

94-023

GEOLOGICAL INVESTIGATION  
OF THE  
HOT# 1 TO 20 AND GRR 1 TO 56 CLAIMS  
NTS 115 O 16

BY  
G.S. HARTLEY P. GEOL.

SEPTEMBER 30, 1994

————— *Hartley and Associates*

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## I. Summary

The Hot 1 to 20 and Grr 1 to 56 claims lie along the Tintina Trench approximately 65 km (40 miles) east of Dawson City the claim area is bounded by Flat Creek to the south and Highway #5 to the north, the claims ajoin the highway.

The property is located approximately 8 km south of the Brewery Creek deposit, known to contain at least 1 million ounces of gold at an approximate grade of .05 oz/ton. The area of the claims contains no outcrop. Geochemical survey data ( GSC Open File 1364 ) indicated the presence of anomalous mercury, arsenic, barium, manganese, and tin, in an area where strong structural features have been identified, through thick glacial deposits. (Mortensen et al 1992).

During the 1994 season,( June 2nd to June 16) seventy stream sediment and soil samples were collected along drainage systems within the claims and along claim location lines where drainage was not present.

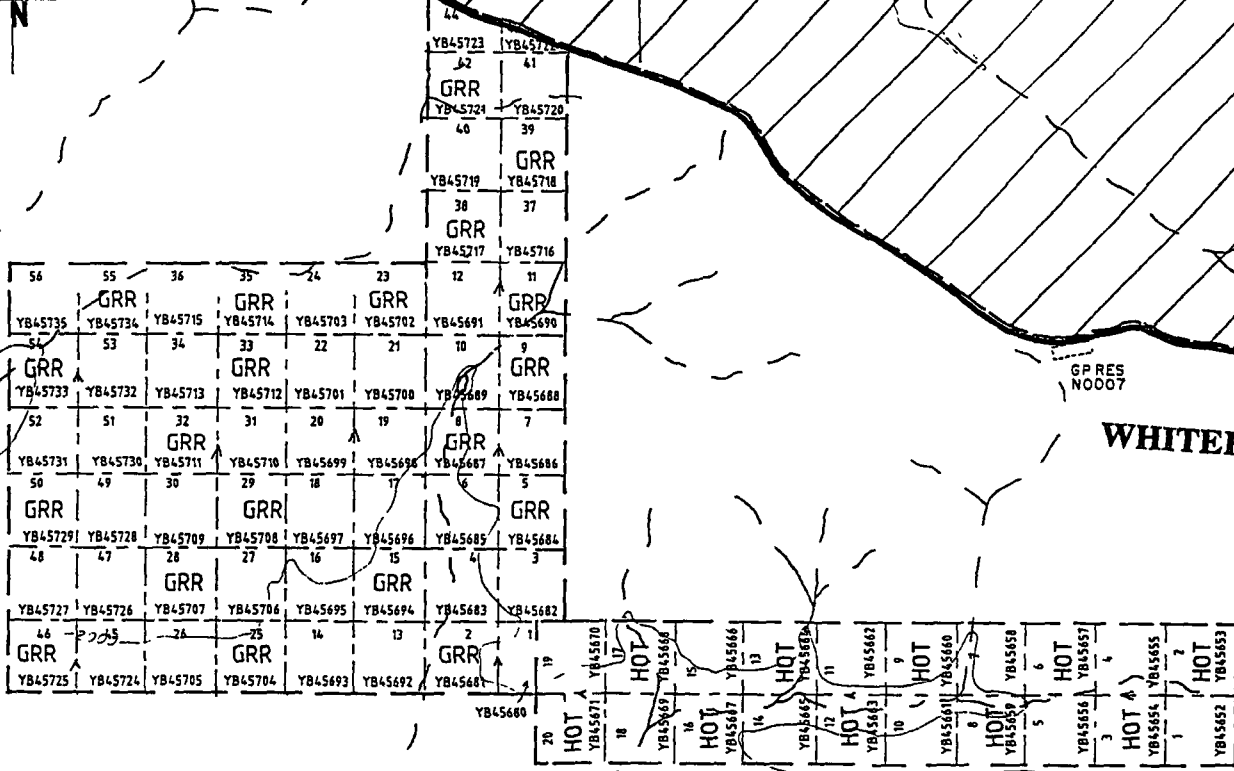
Results of the geochemical survey were encouraging, values up to 1.1 ppm silver occur with associated arsenic (to 29 ppm) and mercury highs,(to 145 ppb ), gold values to 30 ppb are present. Backgrounds were respectively, <0.1 ppm, <10 ppm, 25 ppb, and 5 ppb.

BREWERY CREEK 8 KM

DAWSON CITY

MEDRICK CREEK

WHITEHORSE



LOCATION MAP

FLAT CREEK PROJECT

PROJECT LANDS: GRR#1 TO #56 HOT#1TO #20

## **II. History**

There is no record of lode or placer claims within the area, old placer workings, possibly well in excess of fifty years old were noted in one location. The Yukon Minfile indicates no known mineralization in the area.

## **III. Location**

The claims are located north of Flat Creek, and immediately south of highway #2 , on NTS sheet 115 O 16, near latitude 63°53 N and longitude 138°20 west

Access to the property is by paved highway #2 approximately 65 km east of Dawson City. Field crew accommodation during the fourteen day program was established in a trailer parked at the Dempster corner and later in Dawson City.

## **IV. Physiography**

The region is dominated by the Tintina Trench. Thick glacial deposits mantle Paleozoic subcrop. Outcrops are not present. The area is designated as a continuous permafrost zone. Topography slopes gently to the south.

## V. Regional Geology

The Geology of the region, although poorly exposed, is known to consist of Paleozoic carbonates and shales and related rocks of the Earn and Road River groups intruded by felsic dykes and sills, of Cretaceous to Tertiary age.

The project lies within the Tintina Trench structural zone. Lineament studies utilizing Landsat TM thermal imagery, indicate a number of well defined fault splays near the property, the study suggests further evaluation of the region for structurally controlled epithermal gold deposits. (Mortensen and Von Gaza 1992).

## VI. Geochemistry

Regional stream sediment sampling data (GSC open file 1364) indicated elevated levels of arsenic, barium, cadmium, mercury, and fluorine occur on the property. Anomalous values occur along drainage exhibiting strong structural control. This group of elements is frequently associated with epithermal deposits, in general and is known to be significant at Brewery Creek.

Eighty stream sediment and soil samples were taken for this project, seventy samples were taken on the claims and in the immediate area, and 10 samples, numbers 71 to 80 were taken in the area of a known deposit, in order to obtain comparative data, for control purpose.

Samples were analyzed by Northern Analytical labs of Whitehorse for gold, silver, lead, manganese, arsenic, and mercury, by atomic adsorption. due to insufficient sample quantities some analyses could not be carried out, this is indicated by "I.S." in the data table. Background values for the various elements were:

GRR and HOT claims		Control group mineralized zone
silver	<0.1 ppm	0.3 ppm
arsenic	<10.0 ppm	64.0 ppm
mercury	29.0 ppb	255.0 ppb
gold	5.0 ppb	37.0 ppb
lead	13.0 ppm	14.0 ppm
manganese	250.0 ppm	170.0 ppm

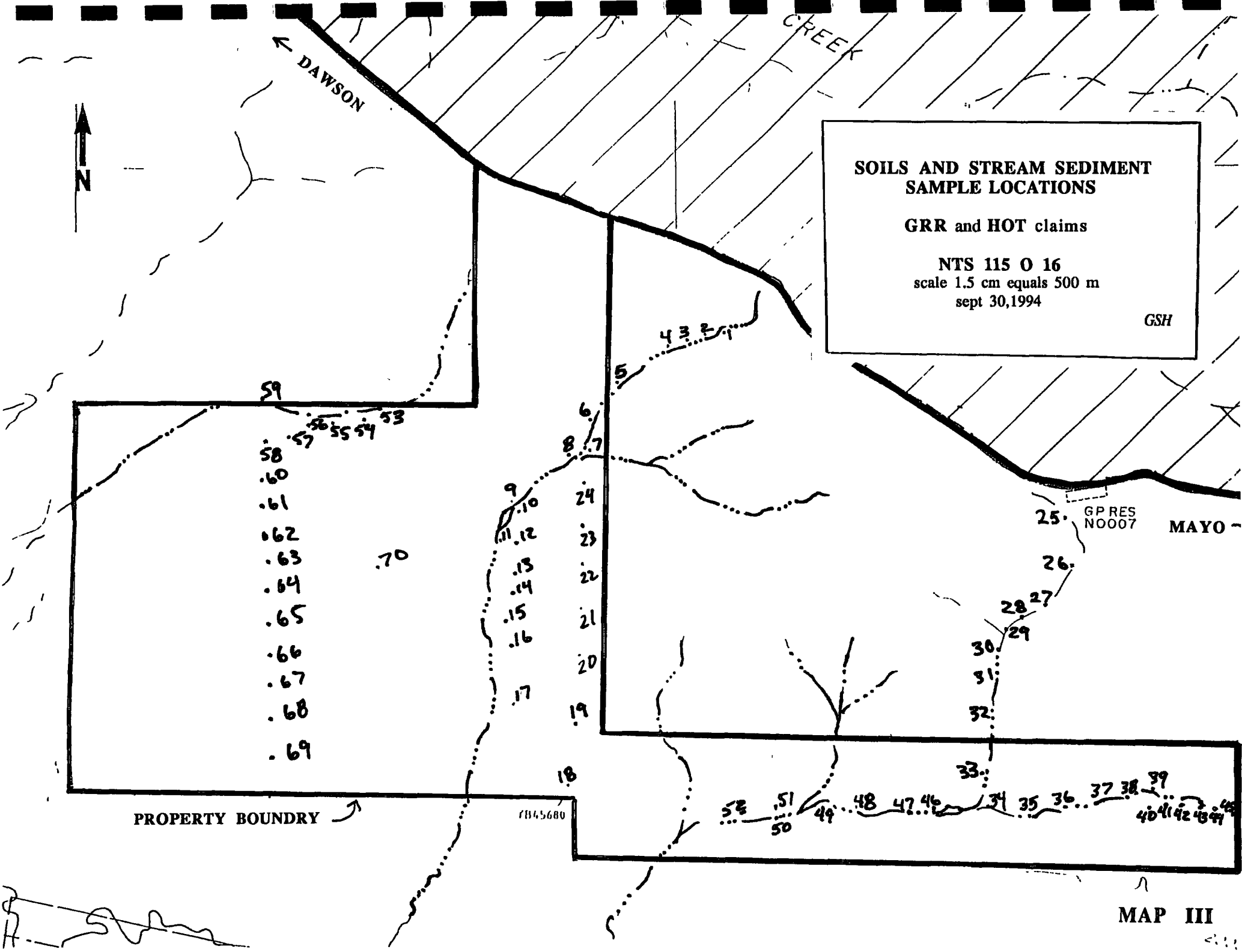


**SOILS AND STREAM SEDIMENT  
SAMPLE LOCATIONS**

**GRR and HOT claims**

**NTS 115 O 16**  
scale 1.5 cm equals 500 m  
sept 30, 1994

GSH



**SOILS AND STREAM SEDIMENT  
SAMPLE LOCATIONS**

**AU IN PPB**

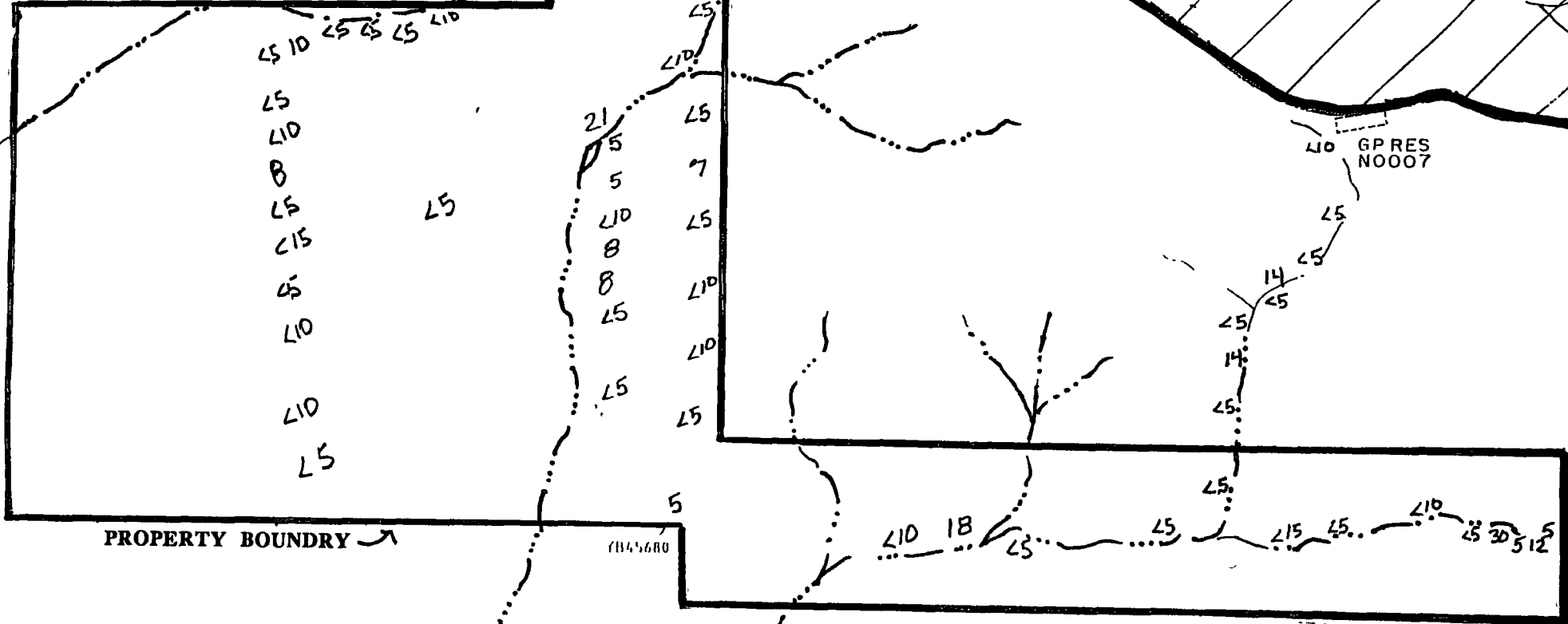
**NTS 115 O 16**  
scale 1.5 cm equals 500 m  
sept 30, 1994

GSH



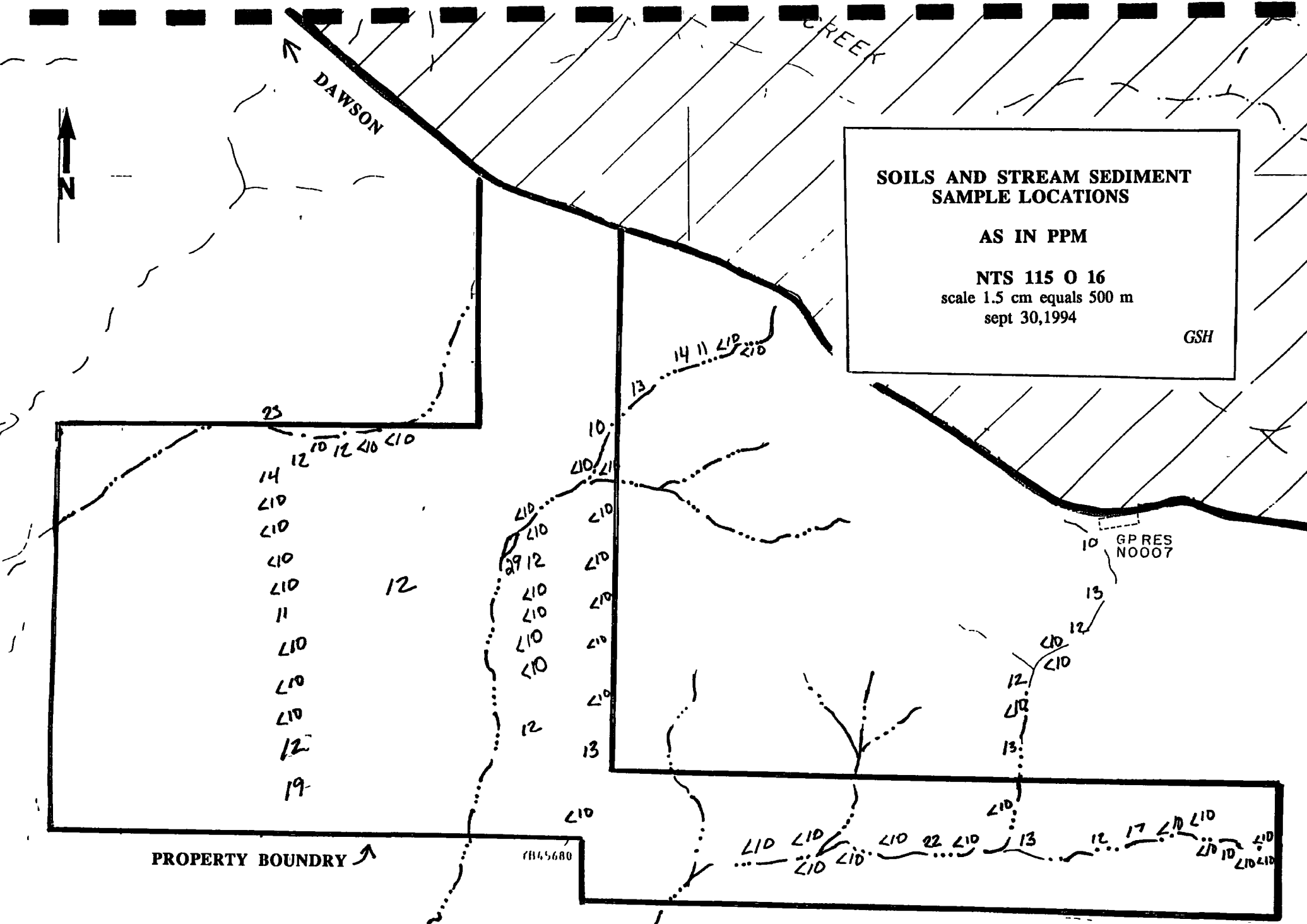
← DAWSON

CREEK



PROPERTY BOUNDARY →

**MAP IIIa**



**MAP IIIb**

CREEK

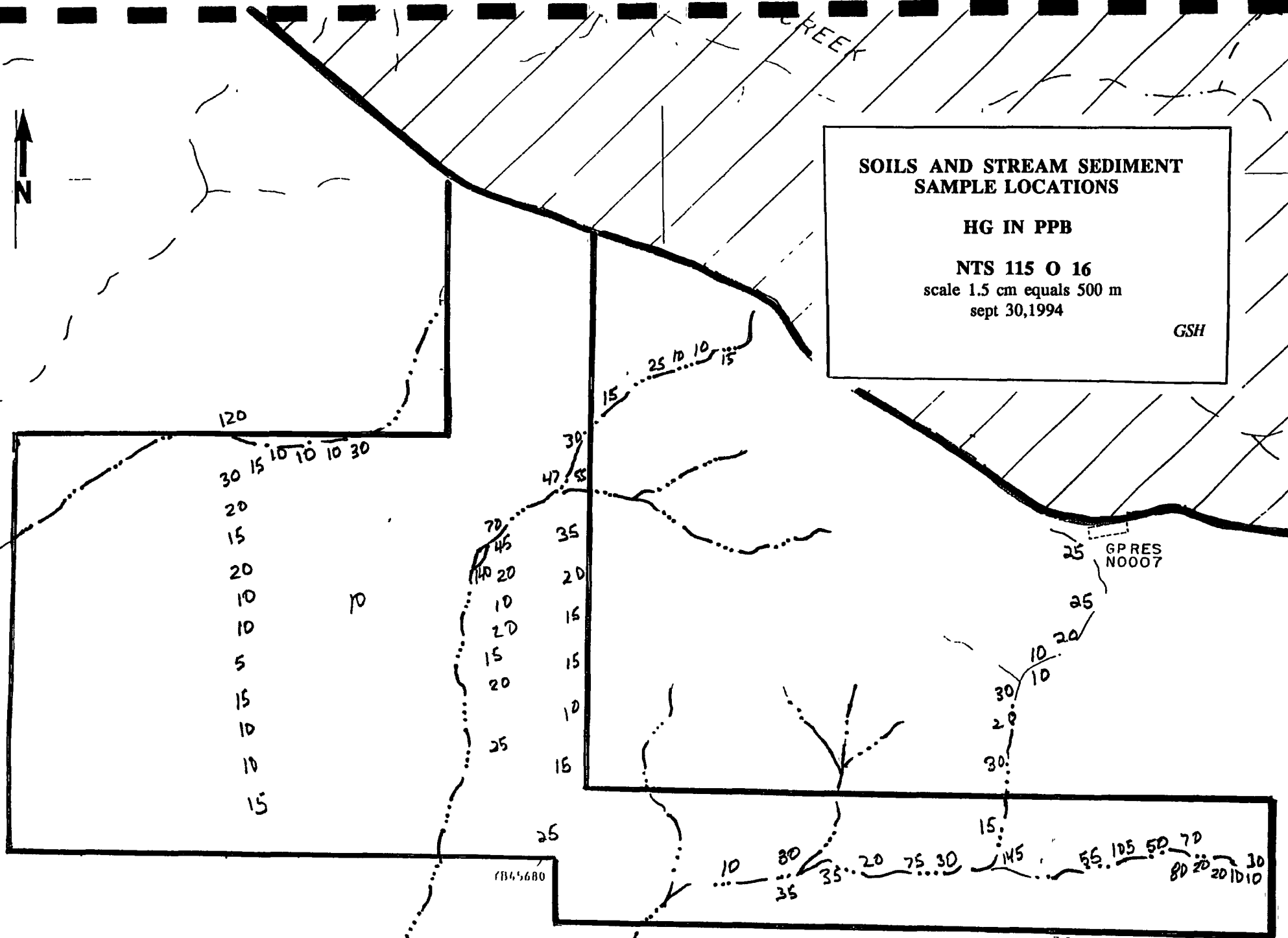


**SOILS AND STREAM SEDIMENT  
SAMPLE LOCATIONS**

**HG IN PPB**

**NTS 115 O 16**  
scale 1.5 cm equals 500 m  
sept 30, 1994

GSH



← DAWSON CREEK

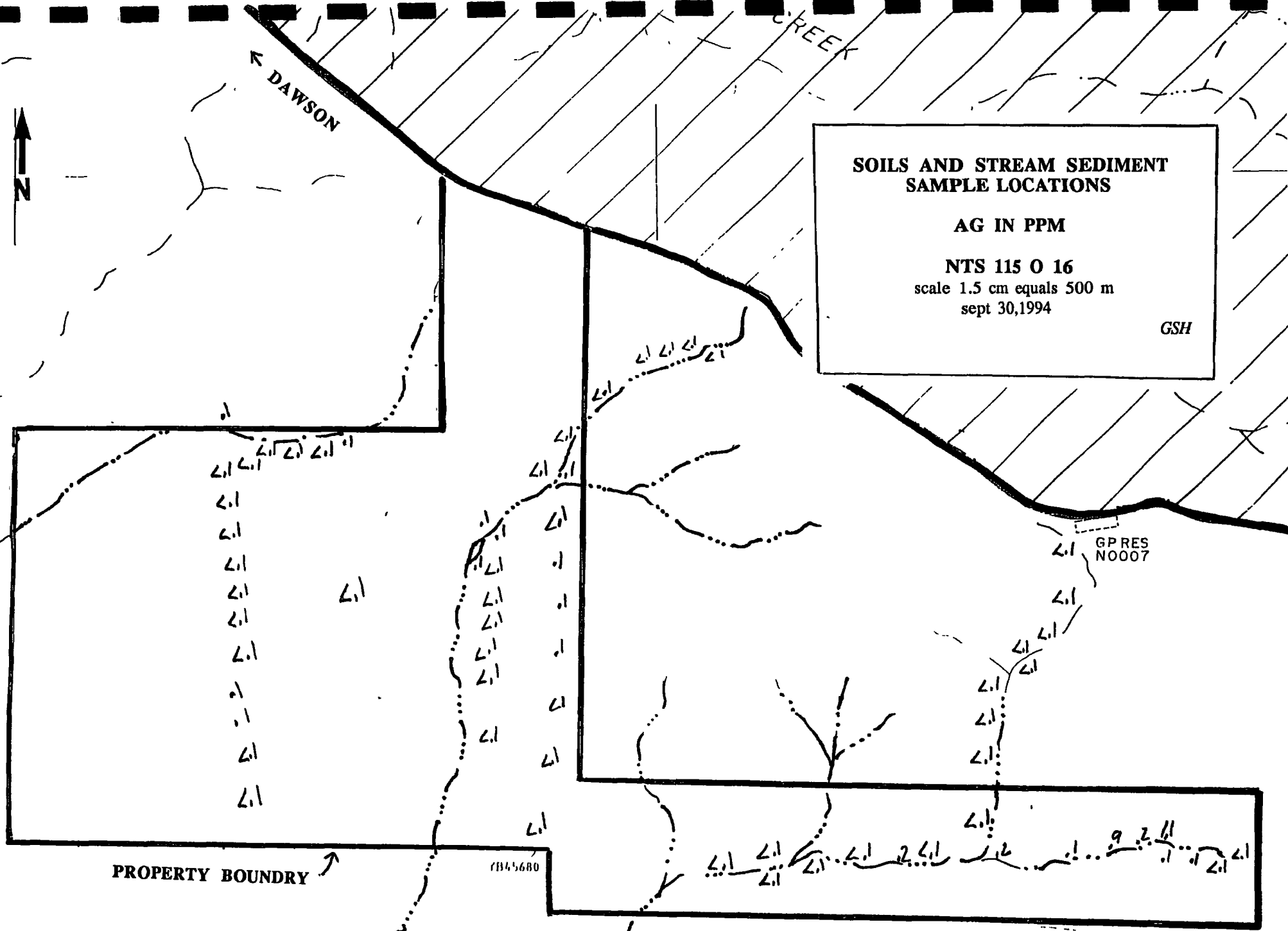


**SOILS AND STREAM SEDIMENT  
SAMPLE LOCATIONS**

**AG IN PPM**

**NTS 115 O 16**  
scale 1.5 cm equals 500 m  
sept 30,1994

GSH



PROPERTY BOUNDARY →

01145680

CREEK

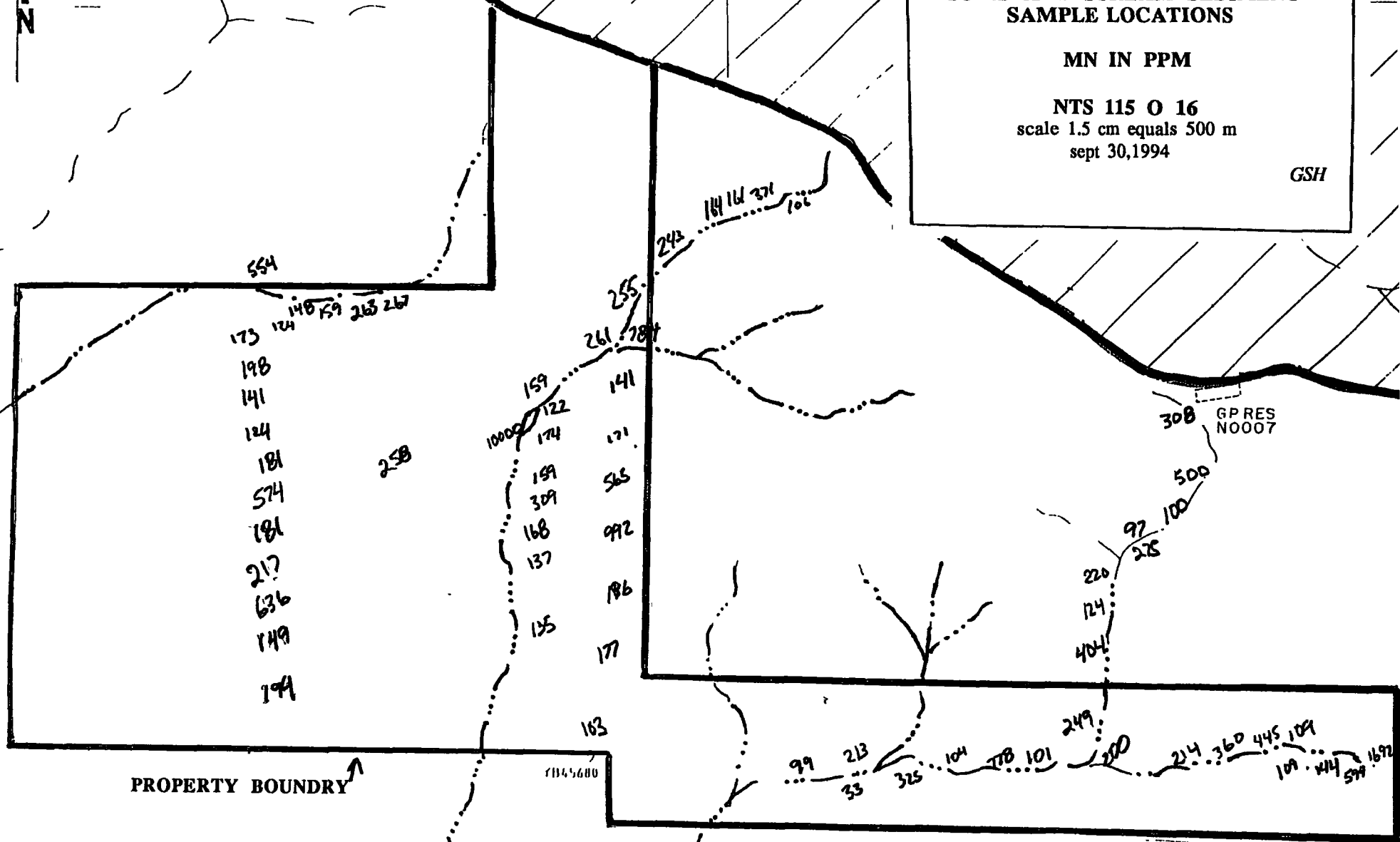
← DAWSON

**SOILS AND STREAM SEDIMENT  
SAMPLE LOCATIONS**

**MN IN PPM**

**NTS 115 O 16**  
scale 1.5 cm equals 500 m  
sept 30, 1994

GSH



PROPERTY BOUNDARY ↗

← DAWSON

CREEK

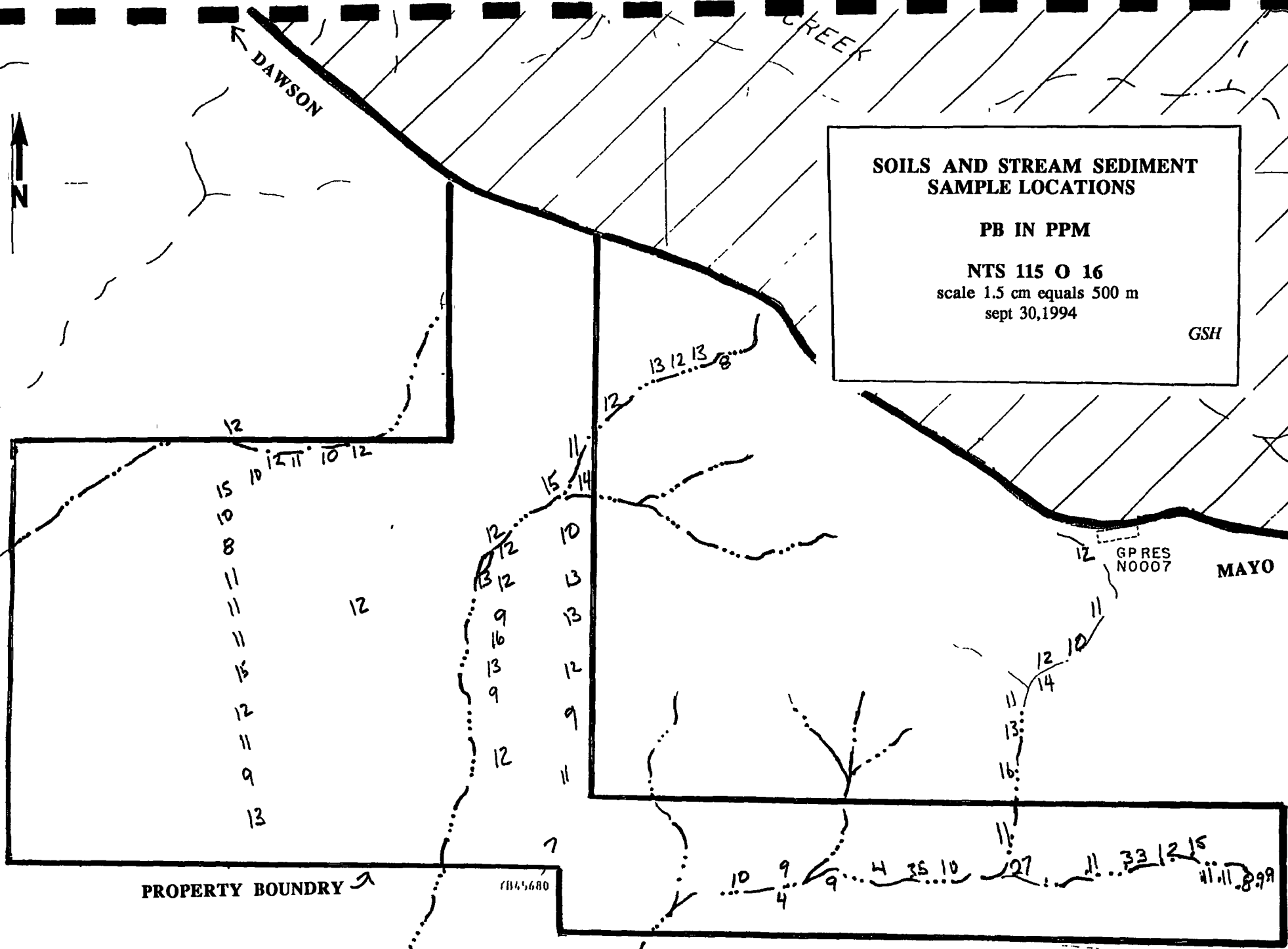


**SOILS AND STREAM SEDIMENT  
SAMPLE LOCATIONS**

**PB IN PPM**

**NTS 115 O 16**  
scale 1.5 cm equals 500 m  
sept 30, 1994

GSH



PROPERTY BOUNDARY ↗

1145680

GP RES  
N0007

MAYO

MAP III

## VII. Prospecting

Regional geological mapping suggests that subcrop in the area is a Paleozoic package of sedimentary rocks intruded by felsic dykes, under a thick cover of glaciofluvial debris, characteristic of the Tintina Trench. Felsic intrusives are closely associated with mineralization at the Brewery Creek deposit. Most Tertiary and Cretaceous felsic rocks, in the Cordillera, are strongly radioactive, due to the presence of potassium 40, and may be located using a hand held scintillometer.

Conventional field prospecting was applied to the claims with the addition of a hand held Urtec, UG 135 discriminating scintillometer. No outcrop was found within the entire claim group, a zone of increased radioactivity was noted on the GRR claims, near geochem sample location 12. The radioactivity could be due to the presence of felsic intrusives in subcrop, or increased potassium 40 levels within tills.

## VIII. Conclusions

The exploration model for this property is the Brewery Creek deposit, there, gold mineralization is associated with increased levels of Mercury, Arsenic, Silver, and Lead. The ore body is controlled by a east trending fault, mineralization occurs within limestones and shales, intruded by felsic intrusives.

Ten soil samples were collected at 30 meter intervals across the Canadian zone, containing the highest grade mineralization, in the Brewery Creek deposit (from published data). These samples were analyzed and the results compared to the stream sediment data from the HOT and GRR claims.

The data are not directly comparable because the HOT claims data is stream sediment data, in an area of thick overburden, while the Brewery Creek samples were collected as soil samples where mineralized bedrock occurs within one half meter of the surface. The average value, or background value, for each data set was calculated, and the highest elemental values are compared to the average for the data set.

	Hot claims			Brewery Creek ore zone		
	High value	background	ratio	High value	Background	ratio
mercury	145	29	5/1	1260	255	4.9/1
arsenic	17	<10	1.7/1	416	64	6.5/1
silver	1.1	.1	11/1	1.2	.3	4/1
lead	33	13	2.5/1	36	14	2.5/1



The differing sample mediums, (stream mud versus thin soil over mineralized sub crop) make the direct comparison of absolute values meaningless, however it must be noted that the ratios to background are similar. It also should be noted that, on the HOT claims, as in Brewery Creek, coincident "above average" values of silver, lead, arsenic and mercury occur along a well defined structural feature.

The paucity of out crop and thick glacial cover of the region dictate that any further work on the property must include geophysical surveying, possibly magnetics, and drilling.

**IX. Statement of Expenditure**

Truck travel in the Yukon (2000 km@40).....800.00  
Food and consumables.....(55.15/day/person).....772.10  
Assay costs.....1705.58  
P. Geol fees \$500/day/14 days.....7000.00  
Urtec UG 135 scintillometer \$30/day/14 days.....420.00  
Report preparation .....500.00

-----  
**\$11197.68**

## References

Geological Survey of Canada " Open file 1364" Stream  
Sediment Geochemistry NTS 115 N,0.

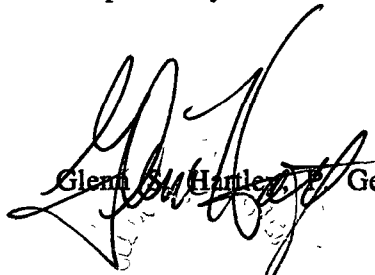
Mortensen , J.K.and P. Von Gaza. 1992.Application of  
Landsat TM Thermal Imagery to Structural  
Interpretations of the Tintina Trench in West-  
Central Yukon. In Yukon Geology, Vol.3; Exploration  
and Geological Services Division, Yukon, Indian and  
Northern Affairs Canada, p.214-222

## CERTIFICATE

I, Glenn S. Hartley of 7302-118 A street Edmonton, hereby state that:

1. I am a graduate of the University of Alberta, Department of Geology (B. Sc. Specialization 1977).
2. I am a registered Professional Geologist in the province of Alberta.
3. Since 1970, I have been employed by various exploration firms and have conducted field programs in Alberta, British Columbia, Saskatchewan, Northwest Territories, and the Yukon.
4. I have a direct interest in the lode claims of this report.

Respectfully submitted,

  
Glenn S. Hartley, Geol.

**Appendix I**



INTERNATIONAL PLASMA LABORATORY LTD

CERTIFICATE OF ANALYSIS

iPL 94F1501

2036 Columbia Street  
Vancouver, B C  
Canada V5Y 3E1  
Phone (604) 879-7878  
Fax (604) 879-7898

Client: Northern Analytical Laboratories iPL: 94F1501 M  
Project: WO# 00481 78 Pulp [023913:24:5] 94]

Out: Jun 20, 1994  
In: Jun 15, 1994

Page 1 of 2

Section 1 of 1  
Certified BC Assayer: David Chiu

Sample Name	Hg ppb	Sample Name	Hg ppb	Sample Name	Hg ppb	Sample Name	Hg ppb	Sample Name	Hg ppb
GH 1	15	GH 41	20						
GH 2	10	GH 42	20						
GH 3	10	GH 43	10						
GH 4	25	GH 44	10						
GH 5	15	GH 45	30						
GH 6	30	GH 46	30						
GH 7	55	GH 47	75						
GH 8	47	GH 49	20						
GH 9	70	GH 50	35						
GH 10	45	GH 51	30						
GH 11	140	GH 52	10						
GH 12	20	GH 53	30						
GH 13	10	GH 54	10						
GH 14	20	GH 55	10						
GH 15	15	GH 56	10						
GH 16	20	GH 57	15						
GH 17	25	GH 58	30						
GH 18	25	GH 59	120						
GH 19	15	GH 60	20						
GH 20	10	GH 61	15						
GH 21	15	GH 62	20						
GH 22	15	GH 63	10						
GH 23	20	GH 64	10						
GH 24	35	GH 65	5						
GH 25	25	GH 66	15						
GH 26	25	GH 67	10						
GH 27	20	GH 68	10						
GH 28	10	GH 69	15						
GH 29	10	GH 70	10						
GH 30	30	GH 71	220						
GH 31	20	GH 72	345						
GH 32	30	GH 73	190						
GH 33	15	GH 74	170						
GH 34	145	GH 75	50						
GH 36	55	GH 76	105						
GH 37	105	GH 77	75						
GH 38	50	GH 78	995						
GH 39	70	GH 79	1260						
GH 40	80	GH 80	200						

5 9999 Geo      5 9999 Geo      5 9999 Geo      5 9999 Geo

Efficient Sample S=Soil R=Rock C=Core L=Silt P=Pulp U=Undefined m=Estimate/1000 Z=Estimate % Max=No Estimate  
Ltd. 2036 Columbia St. Vancouver BC V5Y 3E1 Ph:604/879-7878 Fax:604/879-7898



**CERTIFICATE OF ANALYSIS**  
iPL 94F1501

2036 Columbia Street  
Vancouver, B C  
Canada V5Y 3E1  
Phone (604) 879-7878  
Fax (604) 879-7898

Northern Analytical Laboratories  
Out: Jun 20, 1994 Project: WO# 00481  
In: Jun 15, 1994 Shipper: Norm Smith  
PO#: Shipment: ID=C030900

78 Samples  
Raw Storage  
Pulp Storage:

0= Rock 0= Soil 0= Core  
0=RC Ct 78= Pulp 0=Other  
-- 12Mon/D1s --  
-- 12Mon/D1s --

[023913.24.47.49062094]  
Mon=Month D1s=D1scard  
Rtn=Return Arc=Archive

Msg: Hg(CVA)  
Msg.  
**Document Distribution**  
1 Northern Analytical Laboratories  
105 Copper Road  
Whitehorse  
YT Y1A 2Z7  
ATT: Norm Smith  
Ph: 403/668-4968  
Fx: 403/668-4890

EN	RT	CC	IN	FX
1	2	2	2	1
DL	3D	5D	BT	BL
0	0	0	1	0

**Analytical Summary**

##	Code	Met	Title	Limit	Limit	Units	Description	Element	##
				Low	High				
01	520P	Geo	Hg	5	9999	ppb	Hg Cold Vapor/AAS	Mercury	01

10/06/94

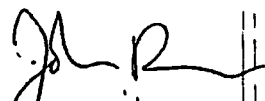
Assay Certificate

Glenn Hartley & Ron Owens

WO#00481

Sample #	Au ppb	Ag ppm	Pb ppm	Mn ppm	As ppm
GH-1	<10	<0.1	8	106	<10
GH-2	I.S.	<0.1	13	371	<10
GH-3	I.S.	<0.1	12	161	11
GH-4	<10	<0.1	13	164	14
GH-5	<10	<0.1	12	243	13
GH-6	<5	<0.1	11	255	10
GH-7	I.S.	0.1	14	784	<10
GH-8	<10	<0.1	15	261	<10
GH-9	21	0.1	12	175	<10
GH-10	5	0.1	12	122	<10
GH-11	I.S.	0.1	13	>10000	29
GH-12	5	<0.1	12	174	12
GH-13	<10	<0.1	9	159	<10
GH-14	8	<0.1	16	309	<10
GH-15	8	<0.1	13	168	<10
GH-16	<5	<0.1	9	137	<10
GH-17	<5	<0.1	12	135	12
GH-18	5	<0.1	7	103	<10
GH-19	<5	<0.1	11	177	13
GH-20	<10	<1	9	196	<10
GH-21	<10	0.1	12	992	<10
GH-22	<5	0.1	13	565	<10
GH-23	7	0.1	13	171	<10
GH-24	<5	<0.1	10	141	<10
GH-25	<10	<0.1	12	308	10
GH-26	<5	<0.1	11	500	13
GH-27	<5	<0.1	10	100	12
GH-28	14	<0.1	12	97	<10
GH-29	<5	<0.1	14	275	<10
GH-30	<5	<0.1	11	220	12
GH-31	14	<0.1	13	124	<10
GH-32	<5	<0.1	16	404	13
GH-33	<5	<0.1	11	249	<10
GH-34	I.S.	0.2	27	200	13
GH-35	<15	I.S.	I.S.	I.S.	I.S.

Certified by






6/06/94

Assay Certificate

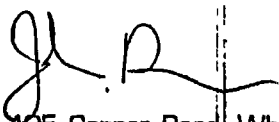
Page 2

Glenn Hartley & Ron Owens

WO#00481

Sample #	Au ppb	Ag ppm	Pb ppm	Mn ppm	As ppm
GH-36	<5	0.1	11	214	17
GH-37	I.S.	0.9	33	360	17
GH-38	<10	0.2	12	445	<10
GH-39	I.S.	1.1	15	109	<10
GH-40	I.S.	I.S.	I.S.	I.S.	I.S.
GH-41	<5	0.1	11	281	<10
GH-42	30	0.1	11	144	10
GH-43	5	<0.1	8	594	<10
GH-44	12	<0.1	9	39	<10
GH-45	5	0.1	9	1626	<10
GH-46	<5	<0.1	10	101	<10
GH-47	I.S.	0.2	35	778	<del>22</del>
GH-48	I.S.	<0.1	4	104	<10
GH-49	<5	<0.1	9	325	<10
GH-50	I.S.	<0.1	4	33	<10
GH-51	18	<0.1	9	213	<10
GH-52	<10	<0.1	10	99	<10
GH-53	<10	0.1	12	267	<10
GH-54	<5	<0.1	10	263	<10
GH-55	<5	<0.1	11	159	12
GH-56	<5	<0.1	12	148	10
GH-57	10	<0.1	10	124	12
GH-58	<5	<0.1	15	173	14
GH-59	I.S.	0.1	12	554	23
GH-60	<5	<0.1	10	198	<10
GH-61	<10	<0.1	8	141	<10
GH-62	8	<0.1	11	161	<10
GH-63	<5	<0.1	11	181	<10
GH-64	<15	<0.1	11	574	11
GH-65	<5	<0.1	15	181	<10
GH-66	<10	0.1	12	217	<10
GH-67	I.S.	0.1	11	636	<10
GH-68	<10	<0.1	9	149	12
GH-69	<5	<0.1	13	194	19
GH-70	<5	<0.1	12	258	12

Certified by




06/94

Assay Certificate

Page 3

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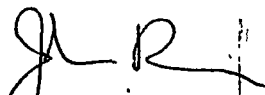
WO#00481

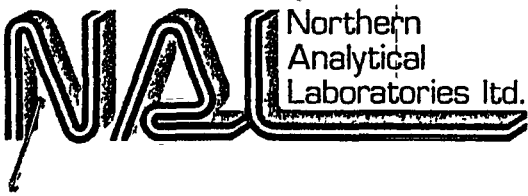
Sample #	Au ppb	Ag ppm	Pb ppm	Mn ppm	As ppm
GH-71	19	0.2	14	227	68
GH-72	24	0.2	15	236	72
GH-73	I.S.	0.2	14	193	29
GH-74	97	0.4	13	118	111
GH-75	I.S.	0.4	16	170	54
GH-76	10	0.2	12	207	43
GH-77	I.S.	0.5	16	348	43
GH-78	I.S.	1.2	36	82	461
GH-79	I.S.	0.7	15	148	67
GH-80	I.S.	0.4	15	153	91

Notes: "I.S." means insufficient sample.

Au was analysed on less than the standard 15 grams of sample when this amount of sample was not available. Detection limits were raised proportionately.

Certified by



15/06/94

Invoice for Analytical Services

Glenn Hartley & Ron Owens

WO#00481

Soil Sample Preparation	80 x \$ 1.50 = \$	120.00
Au FA/AAS	61 x \$ 8.50 = \$	518.50
AAS - 1st Element	78 x \$ 2.75 = \$	214.50
AAS - Additional Elements	234 x \$ 1.50 = \$	351.00
Mercury	78 x \$ 5.00 = \$	390.00

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Subtotal \$ 1594.00

GST @ 7% (#R 121285662) \$ 111.58

Total due on receipt of invoice \$ 1705.58

2% interest charge on accounts over 30 days



**Appendix II**

## MINERAL CLAIMS

The property consists of 76 lode claims and is held under joint ownership by G. Hartley of Edmonton, and A. Hartley of Drayton Valley.

Claim name	Grant number
HOT #1 to # 20	YB45652 to YB45671
GRR # 1 to #56	YB45680 to YB45735