

84-1443-13377  
12/85



Province of  
British Columbia

Ministry of  
Energy, Mines and  
Petroleum Resources

ASSESSMENT REPORT  
TITLE PAGE AND SUMMARY

TYPE OF REPORT/SURVEY(S) Rotary Drilling	TOTAL COST \$139,286.00
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AUTHOR(S) Alfred R. Allen, P.Eng. . . . . SIGNATURE(S) *Alfred R. Allen* . . . . .

DATE STATEMENT OF EXPLORATION AND DEVELOPMENT FILED December 20 . . . . . YEAR OF WORK 84 . . . . .

PROPERTY NAME(S) Bull River . . . . .

COMMODITIES PRESENT Copper Gold Silver Lead . . . . .

B.C. MINERAL INVENTORY NUMBER(S), IF KNOWN . . . . .

MINING DIVISION Fort Steele . . . . . NTS 82G/11 . . . . .

LATITUDE 49°-30' - 49°-35'-28"N . . . . . LONGITUDE 115°-17' - 115°-29'-21"W

NAMES and NUMBERS of all mineral tenures in good standing (when work was done) that form the property [Examples: TAX 1-4, FIRE 2 (12 units); PHOENIX (Lot 1706); Mineral Lease M 123; Mining or Certified Mining Lease ML 12 (claims involved)]:

- Steeple 3-10 (160 Units)
- Steeple 15-19 (100 Units)
- Steeple 21-30 (200 Units)

OWNER(S)

(1) R.H. Stanfield . . . . . (2) . . . . .

MAILING ADDRESS

350 - 4723 1st. Street S.W.  
Calgary, Alberta T2G 0A1

OPERATOR(S) (that is, Company paying for the work)

(1) R.H. Stanfield . . . . . (2) . . . . .

MAILING ADDRESS

As above

SUMMARY GEOLOGY (lithology, age, structure, alteration, mineralization, size, and attitude):

Precambrian sediments are faulted against Palaeozoic strata on the northeast and southwest. The Rocky Mountain Trench lies along the west boundary. The Bull River mine produced gold, silver, copper concentrates 1972-74. Airborne E.M.; Mag.; Infrared; surveys completed. Surface E.M. conducted over small areas along with some diamond drilling. . . . . G.S.C. Paper. 58-10. by G.B. Leech. Geological report by Alfred R. Allen June 1976.

REFERENCES TO PREVIOUS WORK

TYPE OF WORK IN THIS REPORT	EXTENT OF WORK (IN METRIC UNITS)	ON WHICH CLAIMS	COST APPORTIONED
GEOLOGICAL (scale, area)			
Ground	.....	.....	.....
Photo	.....	.....	.....
GEOPHYSICAL (line-kilometres)			
Ground			
Magnetic	.....	.....	.....
Electromagnetic	.....	.....	.....
Induced Polarization	.....	.....	.....
Radiometric	.....	.....	.....
Seismic	.....	.....	.....
Other	.....	.....	.....
Airborne			
GEOCHEMICAL (number of samples analysed for ....)			
Soil	.....	.....	.....
Silt	.....	.....	.....
Rock	.....	.....	.....
Other	.....	.....	.....
DRILLING (total metres; number of holes, size)			
Core			
Non-core Rotary:	874: 16: 21.6cm-16.5cm...	Steeple 3,4,5,7,8,10,22,23,24,25,26,28,30	\$139,286.00
RELATED TECHNICAL			
Sampling/assaying	.....	.....	.....
Petrographic	.....	.....	.....
Mineralogic	.....	.....	.....
Metallurgic	.....	.....	.....
PROSPECTING (scale, area)			
PREPARATORY/PHYSICAL			
Legal surveys (scale, area)	.....	.....	.....
Topographic (scale, area)	.....	.....	.....
Photogrammetric (scale, area)	.....	.....	.....
Line/grid (kilometres)	.....	.....	.....
Road, local access (kilometres)	.....	.....	.....
Trench (metres)	.....	.....	.....
Underground (metres)	.....	.....	.....
			TOTAL COST

FOR MINISTRY USE ONLY	NAME OF PAC ACCOUNT	DEBIT	CREDIT	REMARKS:
Value work done (from report) .....		.....	.....	
Value of work approved .....		.....	.....	
Value claimed (from statement) .....		.....	.....	
Value credited to PAC account .....		.....	.....	
Value debited to PAC account .....		.....	.....	
Accepted ..... Date	Rept. No. ....			Information Class .....

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**GEOLOGICAL BRANCH**  
**\*ASSESSMENT REPORT**

**13,377**

A. INTRODUCTION

A rotary drilling programme was conducted near the east and west boundaries of the Steeples mineral claims in December 1984. Ten vertical holes are located on the east side of the Rocky Mountain trench and six along the Bull River road.

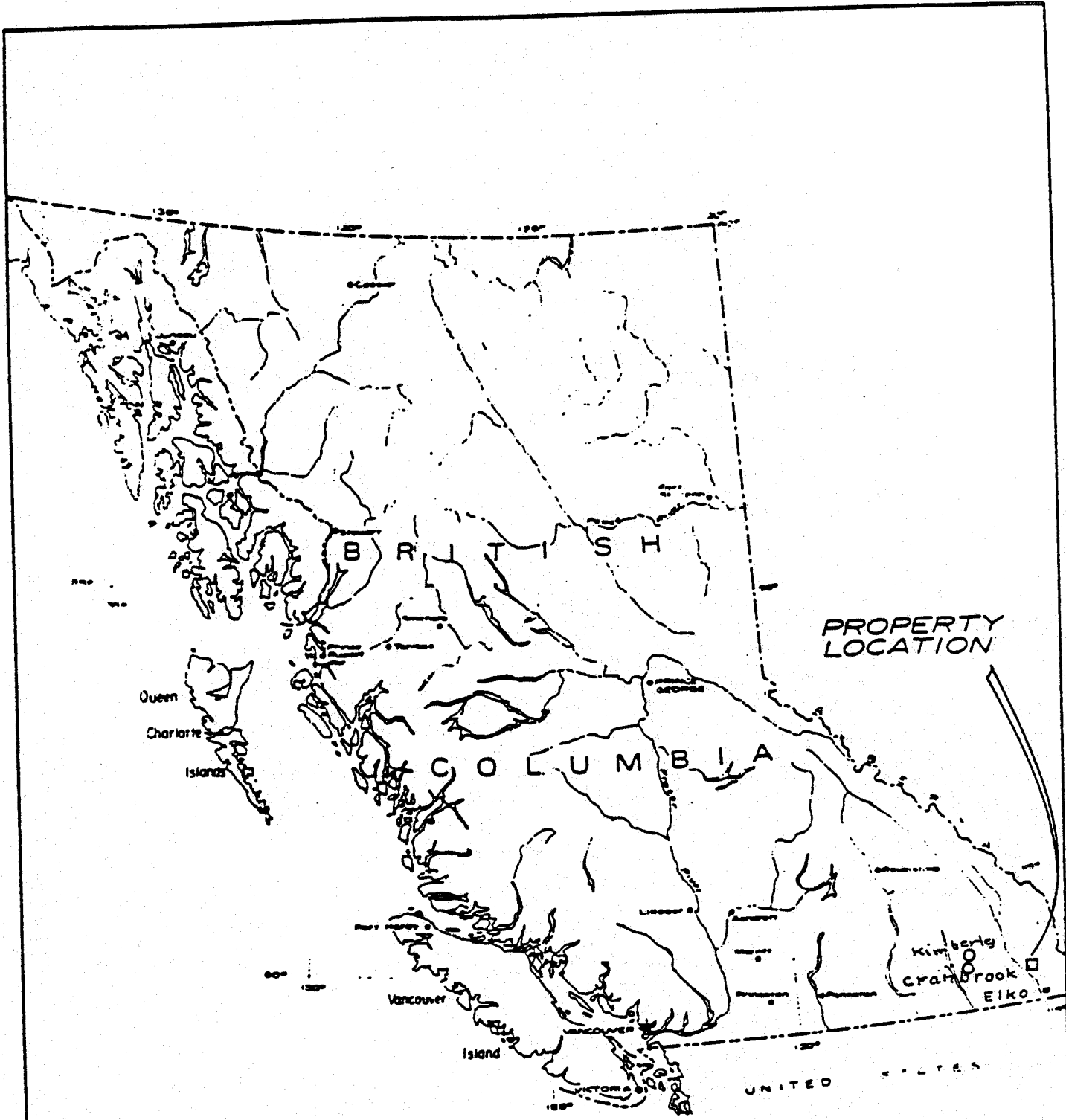
Winter conditions necessitated the clearing of access roads of snow and ice and a bulldozer was required to position the equipment at some locations.

The drilling programme was contracted to Zeus Mineral Corporation Ltd.

B. PROPERTY

The Steeples property includes 30 modified grid claims. The estimated net area is 14,375 hectares, but seven 20-unit claims are not included in the area covered by this report.

The drilling programme was conducted over the following claims.



R.H. STANFIELD PROPERTY		
LOCATION MAP		
SCALE: 1" = 136 Miles.		
Drawn by	Date	ALLEN GEOLOGICAL ENGINEERING LTD.
Checked by	Drawn no.	
ara	5/2/85	

<u>Hole No.</u>	<u>Group</u>	<u>Claims</u>	<u>Record Numbers</u>	<u>Expiration date</u>
RH 30	4	Steeple 29&30	1222 & 1223	Dec. 22, 1985
RH 28	5	Steeple 27&28	1220 & 1221	" "
RH 25-1&2	6	Steeple 18&25	1211 & 1218	" "
RH 23-1&2	7	Steeple 16&23	1209 & 1216	" "
RH 24	8	Steeple 24&26	1217 & 1219	" "
RH 22	9	Steeple 21&22	1214 & 1215	" "
RH 4	10	Steeple 4 & 15	1201 & 1208	" "
RH 3	11	Steeple 3 & 6	1200 & 1203	" "
RH 8	12	Steeple 8 & 17	1205 & 1210	" "
RH 10	13	Steeple 10&19	1207 & 1212	" "
RH 7	14	Steeple 7 & 9	1204 & 1206	" "
RH 5		Steeple 5	1202	" "

#### C. PHYSIOGRAPHY

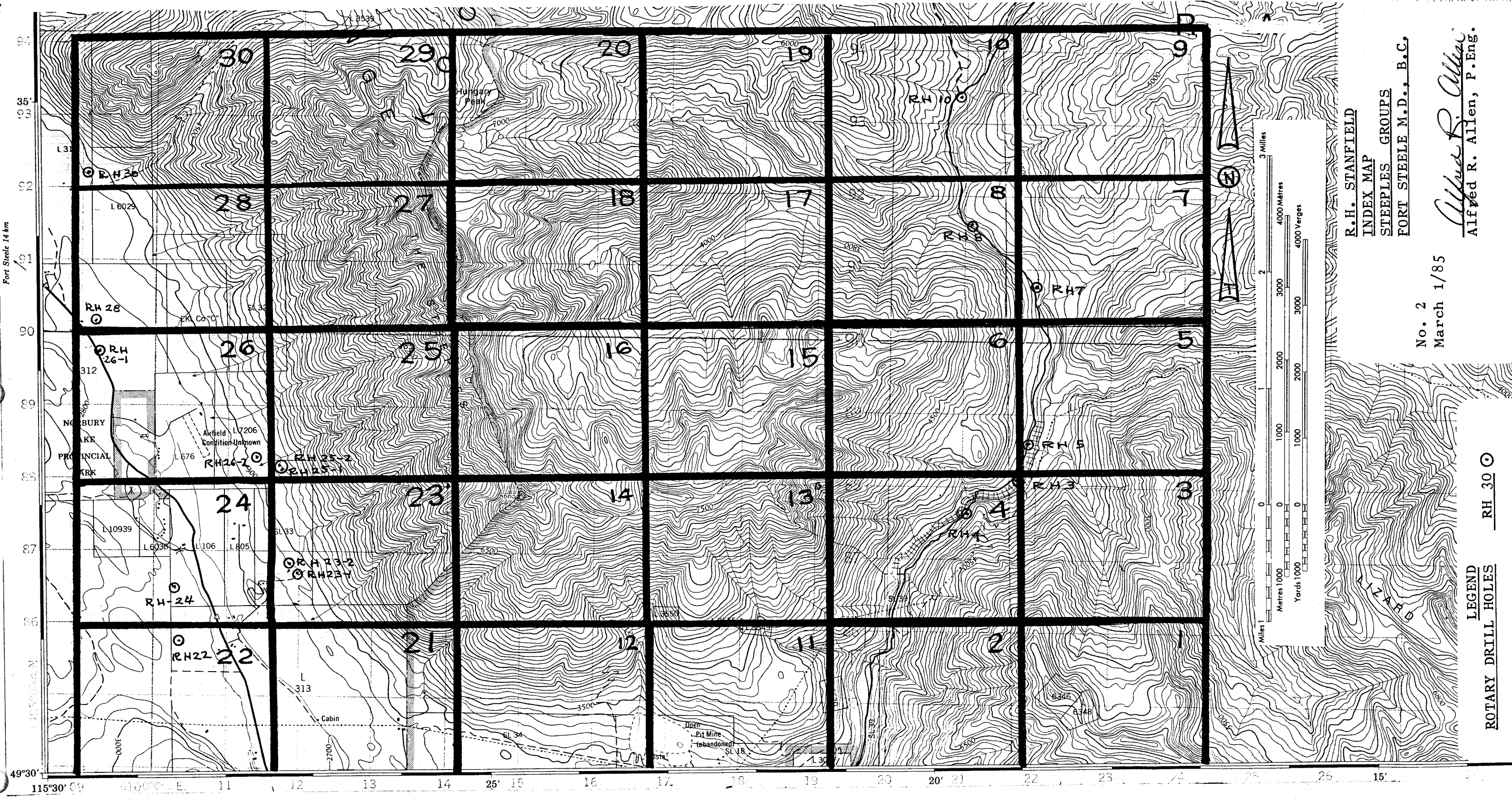
The Steeples claims are located on the east side of the Rocky Mountain Trench and the westerly front ranges of the Rocky Mountains including the southerly Hughes and northerly Lizard ranges.

The Bull River flows southwesterly across the eastern Steeples claims into the southeasterly-flowing Kootenay River.

The river valleys are from 850 to 900 metres elevations, whereas the central property ridges are up to 2,640 metres above sea level.

#### D. ACCESS

The Steeples claims are located in southeastern British Columbia, 30 kms. east of Cranbrook and 14 kms. west of Fernis. Access is by Highway 3 and well maintained secondary roads. The area is serviced by the Canadian Pacific Railway and Pacific Western Airlines.



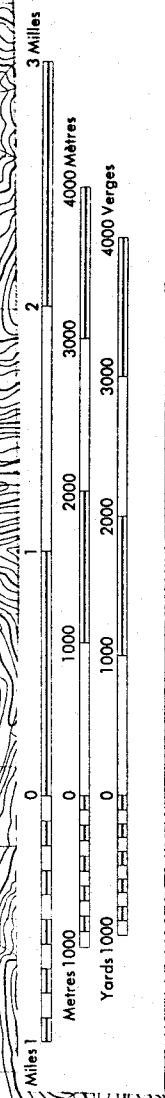
Port Steele 14 km

49°30' N 115°30' W 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26

R.H. STANFIELD  
 INDEX MAP  
 STEEPLES GROUPS  
 FORT STEELE M.D., B.C.

No. 2  
 March 1/85

*Alfred R. Allen*  
 Alfred R. Allen, P.Eng.



LEGEND  
 ROTARY DRILL HOLES RH 30

E. PREVIOUS WORK

The Steeples claims area has been partially mapped by the Geological Survey of Canada and the British Columbia Ministry of Energy, Mines and Petroleum Resources.

Geological and Aeromagnetic maps are available.

R.H. Stanfield has completed Airborne Electromagnetic, Magnetic and Infrared surveys over the claims, also ground Electromagnetic and Magnetic surveys over selected areas.

R.H. Stanfield has diamond drilled selected areas near the Bull River mine.

Placid Oil Company explored, developed and produced from two open pits located on the south central Steeples area. 1972-74.

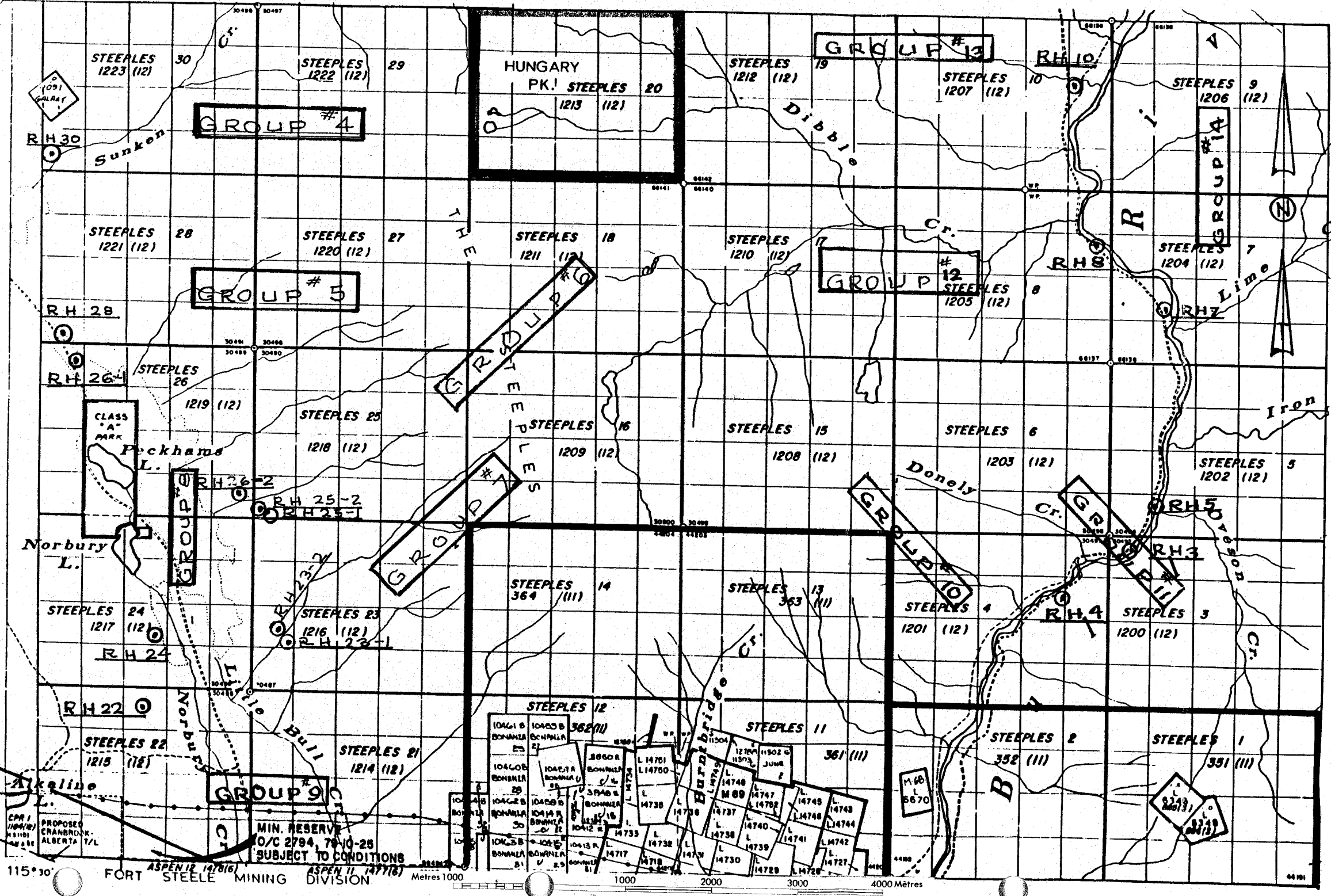
F. THEORY

The Precambrian Aldridge, Creston, and Kitchener-Siyeh formations are exposed over a wide northwesterly area of the Steeples claims. Palaeozoic, Devonian and Mississippian formations are exposed on the northeast and southwest of the older formations.

Limited exposures of granitic and dioritic intrusives occur within the above formations.

Copper, silver, lead and gold mineral deposits occur within the Aldridge formation and significant showings are being investigated.





R.H. STANFIELD  
 23 STEEPLES MINERAL CLAIMS  
 16 ROTARY DRILL HOLES: 11 CLAIMS GROUPS  
 No. 3  
 March 1/85  
*Alfred R. Allen*  
 Alfred R. Allen, P.Eng.

LEGEND  
 ROTARY HOLE ● RH 10  
 GROUPING OF CLAIMS [GROUP #4]  
 CLAIMS NOT INVOLVED [thick black line]

115°30' FORT STEELE MINING DIVISION  
 ASPEN 12 1478(6) ASPEN 11 1477(8)  
 MIN. RESERVE  
 O/C 2794, 70-10-25  
 SUBJECT TO CONDITIONS  
 Metres 1000 1000 2000 3000 4000

The Bull River mine was operated by the Placid Oil Company for over two years at approximately 600 tons per day.

Scattered exposures of Palaeozoic rocks are exposed on the westerly Steeples claims area in the Rocky Mountain Trench. Precambrian formations occur west of the Rocky Mountain Trench and the Sullivan mine is located at Kimberley within the Aldridge formation.

The northeast corner of the Steeples claims has not been mapped, but by projection of the Palaeozoic geology mapped to the southeast, it is evident that the contact with the Precambrian Kitchener formation is located on or near the Steeples area.

Overburden is prevalent over the west and southwest area of the Steeples claims.

A major fault has been mapped 400 to 1900 metres westerly from the Precambrian exposures, and this may or may not define the boundary with the Palaeozoic formations.

The Bull River mine is within the Aldridge and it is important that the contact be located in order that the formation be explored by geophysical techniques and, if warranted, core drilling.

Faulting of considerable magnitude is evident along and north of Dibble creek, near the northwest corner of the Steeples claims. The Rocky Mountain Trench at this location may be the result of horst and graben structural movement and plate tectonics may be applicable.

It is apparent that both the northeast, south and west areas of the Steeples property warrant detailed investigations to provide stratigraphic, structural and mineralogical information.

#### G. OBJECT OF THE DRILLING PROGRAMME

The rotary drilling programme was conducted over the north-east and westerly overburden covered areas of the Steeples claims to acquire information regarding the bedrock geology.

It is important to establish the location of the Palaeozoic contacts on both east and west sides of the Precambrian since the Aldridge formation of the latter is the host for mineral deposits so far discovered in the area.

#### H. ROTARY AIR-MUD DRILLING

The drilling was contracted with Zeus Mineral Corporation.

A truck-mounted TH 60 Ingersol Rand air-mud rotary drill with compressor, pumps, drill stem float truck, water truck, three 4x4 service trucks and auxiliary equipment was used.

Drilling was started with 21.6 cm diameter hole. Where necessary 18.4 cm casing was set and the hole reduced to 16.5 cm diameter.

Drill cuttings were pumped into sized plastic bags, logged by the writer, and stored in the core storage building at the Stanfield camp.

Planning, access road clearing, site preparation and clean-up, was carried out by the R.H. Stanfield personnel using a D-7 Cat and road grader.

### I. DRILLING RESULTS

Ten rotary holes were drilled vertically at selected locations on the west, and six on the east of the Steeples claims area.

Twelve holes were completed to 60 metres, and holes 23-1, 23-2, 25-1 and 26-2 drilled to 24, 54, 45 and 14 metres respectively.

The sixteen holes were collared between 830 and 920 metres above sea level.

Holes 23-1, 23-2, 25-1, 25-2, 26-1, 26-2, 28 and 30 are located east of the major fault projection, and bedrock was not penetrated.

Holes 22 and 24 are located west of the projected major fault zone but bedrock was not penetrated.

The cuttings from the ten holes are composed of grey limestone and dolomite which may be loose fill originating from the Kitchener formation which forms steep cliffs to the east.

Holes 3, 4 and 5, near the Bull River, appear to be collared within the Kitchener formation.

Hole 3 was drilled 6 metres through coarse talus from the steep cliffs above the road.

Bedrock was penetrated for 54 metres and the cuttings are composed of hard reddish dolomite and grey limestone.

Angular white quartz fragments are included, indicating quartz stringers which occur within the Kitchener at some locations.

Hole 4 did not reach bedrock but the cuttings resemble those from the Number 3 hole.

Hole 5 did not reach bedrock but the cuttings include reddish dolomite and grey limestone similar to Holes 3 and 4.

Hole 7 was drilled through overburden composed of light grey limestone.

Hole 8 penetrated 9 metres of overburden, limestone and reddish dolomite to 40 metres, with the bottom 20 metres of fine brown and grey silty material which may be Kitchener limestone.

Hole 10 penetrated 6 metres of overburden, light grey limestone to 40 metres, reddish limestone and dolomite to 46 metres and dark grey limestone to 60 metres depth.

Holes 7, 8 and 10 appear to be Kitchener limestone and dolomite strata. This should be confirmed when more information is acquired by a survey of the entire northeast corner of the Steeples claims area.

### J. DISCUSSION

The Bull River mine lies within the Aldridge formation near the southern area of the Steeples 11 and 12 claims.

The Steeples 21, 22, 24, 26, 28 and 30 claims are believed to be underlain by the same favourable strata, but have not been explored because of overburden cover.

The ten rotary holes located in this area have not provided bedrock information and it is apparent that deeper core drilling will be required to locate the westerly extension of the Aldridge formation.

The northeast area including the Steeples 5, 7, 8, 9, 10 and 19 claims may be largely underlain by Kitchener strata.

Therefore geological mapping, along with some core drilling, will be required to establish the Precambrian-Palaeozoic contact.

### K. CONCLUSIONS

The sixteen rotary holes located on the westerly and north-easterly Steeples claims has provided limited information regarding the stratigraphic and astructural fratures of these areas.

It is concluded that geological mapping and the deepening of some of the recently completed drill holes should be done by core drilling to provide important bedrock information.

Submitted by:

ALLEN GEOLOGICAL ENGINEERING LTD.

Per Alfred R. Allen P.Eng.  
Alfred R. Allen

ZEUS MINERAL CORPORATION LTD.

STATEMENT

CYCLONE ROTARY DRILL REPORT

BY CONTRACT

TO

R.H. STANFIELD

Oct.14/84 - Dec. 20/84

STEEPLES 3-10;15-19;21-30 claims

16 vertical holes

TOTAL 925 Metres

Field Personnel:

Drilling Crew: Cal. Murray, Box 1131, Strathmore, Alberta  
TOJ 3HO  
Duane Bocek, " " "  
Colin Huxtel, " " "

Field Crew: R. Stanfield Jr. Box24, Galloway, B.C. V B1P0  
R.W. Borglund " " "  
Brent Skene " " "  
L. Beckett " " "

Consultant: Alfred R.Allen, P.Eng. 503-1985 Bellevue  
West Vancouver, B.C.  
V7V 1B6

COSTS

Crew wages	\$ 4,450.00
Consulting, report preparation	10,437.34
Food and accommodation	3,900.00
Vehicles	1,440.00
Drilling	118,458.66
Drilling Unit Costs, 874 metres	\$135/metre
	\$ 41/feet



**ZEUS MINERAL CORPORATION LTD.**

December 21, 1984

Mr. R.H. Stanfield,  
Box. #94,  
GALLOWAY, B.C.

To:- I.R. Cyclone Rotary Oil Rig, TH60,  
Water Truck , 5 Ton  
Drill Stem Float Truck  
Pumps, Fuel, Mud, Auxillary Equipment  
Three 4 X 4 Ford Trucks, D7 Cat, Road Grader  
Mobilization and Demobilization  
Transportation in British Columbia  
Site preparation and clean-up - 16 holes

Total Meters	21.6 CM hole	730 M
Total Meters	16.5 CM hole	139 M
Total Meters	18.4 CM hole casing	56 M

Drilling Crew  
Field Crew  
Accomodation and Meals  
Consulting and Report Preparation

Total all inclusive:-

\$ 139,286.00

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503 - 1985 Bellevue  
West Vancouver, B.C.  
V7V 1B6

CERTIFICATE

March 16, 1985.

I, Alfred R. Allen, certify that:

I am a graduate of the University of British Columbia and hold the following degrees therefrom:

BASc Geological Engineering 1939

MASc Geological Engineering 1941

I am a Life Member of the Association of Professional Engineers of the Province of British Columbia.

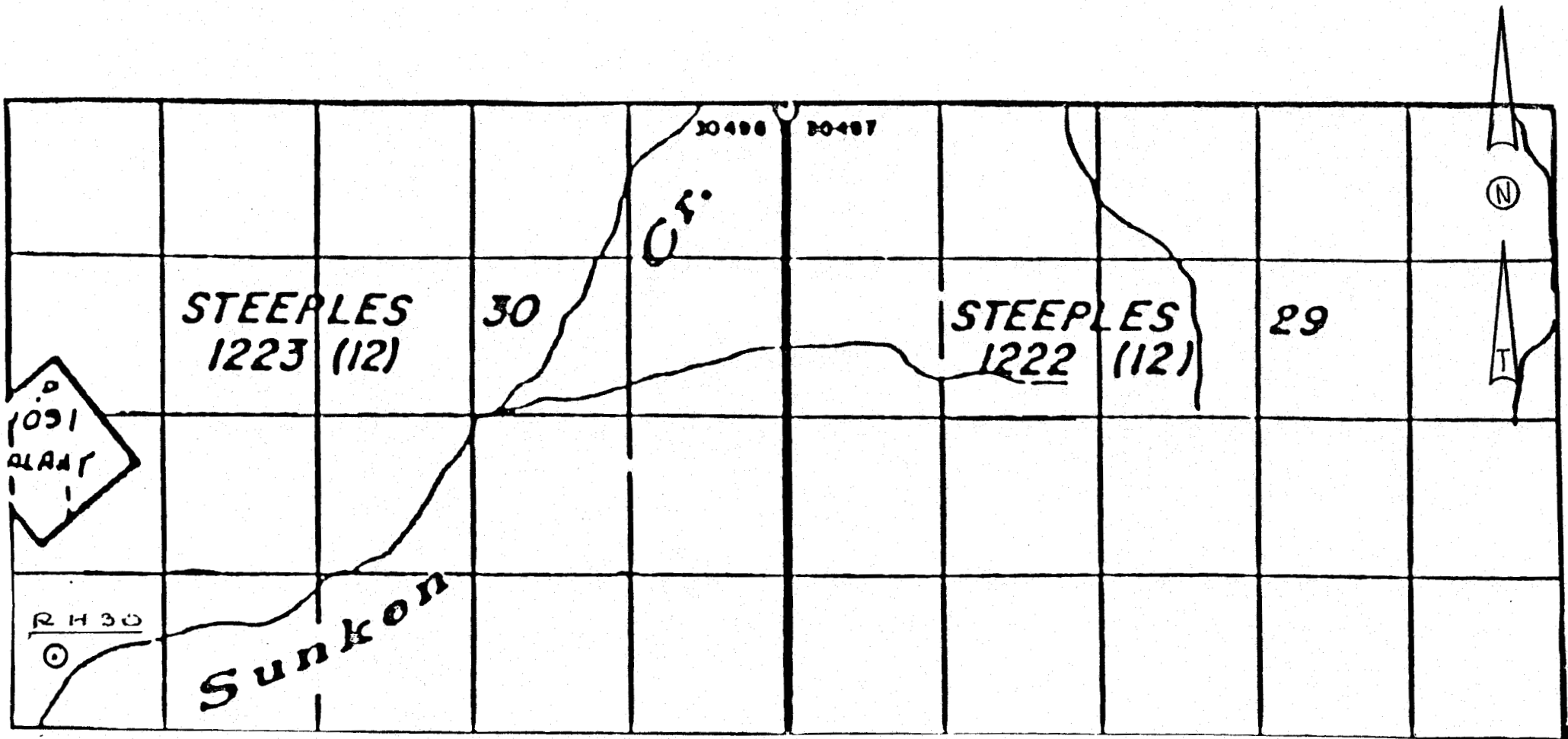
I have practised my profession for the past thirty-nine years.

I hold no interest in the properties or securities of R.H. Stanfield, or affiliates thereof, nor do I expect to receive any directly or indirectly.

The report on the Rotary Drilling programme on the Steeples 3-10; 15-19; 21-30 claims, Fort Steele M.D., B.C., is based on consulting by the writer from October 14 to December 20, 1984.

Alfred R. Allen

Alfred R. Allen, P.Eng.



R.H. STANFIELD

STEEPLES CLAIMS

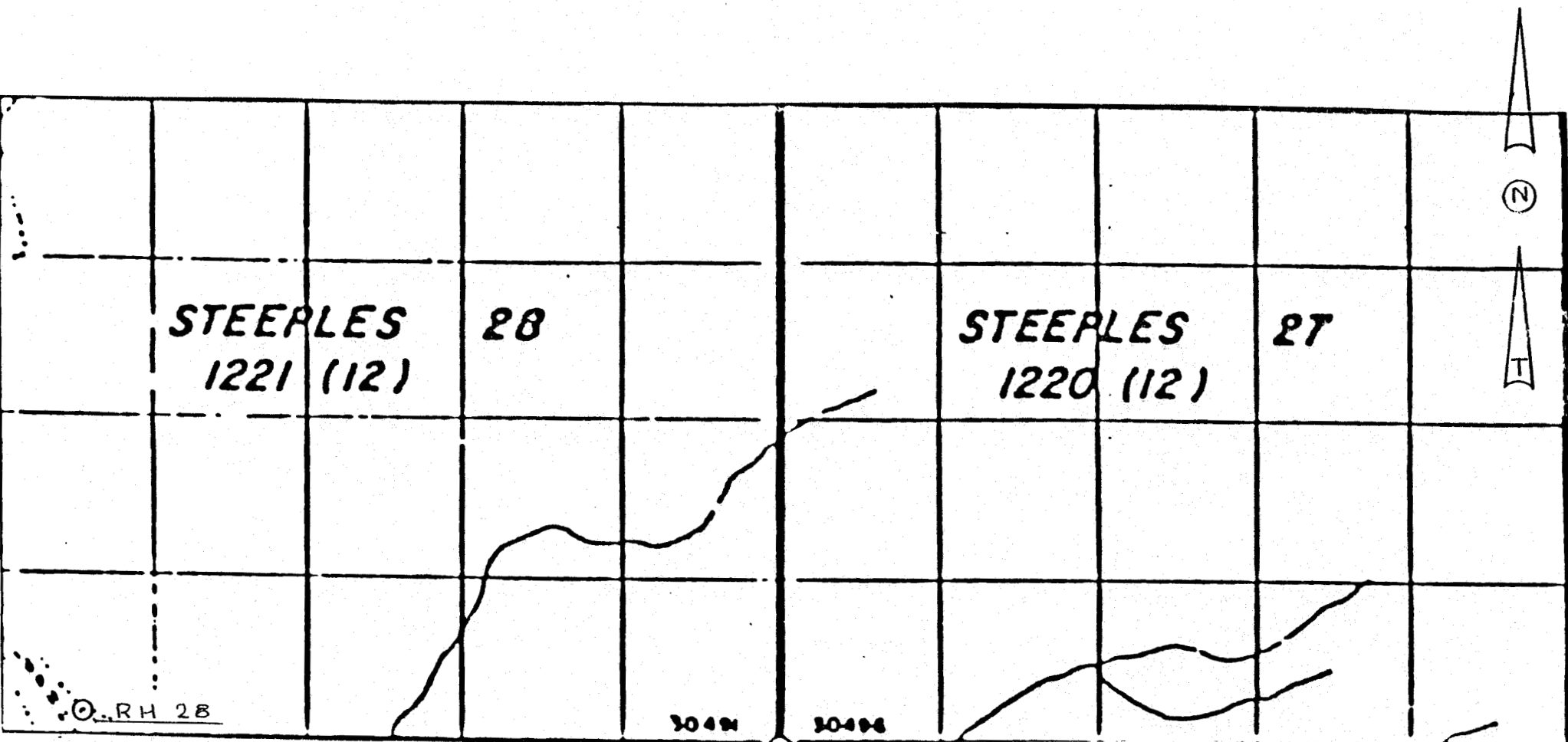
DRILL HOLE

RH 30

500 9 500 1000

SCALE: METRES No 4

Feb. 1985 *Alfred R. Allen* P. Eng.

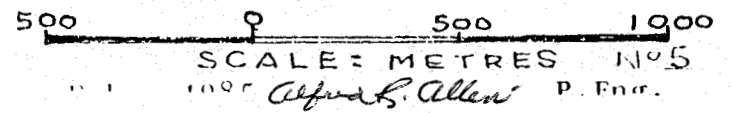


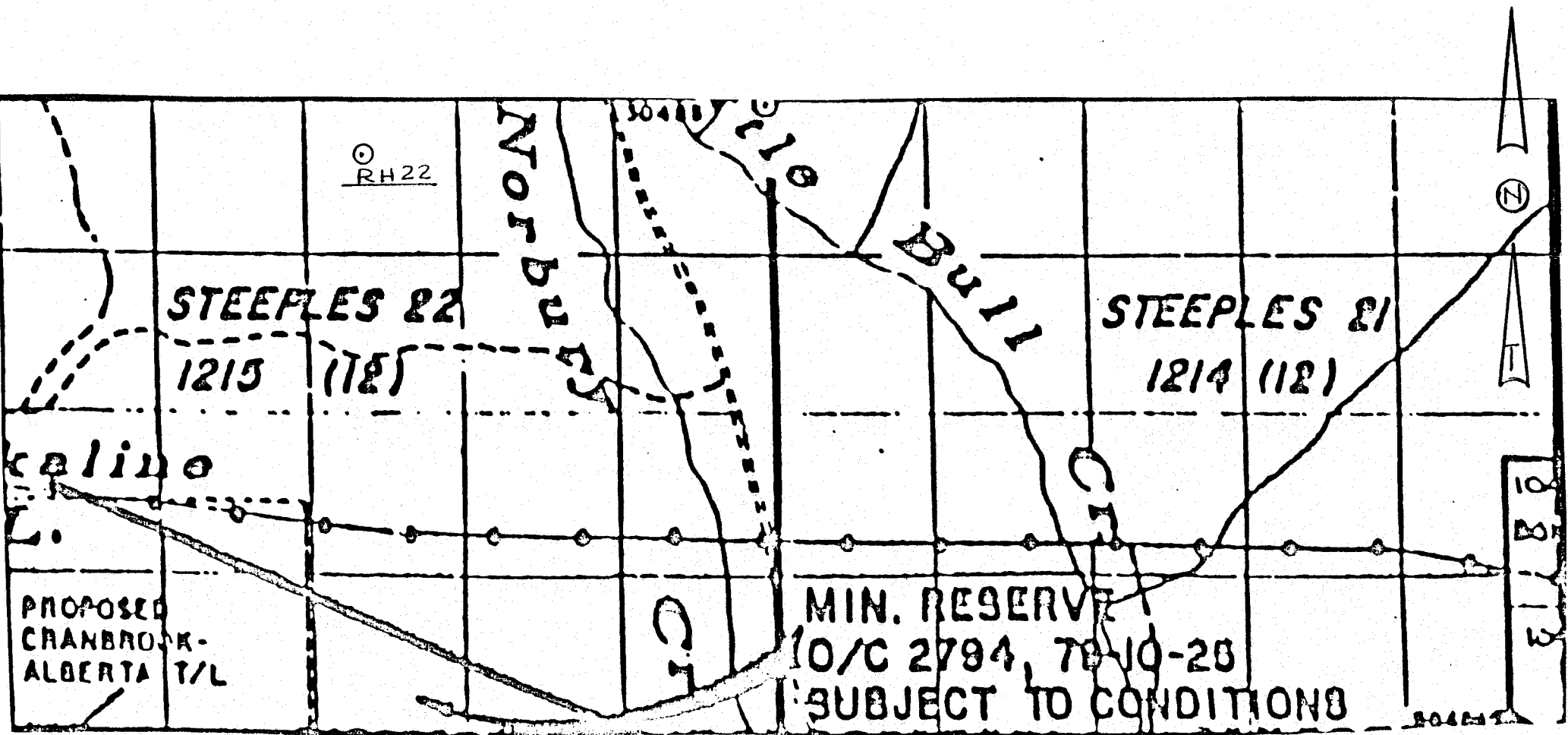
R.H. STANFIELD

STEEPLES CLAIMS

DRILL HOLE

RH 28

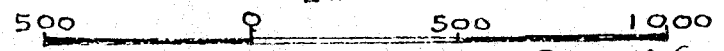




R.H. STANFIELD  
 STEEPLES CLAIMS

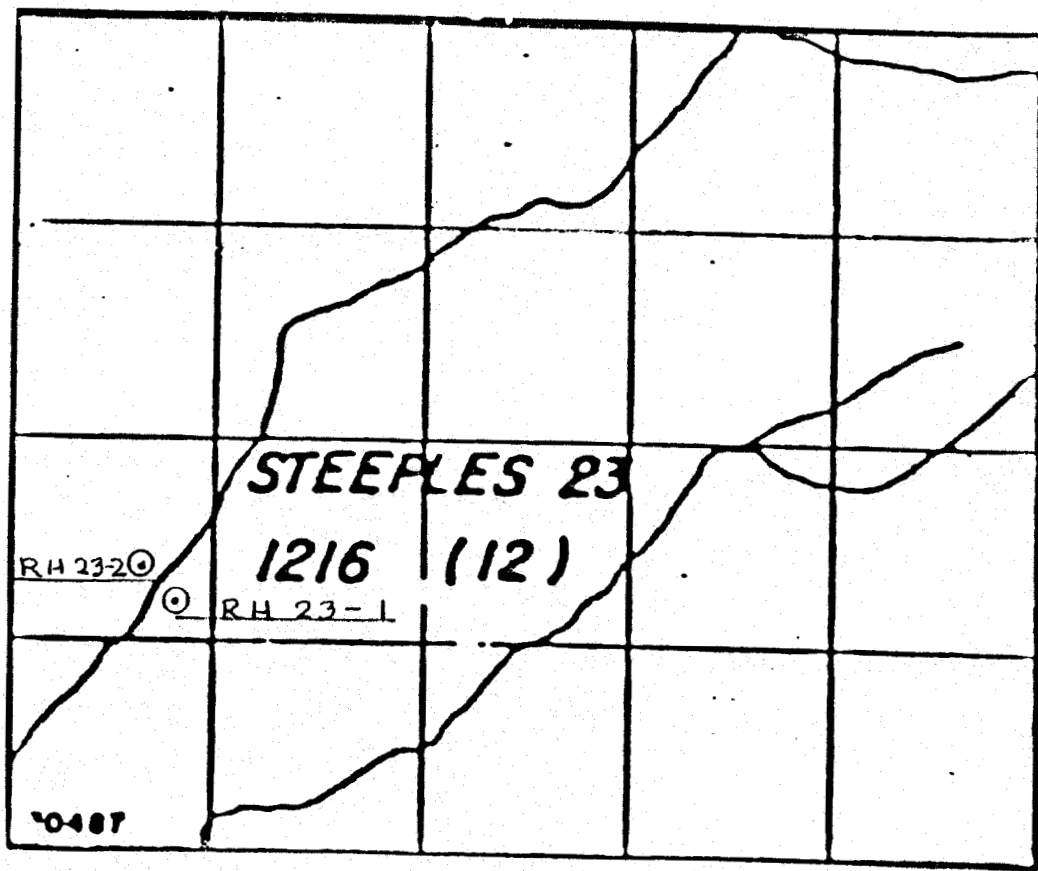
DRILL HOLE

RH 22



SCALE: METRES No. 6

Feb. 1985 *Alfred H. Allen* P. Eng.



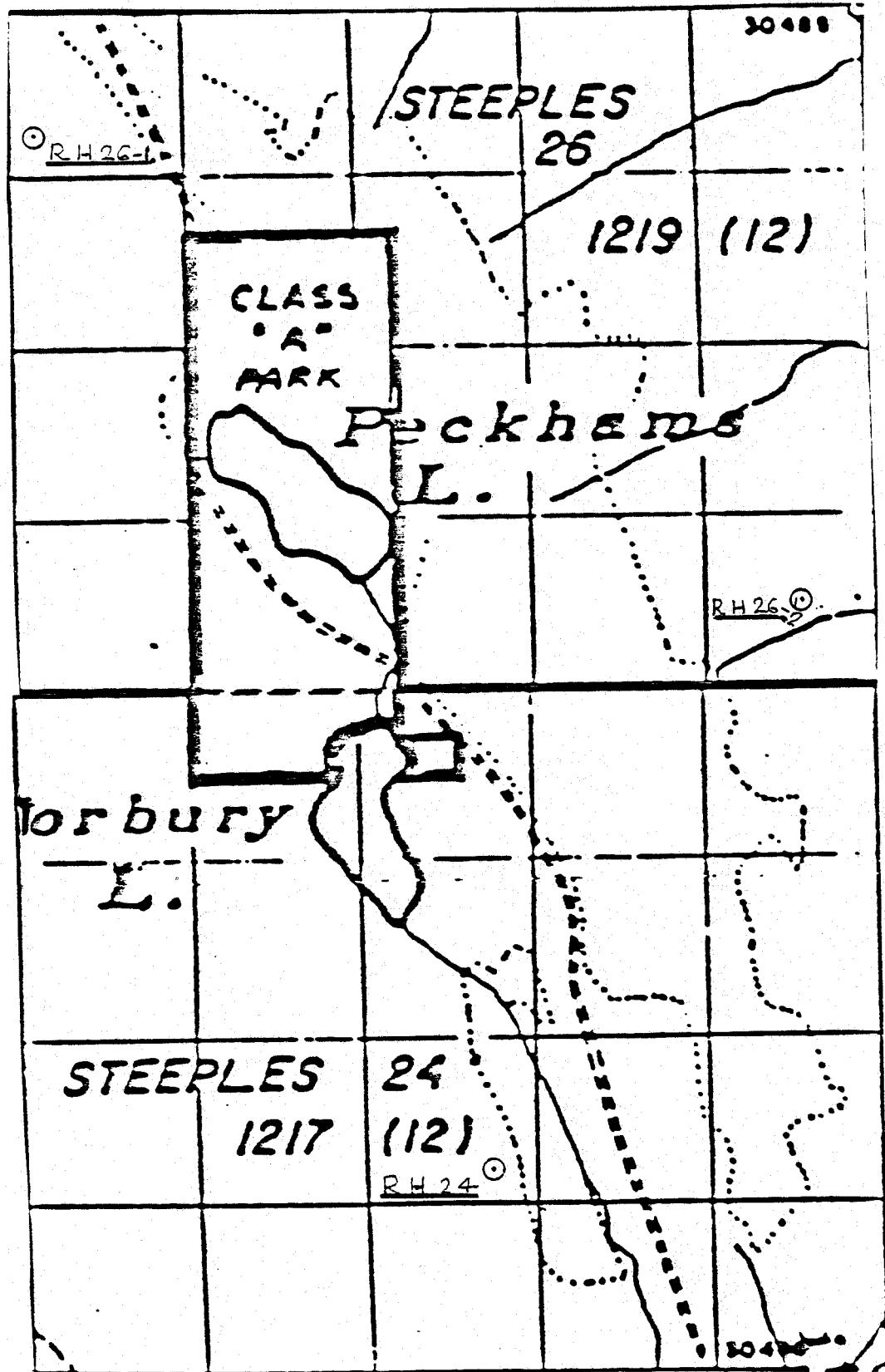
R.H. STANFIELD  
STEEPLES CLAIMS  
DRILL HOLE

RH 23-1 & 23-2



SCALE: METRES N<sup>o</sup> 7

Feb. 1985 *Alfred R. Allen* P. Eng.



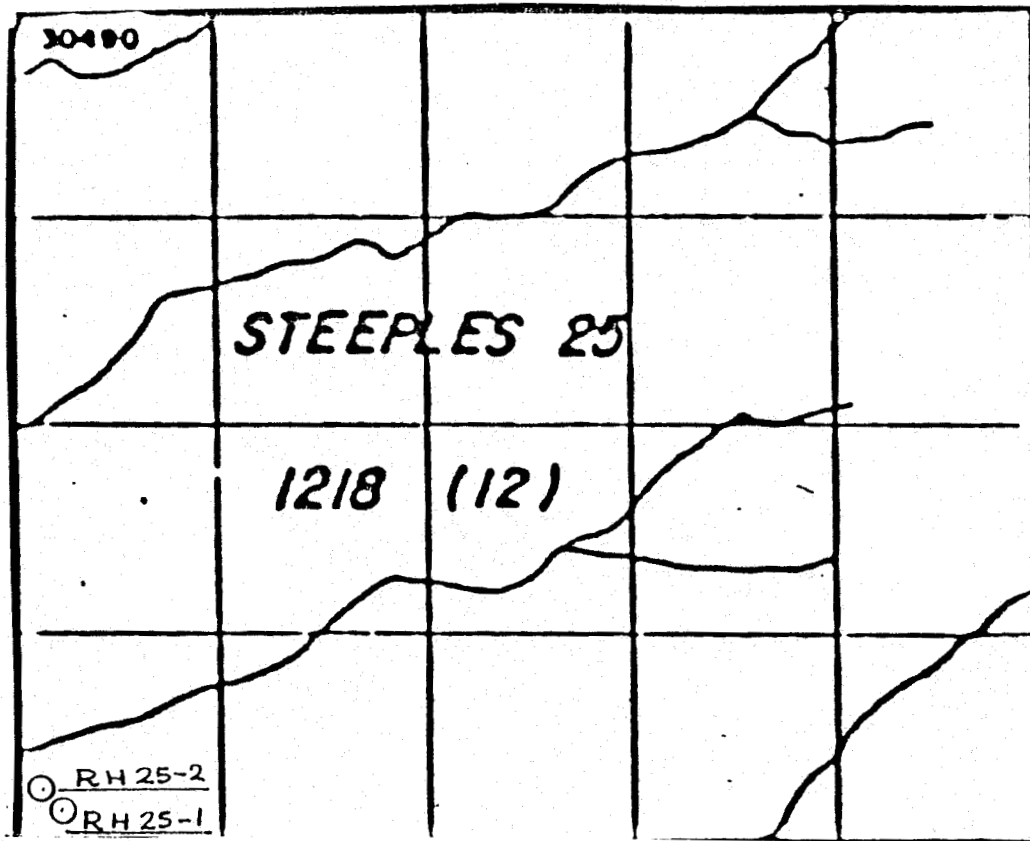
R.H. STANFIELD  
STEEPLES CLAIMS  
DRILL HOLE

RH 24, 26-1 & 26-2

500 0 500 1000

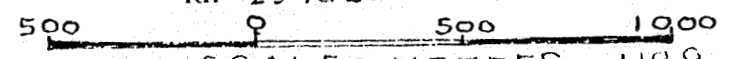
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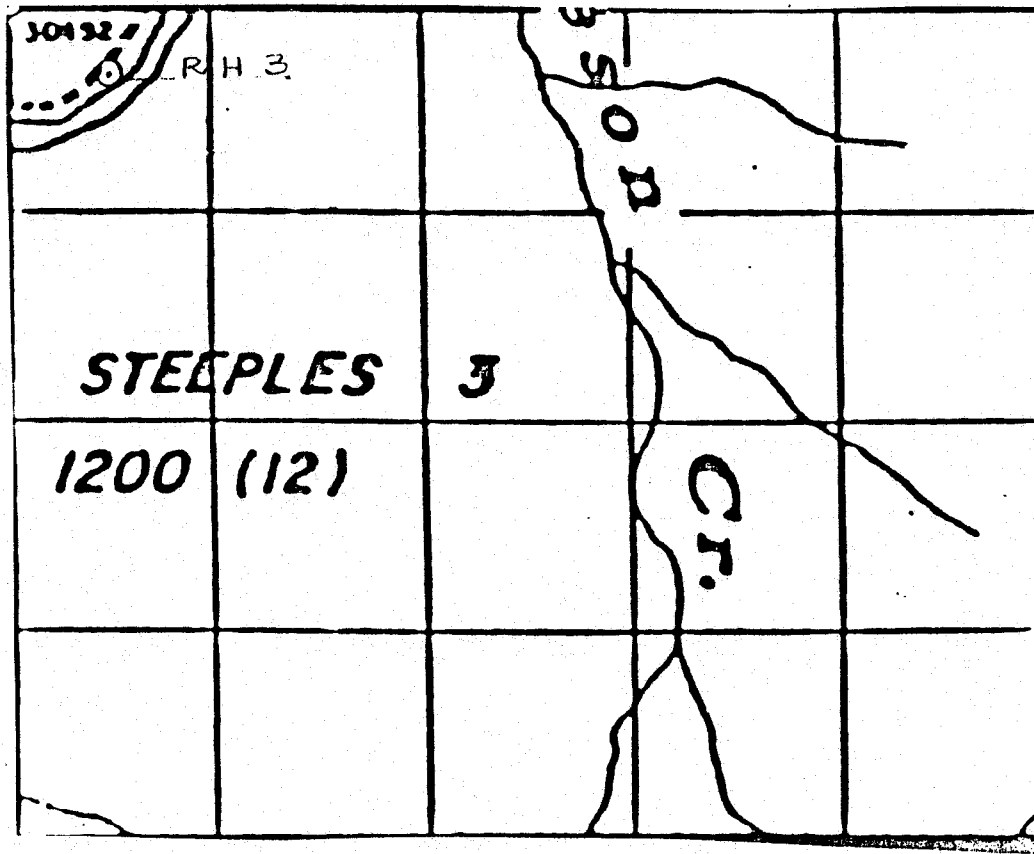


R.H. STANFIELD  
STEEPLES CLAIMS

DRILL HOLE  
 RH 25-1 & 25-2



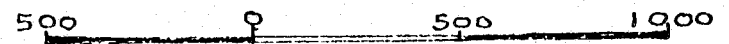
SCALE = METRES NO 9  
 Feb. 1985 *Alfred R. Allen* P. Eng.



R.H. STANFIELD  
STEEPLES CLAIMS

DRILL HOLE

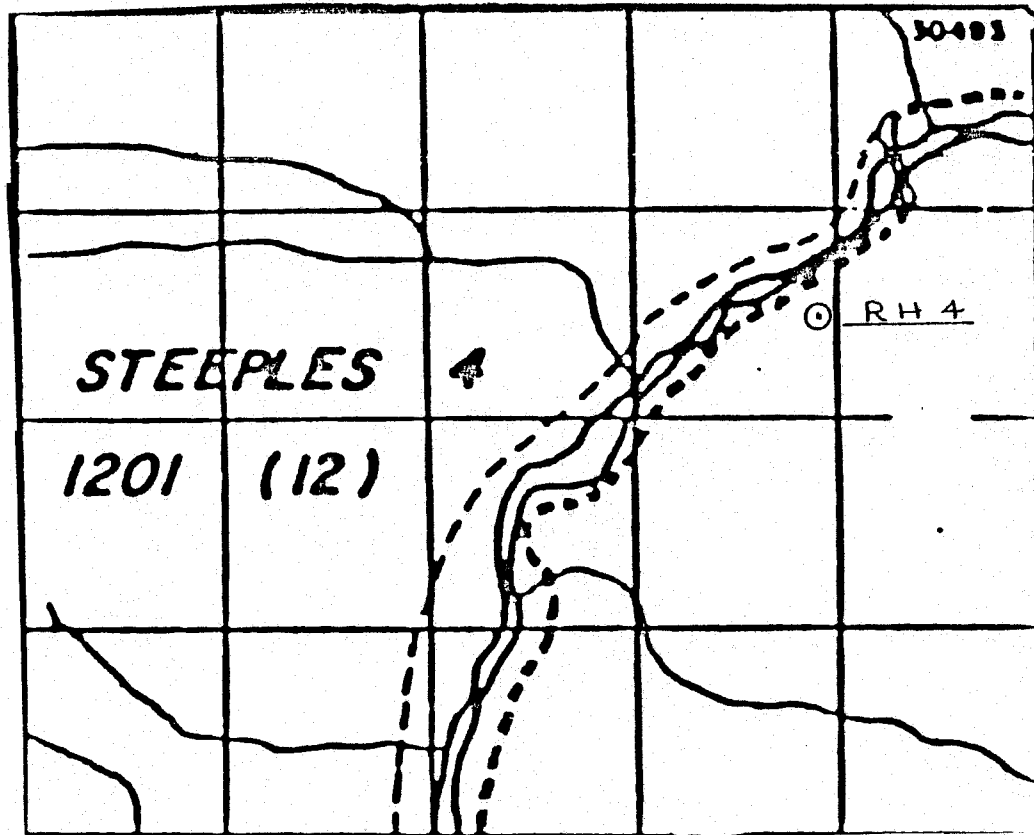
RH 3



SCALE: METRES 1:10

Feb. 1985 *Alfred R. Allen* P. Eng.





R.H. STANFIELD  
STEEPLES CLAIMS

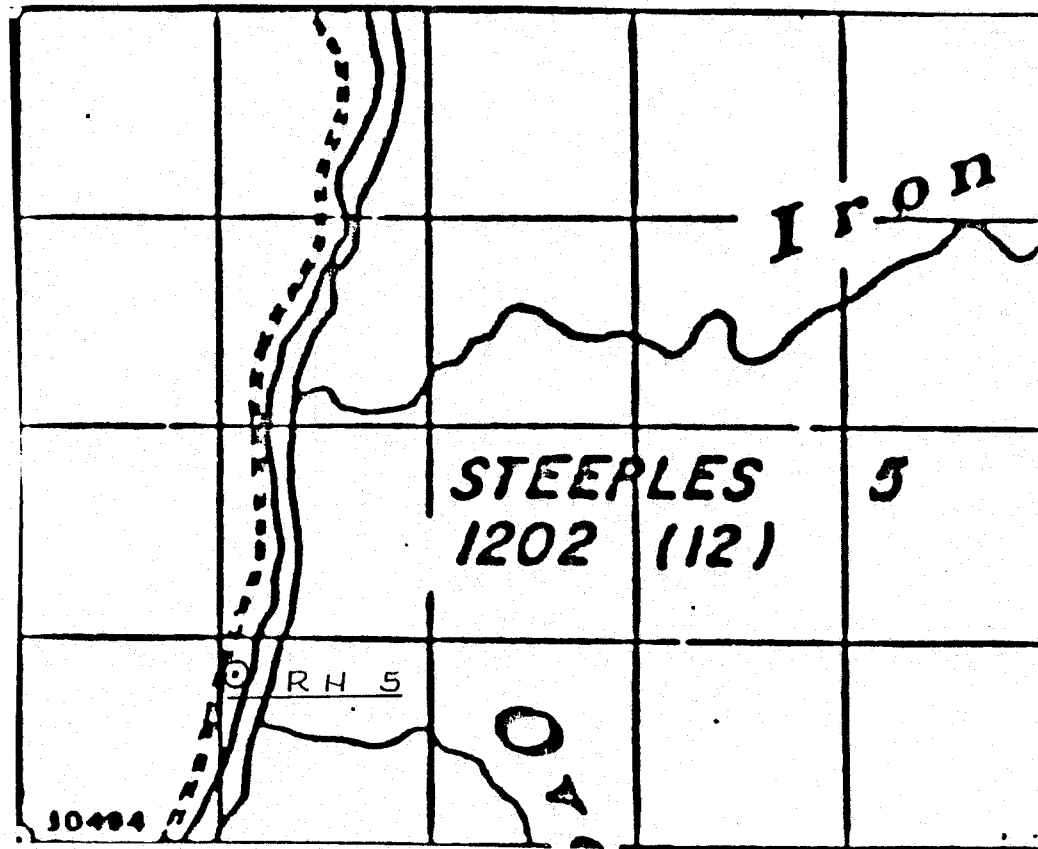
DRILL HOLE

RH 4



SCALE = METRES No. 11

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R.H. STANFIELD  
STEEPLES CLAIMS

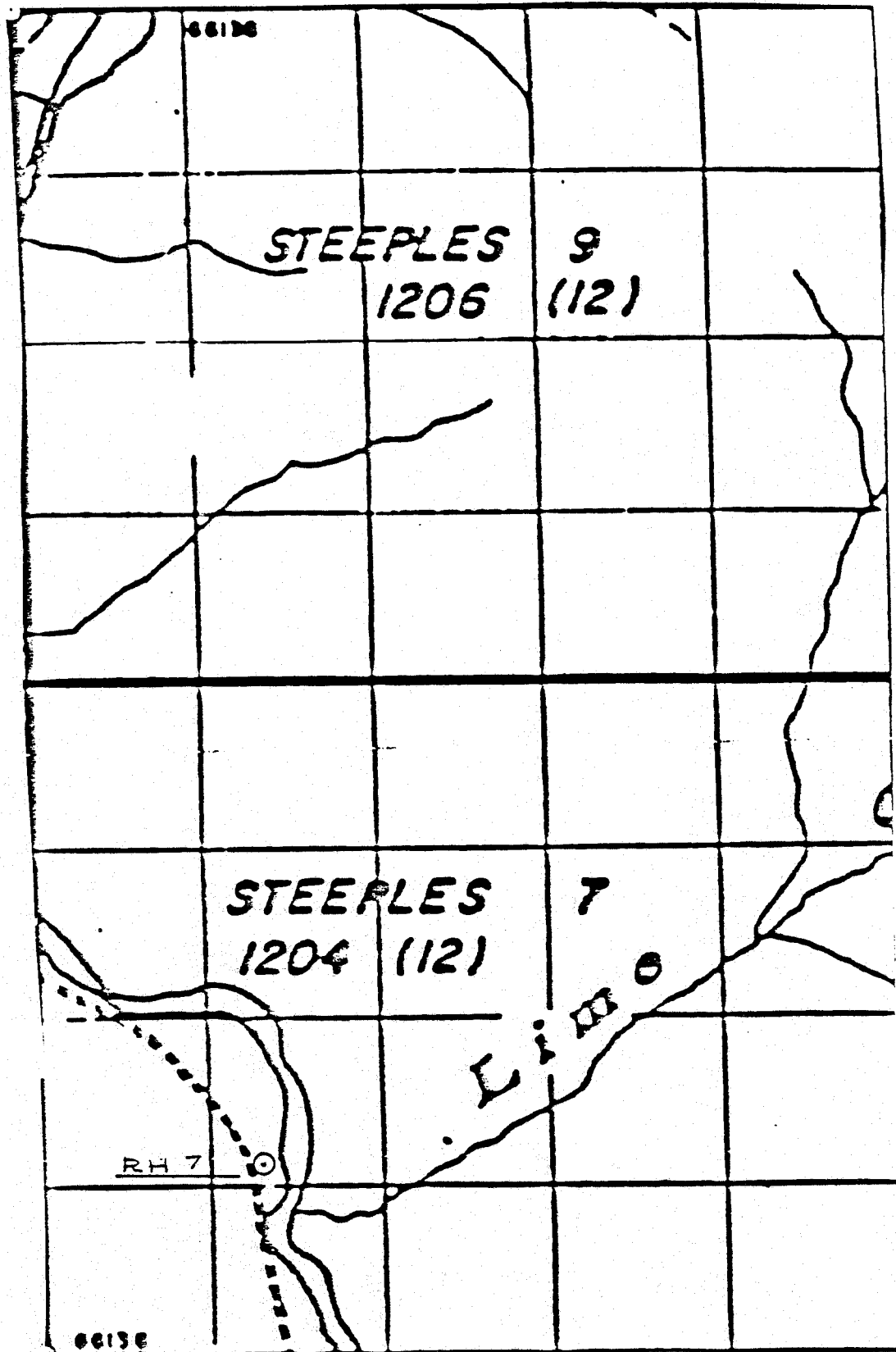
DRILL HOLE

RH 5



SCALE: METRES No. 12

Feb. 1985 *Alfred R. Allen* P. Eng.



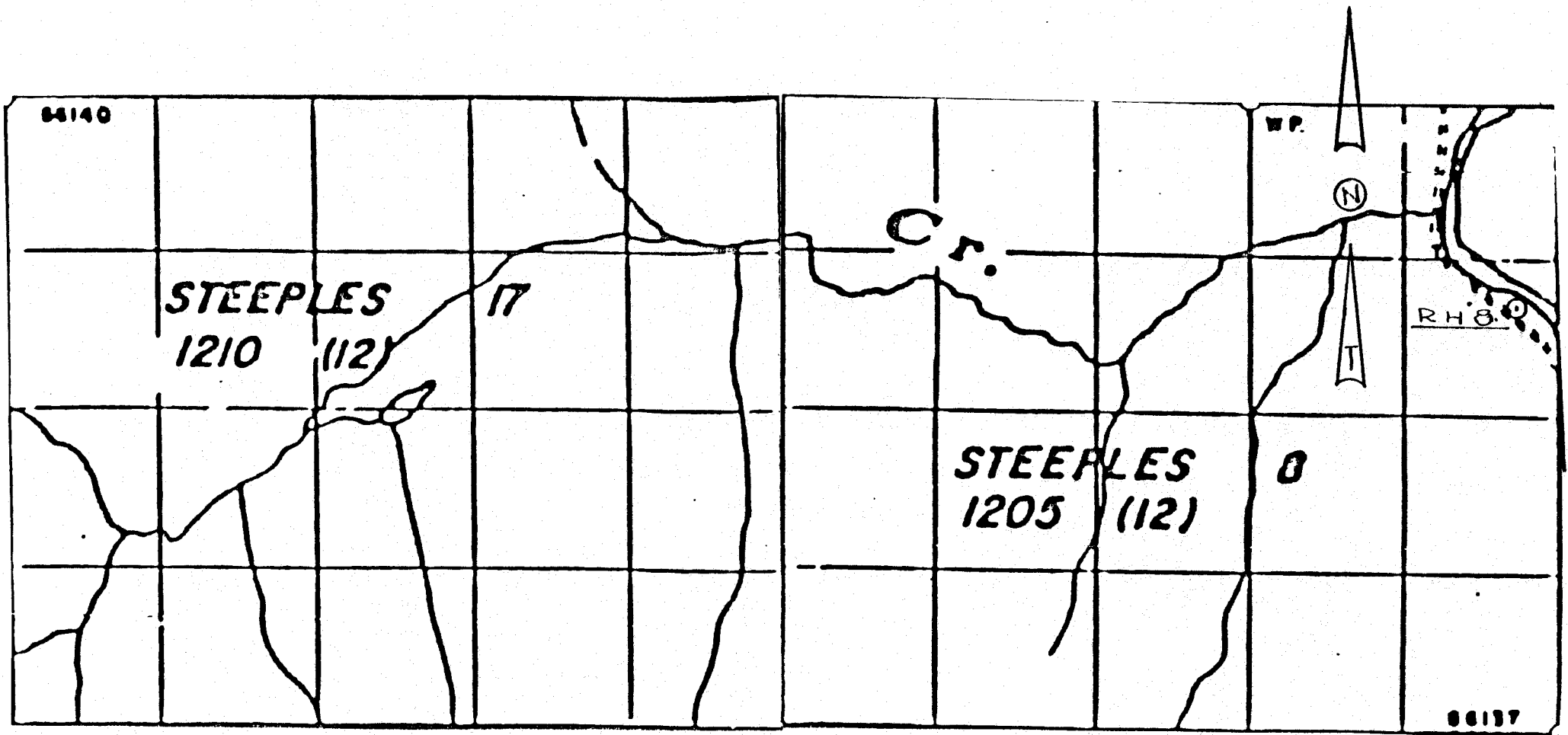
R.H. STANFIELD  
STEEPLES CLAIMS  
DRILL HOLE

RH 7

500 9 500 1000

SCALE: METRES NO. 13

Feb. 1985 *Alfred R. Allen* P. Eng.



64140

STEEPLES  
1210 (12)

17

STEEPLES  
1205 (12)

8

RH 8

66137

R.H. STANFIELD  
STEEPLES CLAIMS

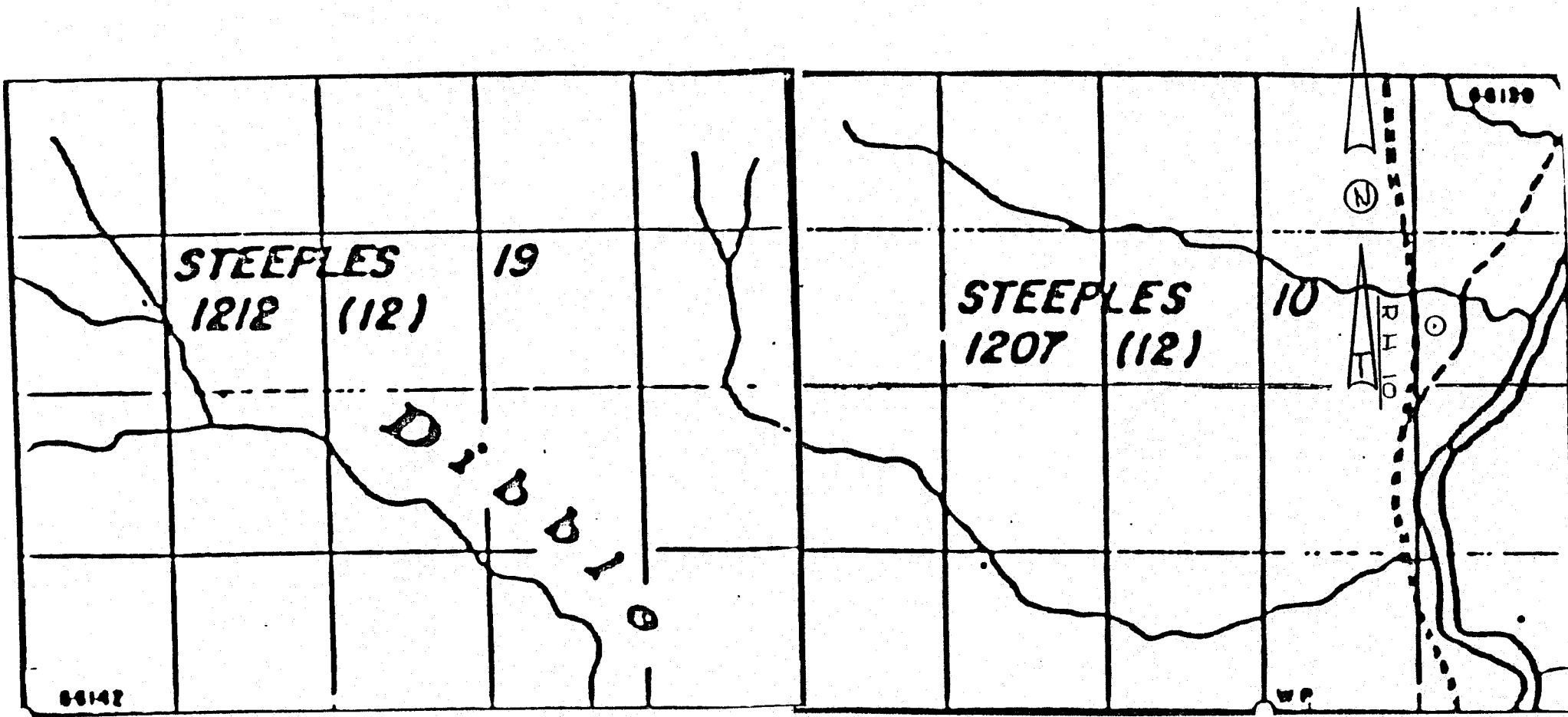
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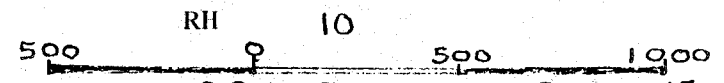
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SCALE: METRES No. 14

Feb. 1985 *Alfred R. Allen* P. Eng.



R.H. STANFIELD  
STEEPLES CLAIMS  
DRILL HOLE



Feb. 1985 *Alfred B. Allen* P. Eng.