

MAP NO.: ASSESSMENT REPORT X  
115 I 11 PROSPECTUS X  
CONFIDENTIAL X  
OPEN FILE

DOCUMENT NO: 092810  
MINING DISTRICT: Whitehorse  
TYPE OF WORK: Rotary Drilling

REPORT FILED UNDER: United Keno Hill Mines Ltd

DATE PERFORMED: 7-16 August, 1989

DATE FILED: 15 February 1990

LOCATION: LAT.: 62°48'N

AREA: Minto

LONG.: 137°16'W

VALUE \$:

CLAIM NAME & NO.: DEF 10-87 (Y61702-61722, Y61980-62023, Y76954-56); DEF LEASES 1-18, 31-38, 79-84, 1379 (QML3298-3326) INCLUDING FRACTIONAL LEASES

WORK DONE BY: D. Ouellette

WORK DONE FOR: United Keno Hill Mines Ltd

DATE TO GOOD STANDING:

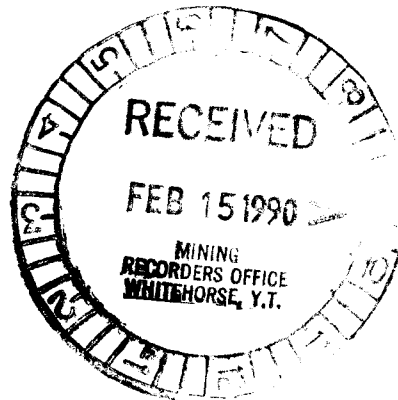
REMARKS: #14 MINTO(DEF)

Work in 1989 included 22 rotary drillholes totalling 1264.9 m in two areas, DEF 63 and DEF 59. A new surface showing was discovered and contains bornite and native copper as well as malachite and azurite, associated with potassic and silica alteration. Three exposures were found over a strike length of 39.6 m. Samples assayed up to 0.93% Cu and 1.2 g/t Au. The host structure strikes 304 and dips 42° SW. 3 1.5 m samples from hole D-18 assayed 0.29%, 0.24% and 0.14% Cu.

UNITED KENO HILL MINES LIMITED

REPORT ON THE  
1989 PERCUSSION DRILLING  
OF THE  
DEF PROPERTY

NTS Sheet 115I-11  
Latitude 62° 48' N  
Longitude 137° 16' W



Date: October 6, 1989  
Written by: Dennis Ouellette  
Senior Project Geologist

092810

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Property Location Map	1:250,000
Claim Location Map	1"= 1/2 mile
Drill Section D-6 to D-10	1"=40'
Drill Section D-11 to D-15	1"=40'
Drill Section D-16 to D-20	1"=40'
Drill Section D-21	1"=40'
Drill Section D-22	1"=40'
DEF Plan Map (in pocket)	1"=400'

## Introduction

A soil geochemical program conducted on the DEF property in 1974 resulted in several areas anomalous in copper. Two of these areas were investigated in 1989 with the use of the Company's BBE-5701 rotary percussion drill. A total of 4,150 feet in twenty two holes were drilled. The first area is located on DEF 63 (Grant Number Y62008). Five holes were drilled on this claim. The second area investigated is located on DEF 59 (Grant Number Y62004). Seventeen holes were drilled on this claim.

The drill was mobilized on August 2 from Minto Landing by barge to the access road to DEF. From this point the drill was moved to the property with the company D-7G bulldozer. The camp was mobilized with Trans North Air's Bell Jet Ranger II from Carmacks. Drilling began on August 7 and was completed on August 16.

The crew consisted of the driller and his helper and a cook.

## Location and Access

The DEF claim group is located 51 miles northwest of Carmacks on the southwest side of the Yukon River on NTS 115I-11. It is the northern most of three co-linear occurrences trending northwest for 26 miles. The southern most is the Williams Creek deposit. The STU occurrences is located seven miles north of the Williams Creek deposit.

The DEF property is accessible by barge from Minto Landing. The barge was able to take all of the equipment over in two loads.

In 1973 a tote road was constructed from the Mt. Freegold road along the west side of the Yukon river for access to the DEF property. The road is no longer usable.

## History

The DEF claim group was staked in 1971. Since that time, the claims have been extensively explored by UKHM crews. Following is a brief summary of exploration work done on the DEF claims since the property was staked.

### 1971

- reconnaissance prospecting and mapping
- grid soil sampling
- test lines of geophysics including IP, Crone VLF, Mag and Vertical Loop EM

### 1972

- line cutting over anomaly
- detailed soil sampling on grid
- remainder of property soil sampled
- bulldozer trenching
- air photos taken

### 1973

- road opened from river to DEF camp
- diamond drilling
- trenching
- magnetometer and EM-16 survey
- legal survey done
- C.E.M., VLF, Magnetometer and IP surveys done
- detailed soil grids over anomalies north of deposit
- tote road construction from Mt. Freegold

### 1974

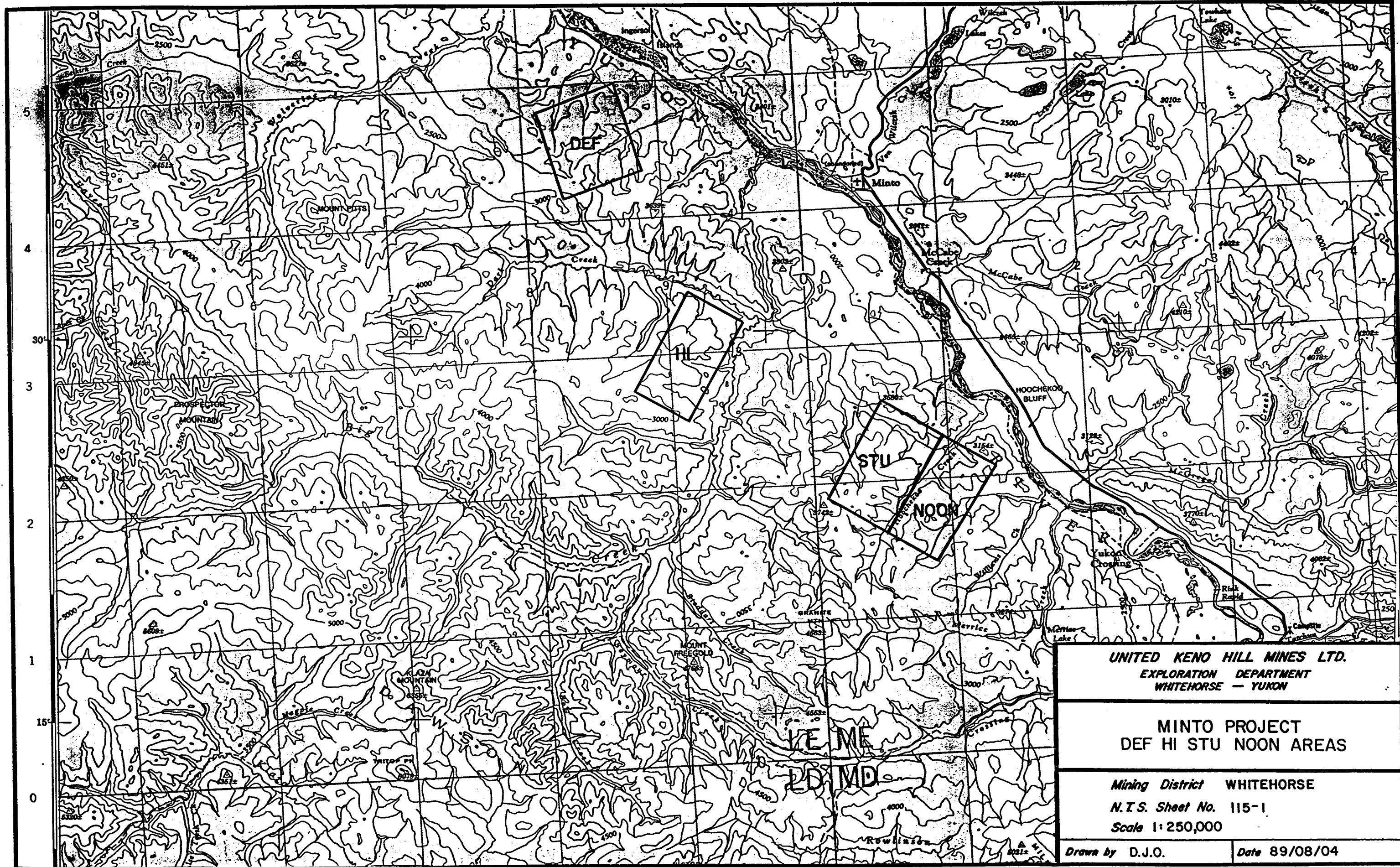
- tote road construction
- diamond drilling
- line cutting
- IP surveys over the deposit
- VLF-EM and Magnetometer surveys
- geological mapping
- relogging core

### 1984

- percussion drilling on one of the northern soil anomalies

### 1989

- percussion drilling on two of the northern soil anomalies



**UNITED KENO HILL MINES LTD.**  
 EXPLORATION DEPARTMENT  
 WHITEHORSE - YUKON

**MINTO PROJECT**  
 DEF HI STU NOON AREAS

Mining District WHITEHORSE  
 N.T.S. Sheet No. 115-1  
 Scale 1:250,000

Drawn by D.J.O.      Date 89/08/04

## Property

The DEF group consists of 59 claims and 29 quartz mining leases, all contiguous.

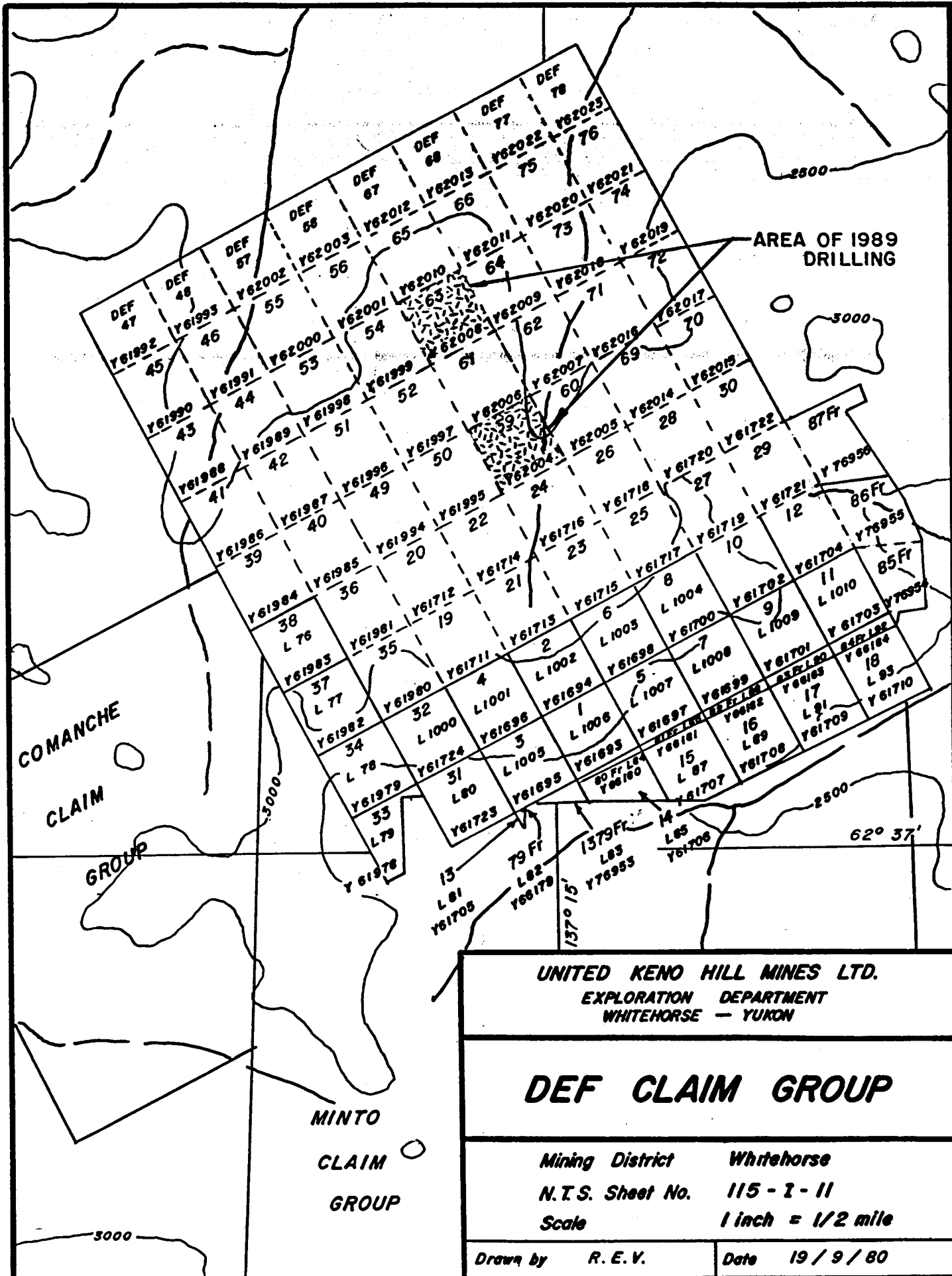
### CLAIMS

<u>Claim Name</u>	<u>Claim No.</u>	<u>Grant No.</u>	<u>N.T.S.</u>	<u>Expiry Date</u>
DEF	10	Y 61702	115 I/11	08-Sep-89
DEF	12	Y 61704	115 I/11	08-Sep-89
DEF	19	Y 61711	115 I/11	08-Sep-89
DEF	20	Y 61712	115 I/11	08-Sep-89
DEF	21	Y 61713	115 I/11	08-Sep-89
DEF	22	Y 61714	115 I/11	08-Sep-89
DEF	23	Y 61715	115 I/11	08-Sep-89
DEF	24	Y 61716	115 I/11	08-Sep-89
DEF	25	Y 61717	115 I/11	08-Sep-89
DEF	26	Y 61718	115 I/11	08-Sep-89
DEF	27	Y 61719	115 I/11	08-Sep-89
DEF	28	Y 61720	115 I/11	08-Sep-89
DEF	29	Y 61721	115 I/11	08-Sep-89
DEF	30	Y 61722	115 I/11	08-Sep-89
DEF	35	Y 61980	115 I/11	08-Sep-89
DEF	36	Y 61981	115 I/11	08-Sep-89
DEF	39	Y 61984	115 I/11	08-Sep-89
DEF	40	Y 61985	115 I/11	08-Sep-89
DEF	41	Y 61986	115 I/11	08-Sep-89
DEF	42	Y 61987	115 I/11	08-Sep-89
DEF	43	Y 61988	115 I/11	08-Sep-89
DEF	44	Y 61989	115 I/11	08-Sep-89
DEF	45	Y 61990	115 I/11	08-Sep-89
DEF	46	Y 61991	115 I/11	08-Sep-89
DEF	47	Y 61992	115 I/11	08-Sep-89
DEF	48	Y 61993	115 I/11	08-Sep-89
DEF	49	Y 61994	115 I/11	08-Sep-89
DEF	50	Y 61995	115 I/11	08-Sep-89
DEF	51	Y 61996	115 I/11	08-Sep-89
DEF	52	Y 61997	115 I/11	08-Sep-89
DEF	53	Y 61998	115 I/11	08-Sep-89
DEF	54	Y 61999	115 I/11	08-Sep-89
DEF	55	Y 62000	115 I/11	08-Sep-89
DEF	56	Y 62001	115 I/11	08-Sep-89
DEF	57	Y 62002	115 I/11	08-Sep-89
DEF	58	Y 62003	115 I/11	08-Sep-89
DEF	59	Y 62004	115 I/11	08-Sep-89
DEF	60	Y 62005	115 I/11	08-Sep-89
DEF	61	Y 62006	115 I/11	08-Sep-89
DEF	62	Y 62007	115 I/11	08-Sep-89
DEF	63	Y 62008	115 I/11	08-Sep-89
DEF	64	Y 62009	115 I/11	08-Sep-89
DEF	65	Y 62010	115 I/11	08-Sep-89
DEF	66	Y 62011	115 I/11	08-Sep-89

<u>Claim Name</u>	<u>Claim No.</u>	<u>Grant No.</u>	<u>N.T.S.</u>	<u>Expiry Date</u>
DEF	67	Y 62012	115 I/11	08-Sep-89
DEF	68	Y 62013	115 I/11	08-Sep-89
DEF	69	Y 62014	115 I/11	08-Sep-89
DEF	70	Y 62015	115 I/11	08-Sep-89
DEF	71	Y 62016	115 I/11	08-Sep-89
DEF	72	Y 62017	115 I/11	08-Sep-89
DEF	73	Y 62018	115 I/11	08-Sep-89
DEF	74	Y 62019	115 I/11	08-Sep-89
DEF	75	Y 62020	115 I/11	08-Sep-89
DEF	76	Y 62021	115 I/11	08-Sep-89
DEF	77	Y 62022	115 I/11	08-Sep-89
DEF	78	Y 62023	115 I/11	08-Sep-89
DEF FR.	85	Y 76954	115 I/11	08-Sep-89
DEF FR.	86	Y 76955	115 I/11	08-Sep-89
DEF FR.	87	Y 76956	115 I/11	08-Sep-89

QUARTZ MINING LEASES

<u>Claim Name</u>	<u>Claim No.</u>	<u>Lease No.</u>	<u>N.T.S.</u>	<u>Expiry Date</u>
DEF	1	QML 3298	115 I/11	07-Oct-2007
DEF	2	QML 3299	115 I/11	07-Oct-2007
DEF	3	QML 3300	115 I/11	07-Oct-2007
DEF	4	QML 3301	115 I/11	07-Oct-2007
DEF	5	QML 3302	115 I/11	07-Oct-2007
DEF	6	QML 3303	115 I/11	07-Oct-2007
DEF	7	QML 3304	115 I/11	07-Oct-2007
DEF	8	QML 3305	115 I/11	07-Oct-2007
DEF	9	QML 3306	115 I/11	07-Oct-2007
DEF	11	QML 3307	115 I/11	07-Oct-2007
DEF	13	QML 3308	115 I/11	07-Oct-2007
DEF	14	QML 3309	115 I/11	07-Oct-2007
DEF	15	QML 3310	115 I/11	07-Oct-2007
DEF	16	QML 3311	115 I/11	07-Oct-2007
DEF	17	QML 3312	115 I/11	07-Oct-2007
DEF	18	QML 3313	115 I/11	07-Oct-2007
DEF	31	QML 3314	115 I/11	07-Oct-2007
DEF	32	QML 3315	115 I/11	07-Oct-2007
DEF	33	QML 3316	115 I/11	07-Oct-2007
DEF	34	QML 3317	115 I/11	07-Oct-2007
DEF	37	QML 3318	115 I/11	07-Oct-2007
DEF	38	QML 3319	115 I/11	07-Oct-2007
DEF FR.	79	QML 3320	115 I/11	07-Oct-2007
DEF FR.	80	QML 3321	115 I/11	07-Oct-2007
DEF FR.	81	QML 3322	115 I/11	07-Oct-2007
DEF FR.	82	QML 3323	115 I/11	07-Oct-2007
DEF FR.	83	QML 3324	115 I/11	07-Oct-2007
DEF FR.	84	QML 3325	115 I/11	07-Oct-2007
DEF FR.	1379	QML 3326	115 I/11	07-Oct-2007



<b>UNITED KENO HILL MINES LTD.</b> EXPLORATION DEPARTMENT WHITEHORSE — YUKON	
<h2>DEF CLAIM GROUP</h2>	
Mining District	Whitehorse
N.T.S. Sheet No.	115 - 1 - 11
Scale	1 inch = 1/2 mile
Drawn by	R. E. V.
Date	19 / 9 / 80

## Geology

### 1) Regional Geology

The area was first mapped by Bostock in 1936. Templeman-Kluit (1973) describes the region to be within the Yukon Crystalline Terrane, a region of metamorphic and plutonic rocks in the axial zone of the northern Canadian Cordillera. The metamorphic rocks are largely metavolcanic and metaplutonic and are Devonian to Mississippian in age. Metamorphism to the Upper Greenschist to Lower Amphibolite facies probably occurred during the Triassic.

Plutonic rocks range in age from Triassic to Tertiary and vary from quartz diorite to alaskite (Pearson and Clark, 1979). The most extensive suite of plutonic rocks is the Klotassin Suite which constitutes the wall rocks of the DEF-Minto deposits. The rocks consist of biotite-hornblende granodiorite to quartz monzonite and are typically granitic in character but weak to moderate foliation is present. Plutons of the Klotassin Suite display steeply dipping contacts which are parallel to the foliation in enclosing rocks.

The Klotassin Suite age has been inferred to be Upper Triassic (Templeman-Kluit, 1976). Clasts of granitic material are present in the Lower to Middle Jurassic Laberge Group in the Whitehorse Trough. U-Pb dating of zircons yielded an age of 203 m.y.

Three periods of volcanism occurred in the area emplacing the Nansen, Carmacks and Selkirk Groups. Sub-aerial volcanics of the Mt Nansen Group consist of black weathering dark green, red or purple calc-alkaline andesites with massive tuff and tuff breccia. They have been interpreted to be of Eocene age (Pearson and Clark, 1979). Eocene to Pleistocene volcanism emplaced the Carmacks Group of sub-aerial volcanics while Pleistocene to Recent volcanism emplaced the Selkirk Group.

### 2) Local Geology

The DEF Claim group is predominantly underlain by granitic rocks of the Minto Pluton consisting of massive to foliated biotite-hornblende granodiorite. The granite is locally porphyritic and porphyroblastic with the former being most common. Several gneissic zones occur on the property. Dike rocks include volcanics and granite porphyry as well as aplite, micro granite and pegmatite.

The copper deposit consists of disseminated copper with minor gold and silver occurring in foliated biotite granodiorite to biotite quartz feldspar gneiss and siliceous ore. The sulphides in the deposit are segregated along foliation planes defined by banding of biotite and magnetite. Malachite and azurite occur in these mineralized zones of DEF. The linear trend of the mineralization may be related to the northwest trending Teslin Suture Zone located to the east of the area.

## Results and Conclusions

### General Discussion

Two areas on the DEF Group were drilled in 1989. In all, 22 holes were drilled for a total of 4,150 feet of drilling. Five holes were drilled on DEF 63 in AREA 'D' and 17 on DEF 59 in AREA 'C'.

The company drill is a modified Atlas Copco BBE-5701. The drill is capable of drilling holes to a practical depth of about 300 feet in dry ground. The drill uses compressed air supplied by a 750 cfm compressor. An 800 gallon fuel buggy was also used for the job. The drill and its accessories are all mounted on skids. All of the equipment is moved with the use of the Company's D-7G Caterpillar. This drill and its predecessor have been used in the Keno Hill area for 25 years as an economical means of exploration.

The fire which burned through the area in 1982 destroyed many of the grids and markers in the area making location difficult. A survey line should be carried north from the DEF legal survey in an attempt to re-establish the location of samples from the 1973 soil sampling program and to correlate these samples with the location of the present drilling. This is especially important for the AREA 'C' grid.

The deck of the barge owned by Jacobs Industries of Whitehorse consists of steel plates over steel I beams. The skid equipped drill and compressor threatened to destroy the decks on the first attempt to load. If this barge is used in future jobs it is recommended that the owners are told of the problem before loading proceeds to eliminate expensive delays while gathering suitable materials to protect the deck. Also, a large winch on the barge would make loading much easier.

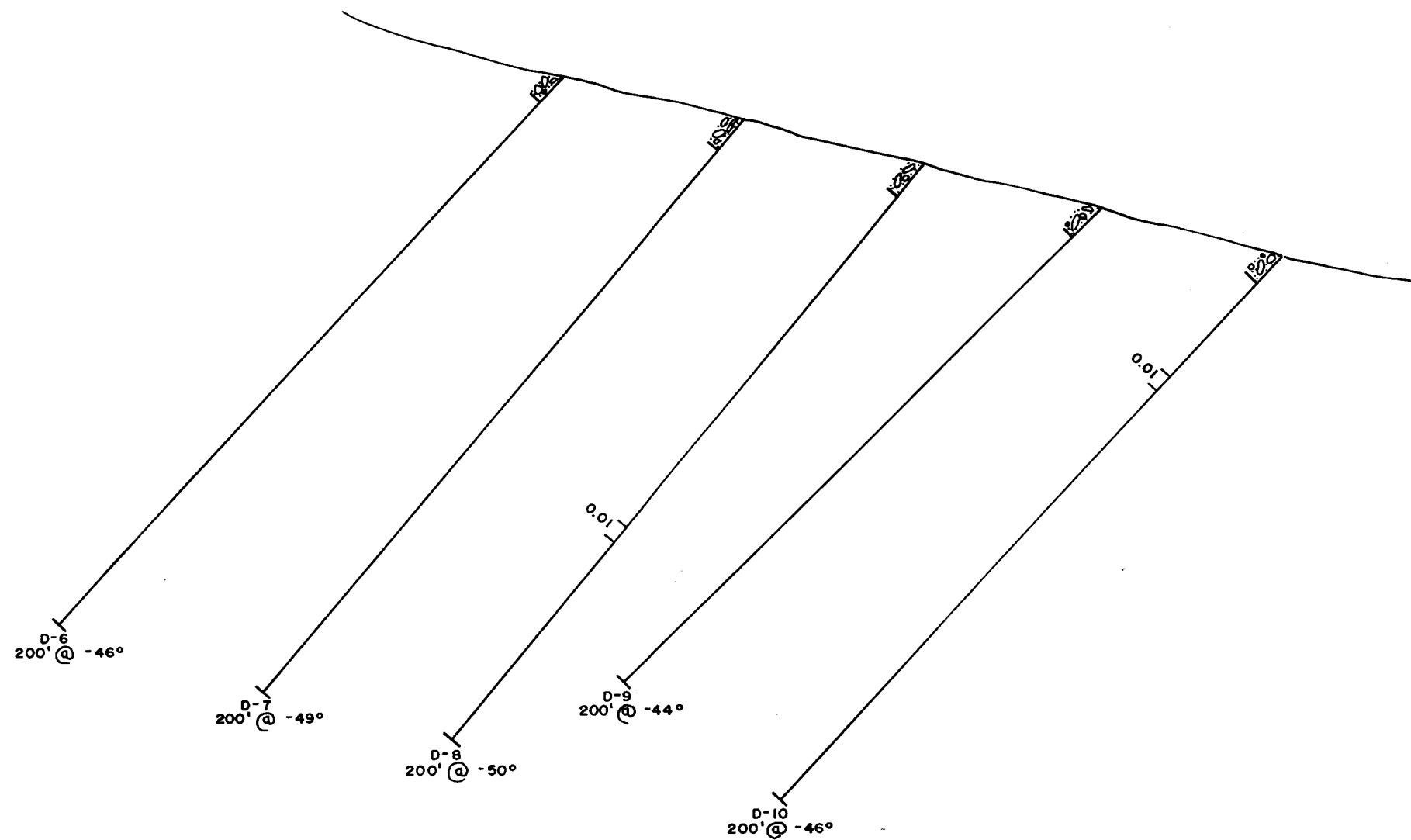
### AREA 'D' - DEF 63 (Y62008)

There is a showing of copper located on the highest point of the hill on which five holes were drilled. The showing, which consists of malachite and minor azurite within silicified foliated granodiorite, is located less than fifty feet north of the drill line. The showing did not appear to be more than a couple of feet wide. Assays of the material taken in 1974 returned 0.35% copper. Five holes were drilled perpendicular to local foliation. A total of 196 samples were taken at five foot intervals and assayed at Bondar & Clegg for copper. The highest assay returned 0.04% Cu over five feet in hole D-5. No further drilling is required for this area.

AREA 'C' - DEF 59 (Y62004)

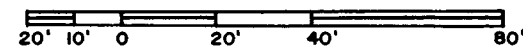
A total of 590 samples were taken at five foot intervals from the 17 holes drilled on AREA 'C'. The samples were assayed for copper at Bondar-Clegg in Whitehorse. A new surface showing was discovered while constructing a pad for the compressor on hole D-19. The showing is better than any others found in the DEF Minto area in that it contains not only malachite and azurite but also bornite and native copper. The alteration exhibited by the surface showing appears very favourable for copper mineralization and includes potassic alteration, silicification, strong foliation and biotite alteration. The showing consists of three exposures over 130 feet. The northern most showing consists of strongly foliated granodiorite with biotite alteration. Malachite occurs with the biotite. The sample assayed 0.42% Cu. The lower showing, located about 130 feet south of the upper, consists of foliated, silicified material containing malachite. The rock assayed 0.93% Cu and 0.036 opt Au. Another exposure 10 feet north of the lower exposure consists of potassic altered granite with native copper, bornite, magnetite and malachite. It assayed 0.42% Cu. As a result of the discovery, two extra holes, D-21 and D-22 were drilled in an attempt to intersect the showing at depth. Hole D-21 ended in the zone and assayed 0.24% Cu over five feet. The structure was not intersected in hole D-22. Hole D-18 did intersect the structure with 3 five foot samples assaying 0.29%, 0.24%, 0.14% Cu respectively. From this data it can be surmised that the attitude of the mineralized structure is not what it appeared to be on the surface. In fact, the structure appears to strike about 304° and dip 42° to the southwest. Some surface work will be required to define the exact nature of the mineralized structure.

The source of the copper anomalies in AREA 'C' have not all been satisfactorily examined. A D-7G or larger bulldozer equipped with a ripper should be mobilized to the area and a trenching program initiated. If the percussion drill is available, it could be mobilized at the same time and drilling of favourable ground could be done in conjunction with the trenching.



NOTES: Azimuth 240°  
 View looking northwest.  
 All samples taken at 5ft. intervals.  
 All samples have Cu in % listed.  
 All assays are <0.01 % Cu unless otherwise stated.

SCALE



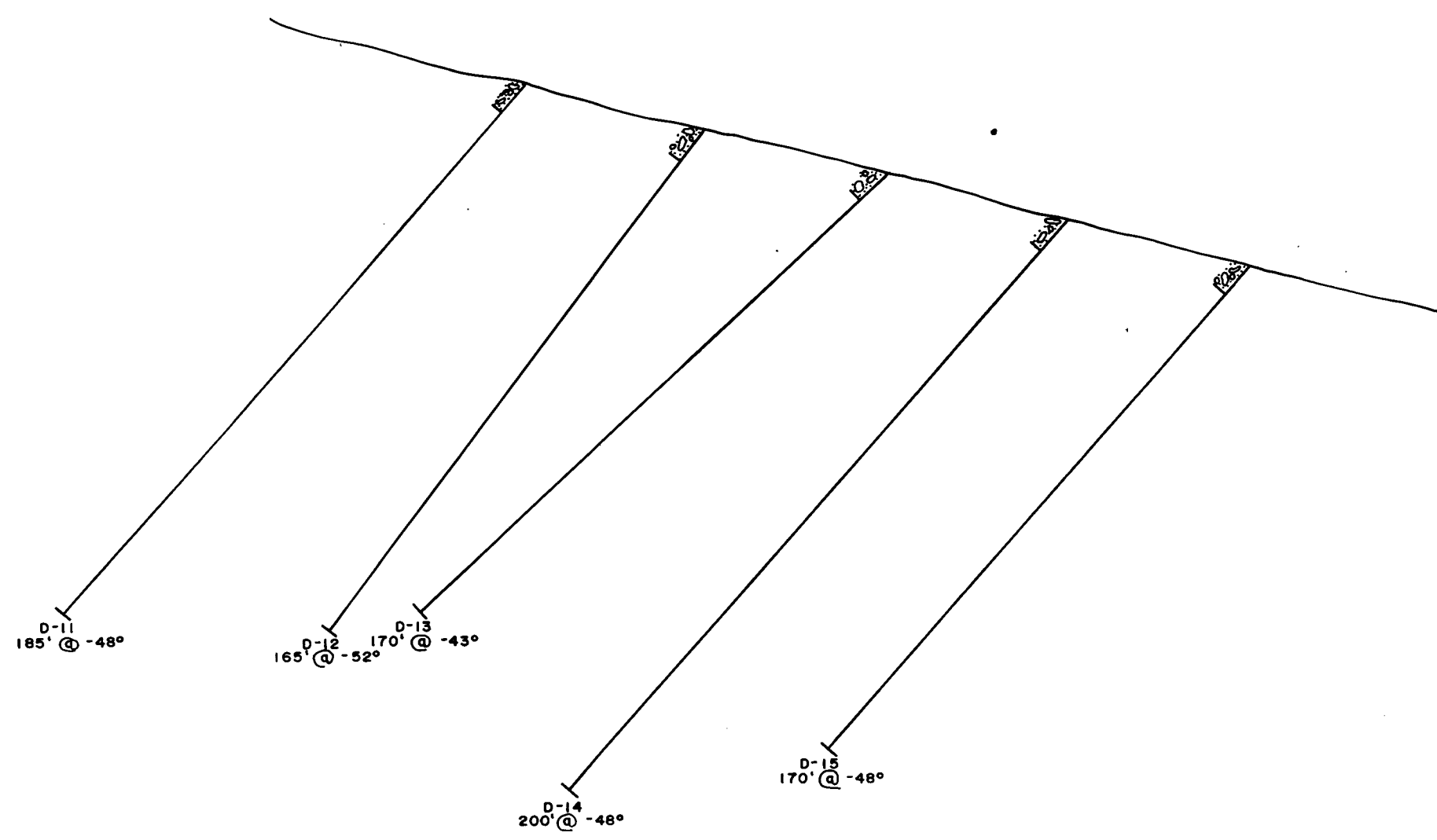
UNITED KENO HILL MINES LTD.  
 EXPLORATION DEPARTMENT  
 WHITEHORSE - YUKON

DEF CLAIMS  
 DRILL SECTION D-6 to D-10

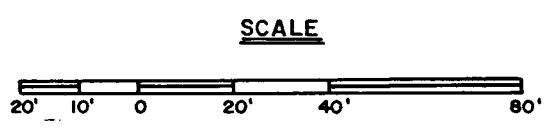
Mining District WHITEHORSE  
 N.T.S. Sheet No. 115-1/11  
 Scale 1" = 40'

Drawn by H.D.S.

Date 89/09/15

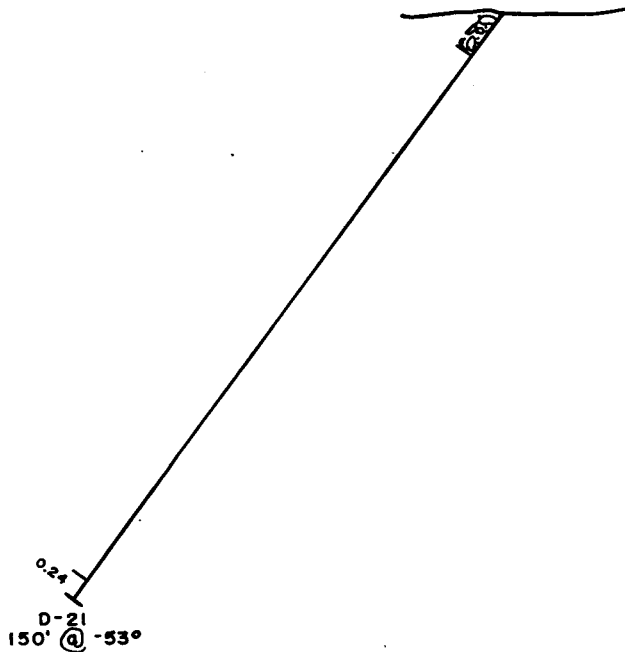


NOTES: Azimuth 240°  
 View looking northwest.  
 All samples taken at 5 ft. intervals.  
 All samples have Cu in % listed.  
 All assays are <0.01 % Cu unless otherwise stated.



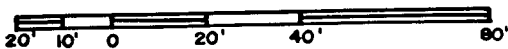
<b>UNITED KENO HILL MINES LTD.</b> EXPLORATION DEPARTMENT WHITEHORSE — YUKON	
DEF CLAIMS DRILL SECTION D-11 to D-15	
Mining District WHITEHORSE N.T.S. Sheet No. 115-1/11 Scale 1" = 40'	
Drawn by H.D.S.	Date 89/09/18





**NOTES:** Azimuth 240°  
 View looking northwest.  
 All samples taken at 5ft. intervals.  
 All samples have Cu in % listed.  
 All assays are <0.01 % Cu unless otherwise stated.

**SCALE**



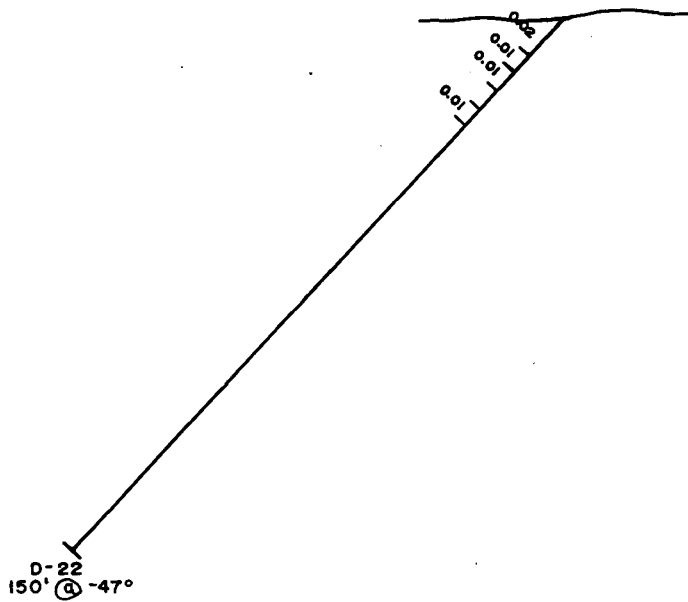
**UNITED KENO HILL MINES LTD.**  
**EXPLORATION DEPARTMENT**  
**WHITEHORSE - YUKON**

**DEF CLAIMS**  
**DRILL SECTION D-21**

**Mining District WHITEHORSE**  
**N.T.S. Sheet No. 115-1/15**  
**Scale 1" = 40'**

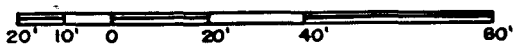
**Drawn by H.D.S.**

**Date 89/10/10**



NOTES: Azimuth 240°  
 View looking northwest.  
 All samples taken at 5ft. intervals.  
 All samples have Cu in % listed.  
 All assays are <0.01 % Cu unless otherwise stated.

SCALE



**UNITED KENO HILL MINES LTD.**  
**EXPLORATION DEPARTMENT**  
**WHITEHORSE — YUKON**

**DEF CLAIMS**  
**DRILL SECTION D-22**

*Mining District* WHITEHORSE

*N.T.S. Sheet No.* 115-1/11

*Scale* 1" = 40'

*Drawn by* H.D.S.

*Date* 89/10/11

APPENDIX A  
ASSAY SHEETS



# Certificate of Analysis

TO \_\_\_\_\_

REPORT NO. W89-05616.4

DATE September 11, 1989

United Keno Hill Mines

I hereby certify that the following are the results of analyses made by us upon the herein described ..... percussion ..... samples Page 10

MARKED	%								
	Cu								
19752	L0.01								
19753	L0.01								
19754	L0.01								
19755	L0.01								
19756	L0.01								
19757	L0.01								
19758	L0.01								
19759	L0.01								
19760	L0.01								
19761	L0.01								
19762	L0.01								
19763	L0.01								
19764	L0.01								
19765	L0.01								
19766	L0.01								
19767	L0.01								
<i>D-10 10-15</i> 19768	L0.01								
19769	L0.01								
19770	L0.01								
19771	L0.01								



# Certificate of Analysis

TO \_\_\_\_\_  
United Keno Hill Mines  
\_\_\_\_\_

REPORT NO. W89-05616.4  
DATE September 11, 1989

I hereby certify that the following are the results of analyses made by us upon the herein described .. percussion ..... samples Page 11

MARKED	%								
	Cu								
19772	L0.01								
19773	L0.01								
19774	L0.01								
19775	0.01								
19776	L0.01								
19777	L0.01								
19778	L0.01								
19779	L0.01								
19780	L0.01								
19781	L0.01								
19782	L0.01								
19783	L0.01								
19784	L0.01								
19785	L0.01								
19786	L0.01								
19787	L0.01								
19788	L0.01								
19789	L0.01								
19790	L0.01								
19791	L0.01								

.....



# Certificate of Analysis

TO \_\_\_\_\_  
United Keno Hill Mines  
\_\_\_\_\_

REPORT NO. W89-05616.4  
DATE September 11, 1989

I hereby certify that the following are the results of analyses made by us upon the herein described percussion samples Page 12

MARKED	%								
	Cu								
19792	L0.01								
19793	L0.01								
19794	L0.01								
19795	L0.01								
19796	L0.01								
19797	L0.01								
19798	L0.01								
19799	L0.01								
19800	L0.01								
19801	L0.01								
19802	L0.01								
19803	L0.01								
19804	L0.01								
<i>D-10 195-200</i> <i>D-9 10-15</i> 19805	L0.01								
19806	L0.01								
19807	L0.01								
19808	L0.01								
19809	L0.01								
19810	L0.01								
19811	L0.01								



# Certificate of Analysis

TO \_\_\_\_\_  
United Keno Hill Mines  
\_\_\_\_\_

REPORT NO. W89-05616.4  
DATE September 11, 1989

I hereby certify that the following are the results of analyses made by us upon the herein described percussion samples  
Page 13

MARKED		%								
		Cu								
198	19812	LO.01								
	19813	LO.01								
	19814	LO.01								
	19815	LO.01								
	19816	LO.01								
	19817	LO.01								
	19818	LO.01								
	19819	LO.01								
	19820	LO.01								
	19821	LO.01								
	19822	LO.01								
	19823	LO.01								
	19824	LO.01								
	19825	LO.01								
	19826	LO.01								
	19827	LO.01								
	19828	LO.01								
	19829	LO.01								
19830	LO.01									
19831	LO.01									



Certificate of Analysis

TO United Keno Hill Mines

REPORT NO. W89-05616.4

DATE September 11, 1989

I hereby certify that the following are the results of analyses made by us upon the herein described percussion samples Page 14

Table with columns for sample ID, Cu percentage, and other analysis parameters. Rows include sample numbers 19832 through 19851, with Cu percentages listed as LO.01.



# Certificate of Analysis

TO \_\_\_\_\_  
United Keno Hill Mines  
\_\_\_\_\_

REPORT NO. W89-05616.4  
DATE September 11, 1989

I hereby certify that the following are the results of analyses made by us upon the herein described .....percussion... samples Page 15

MARKED	%								
	Cu								
19852	L0.01								
19853	L0.01								
19854	L0.01								
19855	L0.01								
19856	L0.01								
19857	L0.01								
19858	L0.01								
19859	L0.01								
19860	L0.01								
19861	L0.01								
19862	L0.01								
19863	0.01								
19864	L0.01								
19865	L0.01								
19866	L0.01								
19867	L0.01								
19868	L0.01								
19869	L0.01								
19870	L0.01								
19871	L0.01								



# Certificate of Analysis

TO \_\_\_\_\_  
United Keno Hill Mines  
\_\_\_\_\_

REPORT NO. W89-05616.4  
DATE September 11, 1989

I hereby certify that the following are the results of analyses made by us upon the herein described .. percussion ..... samples Page 16

MARKED	%								
	Cu								
	19872	L0.01							
	19873	L0.01							
	19874	L0.01							
	19875	L0.01							
	19876	L0.01							
D-8 195-200	19877	L0.01							
D-7 10-15	19878	L0.01							
	19879	L0.01							
	19880	L0.01							
	19881	L0.01							
	19882	L0.01							
	19883	L0.01							
	19884	L0.01							
	19885	L0.01							
	19886	L0.01							
	19887	L0.01							
	19888	L0.01							
	19889	L0.01							
	19890	L0.01							
	19891	L0.01							



# Certificate of Analysis

TO \_\_\_\_\_  
United Keno Hill Mines  
\_\_\_\_\_

REPORT NO. W89-05616.4

DATE September 12, 1989

I hereby certify that the following are the results of analyses made by us upon the herein described .. percussion ..... samples Page 17

MARKED	%									
	Cu									
19892	L0.01									
19893	L0.01									
19894	L0.01									
19895	L0.01									
19896	L0.01									
19897	L0.01									
19898	L0.01									
19899	L0.01									
19900	L0.01									
19901	L0.01									
19902	L0.01									
19903	L0.01									
19904	L0.01									
19905	L0.01									
19906	L0.01									
19907	L0.01									
19908	L0.01									
19909	L0.01									
19910	L0.01									
19911	L0.01									



# Certificate of Analysis

TO \_\_\_\_\_  
United Keno Hill Mines  
\_\_\_\_\_

REPORT NO. W89-05616.4  
DATE September 12, 1989

I hereby certify that the following are the results of analyses made by us upon the herein described percussion samples Page 18

MARKED	%								
	Cu								
	19912	L0.01							
	19913	L0.01							
<i>D-7 195-200</i>	19914	L0.01							
<i>D-6 10-15</i>	19915	L0.01							
	19916	L0.01							
	19917	L0.01							
	19918	L0.01							
	19919	L0.01							
	19920	L0.01							
	19921	L0.01							
	19922	L0.01							
	19923	L0.01							
	19924	L0.01							
	19925	L0.01							
	19926	L0.01							
	19927	L0.01							
	19928	L0.01							
	19929	L0.01							
	19930	L0.01							
	19931	L0.01							



# Certificate of Analysis

TO \_\_\_\_\_  
United Keno Hill Mines  
\_\_\_\_\_

REPORT NO. W89-05616.4  
DATE September 12, 1989

I hereby certify that the following are the results of analyses made by us upon the herein described .. percussion..... samples Page 19

MARKED	%									
	Cu									
19932	L0.01									
19933	L0.01									
19934	L0.01									
19935	L0.01									
19936	L0.01									
19937	0.01									
19938	L0.01									
19939	L0.01									
19940	L0.01									
19941	L0.01									
19942	L0.01									
19943	L0.01									
19944&19945 comp	L0.01									
19946	L0.01									
19947	L0.01									
19948	L0.01									
19949	L0.01									
19950	L0.01									
19951	L0.01									
19952	L0.01									

D-6 195-200



# Certificate of Analysis

TO \_\_\_\_\_  
United Keno Hill Mines  
\_\_\_\_\_

REPORT NO. W89-05616.4  
DATE September 15, 1989

I hereby certify that the following are the results of analyses made by us upon the herein described ..... percussion samples Page 20

MARKED	%									
	Cu									
D-15 10-15 19953	L0.01									
19954	L0.01									
19955	L0.01									
19956	L0.01									
19957	L0.01									
19958	L0.01									
19959	L0.01									
19960	L0.01									
19961	L0.01									
19962	L0.01									
19963	L0.01									
19964	L0.01									
19965	L0.01									
19966	L0.01									
19967	L0.01									
19968	L0.01									
19969	L0.01									
19970	L0.01									
19971	L0.01									
19972	L0.01									



Certificate of Analysis

TO United Keno Hill Mines

REPORT NO. W89-05616.4

DATE September 15, 1989

I hereby certify that the following are the results of analyses made by us upon the herein described Percussion samples Page 21

Table with columns for MARKED, %, and Cu. Rows include sample numbers 19973-19984 and 00001-00008 with corresponding values like L0.01 and 0.01.



# Certificate of Analysis

TO \_\_\_\_\_  
United Keno Hill Mines  
\_\_\_\_\_

REPORT NO. W89-05616.4

DATE September 15, 1989

I hereby certify that the following are the results of analyses made by us upon the herein described percussion ..... samples Page 22

MARKED	%								
	Cu								
00009	L0.01								
00010	0.01								
00011	L0.01								
00012	L0.01								
00013	L0.01								
00014	L0.01								
00015	L0.01								
00016	L0.01								
00017	L0.01								
00018	L0.01								
00019	L0.01								
00020	L0.01								
00021	L0.01								
00022	L0.01								
00023	L0.01								
00024	L0.01								
00025	L0.01								
00026	L0.01								
00027	L0.01								
00028	L0.01								



# Certificate of Analysis

TO \_\_\_\_\_  
United Keno Hill Mines  
\_\_\_\_\_

REPORT NO. W89-05616.4  
DATE September 15, 1989

I hereby certify that the following are the results of analyses made by us upon the herein described percussion samples Page 23

MARKED	%								
	Cu								
	00029	L0.01							
	00030	L0.01							
	00031	L0.01							
	00032	L0.01							
	00033	L0.01							
	00034	L0.01							
	00035	L0.01							
	00036	L0.01							
	00037	L0.01							
<i>D-14 195-200</i>	00038	L0.01							
<i>D-13 10-15</i>	00039	L0.01							
	00040	L0.01							
	00041	L0.01							
	00042	L0.01							
	00043	L0.01							
	00044	L0.01							
	00045	L0.01							
	00046	L0.01							
	00047	L0.01							
	00048	L0.01							



# Certificate of Analysis

TO \_\_\_\_\_  
United Keno Hill Mines  
\_\_\_\_\_

REPORT NO. W89-05616.4  
DATE September 15, 1989

I hereby certify that the following are the results of analyses made by us upon the herein described percussion samples Page 24

MARKED	%								
	Cu								
00049	LO.01								
00050	LO.01								
00051	LO.01								
00052	LO.01								
00053	LO.01								
00054	LO.01								
00055	LO.01								
00056	LO.01								
00057	LO.01								
00058	LO.01								
00059	LO.01								
00060	LO.01								
00061	0.02								
00062	.0.03								
00063	LO.01								
00064	LO.01								
00065	LO.01								
00066	LO.01								
00067	LO.01								
00068	LO.01								



# Certificate of Analysis

TO \_\_\_\_\_  
United Keno Hill Mines  
\_\_\_\_\_

REPORT NO. W89-05616,4 .....

DATE September 15, 1989 .....

I hereby certify that the following are the results of analyses made by us upon the herein described ... *percussion* ... samples Page 25,

MARKED	%									
	Cu									
	00069	L0.01								
<i>D-13 165-170</i>	00070	L0.01								
<i>D-12 10-15</i>	00071	L0.01								
	00072	L0.01								
	00073	L0.01								
	00074	L0.01								
	00075	L0.01								
	00076	L0.01								
	00077	L0.01								
	00078	L0.01								
	00079	L0.01								
	00080	L0.01								
	00081	L0.01								
	00082	L0.01								
	00083	L0.01								
	00084	L0.01								
	00085	L0.01								
	00086	L0.01								
	00087	L0.01								
	00088	L0.01								



# Certificate of Analysis

TO \_\_\_\_\_  
United Keno Hill Mines  
\_\_\_\_\_

REPORT NO. . . . W89-05616.4 . . . . .

DATE September 15, 1989 . . . . .

I hereby certify that the following are the results of analyses made by us upon the herein described . . . . percussion . . . . samples 26

MARKED	%								
	Cu								
00089	L0.01								
00090	L0.01								
00091	L0.01								
00092	L0.01								
00093	L0.01								
00094	L0.01								
00095	L0.01								
00096	0.02								
00097	0.01								
00098	L0.01								
00099	L0.01								
00100	L0.01								
<del>D-12</del> <del>160-165</del> 00101	0.03								
D-11 10-15 00102	0.01								
00103	L0.01								
00104	L0.01								
00105	0.02								
00106	0.03								
00107	0.01								
00108	0.01								



# Certificate of Analysis

TO \_\_\_\_\_  
United Keno Hill Mines  
\_\_\_\_\_

REPORT NO. W89-05616.4 .....

DATE September 15, 1989 .....

I hereby certify that the following are the results of analyses made by us upon the herein described .. percussion ..... samples Page 27

MARKED	%								
	Cu								
00109	LO.01								
00110	LO.01								
00111	LO.01								
00112	LO.01								
00113	LO.01								
00114	LO.01								
00115	LO.01								
00116	LO.01								
00117	LO.01								
00118	LO.01								
00119	LO.01								
00120	LO.01								
00121	LO.01								
00122	LO.01								
00123	LO.01								
00124	LO.01								
00125	LO.01								
00126	LO.01								
00127	LO.01								
00128	LO.01								



# Certificate of Analysis

TO \_\_\_\_\_  
United Keno Hill Mines  
\_\_\_\_\_

REPORT NO. W89-05616.4  
DATE September 15, 1989

I hereby certify that the following are the results of analyses made by us upon the herein described . . . percussion . . . samples Page 28

MARKED	%								
	Cu								
00129	LO.01								
00130	LO.01								
00131	LO.01								
00132	LO.01								
00133	LO.01								
00134	LO.01								
00135	LO.01								
<i>D-11</i> <i>180-185</i> 00136	LO.01								
<i>D-20</i> <i>10-15</i> 00137	LO.01								
00138	LO.01								
00139	LO.01								
00140	LO.01								
00141	LO.01								
00142	LO.01								
00143	LO.01								
00144	LO.01								
00145	LO.01								
00146	0.02								
00147	LO.01								
00148	LO.01								



# Certificate of Analysis

TO \_\_\_\_\_  
United Keno Hill Mines  
\_\_\_\_\_

REPORT NO. W89-05616.4

DATE September 21, 1989

I hereby certify that the following are the results of analyses made by us upon the herein described ... percussion ... samples Page 29

MARKED	%								
	Cu								
00149	L0.01								
00150	L0.01								
00151	L0.01								
00152	L0.01								
00153	L0.01								
00154	L0.01								
00155	L0.01								
00156	L0.01								
00157	L0.01								
00158	L0.01								
00159	L0.01								
00160	L0.01								
00161	L0.01								
00162	L0.01								
00163	L0.01								
00164	L0.01								
00165	0.10								
00166	0.12								
00167	L0.01								
00168	L0.01								



Certificate of Analysis

TO United Keno Hill Mines

REPORT NO. W89-05616.4
DATE September 21, 1989

I hereby certify that the following are the results of analyses made by us upon the herein described percussion samples Page 30

Table with columns for MARKED, %, and Cu. Contains sample numbers 00169-00188 and their corresponding percentages.



# Certificate of Analysis

TO \_\_\_\_\_  
United Keno Hill Mines  
\_\_\_\_\_

REPORT NO. W89-05616.4  
DATE September 21, 1989

I hereby certify that the following are the results of analyses made by us upon the herein described .. percussion ..... samples Page 31

MARKED	%								
	Cu								
00189	L0.01								
00190	L0.01								
00191	L0.01								
00192	L0.01								
00193	L0.01								
00194	L0.01								
00195	L0.01								
00196	L0.01								
00197	L0.01								
00198	L0.01								
00199	L0.01								
00200	L0.01								
00201	L0.01								
00202	L0.01								
00203	L0.01								
00204	L0.01								
00205	L0.01								
00206	L0.01								
00207	L0.01								
00208	L0.01								



# Certificate of Analysis

TO \_\_\_\_\_  
United Keno Hill Mines  
\_\_\_\_\_

REPORT NO. W89-05616.4

DATE September 21, 1989

I hereby certify that the following are the results of analyses made by us upon the herein described percussion samples Page 32

MARKED	%								
	Cu								
	00209	L0.01							
	00210	L0.01							
	00211	L0.01							
D-19 195-200	00212	L0.01							
D-18 10-15	00213	L0.01							
	00214	L0.01							
	00215	L0.01							
	00216	L0.01							
	00217	L0.01							
	00218	L0.01							
	00219	L0.01							
	00220	L0.01							
	00221	L0.01							
	00222	L0.01							
	00223	L0.01							
	00224	L0.01							
	00225	L0.01							
	00226	L0.01							
	00227	0.08							
	00228	0.01							



# Certificate of Analysis

TO \_\_\_\_\_  
United Keno Hill Mines  
\_\_\_\_\_

REPORT NO. .... W89-05616.4 .....

DATE .... September 21, 1989 .....

I hereby certify that the following are the results of analyses made by us upon the herein described ... *percussion* ... samples Page 33

MARKED	%									
	Cu									
	00229	L0.01								
	00230	L0.01								
	00231	L0.01								
	00232	L0.01								
	00233	0.01								
<i>115-120</i>	00234	0.10								
	00235	0.29								
	00236	0.24								
<i>130-135</i>	00237	0.14								
	00238	L0.01								
	00239	L0.01								
	00240	L0.01								
	00241	L0.01								
	00242	0.02								
	00243	L0.01								
	00244	L0.01								
	00245	L0.01								
	00246	L0.01								
	00247	L0.01								
	00248	L0.01								



# Certificate of Analysis

TO \_\_\_\_\_  
United Keno Hill Mines  
\_\_\_\_\_

REPORT NO. W89-05616.4

DATE September 21, 1989

I hereby certify that the following are the results of analyses made by us upon the herein described percussion samples Page 34

MARKED	%									
	Cu									
	00249	L0.01								
<i>D-18 195-200</i>	00250	L0.01								
<i>D-17 10-15</i>	00251	L0.01								
	00252	L0.01								
	00253	L0.01								
	00254	L0.01								
	00255	L0.01								
	00256	L0.01								
	00257	L0.01								
	00258	L0.01								
	00259	L0.01								
	00260	L0.01								
	00261	L0.01								
	00262	L0.01								
	00263	L0.01								
	00264	L0.01								
	00265	L0.01								
	00266	L0.01								
	00267	L0.01								
	00268	L0.01								



## Certificate of Analysis

TO \_\_\_\_\_  
United Keno Hill Mines  
\_\_\_\_\_

REPORT NO. W89-05616.4

DATE September 26, 1989

I hereby certify that the following are the results of analyses made by us upon the herein described percussion samples Page 35

MARKED	%									
	Cu									
	00269	L0.01								
	00270	L0.01								
	00271	L0.01								
	00272	0.01								
	00273	0.01								
	00274	0.01								
	00275	L0.01								
	00276	L0.01								
	00277	L0.01								
	00278	L0.01								
	00279	L0.01								
D-17	155-160	00280	L0.01							
D-16	10-15	00281	L0.01							
		00282	L0.01							
		00283	L0.01							
		00284	L0.01							
		00285	L0.01							
		00286	L0.01							
		00287	L0.01							
		00288	L0.01							



# Certificate of Analysis

TO \_\_\_\_\_  
United Keno Hill Mines  
\_\_\_\_\_

REPORT NO. W89-05616.4

DATE September 26, 1989

I hereby certify that the following are the results of analyses made by us upon the herein described ... percussion ... samples Page 36

MARKED	%								
	Cu								
00289	L0.01								
00290	L0.01								
00291	L0.01								
00292	L0.01								
00293	L0.01								
00294	L0.01								
00295	L0.01								
00296	L0.01								
00297	L0.01								
00298	L0.01								
00299	L0.01								
00300	0.01								
00301	L0.01								
00302	L0.01								
00303	L0.01								
00304	L0.01								
00305	L0.01								
00306	L0.01								
00307	L0.01								
00308	L0.01								



# Certificate of Analysis

TO \_\_\_\_\_  
United Keno Hill Mines  
\_\_\_\_\_

REPORT NO. .... W89-05616.4 .....

DATE ... September 26, 1989 .....

I hereby certify that the following are the results of analyses made by us upon the herein described .. percussion ..... samples Page 37

MARKED	%									
	Cu									
	00309	L0.01								
	00310	L0.01								
	00311	L0.01								
	00312	L0.01								
	00313	L0.01								
	00314	L0.01								
	00315	L0.01								
D-16 185-190	00316	L0.01								
D-21 0-10	00317	L0.01								
	00318	L0.01								
	00319	L0.01								
	00320	L0.01								
	00321	L0.01								
	00322	L0.01								
	00323	L0.01								
	00324	L0.01								
	00325	L0.01								
	00326	L0.01								
	00327	L0.01								
	00328	L0.01								



# Certificate of Analysis

TO \_\_\_\_\_  
United Keno Hill Mines  
\_\_\_\_\_

REPORT NO. W89-05616.4

DATE September 26, 1989

I hereby certify that the following are the results of analyses made by us upon the herein described percussion samples Page 38

MARKED	%								
	Cu								
00329	LO.01								
00330	LO.01								
00331	LO.01								
00332	LO.01								
00333	LO.01								
00334	LO.01								
00335	LO.01								
00336	LO.01								
00337	LO.01								
00338	LO.01								
00339	LO.01								
00340	LO.01								
00341	LO.01								
00342	LO.01								
00343	LO.01								
00344	LO.01								
D-21 145-150 00345	0.24								
D-22 0-10 00346	0.02								
00347	0.01								
00348	0.01								



# Certificate of Analysis

TO \_\_\_\_\_  
United Keno Hill Mines  
\_\_\_\_\_

REPORT NO. W80-05616.4  
DATE September 26, 1989

I hereby certify that the following are the results of analyses made by us upon the herein described ..percussion..... samples Page 39

MARKED	%								
	Cu								
00349	LO.01								
00350	0.01								
00351	LO.01								
00352	LO.01								
00353	LO.01								
00354	LO.01								
00355	LO.01								
00356	LO.01								
00357	LO.01								
00358	LO.01								
00359	LO.01								
00360	LO.01								
00361	LO.01								
00362	LO.01								
00363	LO.01								
00364	LO.01								
00365	LO.01								
00366	LO.01								
00367	LO.01								
00368	LO.01								



# Certificate of Analysis

TO \_\_\_\_\_  
United Keno Hill Mines  
\_\_\_\_\_

REPORT NO. W89-05616.4

DATE September 26, 1989

I hereby certify that the following are the results of analyses made by us upon the herein described ... percussion ... samples Page 40

MARKED	%									
	Cu									
00369	LO.01									
00370	LO.01									
00371	LO.01									
00372	LO.01									
00373	LO.01									
D-22 145-150 00374	LO.01									

BONDAR-CLEGG & COMPANY LTD.

*Susan Kerwick*

APPENDIX B

PERSONNEL and CONTRACTORS

Dennis Ouellette  
Supervisor  
10 Juniper Drive  
Whitehorse, Yukon  
Y1A 4W7

George Ekins  
Driller's Helper  
Box 453  
Peachland, B.C.

Trans North Air  
Airport Hanger 'C'  
Whitehorse, Yukon  
Y1A 3E4  
Helicopter Support

Bondar-Clegg & Company Ltd.  
136 Industrial Road  
Whitehorse, Yukon  
Y1A 2V1  
Assayers

Stan Wolerak  
Driller  
179-178 Range Road  
Whitehorse, Yukon  
Y1A 4V1

Eric Anderson  
Cook  
General Delivery  
Dawson, Yukon

Jacobs Industries  
4269-4th Avenue  
Whitehorse, Yukon  
Y1A 1K5  
Barge Service

APPENDIX C

REFERENCES

Joy, R.J.

1974: 1973 Exploration Report on the DEF Claim Group; Company Report

Joy, R.J.

1975: 1974 Exploration Report on the DEF Claim Group; Company Report

Rychlewski, R.

1984: A Report on the 1984 Drill Program on the DEF Claims; Company Report

Templeman-Kluit, D.

1980: Highlights of field work in Laberge and Carmacks map areas, Yukon;  
G.S.C. Paper 80-1A.

APPENDIX D  
SUMMARY OF COSTS

Mobilization - Demobilization	\$17,145
-includes transport from Carmacks to Minto Landing and barge from Minto Landing to drill site and return	
Drilling	\$38,028
-includes all drilling supplies, wages, vehicle rental research, and communications	
Camp Costs	\$3,539
-includes food and supplies, lodging and contract labour	
Analysis	\$0
-invoices returned after expiry date	
Helicopter	\$15,582
-includes helicopter charter and fuel supplied by UKHM	
TOTAL	\$74,294
Cost per foot drilled (74,294 /4,140)	\$17.90
Total footage on DEF 59	3,120
Total expenditures on DEF 59 (17.90*3,120)	\$55,848
Total amount required for five years assessment(5*100*59)	\$29,500

Expenditures on DEF 59 are sufficient to maintain the DEF claims as grouped for a total of five years.

APPENDIX E

CERTIFICATE OF QUALIFICATIONS

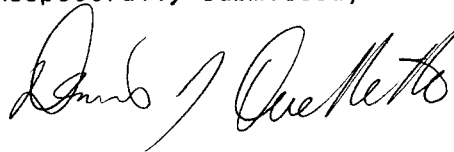
I, Dennis J. Ouellette, with business address

United Keno Hill Mines Limited  
409 Black Street  
Whitehorse, Yukon  
Y1A 2N2

do hereby certify that:

1. I am a practicing geologist.
2. I hold a Bachelor of Science (Specialization) Degree (1984) in Geology from Brandon University.
3. I have been working in the field of mineral exploration since May, 1977.
4. This report, entitled "Report on 1989 Percussion Drilling of the DEF Property," is based on work done on the property during August, 1989.
5. I have not received, nor do I expect to receive, any interest, either directly or indirectly, in the property concerned in this report.

Respectfully submitted,

A handwritten signature in cursive script, appearing to read "Dennis J. Ouellette".

Dennis J. Ouellette, B.Sc.

