

MAP NO.:
115 I 3

ASSESSMENT REPORT X
PROSPECTUS
CONFIDENTIAL X
OPEN FILE

DOCUMENT NO: 092697
MINING DISTRICT: Whitehorse
TYPE OF WORK: Trenching, diamond drilling

REPORT FILED UNDER: Noranda Exploration Co. Ltd

DATE PERFORMED: 26 September - 6 October, 1988

DATE FILED: 3 February, 1989

LOCATION: LAT.: 62 02'N

AREA: Mt Nansen

LONG.: 137 15'W

VALUE \$: 12 800.00

CLAIM NAME & NO.: DOWS 1-16, 49-60, 65-68 (YB07687-702, YB12788-9, YB12794-7)

WORK DONE BY: K.D. Galambos

WORK DONE FOR: Noranda Exploration Co. Ltd

DATE TO GOOD STANDING:

REMARKS: #121 DOWS

In 1988, geochemical sampling outlined a NE-trending multi-element anomaly 30-150 m wide over a strike length of 600 m. Trenching revealed 3 zones of gold surface enrichment. Five HQ holes were drilled totalling 388.01 m. Drill results were consistent with the geology seen on surface. Core recovery was poor due to the widespread clay alteration.

DIAMOND DRILLING REPORT 1988

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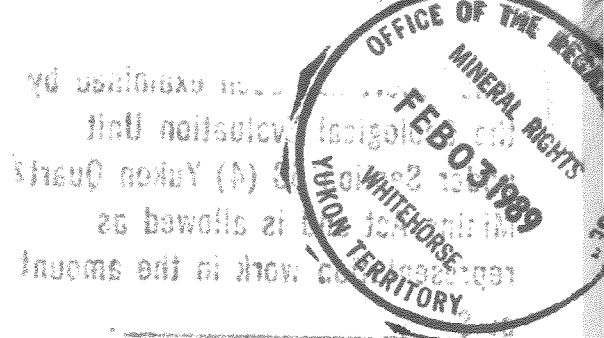
DOWS 1-16, 49-60 & 65-68 Claims

Whitehorse Mining District

N.T.S.: 115 1/3

Latitude: 62 02' N

Longitude: 137 15' W



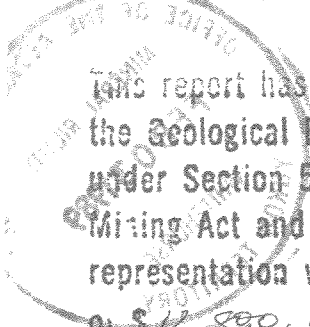
092697

Owner: Noranda Exploration Co. Ltd.

(no personal liability)

K.D. Galambos, P. Eng.

January, 1989



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

of \$12,390.00.

J. J. Bennett

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

Approved as physical work

700200

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SUMMARY

Noranda's Mt. Nansen property consists of 109 contiguous mineral claims in the Dawson Range Gold Belt, Yukon. It has 2WD road access to within 2.5km of the claim group and a cat trail through to the property. This report deals with 32 of these claims.

Geochemical surveys carried out during the 1988 field season outlined a strong NE-SW trending multi-element anomaly 30-150m wide over a strike length of 600m. Geophysical surveys show that this area lies within a zone of lower magnetics and is blanketed by an area of moderate and strong P.F.E.. The anomalies appear to be offset by a zone of low resistivity which is probably fault related.

Trenching has revealed three zones of gold enrichment on surface. The largest and highest grade Curley - 1 zone returned anomalous values of gold over 30m. The C-2 zone 100m to the east contained anomalous gold over 6m. A third zone 50m southwest of the C-1 zone returned values over 4m. Through geological observation it is believed that these zones strike at approximately 120 degrees and dip 60-65 degrees to the northeast.

The purpose of the 1988 drilling program was to test geophysical and geochemical targets within the area of trenching. Five holes were drilled for a total of 388.01m. Drilling suggests that the mineralization is contained in separate zones at the above mentioned orientation.

It is recommended that more trenching and/or diamond drilling be done to outline the extent of mineralization in bedrock. Expansion of the grid to cover the entire property followed by further geochem and geophysical surveys is also strongly suggested.

CHAPTER ONE: INTRODUCTION

1-1: Introductory Statement

The Dows 1-16, (YB07687-702), Dows 49-60 (YB12778-789) and Dows 65-68 (YB12794-797) are located approximately 50km due west of Carmacks, Yukon.

The claims were staked in 1987 and 1988 to cover mineralized subcrop and possible extensions. The current drill program was undertaken to test geochemical and geophysical anomalies produced during the 1988 field season.

1-2: Location & Access

The property (NTS 115 I/3; Latitude; 62 02'N, Longitude; 137 15'W) is located in the Dawson Range approximately 50km west of Carmacks, Y.T.. Access is by 2WD road from Carmacks to within 2.5km and a cat trail from this point through to the property.

Physiography & Vegetation

The claims lie within the Dawson Range, a region characterized by an unglaciated upland plateau dissected by present drainage. The claim group is located on a gentle west facing slope with maximum elevation of 1280m (4200'). Outcrops are generally restricted to ridge tops.

Vegetation, consists of sparse to moderately dense spruce forests on east and south facing slopes while thick moss and low buck brush predominate elsewhere in this area of discontinuous permafrost.

1-4: History of the Claims

Dows 1-16, (YB07687-702) were staked by Eugene Curley, on Aug. 25, 1987 and registered Aug. 31, 1987. Noranda Exploration subsequently commissioned the staking of the remainder of the claims on Jan. 7, 1988 (registered Jan.

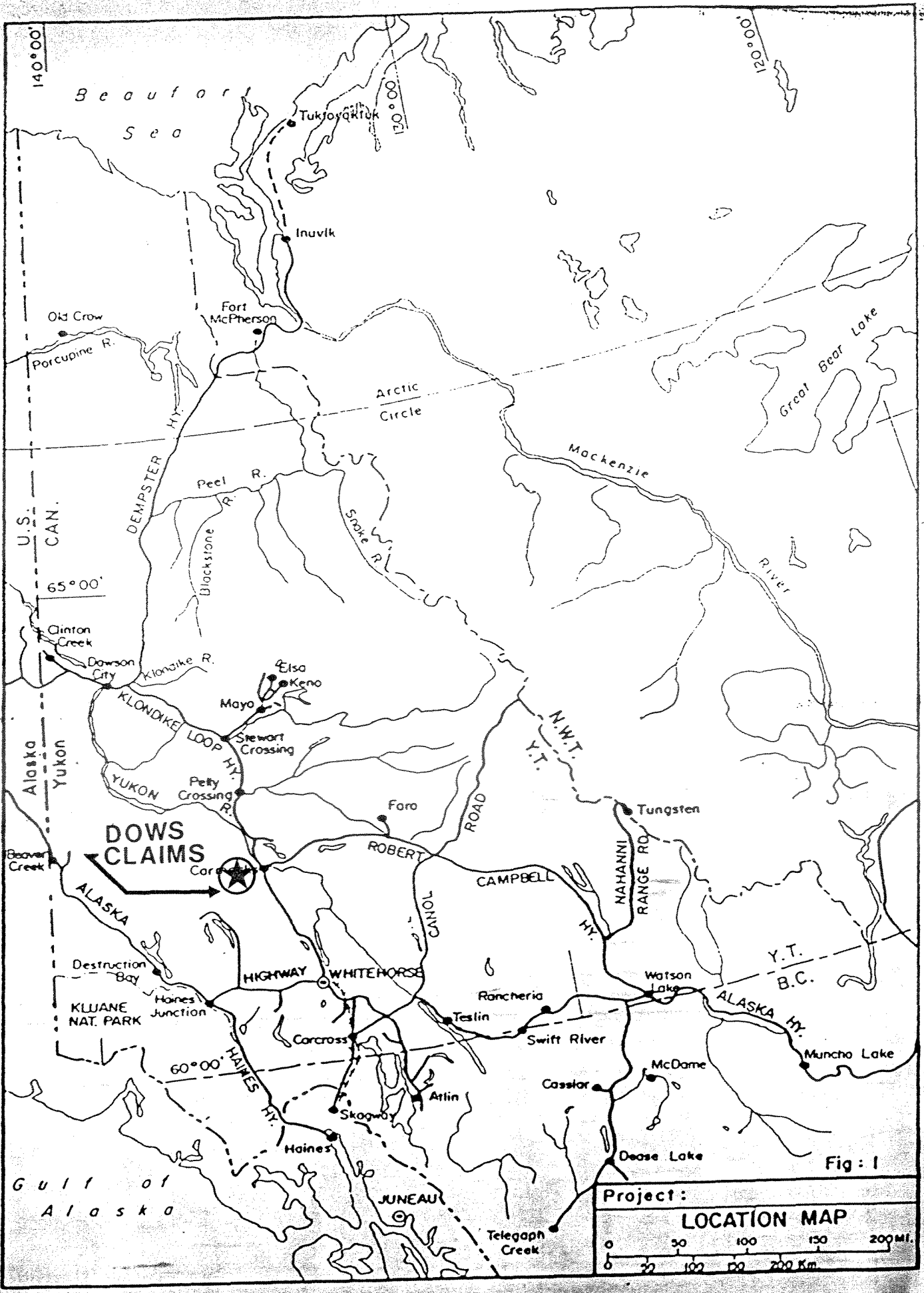


Fig: 1

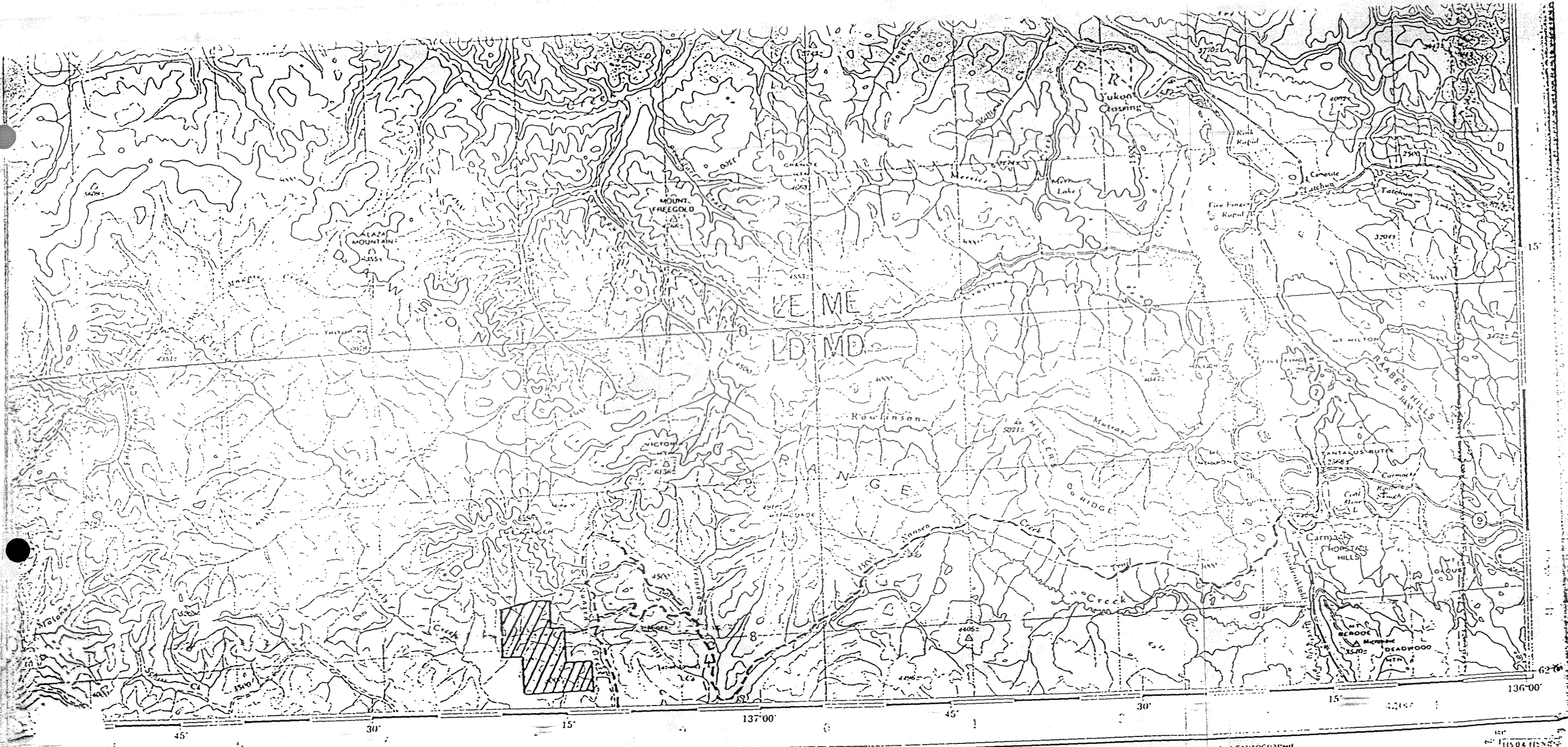
Project:

LOCATION MAP

0 50 100 150 200 MI.

0 22 102 202 200 Km.

VAN CAL 111726



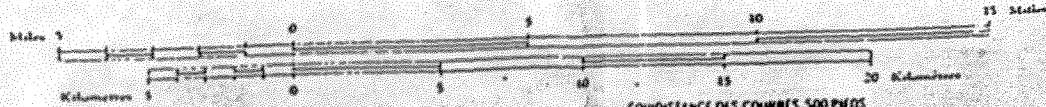
Produced 1969, by the SURVEYS AND MAPPING BRANCH,
DEPARTMENT OF ENERGY, MINES AND RESOURCES
Printed 1971

Magnetic declination 1970 varies from 31°25' easterly at
centre of west edge to 32°16' easterly at centre of east
edge. Mean annual change 3.8' westerly.

Interim Corrections 1974

CARMACKS YUKON TERRITORY

Scale 1:250,000 Échelle



CONTOUR INTERVAL 500 FEET
Elevations in feet above Mean Sea Level
North American Datum 1927
Projection: Mercator

ÉCHARTONNAGE DES COURBES 500 PIEDS
Élevations en pieds au-dessus du niveau moyen de la mer
Système de référence géodésique nord-américain, 1927
Projection: Transverse de Mercator

Copies may be obtained from the Map Distribution Office,
Department of Energy, Mines and Resources, Ottawa.

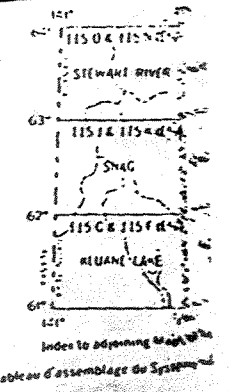
Ces cartes sont en vente au Bureau de distribution des cartes,
ministère de l'Énergie, des Mines et des Ressources, Ottawa.

Établie en 1969, par la DIRECTION DES SERVICES DE LA CARTOGRAPHIE
MINISTÈRE DE L'ÉNERGIE, DES MINES ET DES RESSOURCES
Imprimée en 1971

Road	Route	more than 2 lanes	2 lanes	less than 2 lanes
hard surface, all weather	durée, toute saison	more than 2 lanes	2 lanes	less than 2 lanes
loose surface, all weather	de gravier, toute saison	more than 2 lanes	2 lanes	less than 2 lanes
loose surface, winter only	de gravier, hiver seulement	more than 2 lanes	2 lanes	less than 2 lanes
gravel, cart track	chemin de terre	more than 2 lanes	2 lanes	less than 2 lanes
trail or portage	sentier ou portage	more than 2 lanes	2 lanes	less than 2 lanes
Roads, normal gauge	Chemin de fer, à écartement normal	more than 2 lanes	2 lanes	less than 2 lanes
Dissection contours	Courbes de nivellement	more than 2 lanes	2 lanes	less than 2 lanes
Spot elevation, in feet	Repère de nivellement en pieds	more than 2 lanes	2 lanes	less than 2 lanes
Power transmission line	Ligne de transport d'énergie	more than 2 lanes	2 lanes	less than 2 lanes

FIG: 2

REVISED	MT. NANSEN - DOWS CLAIMS	
CLAIM LOCATION MAP		
PROJ. No. 337	SURVEY BY: KG	DATE: OCT 88
N.T.S. 115173	DRAWN BY:	SCALE: 1:250,000
DWG. No.	NORANDA EXPLORATION	
	OFFICE: WHITEHORSE	



Index to adjoining maps
Tableau d'assemblage du Système

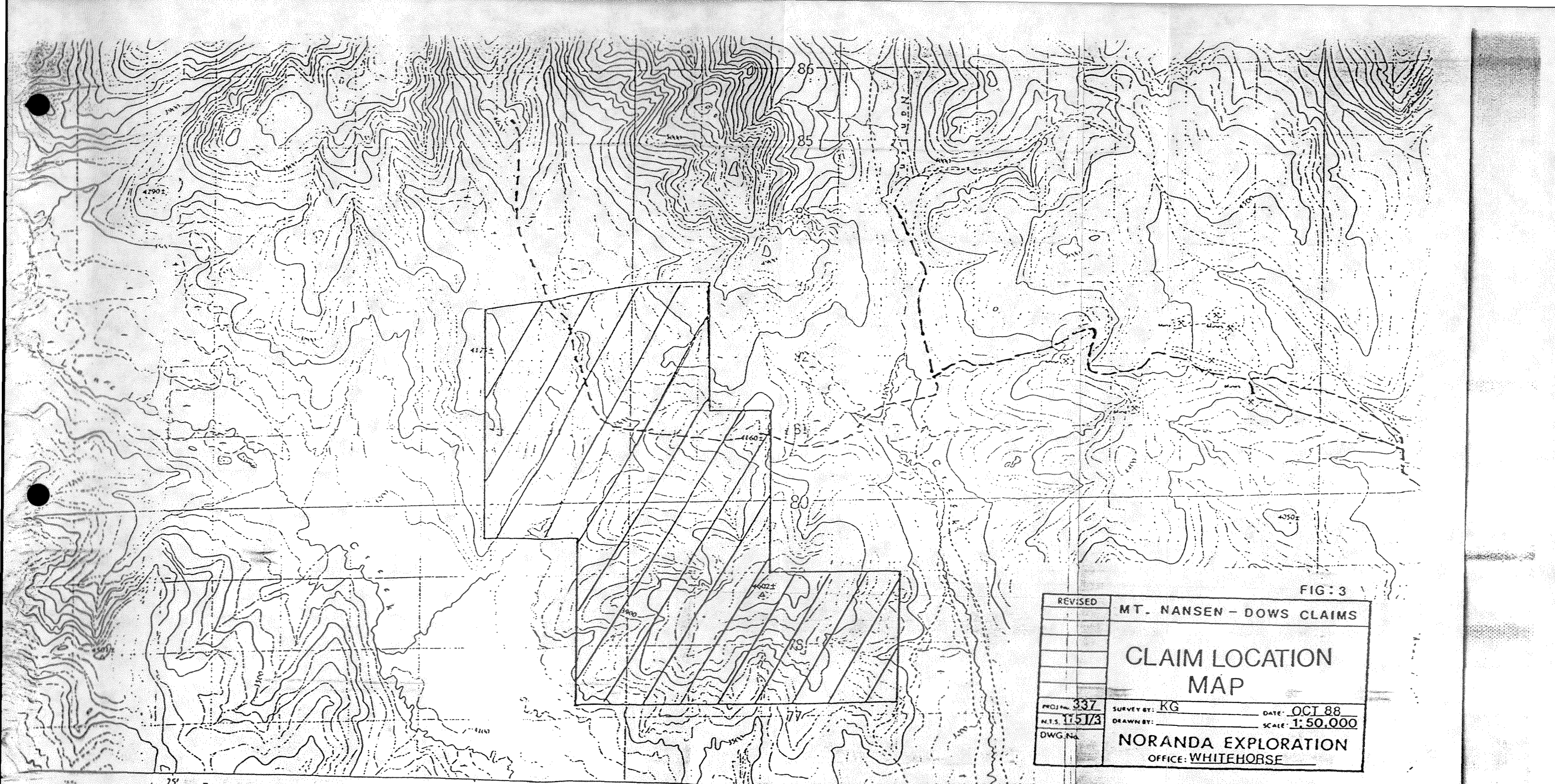


FIG: 3

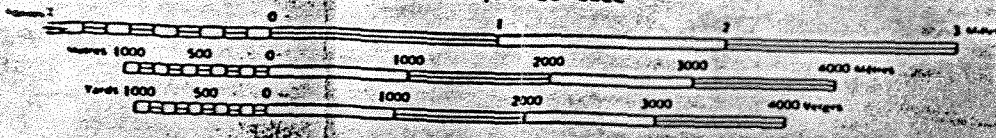
REVISED	MT. NANSEN - DOWS CLAIMS	
	CLAIM LOCATION MAP	
PROJ. No. 337	SURVEY BY: KG	DATE: OCT 88
N.T.S. 1151/3	DRAWN BY:	SCALE: 1:50,000
DWG. No.	NORANDA EXPLORATION	
	OFFICE: WHITEHORSE	

15' Joins 115H/14

MOUNT NANSEN

YUKON TERRITORY

SCALE 1:50,000 ÉCHELLE



Roads:	Routes:		
hard surface, all weather.....	pavée, toute saison.....	more than 2 lanes	2 lanes
hard surface, all weather.....	pavée, toute saison.....	plus de 2 voies	2 voies
loose stabilized surface, all weather.....	gravier aggloméré, toute saison.....	less than 2 lanes	moins de 2 voies
loose surface, dry weather.....	de gravier, période sèche.....	2 lanes or more	plus de 2 voies
cart track.....	de terre.....	2 voies ou plus	plus de 2 voies
trailer portage.....	sentier ou portage.....		

CONTOUR INTERVAL 100 FEET
Elevations in Feet above Mean Sea Level
North American Datum 1927
Transverse Mercator Projection

EQUIDISTANCE
Elevations in feet au Niveau de réth Projection

Some names on this map are not yet official. Corrections or additions are invited by the Surveys and Mapping Branch.

Certain names on pas encore offici de la cartograph signaler correct

This Provisional Map is equivalent to a standard map in accuracy of content.

Cette carte prov carte régulière a l'information.

8, 1968).

Upon acceptance of this report, Dows 1-16, 49-60 and 65-68 will remain in good standing until February 28, 1997.

1-5: Previous Exploration

Exploration in the Mt. Nansen area dates back to the turn of the century with most creeks being staked by placer miners on their way to the Klondike. The first geologist to visit the area was D.D. Cairnes of the G.S.C. in 1914. He examined the placer gold potential of Nansen and Victoria Creeks and made a reconnaissance survey of the area. H.S. Bostock also of the G.S.C conducted a reconnaissance survey of the Carmacks district between 1932 and 1934.

In 1943, prospectors discovered Pb-Ag-Au veins which were later explored by Peso silver Mines Ltd.. In 1968, Mt. nansen Mines Ltd. opened a 400 t.p.d mill to process ore mined from the Brown-McDade vein but it closed operations in 1969 due to poor mill head recoveries of the precious metals.

More recently, numerous companies are evaluating the region for potential bulk-mineable heap-leachable Au-Ag deposits. Important lode deposits already discovered in the area are:

NAME	TONNES	Au opt	Ag opt
Laforma	198,000	0.32	?
Brown-McDade	800,000	0.23	1.0
Huestis	85,728	0.45	9.11
Webber	58,524	0.34	19.29
Tinta Hill	516,000	0.12	6.4

In the immediate claim group area there is little evidence of previous exploration except for placer evaluation of the various creeks on the property. Prior to Noranda optioning of the property the only work done was

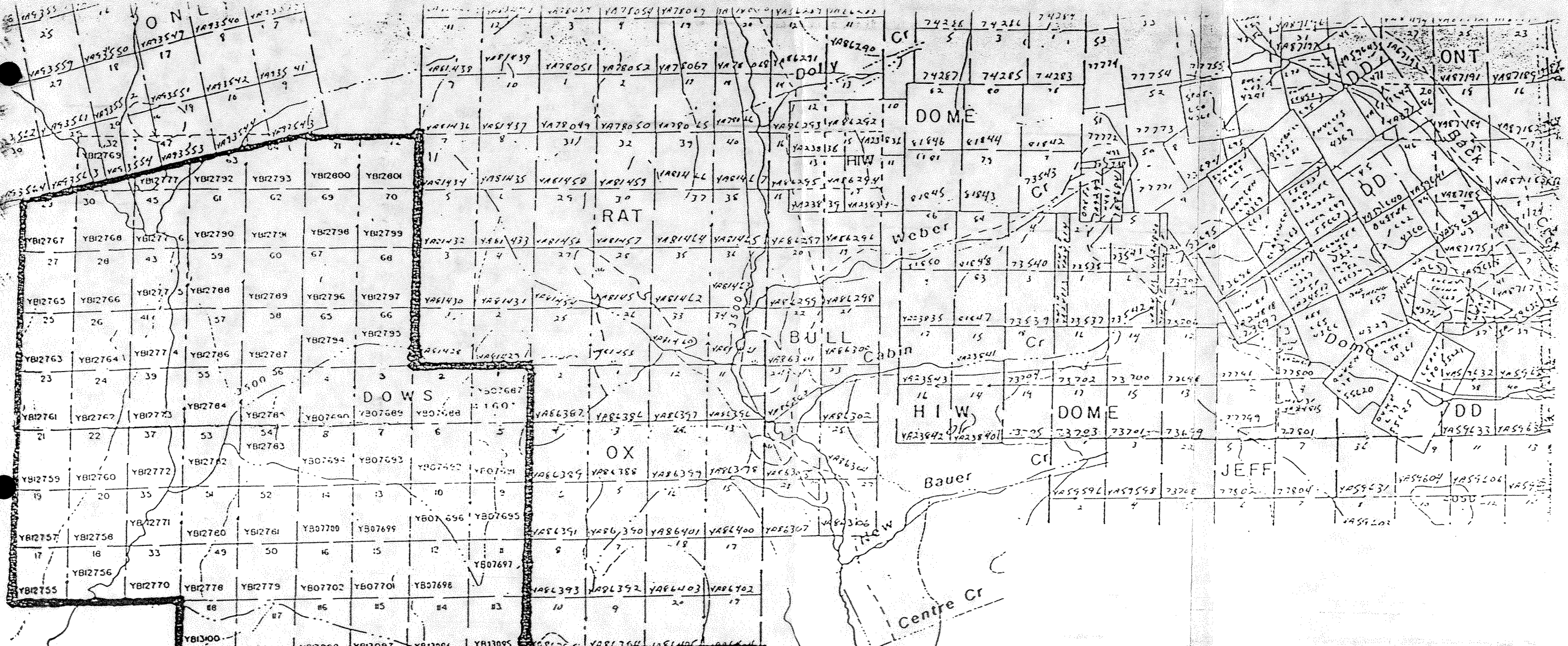
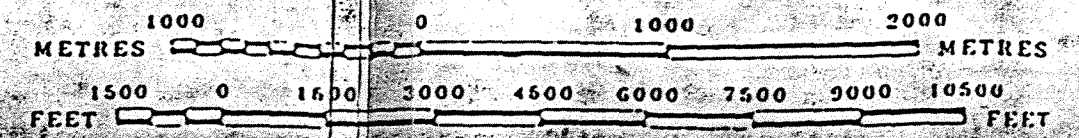
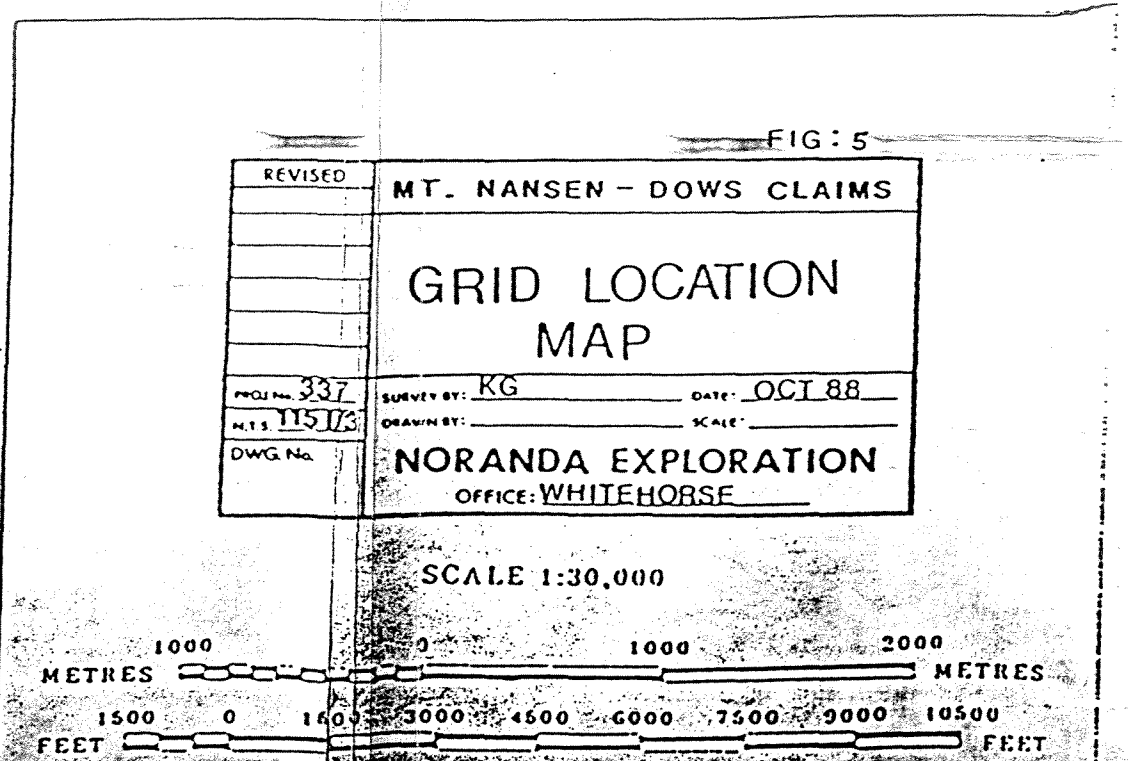
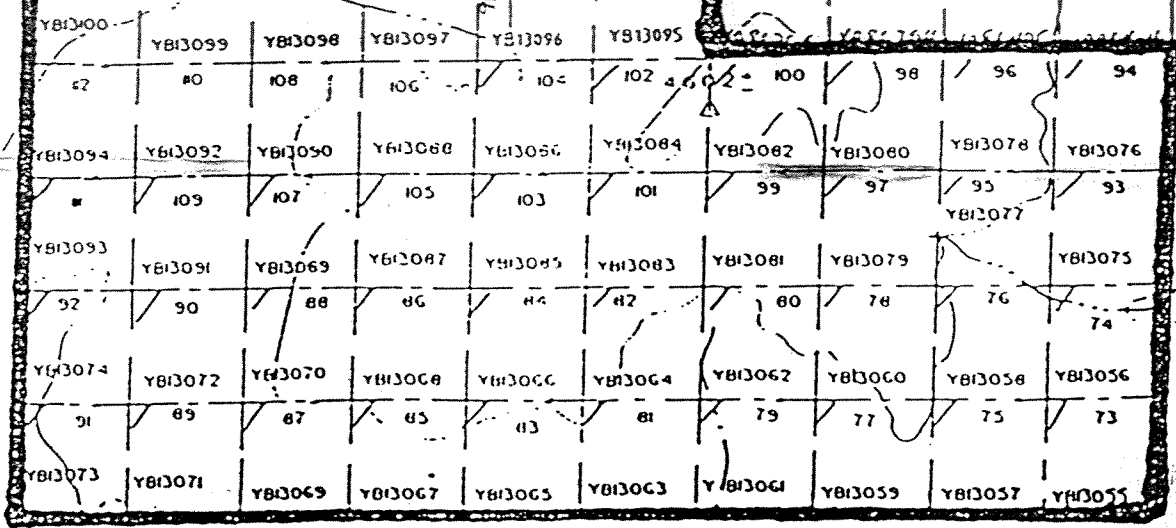
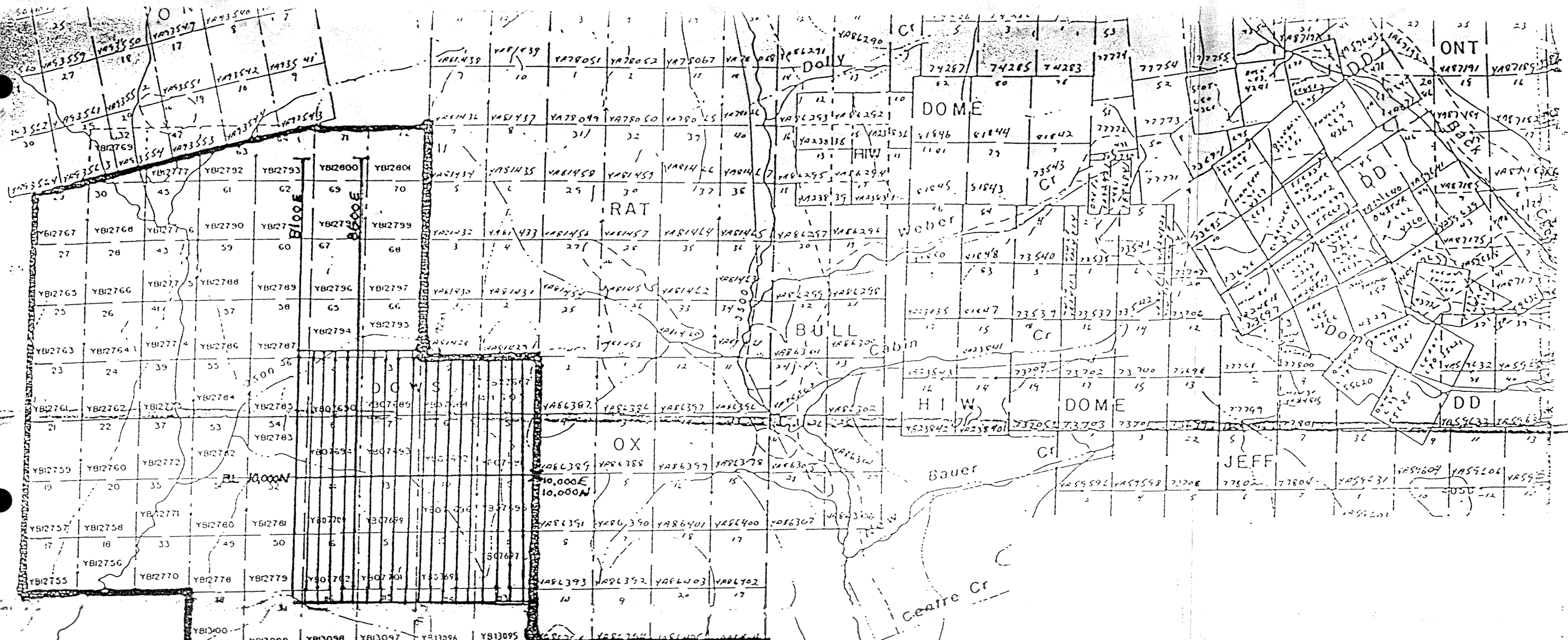


FIG: 4

REVISED	MT. NANSEN - DOWS CLAIMS	
	CLAIM MAP	
PROJ. No. 337	SURVEY BY: KG	DATE: OCT 88
M.T.S. 115/73	DRAWN BY:	SCALE:
DWG. No.	NORANDA EXPLORATION OFFICE: WHITEHORSE	

SCALE 1:30,000





that completed by the prospector, Mr. Eugene Curley. In 1987 Mr. Curley retrieved mineralized samples from pits dug in the area of a strong dosing anomaly and then had two back-hoe trenches dug to expose these zones.

During the 1988 field season, Noranda crews placed 43km of flagged line and collected a total of 673 soil samples and 39 rock samples from on the original 16 claims. Preliminary, 1:10,000 mapping was attempted, but due to lack of outcrop exposure, not completed. Forty-three km of a magnetometer survey, 4.6 km of VLF and 4 km of IP were completed on the Nansen grid. Five new trenches were stripped, dug and all seven were chip or channel sampled. A total of 134 trench samples were collected.

1-6: Work Program

The 1988 drill program consisted of the setting up of a wood framed tent camp on the property and the drilling of five diamond drill holes (388.01m). Minor grid expansion and infill geochemical soil sampling was conducted over southern parts of the Nansen grid at this time.

CHAPTER TWO: GEOLOGY

2-1: Regional Geology

The area sits on the boundary between the Yukon Cataclastic Terrane to the north and the Yukon Crystalline terrane to the south. Paleozoic schists and gneisses of the Crystalline Terrane predominate as the basement in this area. These rocks have been intruded by two main igneous events; an early Jurassic plutonic suite comprised of syenite to monzonite which was later metamorphosed and foliated and a younger Cretaceous suite of plutonic and related volcanic units.

Major regional structures generally trend northwest through the area, the most distinctive being the Big Creek Fault. This fault forms the northeast boundary of a graben structure near Mt. Freegold. The southwest edge of this graben is not clearly defined but is thought to occur just south of Mt. Nansen in the area of the claim group.

Most mineralization in the area shows a special relationship to felsic porphyry dykes which are believed to be a late Cretaceous event. The porphyry units are often brecciated and fractured, possibly due to the explosive action of confined late stage volatiles. Areas of fracturing act as plumbing systems and have contributed to localizing hydrothermal solutions. Advanced argillic and phyllic alteration mineral assemblages are often found in these brecciated core areas surrounded by irregular halos of argillic and propylitic alteration.

2-2: Property Geology

Like most of the region, outcrop is scarce on this property due to the lack of recent glaciation. A castellated outcropping of basement schist occurs on the ridge at the eastern boundary of the property while small

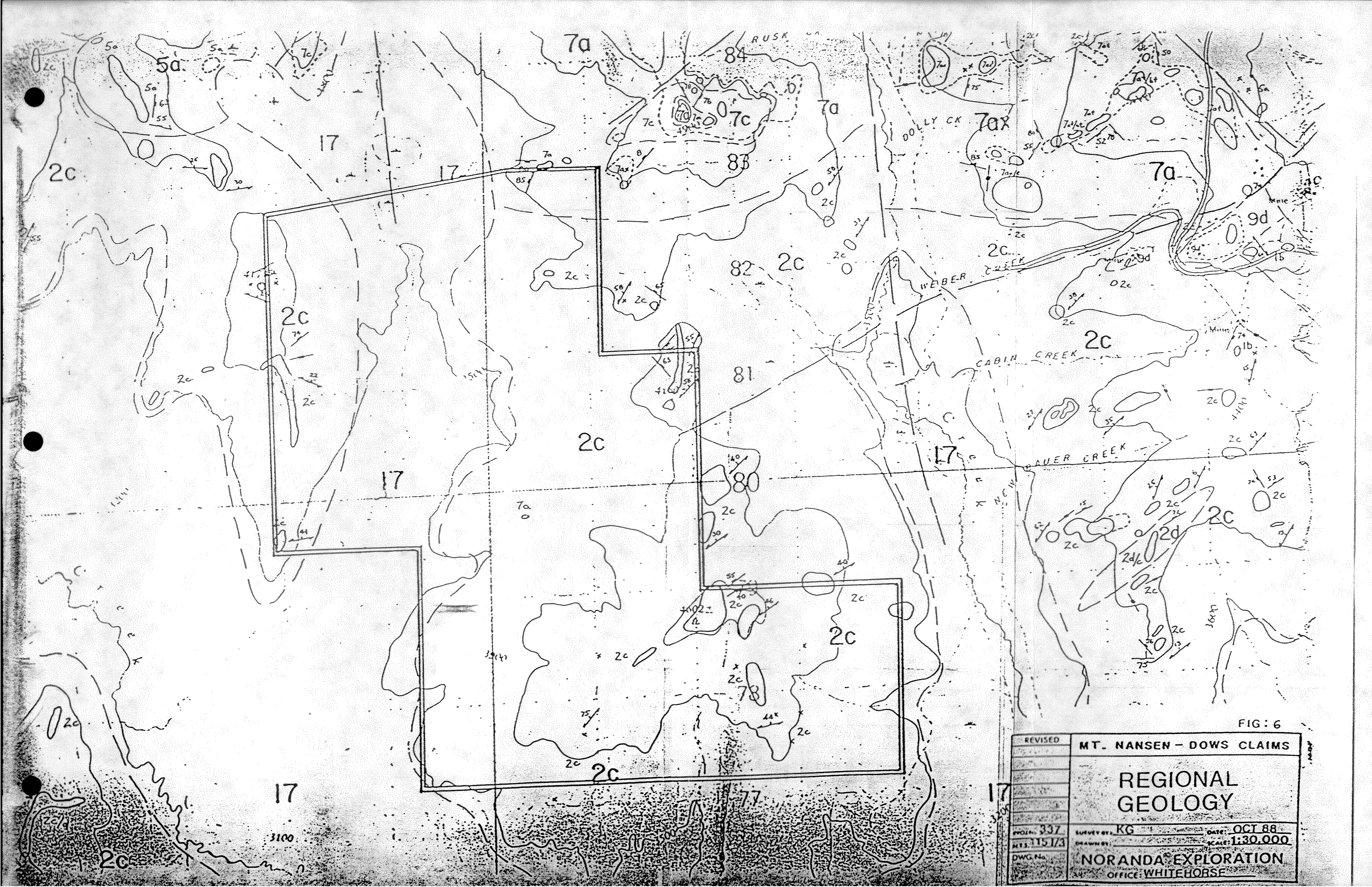


FIG: 6

REVISED	MT. NANSEN - DOWS CLAIMS	
REGIONAL GEOLOGY		
PROJ. 337	SURVEYOR: KG	DATE: OCT 88
MTS 1151/3	DRAWN BY:	SCALE: 1:30,000
DWG. No.	NORANDA EXPLORATION	
	OFFICE: WHITEHORSE	

outcroppings of andesitic to basaltic flows of the Mt. Nansen group are exposed in the southwest corner of Dows 16. The only other rocks observed were those exposed by trenching.

Bedrock exposed in the trenches consists of fresh to intensely clay altered schists, gneisses, quartzite and white marble of the basement metamorphic complex intruded by weak to strongly clay and/or silica altered (often foliated) quartz feldspar porphyry dykes believed to belong to the Cretaceous Mt. Nansen Volcanic Suite.

The basement rocks are characterized by quartzofeldspathic, medium to coarse grained schists and gneiss. These are generally brown in color and moderately siliceous with minor vitreous quartz layers. Also included is a white coarse crystalline marble with minor local calc-silicate alteration.

The intrusive rocks noted to date are white to light tan weathering quartz-feldspar porphyrys. They are generally fine grained with quartz and/or plagioclase occurring as small phenocrysts less than 2mm in size. These porphyrys are often foliated and contain up to 10% pyrite in fresh unoxidized samples.

All rocks found in the trenches have been altered to some degree. Most have undergone at least weak clay alteration with moderate to intense clay alteration in places. Silica alteration is very local and consist of quartz flooding and veining. Two main zones of strong silica alteration with sulphides have been located in trenches NT-1 and approximately 100m east in NT-5. The Curley zone in the discovery trench (NT-1) is exposed over a width of 14m (not true width) while the second smaller zone has a near true width of 6m in two small sub zones. The zones strike at approximately 120 degrees and dip 60-65 degrees northeast. Carbonate alteration is quite strong around the marble unit and occurs at least 15m from the contact in trench NT-7. Calc-silicate alteration is very minor and occurs as pods and

stringers within the marble unit.

TABLE 1 (from Carlson-1987)

Table of Formations

17 Unconsolidated Alluvium

Mt. Nansen Suite

9 Porphyry Dykes

9c quartz-feldspar porphyry dykes; white weathering,
commonly pyritic

9d porphyritic granodiorite to quartz monzonite stock

7 Mt. Nansen Volcanics

7a andesite to latite massive flows and feeders

7at tuff, tuffaceous sediments, in part laharic

7ax flow breccia, probably in part intrusive

7c felsic dome - commonly flow banded, quartz & feldspar
porphyryDawson Range Plutonic Suite

5 Dawson Range Batholiths

5a casino granodiorite

Basement Metamorphic Complex2c schist-gneiss subunit-includes biotite-quartz-feldspar schist,
feldspar augen gneiss, amphibolite and minor quartzite and
marble (2cm)

2d amphibolite

1 Metasedimentary Unit

1b quartz-feldspar-mica schist, quartzo-feldspathic gneiss

CHAPTER THREE: GEOCHEMISTRY

3-1: Soil Geochemistry

Surveys conducted during the 1988 field season outlined a 30-100m wide multi-element anomaly in soils. This anomaly extends from 100m northeast of the trenches to a distance of approximately 500m to the southwest. For a more detailed description of procedures and results refer to Geological, Geochemical & Geophysical Report 1988 on the Dows 1-118 claims by the author.

3-2: Rock Geochemistry

Sampling of the seven trenches in 1988 revealed gold enrichment at three locations. The widest and richest exposure to date was in NT-1 (Nansen trench-1) where the C-1 zone (Curley-1) carried anomalous gold over 30m. A second zone of enrichment, the C-2 zone, approximately 100m east returned anomalous values of gold over 6m. A third zone of gold enrichment was found approximately 50m southwest of the discovery zone and returned anomalous values over 4m. These zones are believed to strike at approximately 120 degrees and dip 60-65 degrees to the northeast. For a more detailed description of the results and sample descriptions refer to the above mentioned report.

CHAPTER FOUR: GEOPHYSICS

Geophysics completed on the Nansen grid include a 43km magnetometer survey, 4.6km of VLF and 4km of IP. The VLF (EM-16) survey hinted at a possible intersection of structures in the trench vicinity but interpretation proved to be difficult on the amount of data collected. The magnetometer survey was useful in defining a number of magnetic domains along with a number of linear/structural signatures. The IP survey has defined a number of chargeability and resistivity anomalies in the vicinity of the trenching. For further discussion refer to chapter four and appendix 3 of the above mentioned report.

CHAPTER FIVE: DIAMOND DRILLING

5-1: Procedures

The purpose of the 1988 drilling program was to test geophysical and geochemical targets within the area of trenching. Five holes were drilled for a total of 388.01m. (190.5m HQ, 197.51m NQ).

Distribution of drilling was as follows:

HOLE NO.	FIELD CO-ORDINATES						O.V.	FINAL
	DEPARTURE	LATITUDE	AZ	ANGLE	TARGET	DEPTH	DEPTH	
Dows 1	9280E	10515N	180	-45	IP geochem	33.6	47.55	
Dows 2	9200E	10515N	180	-45	IP geochem	70.26	99.36	
Dows 3	9200E	10400N	180	-45	IP	43.54	61.57	
Dows 4	9128E	10466N	229	-45	IP geochem	35.99	50.9	
Dows 5	9205E	10515N	225	-45	geochem	90.96	128.63	

A Longyear "Super-38" diamond drill and a Caterpillar D6c bulldozer were used throughout the drill program. Equipment and drill crew were under contract from E. Caron Diamond Drilling Limited of Whitehorse.

Bad ground (caving) was experienced in most holes and resulted in equipment failure in the form of broken rods in four of the five holes drilled. One hole was abandoned as a result. Recoveries were generally poor at the top of each drill hole in extremely altered sections and varied between 22% and 85%. Poor to moderate recoveries (as low as 43%) were also experienced through some of the mineralized sections. This was due in part from quartz fragments being contained in a clay or strongly clay altered matrix. In sections of poor core recovery, often only quartz fragments were recovered with the clays being washed away. Other problems encountered were due to freezing conditions and caused a tenuous and intermittent water

supply for drilling and camp use.

The core was logged and split in 1.5m intervals except where recoveries warranted a larger sample size. Samples were shipped to Acme Analytical Laboratories in Vancouver and analysed using their Au plus 30 element ICP package.

5-2: Results

Geology in the drill holes correlate well with that found in surface trenching. Poor to moderate recoveries were experienced in some of the breccia zones due to quartz fragments existing with a soft clay altered matrix. In these zones, often only quartz fragments were recovered with the clays being washed away. Individual holes are briefly summarized below while complete drill logs are located in Appendix 2.

Dows 88-1 was drilled to test surface soil and rock geochem, the possible lateral extension of mineralization found in NT-5 and the linear resistivity low determined from IP surveys over the area. Drilling produced no explanation for the soil geochem anomaly but it did intersect a banded quartz breccia zone with minor silicified or strongly clay altered quartz-feldspar porphyry dyking.. The drill hole was abandoned 6.55m past this zone due to equipment lost at depth.

Dows 88-2 was drilled to test the same linear resistivity low and the downdip extension of mineralization found in NT-1. Numerous sections of clay gouge were intersected above a fault breccia zone. This zone consisted of quartz (vein?) fragments in a limonitic stained, strongly clay altered porphyry (?). Recoveries over the mineralized zone varied between 43% and 80% due to the clay altered matrix having been washed away. The footwall to this section consists of a 20m wide zone of foliated quartz-feldspar porphyry with trace to 5% disseminated pyrite in stringers and along

foliations. The remainder of the drill hole cuts the gneiss unit with varying degrees of silicification and minor silicified dyking. The hole ends in a black carbonaceous fault gouge.

Dows 88-3 was drilled to intersect an IP target at a depth of 30m below surface. No explanation for this anomaly was found as primarily fresh gneiss was cored throughout the drill hole. A small section of foliated intrusive with minor to moderate amounts of white quartz veining was noted near the bottom. No positive results were returned from samples taken from this hole.

Dows 88-4 was drilled to test a coincident geochem and IP anomaly. The majority of the hole consisted of weak to strongly clay altered gneiss. A large cavity was discovered at the location of the IP target with minor gold enrichment (up to 250 ppb). Recoveries were very poor (27%) with only fine sand and minor quartz fragments being recovered. No sludge samples were collected even though black returns were noted by the drillers. Weak to strong carbonate alteration was found up to 23m from a white coarse crystalline marble unit. The hole was shut down approximately 5m into this unit.

Dows 88-5 was a geology hole drilled to test for the lateral extension of mineralization intersected in NT-1. Drilling discovered a 10m wide clay gouge zone flanked by a silicified quartz-feldspar porphyry to the hanging wall side and a brecciated moderate to strongly clay altered quartz-feldspar porphyry to the footwall side. Drilling was continued in hopes of intersecting a second zone found in NT-3. No mineralization was discovered, but elevated mercury values, minor quartz-feldspar porphyry, moderate to strong silicification, minor sulphides and barren quartz veining were found near the bottom of the drill hole.

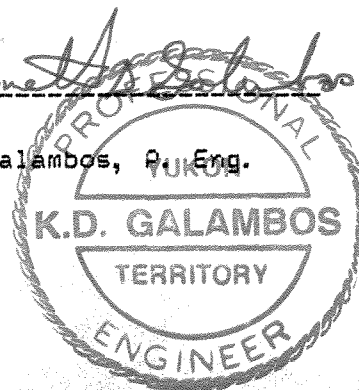
CHAPTER SIX: CONCLUSIONS & RECOMMENDATIONS

The Dows claims were staked after hand trenching produced mineralized float in the area of a dowsing anomaly. Trenching to bedrock revealed an area of Au mineralization, silicification and clay alteration at the contact between quartz feldspar porphyry dykes and the basement rocks in the area. Subsequent geochem and geophysical surveys outlined an area with elevated to anomalous values in As, Hg, Ag and Au. This northeast-southwest trending multi-element anomaly coincides with a broad mag low and an area of moderate to strong PFE. The anomaly appears to be off set by a zone of low resistivity which probably reflects a fault structure. Drilling indicates that mineralization appears to be related to smaller silicified and clay altered zones which cut this anomaly and strike at approximately 120 degrees and dip 60-65 degrees to the northeast. These zones remain open in all directions at this time.

It is recommended that more trenching and/or diamond drilling be done to outline the extent of mineralization in bedrock. Expansion of the grid to cover the entire property followed by further geochem and geophysical surveys is also strongly suggested.

Respectfully submitted by;

Kenneth D. Galambos
K.D. Galambos, P. Eng.



REFERENCES

- Bradish L., 1988; Nansen Grid Geophysical Surveys; internal Noranda memo
- B.Y.G. Natural Resources Inc.: 1987 Annual Report
- Carlson G.G.; D.I.A.N.D. Open file 1987-2; Geology of the Mt. Nansen (115 I/3) and Stoddard (115 I/16) Map Areas, Dawson Range, Central Yukon
- Cooland H., 1987; Property Submission for the DOWS 1-16 Claims; internal Noranda report
- Dickinson R.A.; 1972, B.Sc. Thesis The Petrology and Alteration of the Mt. Nansen Porphyry Stock near Carmack, Yukon Territory.
- Hulstein R.W.; 1988, Report on the 1987 Geological, Geochemical and Trenching Assessment Work on the McDade Property.

STATEMENT OF COSTS

Labour	83 person days @ \$130./day	\$10,790.
Supplies & Lodging	144 person days @ \$50./day	7,200.
Ground Transport		264.
Contractor	mobilization & set-up	3,989.50
	drilling 625' HQ @ \$21./ft.	13,125.
	drilling 648' NQ @ \$18./ft.	11,664.
Report Writing, Drafting etc.		<u>2,000.</u>
		\$49,032.50

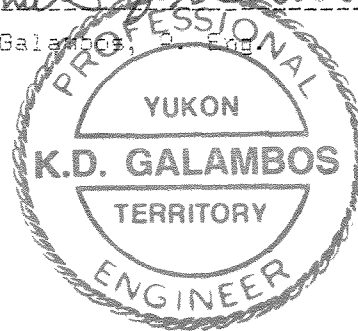
STATEMENT OF QUALIFICATIONS

I, Ken Galambos, of the City of Whitehorse, Yukon, do hereby certify that

1. I have been an employee of Noranda Exploration Company Limited (NPL) in Whitehorse since March, 1988.
2. I am a graduate of the University of Saskatchewan with a B.E. in Geological Engineering.
3. I have practised my profession for the past eight years primarily in the Northern Cordillera.
4. I supervised and participated in field work done on the claims in 1988.
5. I am a member of the Association of Professional Engineers of the Yukon Territory.

Kenneth Galambos

K.D. Galambos, P. Eng.



APPENDIX I

DRILL LOGS

MORANDA EXPLORATION COMPANY LIMITED
 PROPERTY: Mt. Nansen STARTED: Sept 26/88 FIELD CO-ORDINATES 10515N Bearing Angle Depth
 HOLE NO.: DOWS 88-1 FINISHED: Sept. 27/83 9280E
 BEARING: 180 LENGTH: 47.55 m ELEV. 1219.2
 DIP-COLLAR: -45 CORE SIZE: HQ

METRES		Reco- very %	DESCRIPTION OF UNITS	Structure	% Sulph	Width	Sample No.	Break lage
From	To							
0	3.05	0	Triconed for casing					
3.05	5.0	41	ALT'D GNEISS dark maroon clay and strongly clay alt'd gneiss, minor grey bands			1.2	16001DR	IA
5.0	6.5	80	Same as above			1.2	16002DR	IA
6.5	8.0	80	Same as above mod to strong clay alth	16.85m foliation		1.2	16003DR	IA
8.0	9.5	130	Same as above	180° to c.a.		1.95	16004DR	IA
9.5	11.0	100	Same as above			1.5	16005DR	IA
11.0	12.5	100	Same as above			1.5	16006DR	IA
12.5	14.0	100	Same as above 13.60-13.94 mod. silicification 13.94-14.0 strong clay alth	13.94 altn contact 45° to c.a.		1.5	16007DR	IA
14.0	15.5	100	Same as above 14.0-14.75 strong clay alth 14.15-14.70 mod. clay alth 14.70-14.87 mod-strong silicification 14.87-15.5 mod. silicification with narrow zones of rusty friable rock with minor Qtz veining & broken Qtz.	14.3m foliation 75° to c.a. 14.7m altn contact 75° to c.a.	tr.	1.5	16008DR	IA
15.5	17.0	87	Same as above tan br. zone of mod-strong clay alth			1.3	16009DR	IA
17.0	18.5	93	Zones of tan brown rubble with mod-strong clay alth within light grey weak-mod. clay alth, minor rusty bands			1.4	16010DR	IA
18.5	20.0	113	Same as above light grey weakly alt'd gneiss grading to dark maroon strong clay alth			1.7	16011DR	IA
20.0	21.5	93	Same as above dark maroon, strong clay alth			1.4	16012DR	IB
21.5	23.0	100	Same as above 22.35-22.6 strongly clay alt'd F-porph.(?)			1.5	16013DR	IB
23.0	24.5	95	Same as above mod-fractured with bright lime green alth halos on fracture	123.0 m foliation 170° to c.a.		1.42	16014DR	IB

METRES	Reco- To	very %	DESCRIPTION OF UNITS	Structure	% Sulph	Width	Sample No.	Break age
			Same as above					
24.5	26.0	93	Becomes more intensely fractured and Bx'd, bleaching of fragments increases			1.4	6015DR	IC
26.0	27.5	80	26.75-27.5 mod. limonite stained & highly fractured			1.2	6016DR	IA
27.5	29.0	100	28.04-29.33 mod. rusty, sheared porph. intrusive (?) dyke 28.30-29.0 minor small intrusive dykes (?) as above			1.5	6017DR	IA
29.0	30.5	70	29.3-29.6 rusty highly clay alt'd dyke? 29.6-29.65 mod-strong silicification & grey qtz. 29.65-30.5 bleached & limonite stained sheared dyke (?), mod. rusty in sections			1.5	6018DR	IA
30.5	32.0	70	<u>ZONE</u> 30.5-30.75 sheared bleached & limonite stained intrusive dyke 30.75-32.0 banded med. grey clay and weak-mod. silicifi- cation, minor bright apple green sericite layers, minor pods of grey clay in bleached intrusive ?	30.75 alth intr. contact 80° to c.a.		1.05	6019DR	IA
32.0	33.5	90	32.0-32.31 med. grey banded, silicified & clay alt'd zone with minor intensely clay & sericite alt'd dyke? 32.31-33.05 bleached & sheared dyke? with mod. silici- fication & clay alth 33.05-33.5 banded, strongly clay alt'd zone with flat- tened Py pods up to 3cm long	tr.-1		1.35	6020DR	IB
33.5	35.0	97	<u>Bx ZONE</u> 33.5-34.0 banded clay alt'd zone with Py 34.0-35.0 Bx zone of buff silicified intrusive with weak-mod. silicified, med grey matrix, mod. clay alth of fractures	tr.-1		1.45	6021DR	IB
35.0	36.5	83	35.0-35.66 mod. silicification of Bx zone 35.66-36.5 intense silicification	(1-2		1.25	6022DR	IA-B
36.5	38.0	90	Intensely silicified med-dark grey zone of vuggy qtz minor limonite staining 37.75-37.98 strongly clay alt'd dyke	tr.-1		1.35	6023DR	IA-B
38.0	39.5	93	38.0-38.4 vuggy med-dark grey qtz. with a low angle fracture (shear plane) ~5% to c.a. 38.4-38.75 mod-silicified bleached intrusive? with dk grey qtz at low angle to c.a. as well as mod. small qtz. veining at ~45 degrees to c.a.	tr.-1		1.4	6024DR	IA-B

METRES		Reco-	DESCRIPTION OF UNITS	Structure	%	Width	Sample No.	Breakage
From	To	very %			Sulph			
			limonite stained intrusive					
39.5	41.0	77	limonite stained intrusive with mod. silicification, minor veining 40.05-41.0 vuggy qtz & qtz-Bx, light-dk gry		tr.-1	1.15	6025DR	A-B
41.0	42.5	87	Banded light-med. gry, mod-strong clay alt'd zone, minor silicified sections		tr.	1.3	6176DR	B
42.5	44.0	83	43.6-44.0 med. brown, mod-strongly clay alt'd gneiss	43.8 m foliation 75° to c.a.	tr	1.25	6177DR	A
44.0	45.5	90	ALTD. GNEISS, mod-strongly clay alt'd			1.35	6178DR	A
45.5	47.55	83	Weak-mod clay alt'n 46.25-47.55 mod-strong silicification			1.7	6179DR	A
			END OF HOLE					
			NOTE: HOLE ABANDONED DUE TO BROKEN RODS STUCK IN THE HOLE					
			NO DIP TEST TAKEN					

PROPERTY: Mt. Nansen
 HOLE NO.: Dows 88-2
 BEARING: 180
 DIP-COLLAR: -45

STARTED: Sept. 27/88
 FINISHED: Sept. 30/88
 LENGTH: 99.36 m
 CORE SIZE: HQ/NQ

FIELD CO-ORDINATES
 10515N
 9200E
 Elev. 1215.7m

Bearing
 Acid Test

DIP TESTS
 Angle
 -47°

Depth
 97.54

N.
 P.
 L.
 S.

METRES		Reco- every %	DESCRIPTION OF UNITS	Structure	% Sulph	Width	Sample No.	Break age
From	To							
0	3.05	0	Triconed for casing					
3.05	5.0	85	BROWN CLAY intensely clay alt'd foliated rock 14.88-5.0 silicified fault Bx/lithic dyke			1.65	16180DR	IA
5.0	6.5	63	FAULT Bx intensely silicified fault Bx or lithic dyke, lithic fragments vary widely in both size & composi- tion minor light grey qtz veining & qtz fragments			.95	16181DR	IA
6.5	8.0	57	Same as above			.85	16182DR	IA-B
8.0	9.5	67	Same as above 19.05-9.5 alt'd gneiss, mod-intense clay altn, med brn- orange brown in color	foliation 67° to c.a.		1.0	16183DR	IC-B
9.5	11.0	87	ALT'D GNEISS			1.3	16184DR	IA
11.0	12.5	77	Same as above -minor stringers of opaque-white clay			1.15	16185DR	IA-B
12.5	14.0	78	Same as above -minor stringers & amoebic clots of opaque clay			1.17	16186DR	IC
14.0	15.5	87	Same as above -mod stockwork of opaque, & white clots of clay alt'n	foliation 76° to c.a.		1.3	16187DR	IC
15.5	17.0	97	Same as above			1.45	16188DR	IC-B
17.0	18.5	80	Same as above 17.75-18.5 orange brown clay with fragments of varying lithologies (clay gouge)			1.2	16189DR	IB
18.5	20.0	100	CLAY GOUGE 18.5-19.25 org-brn clay & rock fragments 19.25-19.70 limonite stained clay with rock fragments 19.70-20.0 pale green alt'd clay			1.5	16190DR	IB-C
20.0	21.5	100	Green & rusty alt'd gneiss 20.75-21.95 limonite stained clay gouge with rock fragments			1.5	16191DR	IA
21.5	23.0	67	ALT'D GNEISS buff green & orange mod-strong clay alt'n			1.0	16192DR	IA

METRES		Reco-	DESCRIPTION OF UNITS	Structure	% Sulph	Width	Sample No.	Breakage
From	To	very %						
23.0	24.5	100	Same as above 23.05-23.17 clay gouge & rock fragments	23.0m foliation 55° to c.a.		1.5	6193DR	IA-B
24.5	26.0	93	25.4-26.0 rubble "			1.4	6194DR	IA
26.0	27.5	87	Rubble minor weakly silicified fragments minor vuggy qtz (rusty stained)			1.3	6195DR	IA
27.5	29.0	100	<u>CLAY GOUGE</u> 27.6-27.95 30% white-light grey qtz fragments			1.5	6196DR	IA
29.0	30.5	100	Minor clay alt'd gneiss			1.5	6197DR	IA
30.5	32.0	100	Minor clay alt'd gneiss			1.5	6198DR	IA-B
32.0	33.5	90	Minor clay alt'd gneiss			1.5	6199DR	IA
33.5	35.0	100	<u>ZONE (FAULT Bx)</u> minor clay alt'd gneiss 34.14-35.0 40% white & med grey qtz fragments in limonite stained clay alt'd gneiss?		ltr.	1.5	6200DR	IA
35.0	36.5	100	Same as above 35.0-35.95 10% white & light grey qtz fragments 35.95-36.5 60% light-dk. grey qtz fragments minor light grey qtz matrix		ltr.	1.5	6201DR	IA
36.5	38.0	80	40% light-med grey qtz fragments in clay alt'd porph		ltr 1	1.2	6202DR	IA
38.0	39.5	67	70% light-dk grey qtz fragments in clay alt'd porph? minor rusty qtz		ltr 1	1.0	6203DR	IA-B
39.5	41.0	43	90% light-dk grey qtz (clays have been washed away)		11-2	.65	6204DR	IA
41.0	42.5	43	80% white-dk grey qtz (most clays have been washed away) 43.28 REDUCED TO 'NO'		ltr.	.65	6205DR	IA-B
42.5	44.0	73	40% white-dk grey qtz in limonite stained, clay alt'd porph with weak-med silicification		ltr 1	1.10	6206DR	IA-B
44.0	45.5	87	<u>FOLIATED Q-PORPH</u> limonite stained clay alt'd & mod silicified porph qtz eyes stretched giving foliation 45.2-45.45 mod silicified porph with 5-6% Py in stringers minor qtz Py stringers	45.5 to ca. (foliation) 40° to c.a.	ltr 1	1.30	6207DR	IB
45.5	47.0	90	46.15-45.33 15% Py diss. throughout	40° to c.a.	13-4	1.35	6208DR	IC
47.0	48.5	100	Limonite stained QFP minor qtz stringers		ltr.	1.50	6209DR	IB-A

METRES		Reco- Every	DESCRIPTION OF UNITS	Structure	% Sulph	Width	Sample No.	Break- age
48.5	50.0		Same as above 97 Light grey QFP minor limonite staining mod silicifica- tion, Py diss. along foliations minor Qtz-Py stringers		12-3	1.45	6210DR	1B
50.0	51.5	100	50.42-50.55 60% sulphides in Qtz minor Py seams up to 12cm		5	1.50	6211DR	1B
51.5	53.0	93	52.43-52.70 Bx's Q-porph with Qtz Py matrix 52.85-52.88 " " " " " "	contact 65° to c.a.	5	1.40	6212DR	1B
53.0	54.5	100	Same as above Py stringers & diss Py in QFP		13-4	1.50	6213DR	1B-C
54.5	56.0	100	Same as above, minor Bx, tr. Py		13-4	1.50	6214DR	1B-C
56.0	57.5	100	57.0-57.5 clay alt'd gneiss with Py along foliations	75° to c.a.	11-2	1.50	6215DR	1B
57.5	59.0	87	Clay alt'd sediments grading back & forth with Q-porph		ltr	1.30	6216DR	1B
59.0	60.5	93	Same as above		ltr	1.40	6217DR	1B
60.5	62.0	100	Same as above, minor Bx zones, minor strong clay alth		ltr	1.5	6218DR	1B
62.0	63.5	100	Same as above		ltr 1	1.5	6219DR	1B
63.5	65.0	100	Same as above, diss Py & minor stringers		ltr 1	1.5	6220DR	1C
65.0	66.5	100	<u>GNEISS</u> , minor QFP gradations	foliation 60° to c.a.	ltr	1.5	6221DR	1C
66.5	68.0	100	Same as above, minor strong silicification		ltr	1.5	6222DR	1C-B
68.0	69.5	100	Same as above 68.02-68.5 mod-strong apple green clay alt'n mod. silicification, minor QFP		ltr	1.5	6223DR	1C-B
69.5	71.0	93	Same as above minor QFP, minor green mod-clay alth		ltr.	1.4	6224DR	1B
71.0	72.5	100	Same as above		ltr	1.5	6225DR	1B
72.5	74.0	93	Same as above, tr. hematite stained clots (core appears weakly garnetiferous)		ltr	1.4	6226DR	1C-B
74.0	75.5	93	Same as above		ltr	1.4	6227DR	1C
75.5	77.0	90	Same as above, mod-strong silicification		ltr	1.35	6228DR	1C
77.0	78.5	97	Same as above, strong silicification		ltr	1.45	6229DR	1C

METRES		Reco- To every %	DESCRIPTION OF UNITS	Structure	% Sulph	Width	Sample No.	Break age
78.5	80.0	130	77.35-77.9 intense silicification with small clots Py Same as above, strong silicification		tr	1.65	6230DR	IC
80.0	81.5	103	Same as above, strong silicification, minor rusty zone 80.7-81.5 fine stringers of Py throughout, strong silicification		tr 1	1.55	6231DR	B
81.5	83.0	93	81.5-82.1 fine stringers of Py	foliation 65° to c.a.	tr 1	1.40	6232DR	B
83.0	84.5	107	Same as above, strong silicification, fine stringers of Py throughout 84.0-84.5 siliceous dyke with fine pods & fractures filled with Py		tr 1	1.60	6233DR	B
84.5	86.0	97	Same as above, strong silicification 84.73-85.0 pale green silicified dyke, fine stringers of Py tr. CPy		tr 1	1.45	6234DR	B
86.0	87.5	73	Strong-intense silicification 86.0-86.4 hematite stained section of wispy disjointed stringers		tr	1.1	6235DR	B
87.5	89.0	90	Same as above, strong-intense silicification, minor stringers of Py 20% siliceous dyking with pods of Py		tr	1.3	6236DR	A-B
89.0	90.5	100	Same as above, strong silicification, minor siliceous dyking, qtz stringers			1.5	6237DR	B
90.5	92.0	100	strong-intense silicification, minor qtz stringers			1.5	6238DR	B
92.0	93.5	93	Mod-strong silicification, minor stringers of Py, minor hematite stained zones		tr	1.4	6239DR	A-B
93.5	95.0	73	Mod-strong silicification, minor strong clay alt'n minor stringers of Py		tr	1.1	6240DR	A
95.0	96.5	70	Mod-strong silicification			1.05	6241DR	A
96.5	98.0	100	Mod-strong silicification minor white qtz, minor strong clay alt'n			1.5	6242DR	
98.0	99.36	100	<u>SHEARED GNEISS</u> 99.20-99.36 black carbonaceous fault gouge			1.36	6243DR	
			END OF HOLE					

PROPERTY: Mt. Nansen
 HOLDING NO.: Dows 88-3
 BEARING: 180
 DIP-COLLAR: -45

N O R A N D A
 EX P L O R A T I O N
 C O M P A N Y
 L I M I T E D

STARTED: Sept. 30, 1988
 FINISHED: Oct. 2, 1988
 LENGTH: 61.57 m
 CORE SIZE: HQ/NQ

FIELD CO-ORDINATES
 10400 N
 9200 E
 Elev. 1216.7m

BEARING
 Acid Test

DIP TESTS
 Angle
 -46°

Depth
 61.26

METRES		Reco- To	DESCRIPTION OF UNITS	Structure	% Sulph	Width	Sample No.	Break- age
0	3.05		0 Triconed for casing					
3.05	6.5		23 GNEISS siliceous & deeply weathered bands of broken rock			1.80	6244DR	IA
6.5	8.0		63 Same as above			1.95	6245DR	IA
8.0	9.5		90 8.25-9.1 strong clay alt'd (weathered?) gneiss			1.35	6246DR	IC
9.5	11.0		63 10.2-11.0 strong clay alt'd (?) gneiss			1.95	6247DR	IA
11.0	12.5		83 Same as above 11.0-11.4 strong clay alt'd gneiss, bands of intense silicification, qtz sweets			1.25	6248DR	IA
12.5	14.0		57 Same as above			1.85	6249DR	IA
14.0	15.5		67 Same as above minor strong clay alt'd sections			1.0	6250DR	IA-B
15.5	17.0		93 Same as above 15.85 shear plane X-cutting foliation at 22 to c.a.	foliation 155° to c.a. shear plane 122° to c.a.		1.4	6251DR	IA-B
17.0	18.5		70 Same as above			1.05	6252DR	IA-B
18.5	20.0		100 Same as above, minor rusty fracturing			1.5	6253DR	IB
20.0	21.5		87 Same as above, 20.65-21.5 rusty fracturing (jointing?)	15° to c.a.		1.3	6254DR	IB-C
21.5	23.0		87 Same as above			1.3	6255DR	IB
23.0	24.5		77 Same as above 24.3-24.38 chloritic 24.38-24.5 rusty fracturing			1.15	6256DR	IB
24.5	26.0		87 Same as above			1.3	6257DR	IB
26.0	27.5		87 Same as above			1.3	6258DR	IA-B

METRES		Reco-	DESCRIPTION OF UNITS	Structure	% Sulph	Width	Sample No.	Breakage	I/A p
From	To	very %							
27.5	29.0	63	Same as above			1.95	6259DR	A	
29.0	30.5	97	Same as above			1.45	6260DR	B	
30.5	32.0	100	Same as above 31.7-32.0 fine hematite stained stringers			1.5	6261DR	B	
32.0	33.5	87	Same as above			1.3	6262DR	A-B	
33.5	35.0	87	Same as above			1.3	6263DR	A-B	
35.0	36.5	110	Same as above, minor hematite staining 35.5-35.6 strong clay alt'n with Qtz stringers	36.0 foliation 170° to c.a.		1.65	6264DR	B	
36.5	38.0	100	Same as above	37.19 rusty jointing 135° to c.a.		1.5	6265DR	B	
38.0	39.5	100	Same as above 38.57-38.74 mod-strong clay alt'n			1.5	6266DR	C	
39.5	41.0	97	Same as above, mod clay alt'n, minor Qtz stringers	foliation 150° to c.a.		1.45	6267DR	B	
41.0	42.5	80	Same as above, minor mod clay alt'n			1.20	6268DR	B	
42.5	44.0	83	Same as above			1.25	6269DR	B	
44.0	45.5	100	Same as above -44			1.50	6270DR	C	
45.5	47.0	93	Same as above 46.40-46.65 mod-strong clay alt'n			1.40	6271DR	C	
47.0	48.5	93	Same as above, minor Qtz stringers			1.40	6272DR	C	
48.5	50.0	107	Same as above minor Qtz stringers, minor Bx			1.60	6273DR	C-B	
50.0	51.5	93	50.45-50.65 mod bleaching of rock surrounding small light grey Qtz vein, minor salmon pink adularia (?)			1.40	6274DR	C	
51.5	53.0	97	Grades to light greenish grey foliated intrusive? metasediment?		ltr	1.45	6275DR	C	
53.0	54.5	90	<u>FOLIATED INTRUSIVE?</u> minor white Qtz veining		ltr	1.35	12251DR	B	

METRES		Reco-	DESCRIPTION OF UNITS	Structure	%	Width	Sam	Break/A
From	To	very			Sulph		No.	age
54.5	56.0	100	Same as above mod amount of white qtz veining minor vugginess *55.17 reduced to 'NQ'		tr	1.5	12252DR	IB
56.0	57.5	90	Same as above 56.5-57.0 low angle fracture with rusty halo & minor qtz 57.35-57.5 silicified gneiss		tr	1.35	12253DR	IB
57.5	59.0	93	<u>GNEISS</u> minor qtz stringers	foliation 65° to c.a.		1.4	12254DR	IB-C
59.0	60.5	100	Same as above			1.5	12255DR	IB
60.5	61.57	100	Same as above			1.07	12256DR	IB
			END OF HOLE					

PROPERTY: Mt. Nansen
 HOLE NO.: Dows 88-4
 BEARING: 229
 DIP-COLLAR: -45

STARTED: Oct. 2, 88
 FINISHED: Oct. 3, 88
 LENGTH: 50.9 m
 CORE SIZE: HQ/NQ

FIELD CO-ORDINATES
 10466 N
 9128 E
 Elev. 1211.7m

Bearing Angle
 Acid Test -47°

Depth
 49.38

METRES	Reco- From To	Recovery %	DESCRIPTION OF UNITS	Structure	% Sulph	Width	Sample No.	Break age
0	13.05		Triconed for casing					
3.05	5.0	22	GNEISS 13.05-4.57 clay & vuggy, light-dk grey qtz (mod rusty) 18.6% recovery 14.57-5.0 strong clay alt'd gneiss		ltr	1.43	12257DR	IA
5.0	16.5	67	Same as above, strong clay alt'n minor intense alt'n in stringers sub-parallel to c.a.			1.0	12258DR	IA
6.5	18.0	67	Same as above, mod-strong clay alt'n foliation 60° to c.a.			1.0	12259DR	IA-B
8.0	19.5	103	Same as above, strong-intense clay alt'n 18.50-9.05 sand, minor rusty Bx'd gneiss			1.55	12260DR	IA
9.5	11.0	100	Same as above, 19.5-10.35 sand with minor fragments & blocks of med- dk. grey qtz, mod-strong clay alt'n			1.5	12261DR	IA
11.0	12.5	80	Same as above, mod-strong clay alt'n			1.2	12262DR	IA
12.5	14.0	87	Same as above, minor low angle fractures with intense clay alt'n, weak-mod clay alt'n			1.3	12263DR	IB
14.0	15.5	83	Same as above, mod-strong clay alt'n			1.25	12264DR	IA
15.5	17.0	93	Same as above, weak-mod clay alt'n 16.3-17.0 mod rusty fracturing			1.40	12265DR	IC
17.0	18.5	90	Same as above, weak-mod clay alt'n foliation 50° to c.a.			1.35	12266DR	IC-D
18.5	20.0	83	Same as above, mod-strong clay alt'n			1.25	12267DR	IC
20.0	21.5	77	Same as above, mod-strong clay alt'n, mod fracturing			1.15	12268DR	IB
21.5	23.0	90	Same as above weak-mod clay alt'n, minor Bx			1.35	12269DR	IC-D
23.0	24.5	70	Same as above, weak-mod clay alt'n, minor strong clay alt'n			1.05	12270DR	IA
24.5	26.0	103	Same as above, weak clay alt'n foliation 45° to c.a.			1.55		

From	To	Reco- Every %	DESCRIPTION OF UNITS	Structure	% Sulph	Width	Sample No.	Break- age
26.0	27.5	83	Same as above, weak clay alt'n, minor pods of weak silicification with tr. Py minor Bx		tr	1.25	12272DR	ID
27.5	29.0	100	Same as above, weak clay alt'n, mod rusty staining along foliation planes, minor Bx			1.5	12273DR	IC
29.0	30.5	93	Same as above, minor Bx with rusty matrix, minor tight small scale folding, weak clay alt'n, weak-mod carbonate alt'n			1.4	12274DR	IC-D
30.5	32.0	93	Same as above weak clay alt'n, weak-mod carb alt'n			1.4	12275DR	IC-D
32.0	33.5	97	Bx'd gneiss with weak-mod clay alt'n minor strong clay alt'n mod carbonate alt'n			1.45	12276DR	IC
33.5	35.0	55	33.5-34.14 Bx'd gneiss, weak-mod clay alt'n, mod-carb. alt'n *34.14 Reduced to 'NQ' 34.14-35.0 sand with fragments of med-dk grey qtz 26% recovery *Drillers report hitting large cavity ~2m deep with black returns from casing			1.83	12277DR	IA
35.0	36.5	27	Same as above 35.0-35.66 sand 35.66-36.5 sand & light-dk grey qtz fragments			1.40	12278DR	IA
36.5	38.0	50	36.5-37.19 sand & light-dk grey qtz fragments 37.19-38.0 mod silicified gneiss & Bx'd gneiss, strong carb alt'n			1.75	12279DR	IA
38.0	39.5	103	Same as above, weak silicification grades to weak clay alt'n, strong carb alt'n			1.55	12280DR	IB
39.5	41.0	87	Same as above, weak clay alt'n, strong carb alt'n grades to white marble			1.30	12281DR	IB
41.0	42.5	107	Same as above, strong carb alt'n of gneiss, minor white marble			1.60	12282DR	IB
42.5	44.0	103	Same as above, strong-intense clay alt'n of gneiss, minor strong carb alt'n			1.55	12283DR	IA
44.0	45.5	100	Same as above, 44.0-44.2 strong clay alt'n, strong carb alt'n grading to white marble			1.50	12284DR	IC

METRES		Reco-	DESCRIPTION OF UNITS	Structure	%	Width	Sample No.	Breakage
From	To	Every						
45.5	47.0	100	MARBLE minor calc-silicate alt'n 46.8-47.0 dk rusty brown clay *Drillers report loss of returns at beginning of clay section			1.50	12285DR	IC
47.0	48.5	70	Same as above 47.0-48.0 dk rusty brown clay			1.05	12286DR	IA
48.5	50.9	90	Same as above 50.7-50.8 clay seam			2.15	12287DR	IC
			END OF HOLE					

PROPERTY: Mt. Nansen
 HOLE NO.: Dows 88-5
 BEARINGS: 225
 DIP-COLLAR: -45

STARTED: Oct. 4, 88
 FINISHED: Oct. 6, 88
 LENGTH: 128.63 m
 CORE SIZE: HQ/NQ

MEMORANDA EXPLORATION COMPANY LIMITED
 FIELD CO-ORDINATES
 515 N
 9205 E
 Elev. 1215.7m

Bearing
 Acid Test
 DIP TESTS
 Angle
 -46°
 Depth
 77.72

N.
 PR
 LO
 SH

METRES		Recovery %	DESCRIPTION OF UNITS	Structure	% Sulph	Width	Sample No.	Breakage	Au pp
From	To								
0	12.44		Tricones for casing						
2.44	15.0	53	53 BX. (PEBBLE DYKE) 12.44-3.05 no recovery, mod sand, f.g. siliceous pebbles dyke?			1.35	12288DR	IA	
5.0	16.5	90	Sand, clay, mud, minor siliceous pebble dyke?			1.35	12289DR	IA	
6.5	18.0	43	Clay with rock fragments, minor clay alt'd gneiss			1.65	12290DR	IA	
8.0	19.5	40	Clay with rock fragments, sand minor silicified gneiss	foliation 45° to c.a.		1.60	12291DR	IA	
9.5	11.0	43	GNEISS, mod-strong clay alt'n sand			1.65	12292DR	IA	
11.0	12.5	40	Strong clay alt'n minor strong silicification			1.60	12293DR	IA	
12.5	14.0	67	Strong clay alt'n minor silicified fragments			1.0	12294DR	IA	
14.0	15.5	67	Same as above, strong clay alt'n			1.0	12295DR	IA	
15.5	17.0	73	Same as above, bright org-brown strong clay alt'n			1.1	12296DR	IB-C	
17.0	18.5	55	Same as above, bright org-brn strong clay alt'n			1.83	12297DR	IB-C	
18.5	20.0	87	Same as above, bright org-brn strong clay alt'n			1.3	12298DR	IB-C	
20.0	21.5	73	Same as above, bright org-brn strong clay alt'n, mod rusty fracturing			1.1	12299DR	IB-C	
21.5	23.0	73	Rusty br'n strong clay alt'n 22.25-23.0 rusty clay gouge with rock fragments clay gouge			1.1	12300DR	IB-C	
23.0	24.5	97	RUSTY CLAY GOUGE 24.0-24.5 limonite stained clay gouge with rock fragments (minor silicified frags)			1.45	12301DR	IA-B	
24.5	26.0	87	Limonite stained clay gouge & rock fragments, minor foliated intrusive			1.30	12302DR	IA-B	

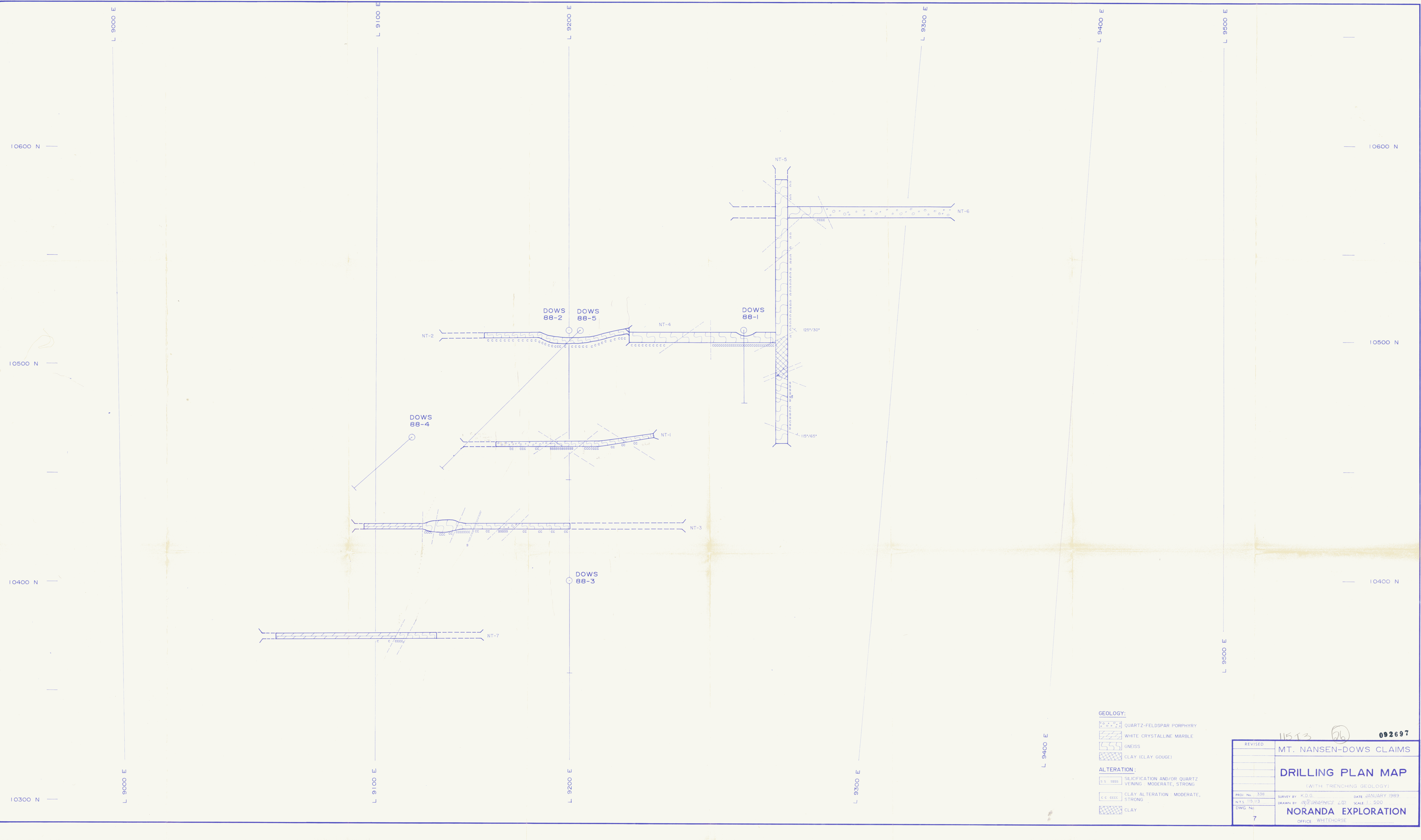
METRES		Reco-	DESCRIPTION OF UNITS	Structure	%	Width	Sample No.	Breakage
From	To	every %						
26.0	27.5	50	Grey-brn clay gouge, minor silicified intrusive			1.75	12303DR	IA
27.5	29.0	73	<u>QYZ-FELD PORPH INTRUSIVE</u> limonite stained, mod-strong silicification, rusty fractures			1.10	12304DR	IB-C
29.0	30.5	73	Same as above, strong-intense silicification, minor grey pocs containing tr-1% Py, minor vugginess			1.10	12305DR	IB-C
30.5	32.0	80	Same as above, mod-strong clay alt'n in Bx'd porph, fragments are strongly silicified			1.20	12306DR	IA
32.0	33.5	77	Same as above, Bx'd porph with strong limonite stained clay alt'n along fractures			1.15	12307DR	IA
33.5	35.0	67	Same as above, strong silicification, mod vugginess, limonite stained			1.0	12308DR	IA
35.0	36.5	83	Same as above, strong silicification, minor green & rusty, strong clay alt'n, rusty fracturing			1.25	12309DR	IA
36.5	38.0	97	Same as above, strong silicification, minor green (sericite?) alt'n			1.45	12310DR	IA
38.0	39.5	83	Strong silicification, mod vugginess, mod sericite alt'n			1.25	12311DR	IA
39.5	41.0	103	<u>CLAY GOUGE</u> strong sericite & clay alt'n with silicified fragments of porph, pale green in color			1.55	12312DR	IB-C
41.0	42.5	97	Same as above, pale green & rusty brn, strong clay alt'n			1.45	12313DR	IA
42.5	44.0	93	Same as above, limonite tan-br'n clay gouge with mod silicified fragments of porph			1.40	12314DR	IA
44.0	45.5	93	Same as above			1.40	12315DR	IA
45.5	47.0	90	Same as above, 46.75-46.89 limonite-rusty stained			1.35	12316DR	IA
47.0	48.5	93	Same as above, 48.0-48.5 5-7% Py in clay		1-2	1.45	12317DR	IA
48.5	50.0	100	Brown & grey clay with Py		tr. 1	1.50	12318DR	IA
50.0	51.5	87	Rusty brn clay & 40% grey clay containing 10-15% Py 51.3-51.5 Bx'd porph		5	1.3	12319DR	IA

METRES		Reco- livery	DESCRIPTION OF UNITS	Structure	% Sulph	Width	Sample NO.	Break age
From	To							
51.5	53.0	67	<u>Q-PORPH BX</u> rusty brn, mod-strong clay alt'n, 2 % grey clay with Py, minor sericite alt'n		12-3	1.0	12320DR	IA
53.0	54.5	97	Mod rusty brn, Bx'd porph, minor grey clay		tr	1.45	12321DR	IA-B
54.5	56.0	97	Limonite stained Bx'd porph, minor qtz-Py matrix 55.3-55.4 bright green sericite alt'n 55.4-55.5 mod-strong silicification of foliated Bx at 135° to c.a. 55.5-56.0 dk rusty brn, mod silicified gneiss? minor limonite stained, strong clay alt'n			1.45	12322DR	IB-C
56.0	57.5	67	<u>GNEISS</u> dk rusty brn, mod silicified, mod vuggy, minor strong clay alt'n seams			1.0	12323DR	IB
57.5	59.0	77	Same as above, weakly rusty, mod silicified 57.91 reduced to 'NO' 57.91-59.0 10% grey clay with Py	foliation 67° to c.a.	tr 1	1.15	12324DR	IB
59.0	60.5	70	Same as above, med-dk rusty gneiss, minor Bx, minor strong clay alt'n			1.05	12325DR	IA
60.5	62.0	90	Same as above, mod-strongly rusty gneiss, mod silici- fication 61.57-62.0 foliated porph			1.35	12326DR	IA
62.0	63.5	93	Same as above 62.0-62.25 foliated porph 62.25-63.25 rusty gneiss & Bx'd gneiss, minor qtz-Py & grey clay-Py			1.40	12327DR	IB
63.5	65.0	93	<u>FOLIATED PORPH</u> minor Py seams & stringers in primarily med grey porph 64.62-65.0 dk rusty gneiss?		tr 1	1.40	12328DR	IB
65.0	66.5	57	<u>GNEISS</u> dk rusty, mod silicified gneiss, mod vuggy 65.85-66.05 med grey, strong clay alt'n & Py		tr	1.85	12329DR	IA
66.5	68.0	77	66.5-66.7 rusty gneiss 66.7-66.95 med grey, strong clay alt'n & Py 66.95-68.0 limonite stained, foliated porph, mod clay alt'n-mod silicification		tr	1.15	12330DR	IA-B
68.0	69.5	93	<u>FOLIATED PORPH</u> limonite stained, weak-mod silicifica- tion 68.0-68.5 rusty fractured qtz			1.4	12331DR	IB

METRES		Reco-	Structure	%	Width	Sample	Break
Fr	To	vey %	DESCRIPTION OF UNITS	Sulph			age
69.5	71.0	107	Same as above, limonite stained with minor Bx 170.6-71.0 med-dk grey, strong clay alt'n with Py		1-2	1.6	12332DR IC
71.0	72.5	93	Same as above, 70% med-dk grey, strong clay alt'n with Py		5-7	1.4	12333DR IB
72.5	74.0	103	Weak-mod clay alt'n, minor Py stringers foliation	58° to c.a.	ltr.	1.55	12334DR IC
74.0	75.5	100	Same as above, weak-mod clay alt'n, minor Py stringers		ltr	1.5	12335DR IC
75.5	77.0	93	Same as above, weak clay alt'n, minor strongly alt'd sections, minor Py stringers		ltr	1.4	12336DR ID
77.0	78.5	87	Same as above, weak clay alt'n minor, Py stringers		ltr	1.4	12337DR IC
78.5	80.0	83	Same as above, weak clay alt'n, minor strong alt'd sections, minor Py stringers		ltr	1.25	12338DR IC
80.0	81.5	97	Same as above, weak clay alt'n-weak silicification, minor Py seams		ltr	1.45	12339DR IC
81.5	83.0	100	Same as above, weak-mod silicification, minor Py stringers		ltr	1.5	12340DR IC
83.0	84.5	100	Mod-strong silicification, minor Qtz-Py matrix in Bx'd porph		ltr 1	1.5	12341DR IB-C
84.5	86.0	100	Weak-mod silicification, minor Py stringers 84.80-85.10 mod rusty porph with mod strong silicification		ltr	1.5	12342DR IC
86.0	87.5	97	Weak silicification, minor Py stringers		ltr	1.45	12343DR ID
87.5	89.0	100	<u>GNEISS</u> some ground core foliation	47° to c.a.		1.5	12344DR ID
89.0	90.5	97	Same as above			1.45	12345DR IC
90.5	92.0	90	"			1.35	12346DR IC
92.0	93.5	90	" foliation	60° to c.a.		1.35	12347DR IC-D
93.5	95.0	97	"			1.45	12348DR ID
95.0	96.5	55	"			1.82	12349DR IC
96.5	98.0	77	Same as above			1.15	12350DR IB

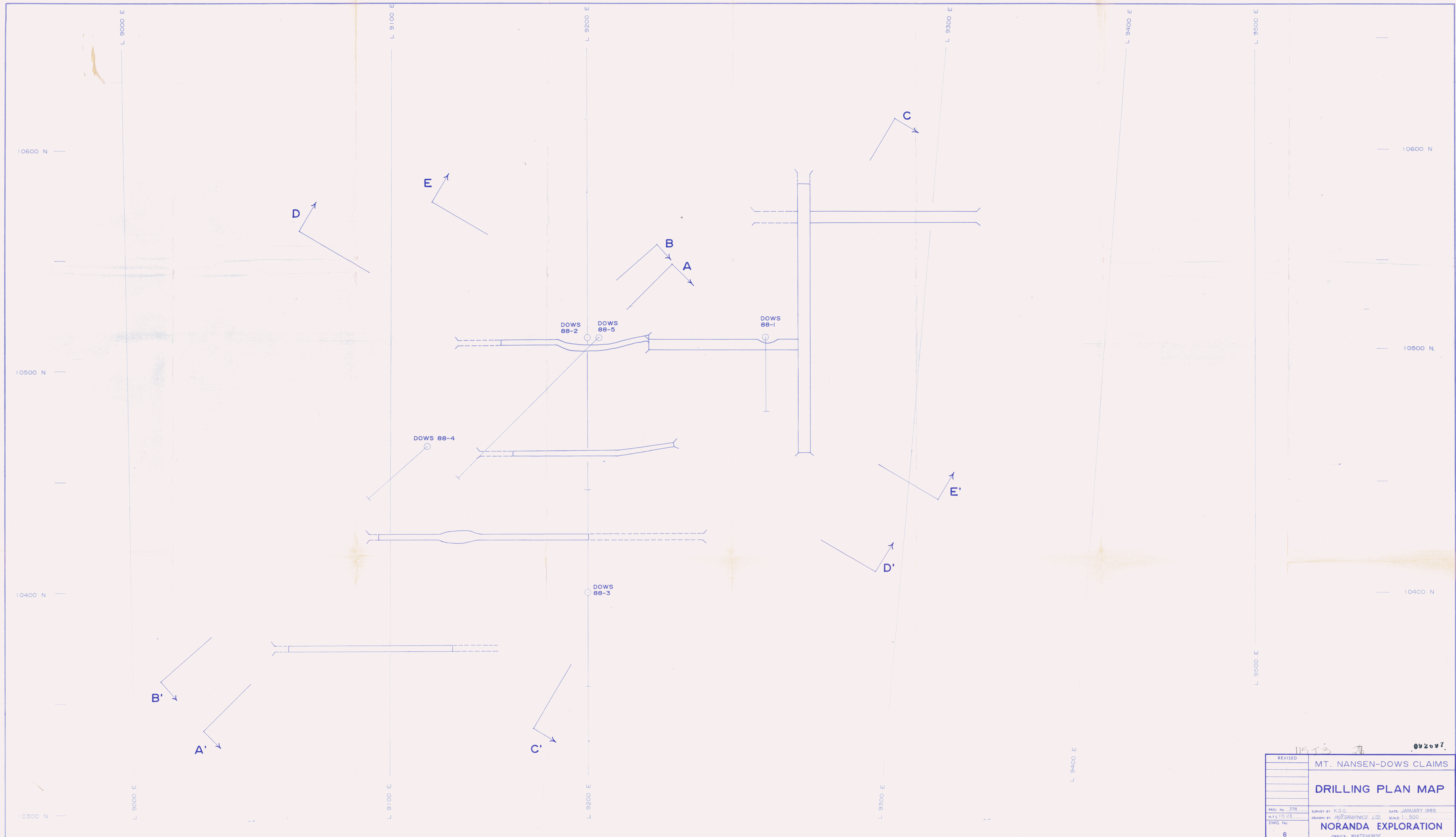
METRES		Reco- very	DESCRIPTION OF UNIT	Structure	Sulph %	Width	Sample No.	Break age
98.0	99.5	107	Same as above, minor porph, mod-strong silicification			1.6	12351DR	IC
99.5	101.0	63	Mod-strong silicification, minor porph sections		ltr	1.95	12352DR	IC
101.0	102.5	73	Mod-strong silicification, mod porph section		ltr	1.1	12353DR	IC
102.5	104.0	97	Mod-strong silicification, mod porph sections		ltr	1.45	12354DR	ID
104.0	105.5	103	Mod-strong silicification, minor porph sections		ltr	1.55	12355DR	ID
105.5	107.0	100	Weak-mod silicification, minor porph		ltr	1.50	12356DR	ID
107.0	108.5	100	Mod-strong silicification, minor porph		ltr	1.50	12357DR	IC
108.5	110.0	97	Mod-intense silicification minor porph, minor adularia		ltr	1.45	12358DR	IC
110.0	111.5	97	Same as above, mod-strong silicification, mod porph 110.45-110.85 buff silicified porph 110.85-111.10 brown mod-strong clay alt'n		ltr	1.45	12359DR	IC
111.5	113.0	97	Same as above, mod-intense silicification, minor porph, minor fracturing		ltr	1.45	12360DR	IC
113.0	114.5	97	Same as above, mod-intense silicification, minor frac.		ltr	1.45	12361DR	IC
114.5	116.0	97	Same as above, mod-strong silicification, mod porph		ltr	1.45	12362DR	IC
116.0	117.5	80	Same as above, intense silicification & mod fracturing, med brown-rusty broken rubble		ltr	1.20	12363DR	IA
117.5	119.0	90	Mod-strong silicification, mod-rusty brown with blue grey silicification	foliation 40° to c.a.	ltr	1.35	12364DR	IA-B
119.0	120.5	100	Same as above, mod-strong silicification		ltr	1.50	12365DR	IC
120.5	122.0	97	Mod-strong silicification, mod-strong clay alt'd section, minor porph, minor adularia?			1.45	12366DR	IC
122.0	123.5	100	Weak-mod silicification, 123.2-123.4 strongly silicified Bx with white qtz matrix			1.50	12367DR	IC
123.5	125.0	93	40% silicified intrusive & Bx with tr sulphides		ltr	1.40	12368DR	IC
125.0	126.5	100	125.53-125.9 silicified Bx with tr-1% sulfides		ltr	1.50	12369DR	IC
126.5	128.63	99	Weak silicification, minor barren qtz	foliation 55° to c.a.		1.10	12370DR	IC

END OF HOLE



- GEOLOGY:**
- QUARTZ-FELDSPAR PORPHYRY
 - WHITE CRYSTALLINE MARBLE
 - GNEISS
 - CLAY (CLAY GOUGE)
- ALTERATION:**
- SILICIFICATION AND/OR QUARTZ VEINING MODERATE, STRONG
 - CLAY ALTERATION MODERATE, STRONG
 - CLAY

REVISED	11513	092697
MT. NANSEN-DOWS CLAIMS		
DRILLING PLAN MAP		
(WITH TRENCHING GEOLOGY)		
PROJ. No. 338	SURVEY BY K.D.G.	DATE JANUARY 1989
N.T.S. 1:5000	DRAWN BY <i>MEDGRAPHICS LTD.</i>	SCALE 1:500
DWG No.	NORANDA EXPLORATION	
	OFFICE: WHITEHORSE	



11513 JB 092097

REVISED	MT. NANSEN-DOWS CLAIMS	
	DRILLING PLAN MAP	
PROJ. No. 338	SURVEY BY: K.D.G.	DATE: JANUARY 1989
N.T.S. 1:500	DRAWN BY: METROGRAPHICS LTD.	SCALE: 1" = 500'
DWG. No.	NORANDA EXPLORATION	
6	OFFICE: WHITEHORSE	

DOWS
88-1

10500 N

10400 N


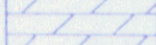
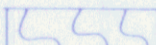

10300 N

1200 m

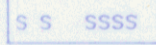
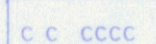

1100 m



GEOLOGY:

-  QUARTZ-FELDSPAR PORPHYRY
-  WHITE CRYSTALLINE MARBLE
-  GNEISS
-  CLAY (CLAY GOUGE)

ALTERATION:

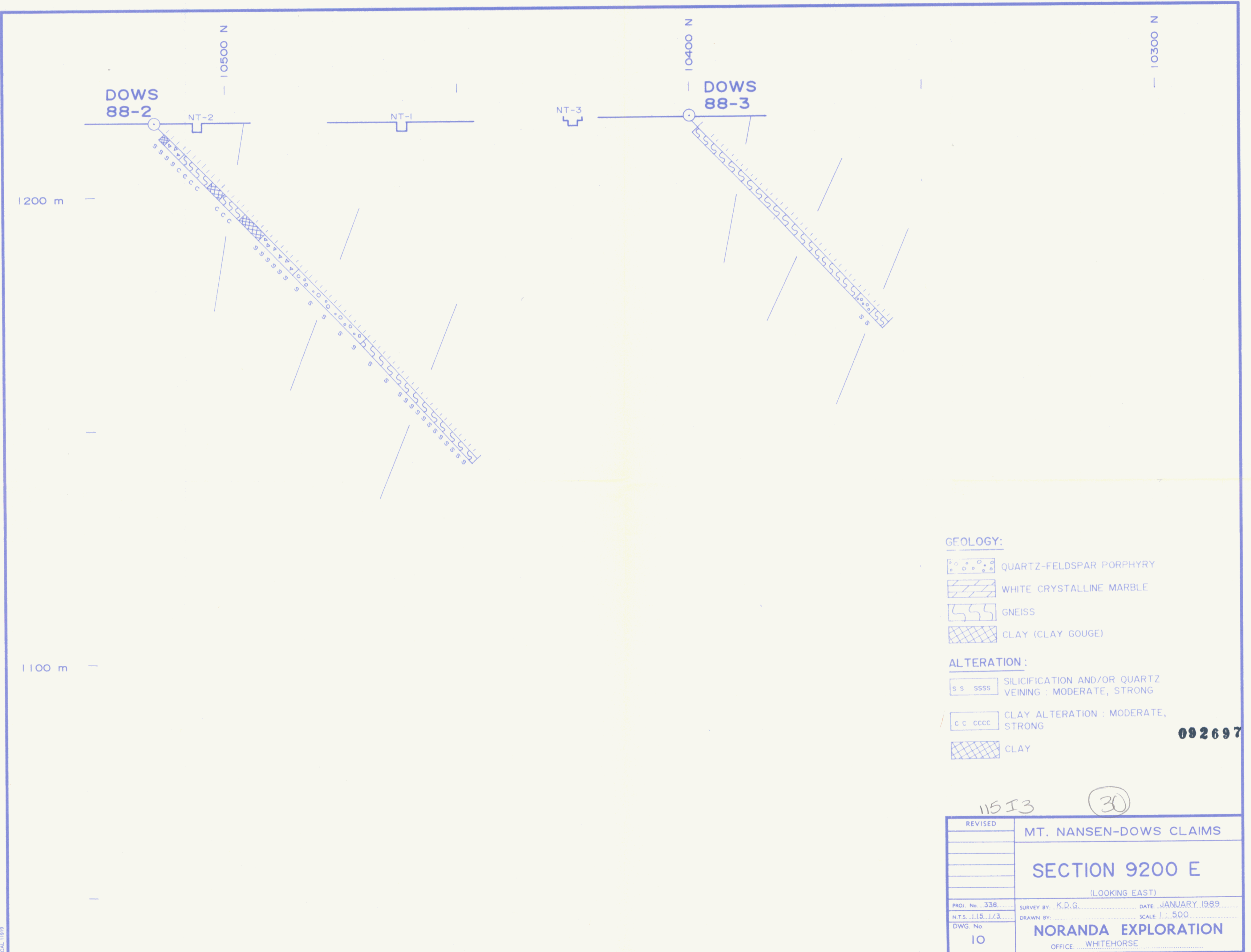
-  SILICIFICATION AND/OR QUARTZ VEINING : MODERATE, STRONG
-  CLAY ALTERATION : MODERATE, STRONG
-  CLAY

092697

11513

29

REVISED	MT. NANSEN-DOWS CLAIMS	
	SECTION 9280 E	
	(LOOKING EAST)	
PROJ. No. 338	SURVEY BY: K.D.G.	DATE: JANUARY 1989
N.T.S. 1:15,1/3	DRAWN BY:	SCALE: 1:500
DWG. No. 9	NORANDA EXPLORATION	
	OFFICE: WHITEHORSE	



1200 m

1100 m

GEOLOGY:

- QUARTZ-FELDSPAR PORPHYRY
- WHITE CRYSTALLINE MARBLE
- GNEISS
- CLAY (CLAY GOUGE)

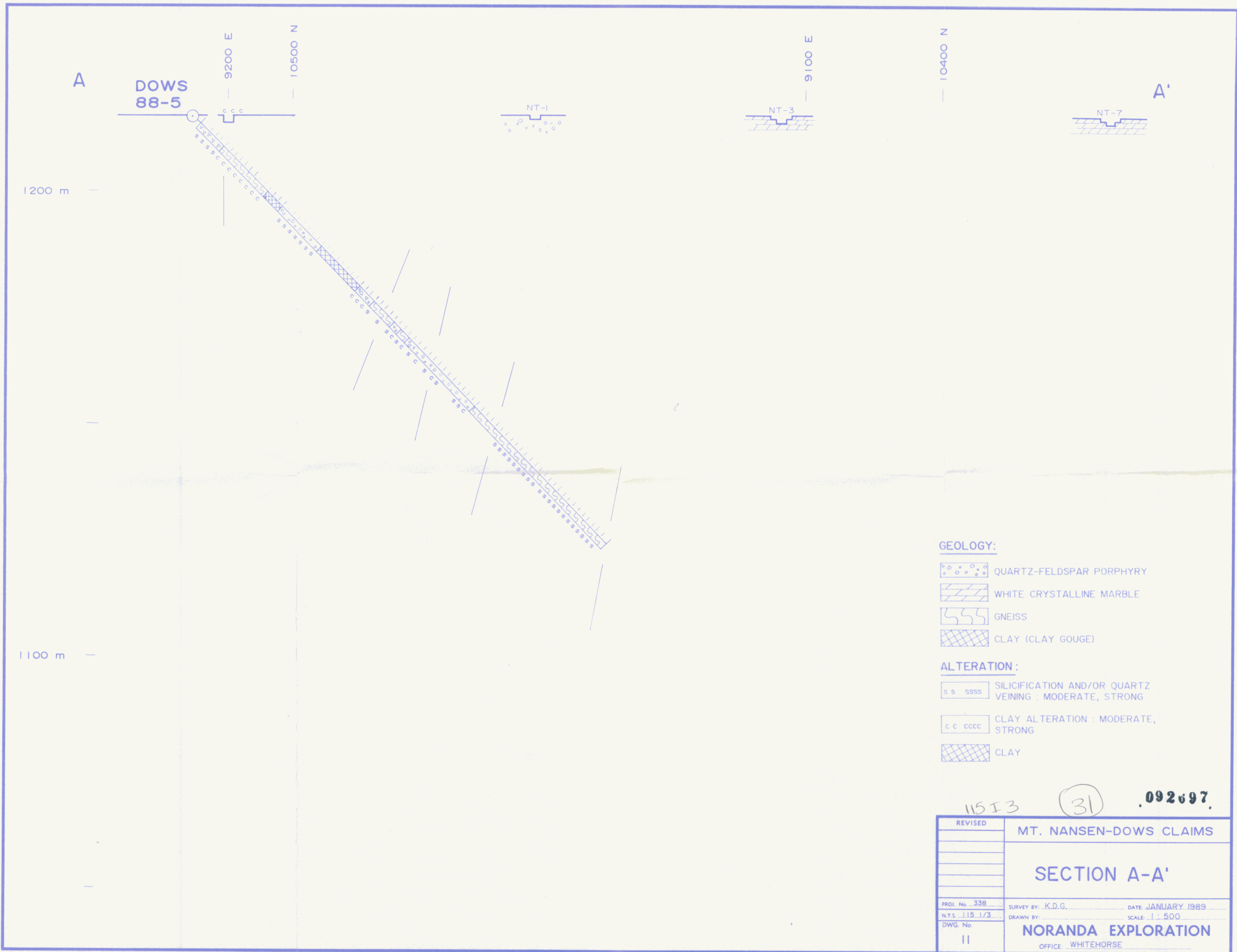
ALTERATION:

- SILICIFICATION AND/OR QUARTZ VEINING : MODERATE, STRONG
- CLAY ALTERATION : MODERATE, STRONG
- CLAY

092697

11513 (30)

REVISED	MT. NANSEN-DOWS CLAIMS	
	SECTION 9200 E	
	(LOOKING EAST)	
PROJ. No. 336	SURVEY BY: K.D.G.	DATE: JANUARY 1989
N.T.S. 1:15,173	DRAWN BY:	SCALE: 1:500
DWG. No.	NORANDA EXPLORATION	
10	OFFICE: WHITEHORSE	



GEOLOGY:

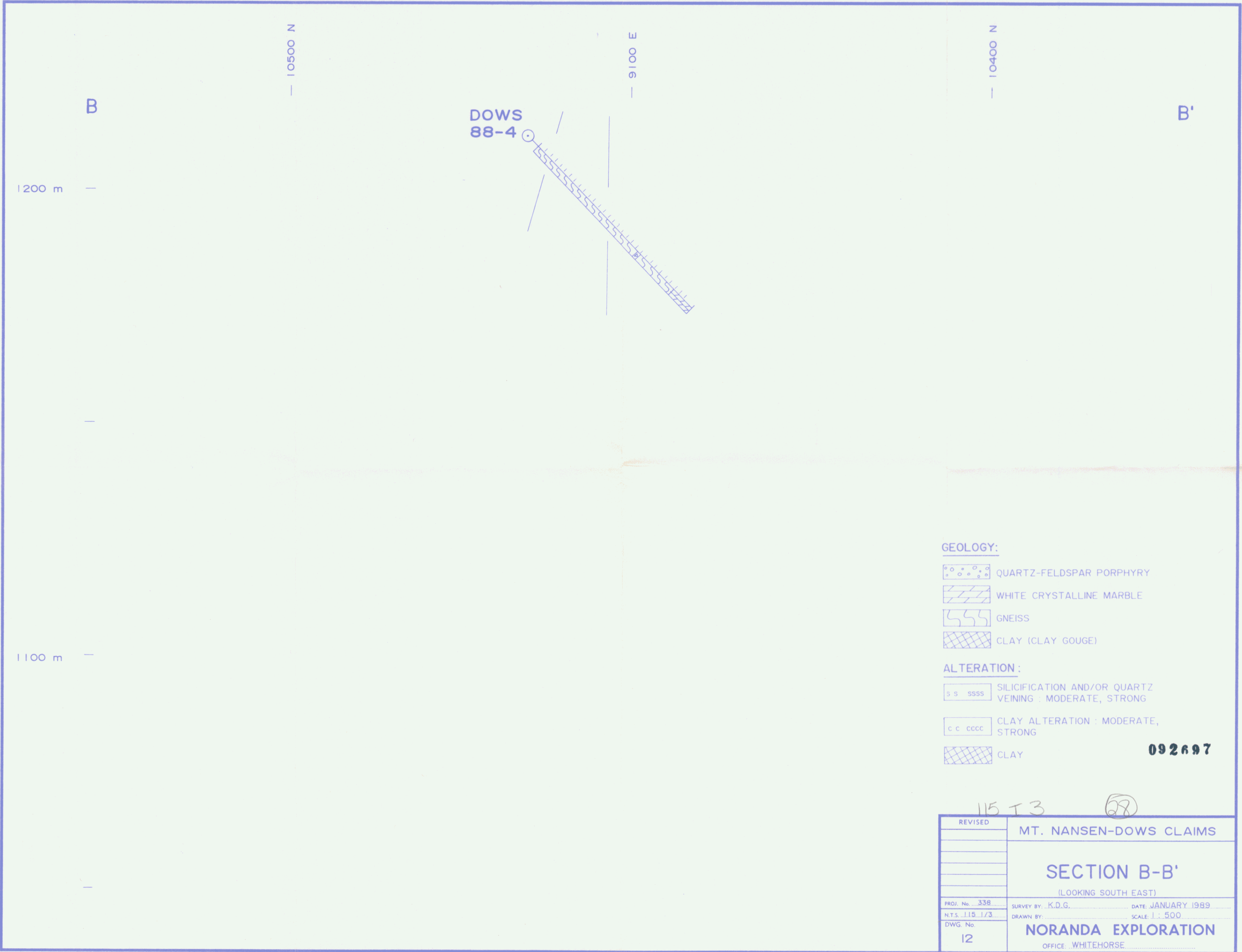
- QUARTZ-FELDSPAR PORPHYRY
- WHITE CRYSTALLINE MARBLE
- GNEISS
- CLAY (CLAY GOUGE)

ALTERATION:



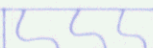

- SILICIFICATION AND/OR QUARTZ VEINING : MODERATE, STRONG
- CLAY ALTERATION : MODERATE, STRONG
- CLAY

115 I 3 (31) .092697.




REVISED	MT. NANSEN-DOWS CLAIMS	
	SECTION A-A'	
PROJ. No. 338	SURVEY BY: K.D.G.	DATE: JANUARY 1989
N.T.S. 115 I/3	DRAWN BY:	SCALE: 1:500
DWG. No. 11	NORANDA EXPLORATION	
	OFFICE: WHITEHORSE	



GEOLOGY:

-  QUARTZ-FELDSPAR PORPHYRY
-  WHITE CRYSTALLINE MARBLE
-  GNEISS
-  CLAY (CLAY GOUGE)

ALTERATION:

-  SILICIFICATION AND/OR QUARTZ VEINING : MODERATE, STRONG
-  CLAY ALTERATION : MODERATE, STRONG
-  CLAY

092697

115 T3 28

REVISED	MT. NANSEN-DOWS CLAIMS	
	SECTION B-B'	
	(LOOKING SOUTH EAST)	
PROJ. No. 338	SURVEY BY: K.D.G.	DATE: JANUARY 1989
N.T.S. 1/15, 1/3	DRAWN BY:	SCALE: 1:500
DWG. No. 12	NORANDA EXPLORATION	
	OFFICE: WHITEHORSE	