux, reducing or oxidizing reagent is added to produce a lead button.
3. The sample is transferred into an assay furnace and heated to 2000°F for 40-45 minutes.
4. The fusion is pured into an iron mould.
5. The slag is separated from the lead button. in which Au and Ag has been alloyed.
6. The lead button is again transferred to a cupel in the assay furnace.
7. By heating slightly below melting point of Ag, Lead is eliminated either by vaporizing or absorbing into the cupel in about 40 minutes.
8. A bead which contains all the Au in the 1 assay ton sample is recovered on the cupel.
9. The bead is transferred to a 16 X 150 mm test tube, 1 ml of concentrated HNO₃, and 4 ml of 1:1 HCl are added to the tube.
10. The tube is heated on the hot plate for approximaely 1 hour, or until all the residue is dissolved in the tubes.
11. The volume is adjusted to 10 ml with 1:1 HCl and the samples are mixed.

12. Samples are read on a Varian AA5 Atomic absorption spectrophotometer.

The following is a brief outline of the mechanics of fire assaying provided by Chemex Labs Ltd.

"The ore is mixed with litharge (PbO) and various fluxed and a reducing agent or oxidizing agent is added, (flour or niter) to form a lead button which weighs between 25 and 35 grams. The whole mix is melted in a fire clay crucible at around 1000° C for 30-40 minutes. The lead collects all the gold, silver and precious metals. The molten assay is taken from the furnace and poured into cone shaped iron molds and due to the differences in the specific gravity of the lead and the slag, the lead collects in the bottom of the mold. When cooled the lead button is separated from the slag and hammered into a cube for ease of handling. The button is then placed in a pre-heated cupel in a furnace with the temperature set at around 900° C. A current of air passes over the top of the cupel containing the lead. The lead is converted back to litharge and is absorbed by the cupel.

Gold and silver are not affected and so remain in the cupel as a small bead. After cupellation is complete (about 60 minutes), the cupel is removed from the furnace. The small bead is then cleaned, flattened with a hammer and transferred to a parting cup. This flattened bead consists of a mixture of gold and silver.

The bead is weighed on a gold balance or micro balance. The bead is parted by placing it in hot, dilute nitric acid which dissolves all the silver but leaves the gold intact. The gold is washed free of silver nitrate by decantations with water and dilute ammonium hydroxide and then annealed at red heat and weighed as pure gold. The difference between the two weighings is the weight of silver.

The bead is weighed in milligrams and the results expressed in ounces per ton in the original sample".

The following is an explanation of a assay ton:

"The assay ton system of weights was devised to facilitate the calculation of the results of gold and silver assays. In Canada and the United States the results of such assays are reported in TROY OZ of gold and silver per 2000 pound avoirdupois tone of ore (or short ton). With the ordinary system of weights a tedious calculation would have to be made for each assay.

The basis of the assay-ton system is the number of Troy ounces (29.166) in one tone of 2000 pounds avoirdupois. The assay ton is made to weigh 29.166 grams. Then 1 ton (2000 pounds): 1 troy ounce.

Therefore, 1 assay ton = 1 milligram.

Therefore, with 1 assay tone of ore the weight of the silver or gold in milligrams gives the assay directly in ounces per ton.

1 Troy oz = 31.09 grams".

3.3 ROCK GEOCHEMISTRY

A total of 338 rocks were sent for geochemical analysis. Only Cu Pb Zn Ni Mo Au and Ag were determined. Results are present on the individual geological mapping area. Summary statistics are provided in the Appendix and Table 3.3.1 provides some data on the range of background values.

TABLE 3.3.1

TCHAIKAZAN PROJECT ROCK GEOCHEMISTRY RANGES

ELEMENT	UNITS	ARITH. MEAN	GEOM. MEAN	ESTIMATED BACKGROUND RANGE
Cu	ppm	153.0	39.1	10 - 140
Pb	ppm	26.8	6.7	0 - 25
Zn	ppm	89.9	64.7	10 - 250
Ni	ppm	13.0	8.3	2 - 50
Mo	ppm	2.6	2.0	1 - 10
Au	ppb	177.0	15.2	5 - 35
Ag	ppm	2.5	1.0	0.0 - 2.0

3.4 STREAM SEDIMENT GEOCHEMISTRY

A total of 42 stream sediment samples were collected on Little Creek which runs down the south slope of the Tchaikazan River valley near Mark Creek. The creek crosses several grid lines from L0+00 to L15+00 N where it enters the Tchaikazan River. Results are shown on drawing 82-244D and 82-244E.

Copper values in the stream sediments range from 24 up to 45 ppm with no apparent anomalous samples. Lead values range from 1 to 5 ppm. A slight high is apparent in lead, zinc and nickel values on a bend in the creek near the claim boundary between Cougar 4 and Cougar 5. Zinc values range from 30 up to 105 ppm. The high of 105 ppm zinc occurred near the bend. Nickel values range between 8 and 22 ppm. The high of 22 again occurs near the bend which contrasts above a normal background range of 9-12 ppm nickel.

Values for molybdenum vary between 0 and 1 ppm. No pattern is apparent. Silver values range between 0 and 0.1 ppm and show no pattern. Both molybdenum and silver populations are apparently largely at or below detection limits of analysis.

3.4 SOIL GEOCHEMISTRY

A total of 1,000 soil samples were collected on the property in 1982 in four areas. The Hub Area Grid, Thriller Creek Area, Tchaikazan River Delta Area, and on the Echo-5 Area.

Soil sampling on the Tchaikazan project provides useful information and each area is described below. this year most grid sampling on the Hub Area grid was carried out on the south side where lower background values in most elements occur thus lower elements ranges were found. A Table of Ranges is provided for 1982 sampling. This varies greatly from the values report in last year's report (Hawkins, P. A., 1981).

TABLE 3.4.1

TCHAIKAZAN RIVER PROJECT SOIL GEOCHEMISTRY RANGES

ELEMENT	UNITS	ARITH. MEAN	GEOM. MEAN	ESTIMATE RANGE
Cu	ppm	39.8	32.1	3 - 70
Pb	ppm	8.5	6.2	1 - 14
Zn	ppm	80.9	60.2	7 - 124
Ni	ppm	18.4	16.4	1 - 28
Mo	ppm	1.8	1.4	1 - 30
Ag	ppm	0.67	0.35	0.0 - 1.4

HUB AREA GRID

Due to the expansion of the Hub area grid with line cutting in the fall of 1981 a number of lines remained to be sampled on the south side of the river. These samples are located on Drawings 82-287C1 and 82-287C2. Results did not compare with those on the north side of the river. Several high background copper and molybdenum values are present but are not considered anomalous.

THRILLER CREEK AREA

A total of 16 soil samples were collected along the course of Thriller Creek on the south side of the Tchaikazan River. Sample locations are shown on drawing 82-255C.

Copper values range between 16 and 58 ppm but were generally in the 30's. Lead values ranged between 9 and 16 ppm while zinc ranged from 33-85 with most samples between 55 and 60 ppm. Nickel ranged from 7 to 45 ppm with most samples between 20 and 30 ppm. All samples showed levels of molybdenum and silver at or below detection limit. No anomalous samples were apparent on Thriller Creek.

TCHAIKAZAN RIVER DELTA GRID AREA

A total of 103 soil samples were collected on the Tchaikazan River Delta area grid and 79 samples along the old Fishem Lake road. The area was investigated first due to the presence of a gossan zone seen during helicopter overflights. Ground examination indicated the presence of disseminated fine grained sulfides which were likely pyrite in volcanics and sediments outcropping in the area. Soil samples were then collected in the area.

Semi-detailed sampling was undertaken along three soil traverse lines with samples every 25-50 meters apart. The old Fishem Lake road was sampled along its length near Fishem Lake. Results of the survey are shown on drawing 82-243A and 82-243B.

The levels of copper in the soils from the Delta Grid area vary from 13 ppm up to 195 ppm with a normal background range of 20 to 40 ppm. There appears to be some regional variations along the old Fishem Lake road. A area of slightly higher values occurs near the centre of the grid where values range between 88 and 195 ppm copper.

A number of high lead values occur on the soil grid in the vicinity of the copper high however, the area affected appears to be much more broad. Normal background values range from 2 to 4 ppm while in this high area values reach up to 134 ppm.

Zinc follows a more irregular pattern with values between 10 and 10,000 ppm. Normal background values appears to be within 80 - 250 ppm zinc.

No clear anomalous pattern is evident with nickel. Background values range between 12 to 50 with highs to 187. There are several apparently anomalous values however, they are not considered important.

Values for molybdenum range from 0 up to 2 ppm. There appears to be some regional variation however, most values are near the analysis detection limit.

Results for silver indicate an anomalous area with values up to 5.1 ppm silver. The area affected appears to be much more restricted but there does not appear to be any clear relationship with other elements. Most other samples returns levels of less than 0.2 ppm silver.

ECHO-5 SOIL SAMPLING TRAVERSES

In order to extend the coverage of soil sampling up stream from the present limit of the Hub area grid, sampling two traverses were carried out. One was run on the north side of the Tchaikazan River and the other on the south side for a total of 56 soil samples. Both traverses were roughly parallel to the river and are shown on Sample Location Map 82-203.

Copper values ranged from 0 - 70 ppm overall however, it is apparent that samples from the north and south side represent separate populations. The north side samples range from 30 to 70 ppm while the south from 10 to 21 ppm. Values for lead also behave similarly with the north having almost twice the level of lead than the south. The north ranges from 10 to 21 ppm lead while the south has 1 to 7 ppm lead. Zinc also behaves similarly with the north side ranging between 45 and 145 ppm zinc and the south side between 14 and 66 ppm zinc. Nickel also follows the pattern with values on the north side between 22 and 85 ppm nickel and the south between 2 and 17 ppm nickel.

Values for silver do not show any pattern since most samples are at or below detection limit. Molybdenum also shows no clear pattern. The samples from the north side are all near detection limit while the south side shows values between 0 and 3 ppm but most are 1 ppm.

The variation between the north and south sides is not understood however, it is similar to the results of soil sampling in the Hub area in the past (Hawkins, P. A., 1981) and (Troup, A. C., Petersen, D. B., 1971).

4.0 GEOPHYSICS

Two types of geophysical surveys, Proton Magnetometer and VLF-EM were carried out by Suncor field staff on the Tchaikazan River property during the 1982 field season. A limited IP survey was also carried out over the Haho showing area and was covered under Suncor Report #9150 (Hawkins, P. A., 1982 b).

The Magnetometer and VLF-EM surveys were carried out over the 64.55 km of the new geophysics grid cut in the fall of 1981. The grid lines are 250 metres apart with pickets every 25 metres along lines beside the base line which runs north-south tie lines exist at 9 + 00E, 20 + 00E and 10 + 00W. The centre of the grid is located at the Hub trenches. Some minor errors on line cutting are evident and are visible on the geophysical survey maps. Locally, elevations on the grid vary as much as 10 metres, vertically in 25 metres horizontally. On the whole, elevations on the grid vary from about 1493 m (4900') near 22 + 50N 19 + 00E to 1981 m 6500' at 20 + 00S 20 + 00E.

Survey procedures used the geophysical surveys were those recommended in the manufacturer manuals.

4.1 PROTON PRECESSION MAGNETOMETER SURVEY

A proton Precession Magnetometer survey was carried out over the Hub area grid. A Scintrex MP-10 Proton Precession Magnetometer was used as the field survey instrument. A Canadian Mining Geophysics MR-20 Base-station Proton Magnetometer was used to correct for diurnal variations of the earth's magnetic field. The base-station was located at Suncor's Fishem Lake campsite where the base level was assumed to be 57040 gammas.

A total of 64.55 km of grid line was surveyed with an additional 4.45 km of detailing carried out near where the L7 + 50N crosses the Tchaikazan River. Readings were taken every 25 metres along the lines with the most of the sensor in the belt pocket. A record was kept of the time of each reading for later corrections for the diurnal variations. Each evening, data was corrected and plotted. The assumed accuracy for the survey is approximately ± 5 gammas, however, in some areas of moderate gradients it was as high as ± 10 gammas. The result of the measurement of the total magnetic field strength are presented on Maps 82-287H1 and 82-287H2.

The total magnetic field on the Hub area grid varies from about 56,400 up to 59,100 gammas. Most areas show a range of between 56,500 - 57,200 gammas. The highest positive magnetic highs are in the order of 2000 gammas. The most pronounced positive anomaly occurs in the area of the circular chargeability high (Faminoff, P. J. and Petersen, D. B.) from the IP survey near the Hub area. The high magnetics are associated with the southern half of an IP chargeability high.

A relative magnetic low is associated with the chargeability depression in the centre of the IP high.

Several other weaker variations exist but their significance is now clear. Further more detailed contouring of the complete grid may yield better interpretations.

L7 + 50 N Crossing Area

A detailed magnetometer survey was carried out nearby the Line 7 + 50N crossing with the Tchaikazan River where a structure zone is suspected to occur. A grid was bushed out and flagged with a base in at 315° and lines of 045° . The origin for the grid is located on the L7 + 50N winter road.

The magnetic field in this local area varies from 56400 up to 57200 gammas. The lineation in the area appears to be in the northwest direction; which is likely a reflection of a structural zone. Several lows of 200 gammas parallel the base line. The higher magnetic features are not so linear. Better interpretation will be possible with more geological mapping.

4.2 VLF-EM SURVEY

The VLF-EM (Very Low Frequency - ElectroMagnetic) survey was carried out using a Geonics Limited EM-16 unit. The VLF transmitting station at Seattle, Washington (NLK 18.6 kHz) was selected for this survey. It is approximately due south of the property. The survey was conducted with the direction of advance also facing east.

The results are shown on Drawings 82-287G1 and 82-287G2.

A number of NW-SE conductors are evident. They vary from weak, single line responses to 7 line responses which are about 1.8 km in length. Most of these long conductors correlate well between lines. A number of them are also following swamps and drainage courses. There are no text book very good conductors evident in the area, however, there are many moderate and weak responses which are interesting.

Most responses showed good in phase anomalies with poor out phase or quadrature anomalies. The poor quadrature responses could be due to overburden problems and depth of penetration restrictions. Several good anomalies show in phase responses of 30-60% with quadrature responses of 5-15%. Medium anomalies show in phase responses of 10-29% with 5-10% quadrature values. Other weak anomalies have less than 15% in phase responses with little or no quadrature anomaly present. The western half of the grid likely has much thicker overburden and therefore much fewer anomalies.

These responses suggest that they are likely caused by three possible conditions: structural deformation zones, such as faults or shear zones; or stratigraphic or alteration zones such as magnetic or disseminated pyrite; or topographical features such as creeks or swamps which themselves could be controlled by the above.

Further exploration on these NW-SE lineaments is warranted.

5.0 ASSESSMENT WORK SUMMARY

Assessment costs were calculated from near year expenditures on the property. Some costs are shared between Suncor's projects in the Williams Lake Area. Operating costs were totalled and then prorated based on field mandays applied to each claim. Programs such as contract geophysical surveys, location surveys and physical work were prorated on a unit bases (per km or per site) to each claim.

The total project expenditures were \$500,131.05 of which \$474,026.76 was spent in the field. The crew spent 788.5 man days in the field out of a total for the property of 1446 mandays.

5.1 PHYSICAL WORK

A limited amount of physical work was carried out by Suncor personnel on the Tchaikazan River project. This work consisted of road maintenance, line cutting and claim post location surveys.

The program of road maintenance consisted of about 100 hours; D-6 cat work and debris clearing of wind fall trees. The location of the road maintenance is shown on Tchaikazan River - 1982 Physical Work Drawing 82-241. During the first two weeks of April snow was cleared from the Lord River Mine Development road. This enabled fair to good road conditions to exist on the road for the summer.

Approximately 6.1 km of line cutting was carried out on two follow-up areas of VLF-EM responses as shown on Drawing 82-241. This cutting was carried out very quickly and was included in technical mandays as it was carried out by technical staff during the technical survey days.

A LCP location survey was carried out by McElhanney Surveying and Engineering Limited. This survey was used to detect any open fractions, which it did. A list of LCP found is shown on Drawing 82-220A.

Survey costs are calculated in the Appendix.

5.2 TECHNICAL WORK

Technical work allocations was calculated based on per manday field operating costs and analysis costs on a per claim basis. Technical work included geological mapping, geochemical sampling, geophysical surveys and prospecting. Since the prospecting was carried out by geological staff as part of the mapping program it was included as geological work.

TCHAIKAZAN RIVER PROJECT

CLAIM MANDAY BREAKDOWN

RECORD #	CLAIM NAME OR GROUP	UNITS	FIELD MANDAYS
	Crown Grants		10.5
	Warren Group		72.5
547	Lyra	10	9.5
548	Helen	20	10.0
918	Cougar 1	12	22.0
919	Cougar 2	20	12.5
920	Cougar 3	18	19.5
921	Cougar 4	8	27.5
922	Cougar 5	18	52.5
923	Cougar 6	18	46.5
924	Cougar 7	20	3.0
925	Cougar 8	20	9.0
926	Echo 1	1	0
927	Echo 2	1	0
942	Echo 5	20	6
965	Cougar 10	20	49.5
983	Echo 3	1	0
984	Echo 4	1	0.5
985	Echo 7	1	0
1050	Sun 1	20	20.0
1060	Sun 2	8	1.0
1061	Sun 3	2	0.5
1062	Sun 4	9	11.0
1063	Sun 5	20	5.0
1064	Sun 6	20	12.5
1065	Sun 7	20	1.0
1066	Sun 8	20	1.5
1067	Sun 9	20	11.5
1068	Sun 10	8	3.0
1069	Sun 11	12	8.5
1070	Sun 12	20	13.5
1071	Sun 13	2	3.0
1093	Sun 14	15	8.5
1142	Sun 15	8	34.5
1143	Sun 16	20	22.0
1144	Sun 17	20	7.5
1145	Sun 18	20	5.5
1146	Sun 19	20	14.5
1147	Sun 20	20	7.0
1148	Sun 21	12	1.0

TCHAIKAZAN RIVER PROJECT

CLAIM MANDAY BREAKDOWN

RECORD #	CLAIM NAME OR GROUP	UNITS	FIELD MANDAYS
1231	Sun-22	3	28.0
1252	Sun-23	6	
1253	Sun-24	12	
1254	Sun-25	20	
	Sun-26	12	
1255	Sun-27	20	
1256	Sun-28	12	
1257	Sun-29	20	
1258	Sun-30	12	
1259	Sun-31	20	
1260	Sun-32	12	
1261	Sun-33	10	
1262	Sun-34	20	
1263	Sun-35	20	
1264	Sun-36	8	
1265	GCOS-1	6	
1266	GCOS-2	4	
1273	Sun-37	20	
1274	Sun-38fr.	1	
1275	Sun-39fr.	1	
1276	Sun-40fr.	6	
1277	Sun-41fr.	1	
1278	Sun-42fr.	1	
1279	Sun-43fr.	1	
1280	Sun-44fr.	1	
1281	Sun-45	18	

Other

Claim Staking 57.0
Contract Personnel 160.0

Field Total 788.5

Camp Support 657.5

Total Project 1446.0

P. A. Hawkins
Feb. 28, 1983

6.0 SUMMARY

The 1982 program completed the first stage of geological mapping of the property at 10,000. The Hub Area Grid was mapped at a scale of 1:5000 and Magnetometer and VLF-EM surveys were conducted on it. A number of new copper and silver showings were located in new areas with several old gold bearing quartz veins relocated. The data base for the project was significantly explained to enable a better assessment to be made for the next stage of exploration. The circular IP chargeability high (Forminoff, P. J. and Peterson, D. B., 1971) combined with the extension copper molybdenum and lead soil anomaly (Hawkins, P. A., 1981) present a high priority porphyry copper drill target.

6.1 CONCLUSION

Based on the exploration work to date on the Tchaikazan River Project represents a prime porphyry copper exploration play. Typical IP responses associated with other porphyry deposits occur on the property. Excellent geochemical anomalies exist on the north side of the Tchaikazan River near low grade mineralized outcrops which indicate much wider mineralization and correlate well with the IP responses. A program of at least 3000 metres of diamond drilling is required plus additional IP to explain coverage to the NE and SE. Before drill holes are spotted some additional IP is required at a more detailed scale.

6.2 RECOMMENDED 1982 PROGRAM

A program of 3000 metres of NQ diamond drilling is recommended with an additional 75 km of IP surveys. The drilling program would be confined to the Hub Area Grid and the IP chargeability high. The IP program would comprise several drill hole spotting lines plus several new lines to the east of the Hub area and lines up the Gunn Valley and in Yohetta Valley. The estimated cost of this program is \$1,000,000.00.

Paul J. Hawken

REFERENCES

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Geochemical Report in the H. V. Warren Eggs Claim Group, Rio Tinto Canadian Exploration Ltd.

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APPENDIX

PART A REPORT DATA

Claim List
Author's Qualifications
Field Staff List

PART B ASSESSMENT DATA

Expenditure Data
Cost Breakdown Data
1982 Cariboo and Tchaikazan Mean Salary Calculation
1982 Claim Manday Breakdown

PART C

Geochemical Data

MINERAL CLAIM LISTING
TCHAIKAZAN RIVER PROJECT
TASEKO LAKE AREA, B.C.

RECORD #	CLAIM NAME	LOT #	UNITS	ANNIVERSARY IN DATE	GOOD STANDING UNTIL	HECTARES
7831	Wash N.C.	7831	1		1983	14.75
7832	Clean Up M.C.	7832	1		1983	20.90
7833	Bear M.C.	7833	1		1983	20.90
7834	Grin M.C.	7834	1		1983	20.90
7835	Sakes Fractional M.C.	7835	1		1983	20.90
7836	Ham M.C.	7836	1		1983	7.12
6190	Eggs		1	Aug 24/45	1985 (1987)	20.85
6968	Sugar		1	Aug 14/53	1985 (1987)	20.90
6969	Pork		1	Aug 14/53	1985 (1987)	20.90
6970	Beans		1	Aug 14/53	1985 (1987)	20.90
13212	Onion 1		1	Jun 16/83	1985 (1987)	20.90
13213	Onion 2		1	Jun 16/66	1985 (1987)	20.90
13214	Onion 3		1	Jun 16/66	1985 (1987)	20.90
16923	A1		1	Jun 27/68	1985 (1987)	20.90
16924	A2		1	Jun 27/68	1985 (1987)	20.90
16925	A3		1	Jun 27/68	1985 (1987)	20.90
16926	A4		1	Jun 27/68	1985 (1987)	20.90
16927	A5		1	Jun 27/68	1985 (1987)	20.90
16928	A6		1	Jun 27/68	1985 (1987)	20.90
61929	A7		1	Jun 27/68	1985 (1987)	20.90
16930	A8		1	Jun 27/68	1985 (1987)	20.90
16931	A9		1	Jun 27/68	1985 (1987)	20.90
16932	A10		1	Jun 27/68	1985 (1987)	20.90
16933	A11		1	Jun 27/68	1985 (1987)	20.90
16934	A12		1	Jun 27/68	1985 (1987)	20.90
16935	A13		1	Jun 27/68	1985 (1987)	20.90
16936	A14		1	Jun 27/68	1985 (1987)	20.90
16937	A15		1	Jun 27/68	1985 (1987)	20.90
16938	A16		1	Jun 27/68	1985 (1987)	20.90
16939	A17		1	Jun 27/68	1985 (1987)	20.90
16940	A18		1	Jun 27/68	1985 (1987)	20.90
16941	A19		1	Jun 27/68	1985 (1987)	20.90
16942	A20		1	Jun 27/68	1985 (1987)	20.90

October 25, 1982
P.A.H.

MINERAL CLAIM LISTING

TCHAIKAZAN RIVER PROJECT
TASEKO LAKE AREA, B.C.

RECORD #	CLAIM NAME	LOT #	UNITS	ANNIVERSARY IN DATE	GOOD STANDING UNTIL	HECTARES
547	Lyra		19	Dec 7/79	1990 (1991)	250.00
548	Helen		20	Dec 7/79	1983 (1986)	500.00
918	Cougar 1		12	Nov 21/80	1981 (1990)	300.00
919	Cougar 2		20	Nov 21/80	1981 (1986)	500.00
920	Cougar 3		18	Nov 21/80	1981 (1986)	450.00
921	Cougar 4		8	Nov 21/80	1981 (1989)	200.00
922	Cougar 5		18	Nov 21/80	1981 (1987)	450.00
923	Cougar 6		18	Nov 21/80	1981 (1991)	450.00
924	Cougar 7		20	Nov 21/80	1981 (1986)	500.00
925	Cougar 8		20	Nov 21/80	1981 (1984)	500.00
926	Echo 1		1	Nov 25/80	1981 (1991)	20.90
927	Echo 2		1	Nov 25/80	1981 (1991)	20.90
942	Echo 5		20	Dec 16/80	1981 (1984)	500.00
965	Cougar 10		20	Feb 6/81	1982 (1991)	300.00
983	Echo 3		1	Feb 27/81	1982 (1992)	20.90
984	Echo 4		1	Feb 27/81	1982 (1990)	20.90
985	Echo 7		1	Feb 27/81	1982 (1992)	20.90
1050	Sun 1		20	Jul 15/81	1982 (1985)	500.00
1060	Sun 2		8	Jul 15/81	1982 (1989)	200.00
1061	Sun 3		2	Jul 15/81	1982 (1989)	50.00
1062	Sun 4		9	Jul 15/81	1982 (1991)	225.00
1063	Sun 5		20	Jul 15/81	1982 (1984)	500.00
1064	Sun 6		20	Jul 15/81	1982 (1984)	500.00
1065	Sun 7		20	Jul 15/81	1982 (1990)	500.00
1066	Sun 8		20	Jul 15/81	1982 (1984)	500.00
1067	Sun 9		20	Jul 15/81	1982 (1984)	500.00
1068	Sun 10		8	Jul 15/81	1982 (1994)	200.00
1069	Sun 11		12	Jul 15/81	1982 (1986)	300.00
1070	Sun 12		20	Jul 15/81	1982 (1988)	500.00
1071	Sun 13		2	Jul 15/81	1984 (1985)	50.00
1093	Sun 14		15	Sep 3/81	1982 (1983)	375.00
1142	Sun 15		8	Nov 2/81	1982 (1986)	200.00
1143	Sun 16		20	Nov 2/81	1982 (1984)	500.00
1144	Sun 17		20	Nov 2/81	1982 (1983)	500.00
1145	Sun 18		20	Nov 2/81	1982 (1984)	500.00
1146	Sun 19		20	Nov 2/81	1982 (1983)	500.00
1147	Sun 20		20	Nov 2/81	1982 (1983)	500.00
1148	Sun 21		12	Nov 2/81	1982 (1985)	300.00

October 25, 1982
P.A.H.

MINERAL CLAIM LISTING
 TCHAIKAZAN RIVER PROJECT
 TASEKO LAKE AREA, B.C.

RECORD #	CLAIM NAME	LOT #	UNITS	ANNIVERSARY IN DATE	GOOD STANDING UNTIL	HECTARES
1231	Sun-22		3	Aug 20/82	1983	75.00
1252	Sun-23		6	Oct 1/82	1983	150.00
1253	Sun-24		12	Oct 1/82	1983	300.00
1254	Sun-25		20	Oct 1/82	1983	500.00
	Sun-26		12		1983	300.00
1255	Sun-27		20	Oct 1/82	1983	500.00
1256	Sun-28		12	Oct 1/82	1983	300.00
1257	Sun-29		20	Oct 1/82	1983	500.00
1258	Sun-30		12	Oct 1/82	1983	300.00
1259	Sun-31		20	Oct 1/82	1983	500.00
1260	Sun-32		12	Oct 1/82	1983	300.00
1261	Sun-33		10	Oct 1/82	1983	250.00
1262	Sun-34		20	Oct 1/82	1983	500.00
1263	Sun-35		20	Oct 1/82	1983	500.00
1264	Sun-36		8	Oct 1/82	1983	200.00
1265	GCOS-1		6	Oct 1/82	1983	150.00
1266	GCOS-2		4	Oct 1/82	1983	100.00
	Sun-37		20		1983	500.00
	Sun-38fr.		1		1983	(20.90)
	Sun-39fr.		1		1983	(16.10)
	Sun-40fr.		6		1983	150.00
	Sun-41fr.		1		1983	(14.00)
	Sun-42fr.		1		1983	(20.90)
	Sun-43fr.		1		1983	(16.10)
	Sun-44fr.		1		1983	(1.00)
	Sun-45		18		1983	450.00
TOTAL						20,188.22

October 25, 1982
 P.A.H.

Author's Qualifications

Paul Alan Hawkins, P.Eng., B.Sc. (Eng)
2105, 920 - 9th Avenue S.W.
CALGARY, Alberta
T2P 2T9

Registered Professional Engineer, Province of Alberta

B.Sc. (Eng) Queen's University 1977
Geological Engineering (Mineral Resources)

Work History

May 1981 - Present	Suncor Inc.	Project Geologist
May 1978 - March 1981	Pan Ocean Oil Ltd.	Project Geologist
Feb. 1978 - April 1978	Gulf Minerals	Drill Geologist
May 1977 - Jan. 1978	Asamera Oil	Junior Geologist
July 1976 - Dec. 1976	Urangessellschaft	Senior Assistant
May 1976 - July 1976	Hollinger Mines	Drill Geologist
May 1975 - Sept. 1975	HBOG Mining	Field Assistant
May 1974 - Sept. 1974	Duval Corp.	Field Assistant

FIELD STAFF LIST

1. David Dillon
M.Sc. (Geology) Brock University 1982
B.Sc. (Geology) University of Toronto 1979
2. Catherine Lawrence
B.Sc. (Geology) University of Western Ontario 1982
3. Karla Lange
B.Sc. (Geology) University of British Columbia 1982
4. Jacqui Rublee
2nd Year Geology Student, University of British Columbia
5. Kimberly Russell
2nd Year Geology Student, Sir Sanford Fleming College
6. Richard Laing
B.Sc. (Biology) University of Calgary
1st Year Geology Student, University of Calgary
7. Steve Barnhart
2nd Year Geology Student, University of Waterloo
8. Jim Boyd
2nd Year Geology Student, McMaster University
9. Reno Pressacco
Graduate Geological Technician, Cambrian College 1982
10. Gerald Lalonde
Cook
11. Derek Armstrong
B.Sc. (Geology) University of Waterloo 1982
12. Derek Newman
3rd Year Geology Student, Memorial University
13. John Miryneck
1st Year Geology Student, University of Western Ontario

14. Mark Ho
2nd Year Geology Student, University of Waterloo
15. Don Sabo
1st Year Geology Student, University of Saskatchewan
16. Roy Lush
Cook
17. Ernst Maas
Helicopter Pilot
18. Cynthia Bonthoux
Replacement Cook

TCHAIKAZAN RIVER PROPERTY EXPENDITURES

<u>Item</u>	<u>Total</u>
Salaries	\$ 121,477.00
Helicopter	103,938.30
Fuel	27,406.85
Truck Rental	17,643.58
Communications Expense	1,531.34
Travel, Accommodation and Freight	21,928.54
Geochemical Analysis and Assays	14,272.54
Food	18,376.59
Camp Costs and Equipment	24,859.50
Lumber	8,888.36
Warehouse Rental	1,335.00
Office Supplies	7,477.95
Technical Equipment Rental	5,690.47
Other Equipment Rental	377.80
Contractors	41,780.00
Consultants	<u>17,009.60</u>
Sub Total	\$ 430,933.42
Operating Overhead (+10%)	43,093.34
Total Field Expenditures	474,026.76
Total Office Expenditures	<u>28,104.29</u>
Total Project Expenditure	<u>\$ 500,131.05</u>

TCHAIKAZAN RIVER PROJECT

1982 OFFICE EXPENDITURE *

Salaries

Project Geologist	45 X 234.09 =	10,534.05	
Senior Assistant	32 X 98.34 =	3,146.88	
Senior Assistant	10 X 99.64 =	996.40	
Draftsman	60 X 99.64 =	5,978.40	
Typing	4 X 99.64 =	<u>398.56</u>	
		21,054.29	21,054.29

Other Expenses

Data Processing	600.00	
Reproduction	4,200.00	
Supplies	<u>250.00</u>	
	5,050.00	<u>5,050.00</u>
Office Total		26,104.24

Notes

* Expenditure incurred during data processing and report preparation.

TCHAIKAZAN RIVER PROJECT

1982 PRORATED OPERATING COST SUMMARY

Salaries - Camp Support (657.5 X 95.01)	\$ 62,469.07
Helicopter	103,938.30
Fuel	27,406.85
Truck Rental	17,643.58
Communications Expense	1,531.34
Travel, Accommodation, Freight	21,928.54
Food	18,376.59
Camp Cost and Equipment	24,859.50
Lumber	8,888.36
Warehouse Rental	1,335.00
Office Supplies	7,477.95
Technical Equipment Rental	5,690.47
Other Equipment Rental	377.80
Thin Sections	<u>494.50</u>
TOTAL	<u>\$ 302,417.85</u>
Cost per Field Manday (based on 788.5 field mandays)	383.53

1982 CARIBOO AND TCHAIKAZAN MEAN SALARY CALCULATION

	<u>Daily Rate</u>	
P. Hawkins	\$ 234.09	Projects Geologist Cordilleran
D. Dillon	102.26	Tchaikazan Party Chief
C. Lawrence	99.64	Senior Field Assistant
K. Lange	98.34	Senior Field Assistant
V. Rublee	70.49	Junior Field Assistant
K. Russell	70.49	Junior Field Assistant
R. Laing	95.73	Camp Manager
S. Barnhart	70.49	Junior Field Assistant
J. Boyd	78.33	Junior Field Assistant
R. Pressacco	80.36	Junior Field Assistant
G. Lalonde	117.49	Cook
D. Armstrong	99.64	Cariboo Pary Chief
D. Newman	80.93	Senior Field Assistant
J. Mirynech	58.75	Junior Field Assistant
M. Ho	70.49	Junior Field Assistant
D. Sabo	70.49	Junior Field Assistant
R. Lush	<u>117.49</u>	
	\$ 1,615.20	
AVERAGE	\$ 95.01	

Paul A. Hawkins
September 6, 1982

1982 TCHAIKAZAN

ANALYSIS COSTS

Rock Geochemistry

Sample Bag	\$ 0.12
Rock Preparation	2.75
Cu Pb Zn Ni Ag Mo Au	<u>12.45</u>
	\$ 15.32

Soil Geochemistry

Soil Bag	\$ 0.07
Sample Preparation	0.75
Cu Pb Zn Ni Ag Mo	<u>6.45</u>
COST PER SAMPLE	\$ 7.27

October 26, 1982

PAH

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TCHAIKAZAN RIVER PROJECT

LCP LOCATION SURVEY COST

Contractors Cost

McElhanney Survey Cost \$ 6,688.77

Suncor Operating Costs

Camp Costs - Suncor Staff \$ 825.00
5 days X 3 men X \$55 per day

Camp Costs - McElhanney Staff \$ 1,100.00
10 days X 2 men X \$55 per day

Suncor Salaries \$ 1,425.15
5 days X 3 men X \$95.01 per day

Helicopter Costs \$ 9,574.40
25.6 hours X \$374 per hour
Fuel 13.6 hours X \$4.05 X 25 gallons/hour 1,377.00

SUBTOTAL \$ 20,990.32
+10% Overhead 2,099.03

TOTAL \$ 23,089.35

Cost per LCP (based on 17 claims) \$ 1,358.20

October 26, 1982
PAH
/lw

LCP SURVEY PROGRAM

CAMP UNIT COST ESTIMATE

Support Costs

Fodd and Catering Costs	\$ 30.00
Equipment and Camp Costs	15.00
Camp Fuel	5.00
Transportation and Logistics	<u>5.00</u>
	\$ 55.00

October 26, 1982

PAH

/lw

TCHAIKAZAN RIVER PROJECT

LIST OF CLAIMS WITH SURVEYED LCP

<u>RECORD NUMBER</u>	<u>NAME</u>
918	Cougar-1
919	Cougar-2
920	Cougar-3
921	Cougar-4
922	Cougar-5
923	Cougar-6
924	Cougar-7
925	Cougar-8
965	Cougar-10
548	Helena
547	Lyra
942	Echo-5
1060	SUN-2
1061	SUN-3
1093	SUN-14
1144	SUN-17
1231	SUN-22

TOTAL 17 Claims

October 26, 1982
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/lw

GEOCHEMICAL DATA LISTING

TCHAIKAZAN RIVER PROJECT

Soil Geochemistry

Sample and Data Listing

Cu	ppm
Pb	ppm
Zn	ppm
Ni	ppm
Mo	ppm
Au	ppb
Ag	ppm

TCHAIKAZAN RIVER SOIL GEOCHEMISTRY PROGRAM

JANUARY 25, 1983. BY PAUL A. HAWKINS

SUMMARY STATISTICS

SUBSET	VARIABLE	UNITS	N	ARITH MEAN	STD DEV	CV %	SKEW	EXCESS KURT	95% LIMITS ON MEAN	GEOM MEAN	LOG 10 MEAN	STD DEV	95% LIMITS ON MEAN
TOTAL	CU AA	PPH	999	39.8	36.5	91.5	5.15	40.83	37.6 42.1	32.1	1.5061	.2660	30.9 33.3
TOTAL	PB AA	PPH	964	8.54	9.97	116.8	8.25	96.89	7.91 9.17	6.19	.7916	.3489	5.88 6.51
TOTAL	ZN AA	PPH	1000	80.9	318.	393.3	30.35	943.13	61.2 101.	60.2	1.7795	.2526	58.1 62.4
TOTAL	NI AA	PPH	1000	18.4	10.2	55.8	5.69	76.37	17.7 19.0	16.4	1.2154	.2083	15.9 16.9
TOTAL	MO AA	PPH	376	1.81	1.90	104.7	4.98	30.07	1.62 2.00	1.45	.1626	.2436	1.37 1.54
TOTAL	AG AA	PPH	34	.679	1.27	186.3	3.44	10.70	.238 1.12	.351	-.4541	.4117	.253 .489

SUBSET	VARIABLE	UNITS	N	MIN	PERCENTILE								MAX
				VALUE	25TH	50TH	75TH	80TH	90TH	95TH	98TH	99TH	VALUE
TOTAL	CU AA	PPH	999	3.000	22.000	30.000	48.000	53.000	70.000	91.000	138.000	196.000	455.000
TOTAL	PB AA	PPH	964	1.000	3.000	8.000	11.000	12.000	14.000	17.000	24.000	40.000	156.000
TOTAL	ZN AA	PPH	1000	7.000	42.000	58.000	82.000	91.000	124.000	171.000	217.000	273.000	1000.000
TOTAL	NI AA	PPH	1000	1.000	13.000	17.000	21.000	23.000	28.000	34.000	44.000	58.000	147.000
TOTAL	MO AA	PPH	376	1.000	1.000	1.000	2.000	2.000	3.000	4.000	8.000	13.000	17.000
TOTAL	AG AA	PPH	34	.100	.200	.200	.500	.600	1.400	5.100	5.900	5.900	5.900

00182	114245	50	26	12	66	28	0	0.0
00182	114246	50	17	5	78	22	0	0.0
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00182	115498	50	45	19	107	47	0	0.0
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00182	140004	50	75	9	177	21	3	0.0
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00182	140007	50	378	2	68	12	19	0.0
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00182	140011	50	132	4	223	15	3	0.0
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00182	140013	50	98	2	105	20	3	0.0
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00182	140015	50	76	16	95	21	0	0.0
00182	140016	50	75	12	71	20	0	0.0
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00182	140018	50	350	12	52	20	0	0.0
00182	140019	50	112	12	44	17	1	0.0
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00182	140036	50	58	12	70	9	0	0.0
00182	140037	50	50	14	65	10	0	0.0

00182	140036	50	58	12	70	9	0	0.0
00182	140037	50	50	14	65	10	0	0.0

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00182	140038	50	61	16	80	14	0	0.0
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00182	140047	50	46	9	74	8	0	0.0
00182	140048	50	48	10	63	8	0	0.0
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00182	140066	50	29	10	80	23	0	0.0
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00182	140326	50	17	10	45	13	0	0.0
00182	140327	50	16	9	32	16	0	0.0
00182	140328	50	24	10	35	17	0	0.0
00182	140329	50	44	11	51	20	0	0.0
00182	140330	50	22	10	88	15	0	0.0
00182	140331	50	44	10	53	15	0	0.0
00182	140332	50	23	10	65	16	0	0.0
00182	140333	50	38	11	69	18	0	0.0
00182	140334	50	22	8	38	18	0	0.0
00182	140335	50	16	8	28	9	0	0.0

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00182	140336	50	10	8	35	10	0	0.0
00182	140337	50	23	8	32	10	0	0.0
00182	140338	50	28	9	36	9	0	0.0
00182	140339	50	66	12	60	12	0	0.0
00182	140340	50	54	12	62	11	0	0.0
00182	140341	50	64	12	67	11	0	0.0
00182	140342	50	58	12	67	10	0	0.0
00182	140343	50	50	10	65	10	0	0.0
00182	140344	50	49	8	66	9	0	0.0
00182	140345	50	55	12	64	9	0	0.0
00182	140346	50	52	12	59	9	0	0.0
00182	140347	50	68	13	62	14	0	0.0
00182	140348	50	40	10	43	17	0	0.0
00182	140349	50	30	10	51	18	0	0.0
00182	140350	50	30	11	42	14	0	0.0
00182	140351	50	62	11	63	10	0	0.0
00182	140352	50	64	10	39	9	0	0.0
00182	140353	50	34	11	37	10	0	0.0
00182	140354	50	54	11	37	11	0	0.0
00182	140355	50	26	12	40	11	0	0.0
00182	140356	50	26	11	64	14	0	0.0
00182	140357	50	26	10	55	19	0	0.0
00182	140358	50	14	10	71	14	0	0.0
00182	140359	50	50	10	48	15	0	0.0
00182	140360	50	36	10	55	22	0	0.0
00182	140361	50	84	12	72	12	0	0.0
00182	140362	50	78	11	61	11	0	0.0
00182	140363	50	74	11	56	9	0	0.0
00182	140364	50	70	10	64	10	0	0.0
00182	140365	50	88	10	57	11	0	0.0
00182	140366	50	70	10	54	7	0	0.0
00182	140367	50	48	12	55	9	0	0.0
00182	140368	50	48	10	67	8	0	0.0
00182	140369	50	58	10	53	9	0	0.0
00182	140370	50	48	10	48	9	0	0.0
00182	140371	50	22	12	37	15	0	0.0
00182	140372	50	48	12	53	15	0	0.0
00182	140373	50	10	12	54	16	0	0.0
00182	140374	50	22	14	45	18	0	0.0
00182	140375	50	19	11	52	9	0	0.0
00182	140376	50	34	12	40	11	0	0.0
00182	140377	50	36	12	43	12	0	0.0
00182	140378	50	24	9	28	7	0	0.0
00182	140379	50	28	10	30	10	0	0.0
00182	140380	50	28	9	34	9	0	0.0
00182	140381	50	26	8	33	8	0	0.0
00182	140382	50	36	13	39	9	0	0.0
00182	140383	50	26	10	35	8	0	0.0
00182	140384	50	62	9	34	14	0	0.0
00182	140385	50	94	14	28	19	0	0.0
00182	140386	50	62	14	34	16	0	0.0
00182	140387	50	58	12	36	18	0	0.0
00182	140388	50	48	10	37	21	0	0.0
00182	140389	50	50	10	38	23	0	0.0
00182	140190	50	80	12	36	23	0	0.0
00182	140391	50	20	9	29	19	0	0.0
00182	140392	50	24	9	39	14	0	0.0
00182	140393	50	35	10	30	17	0	0.0
00182	140394	50	455	24	95	23	0	0.0

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00182	140395	50	62	12	60	16	0	0.0
00182	140396	50	38	8	10	5	2	0.0
00182	140397	50	24	10	7	4	4	0.0
00182	140398	50	61	12	48	15	2	0.0
00182	140399	50	34	10	33	16	0	0.0
00182	140400	50	28	30	110	7	0	0.0
00182	140401	50	32	12	63	15	0	0.0
00182	140402	50	52	16	90	19	0	0.0
00182	140403	50	26	11	29	12	0	0.0
00182	140404	50	50	10	40	22	2	0.0
00182	140405	50	60	10	35	15	0	0.0
00182	140406	50	122	14	45	14	0	0.0
00182	140407	50	66	10	39	14	0	0.0
00182	140408	50	43	10	34	15	0	0.0
00182	140409	50	10	10	34	7	0	0.0
00182	140410	50	24	9	36	11	0	0.0
00182	140411	50	21	8	60	14	0	0.0
00182	140412	50	20	8	47	14	0	0.0
00182	140413	50	16	6	54	13	0	0.0
00182	140414	50	16	6	39	14	0	0.0
00182	140415	50	19	8	51	13	0	0.0
00182	140416	50	17	10	56	13	0	0.0
00182	140417	50	22	10	54	13	0	0.0
00182	140418	50	17	8	54	12	0	0.0
00182	140419	50	16	10	68	11	0	0.0
00182	140420	50	27	10	62	12	0	0.0
00182	140421	50	22	10	70	14	0	0.0
00182	140422	50	11	0	58	12	0	0.0
00182	140423	50	16	0	47	12	0	0.0
00182	140424	50	11	0	48	11	0	0.0
00182	140426	50	12	0	79	10	1	0.0
00182	140427	50	17	12	56	14	0	0.0
00182	140428	50	12	10	44	10	0	0.0
00182	140429	50	28	10	48	13	0	0.0
00182	140430	50	12	12	36	7	0	0.0
00182	140431	50	14	10	42	12	0	0.0
00182	140432	50	20	12	58	15	0	0.0
00182	140433	50	12	10	38	11	0	0.0
00182	140434	50	24	9	38	14	0	0.0
00182	140435	50	18	11	51	12	0	0.0
00182	140436	50	25	9	48	11	0	0.0
00182	140437	50	16	8	30	8	0	0.0
00182	140438	50	33	10	33	14	0	0.0
00182	140439	50	22	15	60	14	0	0.0
00182	140440	50	38	10	64	13	0	0.0
00182	140441	50	42	11	70	13	0	0.0
00182	140442	50	70	10	50	12	0	0.0
00182	140443	50	16	10	45	15	0	0.0
00182	140444	50	21	10	30	9	0	0.0
00182	140445	50	16	9	25	10	0	0.0
00182	140446	50	18	9	28	15	0	0.0
00182	140447	50	12	9	32	8	0	0.0
00182	140448	50	12	10	35	13	0	0.0
00182	140449	50	27	12	41	16	0	0.0
00182	140450	50	18	12	56	14	0	0.0
00182	140451	50	32	10	38	19	0	0.0
00182	140452	50	12	10	59	10	0	0.0
00182	140453	50	20	12	83	12	0	0.0
00182	140454	50	14	10	90	11	0	0.0

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00182	140455	50	20	12	67	9	0	0.0
00182	140456	50	14	11	42	13	0	0.0
00182	140457	50	13	12	30	9	0	0.0
00182	140458	50	12	101	37	11	0	0.0
00182	140459	50	24	12	35	12	0	0.0
00182	140460	50	16	9	30	10	0	0.0
00182	140461	50	22	10	35	13	0	0.0
00182	140462	50	25	12	53	13	0	0.0
00182	140463	50	26	12	57	12	0	0.0
00182	140464	50	20	12	61	12	0	0.0
00182	140465	50	26	11	39	13	0	0.0
00182	140466	50	18	7	30	8	0	0.0
00182	140467	50	25	10	60	12	0	0.0
00182	140468	50	22	10	35	13	0	0.0
00182	140469	50	20	3	39	17	1	0.0
00182	140470	50	23	3	42	25	1	0.0
00182	140471	50	17	3	41	21	1	0.0
00182	140472	50	32	3	56	21	1	0.0
00182	140473	50	14	4	26	20	1	0.0
00182	140474	50	18	5	25	15	5	0.0
00182	140475	50	34	6	28	21	1	0.0
00182	140476	50	31	7	18	16	1	0.0
00182	140477	50	52	5	18	12	1	0.2
00182	140478	50	19	4	21	19	2	0.0
00182	140479	50	14	5	22	20	1	0.0
00182	140480	50	9	5	33	27	1	0.0
00182	140481	50	19	6	41	18	1	0.0
00182	140482	50	6	6	36	10	1	0.0
00182	140483	50	35	5	27	18	1	0.0
00182	140484	50	45	5	18	10	1	0.0
00182	140485	50	29	6	25	15	1	0.0
00182	140486	50	23	6	22	14	1	0.0
00182	140487	50	31	5	21	18	1	0.0
00182	140488	50	32	5	23	19	1	0.0
00182	140489	50	22	6	21	20	1	0.0
00182	140490	50	26	3	21	20	1	0.0
00182	140491	50	44	2	24	21	1	0.0
00182	140492	50	17	3	22	12	1	0.0
00182	140493	50	21	3	19	10	1	0.0
00182	140494	50	78	2	35	35	2	0.2
00182	140495	50	36	2	19	16	1	0.0
00182	140496	50	38	1	20	16	1	0.0
00182	140497	50	55	1	17	14	1	0.2
00182	140498	50	67	2	20	14	1	0.0
00182	140499	50	25	2	34	15	1	0.0
00182	140500	50	28	14	115	22	0	0.0
00182	140501	50	28	20	64	27	0	0.0
00182	140502	50	24	10	83	17	0	0.0
00182	140503	50	20	10	77	22	0	0.0
00182	140504	50	20	10	99	22	0	0.0
00182	140505	50	30	11	100	22	0	0.0
00182	140506	50	26	10	110	21	0	0.0
00182	140507	50	58	16	80	14	0	0.0
00182	140508	50	40	12	90	16	0	0.0
00182	140509	50	26	12	83	14	0	0.0
00182	140510	50	19	22	87	14	0	0.0
00182	140511	50	32	14	92	17	0	0.0
00182	140512	50	28	16	110	14	0	0.0
00182	140513	50	55	22	115	16	0	0.0

00182	140514	50	34	19	105	21	0	0.0
00182	140515	50	14	26	120	14	0	0.0
00182	140516	50	18	24	125	11	0	0.0
00182	140517	50	22	26	125	11	0	0.0
00182	140518	50	24	28	130	14	0	0.0
00182	140519	50	34	23	130	17	0	0.0
00182	140520	50	34	22	130	16	0	0.0
00182	140521	50	32	22	100	11	0	0.0
00182	140522	50	37	14	37	27	0	0.0
00182	140523	50	16	12	27	20	0	0.0
00182	140524	50	33	12	29	21	0	0.0
00182	140525	50	45	1	26	27	1	0.0
00182	140526	50	30	1	21	23	1	0.0
00182	140527	50	28	1	22	20	1	0.0
00182	140528	50	36	2	35	22	2	0.0
00182	140529	50	20	4	42	17	1	0.0
00182	140530	50	18	2	21	14	1	0.0
00182	140531	50	15	2	24	9	1	0.0
00182	140532	50	19	1	24	9	1	0.0
00182	140533	50	12	4	35	2	1	0.0
00182	140534	50	21	2	26	8	1	0.0
00182	140535	50	20	2	19	8	1	0.0
00182	140536	50	11	3	31	4	1	0.0
00182	140537	50	12	4	36	4	1	0.0
00182	140538	50	13	2	26	4	1	0.0
00182	140539	50	17	3	21	7	1	0.0
00182	140540	50	17	3	32	6	1	0.0
00182	140541	50	20	2	49	9	1	0.0
00182	140542	50	11	2	38	6	1	0.0
00182	140543	50	14	3	66	8	0	0.0
00182	140544	50	11	1	23	7	0	0.0
00182	140545	50	7	2	14	3	0	0.0
00182	140546	50	18	3	19	9	1	0.0
00182	140547	50	13	4	23	6	0	0.0
00182	140548	50	23	3	55	9	2	0.0
00182	140549	50	13	2	28	5	0	0.0
00182	140550	50	16	2	27	10	0	0.0
00182	140551	50	15	7	25	6	0	0.0
00182	140552	50	21	4	29	18	3	0.0
00182	140553	50	20	4	53	17	2	0.0
00182	140554	50	19	3	39	16	2	0.0
00182	140555	50	46	6	54	18	3	0.0
00182	140556	50	196	2	31	16	5	0.0
00182	140557	50	76	6	43	17	4	0.0
00182	140558	50	88	5	44	16	4	0.0
00182	140559	50	168	5	37	14	4	1.2
00182	140560	50	96	6	38	17	4	5.9
00182	140561	50	49	5	54	7	0	0.0
00182	140562	50	54	3	50	12	2	0.1
00182	140563	50	59	3	50	5	1	0.0
00182	140564	50	42	3	74	7	3	0.0
00182	140565	50	59	4	47	6	1	0.0
00182	140566	50	15	3	20	11	1	0.0
00182	140567	50	14	3	23	9	1	0.0
00182	140568	50	23	2	105	18	1	0.0
00182	140569	50	60	3	57	0	1	0.0
00182	140570	50	27	4	88	18	1	0.0
00182	140571	50	19	5	145	14	1	0.0
00182	140572	50	109	7	75	23	1	0.0

00182	140573	50	14	4	114	14	1	0.0
00182	140574	50	18	4	68	18	1	0.0
00182	140575	50	18	6	96	17	1	0.0
00182	140576	50	29	3	100	19	1	0.0
00182	140577	50	24	7	111	20	1	0.0
00182	140578	50	19	6	105	14	1	0.0
00182	140579	50	21	5	60	16	1	0.0
00182	140580	50	35	5	178	10	1	0.0
00182	140581	50	27	4	112	15	1	0.0
00182	140582	50	36	4	121	21	1	0.0
00182	140583	50	37	5	119	23	1	0.0
00182	140584	50	51	6	144	28	1	0.0
00182	140585	50	45	44	163	25	1	0.0
00182	140586	50	37	4	120	29	1	0.0
00182	140587	50	35	6	152	20	1	0.0
00182	140588	50	34	4	73	22	1	0.0
00182	140589	50	64	7	150	20	1	0.0
00182	140590	50	55	9	190	24	1	0.0
00182	140591	50	53	8	190	22	1	5.1
00182	140592	50	48	26	175	26	1	0.2
00182	140593	50	38	5	166	26	1	0.0
00182	140594	50	34	5	103	20	1	0.0
00182	140595	50	43	6	123	20	1	1.4
00182	140596	50	107	14	175	45	1	0.0
00182	140597	50	44	32	198	17	1	0.0
00182	140598	50	17	134	750	1	1	1.0
00182	140599	50	19	110	400	2	1	0.9
00182	140600	50	24	83	440	5	1	0.5
00182	140602	50	28	3	169	18	1	0.2
00182	140603	50	19	3	183	17	1	0.0
00182	140604	50	24	2	118	17	1	0.0
00182	140605	50	30	2	159	19	1	0.0
00182	140606	50	16	2	142	16	1	0.0
00182	140607	50	18	2	99	16	1	0.0
00182	140608	50	34	3	176	15	1	0.0
00182	140609	50	24	3	209	19	1	0.0
00182	140610	50	35	3	60	18	1	0.0
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00182	140612	50	20	2	100	14	1	0.0
00182	140613	50	38	3	114	27	1	0.0
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00182	140617	50	33	7	209	22	1	0.0
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00182	140619	50	199	3	53	42	13	0.0
00182	140620	50	128	6	79	43	16	0.3
00182	140621	50	181	3	59	16	13	0.6
00182	140622	50	31	38	52	14	3	0.1
00182	140623	50	44	12	57	36	2	0.2
00182	140624	50	50	6	77	28	7	0.0
00182	140625	50	32	7	40	19	2	0.0
00182	140626	50	28	6	59	22	2	0.0
00182	140627	50	28	7	69	23	3	0.0
00182	140628	50	30	6	89	25	0	0.0
00182	140629	50	25	6	66	25	0	0.0
00182	140630	50	45	7	63	30	1	0.0
00182	140631	50	18	5	97	16	1	0.0
00182	140632	50	34	5	107	20	1	0.0

00182	140633	50	22	7	144	17	1	0.0
00182	140634	50	31	37	350	4	2	0.5
00182	140635	50	32	11	200	11	2	0.0
00182	140636	50	30	7	160	17	2	0.0
00182	140637	50	28	7	265	21	2	0.0
00182	140639	50	42	2	50	20	0	0.0
00182	140640	50	59	2	44	30	0	0.0
00182	140641	50	25	1	69	21	0	0.0
00182	140642	50	52	6	50	20	1	0.0
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00182	140645	50	97	9	40	18	2	0.0
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00182	140647	50	72	8	45	14	3	0.0
00182	140648	50	61	9	50	16	2	0.0
00182	140649	50	103	6	50	19	3	0.0
00182	140650	50	76	6	55	18	4	0.0
00182	140651	50	96	5	54	19	5	0.0
00182	140652	50	99	5	52	19	4	0.0
00182	140653	50	43	5	56	14	4	0.0
00182	140654	50	67	4	88	16	4	0.0
00182	140655	50	57	8	76	11	5	0.0
00182	140656	50	37	6	90	18	1	0.0
00182	140657	50	48	3	48	17	2	0.0
00182	140658	50	37	3	78	17	1	0.0
00182	140659	50	29	3	20	15	1	0.0
00182	140660	50	25	5	55	16	3	0.0
00182	140661	50	29	3	50	11	2	0.0
00182	140662	50	30	3	51	17	2	0.0
00182	140663	50	21	3	64	16	3	0.0
00182	140664	50	19	4	60	9	2	0.0
00182	140666	50	70	21	108	68	0	0.0
00182	140667	50	65	21	92	57	0	0.2
00182	140668	50	57	20	92	85	0	0.0
00182	140669	50	37	17	89	44	0	0.0
00182	140670	50	57	18	82	66	0	0.0
00182	140672	50	28	17	78	36	0	0.0
00182	140673	50	35	19	76	41	0	0.0
00182	140674	50	49	18	85	56	0	0.0
00182	140675	50	53	20	145	42	0	0.0
00182	140676	50	24	15	45	22	0	0.0
00182	140677	50	62	21	108	48	0	0.0
00182	140678	50	34	16	77	36	0	0.0
00182	140679	50	0	18	91	42	0	0.0
00182	140680	50	48	18	105	42	0	0.0
00182	140681	50	28	1	29	21	0	0.0
00182	140682	50	18	0	71	15	1	0.0
00182	140683	50	27	3	56	23	1	0.0
00182	140684	50	26	4	75	25	1	0.2
00182	140685	50	37	3	56	32	0	0.0
00182	140686	50	29	4	52	29	1	0.0
00182	140687	50	28	4	67	42	0	0.0
00182	140688	50	58	6	35	24	0	0.3
00182	140689	50	31	5	36	21	0	0.0
00182	140690	50	26	4	38	19	0	0.0
00182	140691	50	27	3	49	28	0	0.0
00182	140692	50	37	5	50	33	1	0.0
00182	140693	50	30	4	50	33	0	0.0
00182	140694	50	27	2	31	16	1	0.0

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00182	140695	50	39	2	35	15	1		
00182	140696	50	23	2	30	20	3		0.0
00182	140697	50	25	2	35	20	1		0.0
00182	140698	50	35	2	38	28	2		0.0
00182	140699	50	40	3	57	27	1		0.0
00182	140702	50	21	3	53	20	0		0.0
00182	140703	50	11	3	51	17	0		0.0
00182	140704	50	12	2	38	18	0		0.0
00182	140705	50	23	1	53	26	0		0.0
00182	140706	50	19	2	35	24	0		0.0
00182	140707	50	15	3	65	22	0		0.0
00182	140708	50	13	4	42	14	0		0.0
00182	140709	50	13	3	53	20	0		0.0
00182	140710	50	15	2	105	25	0		0.0
00182	140711	50	24	2	79	22	0		0.0
00182	140712	50	30	3	51	30	0		0.0
00182	140713	50	22	3	65	25	0		0.0
00182	140714	50	62	3	60	32	0		0.0
00182	140715	50	11	4	88	16	0		0.0
00182	140716	50	16	5	108	21	0		0.0
00182	140717	50	20	5	65	23	0		0.0
00182	140718	50	22	2	57	18	0		0.0
00182	140719	50	14	4	78	21	0		0.0
00182	140720	50	18	2	68	20	0		0.0
00182	140721	50	17	2	55	22	0		0.0
00182	140722	50	17	4	46	20	0		0.0
00182	140723	50	20	3	47	20	0		0.0
00182	140724	50	12	4	73	18	0		0.0
00182	140725	50	15	4	58	20	0		0.0
00182	140726	50	23	2	35	21	0		0.0
00182	140727	50	30	4	49	23	0		0.0
00182	140728	50	13	3	90	16	0		0.0
00182	140735	50	11	5	40	14	0		0.0
00182	140736	50	43	3	113	28	0		0.0
00182	140737	50	36	2	97	26	0		0.0
00182	140738	50	22	2	99	32	0		0.0
00182	140739	50	30	2	71	22	0		0.0
00182	140740	50	22	3	95	23	0		0.0
00182	140741	50	32	1	75	22	0		0.0
00182	140742	50	23	0	96	23	0		0.0
00182	140743	50	18	2	79	24	0		0.0
00182	140744	50	39	3	94	24	0		0.0
00182	140745	50	25	3	38	17	0		0.0
00182	140746	50	21	4	62	21	0		0.0
00182	140747	50	23	3	43	17	0		0.0
00182	140748	50	14	2	96	20	0		0.0
00182	140749	50	14	3	83	21	0		0.0
00182	140750	50	21	2	62	28	0		0.0
00182	140751	50	31	4	58	26	1		0.0
00182	140752	50	31	4	75	24	1		0.0
00182	140753	50	25	5	84	31	1		0.0
00182	140754	50	28	3	68	25	1		0.0
00182	140755	50	16	5	64	17	1		0.0
00182	140756	50	23	5	108	41	1		0.0
00182	140757	50	20	4	94	23	1		0.0
00182	140758	50	22	4	75	31	1		0.0
00182	140759	50	18	3	54	19	1		0.0
00182	140760	50	36	4	61	16	1		0.0
00182	140761	50	21	66	66	7	0		0.0

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00182	140762	50	45	4	69	43	1	0.0
00182	140763	50	23	4	109	22	0	0.0
00182	140764	50	27	3	65	20	0	0.0
00182	140765	50	25	4	64	21	0	0.0
00182	140766	50	35	5	74	21	0	0.0
00182	140767	50	25	8	175	27	0	0.0
00182	140768	50	15	3	171	18	0	0.0
00182	140769	50	21	10	175	20	0	0.0
00182	140770	50	23	2	74	21	0	0.0
00182	140771	50	23	4	75	18	0	0.0
00182	140772	50	20	5	93	18	0	0.0
00182	140773	50	15	5	55	11	0	0.0
00182	140774	50	36	4	37	12	0	0.0
00182	140775	50	35	3	40	11	0	0.0
00182	140776	50	48	5	34	10	0	0.0
00182	140777	50	71	4	38	15	1	0.2
00182	140778	50	30	4	43	15	1	0.0
00182	140779	50	37	4	40	19	3	0.0
00182	140780	50	14	3	61	12	1	0.0
00182	140781	50	24	2	46	10	0	0.0
00182	140782	50	30	4	51	25	1	0.0
00182	140783	50	25	3	44	14	1	0.0
00182	140784	50	9	4	28	15	0	0.5
00182	140785	50	21	4	40	13	0	0.0
00182	140786	50	26	4	62	20	0	0.0
00182	140787	50	26	4	82	22	1	0.0
00182	140788	50	21	4	57	16	0	0.0
00182	140789	50	28	4	67	11	0	0.0
00182	140790	50	23	2	66	28	0	0.0
00182	140791	50	28	2	48	21	0	0.0
00182	140792	50	22	2	60	20	0	0.0
00182	140793	50	29	4	46	27	0	0.0
00182	140794	50	32	3	50	24	0	0.0
00182	140795	50	30	4	47	17	0	0.0
00182	140796	50	34	2	41	14	0	0.0
00182	140797	50	36	2	43	14	0	0.0
00182	140798	50	22	2	46	11	0	0.0
00182	140799	50	35	4	42	15	0	0.0
00182	140800	50	50	4	46	16	2	0.0
00182	140801	50	9	1	24	9	0	0.0
00182	140803	50	19	3	60	12	0	0.0
00182	140804	50	40	2	74	7	0	0.0
00182	140805	50	15	5	54	10	0	0.0
00182	140806	50	18	2	44	13	1	0.0
00182	140807	50	18	2	42	11	1	0.0
00182	140808	50	24	17	125	27	1	0.0
00182	140809	50	37	6	140	28	1	0.0
00182	140810	50	15	6	91	8	1	0.0
00182	140811	50	80	3	19	11	1	0.0
00182	140812	50	32	10	96	11	2	0.0
00182	140813	50	21	4	88	18	2	0.0
00182	140814	50	21	3	50	22	2	0.0
00182	140815	50	32	7	124	15	3	0.0
00182	140816	50	12	6	135	10	1	0.0
00182	140817	50	27	6	135	14	1	0.0
00182	140843	50	24	3	44	13	1	0.0
00182	140844	50	8	4	31	6	1	0.0
00182	140845	50	25	3	88	15	1	0.0
00182	140846	50	37	1	69	13	1	0.0

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00182	140847	50	18	2	72	13	0	0.0
00182	140848	50	13	2	55	9	0	0.0
00182	140849	50	24	3	85	12	0	0.0
00182	140850	50	9	4	76	13	0	0.0
00182	140851	50	29	4	85	24	0	0.0
00182	140852	50	22	3	99	14	1	0.0
00182	140853	50	13	4	85	8	1	0.0
00182	140854	50	26	5	120	12	0	0.0
00182	140855	50	21	6	145	15	0	0.0
00182	140856	50	12	8	153	8	1	0.0
00182	140857	50	22	7	152	12	1	0.0
00182	140860	50	31	3	163	17	1	0.0
00182	140862	50	56	3	148	22	1	0.0
00182	140863	50	50	2	127	24	1	0.0
00182	140864	50	52	2	130	25	1	0.0
00182	140865	50	54	2	96	27	1	0.0
00182	140866	50	53	7	90	28	1	0.0
00182	140867	50	54	2	121	21	1	0.0
00182	140868	50	57	4	75	18	1	0.0
00182	140869	50	55	3	88	27	1	0.0
00182	140870	50	65	4	55	19	1	0.0
00182	140871	50	46	1	104	24	0	0.0
00182	140872	50	40	4	95	23	1	0.0
00182	140873	50	40	1	64	28	0	0.0
00182	140874	50	28	2	74	15	0	0.0
00182	140875	50	45	3	112	15	0	0.0
00182	140876	50	21	2	50	16	0	0.0
00182	140877	50	33	2	109	17	0	0.0
00182	140878	50	52	5	116	27	0	0.0
00182	140896	50	27	3	120	15	1	0.0
00182	140897	50	29	3	55	12	4	0.0
00182	140898	50	59	2	85	20	2	0.0
00182	140899	50	16	3	62	12	1	0.0
00182	140900	50	26	2	120	19	1	0.0
00182	140901	50	21	2	75	17	1	0.0
00182	140902	50	33	2	77	20	1	0.0
00182	140903	50	44	2	74	14	0	0.0
00182	140904	50	125	8	250	24	2	0.0
00182	140905	50	36	3	87	24	1	0.0
00182	140906	50	35	2	116	25	1	0.0
00182	140907	50	21	2	78	20	1	0.0
00182	140908	50	43	1	94	20	1	0.0
00182	140909	50	30	2	61	23	1	0.0
00182	140910	50	30	3	91	23	1	0.0
00182	140911	50	41	3	150	28	2	0.0
00182	140912	50	33	2	78	26	1	0.0
00182	140913	50	26	6	59	13	1	0.0
00182	140914	50	38	1	71	11	2	0.0
00182	140915	50	34	2	104	16	1	0.0
00182	140916	50	46	2	82	13	1	0.0
00182	140917	50	42	4	95	19	1	0.0
00182	140918	50	58	7	119	13	2	0.0
00182	140919	50	32	3	44	9	4	0.0
00182	140920	50	36	2	49	14	2	0.0
00182	140921	50	35	2	50	12	1	0.0
00182	140922	50	39	3	57	13	2	0.0
00182	140923	50	28	2	82	17	2	0.0
00182	140924	50	24	2	185	19	1	0.0
00182	140925	50	21	4	172	18	0	0.0

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00182	140926	50	28	4	188	19	1	0.0
00182	140927	50	32	4	142	17	0	0.0
00182	140928	50	54	5	89	25	1	0.0
00182	140929	50	50	4	135	19	2	0.0
00182	140930	50	31	4	119	13	2	0.0
00182	140931	50	34	4	273	14	2	0.0
00182	140932	50	17	3	274	18	1	0.0
00182	140933	50	28	4	68	19	0	0.0
00182	140934	50	51	2	147	24	0	0.0
00182	140935	50	30	5	230	17	0	0.0
00182	140936	50	31	4	295	14	0	0.0
00182	140937	50	24	2	152	21	0	0.0
00182	140938	50	29	3	168	16	1	0.0
00182	140939	50	27	2	118	17	0	0.0
00182	140940	50	35	4	267	12	1	0.0
00182	140941	50	13	1	100	12	1	0.0
00182	140942	50	28	4	140	15	1	0.0
00182	140943	50	25	3	144	16	2	0.2
00182	140944	50	44	4	137	14	1	0.0
00182	140945	50	27	2	190	17	1	0.0
00182	140946	50	35	4	95	18	1	0.0
00182	140947	50	38	4	110	17	2	0.0
00182	140948	50	17	3	162	18	0	0.0
00182	140949	50	23	3	84	16	0	0.0
00182	140950	50	20	2	80	15	0	0.0
00182	140951	50	17	3	85	20	0	0.0
00182	140952	50	14	2	62	12	0	0.0
00182	140953	50	13	2	72	12	0	0.0
00182	140954	50	11	2	76	14	0	0.0
00182	140955	50	20	5	130	13	0	0.0
00182	140956	50	37	3	70	16	0	0.0
00182	140970	50	32	3	88	16	0	0.0
00182	140971	50	28	2	58	15	0	0.0
00182	140972	50	29	2	96	20	0	0.0
00182	140973	50	21	2	95	17	0	0.0
00182	140974	50	28	2	151	18	0	0.0
00182	140975	50	40	3	53	16	0	0.0
00182	140976	50	30	3	64	24	0	0.0
00182	140977	50	27	3	90	21	0	0.0
00182	140978	50	37	2	100	21	0	0.0
00182	140979	50	11	1	57	24	0	0.0
00182	140980	50	26	6	118	16	1	0.0
00182	140981	50	20	2	37	13	0	0.0
00182	140982	50	25	2	45	21	0	0.0
00182	140983	50	77	2	124	13	1	0.0
00182	140984	50	23	2	80	19	1	0.0
00182	140985	50	42	3	70	16	1	0.0
00182	140986	50	17	6	68	17	1	0.0
00182	140987	50	24	1	51	15	0	0.0
00182	140988	50	24	1	53	13	1	0.0
00182	140989	50	20	2	59	10	1	0.0
00182	140990	50	16	1	49	15	0	0.0
00182	140991	50	33	1	61	12	1	0.0
00182	140992	50	15	3	89	53	1	0.0
00182	140993	50	51	2	208	21	4	0.0
00182	140994	50	31	3	44	8	2	0.2
00182	141008	50	138	1	24	7	0	0.2
00182	141009	50	98	0	69	12	1	0.0
00182	141010	50	88	1	73	13	1	0.2

TCHAIKAZAN RIVER PROJECT

Stream Sediment Geochemistry

Sample and Data Listing

Cu	ppm
Pb	ppm
Zn	ppm
Ni	ppm
Mo	ppm
Au	ppb
Ag	ppm

1. DATE 12 JAN 83 11:46:52 R10 57 J2 JAN 83 PHAWK
 2. *STEAM STREAM GEOCHEMISTRY FOR LITTLE CREEK TCHAIKAZAN LAB : CHX (TYPE F)
 3. *RS.PRJYR .ROCK.SAMPLF.CU .PB .ZN .NI .MO .AU .AG
 4. * .NUMBER.AA(PPH).AA(PPH).AA(PPH).AA(PPH).AA(PPH).FAA(PPB)AA(PPH)

5.									
6.	10 001P2	140819	41	2	42	11	1		0.0
7.	10 001P2	140820	35	2	42	8	1		0.0
8.	10 001P2	140821	35	2	44	13	1		0.0
9.	10 001P2	140822	38	1	47	14	1		0.0
10.	10 001P2	140823	29	1	50	13	0		0.0
11.	10 001P2	140824	34	3	46	13	0		0.0
12.	10 001P2	140825	39	4	48	14	0		0.0
13.	10 001P2	140826	43	3	46	14	1		0.0
14.	10 001P2	140827	41	4	42	15	1		0.1
15.	10 001P2	140828	42	4	45	14	1		0.0
16.	10 001P2	140829	38	4	45	15	1		0.0
17.	10 001P2	140830	36	4	46	15	1		0.0
18.	10 001P2	140831	33	4	45	15	1		0.0
19.	10 001P2	140832	28	3	48	17	1		0.0
20.	10 001P2	140833	23	5	46	19	1		0.0
21.	10 001P2	140834	23	5	105	20	1		0.0
22.	10 001P2	140835	27	3	47	17	1		0.0
23.	10 001P2	140836	34	4	43	14	1		0.0
24.	10 001P2	140837	33	4	45	19	1		0.0
25.	10 001P2	140838	27	3	49	19	1		0.0
26.	10 001P2	140839	27	4	53	18	1		0.0
27.	10 001P2	140840	24	3	53	19	1		0.0
28.	10 001P2	140841	25	3	55	22	1		0.0
29.	10 001P2	140842	34	4	60	20	1		0.1
30.	10 001P2	140843	35	2	35	8	1		0.0
31.	10 001P2	140844	37	4	36	11	1		0.1
32.	10 001P2	140845	45	3	37	11	1		0.1
33.	10 001P2	140846	36	3	35	13	1		0.0
34.	10 001P2	140847	31	3	33	11	1		0.0
35.	10 001P2	140848	27	3	32	8	0		0.0
36.	10 001P2	140849	34	3	35	9	0		0.0
37.	10 001P2	140850	31	1	31	10	1		0.0
38.	10 001P2	140851	38	2	33	11	1		0.0
39.	10 001P2	140852	27	1	32	11	0		0.0
40.	10 001P2	140853	39	2	32	10	1		0.0
41.	10 001P2	140854	36	2	31	11	1		0.0
42.	10 001P2	140855	35	2	30	10	1		0.0
43.	10 001P2	140856	28	1	33	11	1		0.0
44.	10 001P2	140857	42	3	36	11	1		0.0
45.	10 001P2	140858	35	3	33	9	1		0.0
46.									

..... END REPORT

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TCHAIKAZAN RIVER PROJECT

Rock Geochemistry

Sample and Data Listing

Cu	ppm
Pb	ppm
Zn	ppm
Ni	ppm
Mo	ppm
Au	ppb
Ag	ppm

1982 TCHAIKAZAN ROCK GEOCHEMISTRY

JANUARY, 1983.

SUMMARY STATISTICS

SUBSET	VARIABLE	UNITS	N	ARITH MEAN	STD DEV	CV %	SKEW	EXCESS KURT	95% LIMITS ON MEAN	GEOM MEAN	LOG 10 MEAN	STD DEV	95% LIMITS ON MEAN		
TOTAL	CU AA	PPM	308	153.	630.	412.6	8.56	88.98	82.0	223.	79.1	1.5926	.5406	34.0	45.0
TOTAL	PF AA	PPM	195	26.8	149.	556.7	12.4	161.44	5.64	47.9	6.74	.8269	.5484	5.64	8.06
TOTAL	Zn AA	PPM	308	89.9	195.	216.5	14.77	239.05	68.1	112.	64.7	1.8107	.3031	59.8	69.9
TOTAL	NI AA	PPM	276	13.0	13.1	100.6	2.25	6.64	11.5	14.6	8.30	.9190	.4346	7.37	9.34
TOTAL	MO AA	PPM	162	2.56	2.78	106.4	5.02	30.39	2.13	2.99	2.00	.3007	.2714	1.81	2.20
TOTAL	AG AA	PPM	65	2.54	6.23	245.0	4.52	21.27	1.00	4.09	1.03	.0116	.4893	.777	1.36
TOTAL	AU FAA	PPB	160	177.	.179+004*****	12.36	151.93	-102.	457.	15.2	1.1815	.4475	12.9	17.8	

SUBSET	VARIABLE	UNITS	N	MIN VALUE	PERCENTILE									MAX VALUE
					25TH	50TH	75TH	80TH	90TH	95TH	98TH	99TH		
TOTAL	CU AA	PPM	308	2.000	19.000	38.000	67.000	72.000	103.000	433.000	2312.000	3853.000	8050.000	
TOTAL	PF AA	PPM	195	1.000	3.000	6.000	13.000	15.000	31.000	63.000	195.000	420.000	2021.000	
TOTAL	Zn AA	PPM	308	9.000	44.000	69.000	97.000	108.000	136.000	176.000	313.000	379.000	3300.000	
TOTAL	NI AA	PPM	276	1.000	4.000	8.000	19.000	21.000	28.000	36.000	60.000	68.000	85.000	
TOTAL	MO AA	PPM	162	1.000	1.000	2.000	3.000	3.000	4.000	6.000	15.000	21.000	23.000	
TOTAL	AG AA	PPM	65	.100	.800	.400	1.500	1.600	3.600	21.200	40.000	40.000	40.000	
TOTAL	AU FAA	PPB	160	5.000	9.000	12.000	19.000	19.000	43.000	96.000	377.000	2200.000	22600.000	

1. .DATE 18 JAN 83 11:38:37 RID 9 13 JAN 83 PHANK
 2. *CHEMICAL LAB ANALYSIS REPORT FOR TCHAIKAZAN RIVER PROJECT LAB : CHX (TYPE F)
 3. *RS,PRJYR .ROCK,SAMPLE,CU .PB .ZN .NI .MO .AU .AG
 4. * .1982 . NUMBER,AA(PPH),AA(PPH),AA(PPH),AA(PPH),AA(PPH),FAA(PPB)AA(PPH)
 5. *****

6.	80 00182	CLO009	13	5	176	6	0			0.0
7.	80 00182	CLO060	8	0	116	2	1	17		0.0
8.	80 00182	CLO063	36	0	79	12	0	12		0.0
9.	80 00182	CLO065	213	0	70	0	0	14		0.0
10.	80 00182	CLO066	42	4	111	7	0	19		0.0
11.	80 00182	CLO067	60	0	70	16	0	7		0.0
12.	80 00182	CLO068	56	0	96	7	0	0		0.0
13.	80 00182	CLO084	24	3	44	8	0	12		0.0
14.	80 00182	CLO086	46	2	54	85	0	19		0.0
15.	80 00182	CLO095	37	0	83	18	8	5		0.0
16.	80 00182	CLO113	41	3	63	23	0	17		0.0
17.	80 00182	CLO116	22	4	80	11	0	17		0.0
18.	80 00182	CLO120	27	5	35	9	0	17		0.0
19.	80 00182	CLO123	30	5	46	9	4	17		0.0
20.	80 00182	CLO127	34	6	46	10	4	14		0.0
21.	80 00182	CLO130	11	3	88	8	1	31		0.0
22.	80 00182	CLO131	58	6	75	19	3	14		0.0
23.	80 00182	CLO152	72	13	139	16	2	9		0.0
24.	80 00182	CLO156	50	18	88	15	2	10		0.0
25.	80 00182	CLO187	433	6	168	2	0	7		5.6
26.	80 00182	000002	14	15	70	4	0	60		0.0
27.	80 00182	000003	3	4	25	0	0	9		0.0
28.	80 00182	000004	41	0	88	12	1	0		0.0
29.	80 00182	000008	20	27	69	4	0	9		0.0
30.	80 00182	000010	2	0	22	1	0	0		0.0
31.	80 00182	000011	3	0	50	26	1	0		0.0
32.	80 00182	000016	68	40	72	18	0	7		0.0
33.	80 00182	000017	38	27	69	4	0	7		0.0
34.	80 00182	000024	17	140	39	5	0	281		1.6
35.	80 00182	000028	8	14	20	4	2	9		0.0
36.	80 00182	000035	10	0	124	12	1	0		0.0
37.	80 00182	000036	45	0	94	12	2	0		0.0
38.	80 00182	000040	6	0	113	1	2	0		0.0
39.	80 00182	000041	9	13	240	5	2	0		0.0
40.	80 00182	000043	48	0	122	2	2	0		0.0
41.	80 00182	000044	28	1	75	13	4	0		0.0
42.	80 00182	000045	21	0	22	2	0	0		0.0
43.	80 00182	000046	5	6	13	0	2	0		0.0
44.	80 00182	000050	4	9	48	0	0	0		0.0
45.	80 00182	000057	25	0	40	0	3	12		0.0
46.	80 00182	000058	29	3	60	0	3	6		0.0
47.	80 00182	000059	75	0	40	5	2	0		0.0
48.	80 00182	000069	21	0	41	7	0	16		1.0
49.	80 00182	000072	23	0	50	9	0	9		1.6
50.	80 00182	000090	50	2	66	28	7	19		0.0
51.	80 00182	000091	104	235	369	21	1	377		21.2
52.	80 00182	000093	330	13	76	10	2	21		0.3
53.	80 00182	02VN 000098	57	12	110	0	0	21		0.0
54.	80 00182	000099	29	12	58	8	0	26		0.0
55.	80 00182	000101	108	11	75	6	2	19		0.0
56.	80 00182	000116	64	13	109	7	2	12		0.0
57.	80 00182	000117	30	13	94	6	1	17		0.0
58.	80 00182	000118	8	8	50	1	3	7		0.0
59.	80 00182	000119	40	14	87	6	2	9		0.0

60.	80 00182	000136	13	10	32	3	0	7	0.0
61.	80 00182	000156	66	11	49	1	1	0	0.0
62.	80 00182	000165	200	5	40	3	3	7	0.0
63.	80 00182	000177	10	2	49	5	0	0	0.0
64.	80 00182	000179	10	10	49	1	0	0	0.0
65.	80 00182	000180	17	2	56	5	0	0	0.0
66.	80 00182	000181	52	6	68	17	1	7	0.0
67.	80 00182	000186	15	1	29	4	3	7	0.0
68.	80 00182	000188	39	0	57	8	3	9	0.0
69.	80 00182	000190	27	3	44	0	1	19	0.0
70.	80 00182	000204	35	2	74	5	2	12	0.0
71.	80 00182	000207	16	2	39	1	1	14	0.0
72.	80 00182	000213	28	0	32	2	1	7	0.0
73.	80 00182	000218	19	1	9	0	15	9	0.0
74.	80 00182	000219	39	0	10	0	8	240	0.0
75.	80 00182	000227	67	0	85	3	1	113	0.0
76.	80 00182	DN0001	45	0	75	9	0	0	0.0
77.	80 00182	DN0003	55	0	80	15	0	0	0.0
78.	80 00182	DN0004	20	0	69	2	2	67	0.0
79.	80 00182	DN0005	22	0	27	1	0	7	0.0
80.	80 00182	DN0006	29	0	23	0	0	12	0.0
81.	80 00182	DN0008	18	1	64	30	1	9	0.0
82.	80 00182	DN0025	56	3	64	5	2	9	0.0
83.	80 00182	DN0027	38	1	72	2	1	9	0.0
84.	80 00182	DN0028	16	1	36	3	0	12	0.0
85.	80 00182	JB0010	25	0	39	50	2	14	0.0
86.	80 00182	JB0012	15	0	41	12	0	14	0.0
87.	80 00182	JB0014	16	5	22	3	0	0	0.0
88.	80 00182	JR0001	8050	0	166	9	0	0	0.0
89.	80 00182	JR0002	27	5	25	5	4	0	0.0
90.	80 00182	JR0003	88	0	105	11	1	0	0.0
91.	80 00182	JR0006	38	5	48	8	5	0	0.0
92.	80 00182	JR0007	50	0	97	6	0	0	0.0
93.	80 00182	JR0008	37	0	95	8	0	0	0.0
94.	80 00182	JR0009	46	0	41	1	0	0	0.0
95.	80 00182	JR0013	13	4	23	3	0	0	0.0
96.	80 00182	JR0015	17	6	48	23	0	12	0.0
97.	80 00182	JR0016	7	6	24	22	0	24	0.0
98.	80 00182	JR0017	28	9	58	5	1	21	0.0
99.	80 00182	JR0018	13	2	41	3	3	12	0.0
100.	80 00182	JR0019	82	1	108	8	1	7	0.0
101.	80 00182	JR0024	80	6	60	5	0	7	0.0
102.	80 00182	JR0025	72	11	39	5	0	9	0.0
103.	80 00182	JR0026	108	4	140	1	2	7	0.0
104.	80 00182	KL0008	136	14	25	8	23	7	0.0
105.	80 00182	KL0018	101	0	21	2	0	12	0.0
106.	80 00182	KL0028	86	0	53	3	0	0	0.0
107.	80 00182	KL0032	79	0	97	17	0	14	0.0
108.	80 00182	KL0033	39	20	35	13	0	12	0.0
109.	80 00182	KL0035	9	0	18	2	2	0	0.0
110.	80 00182	KL0038	31	0	69	33	0	0	0.0
111.	80 00182	KL0043	27	0	115	25	2	0	0.0
112.	80 00182	KL0047	31	0	88	31	1	0	0.0
113.	80 00182	KL0051	67	0	136	19	1	0	0.0
114.	80 00182	KL0052	36	0	115	25	1	0	0.0
115.	80 00182	KL0053	85	0	34	28	3	0	0.0
116.	80 00182	KL0055	11	99	41	4	0	0	0.9
117.	80 00182	KL0058	36	15	135	10	1	0	0.4
118.	80 00182	KL0059	26	5	208	7	3	0	0.0

119.	80 00182	KL0061	169	0	110	6	3	0	0.4
120.	80 00182	KL0062	461	0	33	3	1	19	3.6
121.	80 00182	KL0065	27	0	28	9	2	0	
122.	80 00182	KL0066	60	0	128	15	3	0	0.0
123.	80 00182	KL0069	46	2	40	4	3	0	
124.	80 00182	KL0071	13	0	17	4	0	19	
125.	80 00182	KL0074	48	0	19	5	3	0	
126.	80 00182	KL0076	68	0	98	20	1	0	
127.	80 00182	KL0077	441	2	18	4	2	0	
128.	80 00182	KL0079	60	0	92	6	0	0	
129.	80 00182	KL0080	155	1	78	7	2	0	
130.	80 00182	KL0081	33	0	94	22	0	0	
131.	80 00182	KL0082	3853	0	100	3	0	0	
132.	80 00182	KL0087	60	0	101	33	1	0	
133.	80 00182	KL0088	62	2	80	19	0	0	
134.	80 00182	KL0089	14	0	59	10	1	0	
135.	80 00182	KL0090	9	0	65	8	0	0	
136.	80 00182	KL0091	16	0	59	8	0	0	
137.	80 00182	KL0092	13	0	62	10	0	0	
138.	80 00182	KL0093	19	1	67	9	0	0	
139.	80 00182	KL0094	9	8	116	1	0	0	
140.	80 00182	KL0096	71	36	150	20	0	0	
141.	80 00182	KL0097	4	4	62	0	0	0	
142.	80 00182	KL0098	22	0	108	12	0	0	
143.	80 00182	KL0099	7	1	74	7	0	0	
144.	80 00182	KL0100	12	0	63	6	0	0	
145.	80 00182	KL0101	23	0	112	22	0	0	
146.	80 00182	KL0102	33	0	313	13	0	0	
147.	80 00182	KL0103	1529	0	138	27	0	0	
148.	80 00182	KL0104	54	0	80	33	0	0	
149.	80 00182	KL0105	37	0	69	19	0	0	
150.	80 00182	KL0106	2312	0	47	5	0	21	
151.	80 00182	KL0107	7	0	49	6	0	0	
152.	80 00182	KL0108	11	0	75	4	0	0	
153.	80 00182	KL0109	6	0	43	5	0	0	
154.	80 00182	KL0110	7	9	32	5	0	0	
155.	80 00182	KL0112	52	0	63	33	0	0	
156.	80 00182	KL0113	27	1	49	3	0	0	
157.	80 00182	KL0116	43	0	91	53	0	0	
158.	80 00182	KL0118	9	0	42	6	0	0	
159.	80 00182	KL0119	4	2	97	0	0	0	
160.	80 00182	KL0120	5	8	123	0	0	0	
161.	80 00182	KL0124	38	12	91	30	2	19	0.0
162.	80 00182	KL0125	8	6	28	4	2	21	0.0
163.	80 00182	KL0129	10	195	19	13	1	2200	23.9
164.	80 00182	KL0134	49	3	68	15	1	12	0.0
165.	80 00182	KL0135	75	4	60	15	1	9	0.2
166.	80 00182	KL0136	51	0	63	15	0	19	1.4
167.	80 00182	KL0137	25	0	14	2	6	19	1.9
168.	80 00182	KL0139	48	0	91	9	0	29	1.6
169.	80 00182	KL0140	25	0	65	22	0	21	1.4
170.	80 00182	KL0141	31	0	88	22	0	17	1.9
171.	80 00182	KL0142	26	0	78	16	0	24	1.0
172.	80 00182	KL0143	32	0	82	19	0	21	0.9
173.	80 00182	KL0144	50	0	69	36	0	21	1.5
174.	80 00182	KL0145	22	0	70	11	0	19	0.7
175.	80 00182	KL0146	29	0	68	14	0	17	1.4
176.	80 00182	KL0147	26	0	65	17	0	12	1.3
177.	80 00182	KL0148	31	0	66	4	3	17	1.8

178.	80 00182	KL0152	13	1	25	3	0	55	0.0
179.	80 00182	KL0154	19	1	37	7	0	9	0.0
180.	80 00182	KL0157	84	3	70	6	4	9	0.0
181.	80 00182	KL0158	45	2	54	21	2	21	0.0
182.	80 00182	KL0163	101	16	100	13	1	94	0.9
183.	80 00182	KL0164	72	13	119	8	1	7	0.0
184.	80 00182	KL0165	27	14	69	7	4	43	0.0
185.	80 00182	KL0171	2350	13	140	1	0	24	0.8
186.	80 00182	KL0172	36	8	53	5	0	9	0.2
187.	80 00182	KL0173	56	9	63	15	0	8	0.0
188.	80 00182	KL0175	8	9	62	8	0	43	0.0
189.	80 00182	KL0179	22	3	24	5	0	14	0.0
190.	80 00182	KL0180	64	12	55	1	4	96	0.2
191.	80 00182	KL0186	59	0	47	22	0	7	0.0
192.	80 00182	KL0187	20	4	74	5	0	120	0.0
193.	80 00182	KL0188	19	0	48	6	0	12	0.0
194.	80 00182	KL0200	270	0	17	5	3	17	0.0
195.	80 00182	KL0201	17	0	68	2	3	9	0.0
196.	80 00182	KL0203	65	2	43	2	1	12	0.0
197.	80 00182	KL0206	87	0	82	1	1	9	0.0
198.	80 00182	KL0208	92	2	41	3	2	12	0.4
199.	80 00182	KL0209	96	0	70	8	1	14	0.0
200.	80 00182	KL0211	50	0	78	2	0	14	0.0
201.	80 00182	KL0217	11	0	57	21	0	24	0.0
202.	80 00182	KL0223	35	1	11	4	2	19	0.0
203.	80 00182	KL0224	43	6	55	0	2	12	0.0
204.	80 00182	KL0226	33	5	79	3	1	14	0.0
205.	80 00182	KL0230	105	0	67	15	0	17	0.0
206.	80 00182	KL0231	6	0	28	0	0	7	0.0
207.	80 00182	KL0232	10	0	197	0	0	5	0.0
208.	80 00182	KL0233	57	11	27	4	2	7	0.0
209.	80 00182	KL0236	89	4	46	7	2	7	0.0
210.	80 00182	KL0237	271	26	49	4	6	0	1.9
211.	80 00182	KL0238	92	4	22	5	2	12	0.0
212.	80 00182	KL0242	72	4	21	21	2	9	0.0
213.	80 00182	KL0243	87	3	66	67	2	0	0.0
214.	80 00182	KL0244	52	4	40	45	0	0	0.4
215.	80 00182	KL0245	147	31	3300	43	2	0	0.9
216.	80 00182	KL0249	66	13	150	37	2	0	0.0
217.	80 00182	KL0251	38	10	74	68	3	0	0.2
218.	80 00182	KL0252	18	2	50	35	0	0	0.0
219.	80 00182	KL0253	8	6	46	6	0	12	0.0
220.	80 00182	KL0254	35	6	97	27	0	14	0.0
221.	80 00182	KL0256	69	2	51	21	2	0	0.1
222.	80 00182	KL0257	70	3	55	21	2	0	0.1
223.	80 00182	KL0259	1050	20	200	5	1	14	40.0
224.	80 00182	KL0560	72	3	61	1	1	0	0.0
225.	80 00182	KR0008	31	420	174	4	0	9	0.0
226.	80 00182	PH1000	68	1	27	0	2	7	0.0
227.	80 00182	PH1001	4100	19	156	2	1	21	1.2
228.	80 00182	PH1002	201	5	20	0	0	9	0.1
229.	80 00182	PH1003	100	4	45	0	1	9	0.0
230.	80 00182	PH1004	147	4	24	0	1	9	0.0
231.	80 00182	PH1010	29	63	97	20	2	14	1.1
232.	80 00182	PH1011	30	33	90	24	2	10	1.1
233.	80 00182	PH1012	105	19	41	27	6	17	1.3
234.	80 00182	PH1013	41	20	118	63	3	14	1.6
235.	80 00182	PH1014	61	9	101	0	2	12	0.8
236.	80 00182	PH1015	82	140	314	19	2	0	1.3

237.	80 00182	PH1016	35	32	145	9	1	7	1.1
238.	80 00182	PH1017	78	20	139	19	2	0	1.4
239.	80 00182	PH1018	44	11	102	27	1	7	0.9
240.	80 00182	PH1020	27	11	91	18	2	8	0.9
241.	80 00182	PH1021	50	8	73	0	1	19	0.8
242.	80 00182	PH1022	93	32	87	0	8	22600	12.9
243.	80 00182	PH1023	59	9	85	18	2	19	0.8
244.	80 00182	PH1024	45	11	123	5	2	12	0.8
245.	80 00182	PH1025	14	9	84	2	2	7	0.7
246.	80 00182	PH1026	28	13	103	11	2	9	1.1
247.	80 00182	PH1027	53	9	80	17	2	14	0.8
248.	80 00182	PH1028	25	15	83	16	2	0	1.0
249.	80 00182	PH1029	47	9	89	23	1	7	0.7
250.	80 00182	PH1030	29	16	80	28	2	0	0.8
251.	80 00182	PH1031	48	17	121	28	2	14	0.8
252.	80 00182	PH1032	57	13	114	22	3	7	0.8
253.	80 00182	PH1033	53	16	110	26	1	19	0.9
254.	80 00182	PH1034	30	15	78	17	4	7	1.2
255.	80 00182	RP0002	36	10	42	0	0	0	0.0
256.	80 00182	RP0016	68	2021	290	0	5	96	3.4
257.	80 00182	RP0017	45	3	178	10	0	0	0.0
258.	80 00182	RP0018	37	6	35	1	0	0	0.0
259.	80 00182	RP0020	30	79	96	0	0	0	0.0
260.	80 00182	RP0024	214	0	76	0	0	0	0.0
261.	80 00182	RP0026	50	0	48	1	0	0	0.0
262.	80 00182	RP0029	1247	0	30	1	3	0	0.0
263.	80 00182	RP0030	20	0	80	4	0	0	0.0
264.	80 00182	RP0031	1078	0	37	3	1	0	0.0
265.	80 00182	RP0039	174	0	63	15	1	0	0.0
266.	80 00182	RP0042	2561	0	182	28	1	0	0.6
267.	80 00182	RP0045	83	2	127	21	0	0	0.0
268.	80 00182	RP0047	3	3	51	6	2	0	0.0
269.	80 00182	RP0049	5	49	81	4	0	0	0.0
270.	80 00182	RP0050	4	3	13	0	2	0	0.0
271.	80 00182	RP0052	52	0	113	17	1	0	0.0
272.	80 00182	RP0054	219	178	734	1	2	0	0.0
273.	80 00182	RP0057	48	8	158	8	0	0	0.0
274.	80 00182	RP0058	66	0	161	20	0	0	0.0
275.	80 00182	RP0059	12	1	27	10	0	0	0.0
276.	80 00182	RP0060	1401	1	136	9	0	0	0.0
277.	80 00182	RP0061	26	1	116	20	0	0	0.0
278.	80 00182	RP0062	71	0	101	32	0	0	0.0
279.	80 00182	RP0063	19	0	73	6	1	53	0.0
280.	80 00182	RP0065	71	0	112	42	0	0	0.0
281.	80 00182	RP0067	16	2	48	17	1	0	0.0
282.	80 00182	RP0068	93	1	55	9	0	9	0.0
283.	80 00182	RP0069	2	6	10	0	4	5	0.0
284.	80 00182	RP0071	63	19	300	14	4	7	0.0
285.	80 00182	RP0077	21	4	21	3	3	0	0.0
286.	80 00182	RP0078	55	3	60	4	1	9	0.0
287.	80 00182	RP0082	18	3	43	10	4	13	0.0
288.	80 00182	RP0095	42	0	45	6	0	0	0.0
289.	80 00182	SB0011	14	24	33	8	0	9	0.0
290.	80 00182	SB0012	30	30	110	9	0	9	0.0
291.	80 00182	SB0015	2250	14	62	10	0	12	0.0
292.	80 00182	SB0016	10	30	14	3	0	0	0.0
293.	80 00182	SB0017	42	0	74	26	0	0	0.0
294.	80 00182	SB0022	11	3	87	7	0	0	0.0
295.	80 00182	SB0023	13	3	62	7	0	0	0.0

296.	80 00182	S80024	9	2	75	9	0	0	
297.	80 00182	S80025	4	2	46	8	0	0	
298.	80 00182	S80026	36	3	128	35	0	0	
299.	80 00182	S80027	11	0	40	7	0	0	
300.	80 00182	S80028	39	12	186	7	0	0	
301.	80 00182	S80029	44	0	379	16	3	0	
302.	80 00182	S80041	53	3	96	7	2	9	0.0
303.	80 00182	S80044	70	2	74	69	1	7	0.0
304.	80 00182	S80046	20	2	57	10	1	7	0.0
305.	80 00182	S80047	62	2	48	46	2	9	0.0
306.	80 00182	S80048	100	3	78	4	3	9	0.0
307.	80 00182	S80049	147	0	23	6	21	9	0.0
308.	80 00182	S80053	5	9	50	0	0	7	0.0
309.	80 00182	S80055	71	40	123	60	2	7	0.0
310.	80 00182	S80058	50	15	94	20	0	7	0.0
311.	80 00182	S80061	45	14	81	25	2	19	0.9
312.	80 00182	S80079	71	2	120	0	0	9	0.0
313.	80 00182	S80081	19	0	70	7	1	12	0.0
314.	50 00182	104818	55	4	57	40	3		0.0
315.	50 00182	106036	26	13	58	25	2		0.0
316.	50 00182	106037	166	12	20	20	11		0.3
317.	50 00182	106039	38	11	25	20	1		0.0
318.	50 00182	106591	64	15	77	36	2		0.0
319.	50 00182	106732	43	13	66	36	0		0.0
320.	50 00182	113380	28	12	65	15	0		0.0
321.	50 00182	113382	24	11	60	12	0		0.0
322.	50 00182	113383	20	11	43	11	0		0.0
323.	50 00182	113463	36	13	66	30	0		0.0
324.	50 00182	114160	56	14	23	12	3		0.2
325.	50 00182	114196	53	3	90	26	0		0.0
326.	50 00182	114197	50	3	95	27	0		0.0
327.	50 00182	114198	30	3	40	24	0		0.0
328.	50 00182	114202	31	4	180	22	1		0.0
329.	50 00182	114203	35	4	100	18	1		0.0
330.	50 00182	114204	40	4	63	18	2		0.0
331.	50 00182	114205	31	4	145	27	1		0.0
332.	50 00182	114206	52	6	153	40	1		0.0
333.	50 00182	114207	31	5	153	33	1		0.0
334.	50 00182	114208	26	5	164	27	2		0.0
335.	50 00182	114209	27	6	128	30	2		0.0
336.	50 00182	114210	66	6	117	43	2		0.0
337.	50 00182	114211	38	2	210	24	2		0.0
338.	50 00182	114212	20	2	72	15	1		0.0
339.	50 00182	114213	10	3	49	7	1		0.0
340.	50 00182	114214	36	4	39	14	2		0.0
341.	50 00182	114215	36	3	119	16	2		0.0
342.	50 00182	114216	72	3	185	59	3		0.0
343.	50 00182	114217	95	3	302	55	2		0.0
344.	50 00182	114218	77	6	229	40	0		0.0
345.	50 00182	114219	37	2	285	16	0		0.0
346.	50 00182	114220	42	6	60	34	0		0.0
347.	50 00182	114221	30	3	88	33	0		0.0
348.	50 00182	114222	66	5	260	44	0		0.0
349.	50 00182	114223	23	4	53	26	0		0.0
350.	50 00182	114224	48	4	65	28	0		0.0
351.	50 00182	114226	57	5	100	28	0		0.0
352.	50 00182	114227	26	5	195	15	0		0.0
353.	50 00182	114228	25	2	37	20	0		0.0
354.	50 00182	114229	33	11	50	26	0		0.0

355.	50 00182	114230	22	10	57	20	0	0.0
356.	50 00182	114231	24	11	53	17	0	0.0
357.	50 00182	114232	46	10	24	14	0	0.0
358.	50 00182	114233	48	7	30	18	0	0.0
359.	50 00182	114234	44	11	45	15	0	0.0
360.	50 00182	114235	20	9	30	13	0	0.0
361.	50 00182	114236	45	17	72	27	0	0.0
362.	50 00182	114237	28	3	56	24	0	0.0
363.	50 00182	114238	195	41	270	30	5	0.3
364.	50 00182	114239	37	13	50	27	0	0.0
365.	50 00182	114240	91	9	168	29	1	0.0
366.	50 00182	114241	66	6	140	48	4	0.0
367.	50 00182	114243	44	14	78	58	0	0.0
368.	50 00182	114244	40	14	82	43	0	0.0
369.	50 00182	114245	26	12	66	28	0	0.0
370.	50 00182	114246	17	5	78	22	0	0.0
371.	50 00182	114247	10	6	34	12	0	0.0
372.	50 00182	114248	24	4	46	24	0	0.0
373.	50 00182	114249	27	2	44	23	0	0.0
374.	50 00182	114251	52	7	217	26	2	0.0
375.	50 00182	114471	13	11	50	12	0	0.0
376.	50 00182	114665	18	5	95	13	2	0.0
377.	50 00182	115488	56	12	76	22	0	0.0
378.	50 00182	115489	42	13	66	26	0	0.0
379.	50 00182	115490	24	11	48	20	0	0.0
380.	50 00182	115491	27	12	45	27	0	0.0
381.	50 00182	115492	33	10	58	24	0	0.0
382.	50 00182	115493	30	11	59	26	0	0.0
383.	50 00182	115494	22	13	77	24	0	0.0
384.	50 00182	115495	46	18	90	45	0	0.0
385.	50 00182	115496	51	21	95	45	0	0.0
386.	50 00182	115497	45	18	82	46	0	0.0
387.	50 00182	115498	45	19	107	47	0	0.0
388.	50 00182	115499	43	18	115	44	0	0.0
389.	50 00182	115500	30	15	92	39	0	0.0
390.	50 00182	140000	91	1	186	17	2	0.0
391.	50 00182	140001	135	1	58	18	0	0.0
392.	50 00182	140002	207	2	56	17	2	0.0
393.	50 00182	140003	75	8	178	22	2	0.0
394.	50 00182	140004	75	9	177	21	3	0.0
395.	50 00182	140005	77	8	163	20	2	0.0
396.	50 00182	140006	388	2	58	11	17	0.5
397.	50 00182	140007	378	2	68	12	14	0.0
398.	50 00182	140008	190	2	75	13	9	0.0
399.	50 00182	140009	214	10	177	16	2	0.0
400.	50 00182	140010	206	6	184	15	3	0.0
401.	50 00182	140011	132	4	223	15	3	0.0
402.	50 00182	140012	123	2	76	19	3	0.0
403.	50 00182	140013	98	2	105	20	3	0.0
404.	50 00182	140014	84	2	110	19	2	0.0
405.	50 00182	140015	76	16	95	21	0	0.0
406.	50 00182	140016	75	12	71	20	0	0.0
407.	50 00182	140017	132	14	76	17	0	0.0
408.	50 00182	140018	350	12	52	20	0	0.0
409.	50 00182	140019	112	12	44	17	1	0.0
410.	50 00182	140020	62	12	64	20	1	0.0
411.	50 00182	140021	86	11	53	20	1	0.0
412.	50 00182	140022	22	8	32	6	3	0.0
413.	50 00182	140023	270	10	74	15	1	0.0

MAPPER SYSTEM

414.	50 00182	140024	109	10	56	18	1	0.0
415.	50 00182	140025	16	10	28	4	1	0.0
416.	50 00182	140026	72	16	93	21	1	0.0
417.	50 00182	140027	59	14	79	22	1	0.0
418.	50 00182	140028	96	14	57	18	1	0.0
419.	50 00182	140029	75	12	44	20	1	0.0
420.	50 00182	140030	54	12	73	8	0	0.0
421.	50 00182	140031	102	10	44	19	0	0.0
422.	50 00182	140032	9	6	20	1	0	0.0
423.	50 00182	140033	18	10	15	1	0	0.0
424.	50 00182	140034	78	16	20	7	0	0.0
425.	50 00182	140035	108	16	50	17	0	0.0
426.	50 00182	140036	58	12	70	9	0	0.0
427.	50 00182	140037	50	14	65	10	0	0.0
428.	50 00182	140038	61	16	80	14	0	0.0
429.	50 00182	140039	71	16	73	9	0	0.0
430.	50 00182	140040	54	12	73	8	0	0.0
431.	50 00182	140041	79	12	80	8	0	0.0
432.	50 00182	140042	80	14	88	10	0	0.0
433.	50 00182	140043	62	10	79	9	0	0.0
434.	50 00182	140044	42	12	85	9	0	0.0
435.	50 00182	140045	64	9	73	9	0	0.0
436.	50 00182	140046	58	10	58	7	0	0.0
437.	50 00182	140047	46	9	74	8	0	0.0
438.	50 00182	140048	48	10	63	8	0	0.0
439.	50 00182	140049	62	10	58	7	0	0.0
440.	50 00182	140050	56	12	58	8	0	0.0
441.	50 00182	140051	86	10	65	12	0	0.0
442.	50 00182	140052	74	10	65	9	0	0.0
443.	50 00182	140053	68	12	62	8	0	0.0
444.	50 00182	140054	78	13	64	9	0	0.0
445.	50 00182	140056	17	10	58	19	0	0.0
446.	50 00182	140057	24	10	59	18	0	0.0
447.	50 00182	140058	19	10	45	26	0	0.0
448.	50 00182	140059	17	8	83	17	0	0.0
449.	50 00182	140060	44	9	38	20	0	0.0
450.	50 00182	140061	24	8	35	18	0	0.0
451.	50 00182	140062	8	9	34	9	0	0.0
452.	50 00182	140063	28	10	38	21	0	0.0
453.	50 00182	140064	24	12	51	16	0	0.0
454.	50 00182	140065	32	10	85	23	0	0.0
455.	50 00182	140066	29	10	80	23	0	0.0
456.	50 00182	140067	23	11	45	28	0	0.0
457.	50 00182	140068	44	10	27	13	0	0.0
458.	50 00182	140069	32	12	40	21	0	0.0
459.	50 00182	140070	55	10	17	10	0	0.0
460.	50 00182	140071	27	11	45	34	0	0.0
461.	50 00182	140072	32	12	32	17	0	0.0
462.	50 00182	140073	23	12	44	18	0	0.0
463.	50 00182	140074	27	10	49	19	0	0.0
464.	50 00182	140075	25	12	39	17	0	0.0
465.	50 00182	140076	36	10	58	20	0	0.0
466.	50 00182	140077	48	10	42	20	0	0.0
467.	50 00182	140078	52	10	48	21	0	0.0
468.	50 00182	140079	42	12	74	16	0	0.0
469.	50 00182	140080	22	11	75	19	0	0.0
470.	50 00182	140081	27	12	85	19	0	0.0
471.	50 00182	140082	26	12	90	10	0	0.0
472.	50 00182	140083	28	12	80	16	0	0.0

473.	50 00182	140084	56	16	53	18	0	0.0
474.	50 00182	140085	22	12	40	22	0	0.0
475.	50 00182	140086	20	10	37	18	0	0.0
476.	50 00182	140087	30	12	78	18	0	0.0
477.	50 00182	140088	10	10	32	17	0	0.0
478.	50 00182	140089	17	10	57	15	0	0.0
479.	50 00182	140090	14	12	73	15	0	0.0
480.	50 00182	140091	26	16	110	22	0	0.0
481.	50 00182	140092	19	11	77	15	0	0.0
482.	50 00182	140093	20	14	60	16	0	0.0
483.	50 00182	140094	25	14	64	20	0	0.0
484.	50 00182	140095	30	10	40	19	0	0.0
485.	50 00182	140096	46	12	63	20	0	0.0
486.	50 00182	140097	26	10	40	17	0	0.0
487.	50 00182	140098	24	10	35	23	0	0.0
488.	50 00182	140099	36	12	62	34	0	0.0
489.	50 00182	140100	11	10	40	24	0	0.0
490.	50 00182	140101	28	8	38	12	0	0.0
491.	50 00182	140102	32	10	47	21	0	0.0
492.	50 00182	140103	38	40	56	16	0	0.0
493.	50 00182	140104	24	0	39	16	0	0.0
494.	50 00182	140105	11	3	88	8	0	0.0
495.	50 00182	140107	86	14	65	9	0	0.0
496.	50 00182	140108	86	13	63	9	0	0.0
497.	50 00182	140109	72	12	62	9	0	0.0
498.	50 00182	140110	64	12	68	9	0	0.0
499.	50 00182	140111	74	14	66	12	0	0.0
500.	50 00182	140112	62	13	50	19	0	0.0
501.	50 00182	140113	64	13	66	21	0	0.0
502.	50 00182	140114	20	10	45	12	0	0.0
503.	50 00182	140115	20	10	52	9	0	0.0
504.	50 00182	140116	40	14	54	18	0	0.0
505.	50 00182	140117	118	12	48	14	0	0.0
506.	50 00182	140118	150	18	95	28	0	0.0
507.	50 00182	140119	52	12	48	17	0	0.0
508.	50 00182	140120	92	10	42	17	0	0.0
509.	50 00182	140121	18	11	52	9	0	0.0
510.	50 00182	140122	29	14	47	11	0	0.0
511.	50 00182	140123	37	11	48	15	0	0.0
512.	50 00182	140124	34	12	65	16	0	0.0
513.	50 00182	140125	26	12	45	17	0	0.0
514.	50 00182	140126	28	12	40	12	0	0.0
515.	50 00182	140127	24	10	35	12	0	0.0
516.	50 00182	140128	36	10	48	14	0	0.0
517.	50 00182	140129	60	9	42	15	0	0.0
518.	50 00182	140130	52	13	42	15	0	0.0
519.	50 00182	140131	47	14	43	18	0	0.0
520.	50 00182	140132	20	10	40	9	0	0.0
521.	50 00182	140133	44	10	37	15	0	0.0
522.	50 00182	140134	24	11	45	10	0	0.0
523.	50 00182	140135	30	10	36	12	0	0.0
524.	50 00182	140136	24	10	40	11	0	0.0
525.	50 00182	140137	48	12	56	14	0	0.0
526.	50 00182	140138	42	10	39	16	0	0.0
527.	50 00182	140139	36	10	60	14	0	0.0
528.	50 00182	140140	32	10	40	17	2	0.0
529.	50 00182	140141	50	0	58	14	3	0.0
530.	50 00182	140142	62	12	55	17	2	0.0
531.	50 00182	140143	60	10	45	19	2	0.0

532.	50 00182	140144	59	10	39	17	1	0.0
533.	50 00182	140145	78	10	41	17	2	0.0
534.	50 00182	140146	36	12	61	17	1	0.0
535.	50 00182	140147	58	12	56	19	1	0.0
536.	50 00182	140148	54	13	66	20	1	0.0
537.	50 00182	140149	58	10	57	17	2	0.0
538.	50 00182	140150	46	10	54	18	0	0.0
539.	50 00182	140151	54	12	70	13	0	0.0
540.	50 00182	140152	56	12	68	18	0	0.0
541.	50 00182	140153	58	12	54	16	0	0.0
542.	50 00182	140154	56	10	52	17	0	0.0
543.	50 00182	140155	28	10	53	17	0	0.0
544.	50 00182	140156	56	10	72	15	0	0.0
545.	50 00182	140157	58	16	42	17	0	0.0
546.	50 00182	140158	58	10	51	17	0	0.0
547.	50 00182	140159	42	16	62	17	0	0.0
548.	50 00182	140160	22	10	48	18	0	0.0
549.	50 00182	140161	32	10	65	14	0	0.0
550.	50 00182	140162	32	9	35	10	0	0.0
551.	50 00182	140163	38	8	39	17	0	0.0
552.	50 00182	140164	32	10	65	16	0	0.0
553.	50 00182	140165	44	10	48	18	0	0.0
554.	50 00182	140166	50	9	77	18	0	0.0
555.	50 00182	140167	37	9	46	18	0	0.0
556.	50 00182	140168	32	9	46	18	0	0.0
557.	50 00182	140169	68	12	49	21	0	0.0
558.	50 00182	140170	42	10	25	11	0	0.0
559.	50 00182	140171	38	10	55	16	0	0.0
560.	50 00182	140172	22	10	68	5	0	0.0
561.	50 00182	140173	16	9	48	17	0	0.0
562.	50 00182	140174	24	11	73	17	0	0.0
563.	50 00182	140175	36	13	49	22	0	0.0
564.	50 00182	140176	24	12	73	18	0	0.0
565.	50 00182	140177	34	12	65	21	0	0.0
566.	50 00182	140178	28	12	72	23	0	0.0
567.	50 00182	140179	38	13	48	19	0	0.0
568.	50 00182	140180	32	11	44	19	0	0.0
569.	50 00182	140181	44	12	50	22	0	0.0
570.	50 00182	140182	28	12	85	18	0	0.0
571.	50 00182	140184	32	12	60	28	0	0.0
572.	50 00182	140185	17	9	51	12	0	0.0
573.	50 00182	140186	26	13	58	29	0	0.0
574.	50 00182	140187	58	13	55	35	0	0.0
575.	50 00182	140188	36	12	48	34	0	0.0
576.	50 00182	140189	22	12	55	28	0	0.0
577.	50 00182	140190	34	14	47	29	0	0.0
578.	50 00182	140191	40	16	58	45	0	0.0
579.	50 00182	140192	32	13	46	25	0	0.0
580.	50 00182	140193	32	13	51	30	0	0.0
581.	50 00182	140194	18	13	66	20	0	0.0
582.	50 00182	140195	36	15	66	31	0	0.0
583.	50 00182	140196	16	11	37	14	0	0.0
584.	50 00182	140197	19	10	33	7	0	0.0
585.	50 00182	140198	12	4	16	11	1	0.0
586.	50 00182	140199	24	5	32	18	1	0.0
587.	50 00182	140200	19	6	18	16	1	0.0
588.	50 00182	140201	22	6	13	13	1	0.0
589.	50 00182	140202	76	5	20	14	1	0.0
590.	50 00182	140203	48	5	18	12	1	0.0

591.	50 00182	140204	28	6	21	18	3	0.0
592.	50 00182	140205	25	4	22	21	2	0.0
593.	50 00182	140206	31	5	22	22	2	0.0
594.	50 00182	140207	56	11	52	9	0	0.0
595.	50 00182	140208	85	12	52	10	0	0.0
596.	50 00182	140209	28	18	93	14	2	0.0
597.	50 00182	140210	28	16	54	5	2	0.0
598.	50 00182	140211	54	12	52	9	0	0.0
599.	50 00182	140212	80	13	53	10	0	0.0
600.	50 00182	140213	18	10	55	13	0	0.0
601.	50 00182	140214	19	11	32	16	0	0.0
602.	50 00182	140215	23	12	33	12	0	0.0
603.	50 00182	140216	26	13	59	25	0	0.0
604.	50 00182	140217	21	13	46	14	0	0.0
605.	50 00182	140218	10	11	35	10	0	0.0
606.	50 00182	140219	46	48	77	22	0	0.0
607.	50 00182	140220	35	15	41	39	0	0.0
608.	50 00182	140221	42	156	62	27	0	0.0
609.	50 00182	140222	27	14	94	30	0	0.0
610.	50 00182	140223	33	14	68	34	0	0.0
611.	50 00182	140224	38	15	68	40	0	0.0
612.	50 00182	140225	21	14	66	25	0	0.0
613.	50 00182	140226	21	11	26	18	0	0.0
614.	50 00182	140227	19	14	66	27	0	0.0
615.	50 00182	140228	24	10	49	12	0	0.0
616.	50 00182	140229	12	10	40	11	0	0.0
617.	50 00182	140230	26	9	31	13	0	0.0
618.	50 00182	140231	14	10	51	12	0	0.0
619.	50 00182	140232	24	11	63	16	0	0.0
620.	50 00182	140233	20	10	45	14	0	0.0
621.	50 00182	140234	10	2	92	11	0	0.0
622.	50 00182	140235	15	3	68	12	0	0.0
623.	50 00182	140236	25	1	46	16	0	0.0
624.	50 00182	140237	22	2	43	15	0	0.0
625.	50 00182	140238	20	3	58	15	0	0.0
626.	50 00182	140239	27	1	58	18	0	0.0
627.	50 00182	140240	32	0	44	16	0	0.0
628.	50 00182	140241	19	3	56	15	0	0.0
629.	50 00182	140242	16	2	47	14	0	0.0
630.	50 00182	140243	19	3	87	16	0	0.0
631.	50 00182	140244	20	14	73	21	0	0.0
632.	50 00182	140245	20	12	81	16	0	0.0
633.	50 00182	140246	12	12	81	15	0	0.0
634.	50 00182	140247	30	18	10000	187	1	0.0
635.	50 00182	140248	16	11	95	16	0	0.0
636.	50 00182	140249	32	12	73	17	0	0.0
637.	50 00182	140250	26	12	66	17	0	0.0
638.	50 00182	140251	58	2	69	27	0	0.0
639.	50 00182	140252	23	0	37	16	0	0.0
640.	50 00182	140253	23	1	66	13	0	0.0
641.	50 00182	140254	16	0	95	15	0	0.0
642.	50 00182	140255	22	0	45	16	0	0.0
643.	50 00182	140256	34	0	56	19	0	0.0
644.	50 00182	140257	30	4	59	18	0	0.0
645.	50 00182	140258	34	4	63	26	0	0.0
646.	50 00182	140259	22	3	103	16	0	0.0
647.	50 00182	140260	20	0	44	14	0	0.0
648.	50 00182	140261	30	0	53	19	0	0.0
649.	50 00182	140262	37	2	62	23	0	0.0

650.	50 00182	140263	31	0	53	21	0	0.0
651.	50 00182	140264	29	0	54	21	0	0.0
652.	50 00182	140265	33	0	59	23	0	0.0
653.	50 00182	140266	31	0	54	34	0	0.0
654.	50 00182	140267	23	0	53	15	0	0.0
655.	50 00182	140268	40	0	55	23	2	0.0
656.	50 00182	140269	42	0	67	26	4	0.0
657.	50 00182	140270	39	1	84	24	0	0.0
658.	50 00182	140271	32	0	50	19	1	0.0
659.	50 00182	140272	42	0	55	23	0	0.0
660.	50 00182	140273	52	0	107	27	2	0.0
661.	50 00182	140274	66	0	61	24	2	0.0
662.	50 00182	140275	32	0	49	19	4	0.0
663.	50 00182	140276	25	0	42	15	2	0.0
664.	50 00182	140277	27	0	60	18	3	0.0
665.	50 00182	140278	19	0	46	16	2	0.0
666.	50 00182	140279	26	0	42	17	3	0.0
667.	50 00182	140280	35	0	48	23	2	0.0
668.	50 00182	140281	46	2	56	29	2	0.0
669.	50 00182	140282	33	2	56	22	1	0.0
670.	50 00182	140283	59	0	51	28	2	0.0
671.	50 00182	140284	167	1	50	31	0	0.0
672.	50 00182	140285	110	15	56	40	0	0.0
673.	50 00182	140286	84	0	72	40	1	0.0
674.	50 00182	140287	152	2	88	54	2	0.0
675.	50 00182	140288	51	1	54	31	1	0.0
676.	50 00182	140289	3	0	60	27	2	0.0
677.	50 00182	140290	84	13	43	28	3	0.0
678.	50 00182	140291	72	12	39	22	2	0.0
679.	50 00182	140292	52	11	38	19	2	0.0
680.	50 00182	140293	36	10	34	18	2	0.0
681.	50 00182	140294	64	11	36	18	2	0.0
682.	50 00182	140295	24	10	36	14	2	0.0
683.	50 00182	140296	22	10	31	14	0	0.0
684.	50 00182	140297	20	10	43	16	0	0.0
685.	50 00182	140298	15	10	62	12	0	0.0
686.	50 00182	140299	64	11	35	16	0	0.0
687.	50 00182	140300	104	11	42	19	0	0.0
688.	50 00182	140301	48	9	33	25	0	0.0
689.	50 00182	140302	44	11	52	22	0	0.0
690.	50 00182	140303	22	10	38	10	0	0.0
691.	50 00182	140304	40	12	33	21	0	0.0
692.	50 00182	140305	72	13	38	20	0	0.0
693.	50 00182	140306	22	10	55	16	0	0.0
694.	50 00182	140307	30	10	42	19	0	0.0
695.	50 00182	140308	18	10	52	17	0	0.0
696.	50 00182	140309	30	10	38	18	0	0.0
697.	50 00182	140310	26	10	67	16	0	0.0
698.	50 00182	140311	30	8	36	16	0	0.0
699.	50 00182	140312	28	10	40	17	0	0.0
700.	50 00182	140313	17	7	25	7	0	0.0
701.	50 00182	140314	158	11	38	15	0	0.0
702.	50 00182	140315	134	10	41	17	0	0.0
703.	50 00182	140316	74	10	33	12	0	0.0
704.	50 00182	140317	10	9	25	6	0	0.0
705.	50 00182	140318	32	9	37	18	0	0.0
706.	50 00182	140319	26	9	45	16	0	0.0
707.	50 00182	140320	22	9	44	16	0	0.0
708.	50 00182	140321	11	19	33	14	0	0.0

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709.	50 00182	140322	16	11	56	13	0	0.0
710.	50 00182	140323	21	10	50	14	0	0.0
711.	50 00182	140324	40	14	52	21	0	0.0
712.	50 00182	140325	48	10	34	12	0	0.0
713.	50 00182	140326	17	10	45	13	0	0.0
714.	50 00182	140327	16	9	32	16	0	0.0
715.	50 00182	140328	24	10	35	17	0	0.0
716.	50 00182	140329	44	11	51	20	0	0.0
717.	50 00182	140330	22	10	44	15	0	0.0
718.	50 00182	140331	44	10	53	15	0	0.0
719.	50 00182	140332	23	10	65	14	0	0.0
720.	50 00182	140333	38	11	69	18	0	0.0
721.	50 00182	140334	22	8	38	18	0	0.0
722.	50 00182	140335	16	8	28	9	0	0.0
723.	50 00182	140336	10	8	35	10	0	0.0
724.	50 00182	140337	23	8	32	10	0	0.0
725.	50 00182	140338	28	9	36	9	0	0.0
726.	50 00182	140339	66	12	60	12	0	0.0
727.	50 00182	140340	54	12	62	11	0	0.0
728.	50 00182	140341	64	12	67	11	0	0.0
729.	50 00182	140342	58	12	67	10	0	0.0
730.	50 00182	140343	50	10	65	10	0	0.0
731.	50 00182	140344	49	8	66	9	0	0.0
732.	50 00182	140345	55	12	64	9	0	0.0
733.	50 00182	140346	52	12	59	9	0	0.0
734.	50 00182	140347	68	13	62	14	0	0.0
735.	50 00182	140348	40	10	43	17	0	0.0
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737.	50 00182	140350	30	11	42	14	0	0.0
738.	50 00182	140351	62	11	63	10	0	0.0
739.	50 00182	140352	64	10	34	9	0	0.0
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741.	50 00182	140354	54	11	37	11	0	0.0
742.	50 00182	140355	26	12	40	11	0	0.0
743.	50 00182	140356	26	11	64	14	0	0.0
744.	50 00182	140357	26	10	55	19	0	0.0
745.	50 00182	140358	14	10	71	14	0	0.0
746.	50 00182	140359	50	10	48	15	0	0.0
747.	50 00182	140360	36	10	55	22	0	0.0
748.	50 00182	140361	84	12	72	12	0	0.0
749.	50 00182	140362	78	11	61	11	0	0.0
750.	50 00182	140363	74	11	56	9	0	0.0
751.	50 00182	140364	70	10	64	10	0	0.0
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762.	50 00182	140375	19	11	52	9	0	0.0
763.	50 00182	140376	34	12	40	11	0	0.0
764.	50 00182	140377	36	12	43	12	0	0.0
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766.	50 00182	140379	28	10	30	10	0	0.0
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769.	50 00182	140382	36	13	39	9	0	0.0
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776.	50 00182	140389	50	10	38	23	0	0.0
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778.	50 00182	140391	20	9	29	19	0	0.0
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783.	50 00182	140396	38	8	10	5	2	0.0
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786.	50 00182	140399	34	10	33	14	0	0.0
787.	50 00182	140400	28	30	110	7	0	0.0
788.	50 00182	140401	32	12	63	15	0	0.0
789.	50 00182	140402	52	16	90	19	0	0.0
790.	50 00182	140403	26	11	29	12	0	0.0
791.	50 00182	140404	50	10	40	22	2	0.0
792.	50 00182	140405	60	10	35	15	0	0.0
793.	50 00182	140406	122	14	45	16	0	0.0
794.	50 00182	140407	66	10	39	14	0	0.0
795.	50 00182	140408	43	10	34	15	0	0.0
796.	50 00182	140409	10	10	34	7	0	0.0
797.	50 00182	140410	24	9	36	11	0	0.0
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810.	50 00182	140423	16	0	47	12	0	0.0
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813.	50 00182	140426	12	0	79	10	1	0.0
814.	50 00182	140427	17	12	56	14	0	0.0
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824.	50 00182	140437	16	8	30	8	0	0.0
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827.	50 00182	140440	38	10	64	13	0	0.0
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830.	50 00182	140443	16	10	45	15	0	0.0
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833.	50 00182	140446	18	9	28	15	0	0.0
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859.	50 00182	140472	32	3	56	21	1	0.0
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873.	50 00182	140486	23	6	22	14	1	0.0
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876.	50 00182	140489	22	6	21	20	1	0.0
877.	50 00182	140490	26	3	21	20	1	0.0
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879.	50 00182	140492	17	3	22	12	1	0.0
880.	50 00182	140493	21	3	19	10	1	0.0
881.	50 00182	140494	78	2	35	35	2	0.2
882.	50 00182	140495	36	2	19	16	1	0.0
883.	50 00182	140496	38	1	20	16	1	0.0
884.	50 00182	140497	55	1	17	14	1	0.2
885.	50 00182	140498	67	2	20	14	1	0.2

886.	50 00182	140499	25	2	34	15	1	0.0
887.	50 00182	140500	28	14	115	22	0	0.0
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889.	50 00182	140502	24	10	83	17	0	0.0
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892.	50 00182	140505	30	11	100	22	0	0.0
893.	50 00182	140506	26	10	110	21	0	0.0
894.	50 00182	140507	58	16	80	14	0	0.0
895.	50 00182	140508	40	12	90	16	0	0.0
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897.	50 00182	140510	19	22	87	14	0	0.0
898.	50 00182	140511	32	14	92	17	0	0.0
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903.	50 00182	140516	18	24	125	11	0	0.0
904.	50 00182	140517	22	26	125	11	0	0.0
905.	50 00182	140518	24	28	130	14	0	0.0
906.	50 00182	140519	34	23	130	17	0	0.0
907.	50 00182	140520	34	22	130	16	0	0.0
908.	50 00182	140521	32	22	100	11	0	0.0
909.	50 00182	140522	37	14	37	27	0	0.0
910.	50 00182	140523	16	12	27	20	0	0.0
911.	50 00182	140524	33	12	29	21	0	0.0
912.	50 00182	140525	45	1	26	27	1	0.0
913.	50 00182	140526	30	1	21	23	1	0.0
914.	50 00182	140527	28	1	22	20	1	0.0
915.	50 00182	140528	36	2	35	22	2	0.0
916.	50 00182	140529	20	4	42	17	1	0.0
917.	50 00182	140530	18	2	21	14	1	0.0
918.	50 00182	140531	15	2	24	9	1	0.0
919.	50 00182	140532	19	1	24	9	1	0.0
920.	50 00182	140533	12	4	35	2	1	0.0
921.	50 00182	140534	21	2	26	8	1	0.0
922.	50 00182	140535	20	2	19	8	1	0.0
923.	50 00182	140536	11	3	31	4	1	0.0
924.	50 00182	140537	12	4	36	4	1	0.0
925.	50 00182	140538	13	2	26	4	1	0.0
926.	50 00182	140539	17	3	21	7	1	0.0
927.	50 00182	140540	17	3	32	6	1	0.0
928.	50 00182	140541	20	2	49	9	1	0.0
929.	50 00182	140542	11	2	38	6	1	0.0
930.	50 00182	140543	14	3	66	8	0	0.0
931.	50 00182	140544	11	1	23	7	0	0.0
932.	50 00182	140545	7	2	14	3	0	0.0
933.	50 00182	140546	18	3	19	9	1	0.0
934.	50 00182	140547	13	4	23	6	0	0.0
935.	50 00182	140548	23	3	55	9	2	0.0
936.	50 00182	140549	13	2	28	5	0	0.0
937.	50 00182	140550	16	2	27	10	0	0.0
938.	50 00182	140551	15	7	25	6	0	0.0
939.	50 00182	140552	21	4	29	18	3	0.0
940.	50 00182	140553	20	4	53	17	2	0.0
941.	50 00182	140554	19	3	39	16	2	0.0
942.	50 00182	140555	46	6	54	18	3	0.0
943.	50 00182	140556	196	2	31	16	5	0.0
944.	50 00182	140557	76	6	43	17	4	0.0

945.	50 00182	140558	88	5	44	16	4	0.0
946.	50 00182	140559	168	5	37	14	4	1.2
947.	50 00182	140560	96	6	38	17	4	5.9
948.	50 00182	140561	49	5	54	7	0	0.0
949.	50 00182	140562	54	3	50	12	2	0.1
950.	50 00182	140563	59	3	50	5	1	0.0
951.	50 00182	140564	42	3	74	7	3	0.0
952.	50 00182	140565	59	4	47	6	1	0.0
953.	50 00182	140566	15	3	20	11	1	0.0
954.	50 00182	140567	14	3	23	9	1	0.0
955.	50 00182	140568	23	2	105	18	1	0.0
956.	50 00182	140569	60	3	57	8	1	0.0
957.	50 00182	140570	27	4	88	18	1	0.0
958.	50 00182	140571	19	5	145	14	1	0.0
959.	50 00182	140572	109	7	75	23	1	0.0
960.	50 00182	140573	14	4	114	14	1	0.0
961.	50 00182	140574	18	4	68	18	1	0.0
962.	50 00182	140575	18	6	96	17	1	0.0
963.	50 00182	140576	29	3	100	19	1	0.0
964.	50 00182	140577	24	7	111	20	1	0.0
965.	50 00182	140578	19	6	105	14	1	0.0
966.	50 00182	140579	21	5	60	16	1	0.0
967.	50 00182	140580	35	5	178	10	1	0.0
968.	50 00182	140581	27	4	112	15	1	0.0
969.	50 00182	140582	36	4	121	21	1	0.0
970.	50 00182	140583	37	5	119	23	1	0.0
971.	50 00182	140584	51	6	144	28	1	0.0
972.	50 00182	140585	45	44	163	25	1	0.0
973.	50 00182	140586	37	4	120	29	1	0.0
974.	50 00182	140587	35	6	152	20	1	0.0
975.	50 00182	140588	34	4	73	22	1	0.0
976.	50 00182	140589	64	7	150	20	1	0.0
977.	50 00182	140590	55	9	190	24	1	0.0
978.	50 00182	140591	53	8	190	22	1	5.1
979.	50 00182	140592	48	26	175	26	1	0.2
980.	50 00182	140593	38	5	166	26	1	0.0
981.	50 00182	140594	34	5	103	20	1	0.0
982.	50 00182	140595	43	6	123	20	1	1.4
983.	50 00182	140596	107	14	175	45	1	0.0
984.	50 00182	140597	44	32	198	17	1	0.0
985.	50 00182	140598	17	134	750	1	1	1.0
986.	50 00182	140599	19	110	400	2	1	0.9
987.	50 00182	140600	24	83	440	5	1	0.5
988.	50 00182	140602	28	3	169	18	1	0.2
989.	50 00182	140603	19	3	183	17	1	0.0
990.	50 00182	140604	24	2	118	17	1	0.0
991.	50 00182	140605	30	2	152	19	1	0.0
992.	50 00182	140606	16	2	142	16	1	0.0
993.	50 00182	140607	18	2	99	16	1	0.0
994.	50 00182	140608	34	3	176	15	1	0.0
995.	50 00182	140609	24	3	209	19	1	0.0
996.	50 00182	140610	35	3	60	18	1	0.0
997.	50 00182	140611	10	2	75	11	1	0.4
998.	50 00182	140612	20	2	100	14	1	0.0
999.	50 00182	140613	38	3	114	27	1	0.0
1000.	50 00182	140614	41	4	174	16	1	0.0
1001.	50 00182	140615	33	7	146	16	0	0.0
1002.	50 00182	140616	36	10	235	16	0	0.0
1003.	50 00182	140617	33	7	209	22	1	0.0

1004.	50 00182	140618	49	8	97	24	1	0.0
1005.	50 00182	140619	199	3	53	42	13	0.0
1006.	50 00182	140620	128	6	79	43	16	0.3
1007.	50 00182	140621	181	3	59	16	13	0.6
1008.	50 00182	140622	31	38	52	14	3	0.1
1009.	50 00182	140623	44	12	57	36	2	0.2
1010.	50 00182	140624	50	6	77	28	7	0.0
1011.	50 00182	140625	32	7	40	19	2	0.0
1012.	50 00182	140626	28	6	59	22	2	0.0
1013.	50 00182	140627	28	7	69	23	3	0.0
1014.	50 00182	140628	30	6	89	25	0	0.0
1015.	50 00182	140629	25	6	66	25	0	0.0
1016.	50 00182	140630	45	7	63	30	1	0.0
1017.	50 00182	140631	18	5	97	16	1	0.0
1018.	50 00182	140632	34	5	107	20	1	0.0
1019.	50 00182	140633	22	7	144	17	1	0.0
1020.	50 00182	140634	31	37	350	4	2	0.5
1021.	50 00182	140635	32	11	200	11	2	0.0
1022.	50 00182	140636	30	7	160	17	2	0.0
1023.	50 00182	140637	28	7	265	21	2	0.0
1024.	50 00182	140639	42	2	50	20	0	0.0
1025.	50 00182	140640	59	2	44	30	0	0.0
1026.	50 00182	140641	25	1	69	21	0	0.0
1027.	50 00182	140642	52	6	50	20	1	0.0
1028.	50 00182	140643	39	6	66	18	2	0.0
1029.	50 00182	140644	41	12	51	16	2	0.0
1030.	50 00182	140645	97	9	40	18	2	0.0
1031.	50 00182	140646	90	7	42	16	3	0.0
1032.	50 00182	140647	72	8	45	14	1	0.0
1033.	50 00182	140648	61	9	50	16	2	0.0
1034.	50 00182	140649	103	6	50	19	3	0.0
1035.	50 00182	140650	76	6	55	18	4	0.0
1036.	50 00182	140651	96	5	54	19	5	0.0
1037.	50 00182	140652	99	5	52	19	4	0.0
1038.	50 00182	140653	43	5	56	14	8	0.0
1039.	50 00182	140654	67	4	88	16	4	0.0
1040.	50 00182	140655	57	8	76	11	5	0.0
1041.	50 00182	140656	37	6	90	18	1	0.0
1042.	50 00182	140657	48	3	48	17	2	0.0
1043.	50 00182	140658	37	3	78	17	1	0.0
1044.	50 00182	140659	29	3	20	15	1	0.0
1045.	50 00182	140660	25	5	55	16	3	0.0
1046.	50 00182	140661	29	3	50	11	2	0.0
1047.	50 00182	140662	30	3	51	17	2	0.0
1048.	50 00182	140663	21	3	64	16	3	0.0
1049.	50 00182	140664	19	4	60	9	2	0.0
1050.	50 00182	140666	70	21	108	68	0	0.0
1051.	50 00182	140667	65	21	92	57	0	0.2
1052.	50 00182	140668	57	20	92	85	0	0.0
1053.	50 00182	140669	37	17	89	44	0	0.0
1054.	50 00182	140670	57	18	82	66	0	0.0
1055.	50 00182	140672	28	17	78	36	0	0.0
1056.	50 00182	140673	35	19	76	41	0	0.0
1057.	50 00182	140674	49	18	85	56	0	0.0
1058.	50 00182	140675	53	20	145	42	0	0.0
1059.	50 00182	140676	24	15	45	22	0	0.0
1060.	50 00182	140677	62	21	108	48	0	0.0
1061.	50 00182	140678	34	16	77	36	0	0.0
1062.	50 00182	140679	0	18	91	42	0	0.0

1063.	50 00182	140680	48	18	105	42	0	0.0
1064.	50 00182	140681	28	1	29	21	0	0.0
1065.	50 00182	140682	18	0	71	15	1	0.0
1066.	50 00182	140683	27	3	56	23	1	0.0
1067.	50 00182	140684	26	4	75	25	1	0.0
1068.	50 00182	140685	37	3	56	32	0	0.0
1069.	50 00182	140686	29	4	52	29	1	0.0
1070.	50 00182	140687	28	4	67	42	0	0.0
1071.	50 00182	140688	58	6	35	24	0	0.0
1072.	50 00182	140689	31	5	36	21	0	0.0
1073.	50 00182	140690	26	4	38	19	0	0.0
1074.	50 00182	140691	27	3	49	28	0	0.0
1075.	50 00182	140692	37	5	50	33	1	0.0
1076.	50 00182	140693	30	4	50	33	0	0.0
1077.	50 00182	140694	27	2	31	16	1	0.0
1078.	50 00182	140695	39	2	35	15	1	0.0
1079.	50 00182	140696	23	2	30	20	3	0.0
1080.	50 00182	140697	25	2	35	20	1	0.0
1081.	50 00182	140698	35	2	38	28	2	0.0
1082.	50 00182	140699	40	3	57	27	1	0.0
1083.	50 00182	140702	21	3	53	20	0	0.0
1084.	50 00182	140703	11	3	51	17	0	0.0
1085.	50 00182	140704	12	2	38	18	0	0.0
1086.	50 00182	140705	23	1	53	26	0	0.0
1087.	50 00182	140706	19	2	35	24	0	0.0
1088.	50 00182	140707	15	3	65	22	0	0.0
1089.	50 00182	140708	13	4	42	14	0	0.0
1090.	50 00182	140709	13	3	53	20	0	0.0
1091.	50 00182	140710	15	2	105	25	0	0.0
1092.	50 00182	140711	24	2	79	22	0	0.0
1093.	50 00182	140712	30	3	51	30	0	0.0
1094.	50 00182	140713	22	3	65	25	0	0.0
1095.	50 00182	140714	62	3	60	32	0	0.0
1096.	50 00182	140715	11	4	88	16	0	0.0
1097.	50 00182	140716	16	5	108	21	0	0.0
1098.	50 00182	140717	20	5	65	23	0	0.0
1099.	50 00182	140718	22	2	57	18	0	0.0
1100.	50 00182	140719	14	4	78	21	0	0.0
1101.	50 00182	140720	18	2	68	20	0	0.0
1102.	50 00182	140721	17	2	55	22	0	0.0
1103.	50 00182	140722	17	4	86	20	0	0.0
1104.	50 00182	140723	20	3	47	20	0	0.0
1105.	50 00182	140724	12	4	73	18	0	0.0
1106.	50 00182	140725	15	4	58	20	0	0.0
1107.	50 00182	140726	23	2	35	21	0	0.0
1108.	50 00182	140727	30	4	49	23	0	0.0
1109.	50 00182	140728	13	3	90	16	0	0.0
1110.	50 00182	140735	11	5	40	14	0	0.0
1111.	50 00182	140736	43	3	113	28	0	0.0
1112.	50 00182	140737	36	2	97	26	0	0.0
1113.	50 00182	140738	22	2	99	32	0	0.0
1114.	50 00182	140739	30	2	71	22	0	0.0
1115.	50 00182	140740	22	3	95	23	0	0.0
1116.	50 00182	140741	32	1	75	22	0	0.0
1117.	50 00182	140742	23	0	96	23	0	0.0
1118.	50 00182	140743	18	2	79	24	0	0.0
1119.	50 00182	140744	39	3	94	24	0	0.0
1120.	50 00182	140745	25	3	38	17	0	0.0
1121.	50 00182	140746	21	4	62	21	0	0.0

1122.	50 00182	140747	23	3	43	17	0	0.0
1123.	50 00182	140748	14	2	96	20	0	0.0
1124.	50 00182	140749	14	3	83	21	0	0.0
1125.	50 00182	140750	21	2	62	28	0	0.0
1126.	50 00182	140751	31	4	58	26	1	0.0
1127.	50 00182	140752	31	4	75	24	1	0.0
1128.	50 00182	140753	25	5	84	31	1	0.0
1129.	50 00182	140754	28	3	68	25	1	0.0
1130.	50 00182	140755	16	5	64	17	1	0.0
1131.	50 00182	140756	23	5	108	41	1	0.0
1132.	50 00182	140757	20	4	94	23	1	0.0
1133.	50 00182	140758	22	4	75	31	1	0.0
1134.	50 00182	140759	18	3	54	19	1	0.0
1135.	50 00182	140760	36	4	61	16	1	0.0
1136.	50 00182	140761	21	66	66	7	0	0.0
1137.	50 00182	140762	45	4	69	43	1	0.0
1138.	50 00182	140763	23	4	109	22	0	0.0
1139.	50 00182	140764	27	3	65	20	0	0.0
1140.	50 00182	140765	25	4	64	21	0	0.0
1141.	50 00182	140766	35	5	74	21	0	0.0
1142.	50 00182	140767	25	8	175	27	0	0.0
1143.	50 00182	140768	15	3	171	18	0	0.0
1144.	50 00182	140769	21	10	175	20	0	0.0
1145.	50 00182	140770	23	2	74	21	0	0.0
1146.	50 00182	140771	23	4	75	18	0	0.0
1147.	50 00182	140772	20	5	93	18	0	0.0
1148.	50 00182	140773	15	5	55	11	0	0.0
1149.	50 00182	140774	36	4	37	12	0	0.0
1150.	50 00182	140775	35	3	40	11	0	0.0
1151.	50 00182	140776	48	5	34	10	0	0.0
1152.	50 00182	140777	71	4	38	15	1	0.2
1153.	50 00182	140778	30	4	43	15	1	0.0
1154.	50 00182	140779	37	4	40	19	3	0.0
1155.	50 00182	140780	14	3	61	12	1	0.0
1156.	50 00182	140781	24	2	46	10	0	0.0
1157.	50 00182	140782	30	4	51	25	1	0.0
1158.	50 00182	140783	25	3	44	14	1	0.0
1159.	50 00182	140784	9	4	28	15	0	0.5
1160.	50 00182	140785	21	4	40	13	0	0.0
1161.	50 00182	140786	26	4	62	20	0	0.0
1162.	50 00182	140787	26	4	82	22	1	0.0
1163.	50 00182	140788	21	4	57	16	0	0.0
1164.	50 00182	140789	28	4	67	11	0	0.0
1165.	50 00182	140790	23	2	66	28	0	0.0
1166.	50 00182	140791	28	2	48	21	0	0.0
1167.	50 00182	140792	22	2	60	20	0	0.0
1168.	50 00182	140793	29	4	46	27	0	0.0
1169.	50 00182	140794	32	3	50	24	0	0.0
1170.	50 00182	140795	30	4	47	17	0	0.0
1171.	50 00182	140796	34	2	41	14	0	0.0
1172.	50 00182	140797	36	2	43	14	0	0.0
1173.	50 00182	140798	22	2	46	11	0	0.0
1174.	50 00182	140799	35	4	42	15	0	0.0
1175.	50 00182	140800	50	4	46	16	2	0.0
1176.	50 00182	140801	9	1	24	9	0	0.0
1177.	50 00182	140803	19	3	60	12	0	0.0
1178.	50 00182	140804	40	2	74	7	0	0.0
1179.	50 00182	140805	15	5	54	10	0	0.0
1180.	50 00182	140806	18	2	44	13	1	0.0

1181.	50 00182	140807	18	2	42	11	1	0.0
1182.	50 00182	140808	24	17	125	27	1	0.0
1183.	50 00182	140809	37	6	140	28	1	0.0
1184.	50 00182	140810	15	6	91	8	1	0.0
1185.	50 00182	140811	80	3	19	11	1	0.0
1186.	50 00182	140812	32	10	96	11	2	0.0
1187.	50 00182	140813	21	4	88	18	2	0.0
1188.	50 00182	140814	21	3	50	22	2	0.0
1189.	50 00182	140815	32	7	124	15	3	0.0
1190.	50 00182	140816	12	6	135	10	1	0.0
1191.	50 00182	140817	27	6	135	14	1	0.0
1192.	10 00182	140819	41	2	42	11	1	0.0
1193.	10 00182	140820	35	2	42	8	1	0.0
1194.	10 00182	140821	35	2	44	13	1	0.0
1195.	10 00182	140822	38	1	47	14	1	0.0
1196.	10 00182	140823	29	1	50	13	0	0.0
1197.	10 00182	140824	34	3	46	13	0	0.0
1198.	10 00182	140825	39	4	48	14	0	0.0
1199.	10 00182	140826	43	3	46	14	1	0.0
1200.	10 00182	140827	41	4	42	15	1	0.1
1201.	10 00182	140828	42	4	45	14	1	0.0
1202.	10 00182	140829	38	4	45	15	1	0.0
1203.	10 00182	140830	38	4	46	15	1	0.0
1204.	10 00182	140831	33	4	45	15	1	0.0
1205.	10 00182	140832	28	3	48	17	1	0.0
1206.	10 00182	140833	23	5	46	19	1	0.0
1207.	10 00182	140834	23	5	105	20	1	0.0
1208.	10 00182	140835	27	3	47	17	1	0.0
1209.	10 00182	140836	34	4	43	14	1	0.0
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1211.	10 00182	140838	27	3	49	19	1	0.0
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1219.	50 00182	140846	37	1	69	13	1	0.0
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1298.	50 00182	140928	54	5	89	25	1	0.0

*** MAPPER SYSTEM *** SUNCOR INC

DATE 012583 PAGE 23

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1356.								

..... END REPORT

TCHAIKAZAN RIVER PROJECT

Rock Assay Data

Data Listing

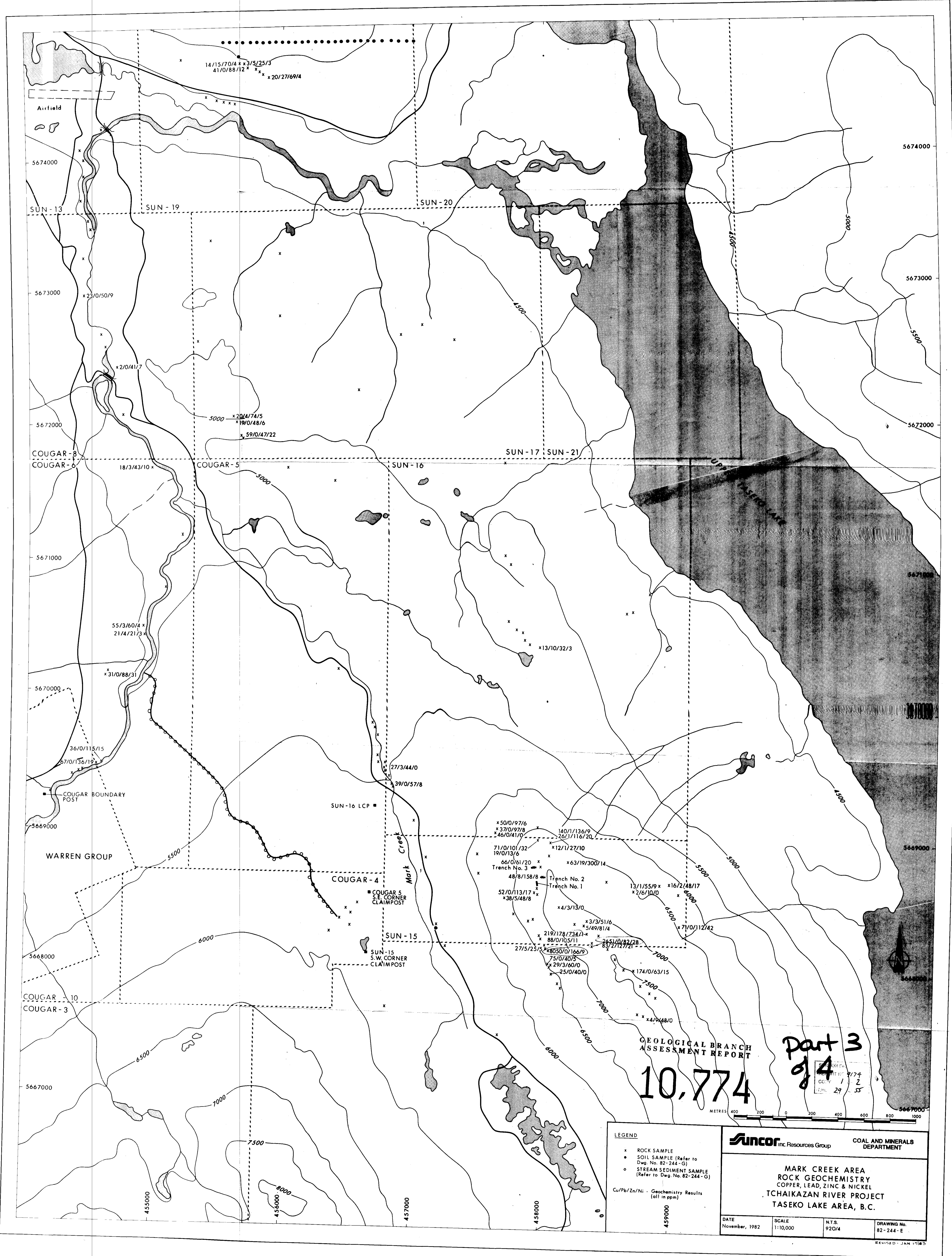
CU	%
Pb	%
Zn	%
Ni	%
MoS ₂	%
Au	Ounces per ton
Ag	Ounces per ton

1. .DATE 25 JAN 83 14:14:02 RID 12 25 JAN 83 PHAWK
 2. *CHEMICAL LAB ASSAY REPORT FOR TCHAIKAZAN RIVER PROJECT LAB : LLL (TYPE F)
 3. *RS.PRJYR .ROCK.SAMPLE.CU .PB .ZN .NI .MOS2 .AU .AG .
 4. * .1982 . .NUMBER.ASSAY .ASSAY .ASSAY .ASSAY .ASSAY .ASSAY .ASSAY
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68.	00182L	AS1069	0.03			1.002X	0.48	
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70.	00182L	AS1071	0.01			0.000	0.36	
71.	00182L	AS1072	0.C1					
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109.	00182L	AS1211	1.04			0.002	2.02	
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112.	00182L	AS1214	0.59			0.020	0.86	
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115.	00182L	AS1217	12.25			0.024	28.64	
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117.	00182L	AS1219	0.08			0.000	1.38	
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UNIT THROUGH CASE 1



GEOLOGICAL BRANCH
ASSESSMENT REPORT
10,774

Part 3
of 4

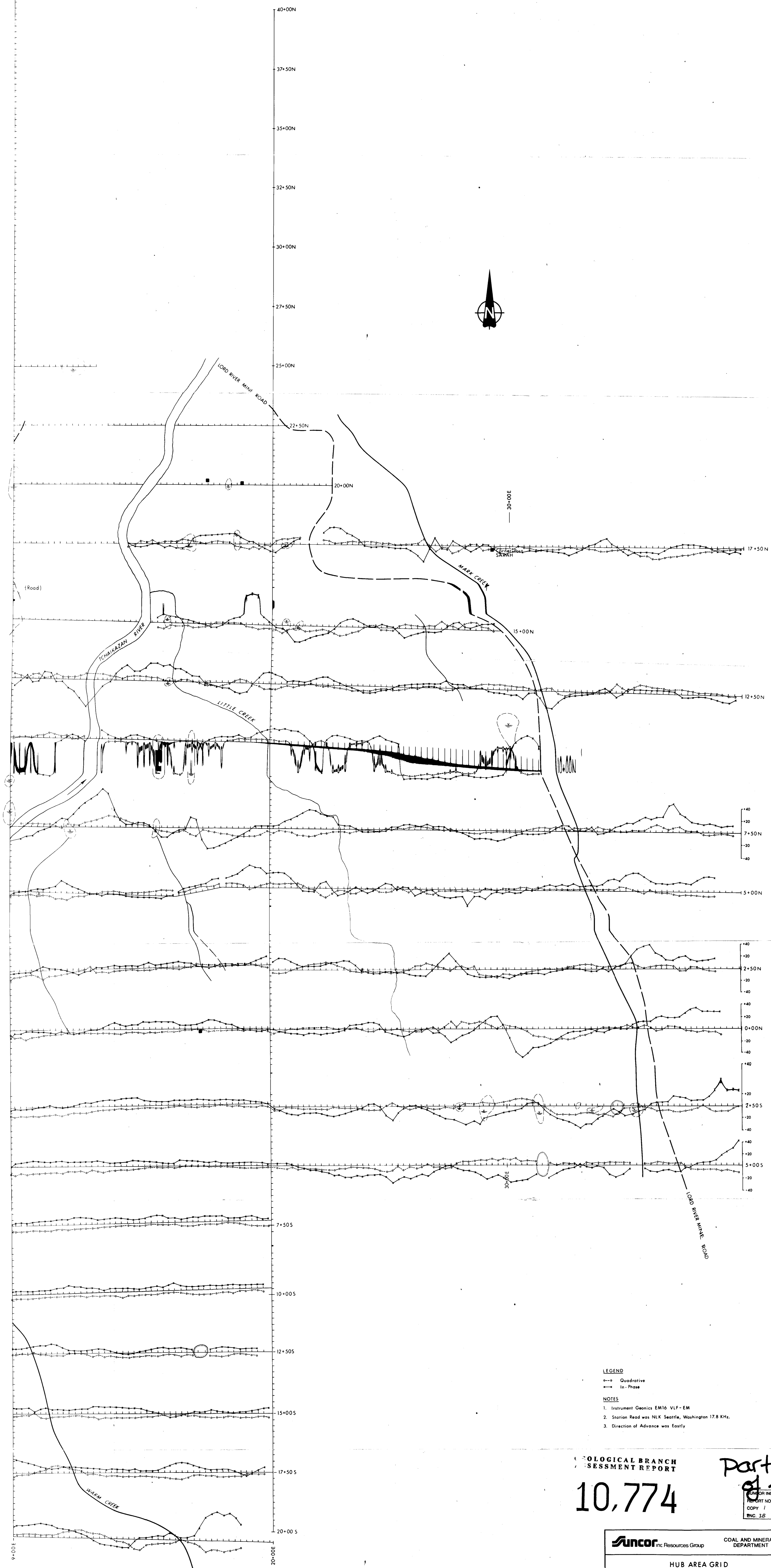
LEGEND
 x ROCK SAMPLE
 • SOIL SAMPLE (Refer to Dwg. No. 82-244-G)
 o STREAM SEDIMENT SAMPLE (Refer to Dwg. No. 82-244-G)
 Cu/Pb/Zn/Ni - Geochemistry Results (all in ppm)

Suncor Inc. Resources Group COAL AND MINERALS DEPARTMENT

MARK CREEK AREA
ROCK GEOCHEMISTRY
COPPER, LEAD, ZINC & NICKEL
TCHAIKAZAN RIVER PROJECT
TASEKO LAKE AREA, B.C.

DATE November, 1982	SCALE 1:10,000	N.T.S. 920/4	DRAWING No. 82-244-E
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REVISED - JAN 1983



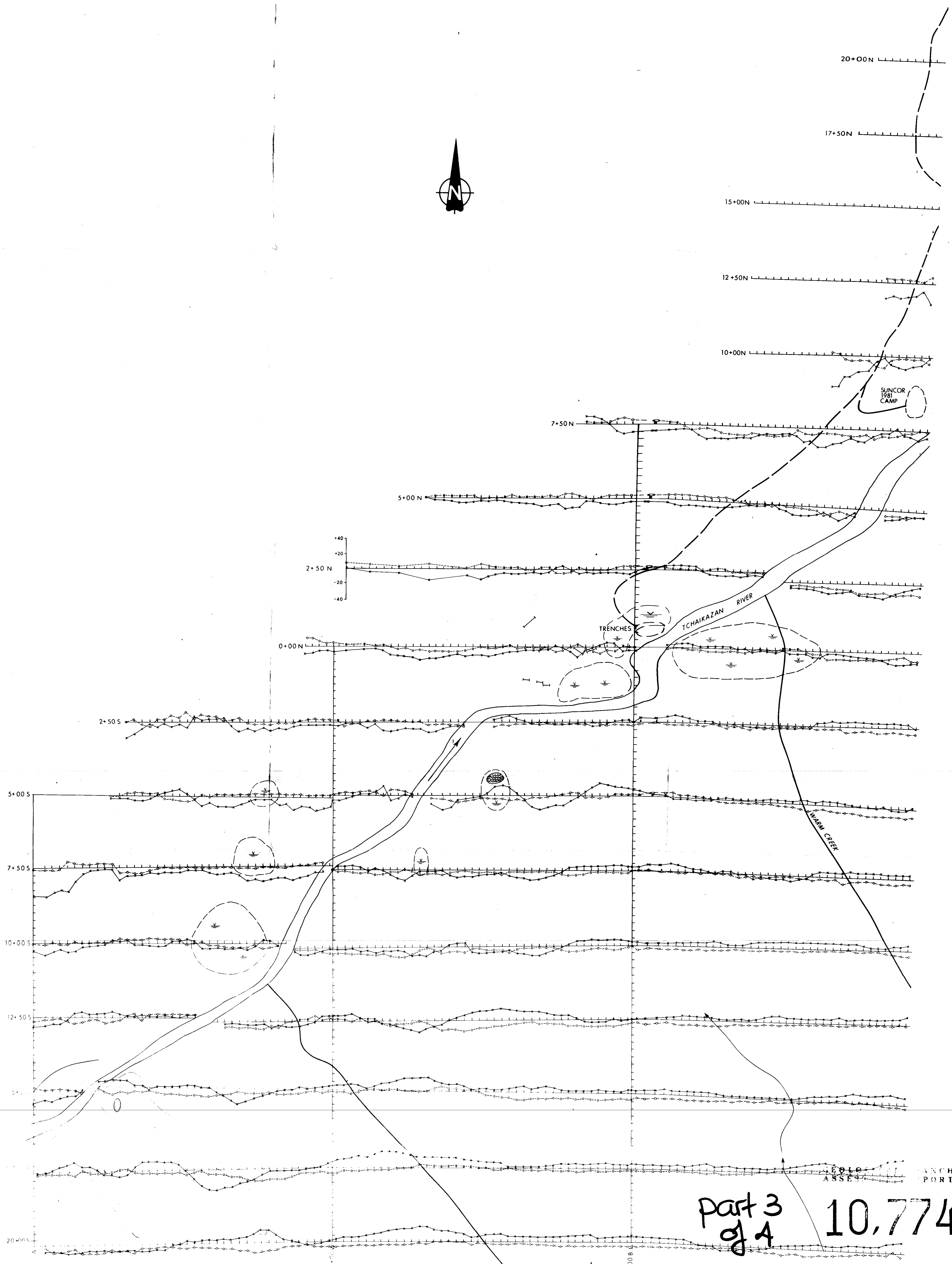
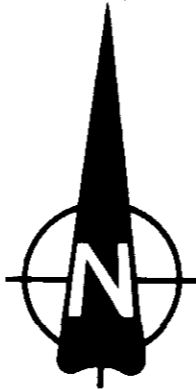
LEGEND
 --- Quadrative
 --- In-Phase

NOTES
 1. Instrument Geonics EM16 VLF-EM
 2. Station Read was NLK Seattle, Washington 17.8 KHz.
 3. Direction of Advance was Eastly

10,774

Part 3
 14
 REPORT NO. 9174
 COPY 1 OF 2
 ENC. 18 OF 53

Suncor Inc. Resources Group		COAL AND MINERALS DEPARTMENT	
HUB AREA GRID (EAST SHEET)			
VLF-EM SURVEY (NLK) PROFILES			
TCHAIKAZAN RIVER PROJECT TASEKO LAKE AREA, B.C.			
DATE January, 1983	SCALE 1:5,000	N.T.S. 920	DRAWING No. 82-287-G-1



LEGEND

- Quadrature Vertical Profile Scale: 1cm = 20%
- In Phase

NOTES

1. Instrument Geonics EM16 VLF-EM.
2. Station Read was NLK Seattle, Washington 178 KHz.
3. Direction of Advance was Eastly.

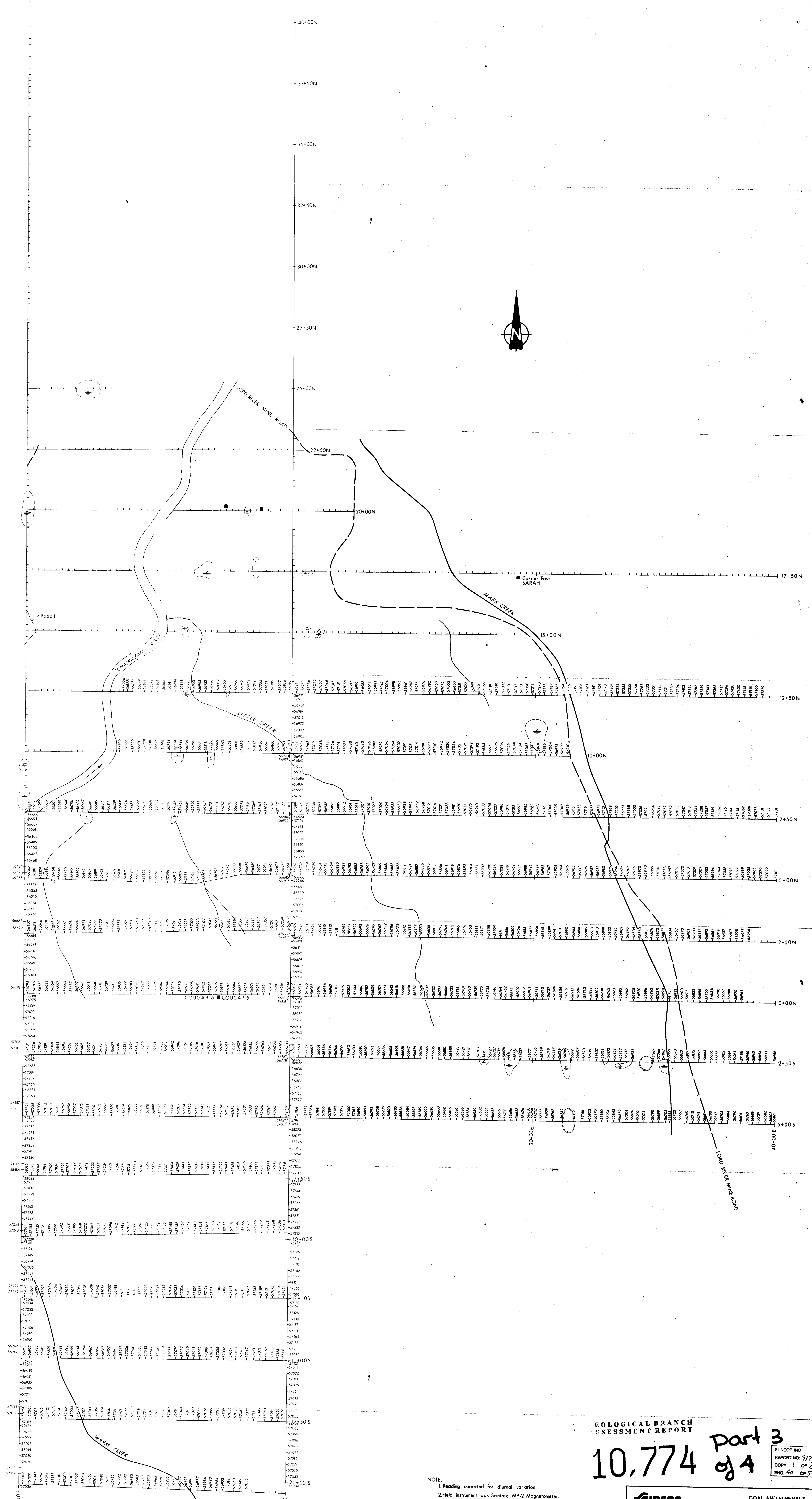


part 3
of 4

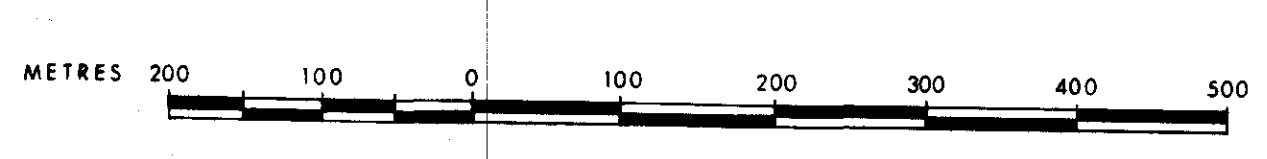
10,774

Suncor Inc. Resources Group		COAL AND MINERALS DEPARTMENT	
HUB AREA GRID (WEST SHEET)			
VLF-EM SURVEY (NLK) PROFILES			
TCHAIKAZAN RIVER PROJECT TASEKO LAKE AREA, B C			
January, 1983	1 5,000	920	82-287-G-2

SUNCOR INC
REPORT NO. 974
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NOTE:
 1. Reading corrected for diurnal variation.
 2. Field instrument was Scintrex MP-2 Magnetometer.



10,774 Part 3 of 4
 ECOLOGICAL BRANCH ASSESSMENT REPORT
 SUNCOR INC REPORT No. 9174 COPY 1 OF 2 ENC. 4a OF 52

Suncor Inc Resources Group		COAL AND MINERALS DEPARTMENT	
HUB AREA GRID (EAST SHEET)			
PROTON MAGNETOMETER SURVEY TCHAIKAZAN RIVER PROJECT TASEKO LAKE AREA, B.C.			
DATE September, 1982	SCALE 1:5,000	N.T.S. 920/4	DRAWING No. 82-287-H-1



20+00N

17+50N

15+00N

12+50N

10+00N

7+50N

5+00N

2+50N

0+00N

2+50S

5+00S

7+50S

10+00S

12+50S

15+00S

17+50S

20+00S

GEOLOGICAL BRANCH ASSESSMENT REPORT

10,774

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SUNCOR INC REPORT NO: 9171 COPY 1 OF 2 ENC. 41 OF 52

Suncor Inc. Resources Group COAL AND MINERALS DEPARTMENT

HUB AREA GRID (WEST SHEET)

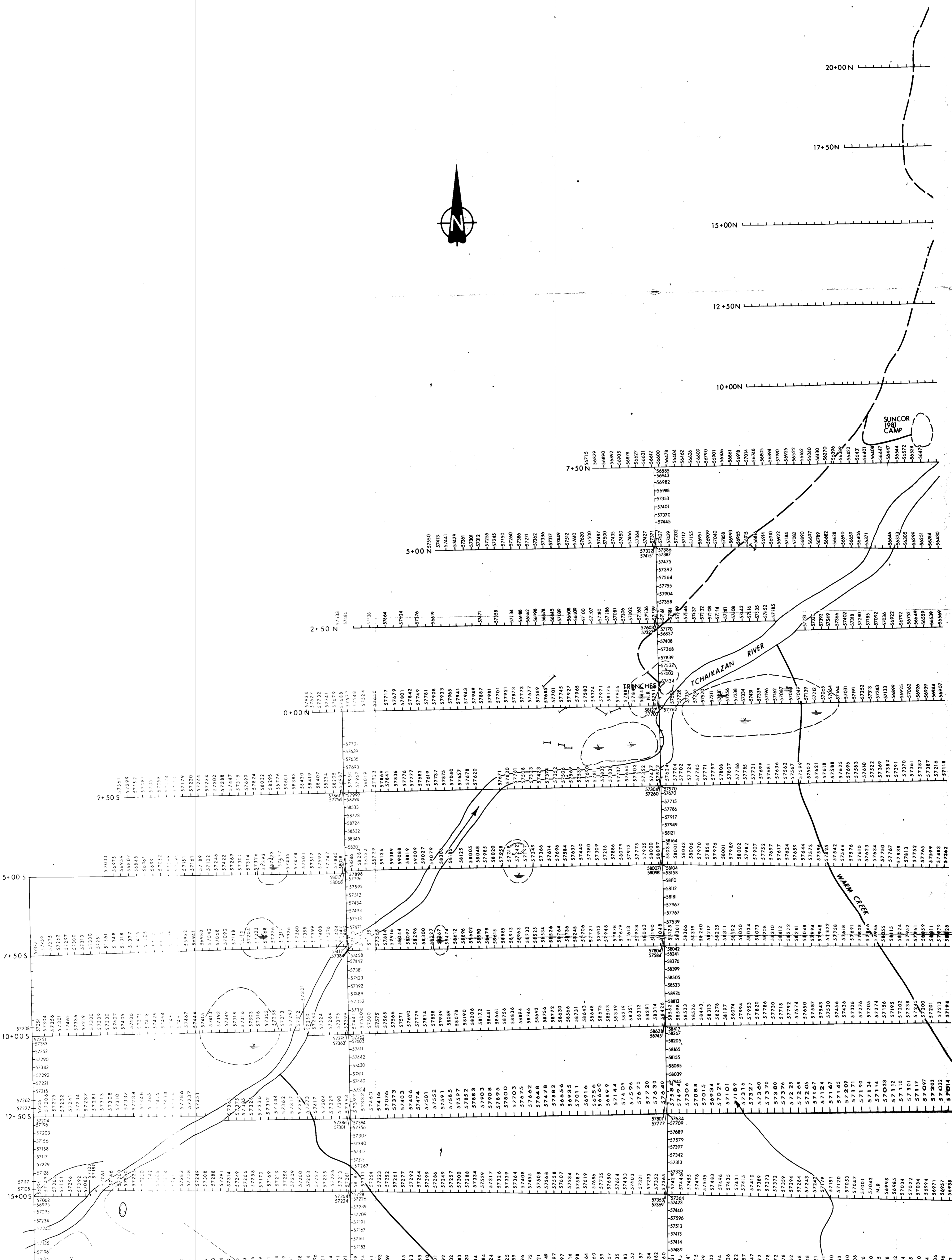
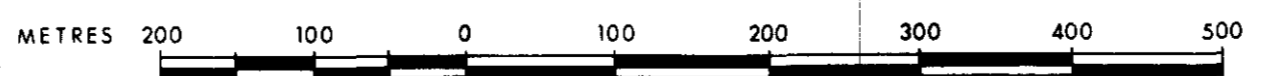
PROTON MAGNETOMETER SURVEY

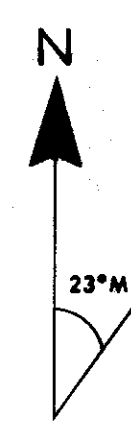
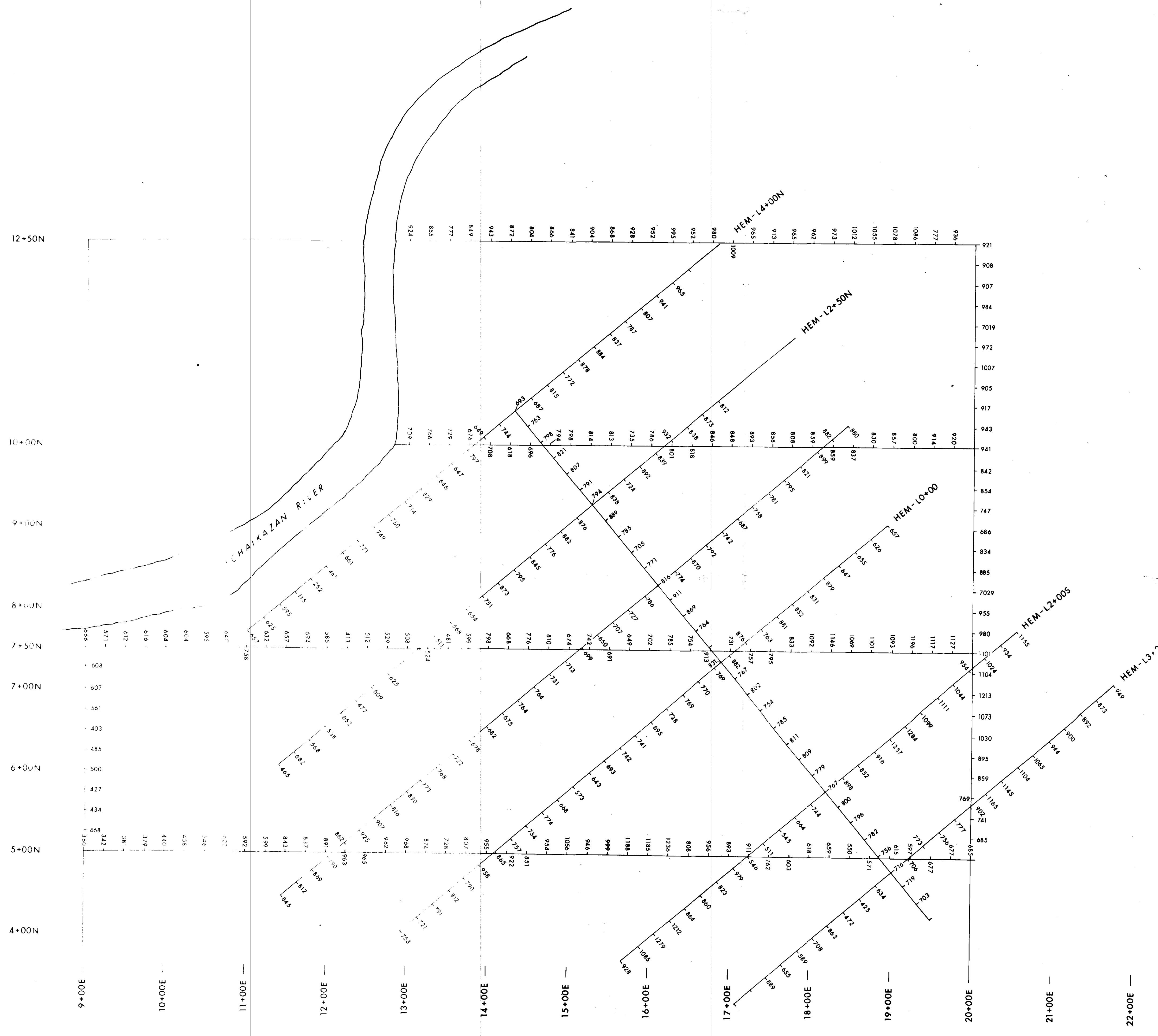
TCHAIKAZAN RIVER PROJECT TASEKO LAKE AREA, B.C.

DATE: September, 1982 SCALE: 1:5000 N.T.S. 920/4 DRAWING No. 82-287-H-2

WEST SHEET

NOTE:
 1. Reading corrected for diurnal variation.
 2. Field instrument was Scintrex MP-2 Magnetometer.





Part 3
87

NOTES:

1. Field Instrument used was Scintex MP-2 Proton Magnetometer.
2. Readings corrected for diurnal variation.
3. All plotted values represent values above 56,000 gammas.

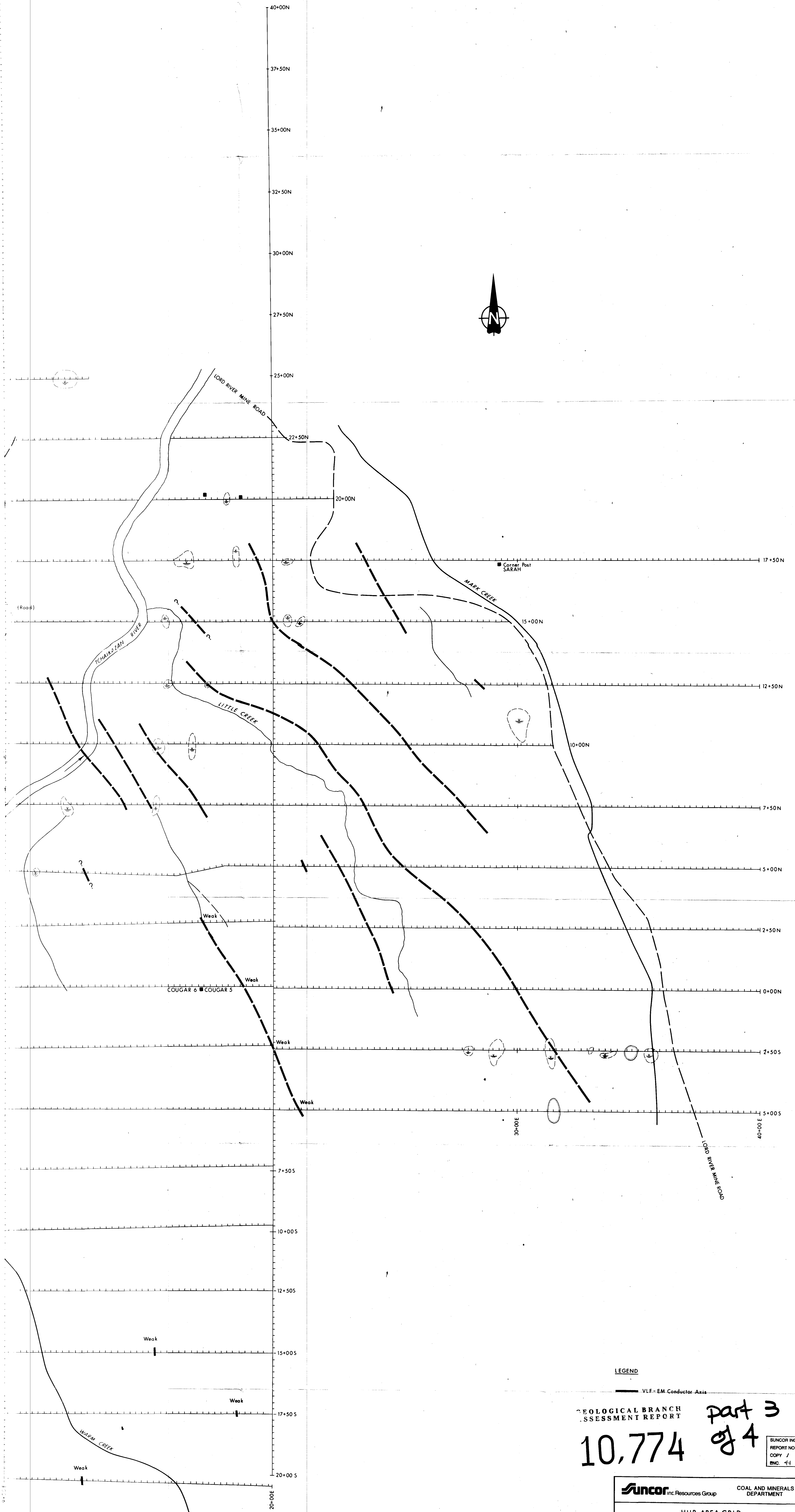
**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

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Suncor Inc. Resources Group		COAL AND MINERALS DEPARTMENT	
MAGNETOMETER SURVEY 7+50N CROSSING AREA			
TCHAIKAZAN RIVER PROJECT TASEKO LAKE AREA, B. C.			
DATE January, 1983	SCALE 1: 2,500	N T S 920	DRAWING NO. 82-294-B



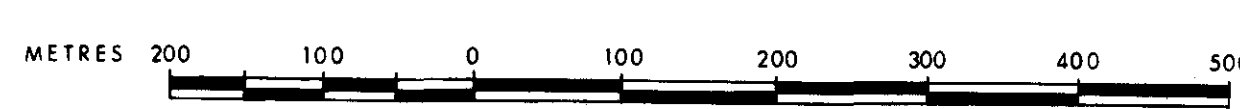
LEGEND
 VLF-EM Conductor Axis

GEOLOGICAL BRANCH
 ASSESSMENT REPORT

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 REPORT NO:
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Suncor Inc. Resources Group		COAL AND MINERALS DEPARTMENT	
HUB AREA GRID (EAST SHEET)			
GEOPHYSICAL COMPILATION			
TCHAIKAZAN RIVER PROJECT			
TASEKO LAKE AREA, B.C.			
DATE January, 1983	SCALE 1:5,000	N.T.S. 920	DRAWING No. 82-287-1-1

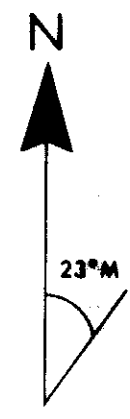
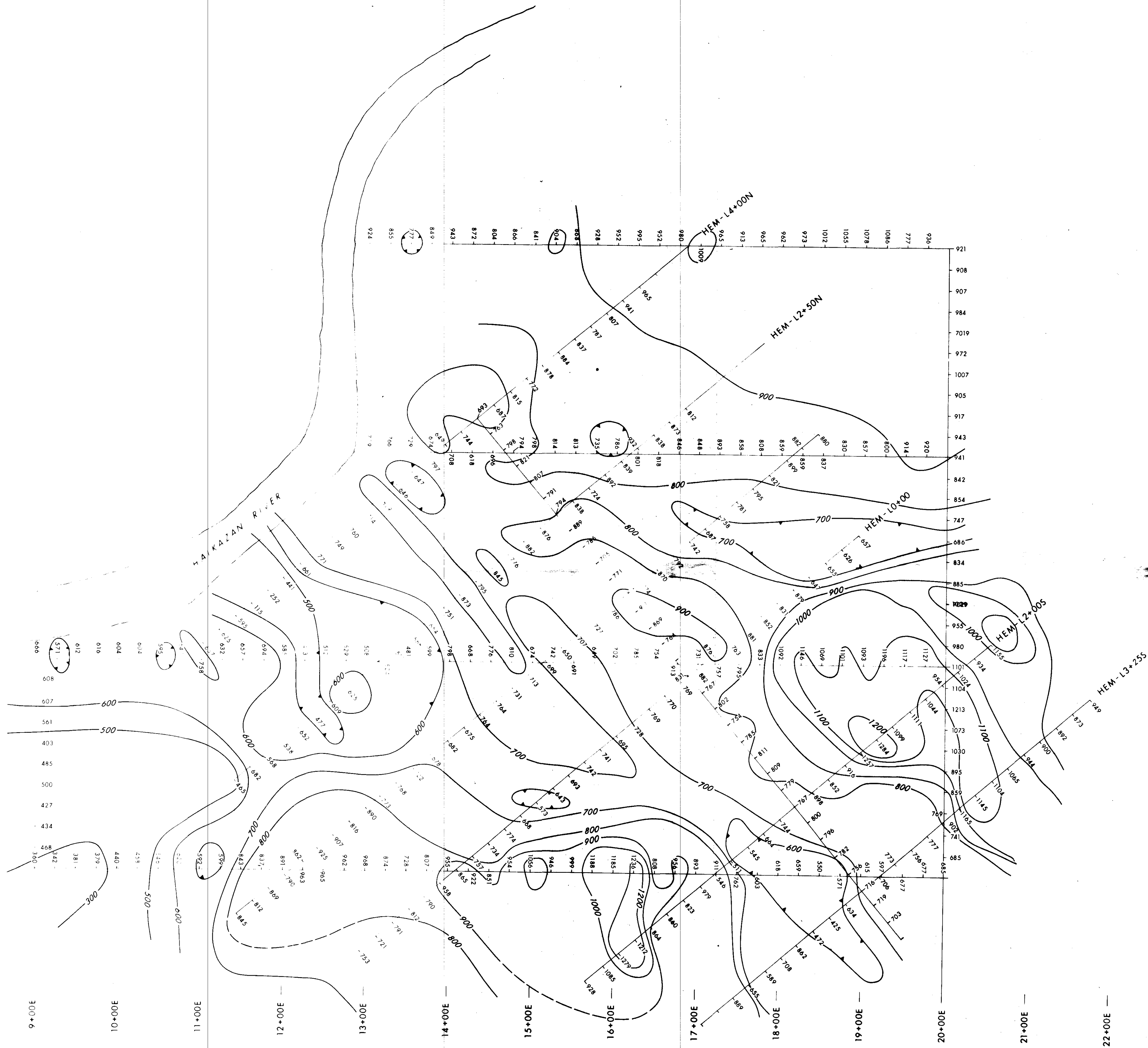
12+50N

7+30N

6+10N

5+00N

4+00N



GEOLOGICAL BRANCH
ASSESSMENT REPORT

10,774

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of 4

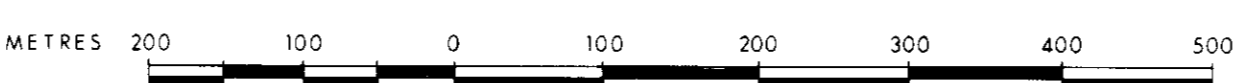
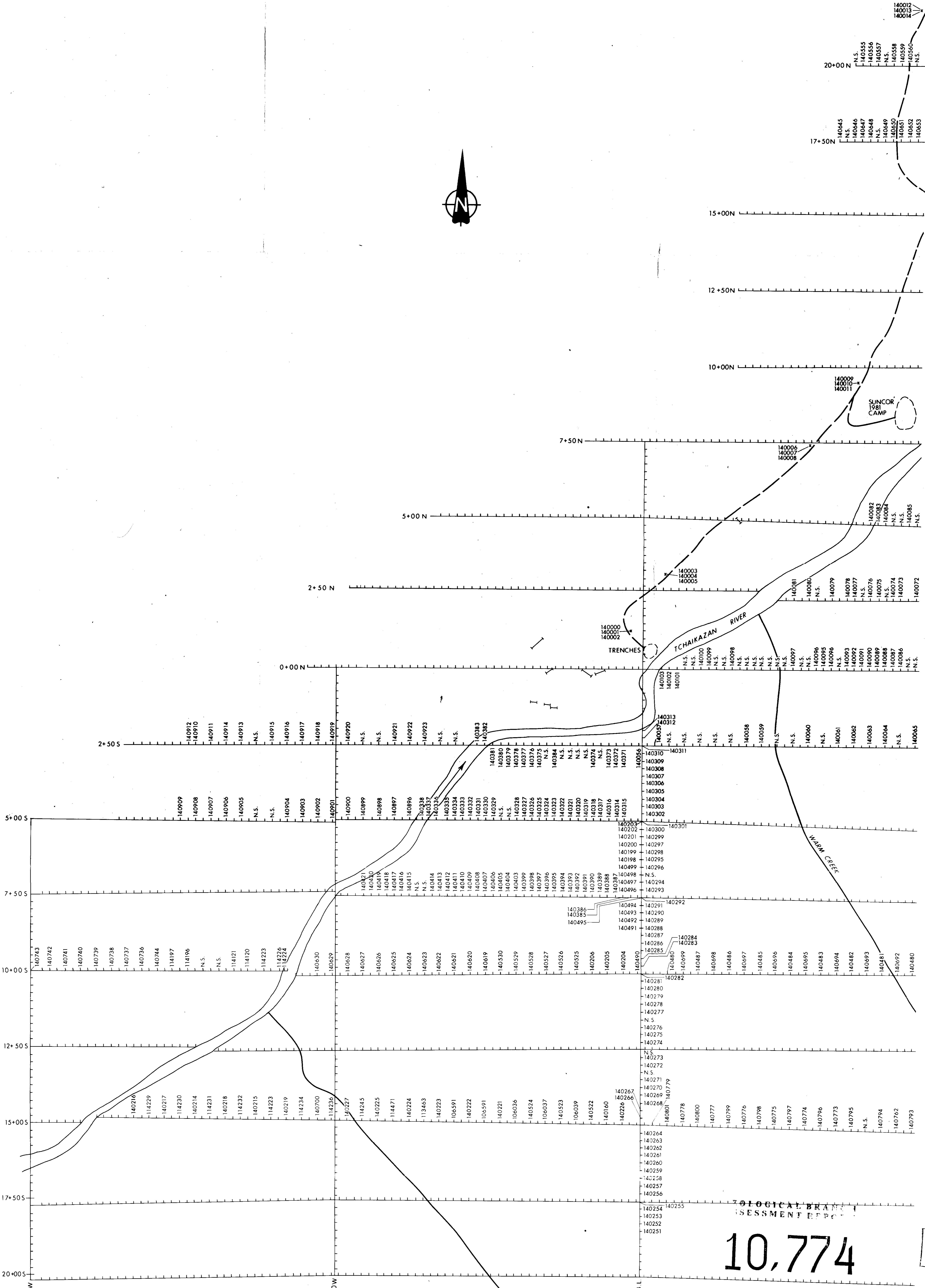
NOTES:

1. Field Instrument used was Scintex MP-2 Proton Magnetometer.
2. Readings corrected for diurnal variation.
3. All plotted values represent values above 56,000 gammas.
4. Contour Interval - 100 gammas.

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Suncor Int. Resources Group		COAL AND MINERALS DEPARTMENT	
MAGNETOMETER SURVEY 7+50N CROSSING AREA CONTOUR MAP			
TCHAIKAZAN RIVER PROJECT TASEKO LAKE AREA, B.C.			
DATE January, 1983	SCALE 1:2,500	N.T.S. 920	DRAWING NO. 82-294-C



10,774

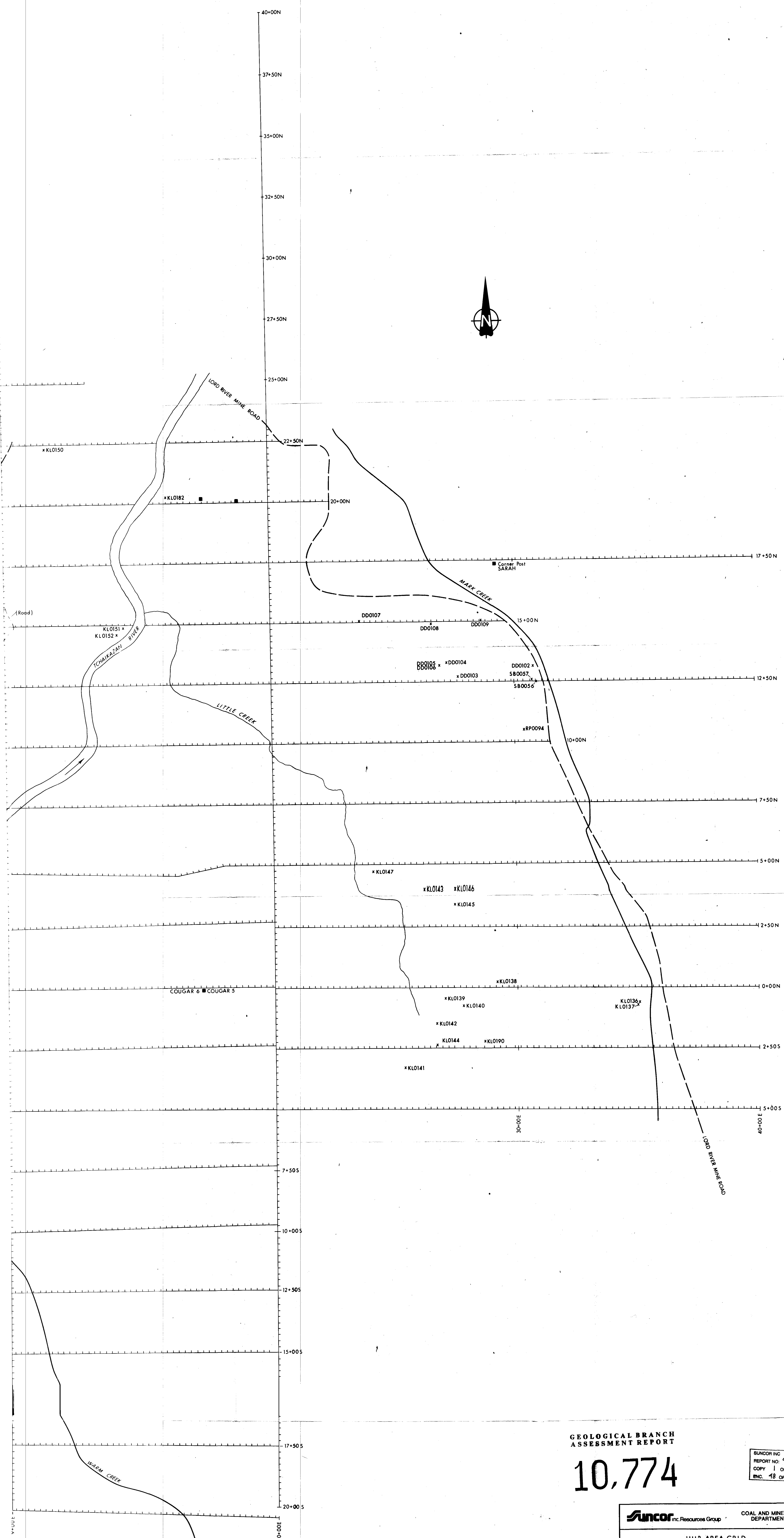
SUNCOR INC
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Suncor Inc Resources Group
COAL AND MINERALS DEPARTMENT

HUB AREA GRID (EAST SHEET)
SOIL GEOCHEMISTRY SAMPLE LOCATIONS
TCHAIKAZAN RIVER PROJECT
TASEKO LAKE AREA, B.C.

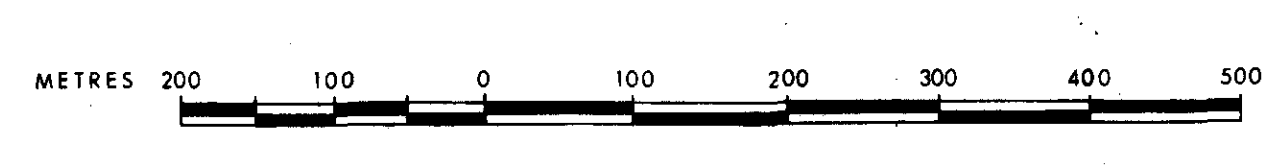
DATE: January, 1983
SCALE: 1:5,000
N.T.S.
DRAWING NO.: 82-287-C-2

Part 3
of 4



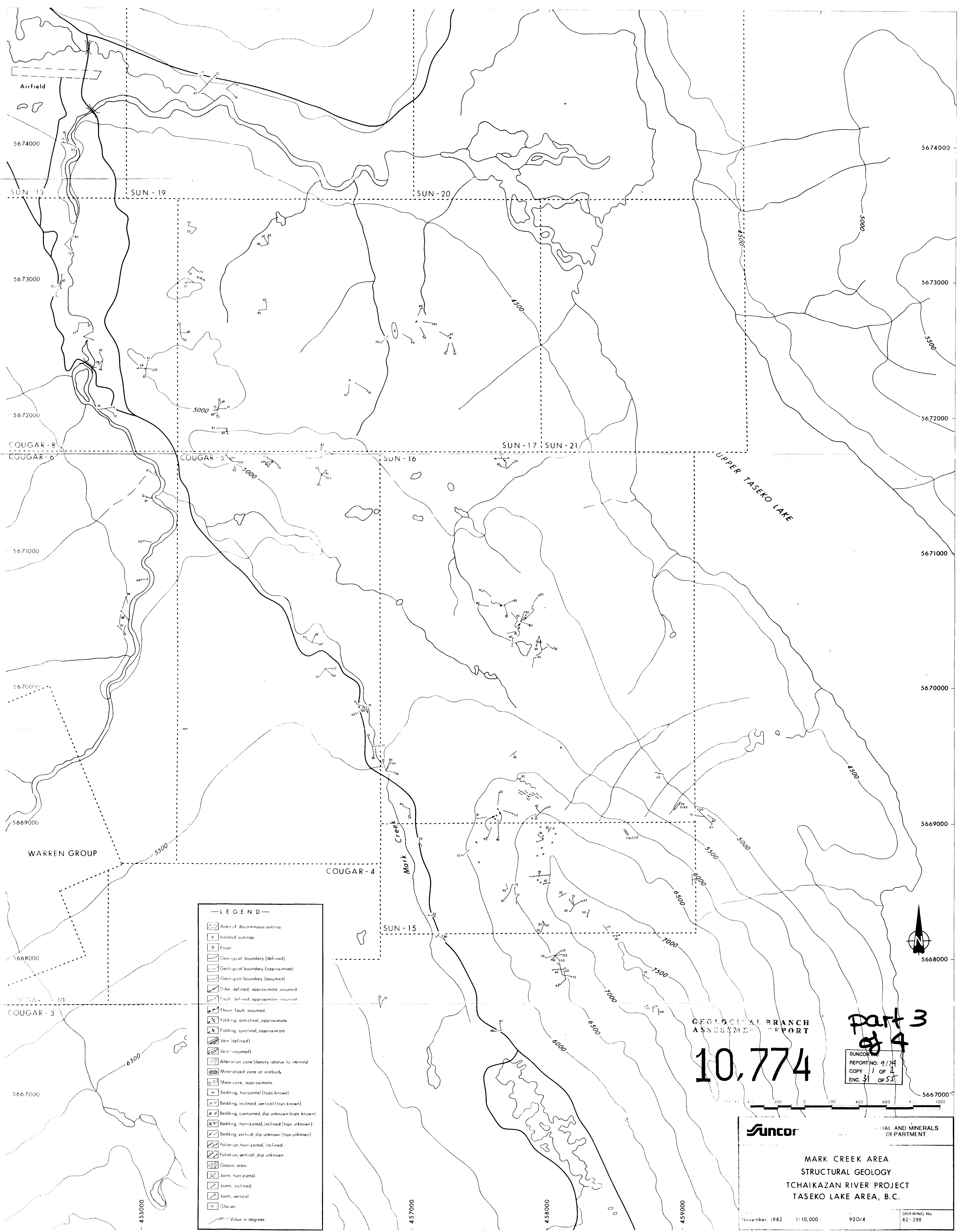
GEOLOGICAL BRANCH
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10,774

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of 4*

Suncor inc. Resources Group		COAL AND MINERALS DEPARTMENT	
HUB AREA GRID (EAST SHEET)			
ROCK GEOCHEMISTRY SAMPLE LOCATIONS			
TCHAIKAZAN RIVER PROJECT TASEKO LAKE AREA, B.C.			
DATE January, 1983	SCALE 1:5,000	M.T.S. 920/4	DRAWING No. 82-287-D-1



- LEGEND —
- Areas of discontinuous outcrop
 - Isolated outcrop
 - Floor
 - Geological boundary (defined)
 - Geological boundary (approximate)
 - Geological boundary (assumed)
 - Di-ke defined, approximate, assumed
 - Fault defined, approximate, assumed
 - Thrust fault, assumed
 - Folding, anticlinal, approximate
 - Folding, synclinal, approximate
 - Vein (defined)
 - Vein (assumed)
 - Alteration zone (density relative to intensity)
 - Mineralized zone or orebody
 - Shear zone, approximate
 - Bedding, horizontal (tops known)
 - Bedding, inclined, vertical (tops known)
 - Bedding, overturned, dip unknown (tops known)
 - Bedding, horizontal, inclined (tops unknown)
 - Bedding, vertical, dip unknown (tops unknown)
 - Foliation, horizontal, inclined
 - Foliation, vertical, dip unknown
 - Gossan area
 - Joints, horizontal
 - Joints, inclined
 - Joints, vertical
 - Glacier
- M = Value in degrees

GEOLOGICAL BRANCH
ASSESSMENT REPORT

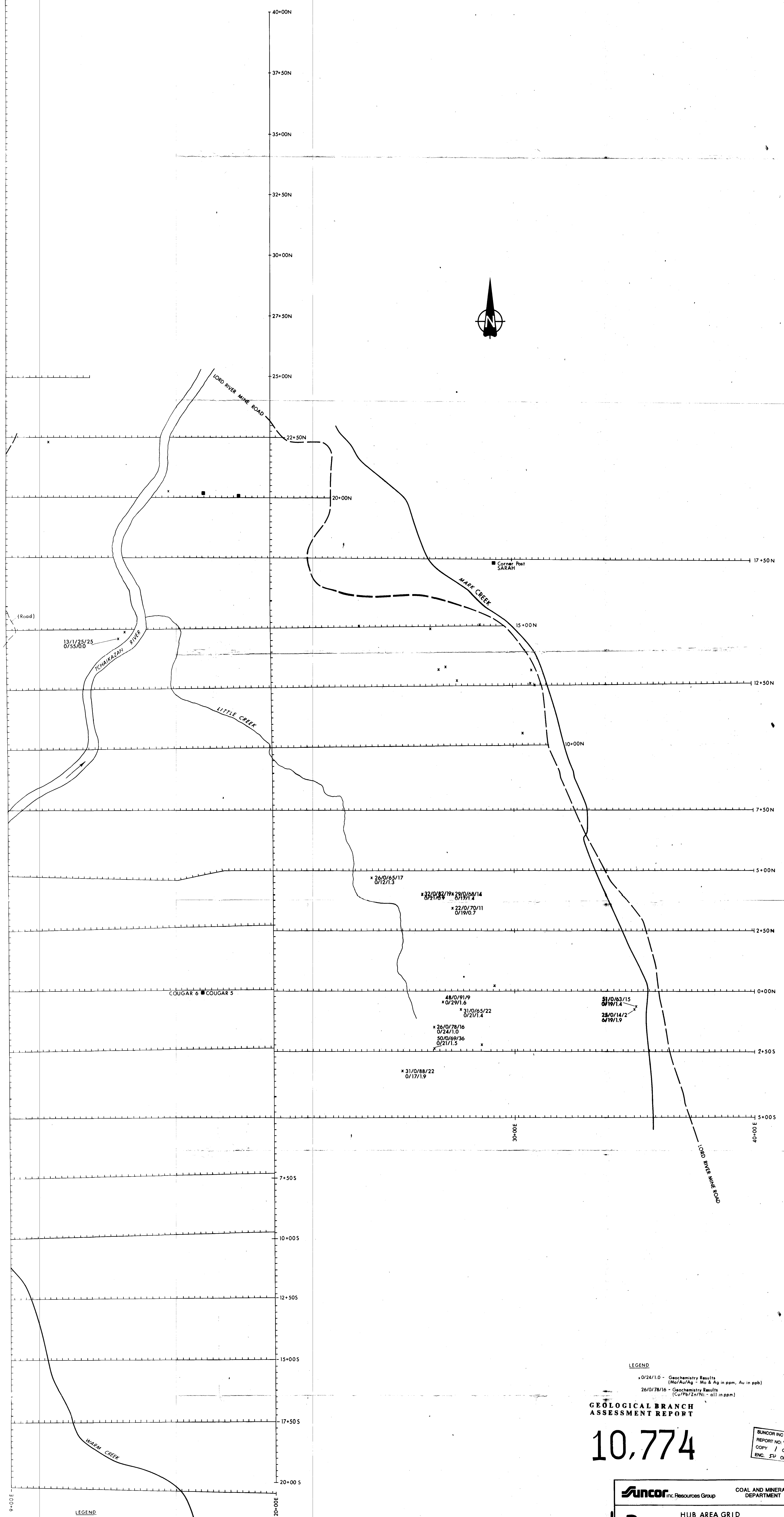
10,774

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of 4
SUNCOR
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Suncor CANADIAN MINERALS DEPARTMENT

MARK CREEK AREA
STRUCTURAL GEOLOGY
TCHAIKAZAN RIVER PROJECT
TASEKO LAKE AREA, B.C.

November, 1982 1:10,000 920/4 DRAWING No. 82-288



13/1/25/25
0/55/0.0

* 26/0/65/17
0/12/1.3

* 32/0/82/19
0/21/1.4

* 29/0/62/14
0/19/1.4

* 22/0/70/11
0/19/0.7

48/0/91/9
0/29/1.6

* 31/0/65/22
0/21/1.4

* 26/0/78/16
0/24/1.0

50/0/69/36
0/21/1.5

* 31/0/88/22
0/17/1.9

31/0/63/15
0/19/1.4

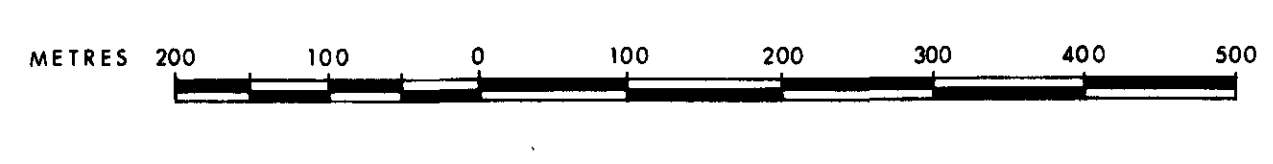
28/0/14/2
0/19/1.9

LEGEND
x 1/7/0.0 Geochemistry Results (Mo & Ag in ppm, Au in ppb)
20/2/57/10 Geochemistry Results (Cu/Pb/Zn/Ni all in ppm)

LEGEND
x 0/24/1.0 - Geochemistry Results (Mo/Au/Ag - Mo & Ag in ppm, Au in ppb)
26/0/78/16 - Geochemistry Results (Cu/Pb/Zn/Ni - all in ppm)

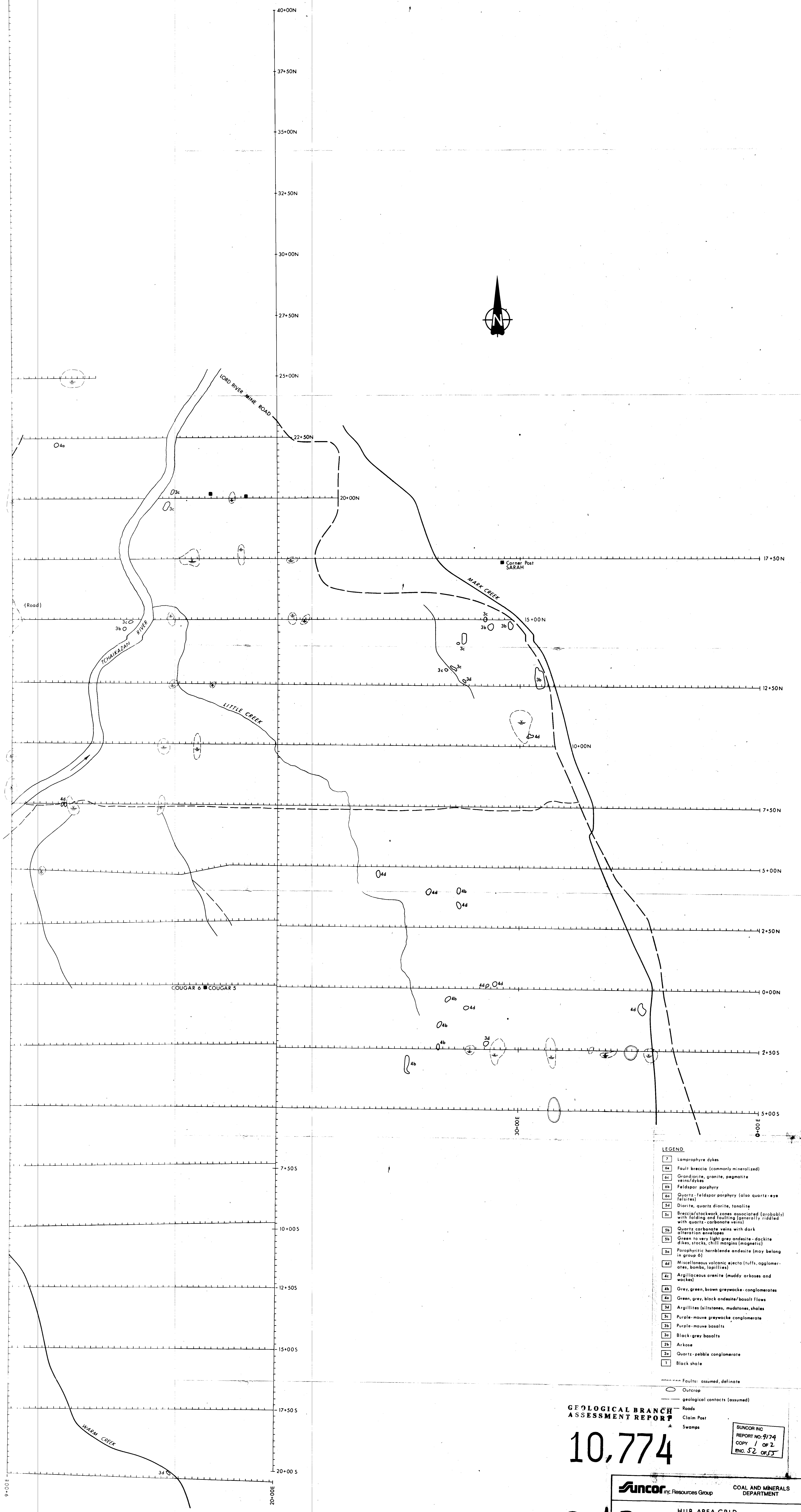
GEOLOGICAL BRANCH
ASSESSMENT REPORT
10,774

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of 4

Suncor Inc. Resources Group		COAL AND MINERALS DEPARTMENT	
HUB AREA GRID (EAST SHEET)			
ROCK GEOCHEMISTRY MOLYBDENUM, GOLD & SILVER COPPER, LEAD, ZINC & NICKEL			
TCHAIKAZAN RIVER PROJECT TASEKO LAKE AREA, B.C.			
DATE January, 1983	SCALE 1:5,000	M.T.S. 920/4	DRAWING No. 82-287-E-1



- LEGEND**
- 7 Lamprophyre dykes
 - 6a Fault breccia (commonly mineralized)
 - 6c Grandiorite, granite, pegmatite veins/dikes
 - 6b Feldspar porphyry
 - 6a Quartz, feldspar porphyry (also quartz-eye felsites)
 - 5d Diorite, quartz diorite, tonalite
 - 5c Breccia/stockwork zones associated (probably) with folding and faulting (generally riddled with quartz-carbonate veins)
 - 5b Quartz-carbonate veins with dark alteration envelopes
 - 5b Green to very light gray andesite-dacite dikes, stocks, chill margins (magnetic)
 - 5a Porphyritic hornblende andesite (may belong in group 6)
 - 4d Miscellaneous volcanic sialta (truffs, agglomerates, bombs, lapillies)
 - 4c Argillaceous arenite (muddy arkoses and wackes)
 - 4b Gray, green, brown greywacke-conglomerates
 - 4a Green, gray, black andesite/basalt flows
 - 3d Argillites (siltstones, mudstones, shales)
 - 3c Purple-mauve greywacke-conglomerate
 - 3b Purple-mauve basalts
 - 3a Black-grey basalts
 - 2b Arkose
 - 2a Quartz-pebble conglomerate
 - 1 Black shale
- Faults: assumed, definite
 ○ Outcrop
 --- geological contacts (assumed)
 --- Roads
 ■ Claim Post
 * Swamps

**GEOLOGICAL BRANCH
 ASSESSMENT REPORT**
 10,774

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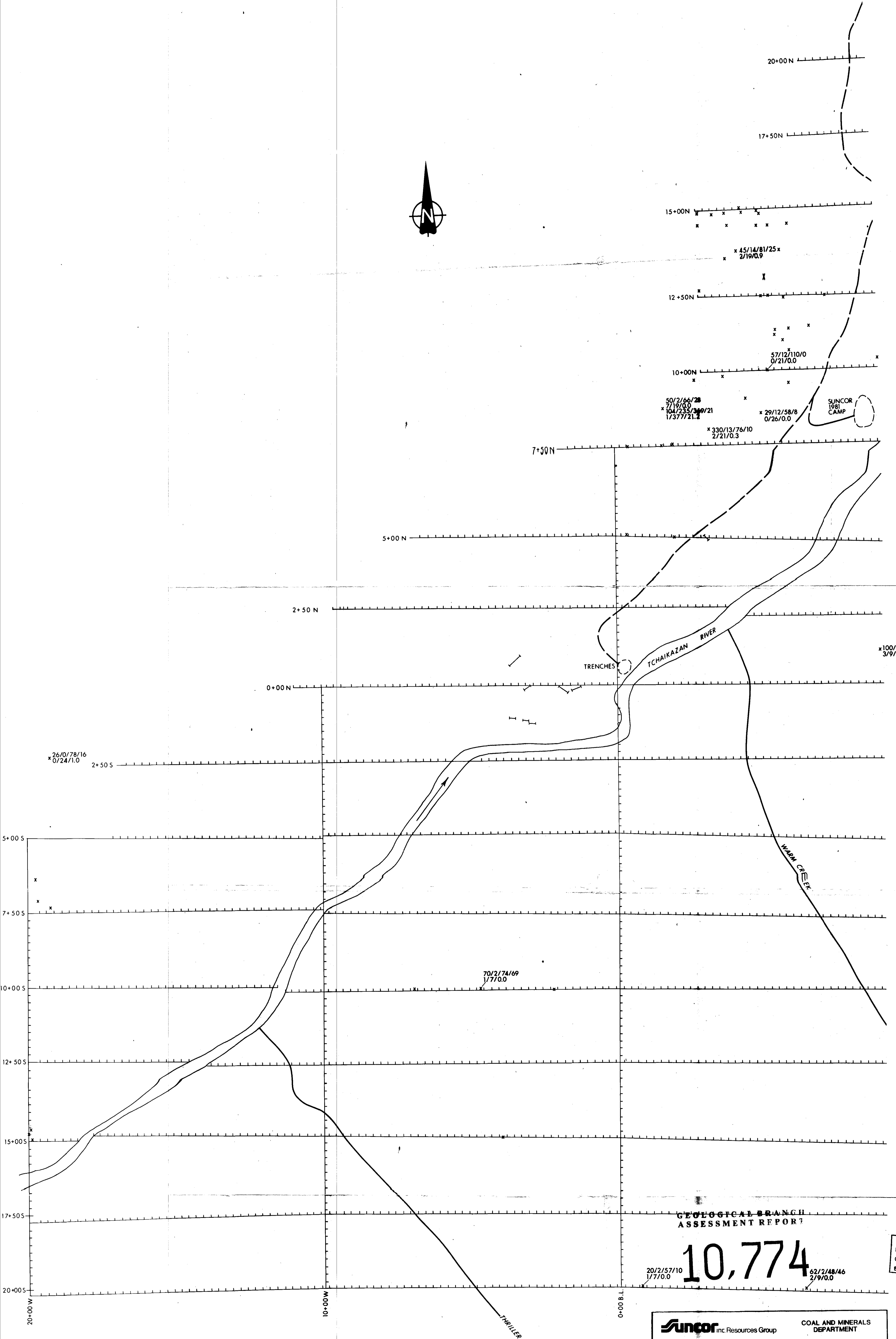
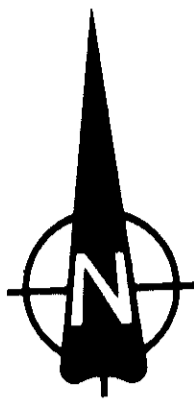


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 of 4

Suncor Resources Group		COAL AND MINERALS DEPARTMENT	
HUB AREA GRID (EAST SHEET)			
GEOLOGY			
TCHAIKAZAN RIVER PROJECT TASEKO LAKE AREA, B.C.			
DATE January, 1983	SCALE 1:5,000	N.T.S. 920	DRAWING No. 82-287-F-1

REVISED JAN 21 1983

EAST SHEET



GEOLOGICAL BRANCH
ASSESSMENT REPORT

10,774

20/2/57/10
1/7/0.0

62/2/48/46
2/9/0.0

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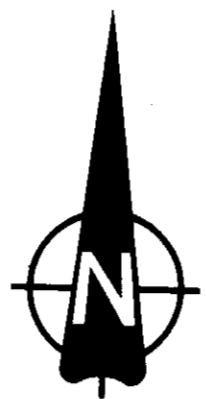
Suncor Inc. Resources Group COAL AND MINERALS DEPARTMENT

HUB AREA GRID (WEST SHEET)
ROCK GEOCHEMISTRY
MOLYBDENUM, GOLD & SILVER
COPPER, LEAD, ZINC & NICKEL
TCHAIKAZAN RIVER PROJECT
TASEKO LAKE AREA, B.C.

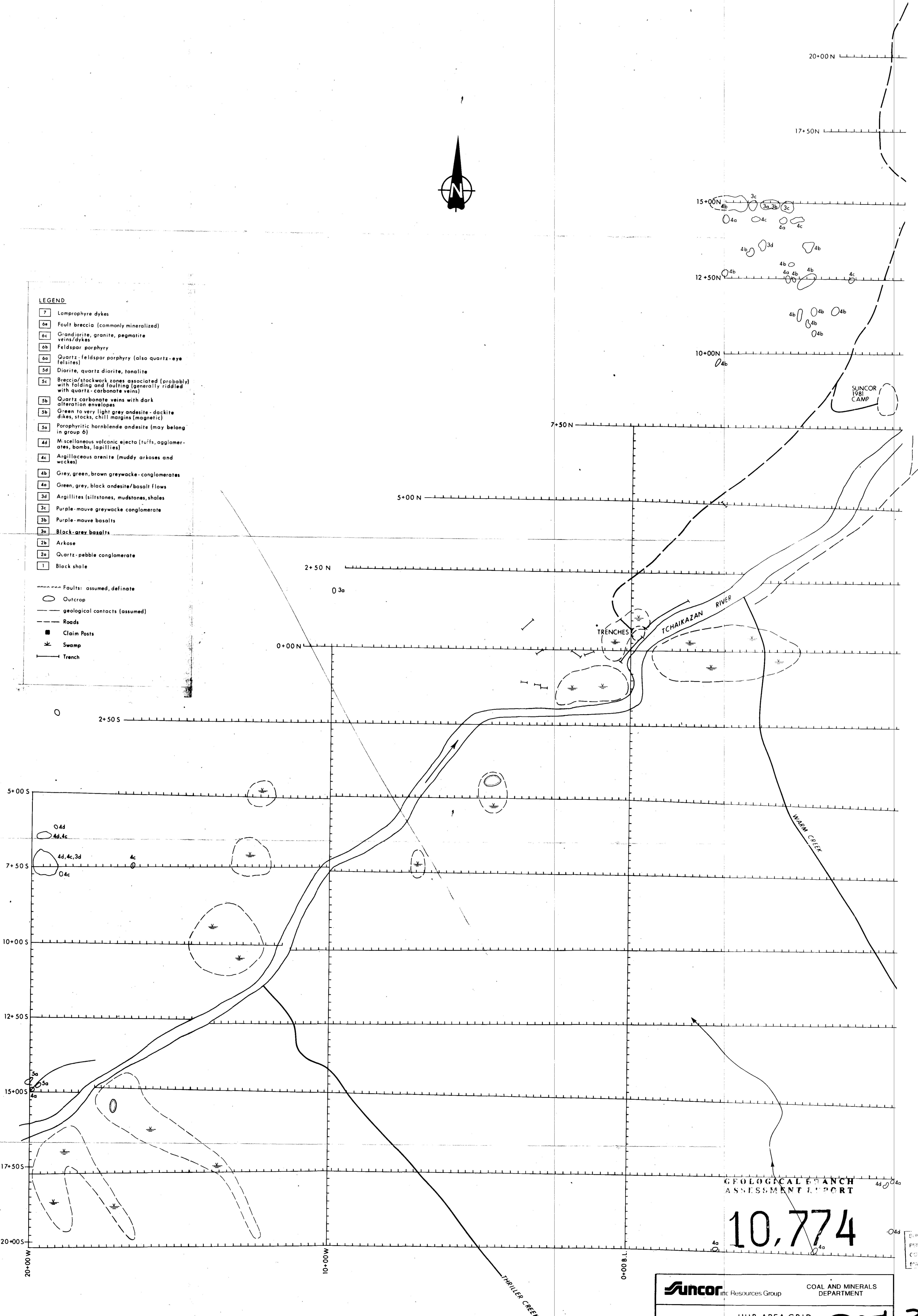
DATE: January, 1983 SCALE: 1:5,000 N.T.S.: 920/4 DRAWING No.: 82-287-E-2

Part 3
of 4

WEST SHEET



- LEGEND**
- 7 Lamprophyre dykes
 - 6w Fault breccia (commonly mineralized)
 - 6c Grandiorite, granite, pegmatite veins/dykes
 - 6b Feldspar porphyry
 - 6a Quartz-feldspar porphyry (also quartz-eye felsites)
 - 5d Diorite, quartz diorite, tonalite
 - 5c Breccia/stockwork zones associated (probably) with folding and faulting (generally riddled with quartz-carbonate veins)
 - 5b Quartz carbonate veins with dark alteration envelopes
 - 5a Green to very light grey andesite - dacite dikes, stocks, chill margins (magnetic)
 - 4d Paraphyritic hornblende andesite (may belong in group 6)
 - 4d Miscellaneous volcanic ejecta (tuffs, agglomerates, bombs, lapillies)
 - 4c Argillaceous arenite (muddy arkoses and wackes)
 - 4b Grey, green, brown greywacke-conglomerates
 - 4a Green, grey, black andesite/basalt flows
 - 3d Argillites (siltstones, mudstones, shales)
 - 3c Purple-mauve greywacke conglomerate
 - 3b Purple-mauve basalts
 - 3a Black-argill basalts
 - 2b Arkose
 - 2a Quartz-pebble conglomerate
 - 1 Black shale
- Faults: assumed, definite
- Outcrop
- geological contacts (assumed)
- Roads
- Claim Posts
- * Swamp
- Trench



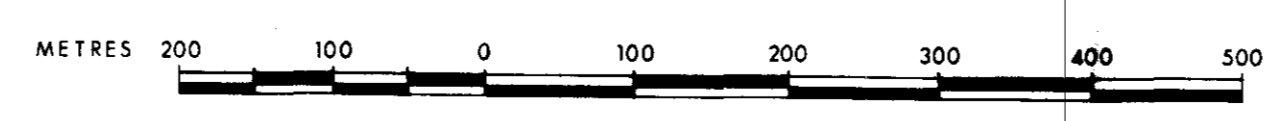
GEOLOGICAL BRANCH
ASSESSMENT REPORT

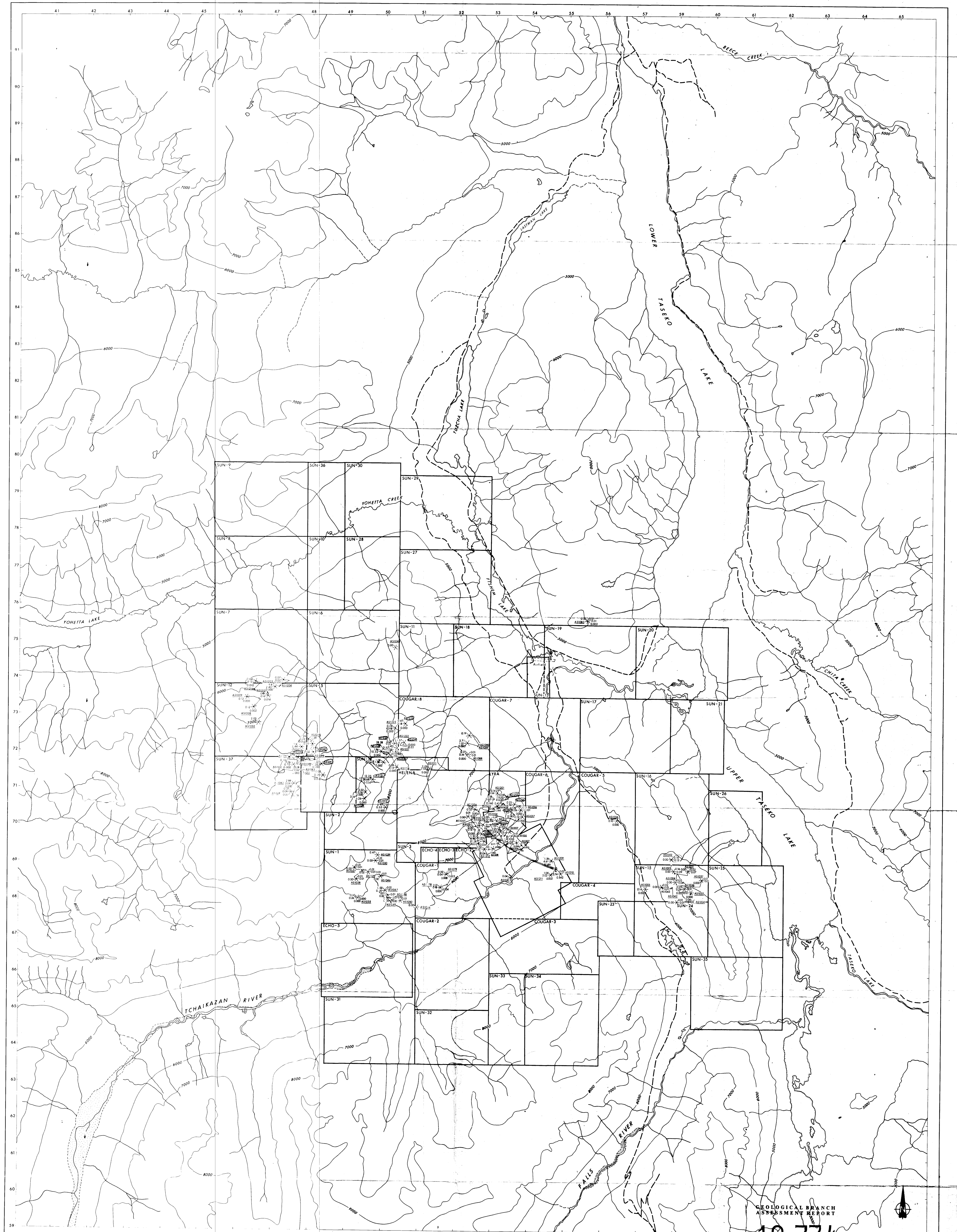
10,774

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REPORT NO 7774
COPY 1 OF 2
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Suncor Resources Group		COAL AND MINERALS DEPARTMENT	
HUB AREA GRID (WEST SHEET)			
GEOLOGY			
TCHAIKAZAN RIVER PROJECT TASEKO LAKE AREA, B.C.			
DATE January, 1983	SCALE 1:5,000	N.T.S. 920	DRAWING No. 82-287-F-2
REVISED JAN 27/83 WEST SHEET			

part 3
of 4

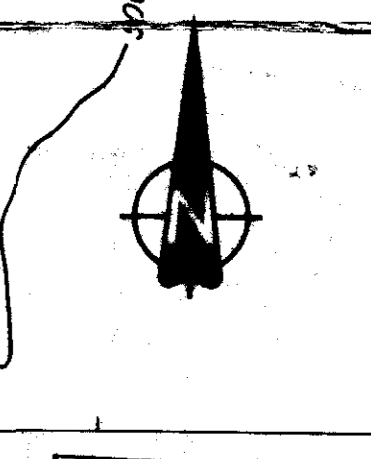
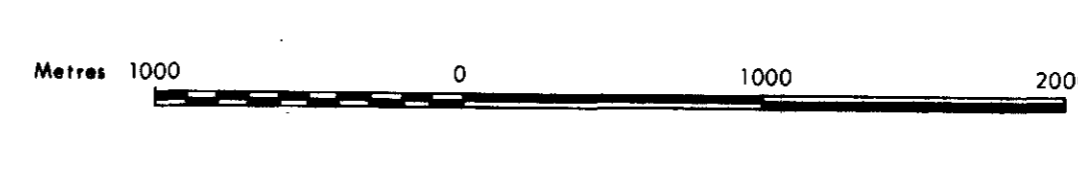




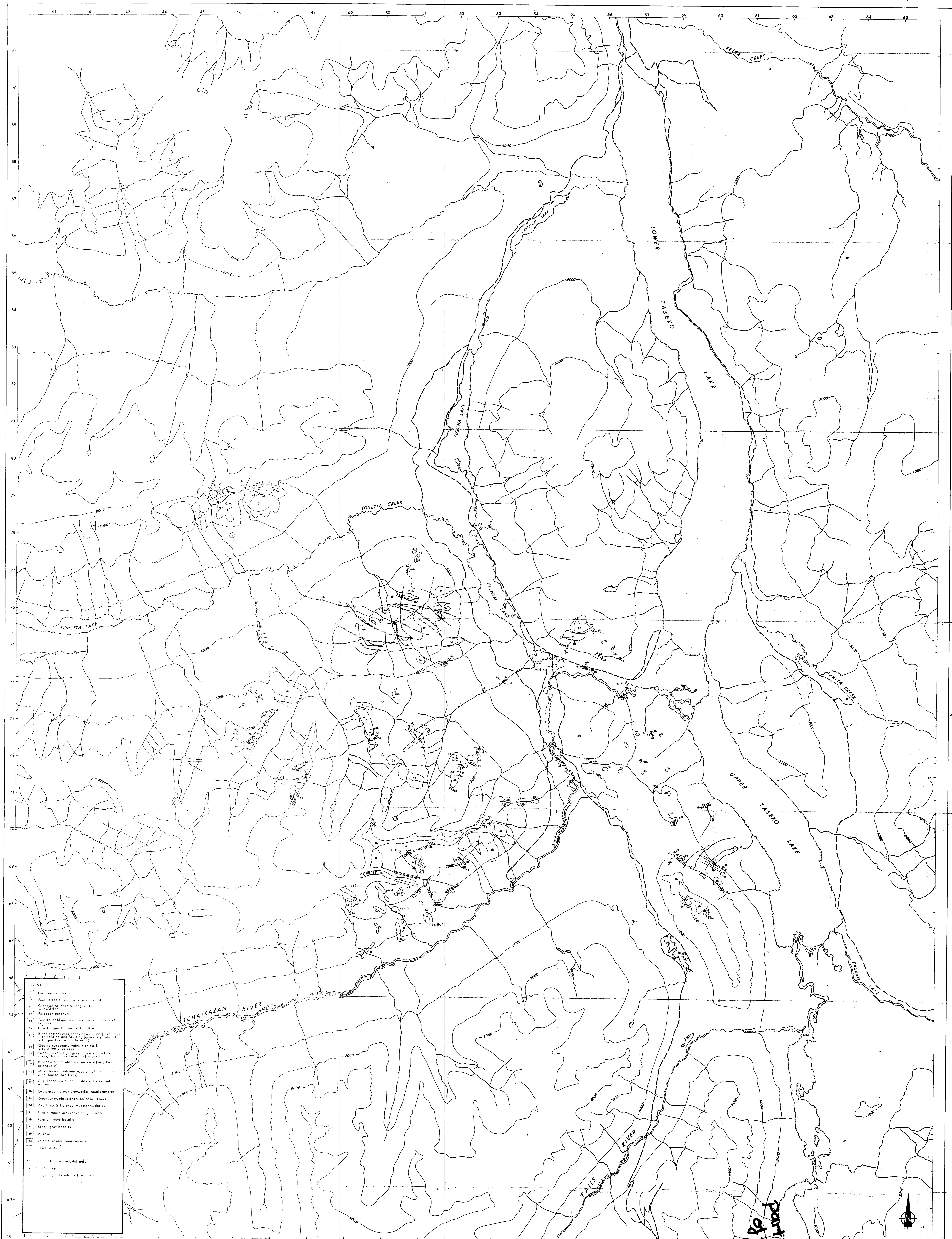
GEOLOGICAL BRANCH
ASSESSMENT REPORT
10,774

part 3
of 4

LEGEND
AS1080 Sample Value
* Sample Location
C_u, Pb Sample Results
As₂S₃ Sample Results



Sincor Inc. Resources Group			
COAL AND MINERALS DEPARTMENT			
ASSAY SAMPLE LOCATION MAP			
TCHAIKAZAN RIVER PROJECT			
TASEKO LAKE AREA, B.C.			
DATE	SCALE	MTS	DRAWING NO.
October, 1982	1:25,000	MEHA	82-293-C



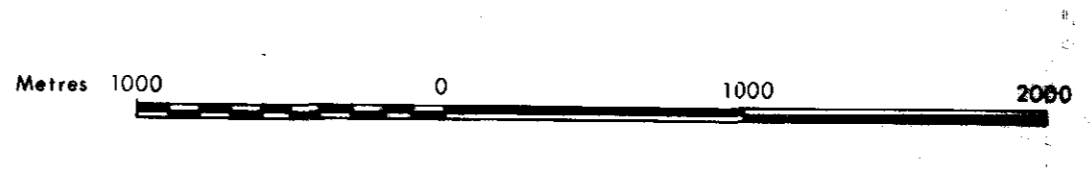
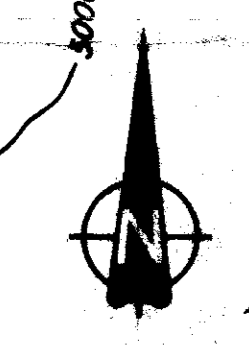
LEGEND

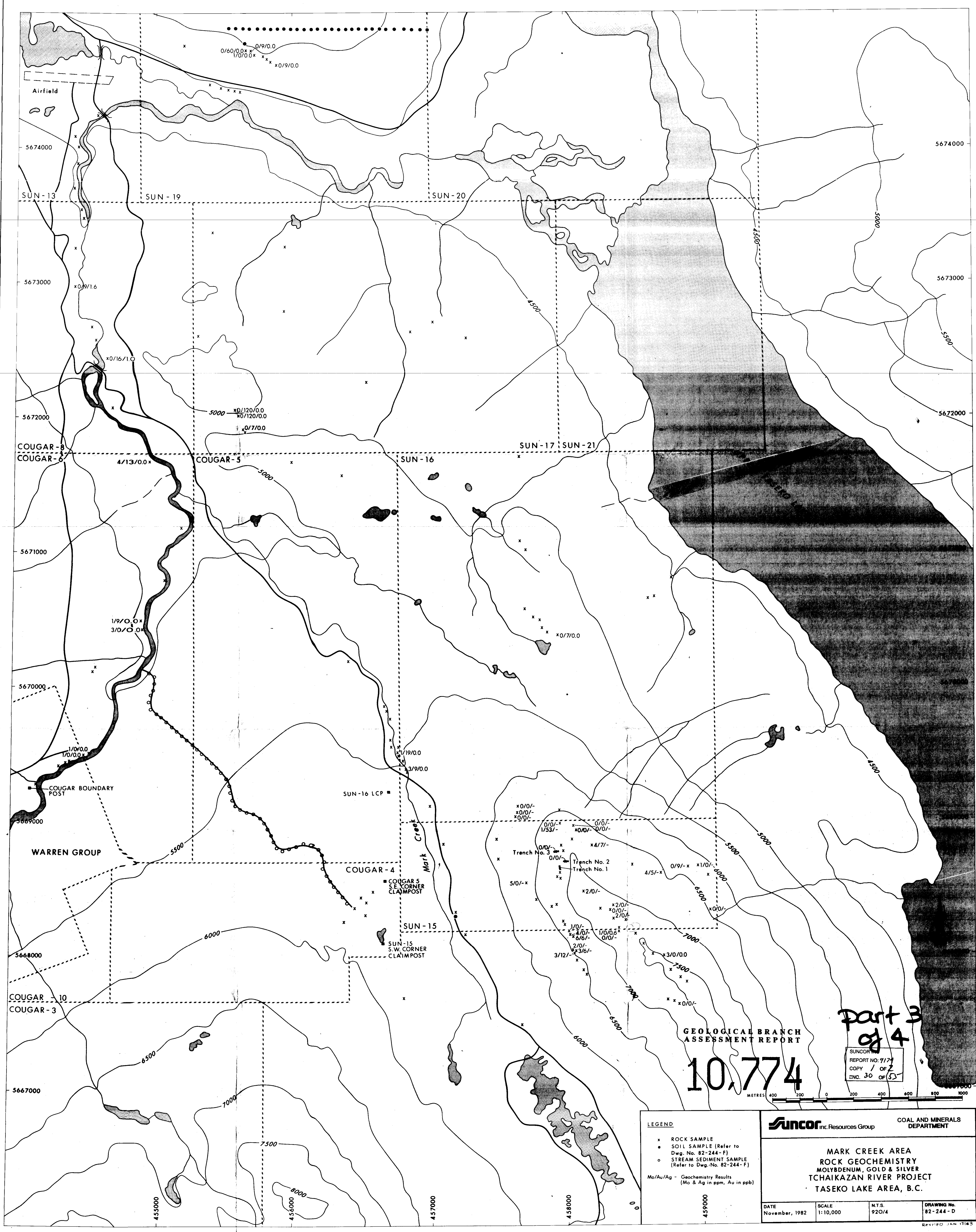
7	Tephrites dikes
8	Fault breccia (commonly magnetite)
9	Quartzite, granite, pegmatite veins/dikes
10	Feldspar porphyry
11	Quartz, feldspar asphery (also quartz-vein breccias)
12	Quartz, quartz diorite, tonalite
13	Breccia/stockwork zones associated (probably with folding and faulting) (generally riddled with quartz-carbonate veins)
14	Quartz carbonate veins with dark alteration envelopes
15	Green to very light grey andesite, dacite, diorite, gabbro, (with magnetite impregnation)
16	Porphyritic hornblende andesite (may belong to group 15)
17	Miscellaneous volcanic units (tuff, agglomerate, bomb, lapilli)
18	Argillaceous gneiss (muddy arkoses and siltstone)
19	Grey, green, brown greywacke-conglomerates
20	Green, grey, black andesite/basalt flows
21	Argillaceous limestone, mudstone, shales
22	Purple, mauve, greywacke-conglomerate
23	Purple, mauve basalt
24	Black grey basalt
25	Arkose
26	Quartz-siltstone conglomerate
27	Black shale

--- Faults: assumed, definite
 --- Outcrop
 --- Geological contacts (assumed)

part 3
 of 4
 10,774
 GEOLOGICAL BRANCH
 ASSESSMENT REPORT

Suncor Inc. Resources Group		COAL AND MINERALS DEPARTMENT	
GEOLOGY			
TCHAIKAZAN RIVER PROJECT TASEKO LAKE AREA, B.C.			
DATE October, 1982	SCALE 1:25,000	N.T.S. 94/04	DRAWING NO. 82-293-D





GEOLOGICAL BRANCH
ASSESSMENT REPORT

10,774

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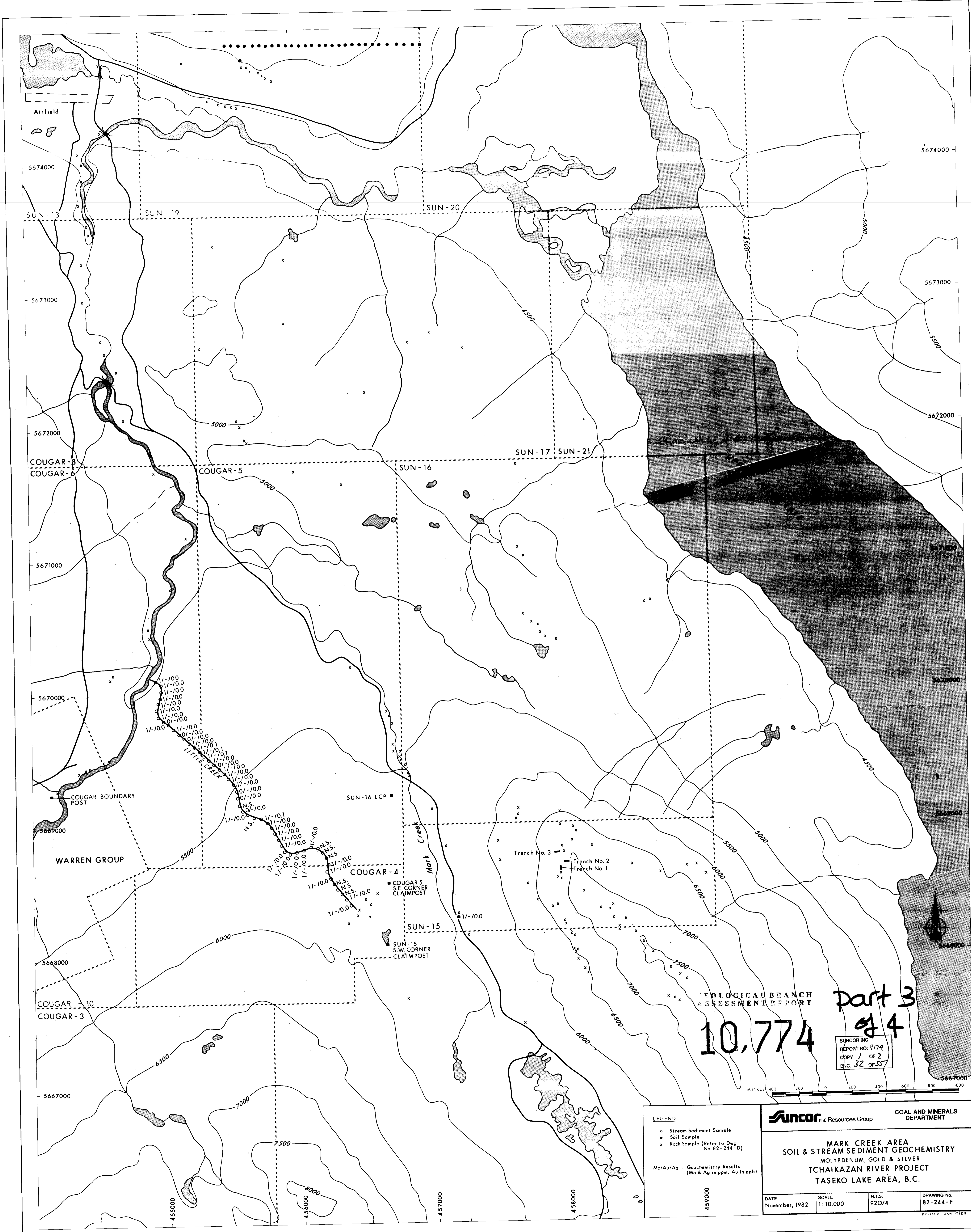
- LEGEND**
- x ROCK SAMPLE
 - SOIL SAMPLE (Refer to Dwg. No. 82-244-F)
 - o STREAM SEDIMENT SAMPLE (Refer to Dwg. No. 82-244-F)
- Mo/Au/Ag - Geochemistry Results (Mo & Ag in ppm, Au in ppb)

Suncor Inc. Resources Group COAL AND MINERALS DEPARTMENT

**MARK CREEK AREA
ROCK GEOCHEMISTRY
MOLYBDENUM, GOLD & SILVER
TCHAIKAZAN RIVER PROJECT
TASEKO LAKE AREA, B.C.**

DATE November, 1982	SCALE 1:10,000	N.T.S. 920/4	DRAWING No. 82-244-D
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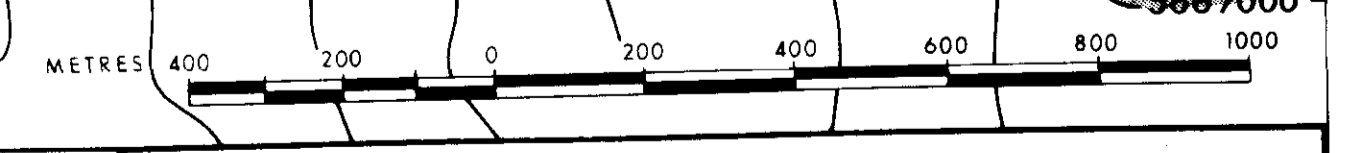
REVISED JAN 1983



10,774 part 3 of 4

ECOLOGICAL BRANCH ASSESSMENT REPORT

SUNCOR INC. REPORT NO. 9174 COPY 1 OF 2 ENC. 32 OF 55

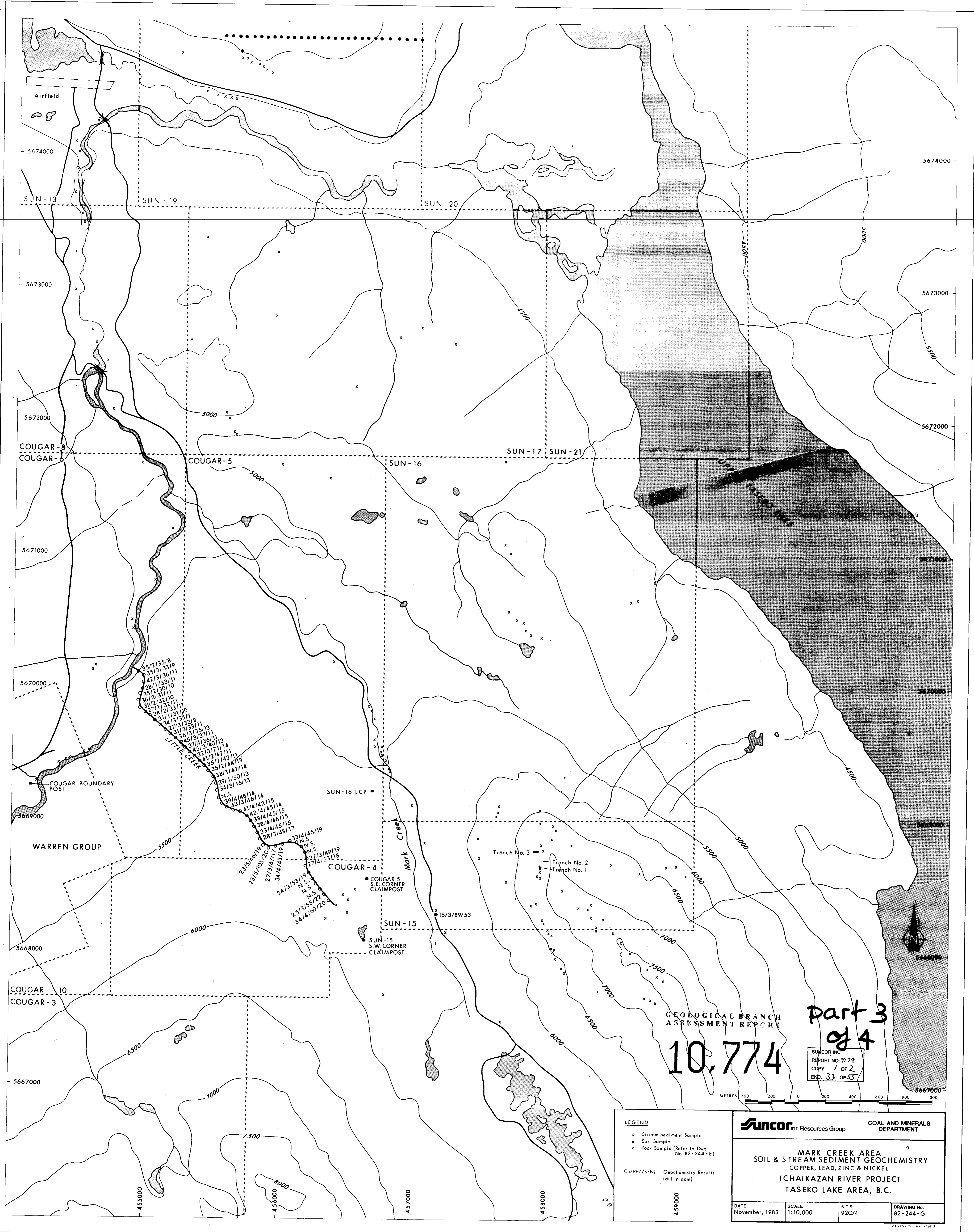


LEGEND
 o Stream Sediment Sample
 • Soil Sample
 x Rock Sample (Refer to Dwg. No 82-244-D)
 Mo/Au/Ag - Geochemistry Results (Mo & Ag in ppm, Au in ppb)

Suncor Inc. Resources Group
 COAL AND MINERALS DEPARTMENT

MARK CREEK AREA SOIL & STREAM SEDIMENT GEOCHEMISTRY
 MOLYBDENUM, GOLD & SILVER
 TCHAIKAZAN RIVER PROJECT
 TASEKO LAKE AREA, B.C.

DATE November, 1982	SCALE 1:10,000	N.T.S. 920/4	DRAWING No. 82-244-F
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of 4

GEOLOGICAL BRANCH
ASSESSMENT REPORT

SUNCOR INC
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ENC. 33 OF 53

Suncor Inc. Resources Group		COAL AND MINERALS DEPARTMENT	
MARK CREEK AREA SOIL & STREAM SEDIMENT GEOCHEMISTRY COPPER, LEAD, ZINC & NICKEL TCHAIKAZAN RIVER PROJECT TASEKO LAKE AREA, B.C.			
DATE November, 1983	SCALE 1:10,000	N.T.S. 920/4	DRAWING No. 82-244-G

LEGEND

- Stream Sediment Sample
- Soil Sample
- × Rock Sample (Refer to Dwg. No. 82-244-E)

Cu/Pb/Zn/Ni - Geochemistry Results (all in ppm)

METRES 400 200 0 200 400 600 800 1000



IRON MAIDEN[®]
 U.S.A. DESIGN PATENT 4139248 1979
 CANADIAN IND. DESIGN REG. NO. 42524
 CANADIAN PATENT 1065729 1979

IRON MAIDEN[®] SYSTEMS LTD. CALGARY ALBERTA CANADA

16,000 N
 15,000 N
 14,000 N
 13,000 N
 12,000 N
 11,000 N
 10,000 N
 8,000 N

4,000 E
 6,000 E
 8,000 E
 10,000 E



TABLE OF CO-ORDINATES			
STATION	NORTHING	EASTING	ELEVATIONS(m)
B.C. TRIG STA GIMETHBETE	10 000.000	10 000.000	2143.96
IP 1600	11 977.889	11 715.474	
TH 1601	12 022.331	11 774.253	
IP 1602	13 091.980	11 491.824	
TH 1603	13 138.593	11 539.237	
IP 1604	14 611.351	10 565.652	
IP 1605	15 213.515	10 431.494	
IP 1606	11 128.579	7 871.766	
IP 1607	11 130.185	7 871.150	
IP 1608	15 178.357	4 239.574	
IP 1609	13 793.525	5 419.595	
IP 1610	12 927.430	5 437.081	
IP 1611	14 961.551	7 986.904	
IP 1612	8 781.525	3 819.663	
IP 1613	13 788.752	7 858.581	
TH 1614	8 928.088	3 682.448	
IP 1615	12 925.296	9 282.513	
IP 1616	13 392.359	8 391.959	
TH 1620	9 924.232	10 889.436	2341.03
TH 1621	11 876.087	13 302.597	2209.42
TH 1622	13 774.405	7 401.180	2509.04
TH 1623	13 108.332	5 345.610	2628.73
TH 1624	14 637.757	5 076.726	2440.11
TH 1625	14 819.405	5 585.624	2498.07
TH 1626	13 798.980	5 466.459	
TH 1627	13 760.411	8 000.908	
TH 1628	14 599.985	10 565.677	

LEGEND

BEARINGS ARE ASTRONOMIC AND DERIVED FROM SOLAR OBSERVATIONS TAKEN AT TH 1601 AND REFERRED TO THE MERIDIAN PASSING THROUGH THIS POINT.

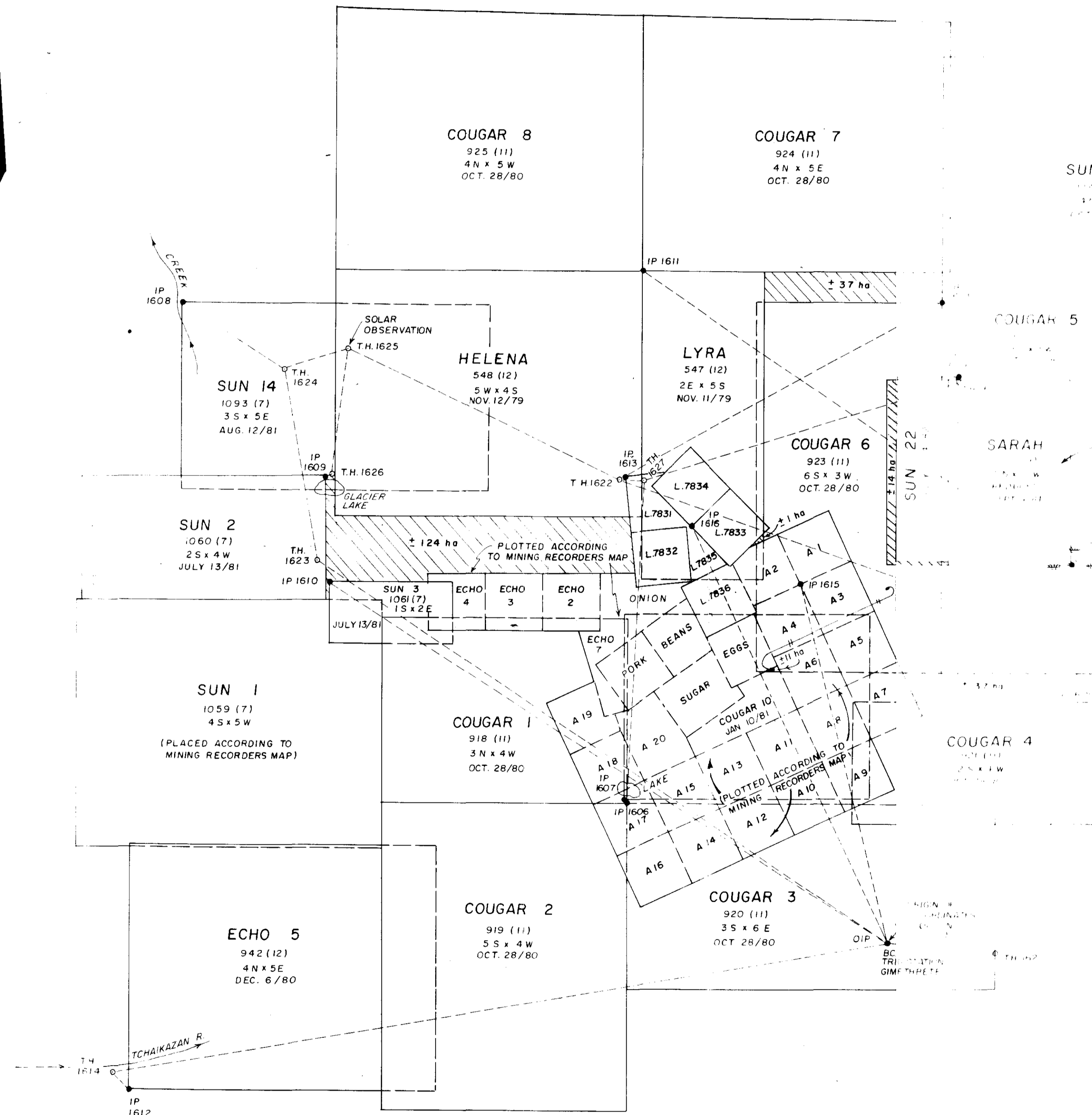
- IP DENOTES IRON POST SET
- OIP DENOTES IRON POST FOUND
- TH DENOTES TRAVERSE HUB

DIMENSIONS ARE IN METRES AND DECIMALS THEREOF.

ORIGIN OF CO-ORDINATES, B.C. TRIG. STATION GIMETHBETE ASSUMED 10,000 N 10,000 E

AREAS ARE SCALED AND ROUNDED UP TO THE NEAREST EVEN HECTARE (ha)

ORIGIN OF ELEVATIONS, B.C. TRIG. STATION GIMETHBETE, 2143.96m



BEARING TREE TABLE

STATION	BEARING	DISTANCE	REMARKS
IP 1608	N 11° 15' E	1.2	...
IP 1609	N 11° 15' E	1.2	...
IP 1610	N 11° 15' E	1.2	...
IP 1611	N 11° 15' E	1.2	...
IP 1612	N 11° 15' E	1.2	...
IP 1613	N 11° 15' E	1.2	...
IP 1614	N 11° 15' E	1.2	...
IP 1615	N 11° 15' E	1.2	...
IP 1616	N 11° 15' E	1.2	...
IP 1617	N 11° 15' E	1.2	...
IP 1618	N 11° 15' E	1.2	...
IP 1619	N 11° 15' E	1.2	...
IP 1620	N 11° 15' E	1.2	...
IP 1621	N 11° 15' E	1.2	...
IP 1622	N 11° 15' E	1.2	...
IP 1623	N 11° 15' E	1.2	...
IP 1624	N 11° 15' E	1.2	...
IP 1625	N 11° 15' E	1.2	...
IP 1626	N 11° 15' E	1.2	...
IP 1627	N 11° 15' E	1.2	...
IP 1628	N 11° 15' E	1.2	...

10,774

part 3 of 4

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 REPORT NO. 9174
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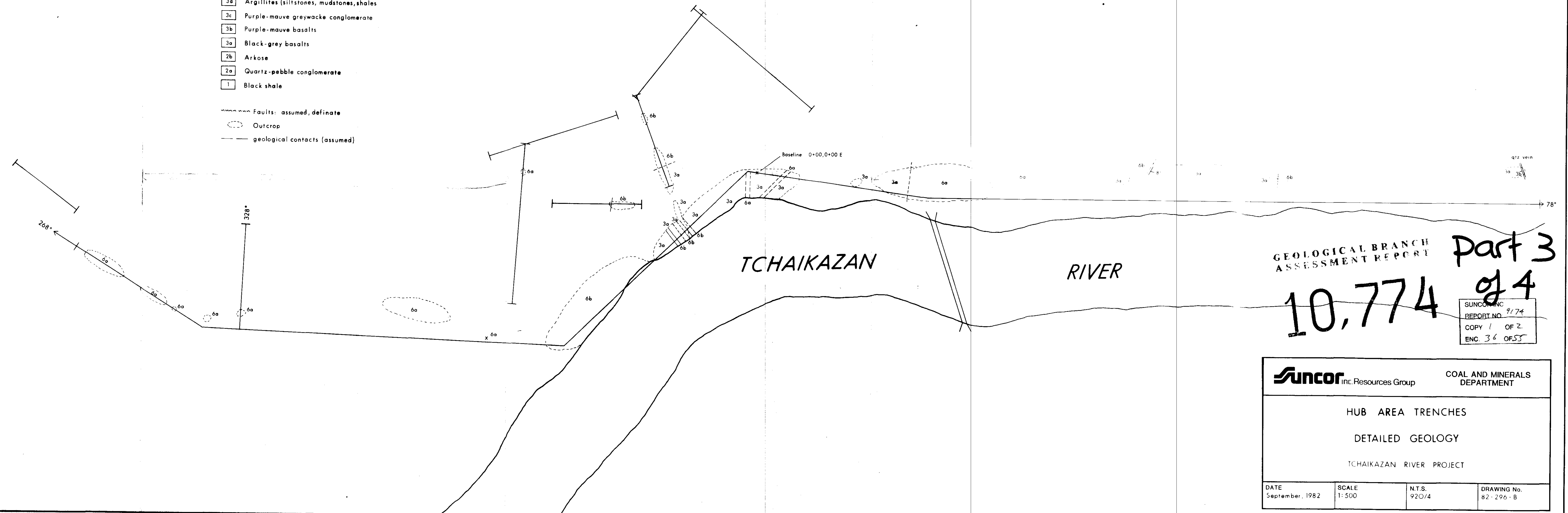
SUNCOR INC.
 SKETCH SHOWING
 L.C.P. AND MINERAL CLAIM LOCATION FOR
 THE TCHAIKAZAN RIVER PROJECT
 McELHANNEY ASSOCIATES

REV. DATE
 DESIGNED BY
 DRAWN BY
 CHECKED BY
 APPROVED BY
 OCTOBER
 1983
 82-220-A

LEGEND

- 7 Lamprophyre dykes
- 6e Fault breccia (commonly mineralized)
- 6c Grandiorite, granite, pegmatite veins/dykes
- 6b Feldspar porphyry
- 6a Quartz-feldspar porphyry (also quartz-eye felsites)
- 5d Diorite, quartz diorite, tonalite
- 5c Breccia/stockwork zones associated (probably with folding and faulting (generally riddled with quartz-carbonate veins)
- 5b Quartz carbonate veins with dark alteration envelopes
- 5a Green to very light grey andesite-dackite dykes, stocks, chill margins (magnetic)
- 4a Paraphyritic hornblende andesite (may belong in group 6)
- 4d Miscellaneous volcanic ejecta (tuffs, agglomerates, bombs, lapillies)
- 4c Argillaceous arenite (muddy arkoses and wackes)
- 4b Grey, green, brown greywacke-conglomerates
- 4a Green, grey, black andesite/basalt flows
- 3d Argillites (siltstones, mudstones, shales)
- 3c Purple-mauve greywacke conglomerate
- 3b Purple-mauve basalts
- 3a Black-grey basalts
- 2b Arkose
- 2a Quartz-pebble conglomerate
- 1 Black shale

- Faults: assumed, definite
- Outcrop
- geological contacts (assumed)

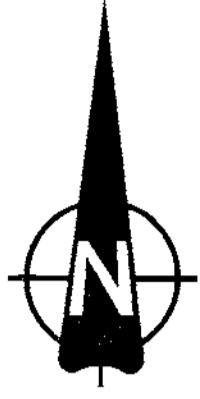


GEOLOGICAL BRANCH
ASSESSMENT REPORT

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Suncor inc. Resources Group		COAL AND MINERALS DEPARTMENT	
HUB AREA TRENCHES DETAILED GEOLOGY TCHAIKAZAN RIVER PROJECT			
DATE September, 1982	SCALE 1:500	N.T.S. 920/4	DRAWING No. 82-296-B



20+00 N

17+50 N

15+00 N

12+50 N

10+00 N

7+50 N

5+00 N

2+50 N

0+00 N

2+50 S

5+00 S

7+50 S

10+00 S

12+50 S

15+00 S

17+50 S

20+00 S

20+00 W

10+00 W

0+00 W

SUNCOR
1981
CAMP

TRENCHES

TCHAIKAZAN RIVER

WARM CREEK

THRILLER CREEK

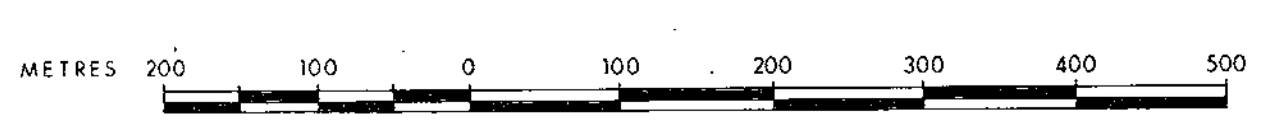
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LEGEND

— VLF-EM Conductor Axis



Suncor inc Resources Group COAL AND MINERALS DEPARTMENT

HUB AREA GRID (WEST SHEET) **Part 3**

GEOPHYSICAL COMPILATION **of 4**

TCHAIKAZAN RIVER PROJECT
TASEKO LAKE AREA, B.C.

DATE January, 1983	SCALE 1:5,000	N.T.S. 920	DRAWING No. 82-287-1-2
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WEST SHEET