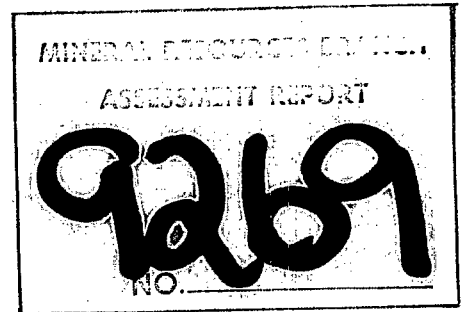


REPORT ON
GEOLOGICAL AND GEOCHEMICAL SURVEYS
by
G.R. Peatfield, P.Eng.

on the
MOOSE 1 MINERAL CLAIM



situated on Moosehorn Creek
in the ^{DMINECA}~~Land~~ Mining Division

57°28'N, 127°13'W
NTS 94E/6E

owned by
TEXASGULF CANADA LTD.

work by
TEXASGULF INC.

June 1981

Vancouver, B.C.

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INTRODUCTION

Location, Access and Terrain

The Moose 1 claim is located east of the Stikine River and north of the Toodoggone River in north-central British Columbia (see Figure 1). The nearest supply and transportation centres are Smithers, 300 km due south, and Watson Lake in the Yukon 300 km to the north.

Access to the claims is by a combination of fixed wing aircraft from Smithers or Watson Lake to the Sturdee Valley Airstrip 30 km southeast of the property, and helicopter thereafter. There is no road access although it has been suggested that the Omineca mining road to the south may be extended into the Toodoggone River area in the future.

The claim is situated at the eastern boundary of the Spatsizi Plateau and covers moderate to steep ridges between the broad valleys of Moosehorn and McClair Creeks (see Figure 2). The major area of interest on the claim is the lower part of a moderate to steep southwesterly exposed mountain slope. Vegetation below 1525 metres consists of spruce, fir and pine forests giving way to extensive willow in the valley bottoms. Above 1525 metres, moss, grasses and alpine flowers predominate. Previously cut lines provide good access through forested ground.

Property History and Definition

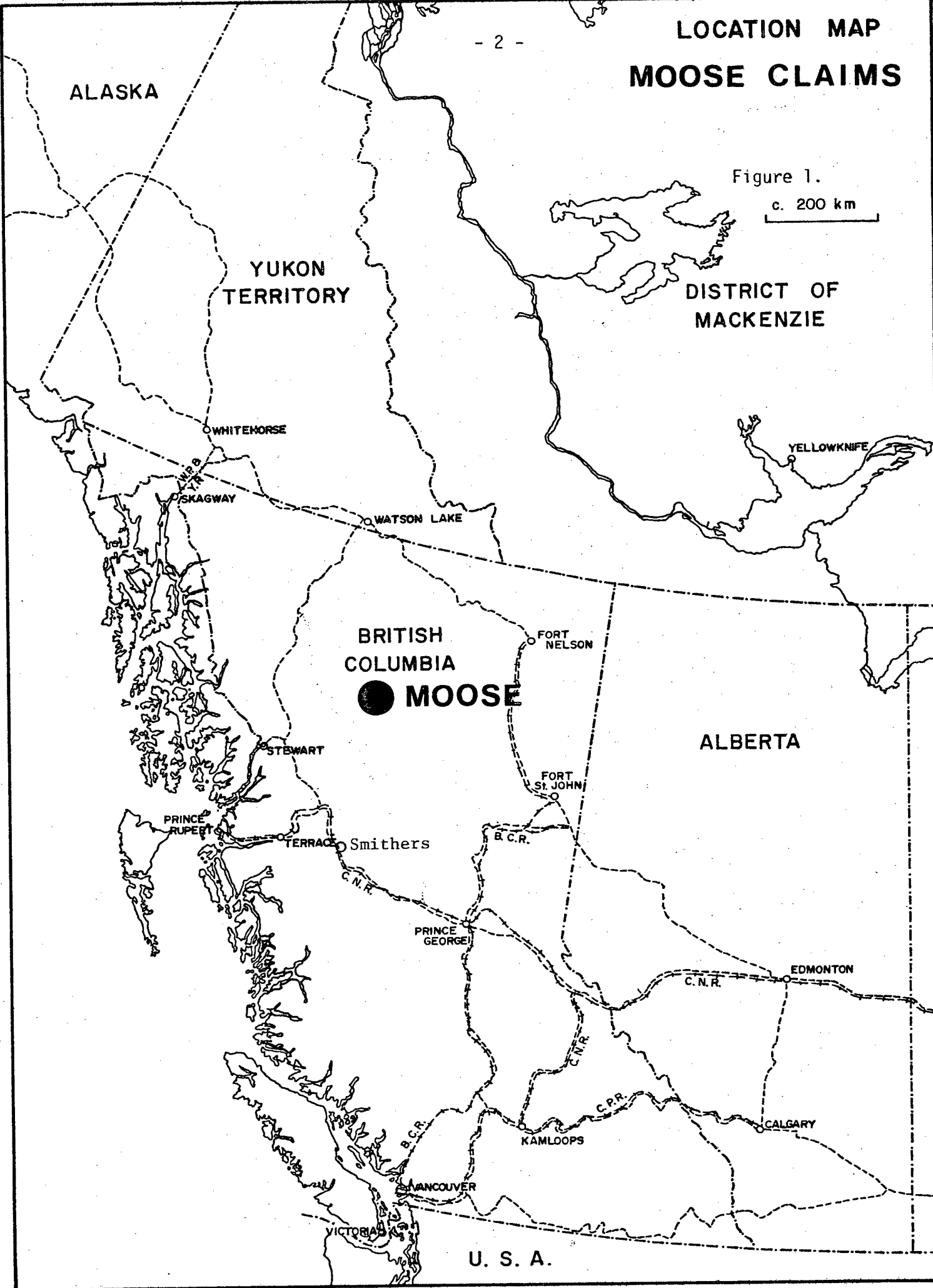
Attention was focussed on McClair Creek in 1931 when Chas. McClair was reported to have taken several thousand dollars worth of gold from placer workings. The ensuing decade saw additional placer work, and some drilling on Oxide Peak to the east.

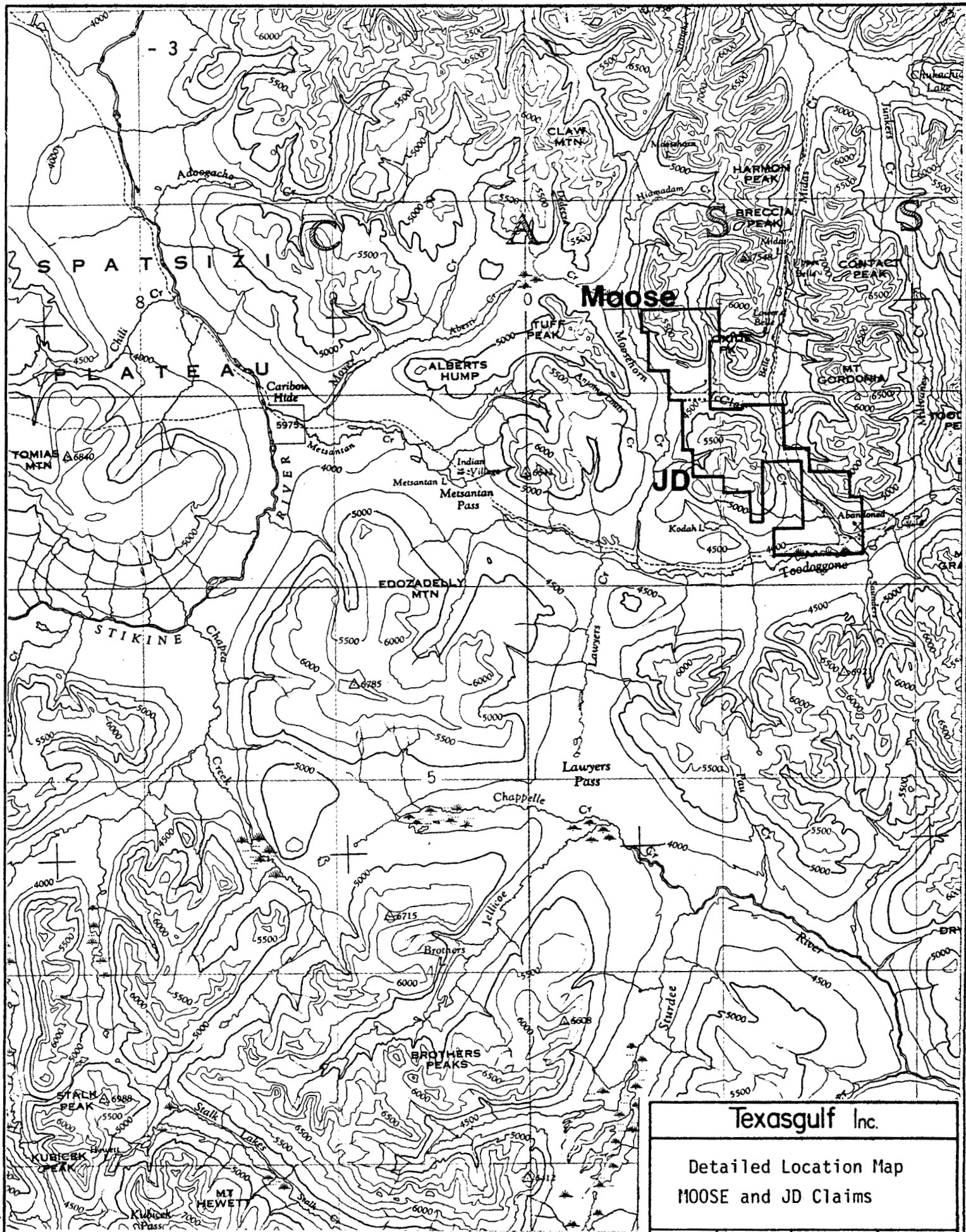
The present property area was originally staked in 1971 to cover showings discovered by Sullivan and Rodgers, consultants, who were undertaking reconnaissance work for Sumac Mines Ltd. Geochemical surveys

LOCATION MAP
MOOSE CLAIMS

- 2 -

Figure 1.
c. 200 km





Map Sheet 94E "Toadoggone River" Figure 2

Texasgulf Inc.

Detailed Location Map
MOOSE and JD Claims

WORK BY	DRAWN BY	DATE	DRWS NO.

2500 0 2500 5000 7500 10,000
Scale in Metres

outlined an area 1500 metres long with anomalous silver, lead, zinc and copper in soils. Subsequent geochemical, geophysical, and geological work in 1972 revealed mineralization of several types and confirmed the previous geochemical anomalies. During 1974, 4 BQ holes totalling 493.2 metres were drilled to test selected I.P. anomalies. However, the results proved inconclusive. The claims were allowed to lapse in 1977, but the area was restaked by Energex and Petra Gem Exploration Ltd. interests in 1979. Work described in the report was carried out by Texasgulf Inc. on behalf of its wholly owned subsidiary Texasgulf Canada Ltd., the current registered owner of the claims. The Moose 1 claim is a portion of a much larger property under investigation at the present time.

Summary of Work Completed

Geological surveys

Fieldwork on the Moose 1 claim took place between June 24th and June 30th. H.R. Schmitt undertook detailed mapping and prospecting while J. Pattison and A.C. Edwards carried out geochemical surveys. Mapping was carried out on a scale of 1:5000 (see Figure 3). A total of 20 rock samples were collected, on the Moose 1 claim, for assay.

Geochemical surveys

A total of 216 soil samples were collected on the Moose 1 claim and analyzed for Cu, Pb, Zn, Au and Ag. Soil samples were collected at 50 metre intervals on chain and compass traverses midway between pre-existing sampled cut lines. All geochemical analyses were carried out by Bondar-Clegg and Co. Ltd. of North Vancouver.

Work Distribution

Work was carried out on the Moose 1 claim and immediately surrounding area; credit is claimed only for work done on the claim.

GEOLOGY

Regional Setting

The Moose Property lies near the eastern margin of a Mesozoic volcanic arc assemblage bounded on the west and south by the Sustut and Bowser basin assemblages and to the east by the Omineca Crystalline Belt. Mapping by Gabrielse, et al. from 1971 - 1975 and a summary by Carter of the geology as understood in 1971 refer to a sequence known informally as the "Toodoggone" volcanic rocks, which underlie much of the region and the property.

Property Geology

The geology of the Moose property was originally mapped at a scale of 1"=400' by T.C. Scott and T. Rodgers in 1972. Present mapping at a scale of 1:5000 corroborated and added to the earlier mapping, defining in greater detail some of the lithological variations. A comprehensive interpretation of the geology is limited above treeline by scarcity of outcrop on most major slopes.

In summary, the claims are underlain by a thick succession of Lower to Middle Jurassic feldspar - hornblende porphyry flows and agglomerates, tuffs and minor breccias intruded locally by basalt dykes. Units are generally thick and continuous, with shallow to moderate dips to the north-east. A broad continuous zone of pervasive silicification and quartz veining with local minor brecciation and shearing is found throughout the major geochemical anomaly area and contains numerous disseminated and vein occurrences of galena, sphalerite, and chalcopyrite.

The following descriptions of rock units are based on 6 days of fieldwork without the benefit of examining thin sections.

Unit 1

Massive green-grey feldspar-hornblende porphyry andesite and latite comprise Unit 1. These rocks occur at lower elevations throughout the property and appear to dip consistently northeastwards. Fine- to medium-grained, subhedral to anhedral feldspar phenocrysts and euhedral hornblendes occur in a fine-grained feldspathic matrix with ubiquitous magnetite, and are generally altered to a mixture of chlorite and epidote with local argillic alteration. Biotite is generally absent. Quartz phenocryst bearing phases are more common throughout the zone of silicification containing pervasive mineralization and local networks of quartz stringers. Peripheral to these areas are small local breccias that may have been tectonically formed.

Unit 2

Unit 2 consists predominantly of massive maroon to grey coloured hornblende-feldspar porphyry flows with lesser trachyte, dacite and minor breccia lenses. These rocks generally overlie Unit 1 at higher elevations, however, the contact is poorly defined where the rocks approach textural and lithological similarity with the older Unit. Medium-grained subhedral to euhedral hornblende and feldspar phenocrysts occur in a fine-grained feldspathic matrix with ubiquitous magnetite. The oxidation of magnetite causes a pervasive maroon colouration. These rocks include minor breccia and agglomerate phases in addition to locally distinguishable fine-grained flows of more acid(?) composition.

Unit 3

Unit 3 is represented by a small dyke of presumed syenitic to monzonitic composition, with maroon coloured hornblende and lesser amounts of quartz and magnetite. The intrusive is probably coeval with the surrounding volcanic rocks.

Unit 4

Maroon tuffaceous agglomerate is found as a major unit occurring at the boundary of Unit 1 and 2, although it is locally contained entirely within the latter. Hematitic clasts up to 50 cm in size, but more commonly less than 15 cm diameter are primarily made up of feldspar-hornblende porphyry with a significant tuffaceous component in the matrix. Where the agglomerate crops out near the top of a prominent ridge known as the 'Spire', a 1-2 metre wide carbonate vein bounded by pinkish-coloured vuggy quartz occurs. Wispy quartz bands within the coarsely crystalline carbonate exhibit contortions. The vein extends continuously for over 6 metres on surface. A few traces of grey sulphide thought to be tetrahedrite, because of minor malachite staining, were noted at the quartz-carbonate interface.

Unit 5

Basalt dykes of Unit 5 are found predominantly within Unit 2 but occur throughout the property. They are generally vertical and average 1 metre in width.

Structure

The sequence of volcanic rocks appears to strike predominantly north-northwest with a moderate dip to the northeast. Some faulting has offset certain units. The most important structural component is an extensive zone of vertical shearing and fracturing extending from southeast to northwest throughout the central grid area. This zone is presumed to be related to a regional fault or shear that extends from McClair Creek northwest up Moosehorn Creek.

Mineralization

Mineralization on the property is of two major types. Disseminated and vein-type occurrences of sphalerite, galena, pyrite and chalcopyrite were found both individually and together. Typically, quartz, or less

commonly carbonate, vein-hosted mineralization has a peripheral zone of disseminated base metal mineralization surrounded by weak to moderate (locally 15%) pyritization. Concentrated zones of 1 mm to 2 cm wide sub-parallel mineralized veins occur predominantly within sheared, silicified and chlorite (minor epidote) altered feldspar-hornblende porphyry flows. Often this altered host rock contains ubiquitous quartz phenocrysts up to 2 cm across.

Mineralization occurs as discrete grains or discontinuous blebs of sphalerite and galena with lesser amounts of chalcopyrite in veinlets. Selected grab samples assayed as follows:

<u>Sample No.</u>	<u>Pb%</u>	<u>Zn%</u>	<u>Cu%</u>	<u>Ag gm/tonne</u>
18709	2.8	2.8	0.27	19.54
18710	1.76	2.85	0.02	11.6
18712	7.0	1.95	0.02	313.72

Sample 18709 represents a number of grab samples taken from the trench on L 24E and is typical of the vein-type mineralization within the silicified zone described above. Sample 18710 is found northwest of the same trench and represents a continuous 1 metre sample taken across the presumed strike of the sheared volcanic rocks. Sample 18712 occurs to the west of sample 18709 and at lower elevation and represents a piece of quartz-galena-sphalerite veined float collected in a 50 metre wide open meadow. Numerous other silicified and mineralized boulders up to 1 metre across were present.

GEOCHEMISTRY

A total of 216 soil samples were collected on the Moose 1 claim and shipped to Bondar-Clegg and Co. Ltd. of North Vancouver, for analysis. Distribution of soil samples is shown on Figure 4a. The minus 80 mesh fraction of the soil was analysed for Pb, Zn, Cu, Au and Ag.

A summary of the extraction and analytical techniques is as follows:

<u>Elements</u>	<u>Extraction</u>	<u>Method of Analysis</u>
Cu, Pb, Zn, Ag	Hot Lefort Aqua Regia	Atomic absorption
Au	Fire assay and hot Aqua Regia	Atomic absorption

The results of all geochemical analyses are plotted in Figure 4b - 4f, and shown graphically in the appropriate histograms. The results of geochemical surveys carried out by Sumac in 1971 and 1972 are also displayed. Detailed contouring of anomalous zones was undertaken by combining both sets of data, with the exception of gold, where the accuracy of the earlier analyses is in question.

The 1980 sampling programme corroborated the earlier survey data by showing a strong anomalous trend in Pb, Zn, and Ag. Contouring of zinc values delineated a broad zone 500 metres wide and over 1,500 metres long with numerous values greater than 4,000 ppm. The uphill (northeastern) boundary shows a steep gradient to background compared to the downhill (southwestern) boundary, suggesting that the actual mineralized zone may be more confined than the anomaly indicates by virtue of downslope dispersion.

Anomalous lead values have a distribution similar to those of zinc, although more confined in width, with the zone averaging 150 to 400 metres wide. One of the anomalous areas has several samples assaying greater than 800 ppm, with the highest being 12,300 ppm. Contoured silver values, like zinc, display an extensive anomalous zone with several highs up to 25.5 ppm. Conversely, samples anomalous in copper or gold are few and irregularly distributed.

In summary, soil sampling to date has outlined an extensive area containing significant values in lead, zinc and silver, coincident with observed widespread disseminated and vein-type mineralization. The extent and strength of the anomalies suggest that additional mineralization of a similar or more substantial nature may exist.

G. R. Peatfield
G.R. Peatfield, P.Eng.

11/06/81

BIBLIOGRAPHY

CARTER, N.C. 1972. Toadoggone River Area. in Geology, Exploration and Mining in British Columbia 1971. British Columbia Department of Mines and Petroleum Resources, Victoria, pp. 63-64.

GABRIELSE, H., DODDS, C.J., AND MANSY, J.L. 1975. Geology - Toadoggone River (94E). Geological Survey of Canada, Open File 306.

APPENDIX A

Statement of Qualification

STATEMENT OF QUALIFICATION

H.R. Schmitt - Geologist

H.R. Schmitt obtained his B.Sc. degree in Geology from the University of British Columbia in 1977. He has been employed in a variety of positions by Texasgulf, for summer seasons from 1975, and was continuously employed by the Company from April 1978 to Sept. 1979. He is presently enrolled in post-graduate studies at U.B.C.

G.R. Peatfield
11/06/81

APPENDIX B

Statement of Expenditure

STATEMENT OF EXPENDITURES

MOOSE 1 CLAIM

SALARIES AND FRINGE BENEFITS - TEXASGULF INC.

H.R. Schmitt - Geologist Period June 24-30, 6 days @ \$90	540.00	
A.C. Edwards - Assistant Period June 24-30, 7 days @ \$40	280.00	
J. Dartison - Assistant Period June 24-30, 7 days @ \$40	<u>280.00</u>	
	1,100.00	1,100.00

ROOM AND BOARD

30 man-days @ \$30/day		600.00
------------------------	--	--------

HELICOPTER

Viking Helis (invoice)		268.15
------------------------	--	--------

ANALYTICAL COSTS

Soil geochemistry - 216 samples @ \$8.65	1,868.40	
2 assays @ \$26.00	312.00	
3 assays @ \$ 9.50	<u>76.00</u>	
	2,256.40	2,256.40

REPORT PREPARATION

Photocopying, reproductions, maps, etc.	400.00	
G.R. Peatfield, P.Eng. 1 day @ \$180	180.00	
H.R. Schmitt - Geologist 4 days @ \$90	<u>360.00</u>	
	940.00	<u>940.00</u>
		<u>5,164.55</u>

G. R. Peatfield
11/06/81

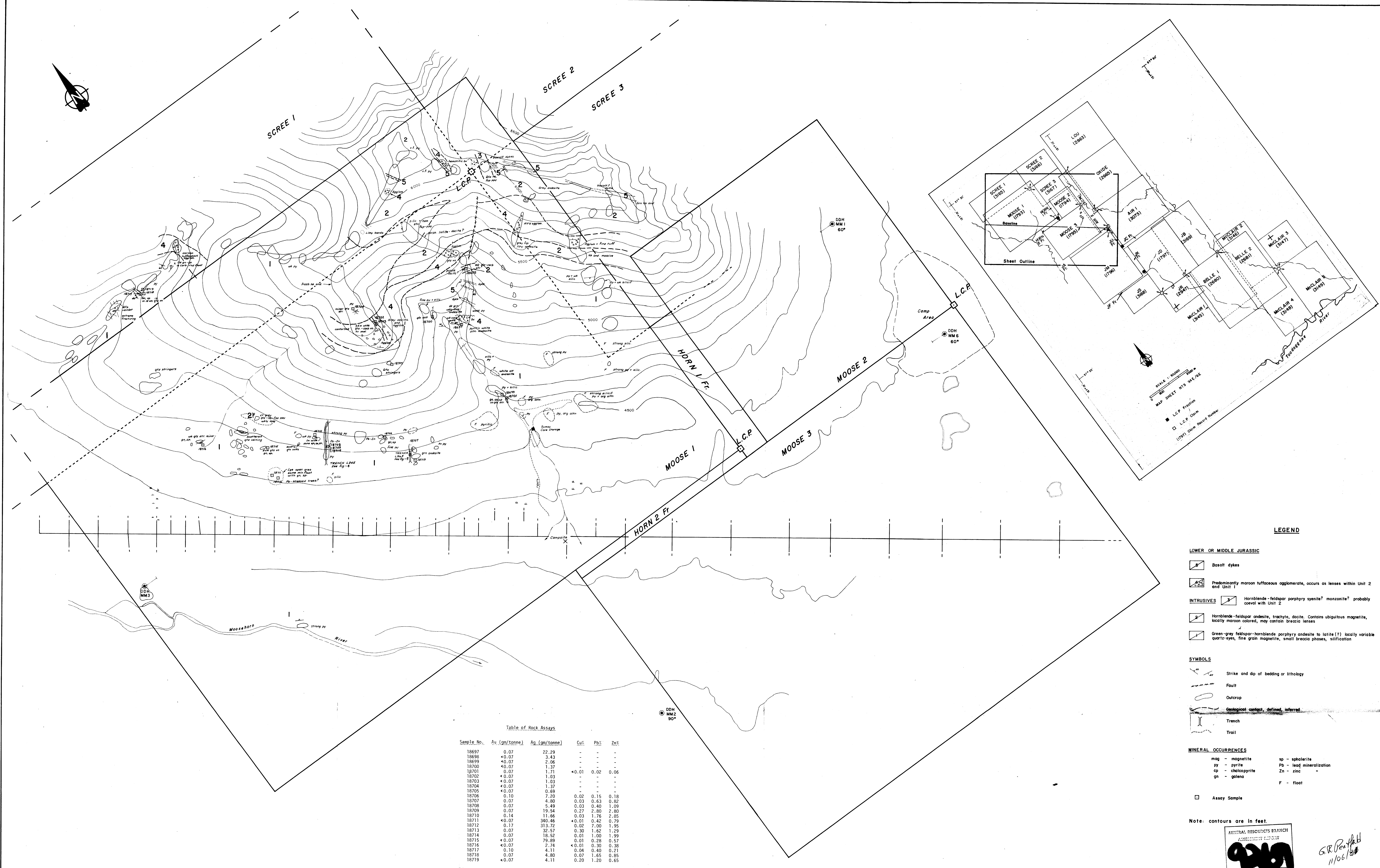
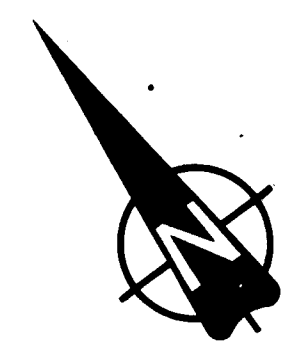


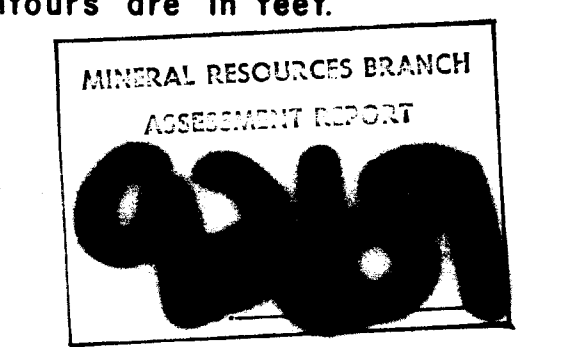
Table of Rock Assays

Sample No.	Au (gm/tonne)	Ag (gm/tonne)	Cu%	Pb%	Zn%
18697	0.07	22.29	-	-	-
18698	<0.07	3.43	-	-	-
18699	<0.07	2.06	-	-	-
18700	<0.07	1.37	-	-	-
18701	0.07	1.71	<0.01	0.02	0.06
18702	<0.07	1.03	-	-	-
18703	<0.07	1.03	-	-	-
18704	<0.07	1.37	-	-	-
18705	<0.07	0.89	-	-	-
18706	0.10	7.20	0.02	0.15	0.18
18707	0.07	4.80	0.03	0.63	0.82
18708	0.07	5.49	0.03	0.40	1.09
18709	0.07	19.54	0.27	2.80	2.80
18710	0.14	11.66	0.03	1.76	2.85
18711	<0.07	340.46	<0.01	0.42	0.79
18712	0.17	313.72	0.02	7.00	1.95
18713	0.07	32.57	0.30	1.62	1.29
18714	0.07	18.52	0.01	1.00	1.99
18715	<0.07	79.89	0.01	0.28	0.57
18716	<0.07	2.74	<0.01	0.30	0.38
18717	0.10	4.11	0.04	0.40	0.21
18718	0.07	4.80	0.07	1.65	0.85
18719	<0.07	4.11	0.20	1.20	0.65

LEGEND

- LOWER OR MIDDLE JURASSIC**
- Basalt dykes
 - Predominantly maroon tuffaceous agglomerate, occurs as lenses within Unit 2 and Unit 1
- INTRUSIVES**
- Hornblende-feldspar porphyry syenite? monzonite? probably coeval with Unit 2
 - Hornblende-feldspar andesite, trachyte, dacite. Contains ubiquitous magnetite, locally maroon colored, may contain breccia lenses
 - Green-gray feldspar-hornblende porphyry andesite to latite (?) locally variable quartz-eyes, fine grain magnetite, small breccia phases, silification
- SYMBOLS**
- Strike and dip of bedding or lithology
 - Fault
 - Outcrop
 - Geological contact, defined, inferred
 - Trench
 - Trail
- MINERAL OCCURRENCES**
- mag - magnetite
 - py - pyrite
 - cp - chalcopyrite
 - gn - galena
 - sp - sphalerite
 - Pb - lead mineralization
 - Zn - zinc
 - F - float
- Assay Sample

Note: contours are in feet.



Note: Geology modified after T. Rodgers

Figure 3

Texasgulf Inc.

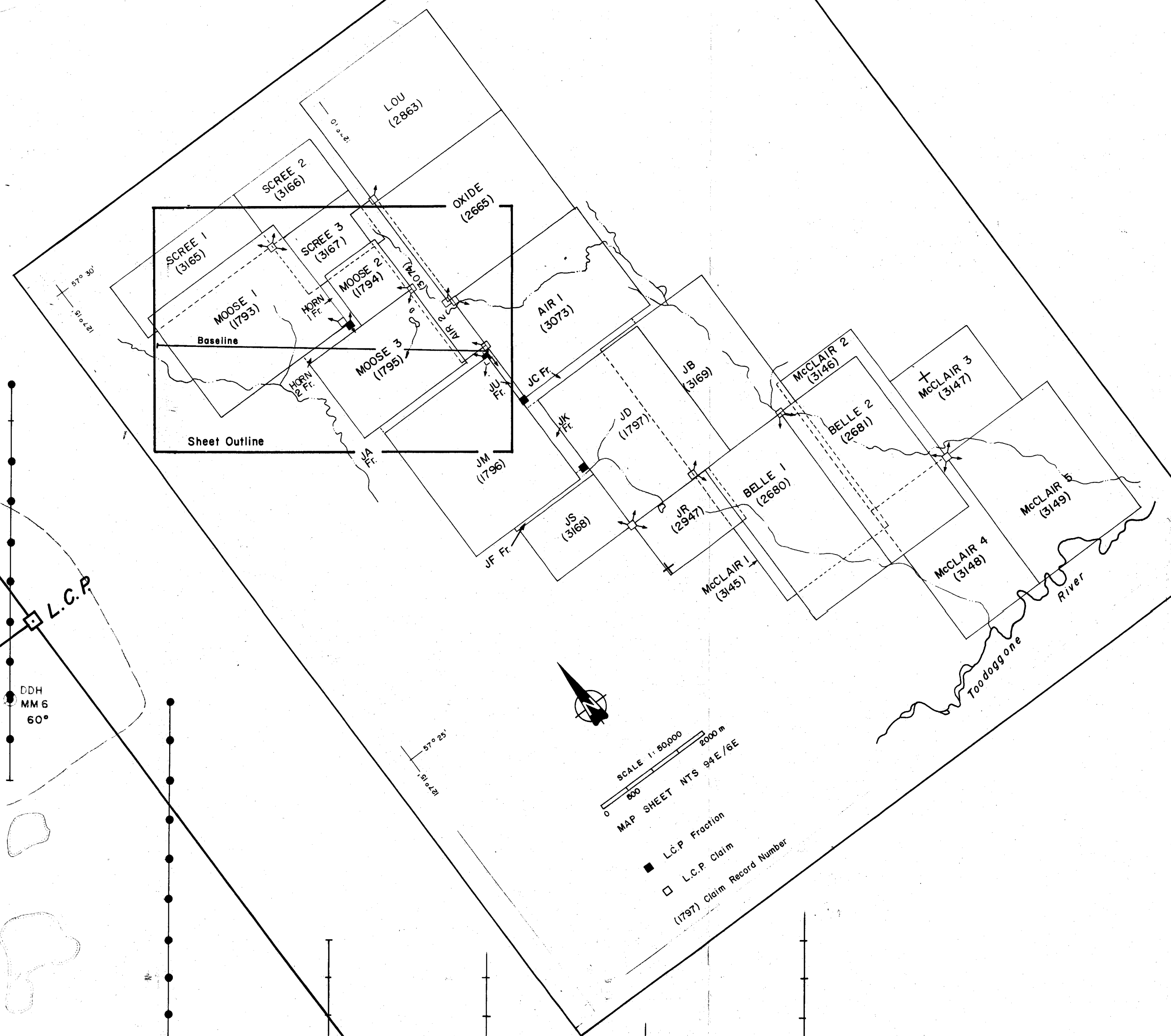
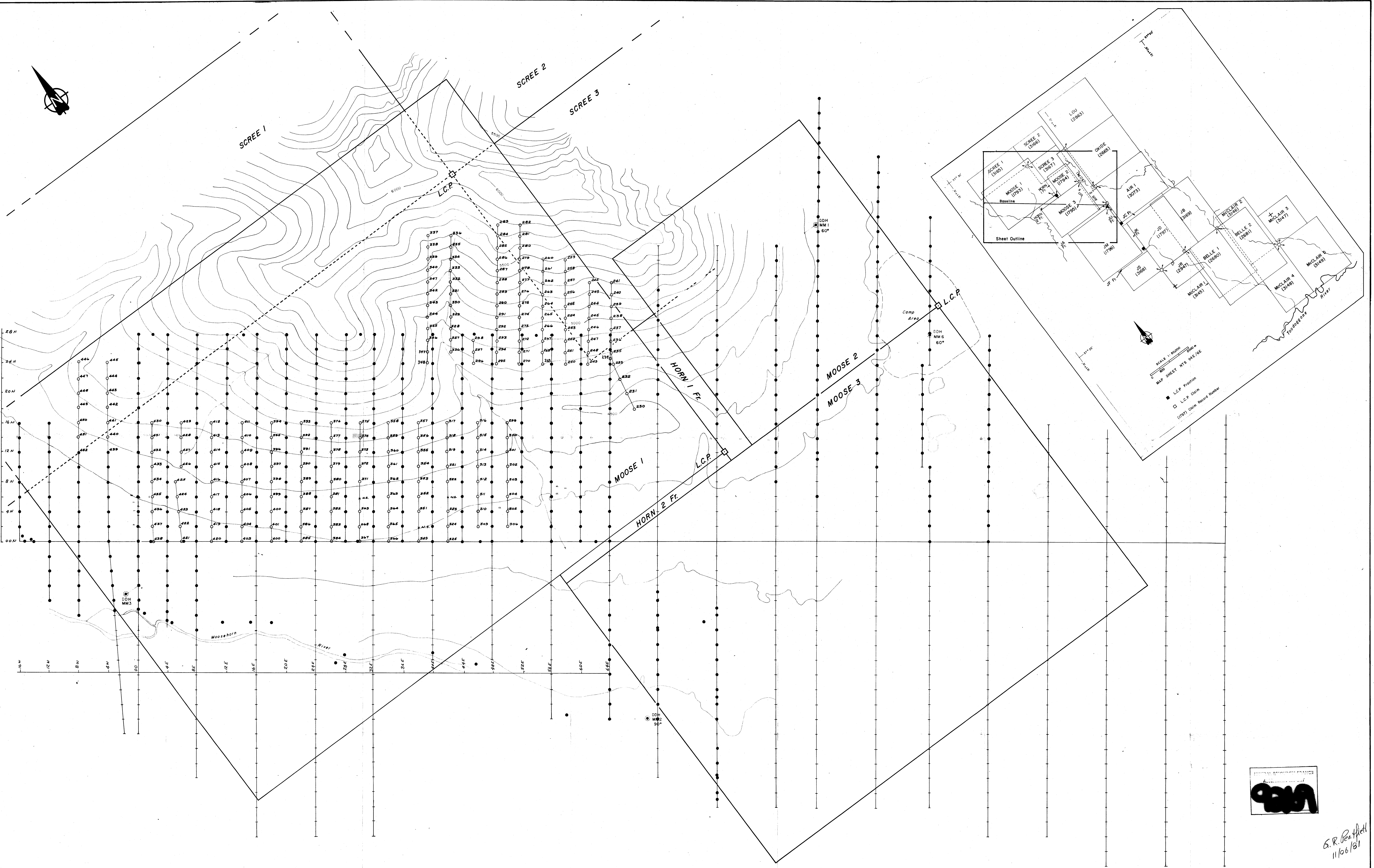
MOOSE CLAIMS

GEOLOGY

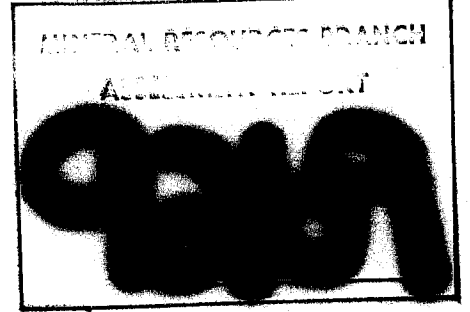
NTS 94E/6E PROJ. 04

WORK BY	DRAWN BY	DATE	DRWG. NO.
H.R.S.	E.R.	DECEMBER 1980	

Scale in Metres 1:5000



SCALE 1:5000
MAP SHEET NTS 94E/SE
L.C.P. Fraction
L.C.P. Claim
Claim Record Number
(1971)



G.R. Beckett
11/06/81

419
Cut lines (SUMAC 1971-72)
with sample locations
Compass sample lines
(TEXASGULF 1980)

FIGURE 4-0

Texasgulf Inc.

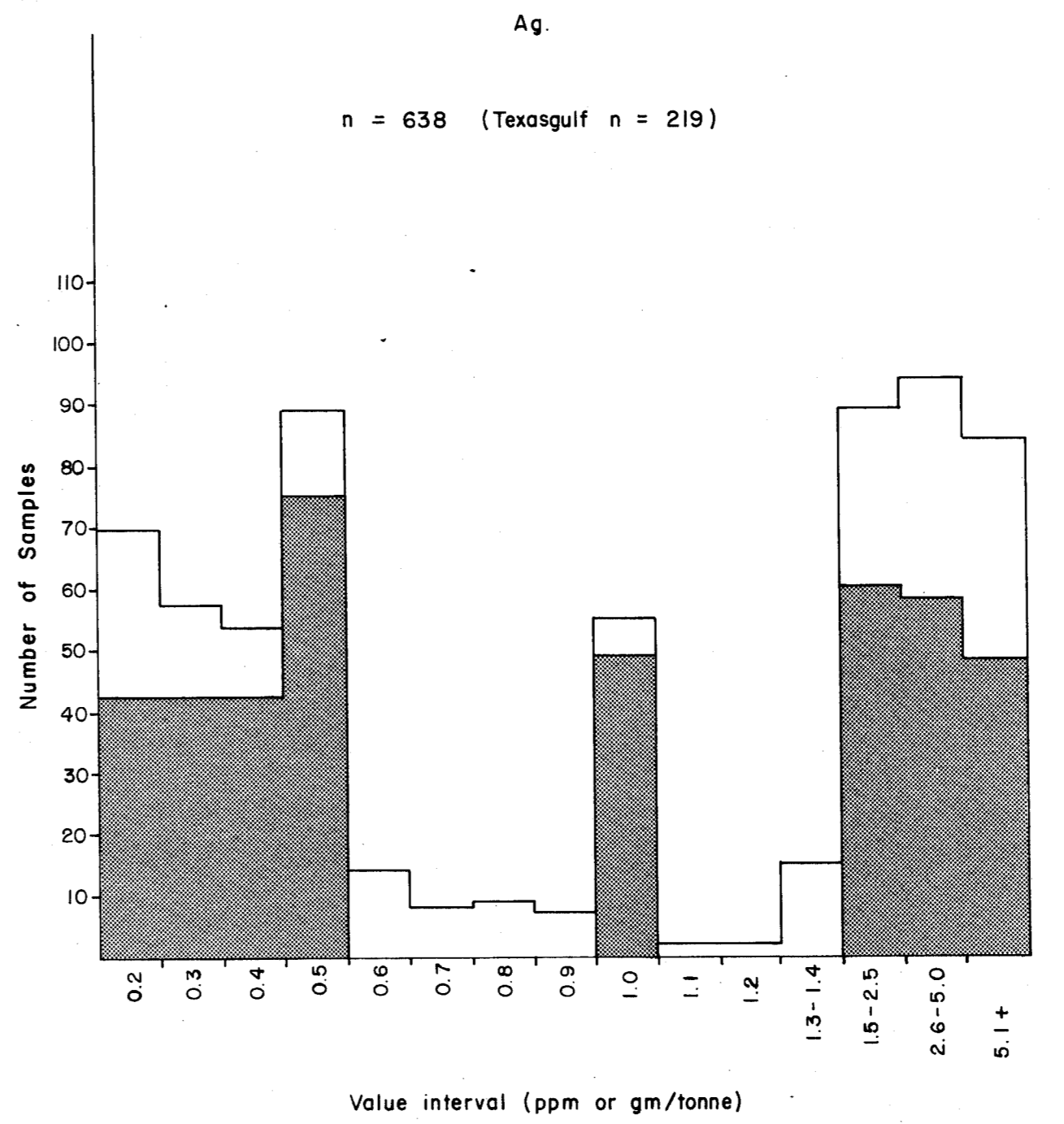
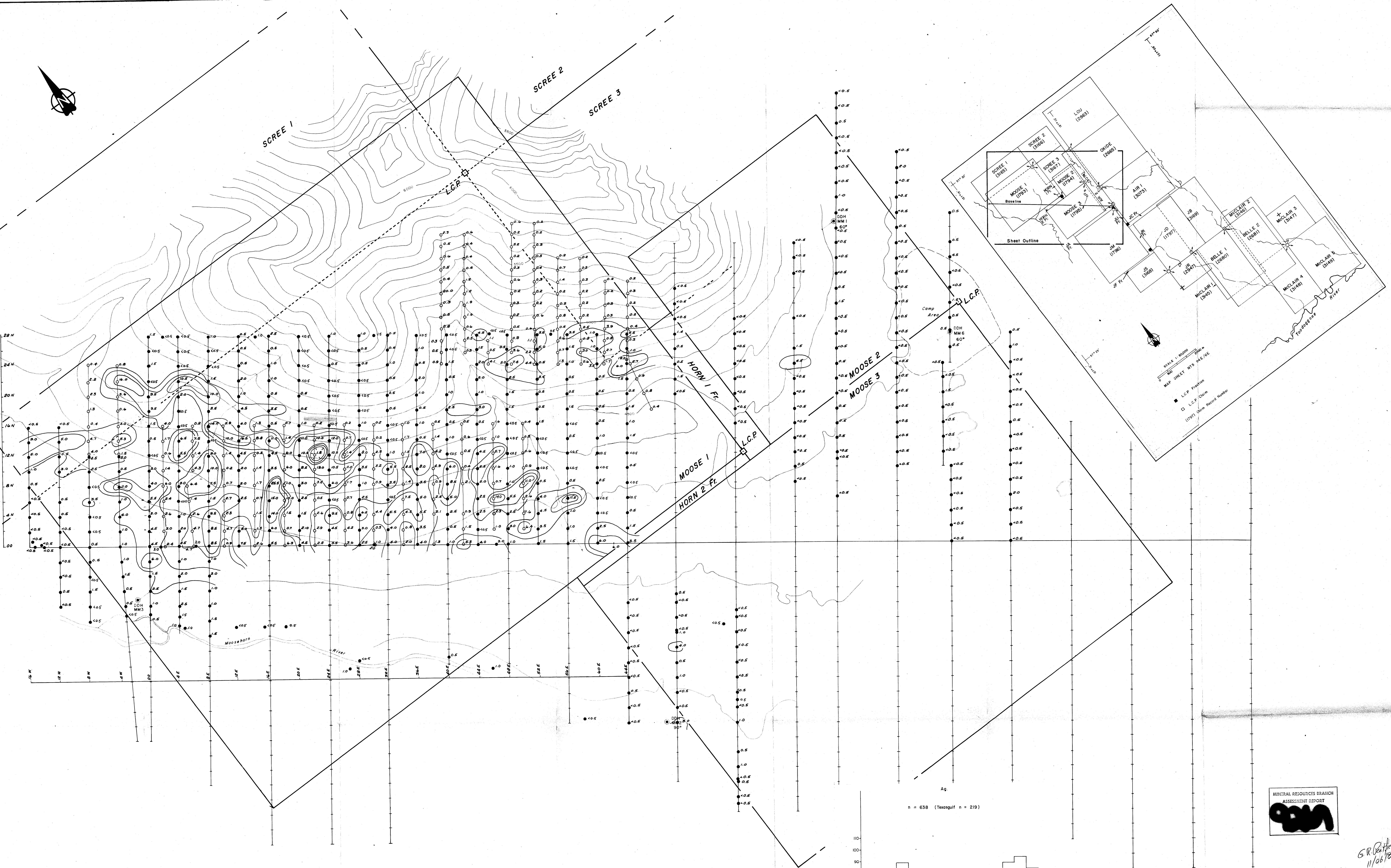
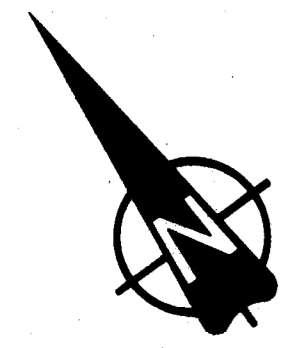
MOOSE CLAIMS

SAMPLE LOCATIONS

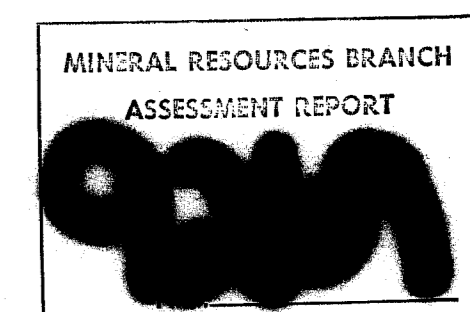
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WORK BY	DRAWN BY	DATE	DRWG NO.
RS	E.R.	DECEMBER, 1980	

100 200 0 100 200 300 400
Scale in Metres 1:5000



● Cut lines (SUMAC 1971-72)
 with sample locations
 ○ Composed sample lines
 (TEXASGULF 1980)
 CONTOUR INTERVAL
 2.5 - 4.9 ppm
 5.0 - 9.9 ppm
 10+ ppm



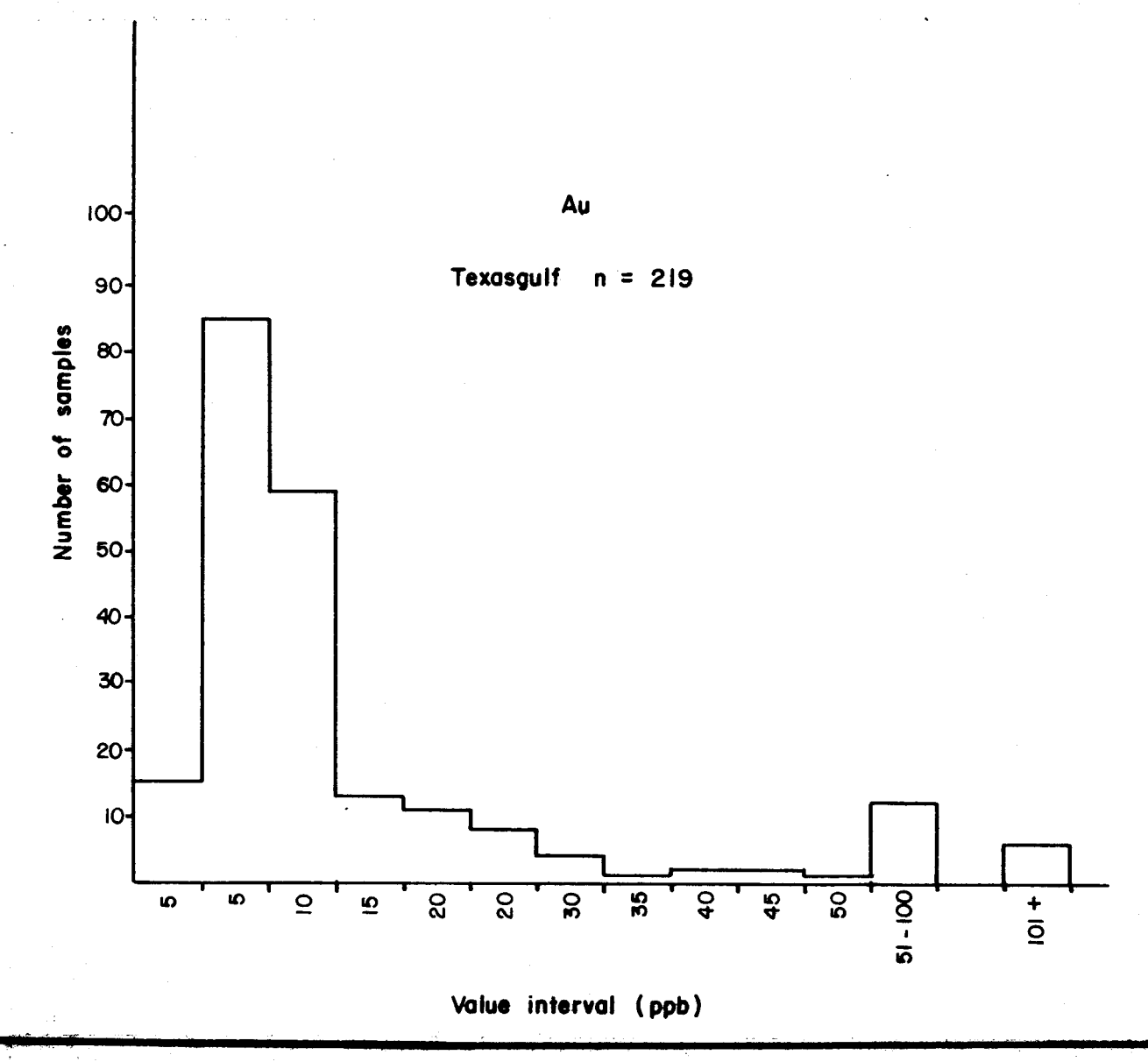
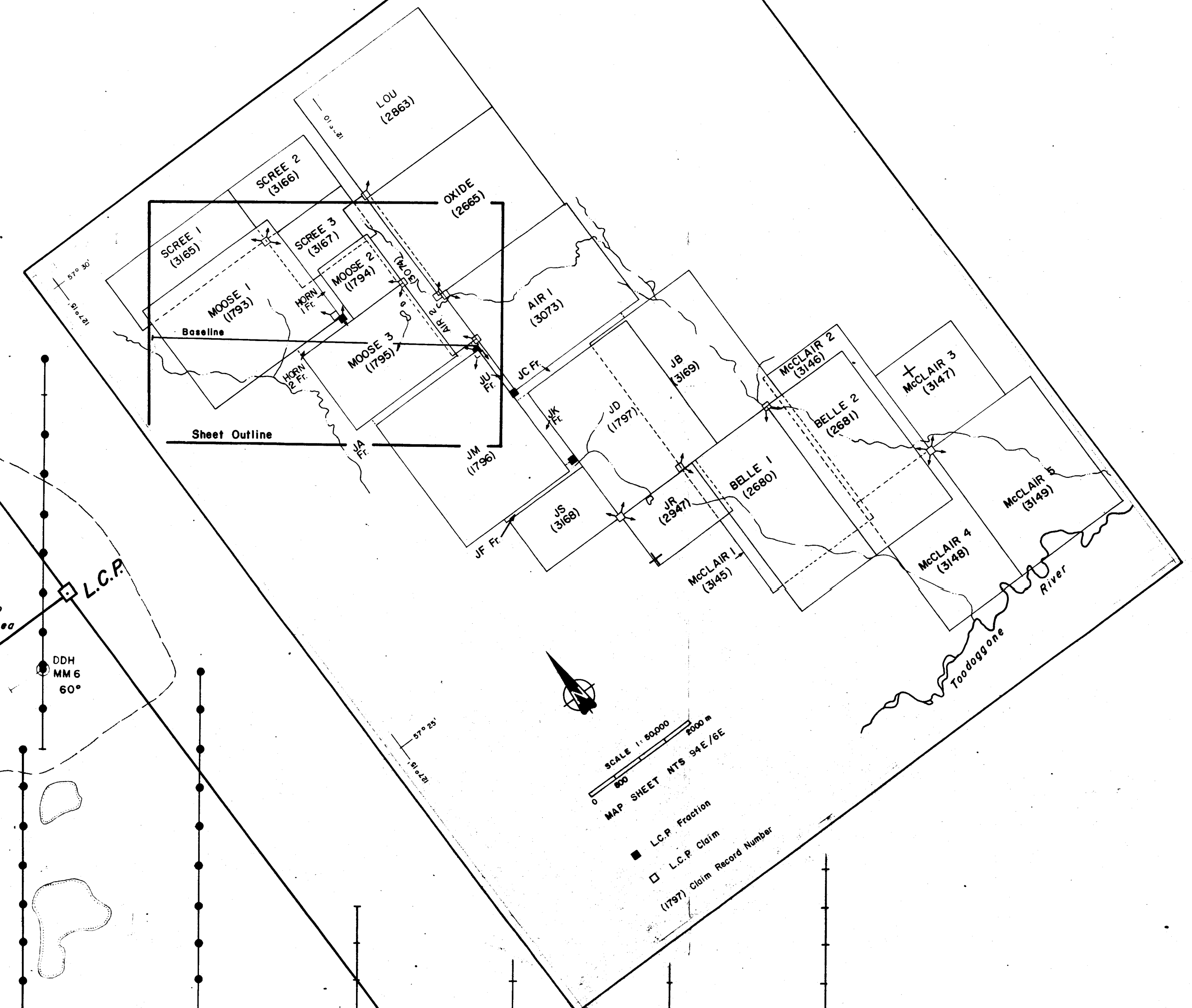
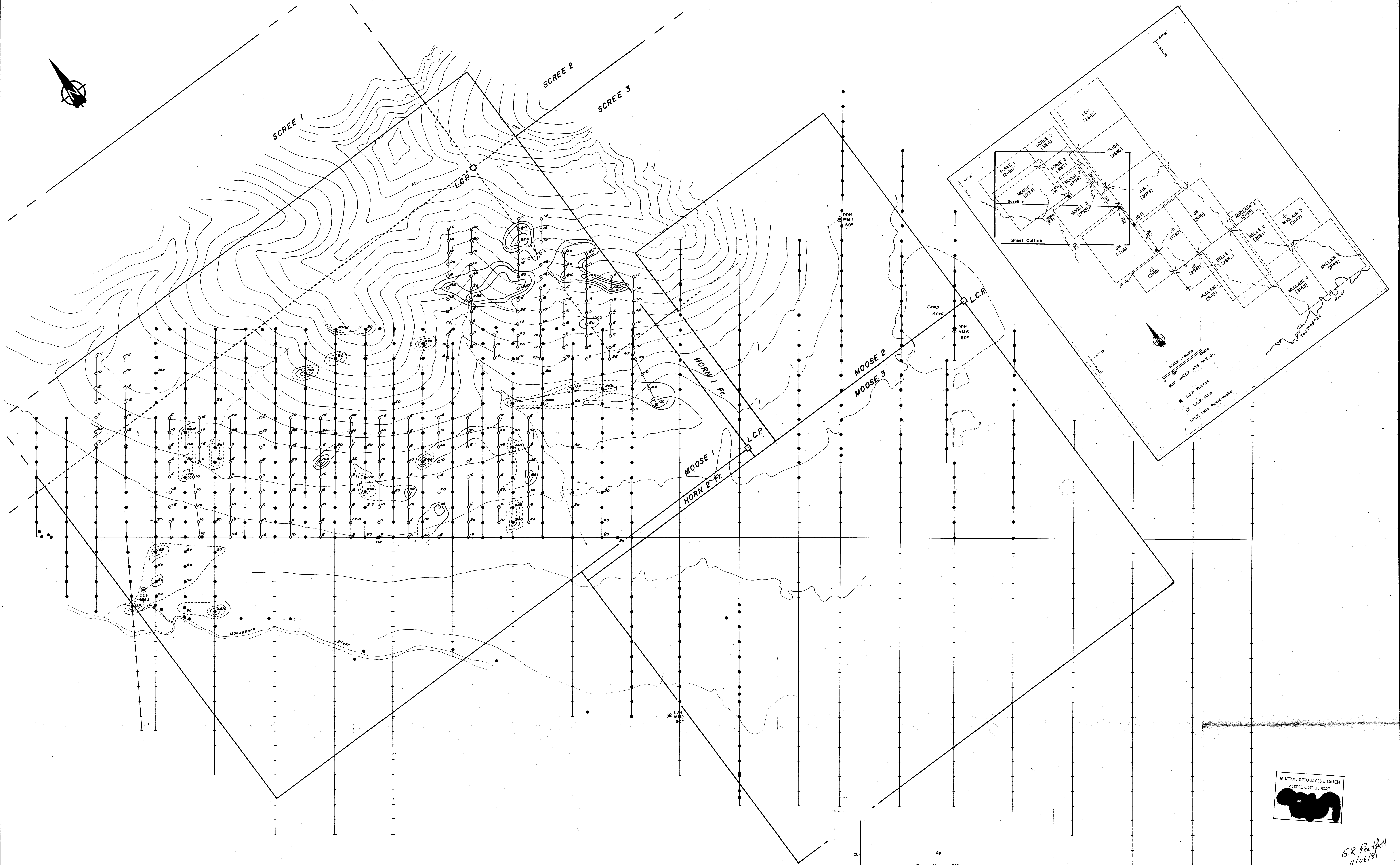
G.R. DeHoff
11/06/80

FIGURE 4b

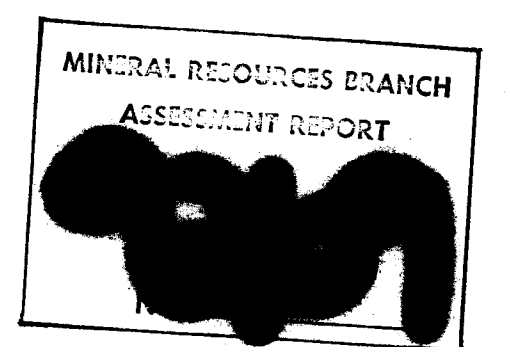
Texasgulf Inc.
MOOSE CLAIMS
GEOCHEMISTRY
Ag IN SOILS

WORK BY	RS	DRAWN BY	E.R.	DATE	DECEMBER, 1980	PROJ. 04	DRWG. NO.
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Scale in Metres 1:75,000



● Cut lines (SUMAC 871-72)
 with sample locations
 (if no value shown, assume <30ppb)
 ○ Composed sample lines
 (TEXASGULF 1980)
 419
 CONTOUR INTERVAL
 25 ppb
 50 ppb
 100 ppb
 (note: solid contours based on Tg work)



G.R. Peahtel
11/06/81

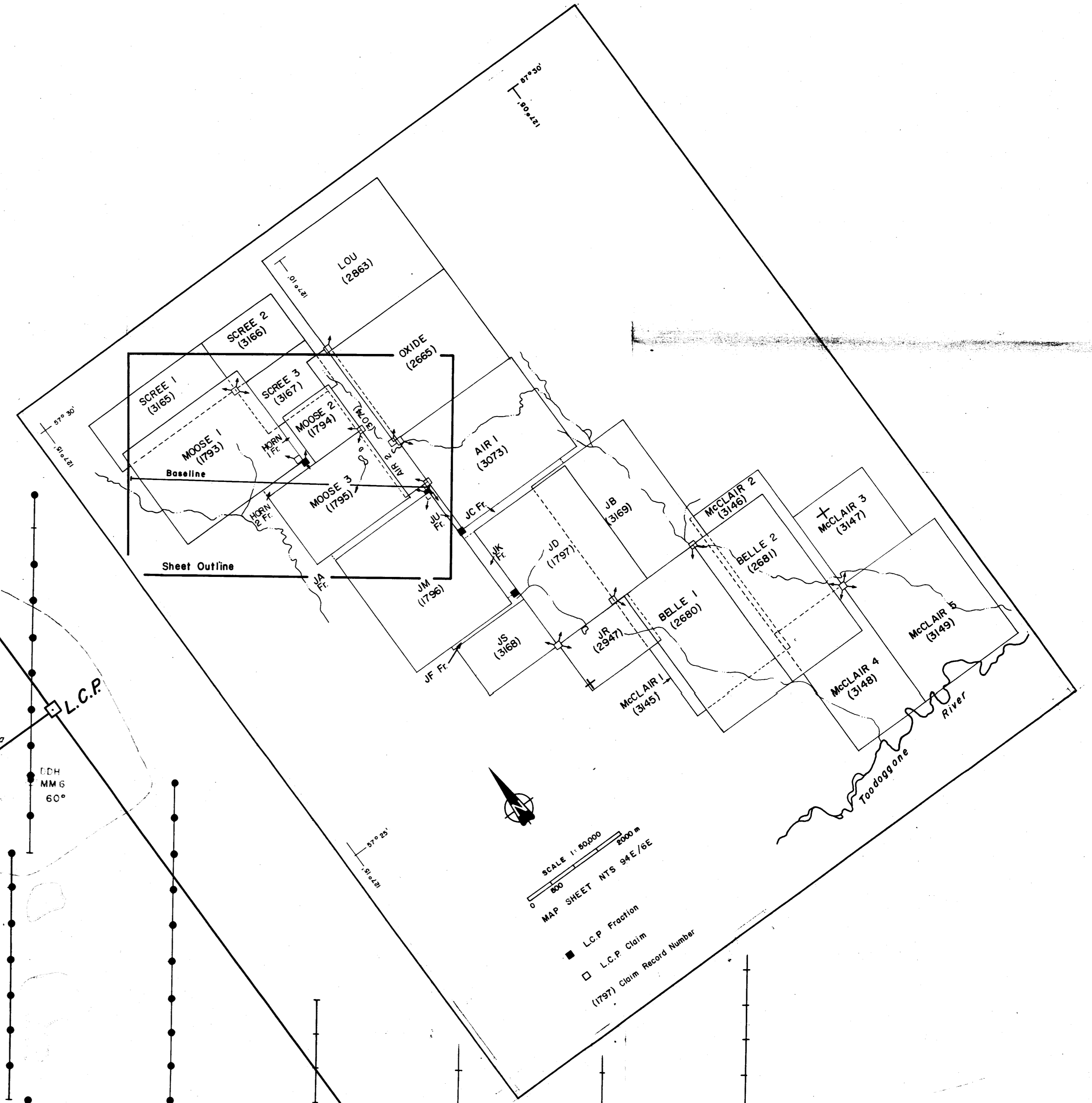
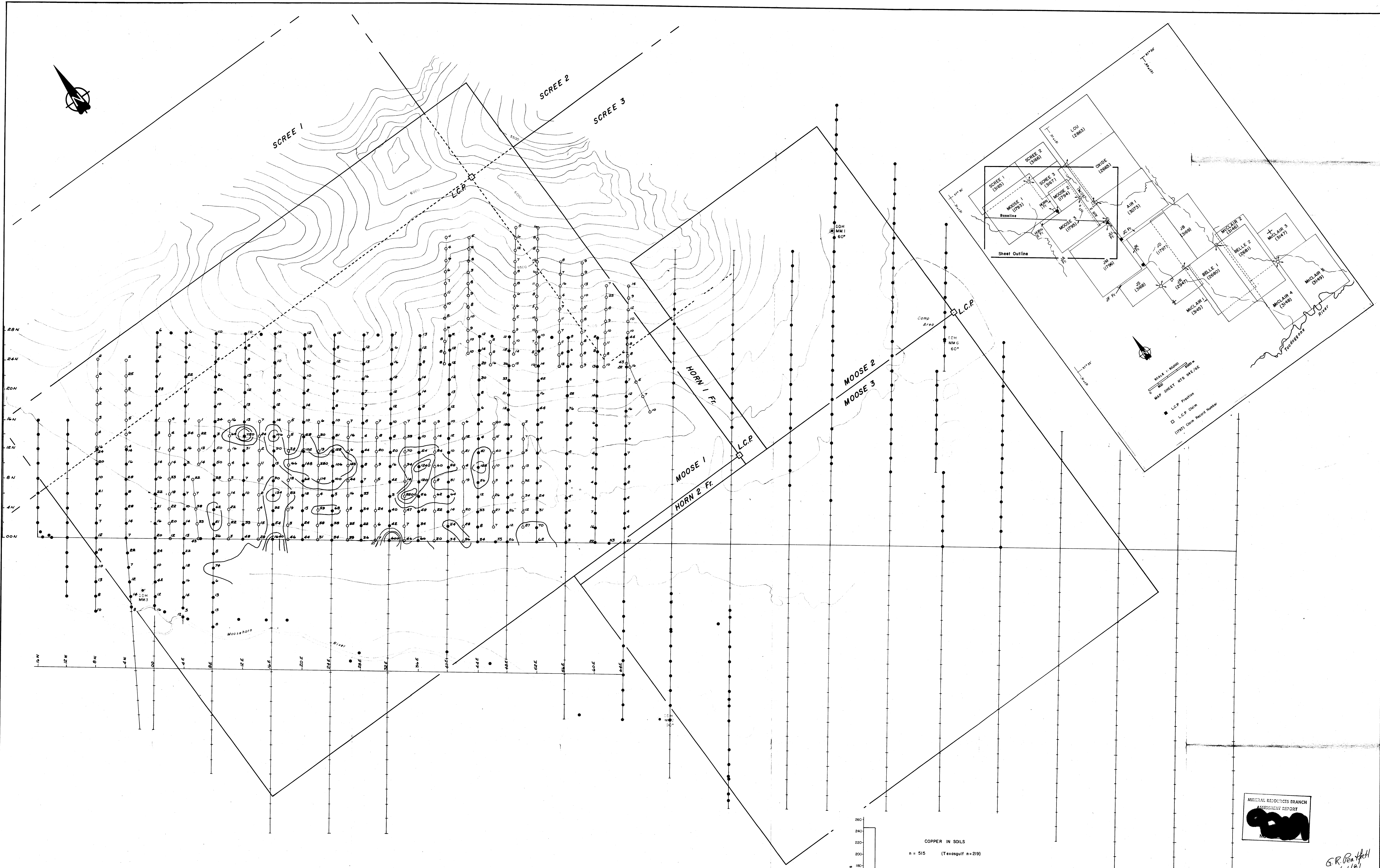
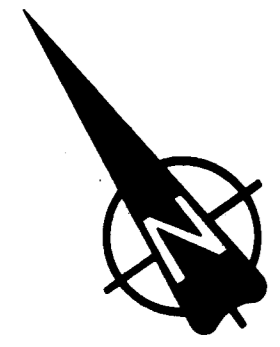
FIGURE 4c

Texasgulf Inc.

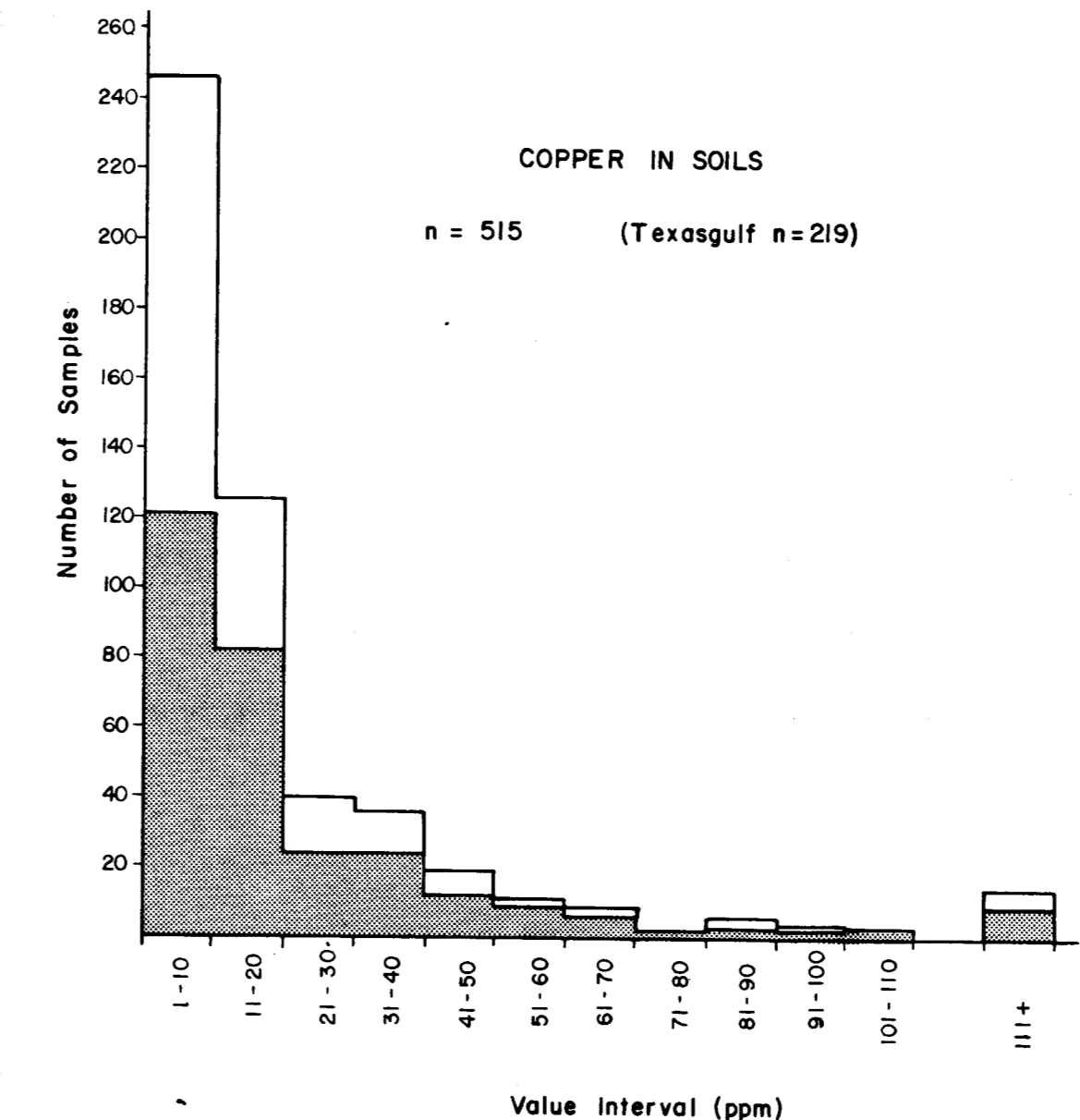
**MOOSE CLAIMS
GEOCHEMISTRY
Au IN SOILS**

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DATE DECEMBER, 1980	DRWG. NO.

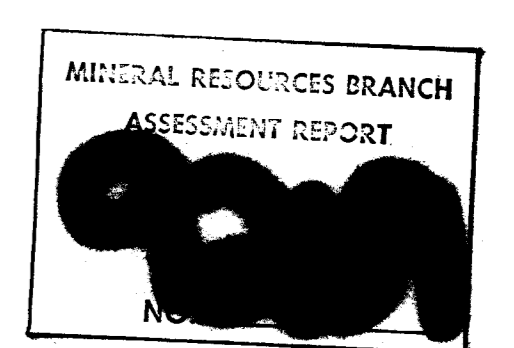
Scale in Metres 1 : 5,000



SCALE 1:50000
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 L.C.P. Fraction
 L.C.P. claim
 (1977) Claim Record Number



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 ○ Composed sample lines (TEXASGULF 1980)
 CONTOUR INTERVAL
 50 ppm
 100 ppm
 200 ppm

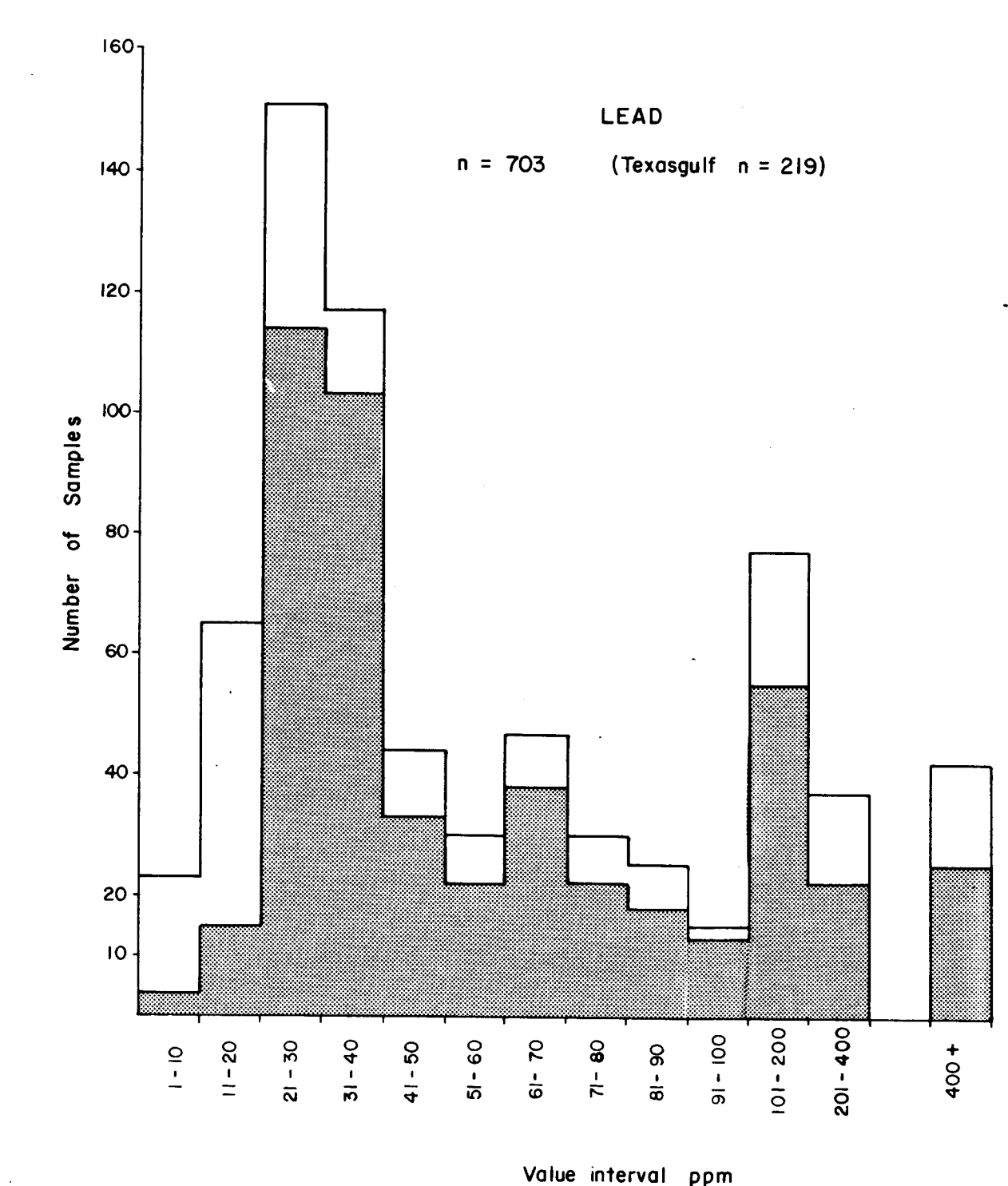
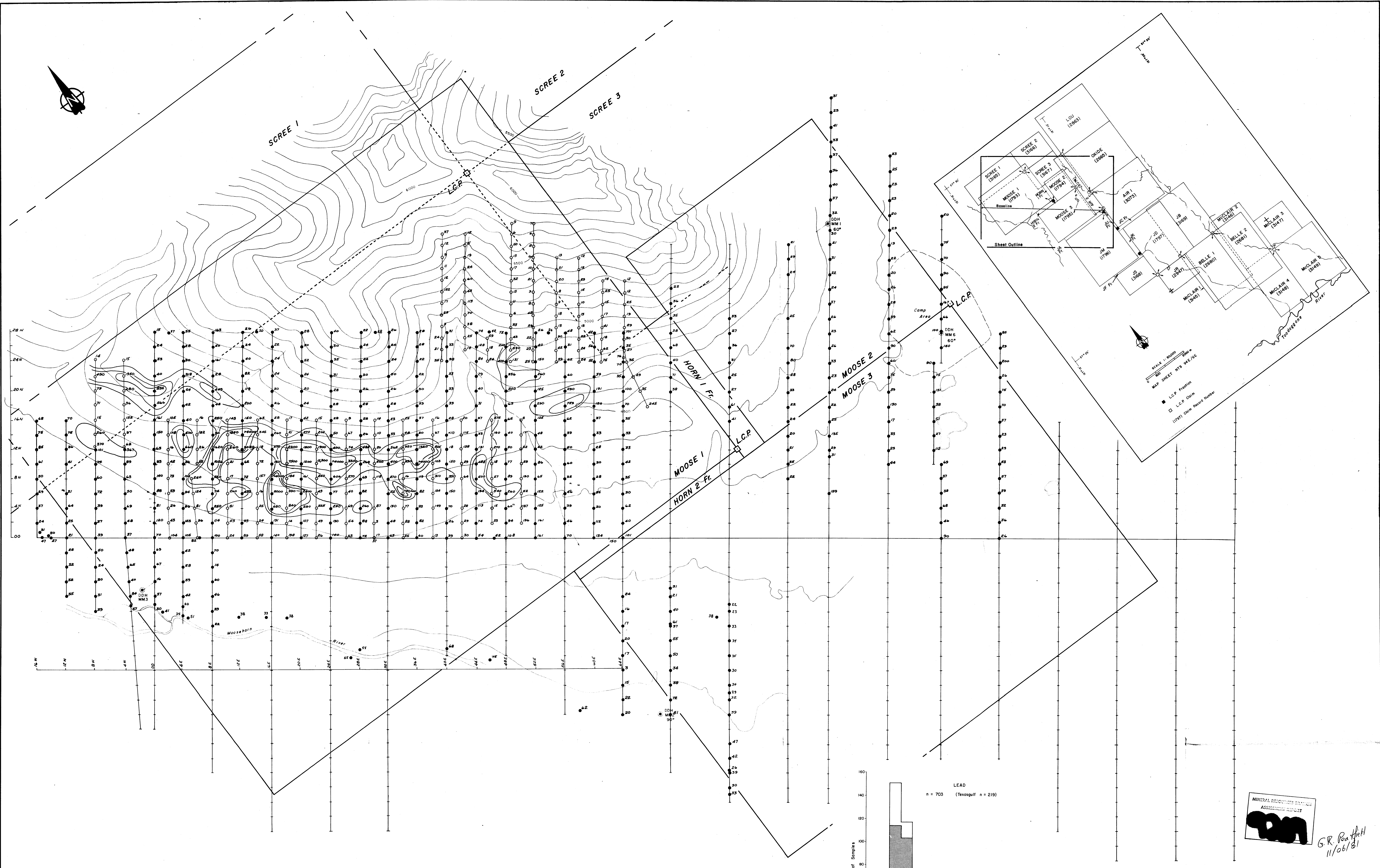


G.R. Beath
 11/01/81

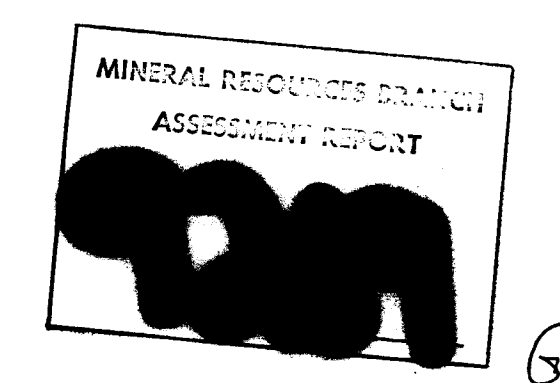
FIGURE 4d

Texasgulf Inc.
 MOOSE CLAIMS
 GEOCHEMISTRY
 COPPER IN SOILS

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 Scale in Metres 1:5,000



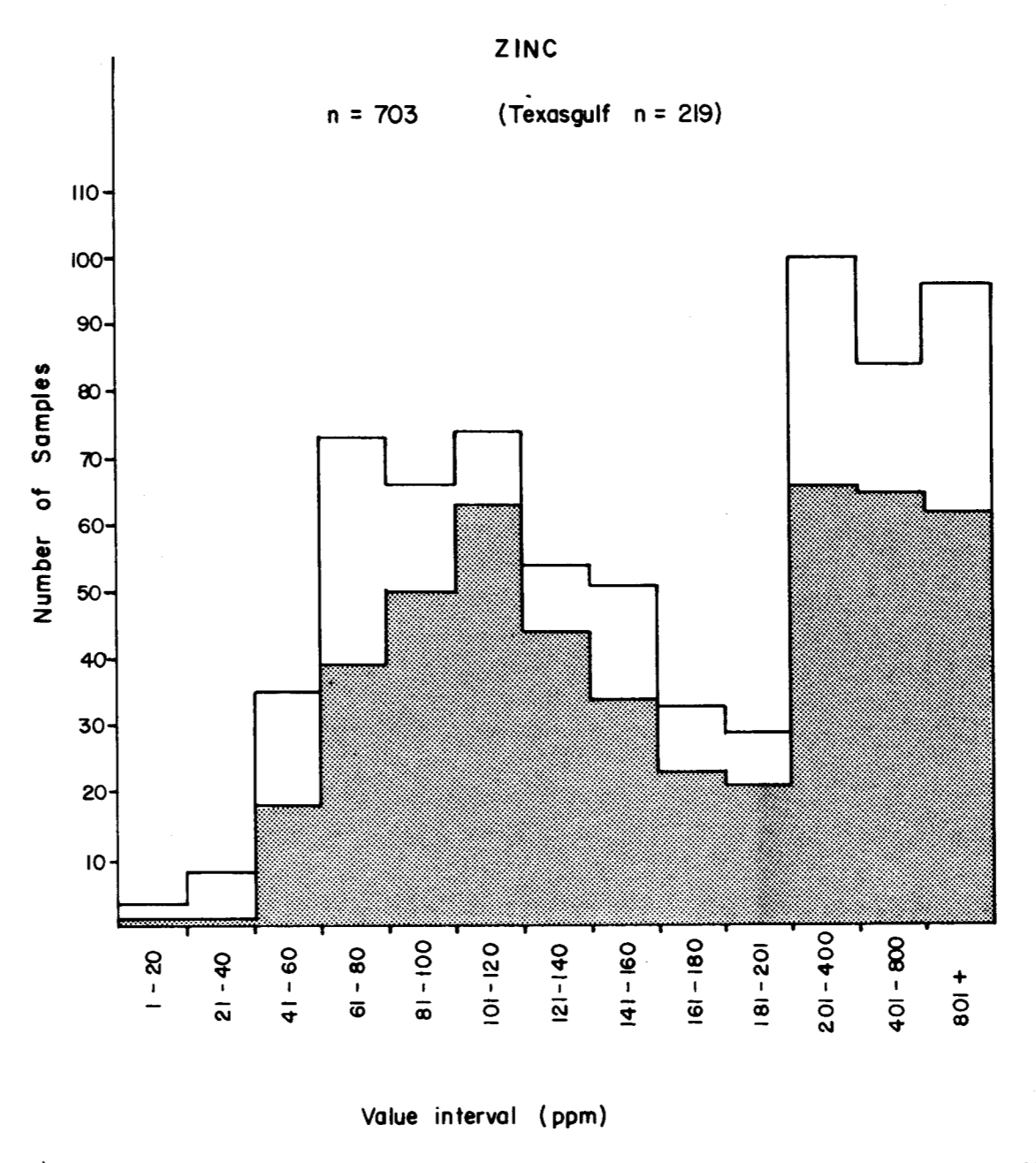
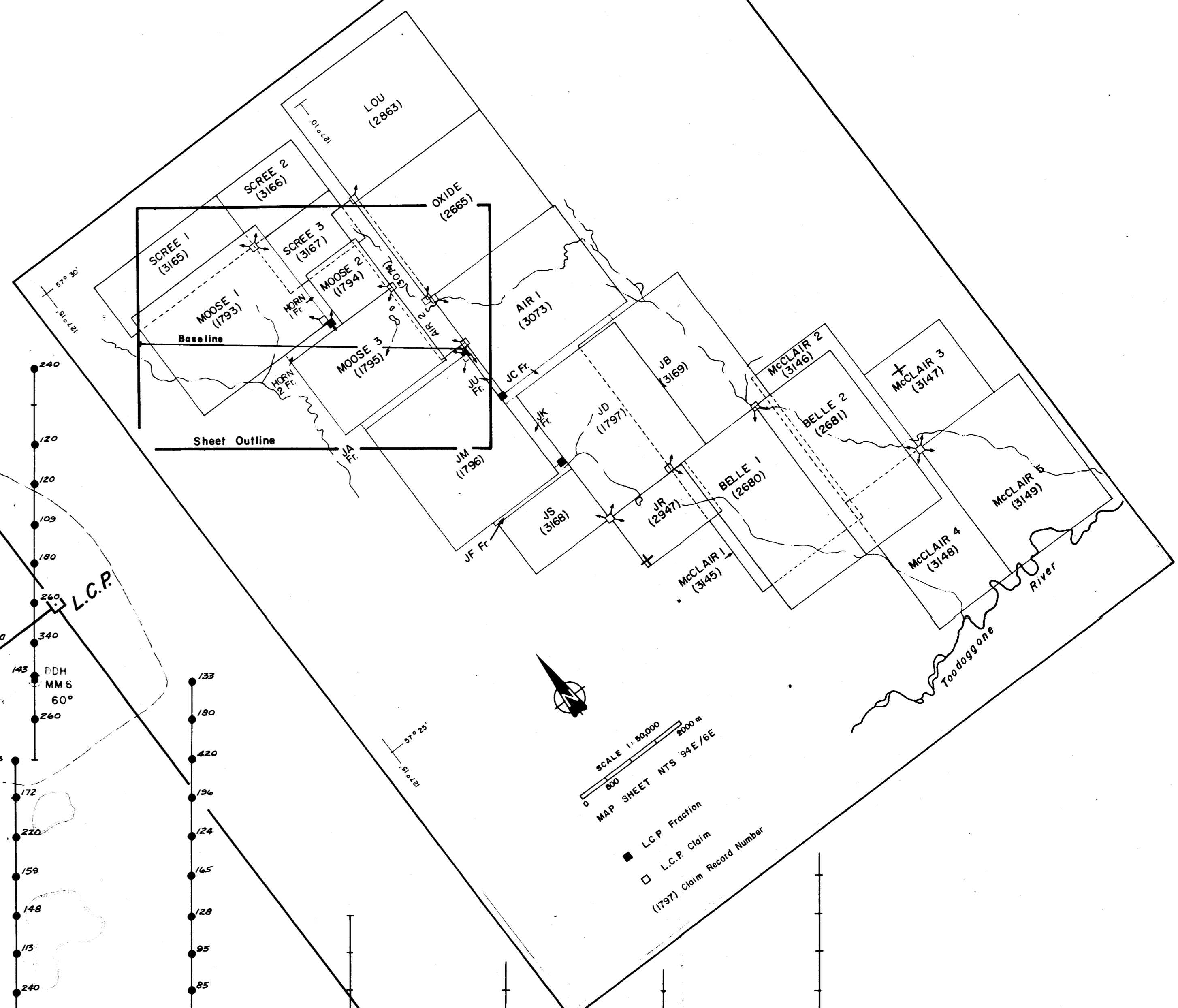
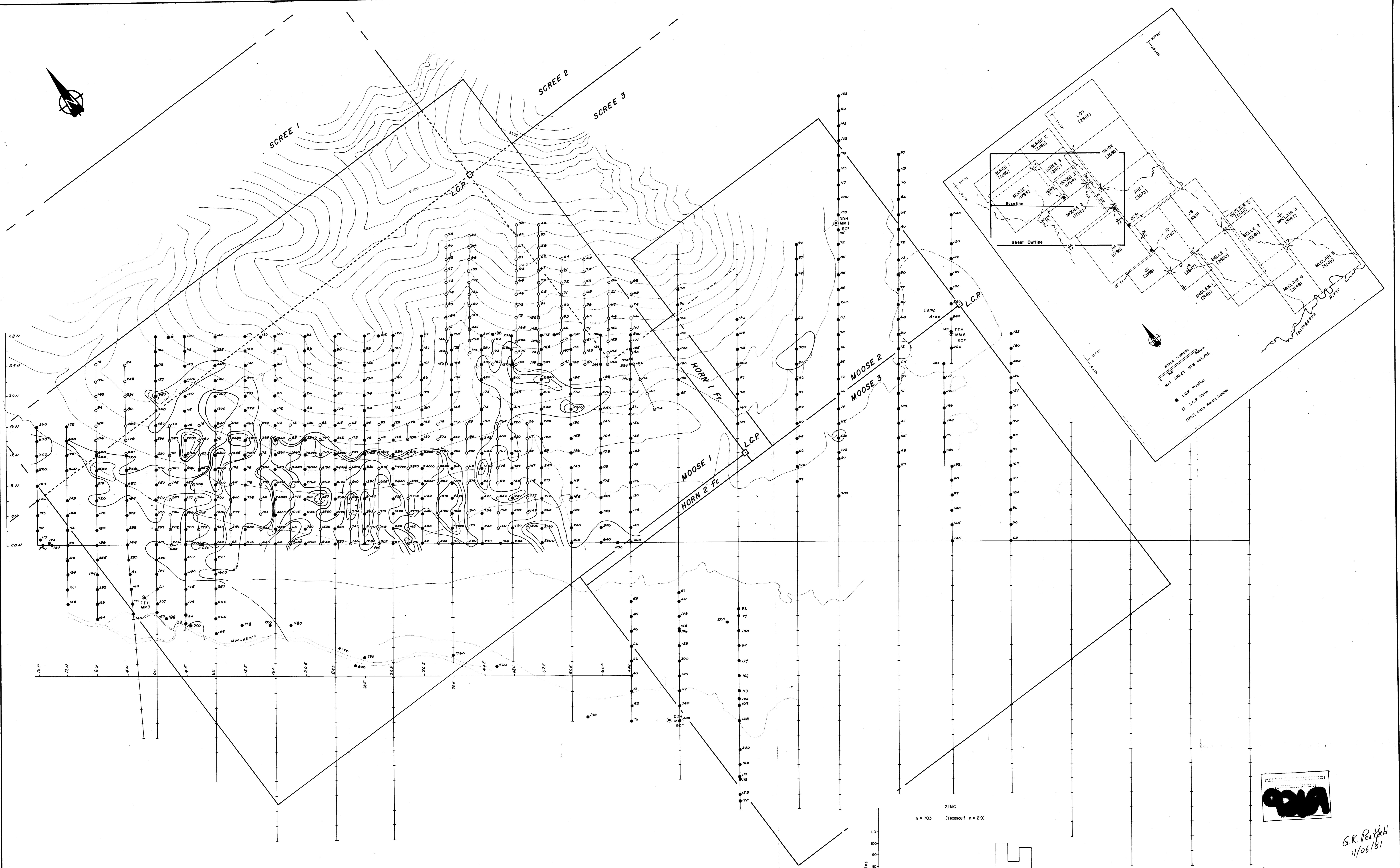
● Cut lines (SUMAC 1971-72) with sample locations
 ○ Compressed sample lines (TEXASGULF 1980)
 419
 ○
 CONTOUR INTERVAL
 200 ppm
 400 ppm
 800+ ppm



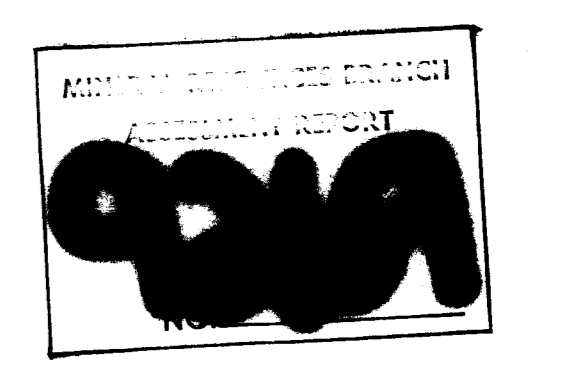
G.R. Ross
11/06/81

FIGURE 4a

Texasgulf Inc.			
MOOSE CLAIMS GEOCHEMISTRY LEAD IN SOILS			
NTS 94E/6E	WORK BY	DATE	PROJ. NO.
	RS	DECEMBER, 1980	04
	DRWN BY		DRWG. NO.
	E.R.		
Scale in Metres 1 : 5,000			



● Cut lines (SUMAC 1971-72)
 with sample locations
 ○ Compacted sample lines
 (TEXASGULF 1980)
 CONTOUR INTERVAL
 400 ppm
 800 ppm
 1600 ppm



G.R. Peat
11/06/81

FIGURE 4-1

Texasgulf Inc.

**MOOSE CLAIMS
GEOCHEMISTRY
ZINC IN SOILS**

NTS 94E/6E		PROJ. 04	
WORK BY	DRAWN BY	DATE	DRW.G. NO.
RS	ER	DECEMBER, 1980	

Scale in Metres 1:5,000