'79-# 299-# 7368

Pedology Consult

PEDOLOGY CONSULTANTS
1006 Government Street
Victoria, B.C. V8W 1X7

STATEMENT OF ACCOUNT

INVOICE NO: B4
OUR FILE NO: B79/4
DATE: June 27, 1979

TO: Mr. Kamil
Armside Mining Ltd. (N.P.L.)
2296 Tryon Road, Sidney, B.C.

RE: Soil survey of PML 253 and PML 257 on Loss Creek for use in reclaimation following mining exploration procedures

SERVICES:

To Pedologist; 3½ days @ $300/day	$ 1050.00	
To Field Assistant; ___ hrs. or days @ $___/hr. or day	$	
To Drafting; ___ hrs. @ $___/hr.	$	
To Support Staff; ___ hrs. @ $___/hr.	$	
TOTAL SERVICES		$ 1050.00

DISBURSEMENTS:

To Vehicle; 2 days @ $ 35/day	$ 70.00	
To Photographs and Reproductions;	$ 41.13	
To Report Reproduction and Binding;	$ 38.87	
To any other expenses:	$	
TOTAL DISBURSEMENTS		$ 150.00
AMOUNT NOW DUE		$ 1200.00

GOLD COMMISSIONER
RECEIVED and RECORDED
AUG 3 1979
M.R. #.....
VICTORIA, B.C.

*Client paid in cash; cheque for full amount issued on Pacific Pedology Consultants Ltd. enclosed.

Yours truly,

Mark E. Walmsley, M.Sc., P.Ag.

TERMS: NET '30' DAYS

*Pedology Consultants**
9520 - 51 Avenue
EDMONTON, Alberta T6E 5A6
Phone: (403) 436-5591

1006 Government St.
VICTORIA, British Columbia V8W 1X7
Phone: (604) 386-1114

Principal Employees:
Leonard A. Leskiw, M.Sc. P.Ag.
Alvin G. Twardy, M.Sc. P.Ag
Leonard J. Knapik, M.Sc. P.Ag
Mark E. Walmsley, M.Sc. P.Ag.

June 13, 1979

Armside Mining Ltd. (N.P.L.)
c/o Mr. Kamil
2296 Tryon Road
Sidney, B.C.

Dear Mr. Kamil,

Please find enclosed a copy of our report on the soil conditions occuring on your mining property designated as PML 258 and PML 257 on Loss Creek.

The information contained in this report and on the accompanying maps is designed to assist you in your exploration work so as to minimize the potential impacts.

We trust the information will be of value to you.

Yours truly,

M. Walmsley

Mark E. Walmsley, P.Ag.

MEW:ss

7368

SOIL SURVEY OF
PML 258 and PML 257 ON LOSS CREEK
FOR USE IN RECLAMATION
FOLLOWING MINING EXPLORATION PROCEDURES

FOR: ARMSIDE MINING LTD. (N.P.L.)

PREPARED BY:

MARK E. WALMSLEY, P.AG.
VICTORIA, B.C.
JUNE 1979

INTRODUCTION

Pedology Consultants was commissioned by Armside Mining Ltd. (N.P.L.) to conduct a study on approximately 45 acres of land described as PML 258 and PML 257 on Loss Creek, Map Area 92C/8. The total acreage of PML 257 and 258 is approximately 150 acres. The main objectives of the study were to map the soils and evaluate their susceptibility to surface erosion caused by land clearing and logging road location. Also, to communicate this information to the proposed logging contractor in order that the recommended procedures be implemented to cause a minimum of site disturbance.

Field mapping was carried out in May 1979. The results of the survey and the evaluation are presented in the following discussion, and on a map drawn on an enlarged aerial photograph at a scale of approximately one inch equal to three hundred and thirty feet (1:4,000). Acreage values are determined from this aerial photograph enlargement and are therefore only approximate. A second map (also drawn on the enlarged aerial photograph) shows planned logging road locations.

METHODS

Traverses were made across the property, and the soils were inspected at four sites as indicated on the attached soils map. Soils, topography, parent material, landform and drainage were classified in accordance with standard procedures used in British Columbia (1, 2).

Acreages were measured from the enlarged aerial photograph, and are therefore approximate.

The reconnaissance terrain survey of National Topographic Sheet 92C/8(3) provided helpful information on the distribution of surficial geologic materials.

DISCUSSION

The majority of the 45 acre parcel of land is forested by second growth coniferous trees (mainly Douglas fir, Western Red Cedar and Western Hemlock). Several of the prominent gulleys have Red Alder and willow growth. The understory is dominated by salal and willow species.

The area is characterized by chaotic topography, largely as a result of post glacial deposition of fluvial sands and gravels and subsequent erosion prior to the establishment of vegetation. Gulley erosion is the dominant process, with several areas on the property exhibiting large, deeply incised gulley patterns.

The area is largely a fluvio-glacial terrace built by meltwater flowing out of the Loss Creek drainage. These sands and gravels overlie sandy glacial till materials at various depths, usually 2 to 10 meters. Underlying the glacial till is a sequence of sandy and bouldery fluvial materials deposited prior to the last glaciation (approximately 10,000 to 15,000 before present); see Figure 1.

Surface erosion following deglaciation has resulted in a capping of fine sand and silt material on the surface of portions of the area, mainly on the east facing slope of the property. This material is approximately 1 to 1.5 metres deep, overlying more compact fluvio-glacial sands and gravels.

Topography in the study area ranges from relatively flat on the top of the fluvio-glacial terrace to slopes in excess of 100 per cent. Gulley side walls have slopes of approximately 70 to 80 per cent, whereas the slope next to Loss Creek and toward the southern edge of the property are 90 to 110 per cent (some areas are vertical). Small portions of the study area, notably the ridge bisecting the property in a north south direction, are of

Figure 1. Surficial Geology sediments exposed along road cut south of large bowl.

less slope, usually ranging from 10 to 30 per cent.

The majority of the materials are well to rapidly drained due to the coarse grain size of the sediments (sands and gravels) and the steeply sloping ground. However, portions of the study area, mainly along the north-south ridge which bisects the property, exhibit sone seepage due to the presence of cemented layers in the soil. This seepage appears quite localized. Seepage also occurs at the south end of the property where the sediments are exposed in a cliff. This seepage is a result of groundwater flow emanating from the top of the terrace, with water flowing along the contact of the surficial materials with the bedrock or glacial till.

As a result of field observations, five distinct soil areas were delineated on the soils map (map pocket). A brief description of each area is as follows:

Soil Area 1

This area consists of well drained Orthic Ferro-Humic Podzol soils developed on silt loam to fine sandy loam fluvio-glacial materials. The topography is extreme with slopes ranging from 50 to 70 per cent (see Figure 2). The ridge running along the top edge of this map unit has lesser slopes, generally 20 to 30 per cent.

Small areas at the top of the north-south ridge exhibit some seepage. This is primarily due to the presence of pans (chemically hardened layers) in the soil at depths of approximatlly 0.5 to 1 meter. It is anticipated that this seepage is localized and should not prove problematic to land use activities.

Map Unit $\frac{1}{6 - 8}$ 11 acres

Figure 2. Soil Area 1; note steepness of slope and the influence of surface vegetation on slope stabilization.

Soil Area 2

This area is located at the top of the fluvio-glacial terrace. The majority of the area has been clearcut to the terrace edge. Soils are dominantly Orthic Ferro-Humic and Orthic Humo-Ferric Podzols often with moderately well developed pans (cemented layers) at depth. The parent material consists of sandy loam to gravelly sandy loam fluvio-glacial material, overlying compact, sandy glacial till. The soils are well drained, with some evidence of seepage on exposures where the glacial till contacts the overlying fluvio-glacial materials. Topography is flat, with slopes ranging from 0 to 5 per cent.

Map Unit $\frac{2}{2 - 3}$ 2 acres

Soil Area 3

This area is located downslope from Soil Area 2, toward Loss Creek. Soils consist predominantly of Orthic Ferro-Humic Podzols developed on silt loam to sandy loam fluvio-glacial sediments. These sedimants are probably the result of surface erosion following deglaciation, causing a concentration of fine material. This fine material is approximately 1 to 1.5 meters deep, overlying more compact fluvio-glacial sands and gravels. The soils are moderately well to well drained, with no evidence of seepage.

Slopes range from 50 to 70 per cent with steeper slopes (100 to 110 per cent) near Loss Creek.

Map Unit $\frac{3}{8 - 10}$ 16.5 acres

Soil Area 4

Soil Area 4 consists of well to rapidly drained Orthic Humo-Ferric Podzols developed on sandy loam fluvio-glacial materials. The

topography is somewhat gentler in this area than Soil Area 3, with slopes ranging from 40 to 60 per cent (see Figure 3).

Map Unit $\frac{4}{8}$ 5.7 acres

Soil Area 5

Soil Area 5 is located in the two main gulley systems which drain the western portion of the study area. Soils are dominantly Gleyed Ferro-Humic Podzols in the hollow (moisture receiving) portions of the gulleys and Orthic Humo-Ferric Podzols on the sideslopes. Soil drainage ranges from rapidly to imperfectly drained in the lower parts of the gulleys. Overall slope of the gulleys is approximately 60 per cent with the sideslopes ranging from 70 to 110 per cent (see Figure 4).

These gulleys have formed by erosion of the fluvio-glacial materials. This erosion likely took place following deglaciation, prior to the establishment of vegetation. Since the fluvio-glacial materials are so porous, the gulleys carry little or no surface water during the summer months. However, there is likely some sub-surface flow into these areas since they are topographic depressions. Snow-melt and rainfall from large storm events would be carried as surface and sub-surface water by these gulley systems. At present, there appears to be no active erosion occuring in these gulleys.

Map Unit $\frac{5}{8 - 10}$ 4.1 acres

Soil Area 6

This area consists of moderately well to imperfectly drained Orthic Humo-Ferric Podzol soils and Orthic Regosol soils developed on loamy sand to very gravelly coarse sands which are part of the more recent floodplain of Loss Creek. The topography is flat to slightly inclined with slopes ranging from 0 to 5 per cent. This area is prone to seepage from upslope and is floodable during a period of extreme high water levels in Loss Creek.

Map Unit $\frac{6}{2 - 3}$ 5.3 acres

Figure 3. Soil Area 4; note gentler nature of slope.

Figure 4. Soil Area 5; note steepness of slope on the gulley sidewall and effect of gravity on bending of tree trunk.

SUMMARY

1. Summer logging, utilizing a high-lead tree harvesting system, should cause minimal erosion of the surficial materials. This premise pre-supposes that no disturbance of understory vegetation will occur and that tree stumps will be left in the ground. No trees should be cut within a one-chain (66 feet) distance from Loss Creek.

2. The logging road should be located at the crest of the north-south ridge which bisects the property. Side-casting of material must not take place due to excessive slopes. Where seepage is present, ditches and culverts must be put in place. Landings must be located in areas of less sloping topography and which are of large enough extent to minimize the necessary re-distribution of materials.

   In order to access the lower slopes on the northeast portion of the property, a logging road should be constructed south from the existing road which traverses the south end of the large bowl. This road should remain a minimum of 66 feet away from the creek and no harvesting should take place on the east side of the road. This road should be no longer than 1,200 feet, or to where the slope of the sidehill requires excessive excavation for road placement.

3. No trees should be cut within a one-chain (66 feet) distance from the cliff on the south side of the property (this is the sea cliff). The retention of trees in this seepage prone area will aid in retarding surface erosion.

4. No surficial material should be placed in the gulleys as spring runoff will cause excessive erosion.

5. Access required for seismic and magnetic surveys following logging should be on foot or follow the existing logging road. Where mechanized access is required, for movement of seismic equipment or surface excavation, the use of a Menzi Muck Climbing Backhoe is recommended. This equipment will cause minimal surface disturbance and require no new road construction. A description of this equipment is contained in the Appendix to this report.

6. It is expected there will be a minimum effect on slope stability caused by the blast required for the micro-seismic work. It is anticipated that the greatest impact of this operation will be the site preparation for the seismic work. This must be localized and minimal with respect to exposure of soil. Stumps should be removed only where necessary for the seismic work. No seismic blasting should occur within one-chain (66 feet) of Loss Creek or the cliff on the south side of the property.

7. Following topographic survey and micro-seismic work, the logging roads, landings and areas disturbed during the seismic activity should be re-vegetated immediately. Where surface excavation has been required, the slope should be re-contoured (prior to re-vegetation), using the Menzi Muck. Re-vegetation will occur naturally on this area, but in order to minimize the surface erosion of exposed sediments, it is recommended that exposed areas be hydro-seeded by mechanical means and that red alder be planted by hand, during the same growing season as the site was disturbed (see Figure 5).

8. These conclusions are based only on the logging and exploration activities planned for the area and outlined in a report prepared by A.B. Whittles (4). Should further work be envisaged, further study will be required. Particularly if the mine proceeds to an operational phase.

Figure 5. Upper slopes of large bowl north of study area; this area was cleared in 1973, with natural regeneration quickly occuring; no evidence of slope instability was found in this area which is composed of surficial materials similar to the study area.

REFERENCES

1. Canada Soil Survey Committee, 1978. The Canadian System of Soil Classification. Research Branch, Agriculture Canada. Publication 1646.

2. Resource Analysis Branch, 1976. The Terrain Classification System. B.C. Ministry of Environment.

3. Alley, N. 1977. Terrain Map for NTS 92C/8. Resource Analysis Branch, Ministry of Environment.

4. Whittles, A.B.L., 1979. Exploration Procedures Suggested for Armside Mining Ltd. (N.P.L.) for PML 257 and PML 258 on Loss Creek. Greenacre Consulting and Sales Ltd., Nanaimo, B.C.

APPENDIX

Data on Menzi Muck Climbing Backhoe

Canadian Climbing Backhoe Ltd

Principal advantages of the
Climbing Backhoe MENZI MUCK

Fields of application

for all usual types of digging operations
for difficult digging on abrupt slopes
for terrace building in vineyards
for avalanche baffle works and the regulation of torrents
for pole sinking on skiing grounds
for excavations in swamp areas
for digging in standing waters and rivers up to a digging depth of 11' 6"
for the renewal of railway ballast
wherever there is not enough room to mowe

for excavations in tunnels and subways we have our MENZI MUCK equipped with electric motor

Technical data

HATZ motor, twin cylinder, Diesel, 40 HP, direct injection, max. 2200 rpm, cubic capacity 122.8 cu. in. (2014 cm^3)
Hydraulic system: gear pump 18,6 LIS gal./min. (70 l/min.), 2850 PSI (200 atü), hydraulic oil 31,6 US gal. (120 l), Diesel oil 13,2 US gal. (50 l)
fully hydraulic adjustability of the slope equipment (wheels **and** feet), hill climbing ability 100%
gauge widening by 6'7½" (202 cm) i. e. outer wall of tyres from 5'8" to 12'3½" (173 to 375 cm)
bucket for many purposes (shovel bucket, back-digging bucket, screen bucket, ballast bucket, skimmer shovel, rocket bucket, V-type bucket, foundation bucket)

Capacity

0,65 up to 1,3 cu. yd. (0,5—1 m^3) per minute
3 to 4 working cycles per minute

Concrete breaker

The all-round MENZI MUCK excavator can also be equipped with the hydraulic MONTABERT 250 concrete breaker as well as with the hydraulic hand-operated concrete breaker

Transportation of the excavator

The climbing backhoe MENZI MUCK moves by its own force upon the loading bridge of a truck. Tis makes transportation very quick and easy. It may also be pulled as a single-axle or two-axled trailer. Disassembly for transportation by helicopter or cableway

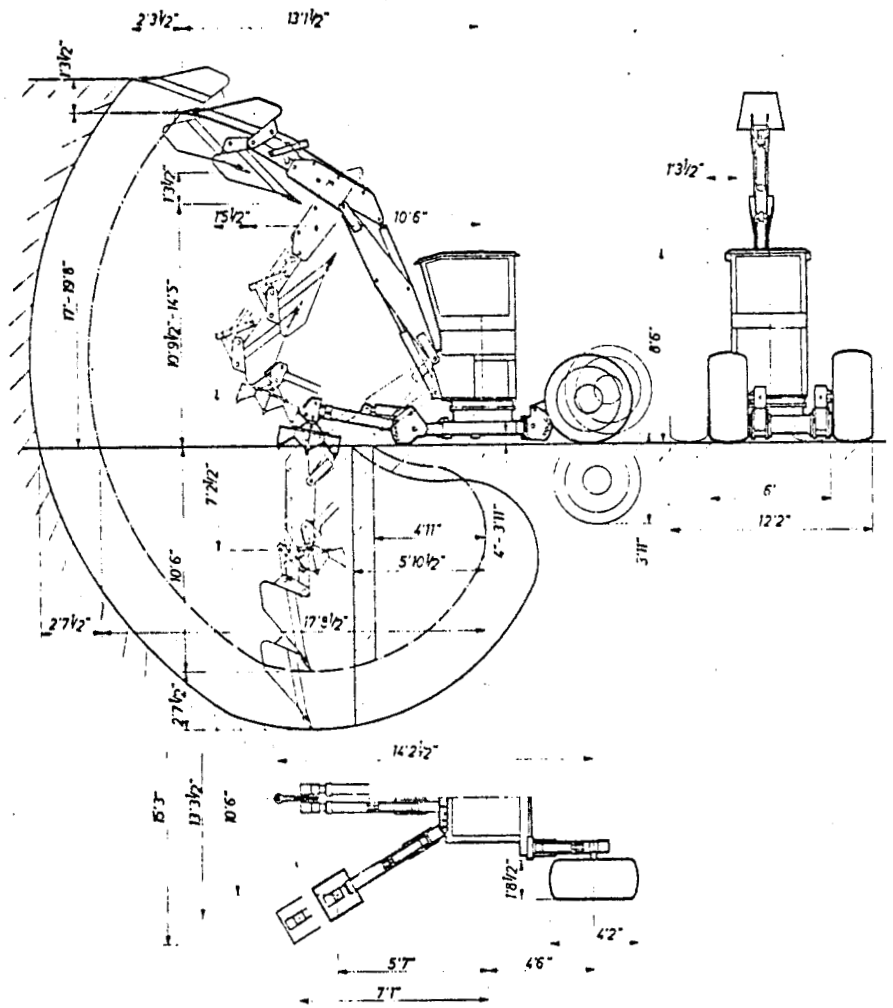
Service and guarantee

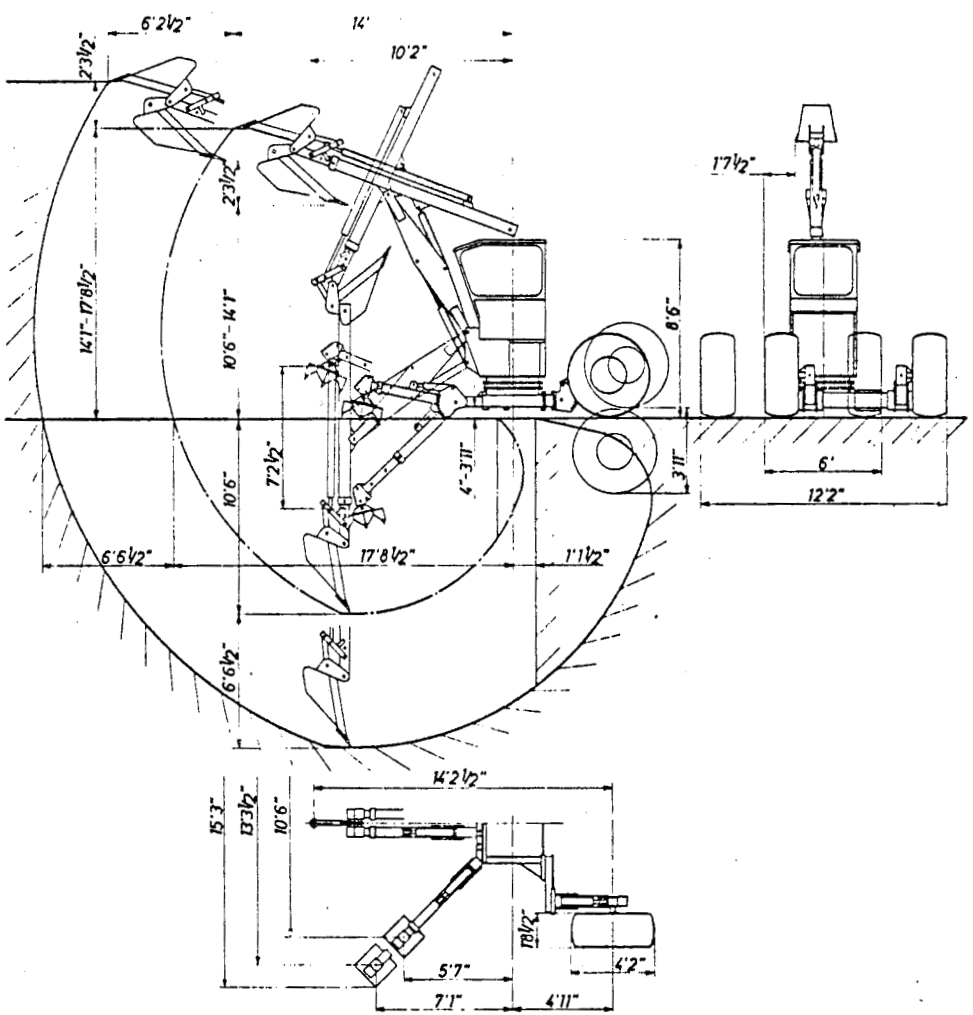
first-class guarantee service and attendance.
Made in Switzerland

November 1975

Dimensional specifications see overleaf

Dimensional specifications of MENZI MUCK EH, T1 and T2





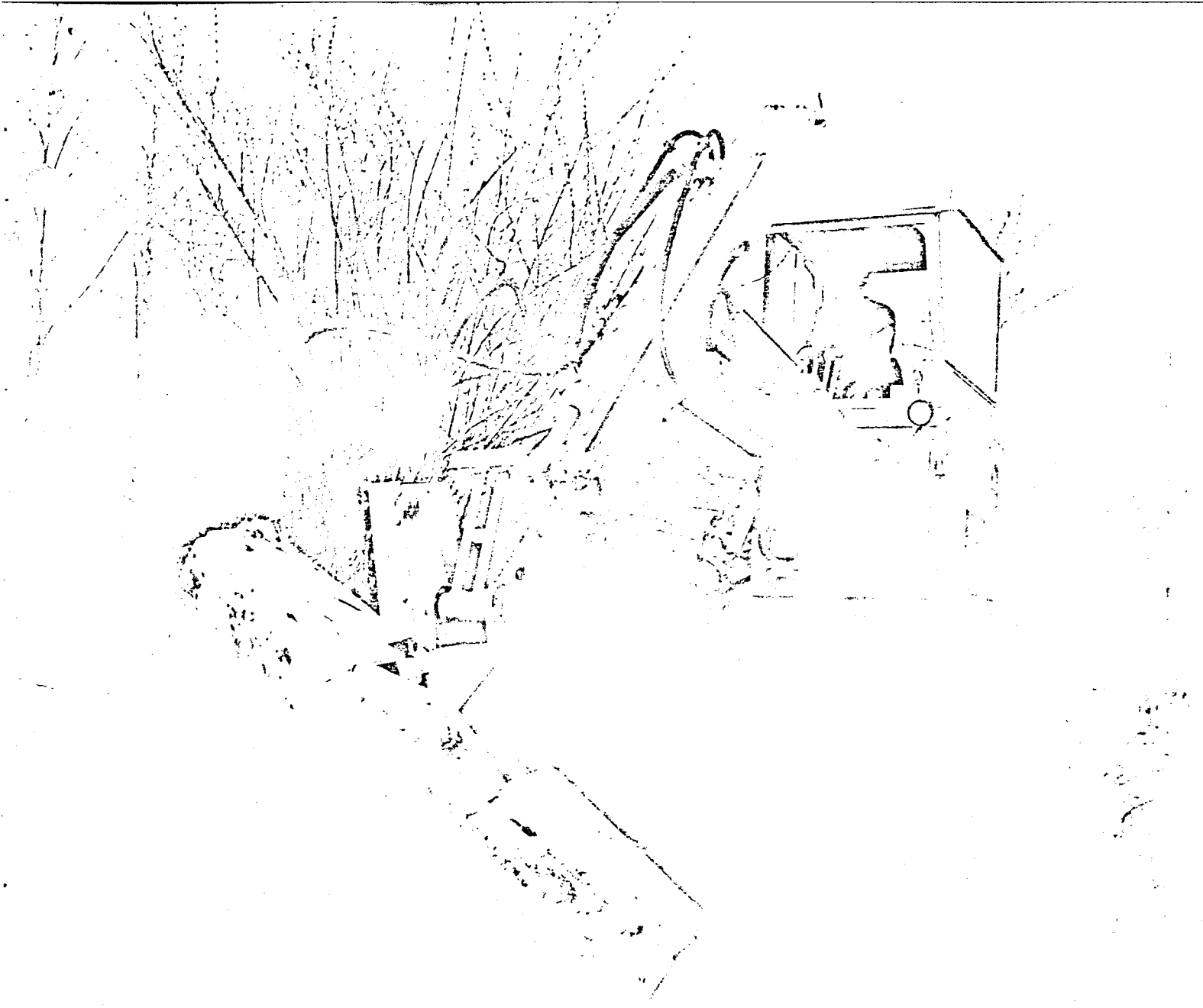
EH

maximum reach	20'4''	(6,2 m)
maximum digging depth	13'1½''	(4 m)

T1 and **T2**

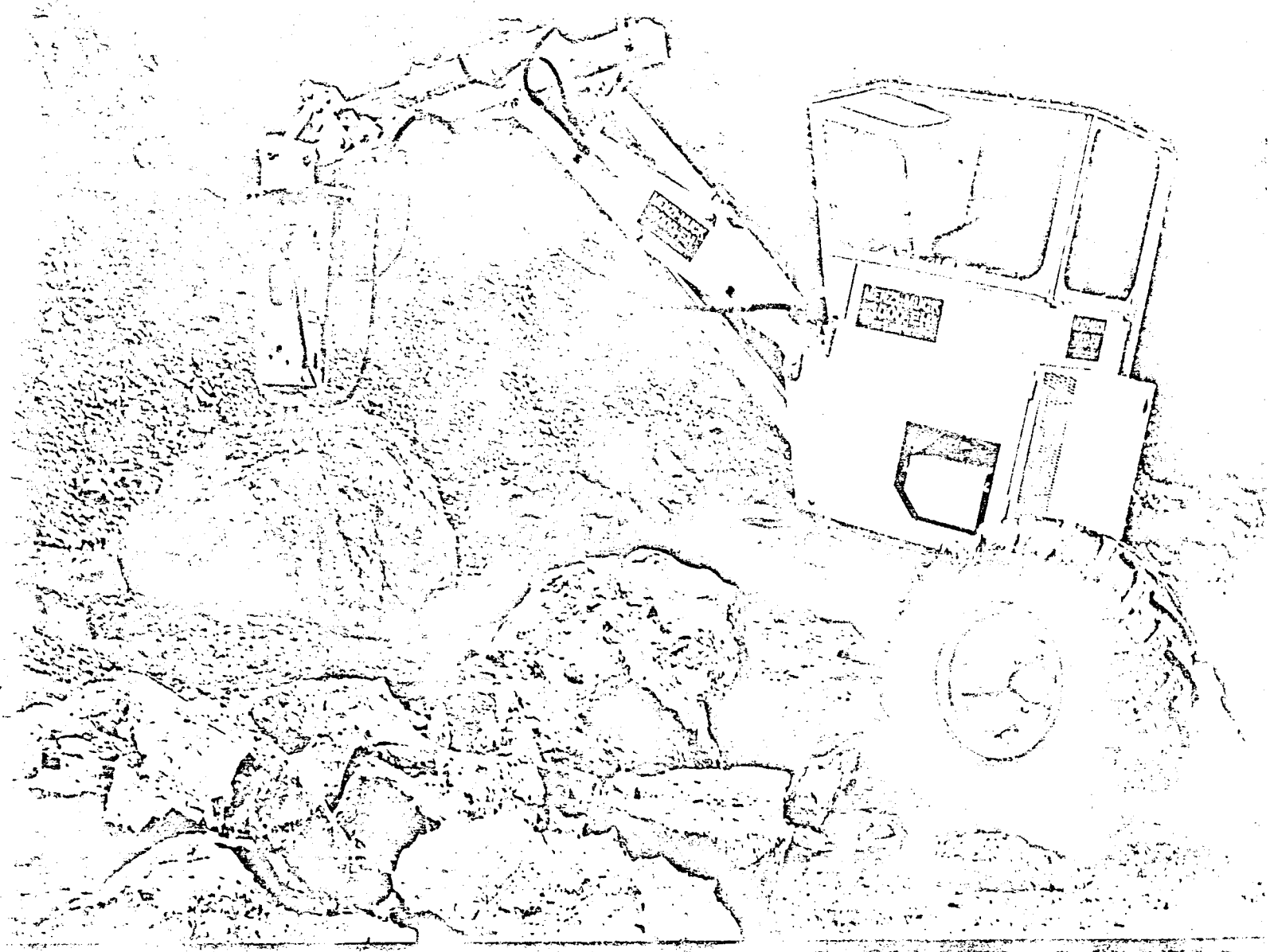
The dimensions shown on this sketch refer to excavator T 2.
Reach and digging depth of T 1 are smaller by 3'3'' (1 m).

maximum reach	T 1 = 21' (6,4 m)	T 2 = 24'3'' (7,4 m)
maximum digging depth	T 1 = 13'9'' (4,2 m)	T 2 = 17''½'' (5,2 m)



MENZI - MUCK

MUCK in a Swiss fairytale is the name of a little man, that can do anything. The hydraulic climbing backhoe MENZI MUCK is just that. It not only can fill all excavating requirements with ease on standard digging jobs, but it also works on a 1:1 slope or in soft soils and swamps. This versatility is mainly a result of the hydraulically adjustable wheels and front legs and the relatively low weight. The MENZI MUCK really is an allround digger.



The allround digger MENZI MUCK is being built in Widnau, Switzerland, since 1966 with the exception of the diesel motor and some other parts. The operator sits in a spacious, completely glassed in cabin. The seat is adjustable. Heater is sufficient for severe climates (over 100 machines in Norway and Finland). Wheels and legs can be adjusted in length as well as in width. A cutting wheel gives added stability on very steep slopes. All leg and wheel cylinders lock automatically in case of hydraulic pressure loss.

Since the machine can climb onto a truck bed on its own, transport by truck is the fastest and easiest, but the MENZI MUCK can also be towed.

Additional advantages:

Very low operating and maintenance costs, everything hydraulic (no frontend, rearend, transmission to break down), excellent back-up service by factory trained mechanic (only two service men for 1000 machines operating in Switzerland are needed). Wheels lock automatically, when machine digs. All hydraulic rams are of special steel and will not be dented by rock fall. All buckets reversible. Can work in very confined spaces. Light enough to be moved by helicopter.

The allround excavator MENZI MUCK is available in following sizes:

1. **MENZI MUCK EH**
   heavy type with fully hydraulic adjustable carriage, suitable for even the most demanding job.
2. **MENZI MUCK EH T1**
   the same as EH but with 1 meter (3.3 feet) hydraulic sliding boom and hydraulic tilt bucket (gradall).
3. **MENZI MUCK EH T2**
   same as EH, but with 2 meter (6.6 feet) hydraulic sliding boom and hydraulic tilt bucket (gradall).
4. **MENZI MUCK EL**
   with electric motor instead of diesel for work in tunnels etc. Electric motor fits all other models (EH, T1 and T2).
5. **MENZI MUCK EL and DI**
   with electric **and** diesel motor (interchangeable), fitting all models (EH, T1 and T2).

MENZI - MUCK

ACCESSORIES:

Heavy oil hydraulic boom mounted jackhammer, oil hydraulic hand jackhammer, various buckets for V-ditching, swamps, foundations, rocks, grading etc., swamp and special equipment to work in water up to 3 meters (10 feet) deep.

	EH	TI	T2
weight with 60 cm (2') bucket	10.140 lbs.	11.133 lbs.	11.685 lbs.
maximum digging depth	13' 1½"	13' 9"	17' ½"
maximum reach	20' 4"	21'	24' 3"
lifting capacity short boom	4.410 lbs.	4.410 lbs.	4.410 lbs.
lifting capacity 1 m (3.3') extended	—	3.528 lbs.	3.528 lbs.
lifting capacity 2 m (6.6') extended	—	—	3.086 lbs.
tearing power	6.835 lbs.	6.835 lbs.	6.835 lbs.
breakout force long bucket	12.125 lbs.	12.125 lbs.	12.125 lbs.
breakout force short bucket	22.050 lbs.	22.050 lbs.	22.050 lbs.
tires	20×20 8ply	20×20 10ply	20×20 10ply
diameter	⌀ 4' 2"	⌀ 4' 2"	⌀ 4' 2"
tire width	1' 8½"	1' 8½"	1' 8½"
ground pressure standard equipment	0.68 lb/sq.in.	0.74 lb/sq.in.	0.79 lb/sq.in.
ground pressure with swamp equipment	0.28 lb/sq.in.	0.30 lb/sq.in.	0.33 lb/sq.in.
diesel motor HATZ 2-cylinder	40 hp	40 hp	40 hp
hydraulic pump Hamworthy	19.78 US gal.	19.78 US gal.	19.78 US gal.
pressure	2850 PSI	2850 PSI	2850 PSI

MENZI - MUCK

BUCKETS:

Width	Form	Cubic Feet	Weight
1'	long	2,47 cu. ft.	290 lbs.
1' 4"	long	3,18 cu. ft.	330 lbs.
2'	long	5,3 cu. ft.	425 lbs.
2' 8"	long	7,42 cu. ft.	507 lbs.
3' 3"	long	9,9 cu. ft.	577 lbs.
4'	long	12,36 cu. ft.	727 lbs.
2'	short	3,53 cu. ft.	341 lbs.
2' 8"	short	5,3 cu. ft.	434 lbs.
2' 8"	hydraulic tilt	5,3 cu. ft.	462 lbs.

Width	Form	Cubic Feet	Weight
2'	rock bucket	4,94 cu. ft.	595 lbs.
2' 8"	rock bucket	6,71 cu. ft.	650 lbs.
3' 3"	rock bucket	9,18 cu. ft.	826 lbs.
2'	foundation bucket straight wall	2,82 cu. ft.	308 lbs.
2' 8"	foundation bucket straight wall	4,24 cu. ft.	364 lbs.
4' 1"	gradall bucket	7,06 cu. ft.	416 lbs.
4' 1"	gradall bucket		

CANADIAN CLIMBING BACKHOE LTD.

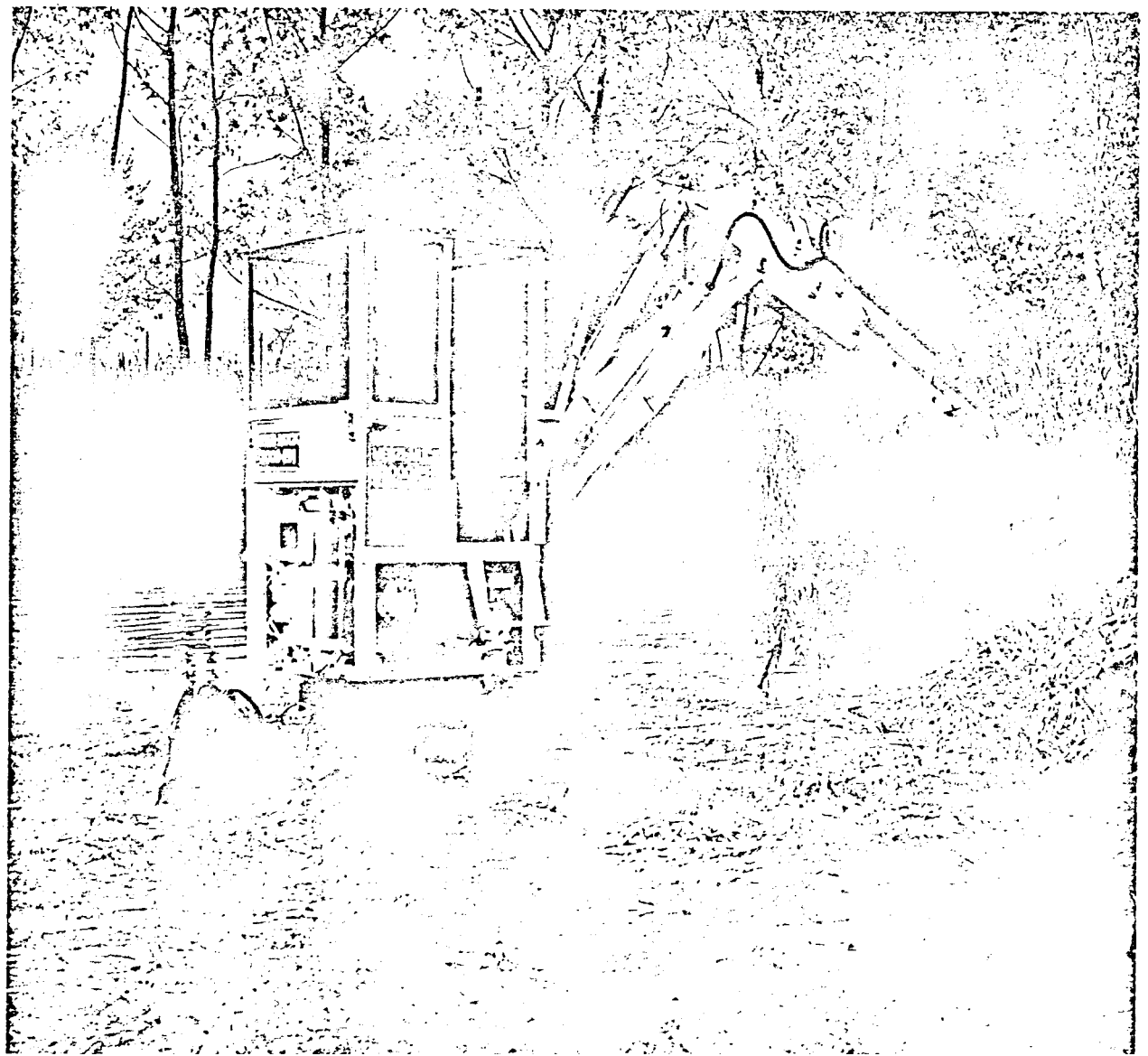
16653 - 111 AVENUE

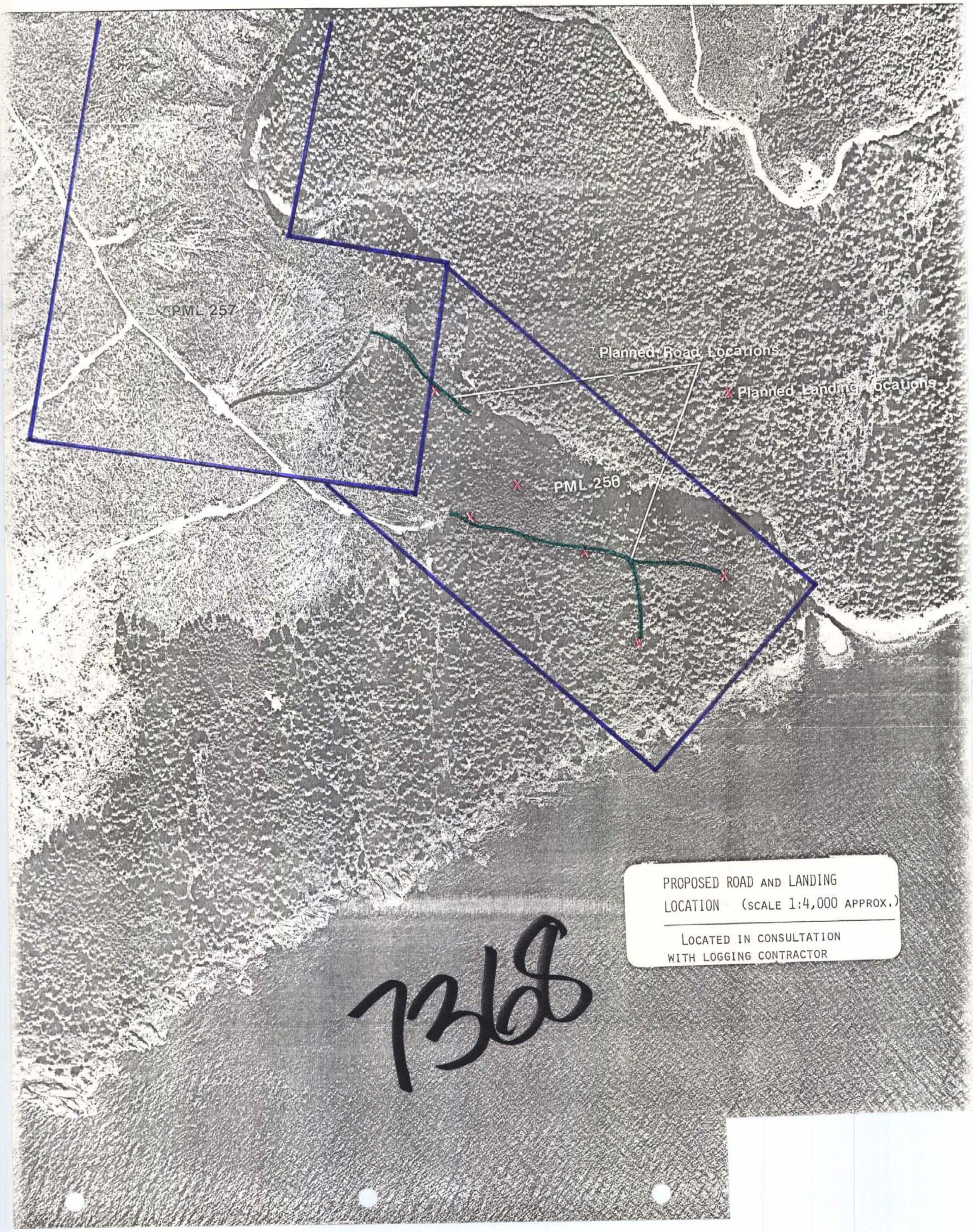
EDMONTON, ALBERTA

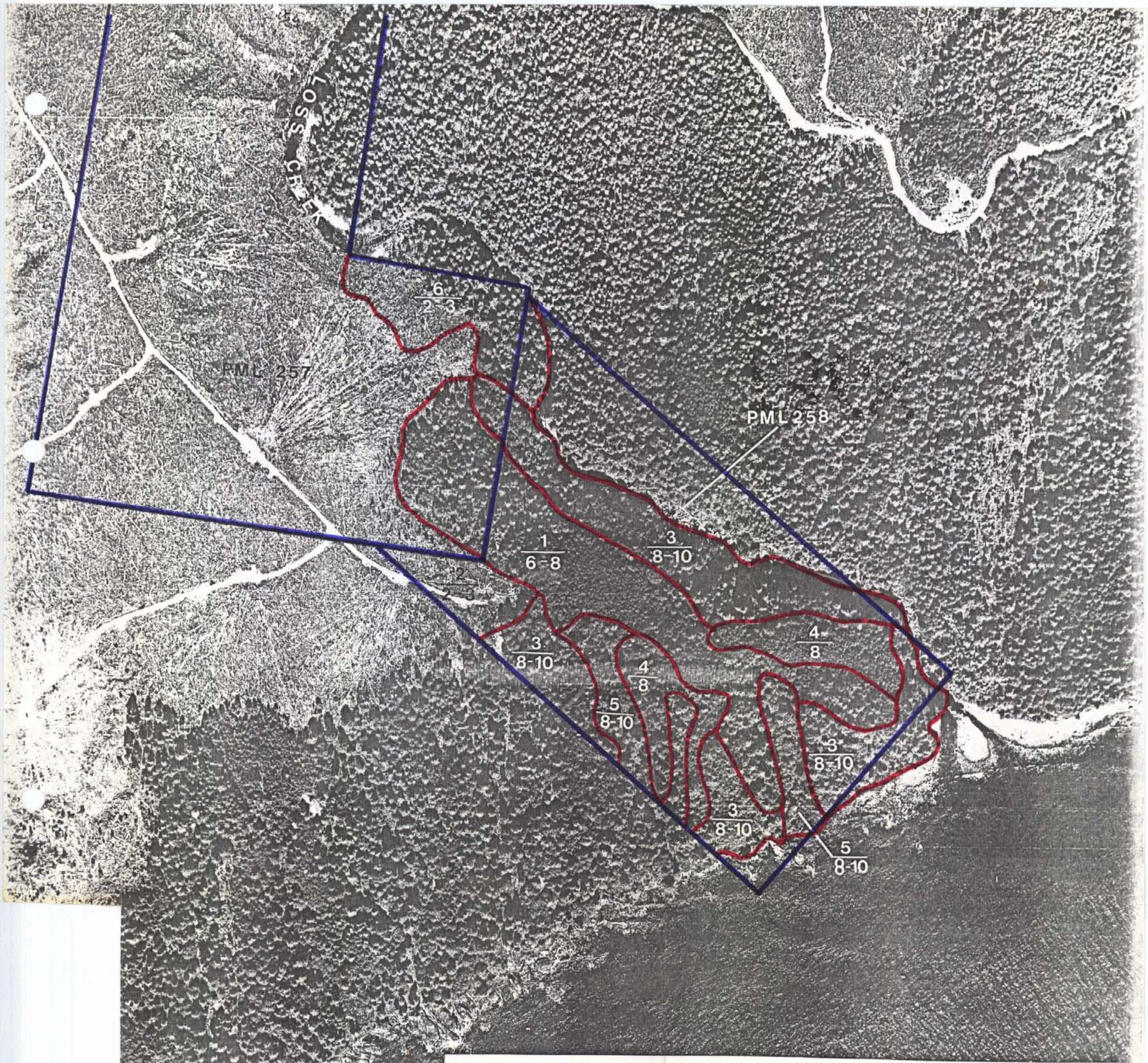
T5M 1Y6

403/489-3866 Telex 0373078

SALES RENTALS LEASING




PML 257
Planned Road Locations
Planned Landing Locations
PML 256
PROPOSED ROAD AND LANDING
LOCATION (SCALE 1:4,000 APPROX.)
LOCATED IN CONSULTATION
WITH LOGGING CONTRACTOR
7368



LEGEND: SOILS MAP (scale 1:4,000 approx)

Soil Area 1: Orthic Ferro-Humic Podzols developed on silt loam to fine sandy loam fluvio-glacial materials.

Soil Area 2: Orthic Ferro-Humic and Humo-Ferric Podzols developed on sandy loam to gravelly sandy loam fluvio-glacial materials.

Soil Area 3: Orthic Ferro-Humic Podzols developed on silt loam to sandy loam fluvio-glacial materials.

Soil Area 4: Orthic Humo-Ferric Podzols developed on sandy loam fluvio-glacial materials.

Soil Area 5: Gleyed Ferro-Humic and Orthic Humo-Ferric Podzols developed on sandy loam fluvio-glacial materials.

Soil Area 6: Orthic Regosol and Orthic Humo-Ferric Podzol soils developed from loamy sand fluvial materials.

TOPOGRAPHIC CLASSES

1	0 - 0.5%
2	0.5 - 2.5%
3	2 - 5%
4	6 - 9%
5	10 - 15%
6	16 - 30%
7	31 - 45%
8	46 - 70%
9	71 - 100%
10	> 100%

EXAMPLE MAP SYMBOL

3 ← Soil Map Unit

8 - 10 ← Topographic Class

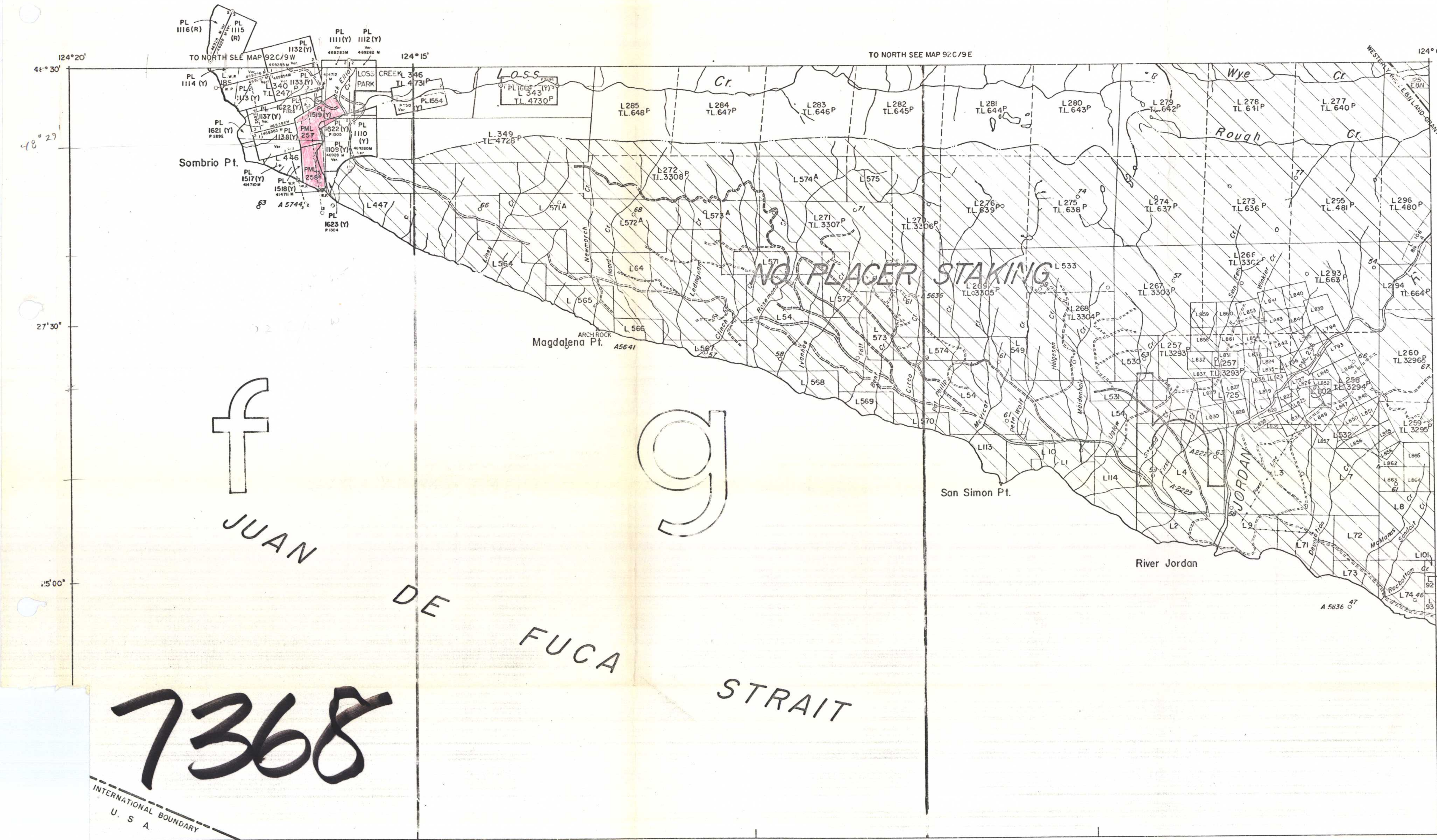
7368

LEGEND
CROWN-GRANTED MINERAL CLAIM C.G.
REVERTED C.G. MINERAL CLAIM Rev. C.G.
FORFEITED MINERAL CLAIM
VERIFIED LEGAL CORNER POST Ver.
LEGAL SURVEY
LEGAL CORNER POST & TAG NUMBER

Miles 1 .5 0 1 2 Miles
Metres 1000 500 0 1000 2000 3000 Metres
Kilometres 1 .5 0 1 2 3 Kilometres

UNLESS VERIFIED OR SURVEYED, THE MAP POSITION OF A LEGAL CORNER POST IS BASED ON THE LOCATOR'S SKETCH. FOR FURTHER INFORMATION, APPLY TO THE OFFICE OF THE MINING DIVISION CONCERNED.

DATE OF MICROFILM: 79-07-12



7368

P 92C/8

Y-DENOTES YELLOW COLOUR CODED STREAM
G-DENOTES GREEN COLOUR CODED STREAM
R-DENOTES RED COLOUR CODED STREAM

LOSS CREEK DESIGNATED AREA

PLACER TITLES REFERENCE MAP 92C/8

DEPARTMENT OF MINES AND PETROLEUM RESOURCES VICTORIA B.C.

This map is prepared only as a guide to the location of Placer Mining Leases. Positions of Placer Mining Leases are not surveyed. Where geographic positions of Legal Posts have been verified they are indicated with the symbol Ver. For further information, application should be made to the office of the Chief Gold Commissioner.

Verified Legal Post
Stream... NO PLACER STAKING
perennial
indefinite
intermittent dry
Boundary, swamp, flat, snow
Swamp
Height of Land
Pipeline
Power Transmission Line
Flight Numbers

NON DESIGNATED AREA
Mining Division Boundary
Indian Reservation
Mineral and Placer Reserve
Ecological Reserve
Park Boundary
Recreation Area Boundary
Railway
Highway
Public Road
Trail