GEOLOGICAL AND GEOCHEMICAL REPORT

ON THE

STEELE CLAIMS

OMINECA MINING DIVISION

NTS 93N/14W

BY

L. DANDY, B.Sc., F.G.A.C.

JUNE 1990

CLAIM NAME	UNITS	RECORD NO.	ANNIVERSARY DATE
STEELE 1	20	10331	APRIL 29
STEELE 2	20	10332	APRIL 29
STEELE 3	20	10333	APRIL 29
STEELE 4	20	10334	APRIL 29

LOCATION: 55°56' N, 125°25' W

OWNER: LARRY HEWITT

OPERATOR: PLACER DOME INC.

GEOLOGICAL AND GEOCHEMICAL REPORT

ON THE

STEELE CLAIMS

OMINECA MINING DIVISION

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SUMMARY

The property is a helicopter accessible gold-copper prospect located approximately 56 kilometres north-northwest of Germansen Landing in northcentral British Columbia. A programme consisting of silt and bulk stream sediment sampling, and a geological traverse during which rock and soil samples were collected was carried out on the claims in 1989. A total of 46 samples were collected, with the analyses indicating anomalies for both gold and copper mineralization on the property.

Previous work on the adjoining Lorraine claims has outlined an orebody of 20 million tonnes grading 0.6% copper. Copper mineralization in this area occurs as primary bornite and chalcopyrite disseminated within altered syenite intrusives. Mineralization is also seen along fractures and within quartz stringers.

On the Steele Claims, two independant styles of mineralization was encountered during the sampling programme. Gold mineralization appears to be related to a pyritic quartz vein in the southeastern portion of the property, while copper mineralization is related to the mineralization in the Lorraine deposit.

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STEELE CLAIMS
OMINECA MINING DIVISION

1. INTRODUCTION

The Steele Claims are a lode gold-copper prospect located in the historic Omineca mining camp in north-central British Columbia (Figure 1). The claims were staked in 1989 by Stephen Soby, and later sold to Larry Hewitt of Telkwa, B.C. The property was examined and sampled in 1989 by Placer Dome Inc. of Vancouver, B.C. The results of Placer Dome Inc.'s sampling programme is detailed in this report.

In the 1989 field season, initial exploration work was carried out over the claims and consisted of a preliminary geologic traverse, rock, soil, silt, bulk stream sediment and moss wash sampling. Silt, bulk stream sediment and moss wash sampling was conducted on several creeks which drain the property, and was carried out by a three-person crew working out of Takla Narrows. The geological traverse, rock and soil sampling was done by a two-person crew working out of the town of Smithers, B.C. The purpose of the sampling programme was to outline areas of anomalous gold and copper values which may be related to an orebody which has been previously outlined on the adjacent Lorraine claims. The programme was supervised by Placer Dome Inc. project geologist, G. Ditson.

1.1 LOCATION AND ACCESS

The Steele Claims are located in the Omineca Mining Camp, 56 kilometres north-northwest of Germansen Landing, and cover an area of approximately 15 square kilometres which surrounds the Lorraine orebody north of Duckling Creek. The claims are centred at latitude 55°56' and longitude 125°25' on NTS map sheet 93N/14W (Figure 2).

Access to the property is best gained by helicopter from Germansen Landing, but the property may be accessed in summer by following the Omineca Mining Road northwest from Germansen Landing for approximately 48 kilometres, then west for 20 kilometres along a rough dirt road built to access the Lorraine claims.

1.2 PHYSIOGRAPHY, VEGETATION AND CLIMATE

The Steele Claims are located on the west side of the Omineca Mountains, which have elevations from 1000 metres in the valleys to 2000 metres on the mountain peaks. Topography in the area is moderately rugged with slopes of up to 30° rising up from the Duckling and Discovery Creek valleys. The valleys are a broad U-shape, with swampy bottoms. Glaciers occupied the valleys in Pleistocene time and deposited tens of metres of glaciofluvial till during their retreat.

On the Steele Claims, elevation ranges from 1400 metres in the

creek valleys to 1950 metres on the ridge tops. Tree line is at approximately 1550 metres, with the valleys forested with lodgepole pine, black spruce, fir, aspen and poplar. Mountain alder and willow grow near streams and stunted buckbrush covers the hills above tree line.

The Omineca area enjoys a pleasant summer climate with temperatures averaging 20°C and little precipitation. Winter temperatures average -10°C in January with moderate snowfall. "Winter" conditions can be expected from October to April.

1.3 CLAIM INFORMATION

The property is located in the Omineca Mining Division and consists of four modified grid mineral claims totalling 80 units. The Steele Claims partially overlap the pre-existing Lorraine claims on the northwest portion of the property (Figure 2). Claim information is listed in Table I.

TABLE I
CLAIM STATUS

Claim Name	Units	Record No.	Anniversary Date
STEELE 1	20	10331	APRIL 29
STEELE 2	20	10332	APRIL 29
STEELE 3	20	10333	APRIL 29
STEELE 4	20	10334	APRIL 29

1.4 HISTORY

The Steele Claims surround the previously discovered Lorraine copper deposit, the best known deposit in this area. The malachite stained cliffs of the Lorraine property are the most visible and best known indication of copper mineralization in the Duckling Creek area. The presence of copper was known for many years by local Indians, and was shown to prospectors during World War I.

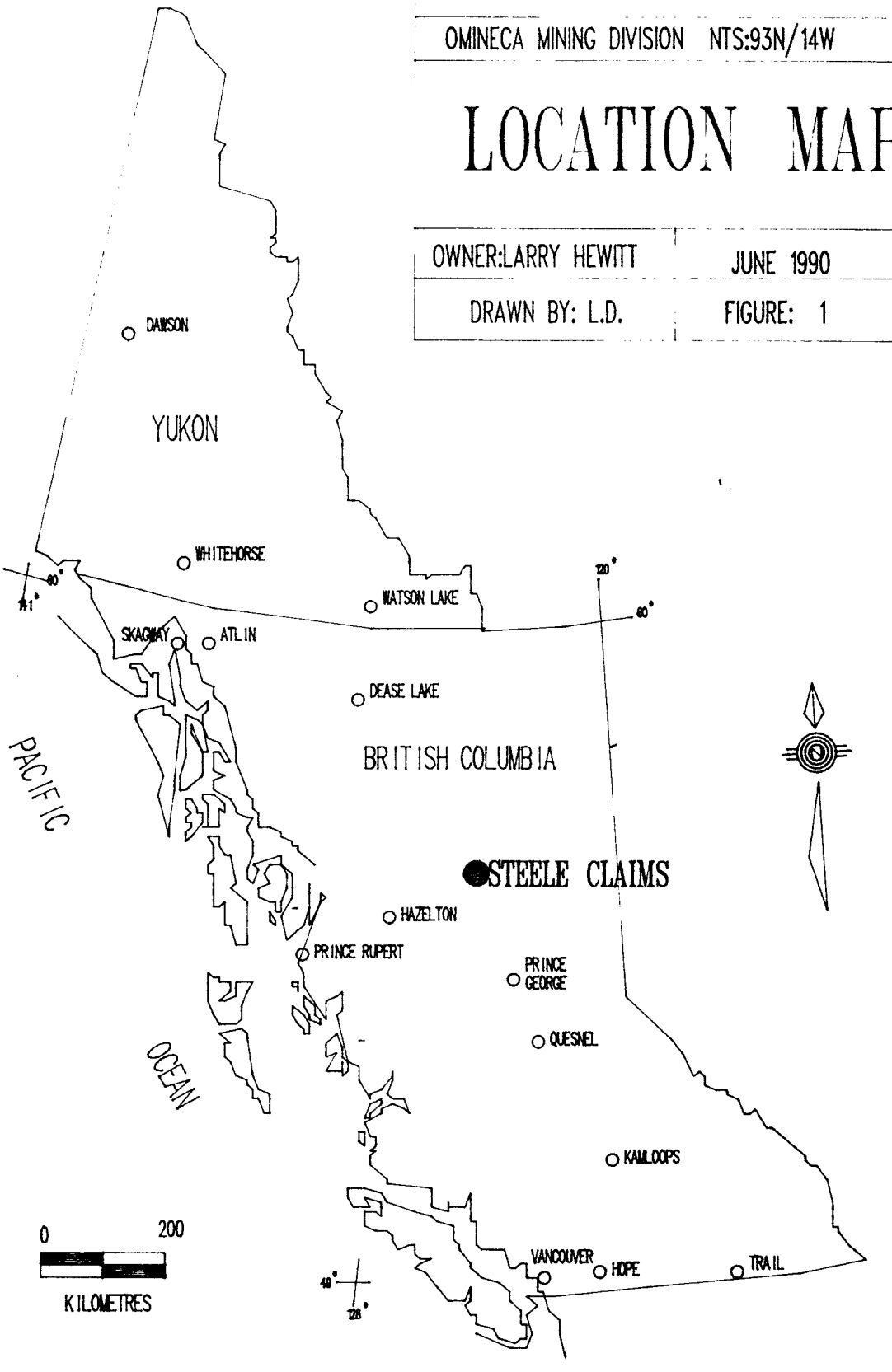
Claims were located over the Lorraine property by the Consolidated Mining and Smelting Company of Canada, limited in 1943. In 1947, Kennco Explorations, (Western) Limited again located claims on the showings and have worked intermittently on the property since that time. In 1970, Granby Mining Company Limited obtained an option on the Lorraine from Kennco, and have conducted detailed geological mapping, extensive trenching, and diamond and percussion drilling on the ore zone over the past several years. Numerous descriptions of this occurrence have been published (Armstrong, 1949; Black, 1949; Koo, 1968; Garnett, 1972), and it has recently been classified as a syenitic porphyry deposit by Sutherland Brown, et al (1971).

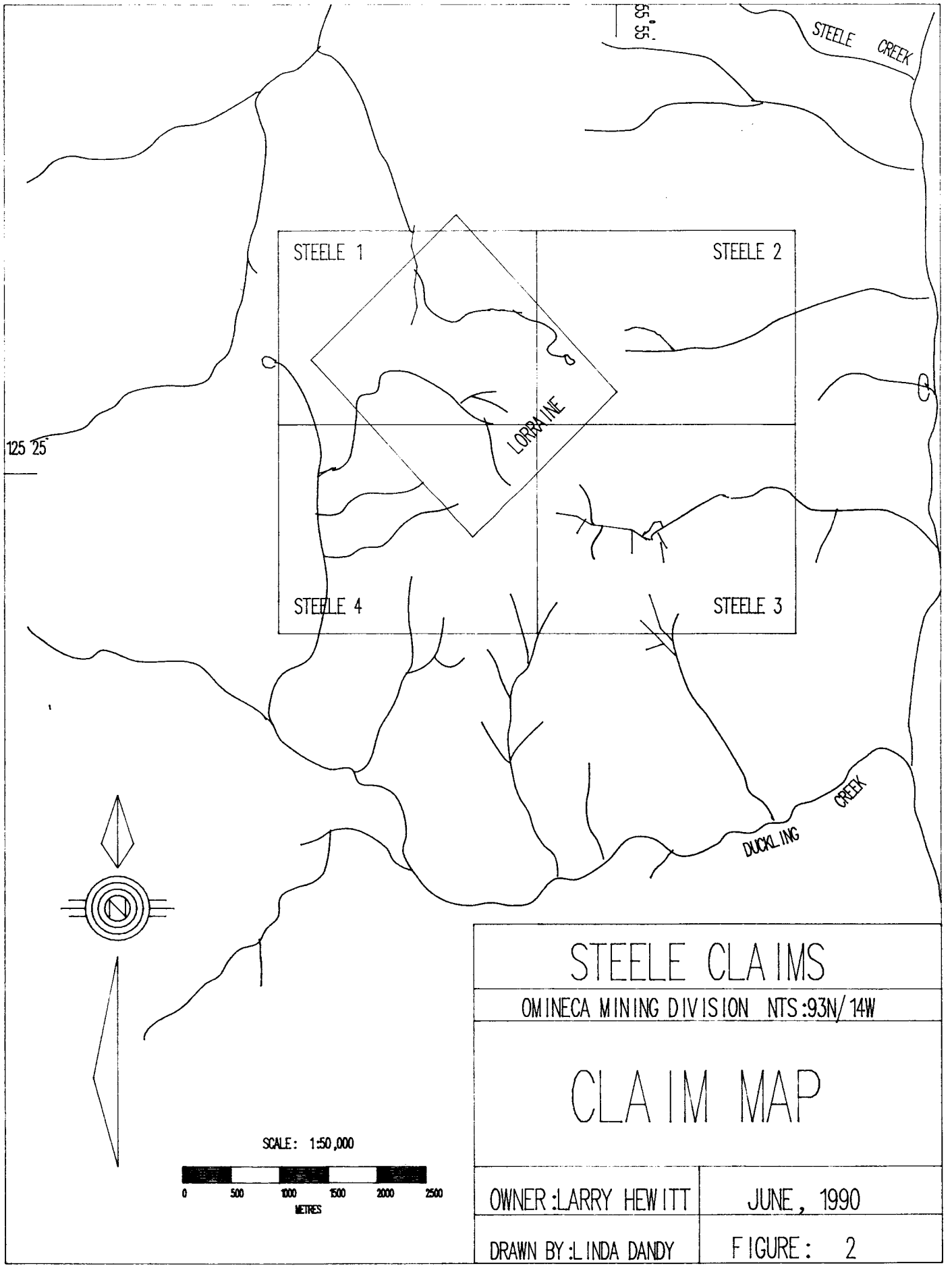
STEELE CLAIMS

OMINECA MINING DIVISION NTS:93N/14W

LOCATION MAP

OWNER:LARRY HEWITT	JUNE 1990
DRAWN BY: L.D.	FIGURE: 1





STEELE CLAIMS

OMINECA MINING DIVISION NTS:93N/14W

CLAIM MAP

OWNER:LARRY HEWITT	JUNE, 1990
DRAWN BY:LINDA DANDY	FIGURE: 2

1.5 WORK DONE BY PLACER DOME INC. IN 1989

The following field work was completed on the Steele Claims by Placer Dome Inc. during the period August 20 to 22 and September 25, 1989:

1) A one day geological traverse, along which 2 soil samples and 6 rock samples were collected.

2) A three day bulk stream sediment sampling programme, with a total of 19 bulk stream sediment samples, 19 silt samples and 2 moss wash samples being collected.

2. GEOLOGY

Geologic mapping of this area was undertaken in 1949 by J.D. Armstrong, and in 1954 by Roots. In 1968, Koo completed a study of the Duckling Creek (Lorraine) syenite complex, and in 1971, Garnett, a geologist with the B.C Ministry of Energy, Mines and Petroleum Resources mapped the region surrounding the Steele Claims (Figure 3), and mapped in detail the Duckling Creek area of the Hogem Batholith. The geological summary which follows has been abstracted from Garnett's report (BCMEMPR Bulletin 70).

The Steele Claims lie mainly within the Duckling Creek Syenite Complex, a K-feldspar-rich phase of the Hogem Batholith containing magmatic, migmatitic, and metasomatic rocks. The complex is an elongated body, approximately 5 kilometres by 32 kilometres, which trends northwesterly through the area. Numerous copper occurrences are found within this complex, and mineralization appears to be genetically related to the syenite intrusion.

Regional mapping of the southern Hogem Batholith has indicated that the major intrusive units were emplaced as a differentiated mass during Late Triassic to Early Jurassic time. The syenitic phase intruded these units during the early Middle Jurassic, and a granitic phase crosscuts all previous units, possibly during the Early Cretaceous period.

Three phases of regionally documented intrusive rocks are represented on the Steele Claims, as shown in Figure 3. Monzonites and diorites of the main Hogem mass occur in the north half of the area. These basic rocks contain clinopyroxene as their dominant mafic constituent, with minor amounts of hornblende annd biotite. Quartz, apatite, sphene, and magnetite are common accessories. In this vicinity, there are numerous orange patches evident within these otherwise fresh grey-black, medium-grained, hypidiomorphic textured rocks. This 'bleaching' increases near the border with the syenite migmatite, and is attributed to potash metasomatism caused by the later syenite intrusion.

Biotite pyroxenites occur as irregular pods and lenses within the Hogem monzonites and diorites, and within the syenite. There is

no similar occurrence of pyroxenite known elsewhere within the southern Hogem Batholith. Field evidence indicates that pyroxenite lenses have shallow to moderately inclined dip directions north and south of the main ridges, occupying the main part of the cirque floors. Along the central ridge area, however, and especially in the mineralized zone of the Lorraine deposit, pyroxenite lenses parallel well-defined steep migmatitic foliations. The pyroxenite within the Hogem intrusives contain euhedral crystals of clinopyroxene and lesser biotite enclosed by interstitial plagioclase. Within the syenite migmatites, pyroxenite lenses have similar textures, but the interstitial material is K-feldspar. In both cases, these rocks appear to have intrusive, cumulative textures.

Pink and black feldspar pyroxenite porphyries occur mainly as mafic-rich borders enveloping pyroxenites, exhibiting coarse porphyroblastic clusters of K-feldspar in a matrix of pyroxene and biotite with interstitial orthoclase. Possibly these porphyries represent sill-like cumulate lenses which developed within the basic differentiating Hogem series in this area, and acted as porous sponges that were easily metasomatized by invading syenite magma, in part creating the porphyries.

There is much variation within the migmatitic syenite, ranging from pink, leucocratic, intrusive textured syenite, to dark grey foliated gneiss. The best mineralization occurs in the more mafic portions. The intrusive appearance of this unit suggests that syenite magma intruded and metasomatized a body of layered monzonite-diorite and pyroxene.

Orthoclase, microcline, and perthite are the major felsic constituents of the syenite, with minor twinned placioclase usually present. In the mafic sections, biotite and clinopyroxene are most common, with accessory amphibole, apatite, sphene, and magnetite. Garnets occur locally as accessory constituents, commonly in light grey migmatites.

All the previouly described units are cut by a fresh holofelsic syenite, which has textures varying from pegmatitic to aplitic. These dykes and sills clearly document a second pulse of syenite intrusion and, although there is rare chalcopyrite associated with them, by far the bulk of the mineralization is spacially related to the syenite migmatites.

Fresh pink holofelsic granites are common in the vicinity of the Steele Claims. These are dykes with mainly north to northeasterly trends and may by controlled by a similarly oriented fracture pattern. These fine to medium-grained dykes cut all previous units, but in some localities, dykes with granite cores grade into coarse-grained syenitic borders. This may indicate a close temporal relationship between the intrusion of holofelsic syenite and holofelsic granite dykes.

Light grey plagioclase feldspar porphyry dykes appear to be the last pulse of intrusive activity in this area. Minor chalcopyrite

mineralization is associated with similar dykes cutting monzonites on the high ridges in the north portion of the property.

Some of the foliated rocks noted regionally within the Duckling Creek syenite body are schistose and paragneissic in appearance, and suggest that some remnants of pre-existing metasedimentary or volcaniclastic material may be included within the magmatitic complex. Although no compelling evidence for intrusion of 'basement' rocks was noted in this area, it still remains a possibility based on evidence elsewhere within the complex.

Three steeply dipping fracture patterns can be distinguished on the property. The strongest pattern is at about 105° and documents the youngest fracture system, crosscutting both the northeast trending dykes and fractures. These fractures (from 050° to 075°) represent the second strongest fracture set, while a weaker maxima occurs at 000°, dipping 60 to 70° to the east.

Faults have been determined by a combination of airphoto interpretation and brecciation noted during prior mapping. Numerous highly fractured zones are apparent, especially within the main mineralized zone of the Lorraine claims. The majority of slickensides in this area show shallow orientations.

Within the Lorraine orebody, the mineralized sections have common criteria, which may also be important for copper mineralization on the Steele Claims. The mineralized zones in the Lorraine deposit all occur within the foliated syenitic migmatites, mainly in the mafic-rich portions.

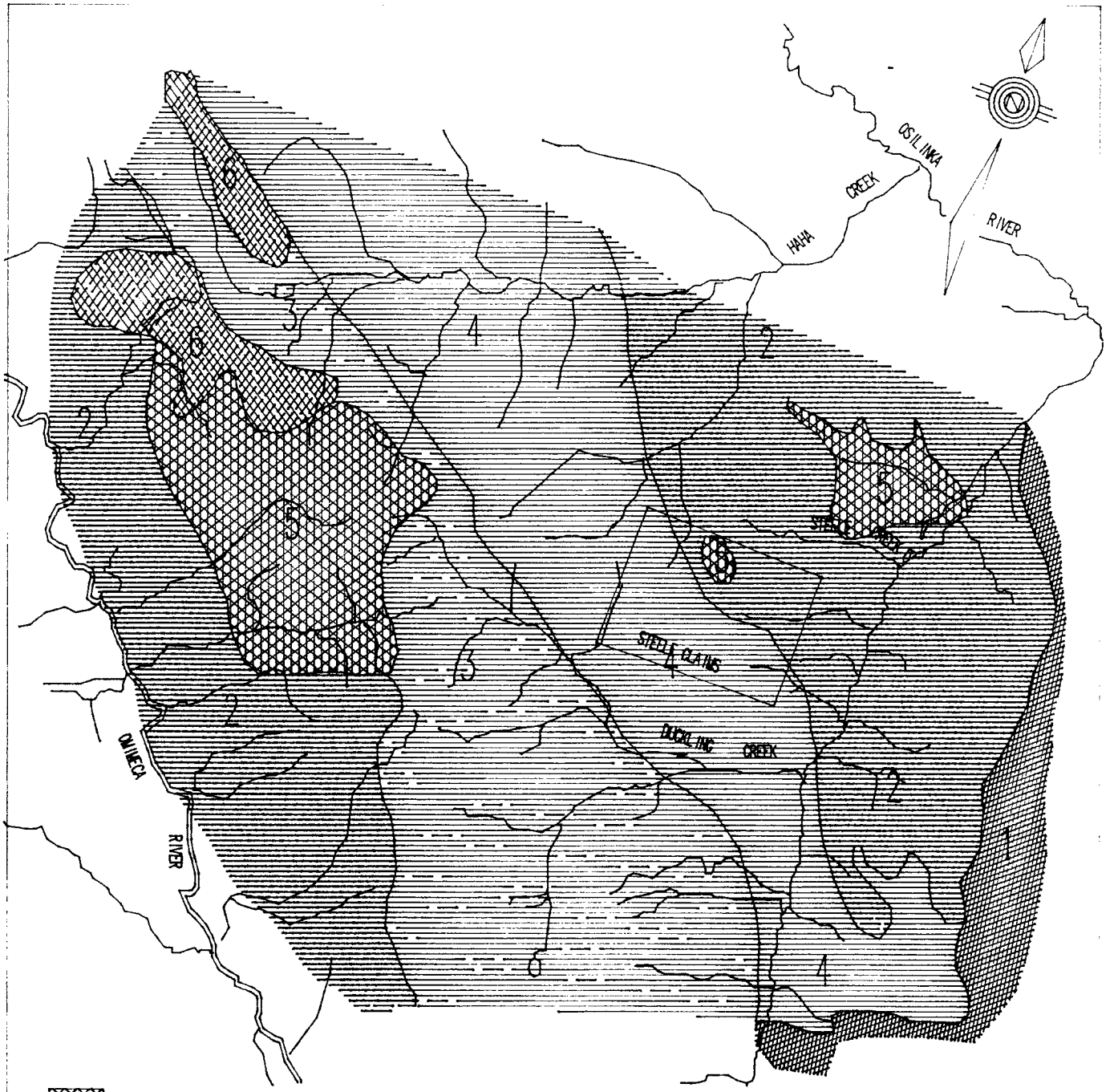
3. GEOCHEMISTRY

3.1 ROCK SAMPLING

3.1.1 SAMPLING AND SAMPLE TREATMENT

A total of 6 rock samples were collected for assay during the course of a one day traverse on the property (Figure 4). Three of the samples were collected from quartz or quartz-carbonate veins, one was from a malachite stained dyke, and two were from pyritic zones.

Sample sites were indicated by orange flagging and the samples placed in labelled plastic bags. The samples were shipped to Placer Dome Inc.'s laboratory in Vancouver for analysis. In the lab, the samples were crushed, split and pulverized to -150 mesh, then analysed for gold and copper using the atomic absorption technique.



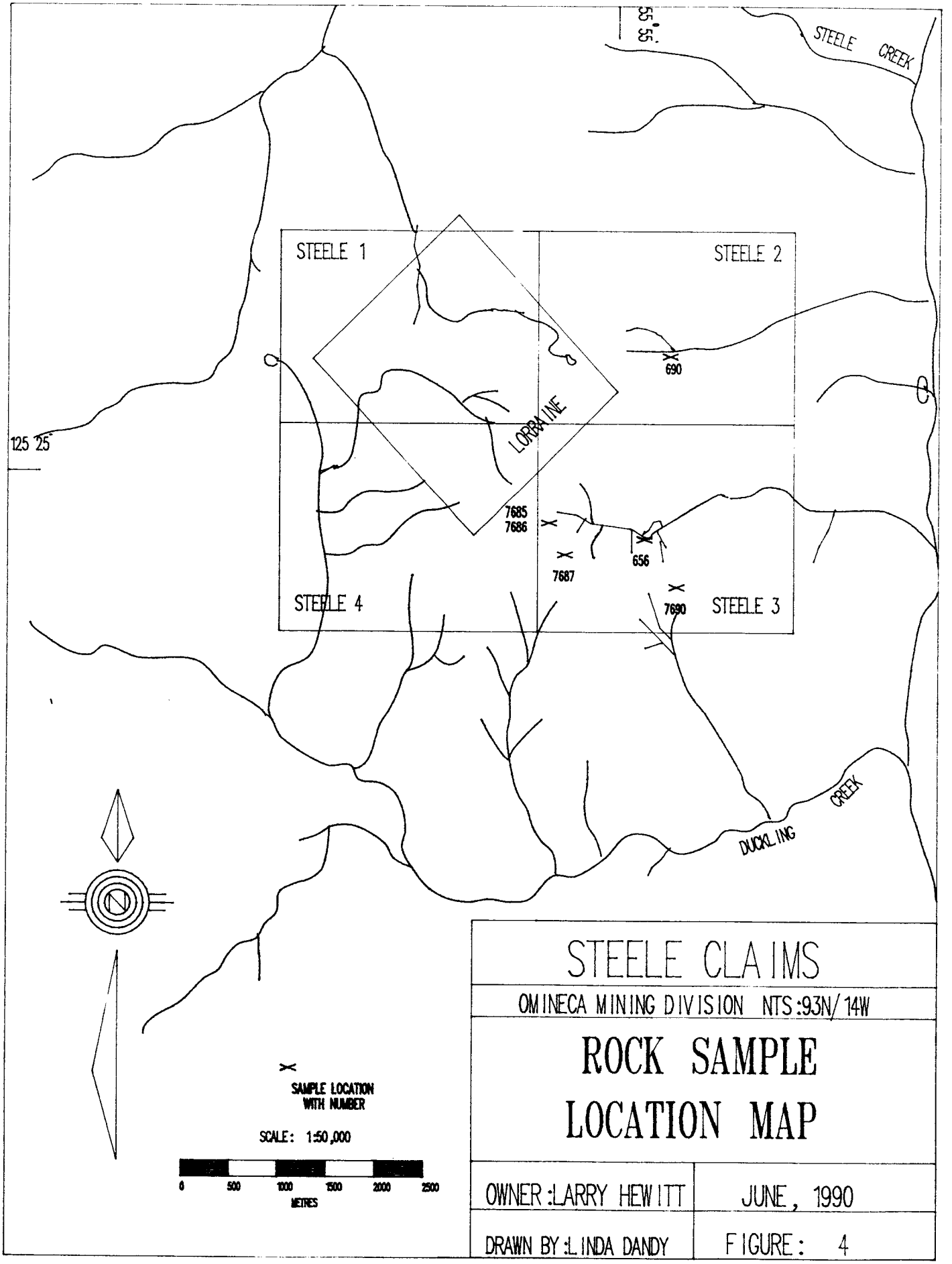
STEELE CLAIMS

OMINECA MINING DIVISION NTS:93N/14W

GEOLOGY MAP

(after Figure 3, BCMEMPR Bulletin 70)

OWNER:LARRY HEWITT	JUNE 1990
DRAWN BY:L.D.	FIGURE: 3



STEELE CLAIMS

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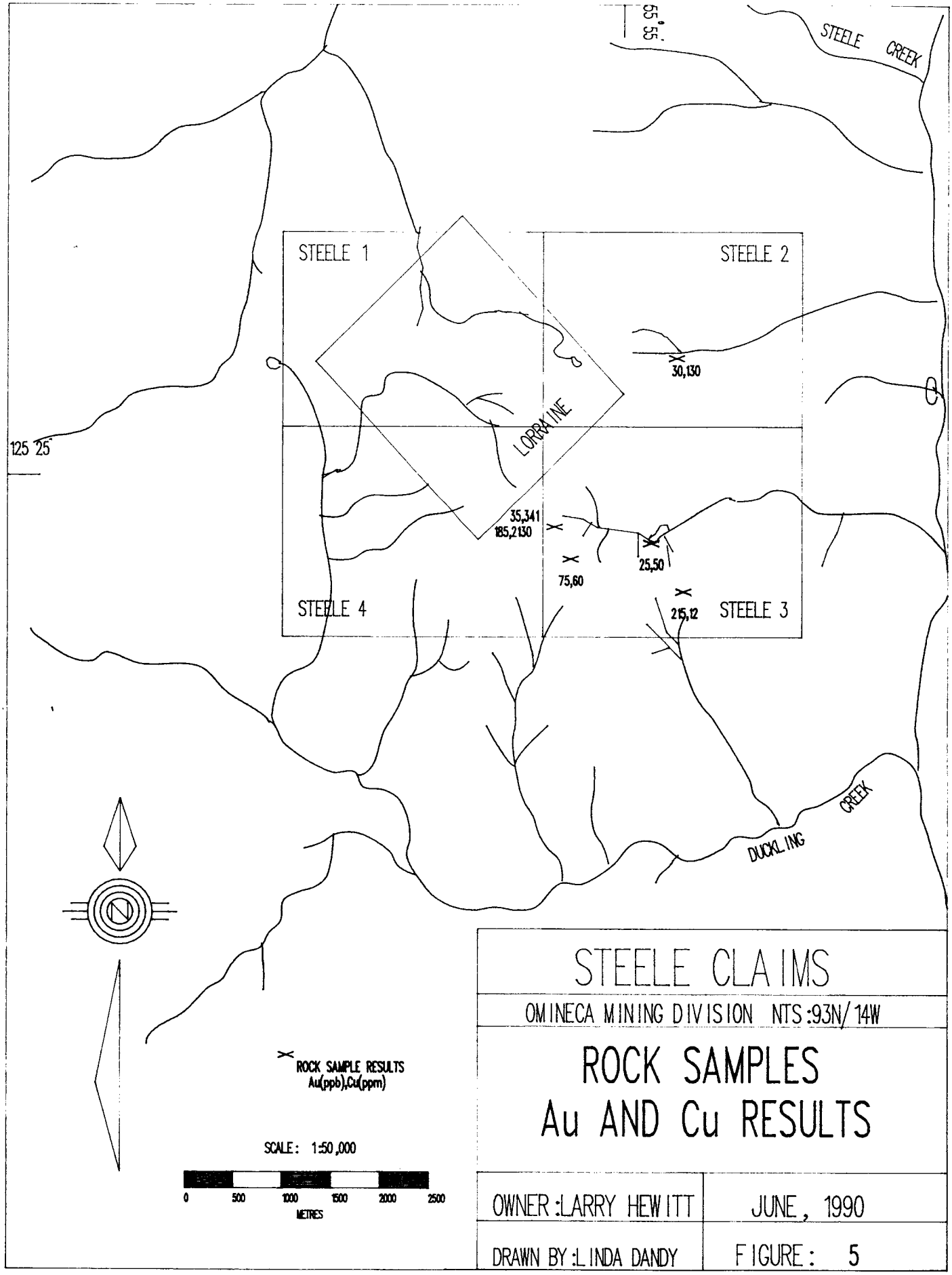
ROCK SAMPLE LOCATION MAP

OWNER: LARRY HEWITT	JUNE, 1990
DRAWN BY: LINDA DANDY	FIGURE: 4



STEELE CLAIMS

OMINECA MINING DIVISION NTS:93N/14W

ROCK SAMPLES
Au AND Cu RESULTS

OWNER:LARRY HEWITT	JUNE, 1990
DRAWN BY:LINDA DANDY	FIGURE: 5

3.1.2 PRESENTATION AND DISCUSSION OF RESULTS

Table II gives a brief description of the grab and chip samples together with the assay results and sample numbers. All of the gold analyses returned anomalous values (up to 215 ppb), and three of the samples returned very high copper values (up to 2130 ppm) (Figure 5). The sample containing the highest gold value was obtained from a pyritic quartz vein, while the highest copper values were from a malachite stained dyke or from pyritic zones. The presence of these anomalies may be related to either locallized high grade gold or copper-gold porphyry mineralization in this area. More detailed rock chip sampling is needed to fully explore the potential of this property.

TABLE II

ROCK SAMPLE RESULTS

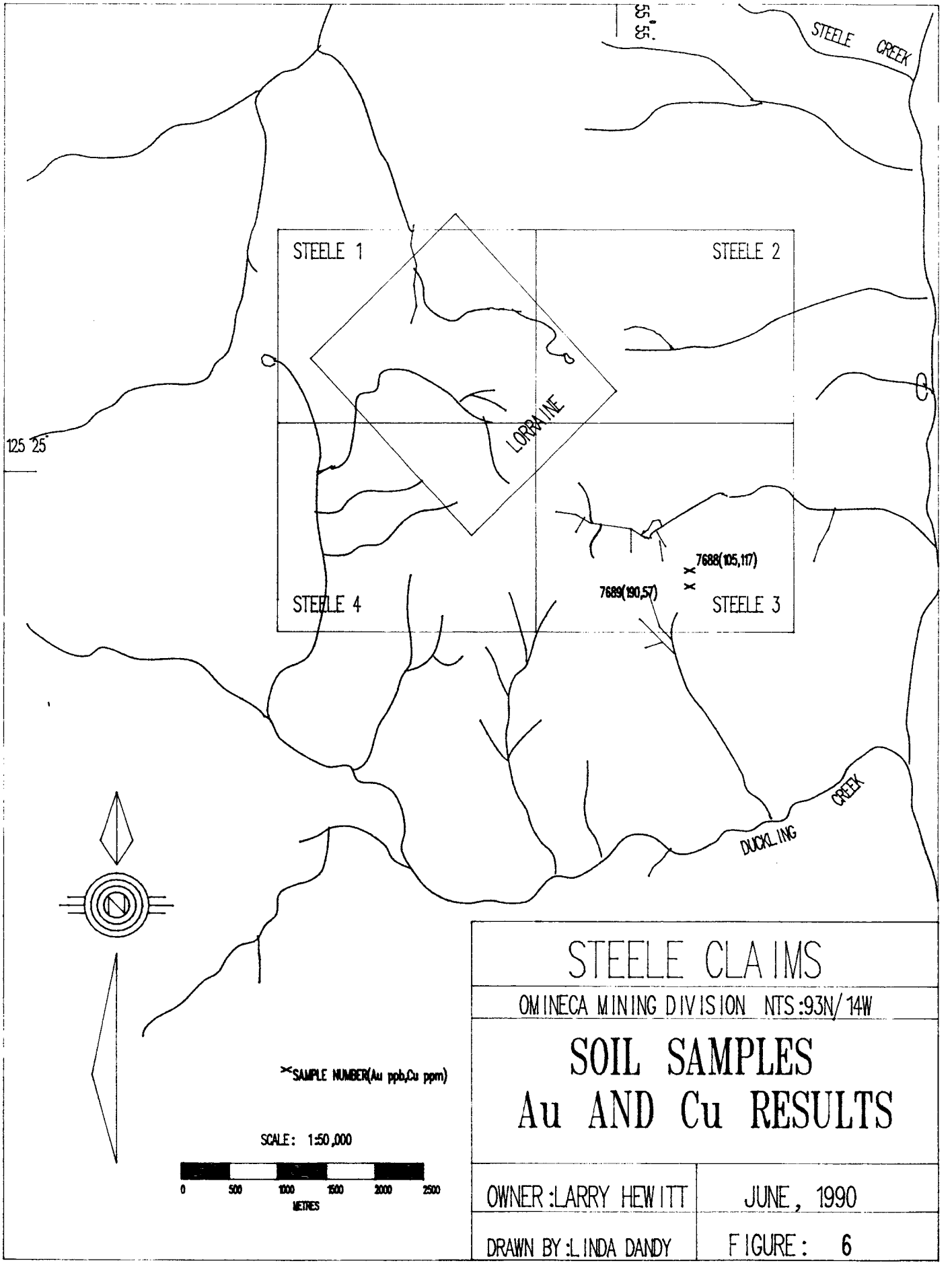
NOTE: L indicates less than

SAMPLE No.	AU (ppb)	CU (ppm)	DESCRIPTION
656	25	50	narrow quartz veins in syenite
690	30	130	diorite with pyrite fracture fillings
7685	35	341	0.5cm wide silicified zone with pyrite in biotite pyroxenite
7686	185	2130	7.0cm wide syenite dyke with malachite stain
7687	75	60	10cm wide quartz-carbonate vein
7690	215	12	quartz vein in limonitic syenite at the margin of a gossanous biotite pyroxenite lense, with trace pyrite

3.2 SOIL SAMPLING

3.2.1 SAMPLING AND SAMPLE TREATMENT

Two soil samples were collected during the one day geological traverse. Soil samples were taken along the base of a gossanous biotite pyroxene lense which contained a quartz vein and trace pyrite, the same location as rock sample 7690. Samples of 0.25 to 0.50 kilograms, were collected from the 'B' soil horizon, with the aid of a mattock, and sample sites were marked with orange flagging. The samples were placed in labelled kraft envelopes and shipped to Placer Dome Inc.'s Laboratory in Vancouver for analysis.



STEELE CLAIMS

OMINECA MINING DIVISION NTS:93N/14W

SOIL SAMPLES
Au AND Cu RESULTS

OWNER:LARRY HEWITT	JUNE, 1990
DRAWN BY:LINDA DANDY	FIGURE: 6

In the laboratory, the samples were oven dried at approximately 50°C and sifted through a -150 mesh sieve. The coarse fraction was discarded and the -150 fraction was analysed for gold, silver, arsenic, copper, lead, molybdenum and zinc by atomic absorption.

3.2.2 PRESENTATION AND DISCUSSION OF RESULTS

Both soil samples gave anomalous gold values (105 and 190 ppb), but gave disappointing values for the other elements, with the exception of low copper (117 ppm) and zinc (132 ppm) values (Figure 6). Rock sample 7690, collected at this same location returned the highest gold value from a rock sample indicating that the anomalous gold in the soils does reflect the bedrock mineralization rather than merely being a function of glacial dispersion.

TABLE III

SOIL SAMPLE RESULTS

NOTE: L indicates less than

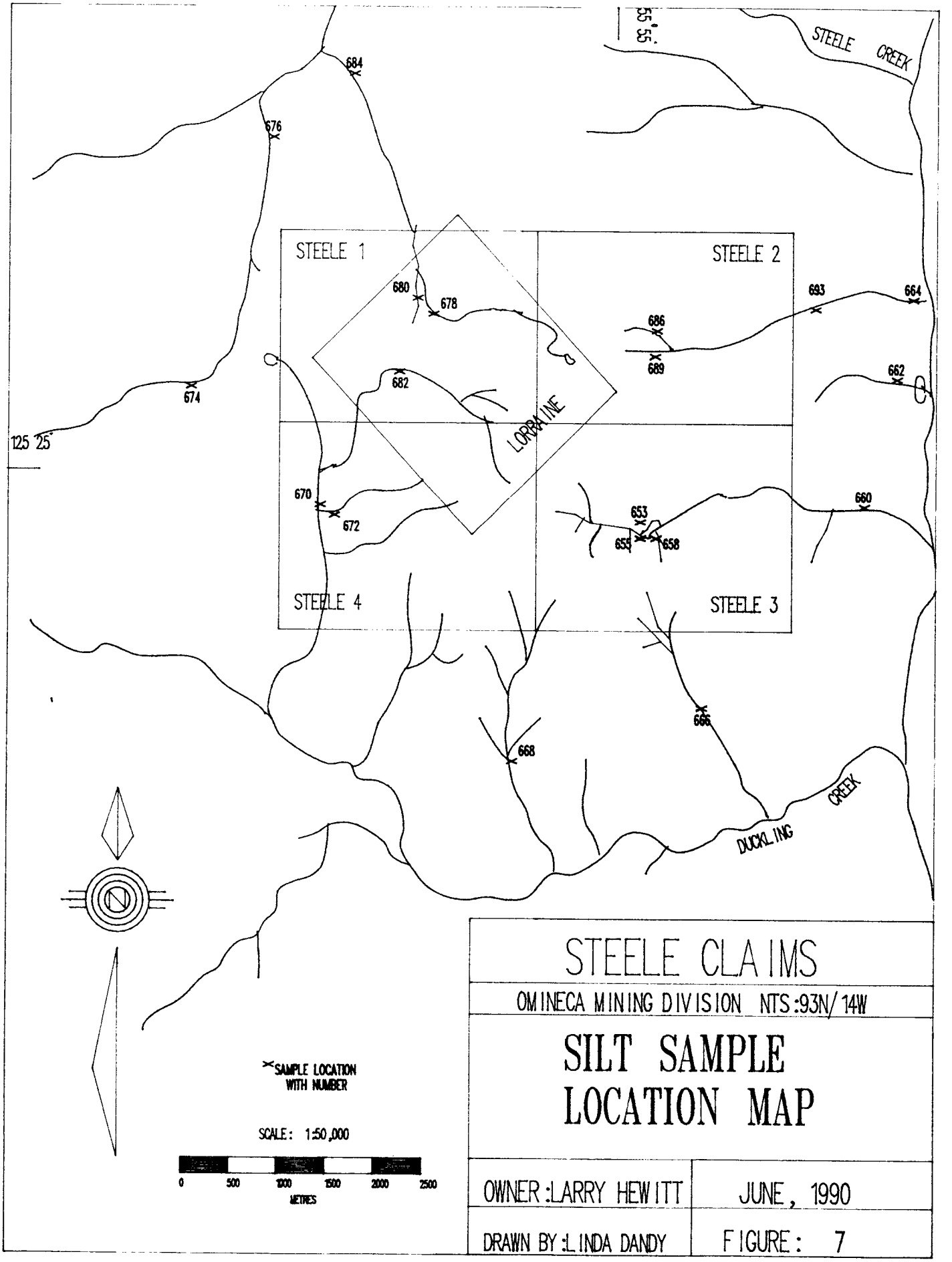
SAMPLE NUMBER	AU (ppb)	AG (ppm)	AS (ppm)	CU (ppm)	MO (ppm)	PB (ppm)	ZN (ppm)
7688	105	0.5	36	117	L1	11	132
7689	190	0.2	L2	57	L1	10	105

3.3 SILT SAMPLING

3.3.1 SAMPLING AND SAMPLE TREATMENT

A total of 19 silt samples were collected during the course of the 1989 sampling programme. Silt samples, along with bulk stream sediment samples, were collected from several of the streams which drain the Steele Claims (Figure 7). In the field, approximately 0.5 kilogram samples were collected in relatively low energy portions of the streams. Sample sites were indicated with labelled orange flagging, and samples were placed in correspondingly labelled kraft envelopes, which were shipped to Placer Dome Inc.'s Laboratory in Vancouver for analysis.

In the laboratory, the samples were oven dried at approximately 50°C, then sifted through a -150 mesh sieve. The coarse fraction was discarded, and the fine fraction was analysed for gold, silver, arsenic, copper, lead, molybdenum and zinc using the atomic absorption technique.

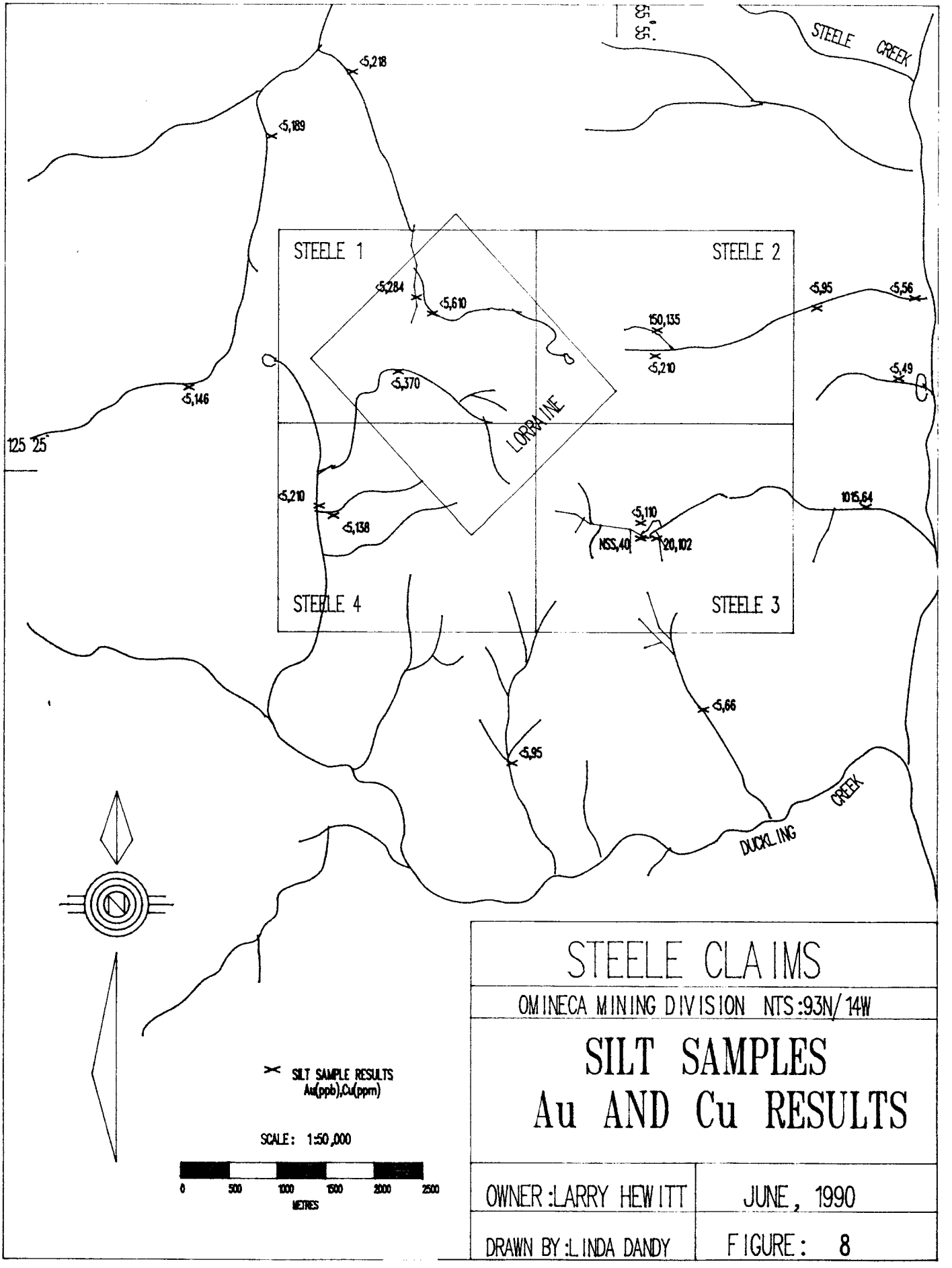


STEELE CLAIMS

OMINECA MINING DIVISION NTS:93N/14W

SILT SAMPLE LOCATION MAP

OWNER: LARRY HEWITT	JUNE, 1990
DRAWN BY: LINDA DANDY	FIGURE: 7



STEELE CLAIMS

OMINECA MINING DIVISION NTS:93N/14W

SILT SAMPLES
Au AND Cu RESULTS

OWNER:LARRY HEWITT	JUNE, 1990
DRAWN BY:LINDA DANDY	FIGURE: 8

3.3.2 PRESENTATION AND DISCUSSION OF RESULTS

Results of the silt sampling programme returned very encouraging copper values (up to 610 ppm), and sporadic gold values (up to 1015 ppb) (Figure 8). Although many of the gold values were below the detection limit of 5 ppb, the highest values were obtained from a creek which drains the eastern portion of the claims, and also drains the area that returned the highest gold values for both rock and soil samples.

Anomalous copper values were obtained from many of the samples. The two highest copper values were from a creeks which drain the ridge hosting the Lorraine orebody. Other anomalous copper values came from streams draining northeast and southwest, both of which have headwaters in the vicinity of the Lorraine orebody.

Porphyry copper mineralization may occur on the Steele claims as an extension of the Lorraine mineralization, but gold mineralization is present in the southeast portion of the claims, and appears to be independant of the previously known copper deposit.

TABLE IV

SILT SAMPLE RESULTS

NOTE: L indicates less than

SAMPLE NUMBER	AU (ppb)	AG (ppm)	AS (ppm)	CU (ppm)	MO (ppm)	PB (ppm)	ZN (ppm)
653	L5	L0.2	L2	110	3	8	73
655	NSS	0.2	9	40	3	8	169
658	20	0.2	L2	102	2	8	97
660	1015	L0.2	L2	64	2	2	41
662	L5	L0.2	L2	49	2	3	44
664	L5	L0.2	3	56	4	3	48
666	L5	L0.2	4	66	1	3	68
668	L5	L0.2	8	95	3	6	52
670	L5	L0.2	L2	210	2	5	74
672	L5	L0.2	L2	138	4	6	118
674	L5	L0.2	L2	146	3	7	123

TABLE IV - continued

SILT SAMPLE RESULTS

NOTE: L indicates less than

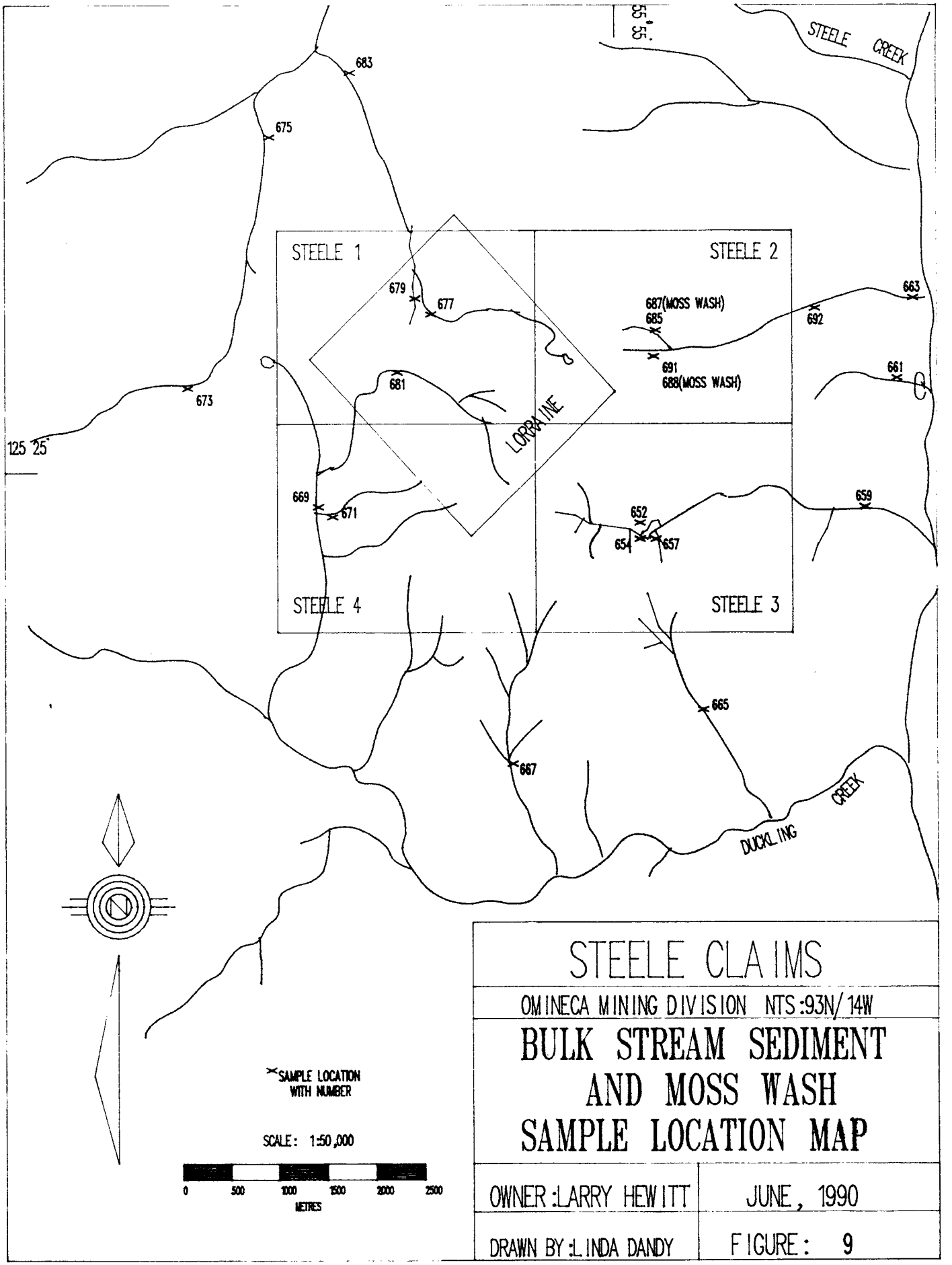
SAMPLE NUMBER	AU (ppb)	AG (ppm)	AS (ppm)	CU (ppm)	MO (ppm)	PB (ppm)	ZN (ppm)
676	L5	L0.2	L2	189	1	6	76
678	L5	0.2	L2	610	2	7	77
680	L5	L0.2	L2	284	3	6	82
682	L5	L0.2	3	370	3	8	90
684	L5	L0.2	L2	218	1	4	85
686	150	0.2	L2	135	2	4	73
689	L5	L0.2	3	210	4	6	64
693	L5	L0.2	L2	95	5	2	50

3.4 BULK STREAM SEDIMENT AND MOSS WASH SAMPLING

3.4.1 SAMPLING AND SAMPLE TREATMENT

A total of 19 bulk stream sediment samples were collected from the same sites as the silt samples, from many of the streams which drain the Steele Claims (Figure 9). At each site, stream gravel was sieved through a -20 mesh screen, with 2 to 3 kilogram samples of finer material being collected. Bulk sediment material was collected to represent not only one season's deposition, but to include several season's stratification in the stream bed, therefore digging deeply in one spot was required. Samples were placed in labelled plastic bags, and sample sites were marked with correspondingly labelled orange flagging. Bulk stream sediment samples were shipped to Placer Dome Inc.'s Laboratory in Vancouver for analysis.

Two moss wash samples were also collected at sites where bulk stream sediment samples were taken. These samples were collected in areas where gravel build up was poor, and therefore the bulk stream sediment samples may not yield representative results for the stream. Moss and lichens which build up on rocks within the stream or along the edges of the stream were collected and thoroughly rinsed into a labelled plastic bag. Samples of approximately 0.5 kilograms were collected in this manner. Sample sites were indicated with orange flagging bearing the sample number, and the moss wash samples were shipped to Placer Dome Inc.'s Laboratory in Vancouver for analysis.

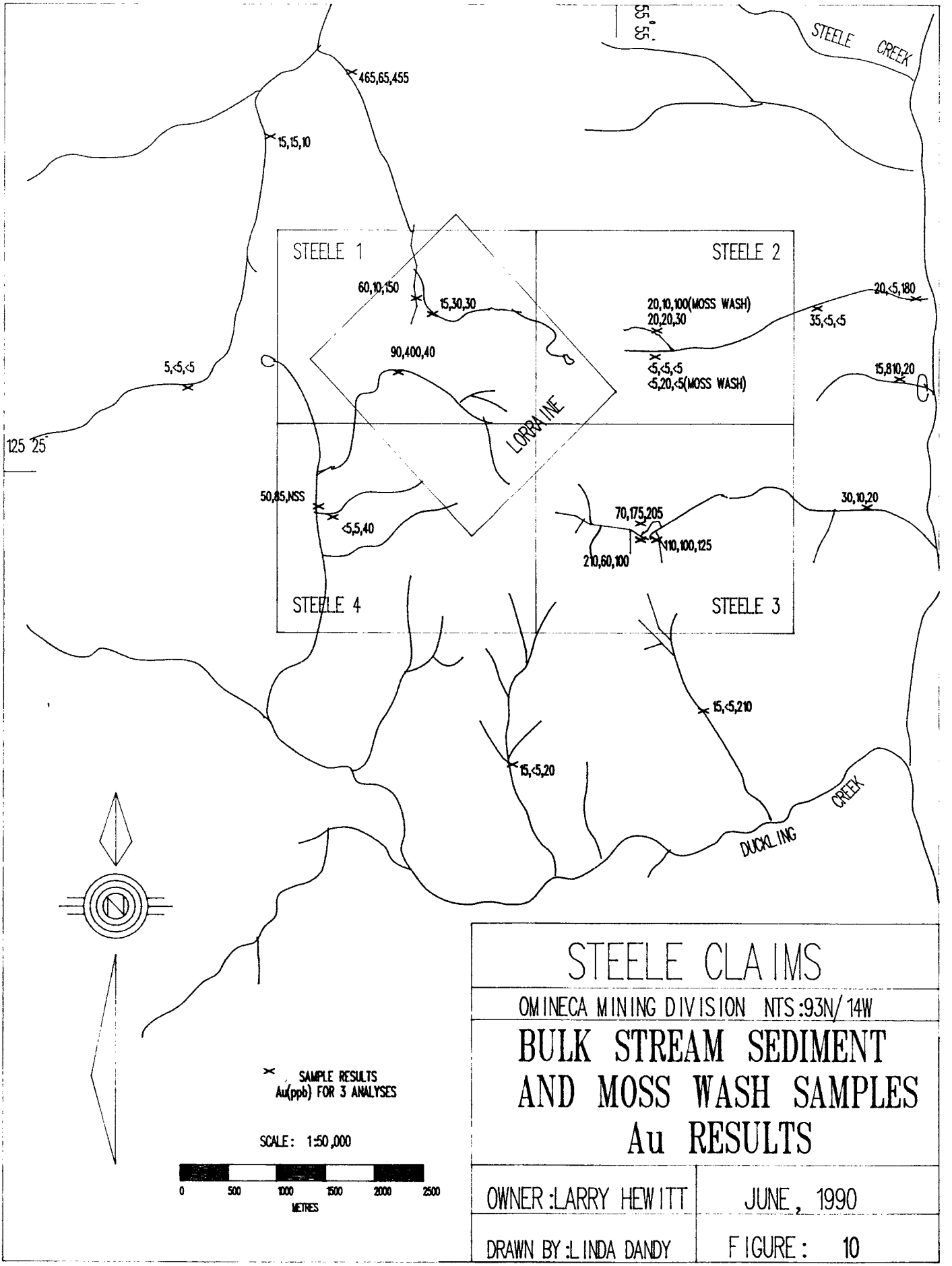


STEELE CLAIMS

OMINECA MINING DIVISION NTS:93N/14W

BULK STREAM SEDIMENT AND MOSS WASH SAMPLE LOCATION MAP

OWNER:LARRY HEWITT	JUNE, 1990
DRAWN BY:LINDA DANDY	FIGURE: 9

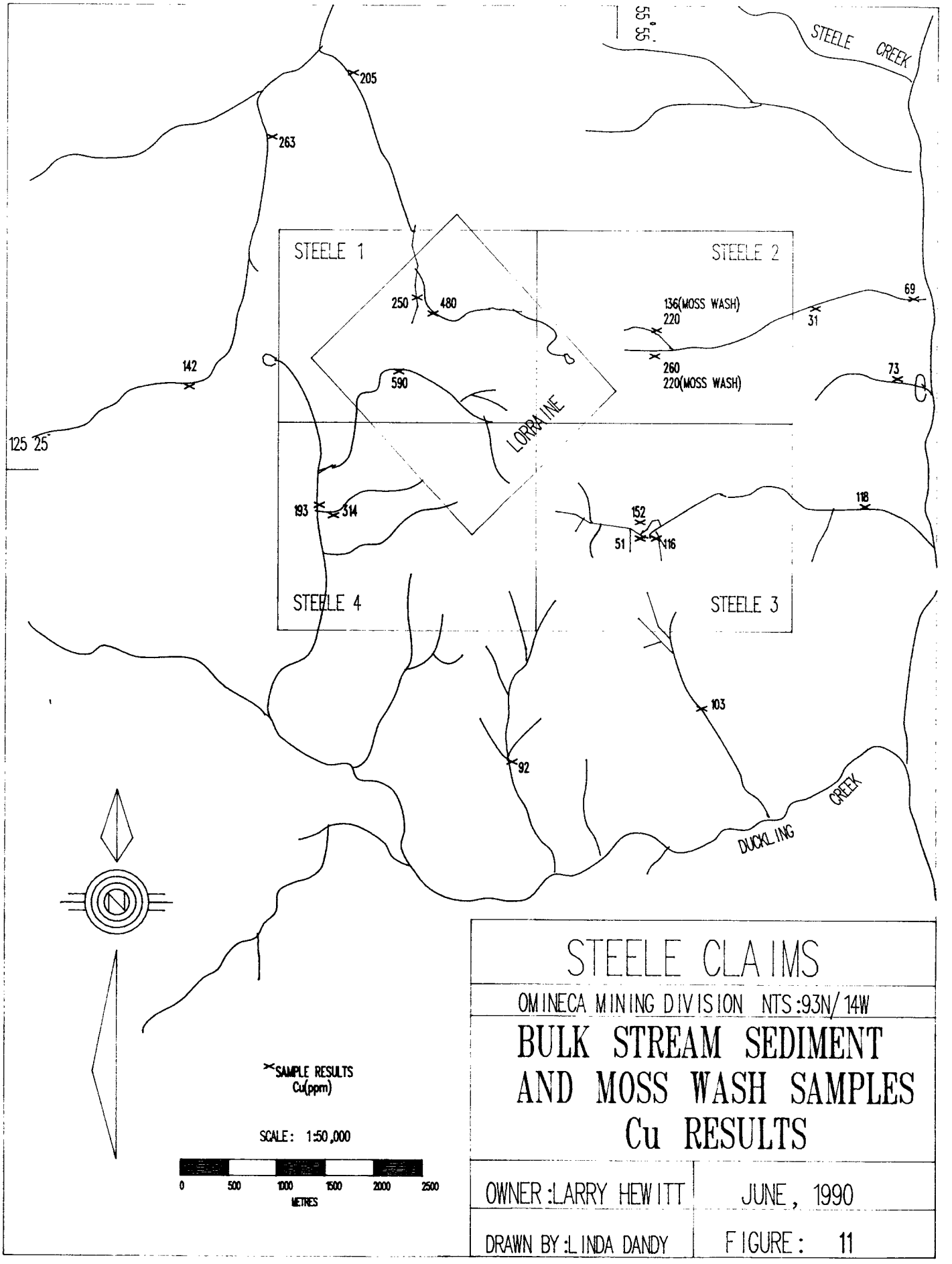


STEELE CLAIMS

OMINECA MINING DIVISION NTS:93N/14W

BULK STREAM SEDIMENT AND MOSS WASH SAMPLES Au RESULTS

OWNER: LARRY HEWITT	JUNE, 1990
DRAWN BY: LINDA DANDY	FIGURE: 10



STEELE CLAIMS

OMINECA MINING DIVISION NTS:93N/14W

BULK STREAM SEDIMENT AND MOSS WASH SAMPLES Cu RESULTS

OWNER: LARRY HEWITT	JUNE, 1990
DRAWN BY: LINDA DANDY	FIGURE: 11

In the laboratory, the bulk stream sediment and moss wash samples were oven dried at approximately 50°C, then sifted through a -150 mesh sieve. The coarse fraction was discarded, and the -150 mesh fraction was analysed for gold, silver, arsenic, copper, lead, molybdenum and zinc using atomic absorption.

3.4.2 PRESENTATION AND DISCUSSION OF RESULTS

Several bulk stream sediment samples returned anomalous values for gold (up to 810 ppb) and copper (up to 590 ppm) (Figure 10). The gold analysis was performed in triplicate, in order to more accurately determine the presence of gold in the samples. The amount of gold obtained in each analysis is quite variable, but the presence of gold in the samples is confirmed.

The highest gold value (sample 661) was obtained from a stream which drains the extreme eastern portion of the Steele Claims, while several other anomalous gold values (from samples 652, 654 and 657) are from the vicinity of the highest gold values from the rock and soil samples, as was seen from the silt sample results as well. Samples 681 and 683, collected from a stream which drains the ridge hosting the Lorraine orebody also returned anomalous gold values.

Several high copper values were returned from the bulk stream sediment sampling programme. Copper anomalies occur in the same sample locations which gave anomalous silt sample results, namely the streams directly draining the Lorraine orebody, and the streams flowing northeast and southwest from the ridge which hosts the Lorraine deposit. These results indicate that the major source for copper mineralization in this area is related to the Lorraine deposit, an extension of which may extend onto the Steele Claims.

The two moss wash samples (numbers 687 and 688) were collected at the same locations as bulk stream sediment samples 685 and 691. The moss wash sample results exhibit very similar values to those from the bulk sediments, except for one of the triplicate gold analyses in sample 687 which returned a value of 100 ppb.

TABLE V

BULK STREAM SEDIMENT AND MOSS WASH SAMPLE RESULTS

NOTE: L indicates less than

SAMPLE NUMBER	AU1 (ppb)	AU-A (ppb)	AU-B (ppb)	AG (ppm)	AS (ppm)	CU (ppm)	MO (ppm)	PB (ppm)	ZN (ppm)
652	70	175	205	L0.2	L2	152	5	12	83
654	210	60	100	L0.2	3	51	2	11	116
657	110	100	125	L0.2	18	116	2	12	94

TABLE V - continued

BULK STREAM SEDIMENT AND MOSS WASH SAMPLE RESULTS

NOTE: L indicates less than

SAMPLE NUMBER	AU1 (ppb)	AU-A (ppb)	AU-B (ppb)	AG (ppm)	AS (ppm)	CU (ppm)	MO (ppm)	PB (ppm)	ZN (ppm)
659	30	10	20	L0.2	2	118	5	7	73
661	15	810	20	0.4	4	73	2	7	47
663	20	L5	180	L0.2	L2	69	2	6	51
665	15	L5	210	L0.2	8	103	L1	7	83
667	15	L5	20	L0.2	12	92	1	9	54
669	50	85	NSS	L0.2	L2	193	3	8	67
671	L5	5	40	L0.2	L2	314	6	7	98
673	5	L5	L5	L0.2	L2	142	2	8	105
675	15	15	10	L0.2	L2	263	L1	8	76
677	15	30	30	0.4	L2	480	1	11	96
679	60	10	150	L0.2	3	250	L1	8	97
681	90	400	40	L0.2	L2	590	6	8	83
683	465	65	455	0.6	L2	205	L1	8	60
685	20	20	30	L0.2	L2	220	L1	6	102
687 (moss wash)	20	10	100	L0.2	L2	136	L1	7	76
688 (moss wash)	L5	20	L5	L0.2	L2	220	3	8	77
691	L5	L5	L5	L0.2	L2	260	4	6	80
692	35	L5	L5	L0.2	L2	31	L1	4	22

4. CONCLUSIONS

Results from the 1989 exploration programme are promising and indicate a good potential for the discovery of economic gold or copper mineralization on the Steele Claims. Important findings of the programme are summarized as follows:

1) The property is known to be underlain by the Duckling Creek syenite complex (a K-feldspar rich phase of the Hogem Batholith). Numerous copper occurrences are found within the magmatic, migmatitic and metasomatic rocks of this complex.

2) Rock samples collected from a mineralized quartz vein in the southeastern portion of the claim block returned anomalous gold values. High copper values were obtained from rock samples which contained pyrite or had malachite stains.

3) Two soil samples were collected in the same location as the rock sample which returned the highest gold value. Both soil samples returned anomalous gold values, low copper and zinc values and disappointing values for other elements. The high gold values indicate that soil sampling in this area reflects bedrock mineralization.

4) Silt samples collected from several streams which drain the property gave anomalous gold and copper values. High gold values appear to be concentrated in the southeastern portion of the claims, while the highest copper values come from the vicinity of the Lorraine deposit.

5) Bulk stream sediment samples were collected from the same location as the silt samples, and also returned high gold values in the southeastern portion of the property and high copper values in the vicinity of the Lorraine deposit.

6) From the geochemical results obtained from this sampling programme, it can be concluded that two independant types of mineralization are present on the Steele Claims. Gold mineralization appears to be related to a pyritic quartz vein located in the southeastern portion of the property. Copper mineralization on the property is related to that which is found in the Lorraine deposit. An extension of the mineralized units in the Lorraine orebody may trend onto the Steele Claims. More work is needed to determine the extent and importance of the mineralization encountered on the property during the 1989 exploration programme.

Respectfully submitted,

L. Dandy, B.Sc., F.G.A.C.

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Black, J.M., 1949; Duckling Creek; B.C. Minister of Mines, Annual Report 1949.

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COST STATEMENT

STEELE CLAIMS
20 - 22 August, 25 September, 1989

PERSONNEL	
PROJECT GEOLOGIST	
7.5 days @ $340/day	$ 2,550.00
JUNIOR GEOLOGIST	
6 days @ $250/day	1,500.00
CONTRACT SAMPLER	
3 days @ $216/day	648.00
ROOM AND BOARD	
6 man-days in Smithers	412.57
9 man-days in Takla Narrows	672.50
SAMPLE SHIPMENTS	108.60
HELICOPTER	
August 20 - 3.0 hours	1,934.70
August 21 - 2.5 hours	1,612.25
August 22 - 2.5 hours	1,612.25
September 25 - 2.2 hours	1,381.60
FIXED WING	
August 20 - Smithers to Takla	250.25
August 22 - Takla to Smithers	250.25
September 25 - Takla to Smithers	220.00
ANALYSES	
2 soils samples	25.80
6 rock samples	83.50
19 silt sediment samples	193.50
19 bulk stream sediment samples	476.43
REPORT PREPARATION	250.00
TOTAL EXPENDITURES	**$14,182.20**

STATEMENT OF QUALIFICATIONS

LINDA DANDY, B.Sc., F.G.A.C.

ACADEMIC

1981	B.Sc. Geology	University of British Columbia
1987	Fellowship	Geological Association of Canada

PRACTICAL

1990	**Contract Geologist** B.C. Ministry of Energy, Mines and Petroleum Resources, Smithers, B.C.
1981 - 1989	**Senior Geologist** Hughes-Lang Explorations Ltd. (formerly Mark Management Ltd.) Hughes-Lang Group, Vancouver, B.C.

1988-1989	**Project Geologist** - geological, geochemical and geophysical surveys, trenching and 30,000 feet of diamond drilling - porphyry Au-Cu-Mo and Au-massive sulphide veins - Iskut River, northwestern B.C.
1987	**Project Geologist** - geochemical and geophysical surveys, and 14,000 feet of diamond drilling - Au-veins, Sn-W-Ag scarns, Cu-Pb-Zn massive sulphides - Atlin and Vancouver Island, B.C.
1986	**Project Geologist** - 12,000 feet of diamond drilling - Au vein mineralization - Atlin, B.C.
1985	**Project Geologist** - geological, geochemical and geophysical surveys and trenching - stratiform and vein type Au and Ag mineralization - Atlin and Kimberley, B.C., Dawson City, Yukon, and Northport, Washington.
1983	**Project Geologist** - geological, geochemical and geophysical surveys, trenching and 4,000 feet of diamond drilling - Au bearing quartz veins - Atlin B.C.
1983	**Geologist** - detailed geological mapping (1:1,000), geochemical and geophysical surveys - Au and Ag bearing quartz veins and shear zones - Atlin and Mackenzie, B.C., Dawson City, Yukon.
1982	**Geologist** - geochemical and geophysical surveys - Cariboo District, B.C. Placer Testing - Gold, Platinum and Iridium - Tulameen River, B.C.
1981	**Geologist** - geological, geochemical and geophysical surveys - Cariboo District, B.C.

APPENDIX A

ROCK SAMPLE RESULTS

PDI GEOCHEM SYSTEM: Data From: BC GEN 1A LORRAINE - ROCK SAMPLES

GRID	SAMPLE			PROJECT	CU PPM
93N14	A		grabs 656	9429	0.005%
93N14	A		grab 690	9429	0.013%
93N14	A		3m 694	9429	0.236%
93N14	A		3.8m 695	9429	0.586%
93N14	A		5m 696	9429	0.784%
93N14	A		5m 697	9429	0.536%
93N14	A		5m 698	9429	1.50%
93N14	A		3m 699	9429	0.944%
93N14	A		5m 700	9429	0.960%
93N14	A		700*	9429	
93N14	A		5m 701	9429	0.506%
93N14	A		5m 702	9429	0.508%
93N14	A		5m 703	9429	0.388%
93N14	A		3m 704	9429	0.230%
93N14	A		4m 705	9429	0.151%
93N14	A		2.5m 706	9429	0.154%
93N14	A	71-14	226-244' 707	9429	0.022%
93N14	A	71-12	140-160' 708	9429	1.04%
93N14	A	71-11	345-360' 709	9429	0.275%
93N14	A		709*	9429	
93N14	A	71-4	120-160' 710	9429	0.480%
93N14	A		2.5m 711	9429	0.271%
93N14	A		grab 712	9429	0.026%
93N14	A		3m 713	9429	0.163%
93N14	A		4m 714	9429	0.032%
93N14	A		2m 715	9429	0.151%
93N14	A		2m 716	9429	0.014%
93N14	A		716*	9429	

END OF LISTING - 28 RECORDS PRINTED Run on: 89:09:05 at 16:36:08

PLI GEOCHEM SYSTEM: Data From: BC GEN IA LORRAINE - ROCK SAMPLES

GRID	SAMPLE	PROJECT		Ag PPM	Au1 PPB	Mo PPM
93N14	A	656	9428	<0.2	25	2
93N14	A	690	9428	<0.2	30	1
93N14	A	694	9428	1.3	100	1
93N14	A	695	9428	3.0	400	4
93N14	A	696	9428	4.4	625	4
93N14	A	697	9428	3.5	450	4
93N14	A	698	9428	7.0	510	4
93N14	A	699	9428	5.0	520	4
93N14	A	700	9428	4.7	220	2
test	STD P1		9428	0.2		53
93N14	A	701	9428	3.0	40	3
93N14	A	702	9428	2.9	250	2
93N14	A	703	9428	2.2	310	2
93N14	A	704	9428	1.9	225	2
93N14	A	705	9428	0.7	35	2
93N14	A	706	9428	0.3	20	2
93N14	A	707	9428	0.3	40	2
93N14	A	708	9428	6.0	425	4
93N14	A	709	9428	2.9	70	2
93N14	A	709*	9428	2.8	70	2
93N14	A	710	9428	2.7	275	4
93N14	A	711	9428	5.0	330	3
93N14	A	712	9428	0.2	30	2
93N14	A	713	9428	0.8	60	1
93N14	A	714	9428	0.3	25	1
93N14	A	715	9428	1.0	100	1
93N14	A	716	9428	<0.2	10	2
93N14	A	716*	9428	<0.2	<5	2
test	STD AU5		9428		455	

END OF LISTING - 29 RECORDS PRINTED Run on: 89:09:01 at 8:07:00

APPENDIX B

SOIL SAMPLE RESULTS

PDI GEOCHEM SYSTEM: Data From: BC GEN 1A STEELE - SOIL SAMPLES

GRID	SAMPLE	PROJECT	Ag PPM	As PPM	Au1 PPB	Cu PPM	Mo PPM	Pb PPM	Zn PPM
93N14	A7688	9558	0.5	36	105	117	<1	11	132
93N14	A7689	9558	0.2	<2	190	57	<1	10	105
93N14	A7689*	9558	0.2	4	50	55	<1	10	107

END OF LISTING - 3 RECORDS PRINTED Run on: 89:10:06 at 11:44:02

APPENDIX C

SILT SAMPLE RESULTS

PDI GEOCHEM SYSTEM: Data From: BC GEN IA LORRAINE – SILT SAMPLES

GRID	SAMPLE		PROJECT	Ag PPM	As PPM	Aul PPB	Cu PPM	Mo PPM	Pb PPM	Zn PPM
93N14	A	653	9431	<0.2	<2	<5	110	3	8	73
93N14	A	655	9431	0.2	9	N5S	40	3	8	169
93N14	A	658	9431	0.2	<2	20	102	2	8	97
93N14	A	660	9431	<0.2	<2	1015	64	2	2	41
93N14	A	662	9431	<0.2	<2	<5	49	2	3	44
93N14	A	664	9431	<0.2	3	<5	56	4	3	48
93N14	A	666	9431	<0.2	4	<5	66	1	3	68
93N14	A	668	9431	<0.2	8	<5	95	3	6	52
93N14	A	670	9431	<0.2	<2	<5	210	2	5	74
93N14	A	670*	9431	<0.2	<2	<5	250	4	5	100
93N14	A	672	9431	<0.2	<2	<5	138	4	6	118
93N14	A	674	9431	<0.2	<2	<5	146	3	7	123
93N14	A	676	9431	<0.2	<2	<5	189	1	6	76
93N14	A	678	9431	0.2	<2	<5	610	2	7	77
93N14	A	680	9431	<0.2	<2	<5	284	3	6	82
93N14	A	682	9431	<0.2	3	<5	370	3	8	90
93N14	A	684	9431	<0.2	<2	<5	218	1	4	65
93N14	A	686	9431	0.2	<2	150	139	2	4	73
93N14	A	689	9431	<0.2	3	<5	210	4	6	84
93N14	A	689*	9431	<0.2	2	<5	191	4	6	76
93N14	A	693	9431	<0.2	<2	<5	95	5	2	59
test	STD PI		9431	0.2	16		22	55	52	110
test	STD AU5		9431			480				

END OF LISTING – 23 RECORDS PRINTED Run on: 89:09:08 at 16:51:26

APPENDIX D

BULK STREAM SEDIMENT AND MOSS WASH SAMPLE RESULTS

PDI GEOCHEM SYSTEM: Data From: BC GEN LA LORRAINE - BULK STREAM SEDIMENT AND MOSS WASH SAMPLES

GRID	SAMPLE		PROJECT	Ag PPM	As PPM	Au1 PPB	Au-A PPB	Au-B PPB	Cu PPM	Mo PPM	Pb PPM	Zn PPM
93N14	A	652	9432	<0.2	<2	70	175	205	152	5	12	83
93N14	A	654	9432	<0.2	3	210	60	100	51	2	11	116
93N14	A	657	9432	<0.2	18	110	100	125	116	2	12	94
93N14	A	659	9432	<0.2	2	30	10	20	118	5	7	73
93N14	A	661	9432	0.4	4	15	810	20	73	2	7	47
93N14	A	663	9432	<0.2	<2	20	<5	180	69	2	6	51
93N14	A	665	9432	<0.2	8	15	<5	210	103	<1	7	83
93N14	A	667	9432	<0.2	12	15	<5	20	92	1	9	54
93N14	A	669	9432	<0.2	<2	50	85	NSS	193	3	8	67
93N14	A	669*	9432	<0.2	2	NSS	NSS	NSS	184	3	8	71
93N14	A	671	9432	<0.2	<2	<5	5	40	314	6	7	98
93N14	A	673	9432	<0.2	<2	5	<5	<5	142	2	8	105
93N14	A	675	9432	<0.2	<2	15	15	10	263	<1	8	76
93N14	A	677	9432	0.4	<2	15	30	30	480	1	11	96
93N14	A	679	9432	<0.2	3	60	10	150	250	<1	8	97
93N14	A	681	9432	<0.2	<2	90	400	40	590	6	8	83
93N14	A	683	9432	0.6	<2	465	65	455	205	<1	8	60
93N14	A	685	9432	<0.2	<2	20	20	30	220	<1	6	102
93N14	A	moss wash 687	9432	<0.2	<2	20	10	100	136	<1	7	76
test	STD PT		9432	0.2	19				23	50	50	113
93N14	A	moss wash 686	9432	<0.2	<2	<5	20	<5	220	3	8	77
93N14	A	691	9432	<0.2	<2	<5	<5	<5	260	4	6	80
93N14	A	692	9432	<0.2	<2	35	<5	<5	31	<1	4	22
93N14	A	692*	9432	<0.2	2	10	<5	<5	30	<1	4	24
test	STD AU5		9432			400	410	425				

END OF LISTING - 25 RECORDS PRINTED Run on: 89:09:07 at 15:21:16