

REPORT 72 - MONK MAN - BELCOURT 71(1)A  
(COPY 2)

**CONFIDENTIAL**

McINTYRE PORCUPINE MINES LTD

BRITISH COLUMBIA COAL LICENCES

**FILE**

BY

J. W. MacLEOD

October 5, 1971

Vancouver, B. C.

**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

**00 538**

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M A P S (In Pocket)

BRITISH COLUMBIA COAL PROPERTIES	1" = 10 miles
PINE PASS PHOTOGEOLOGY	1" = 1 mile
MONKMAN PASS AREA	1" = 1,320'
MONKMAN PASS COLUMNAR SECTION	1" = 200'

REPORT ON

McINTYRE PORCUPINE MINES LTD.

BRITISH COLUMBIA COAL LICENCES

LICENCES HELD:

PINE PASS AREA

<u>Licence No.</u>	<u>Acreage</u>	<u>Rental Due Dec. 15</u>	<u>Licence No.</u>	<u>Acreage</u>	<u>Rental Due Dec. 15</u>
1793	640	\$320.00	1798	640	\$320.00
1794	"	"	1799	"	"
1795	"	"	1800	"	"
1796	"	"	1801	"	"
1797	"	"	1802	"	"

Total Rental Due Dec. 15 = \$3,200.00

Licence Renewal 10 x \$25 = \$ 250.00

Minimum Annual Expenditure \$3,450.00

MONKMAN PASS AREA

<u>Licence No.</u>	<u>Acreage</u>	<u>Rental Due Oct. 7</u>	<u>Licence No.</u>	<u>Acreage</u>	<u>Rental Due Oct. 7</u>
1158	640	\$320.00	1213	640	\$320.00
1159	"	"	1214	"	"
1160	"	"	1215	"	"
1161	"	"	1216	440	\$220.00
1162	"	"	1217	640	\$320.00
1165	"	"	1218	"	"
1166	"	"	1219	"	"
1167	"	"	1220	"	"
1168	"	"	1221	"	"
1169	"	"	1222	"	"
1170	"	"	1223	"	"
1171	"	"	1224	"	"
1172	"	"	1225	"	"
1173	"	"	1226	"	"

<u>Licence No.</u>	<u>Acreage</u>	<u>Rental Due Oct. 7</u>	<u>Licence No.</u>	<u>Acreage</u>	<u>Rental Due Oct. 7</u>
1174	640	\$320.00	1227	640	\$320.00
1175	"	"	1228	"	"
1176	"	"	1229	"	"
1177	"	"	1230	"	"
1178	"	"	1231	"	"
1179	"	"	1232	"	"
1180	"	"	1233	"	"
1181	"	"	1234	612	\$306.00
1182	"	"	1235	640	\$320.00
1183	"	"	1236	"	"
1184	"	"	1237	"	"
1185	"	"	1238	"	"
1186	"	"	1239	"	"
1187	"	"	1240	"	"
1188	"	"	1241	"	"
1189	"	"	1242	"	"
1190	"	"	1243	"	"
1191	"	"	1244	"	"
1192	"	"	1245	"	"
1193	"	"	1246	"	"
1194	"	"	1247	"	"
1195	600	\$300.00	1248	"	"
1197	640	\$320.00	1249	"	"
1198	"	"	1250	"	"
1200	"	"	1251	"	"
1201	"	"	1252	480	\$240.00
1202	"	"	1253	640	\$320.00
1203	"	"	1254	"	"
1204	"	"	1255	"	"
1205	"	"	1256	"	"
1206	"	"	1257	"	"
1207	"	"	1258	"	"
1208	"	"	1259	"	"

<u>Licence No.</u>	<u>Acreage</u>	<u>Rental Due Oct. 7</u>	<u>Licence No.</u>	<u>Acreage</u>	<u>Rental Due Oct. 7</u>
1209	640	\$320.00	1261	640	\$320.00
1210	"	"	1262	"	"
1211	"	"	1272	"	"
1212	"	"	1286	"	"
			1267	"	"
Total Rental Due Oct. 7 = \$32,746.00					
Licence Renewal 103 x \$25 = <u>2,575.00</u>					
Minimum Annual Expenditure <u>\$35,321.00</u>					

Therefore the minimum annual expenditure to maintain the company's licences in good standing is \$38,771.00.

The Monkman Pass licences were acquired from government reserve by posting a \$50,000.00 bond, to refund this bond will require an expenditure on these licences of at least \$150,000.00 by Oct. 7, 1973.

LOCATION AND ACCESS:

PINE PASS AREA

The Pine Pass licences were selected because of the proximity of possible coal to rail haulage. The north end of these 10 licences is within one mile of the P.G.E. railway 630 miles from Vancouver and the same distance from Prince Rupert. Access for personnel to an operation would be from the town of Chetwynd, 30 miles by paved highway to the east. The railroad is on the south side of the Pine River as is the property but a bridge would have to be built to get access to the highway. Gas and power lines follow the Pine River Valley.

MONKMAN PASS AREA

The main portion of these licences lie on either side of Kinuseo Creek valley on the eastern side of Monkman Pass, the only remaining undeveloped pass through the Rocky Mountains. Development of the area would require the construction of about 80 miles of railroad to connect with the C.N.R. about 50 miles east of Prince George for a total rail haul to Vancouver or Prince Rupert of 595 miles. Shipment via Prince Rupert to Japan for this coal would be some 800 miles less than

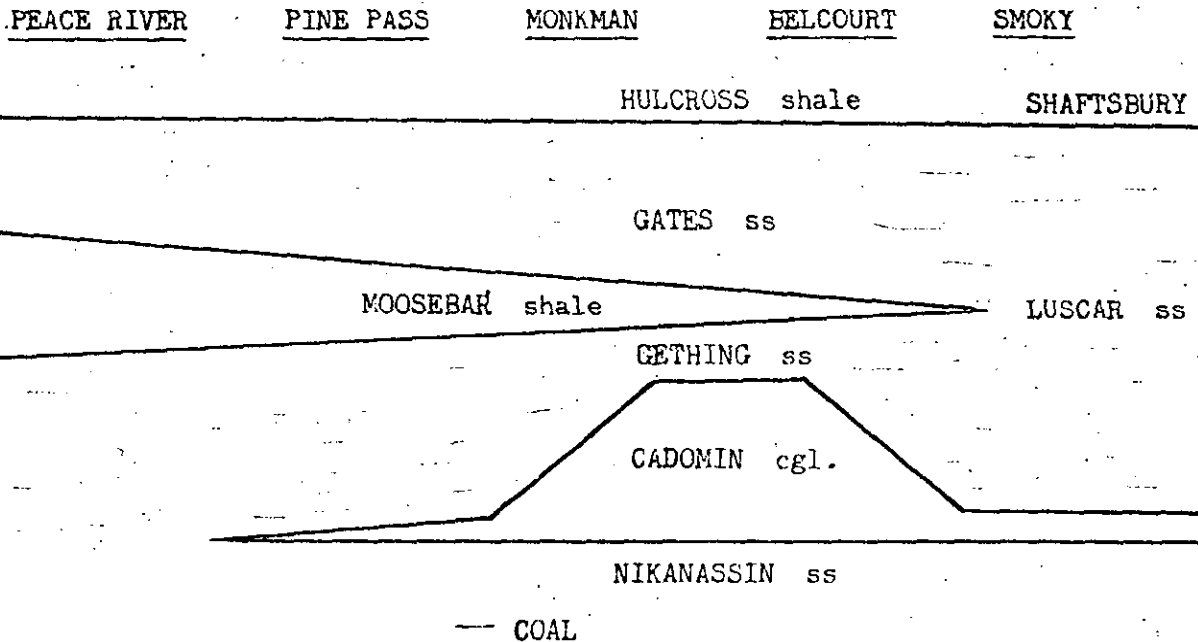
the present mileage for Smoky River or Crows Nest coal.

Present access is by means of 80 miles of dirt road from the small Alberta town of Beaverlodge.

Included with these licences accessible from the Monkman Pass are those covering the coal measures extending for 40 miles to the southeast toward the Alberta border. Although accessible for exploration purposes, transportation by pipeline is envisioned for development of this area to the southeast.

GEOLOGY:

The diagrammatic section below represents a 180-mile section of the coal bearing Lower Cretaceous sediments which outcrop between the Peace River and McIntyre's Smoky River mine.



Of this section McIntyre's Smoky River Mine covers 25 miles, our Monkman Pass licences 48 miles and the Pine Pass licences 5 miles.

Going northwest from Smoky the coal bearing Luscar formation is separated by the Moosebar marine shale which reaches a thickness of 1500 feet around Pine Pass and the continental sandstones above and below

are called Gates and Gething. Around the Peace River the Gates is believed to be mainly of marine origin so that the coal is confined to the Gething horizon.

The most prominent marker horizon, the Cadomin conglomerate which is a persistent 40 feet thick where overlain by Luscar, thickens to 500 feet in the Belcourt-Monkman area, then thins rapidly to the northeast and is not recognized in the Peace River area.

#### COAL:

##### PINE PASS

These 10 licences were staked to cover an apparent flat area of Gething formation which could be amenable to underground mining. The area to the northeast, where the Gething is exposed along the Willow Creek anticline, was extensively drilled about 1948 by the B.C. government (Bull. No. 36). This work defines a good coking seam about 100 feet below the Gething-Moosebar contact which stratigraphically correlates with Brameda's Chamberlain seam.

Hole W19, shown on the accompanying plan, is the closest drilled to our licences and cut 12.2 feet assaying 9.2% ash, 0.5% sulfur and 20.8% volatile matter.

With no housing or railway construction required, these licences offer an exploration bet with low capital requirements.

##### MONKMAN PASS

The selection of licences in this area was made on the basis of available geology (G.S.C. Bulletin 152). The structural setting in the Kinuseo valley suggests the possibility of coal available for both open pit and underground mining depending on thickness and quality. To the southeast there are considerable strike lengths of Gates-Gething with uniform dips which again has possibility of either open pit or underground access.

An attempt was made to expose the Gates-Gething section in the Monkman Pass area which resulted in the exposure of 6 seams 5 to 14.5 feet thick for a total of 41 feet of coal in a 700-foot section of the

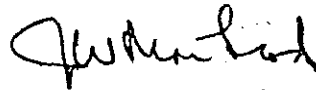
Gates formation. The Gething section is incomplete; three seams between 4 and 13.5 feet have been exposed. A surface sample from one of these, a 10.5 foot seam gave the following analysis.

Ash .....	15.5%
Volatiles .....	28.9%
Free Carbon.....	55.6%
Sulfur.....	0.44%
B.T.U./#.....	10,210
F.S.I.....	0

Two seams are partially exposed just above the Cadomin by an oil well access road in the vicinity of Red Deer Creek 24 miles southeast of the pass and a further 10 miles southeast Stott (Bull. 152) reports a 40 foot seam on Mt. Belcourt.

These indications suggest the presence of substantial tonnages of coal on the licences and although Denison has reported good quality coal both to the northwest and southeast, there remains a considerable amount of work to prove tonnages of recoverable coal of metallurgical grade.

Respectfully submitted,



J. W. MacLeod

JwMacL/nh

October 7, 1971





McIntyre Porcupine Mines Ltd.

Pine Pass Coal Co. Ltd.

Bayfund Industries Ltd.

Canada West Petroleum

Hogan Mines Ltd.

Alberta Coal Ltd.

Brameda Resources Ltd.

Denison Mines Ltd.

McIntyre Porcupine Mines Ltd.

Campbell

Denison Mines Ltd.

To Pine Pass 167 Miles

To Monkman 130 Miles

To Prince Rupert 465 Miles

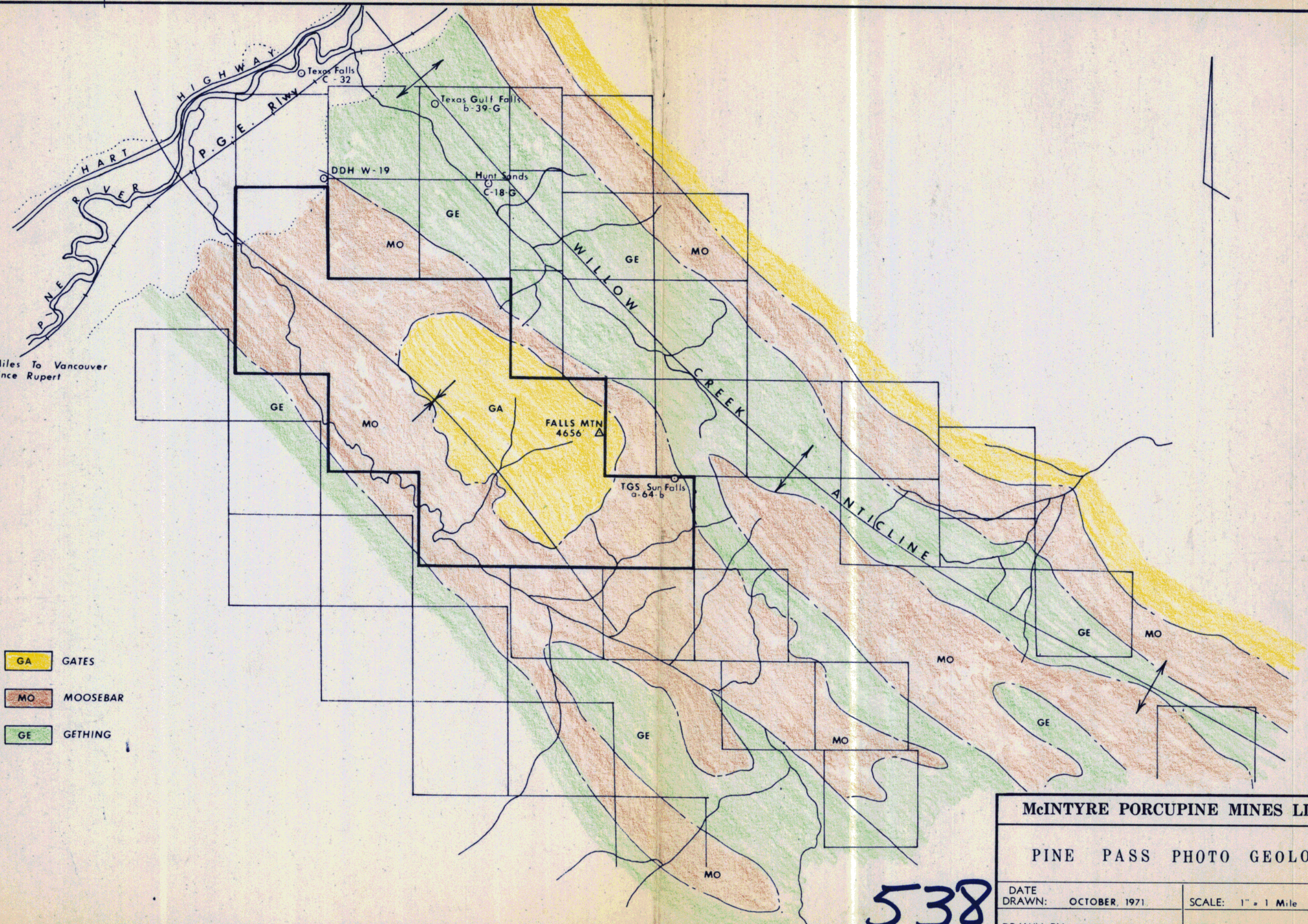
To Vancouver 467 Miles

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PR-M-071(2)A

McINTYRE PORCUPINE MINES LIMITED	
PC BRITISH COLUMBIA COAL PROPERTIES ①	
DATE DRAWN OCTOBER, 1971.	SCALE: 1" = 10 Miles
DRAWN BY JWM, DLM	N.T.S.

630 Miles To Vancouver  
or Prince Rupert



- GA GATES
- MO MOOSEBAR
- GE GETHING

McINTYRE PORCUPINE MINES LIMITED		
PINE PASS PHOTO GEOLOGY		
DATE DRAWN:	OCTOBER, 1971	SCALE: 1" = 1 Mile
DRAWN BY:	JWM DLM	N.T.S. 93-0-9

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PR-M-B 71(2)A

HULCROSS SHALE

COAL 10-0'  
COAL 5-5'  
COAL 5-0'  
COAL 2-0'

GATES SANDSTONE

COAL 10-5'  
COAL 10-0'

FIELD SECTION F-F'

MOOSEBAR SHALE

COAL 6-0'  
COAL 13-0'

FIELD SECTION B-B'

GETHING SANDSTONE

COAL 4-5'

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PR-M-B 71(2)B

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CADOMIN CONGLOMERATE

McINTYRE PORCUPINE MINES LIMITED

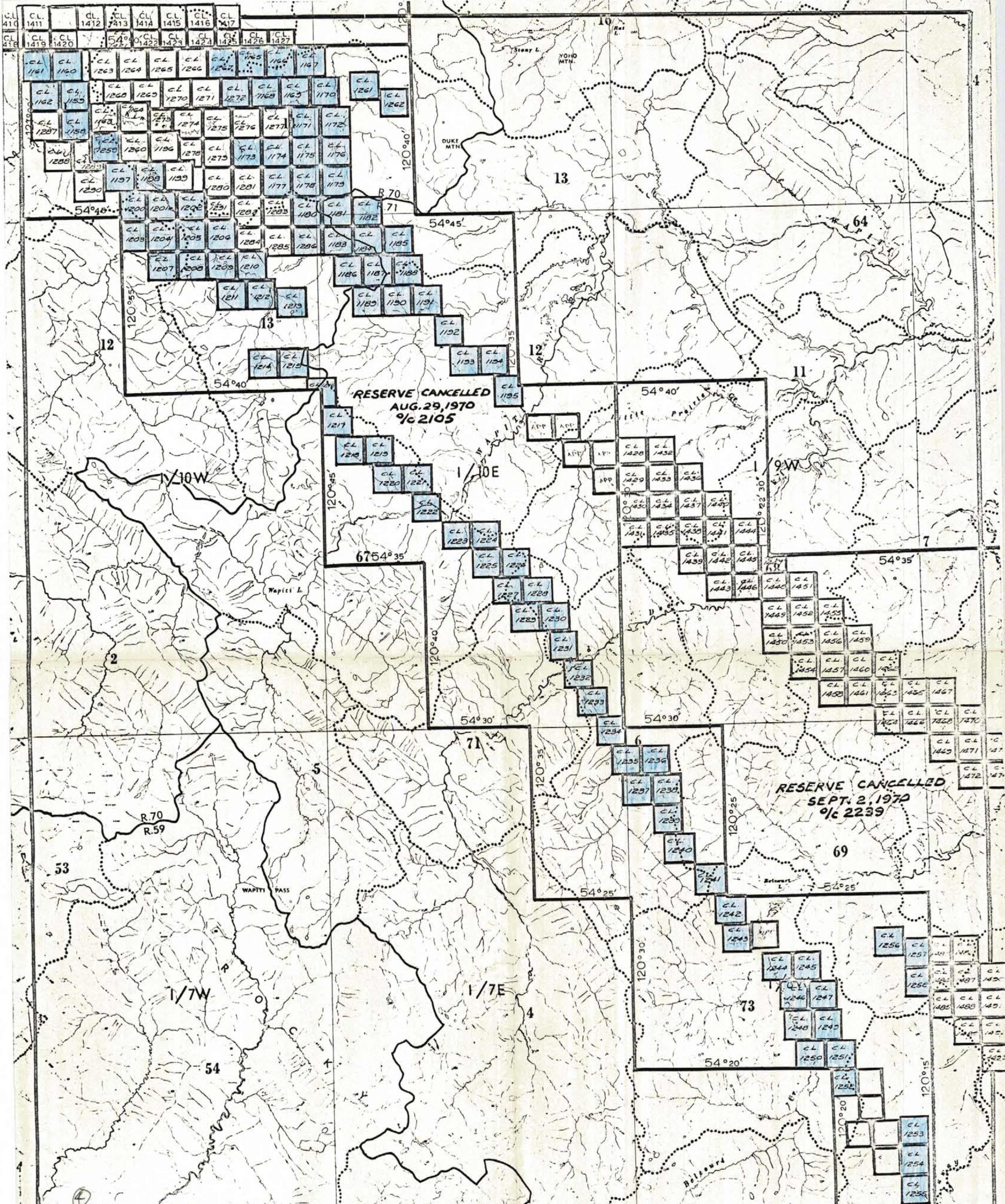
MONKMAN PASS AREA  
COLUMNAR SECTION

DATE DRAWN: OCTOBER, 1971

SCALE: 1" 200'

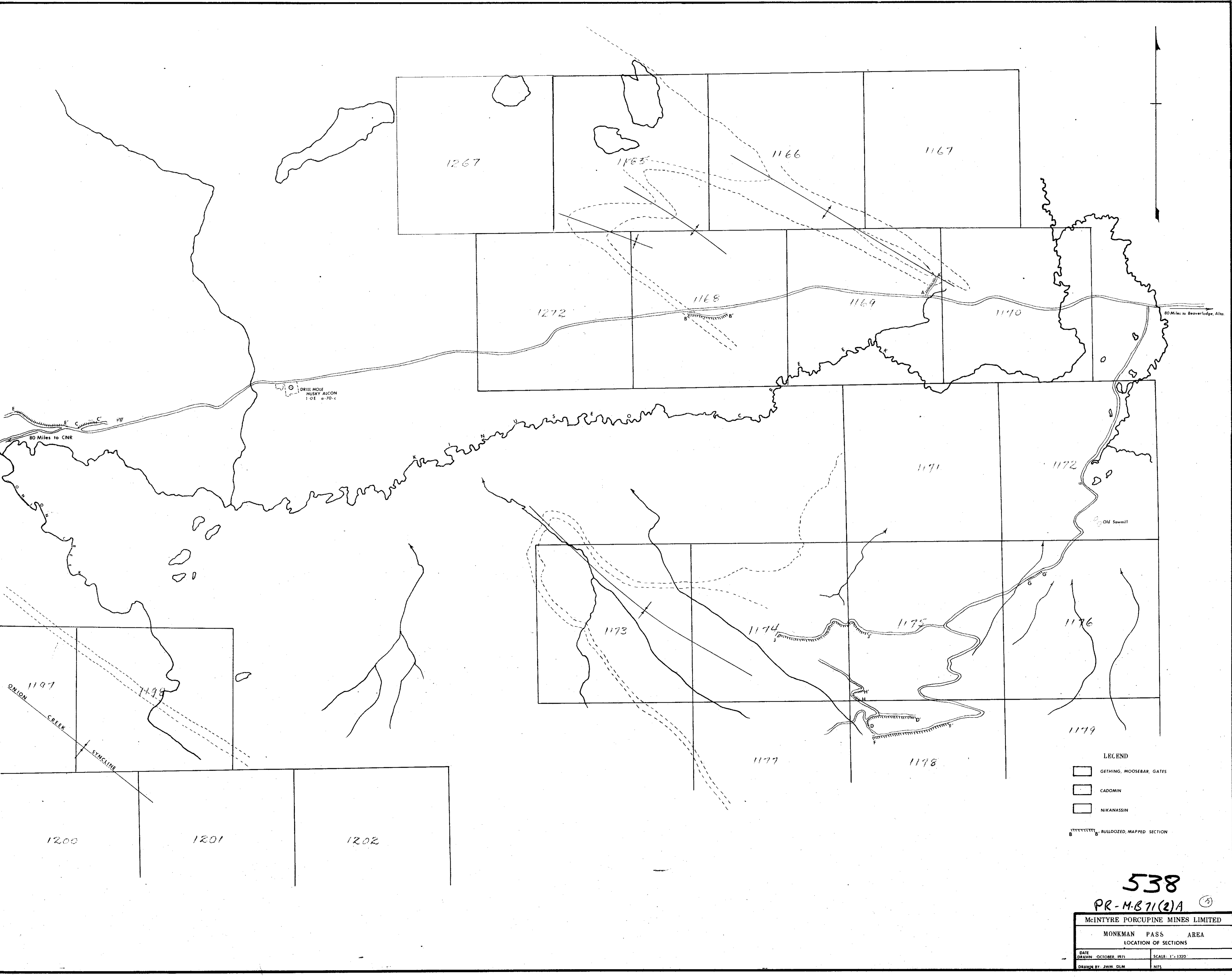
DRAWN BY: JWM, DLM

N.T.S.



McINTYRE PORCUPINE MINES LIMITED  
**MONKMAN PASS COAL LEASES**  
 DATE DRAWN: **AUG. 7, 1970** SCALE: **1" = 2 Miles**  
 DRAWN BY: **MacLeod** NTS **93 1**

**538 PR-MB 71(2)A**



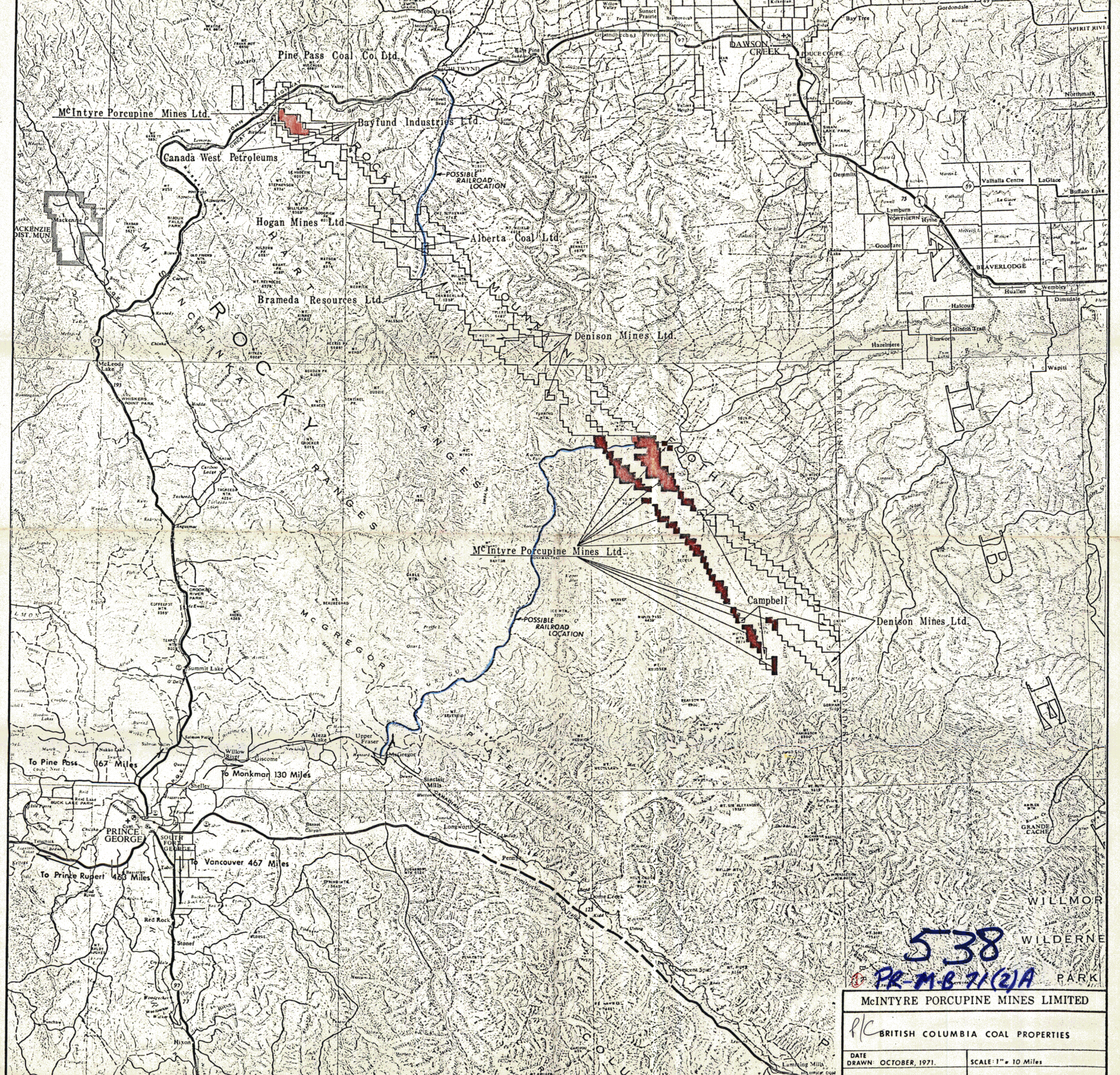
- LEGEND
- GETHING, MOOSEBAR, GATES
  - CADOMIN
  - NIKANASSIN
  - BULLDOZED, MAPPED SECTION

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PR-M-871(2)A

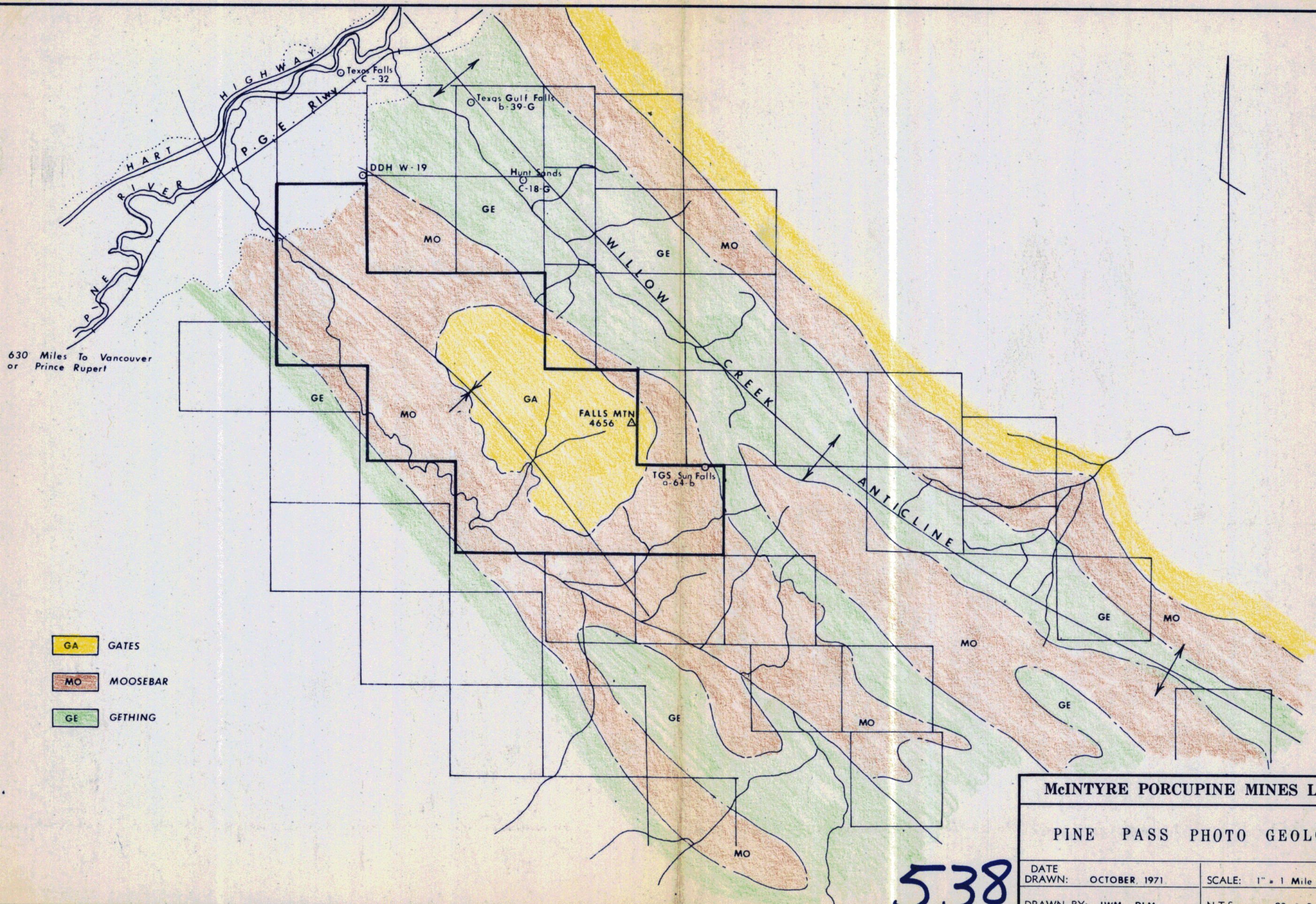
McINTYRE PORCUPINE MINES LIMITED

MONKMAN PASS AREA	
LOCATION OF SECTIONS	
DATE DRAWN: OCTOBER, 1971	SCALE: 1" = 1320'
DRAWN BY: JWM, DLM	NTS



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PR-MB-71(2)A

McINTYRE PORCUPINE MINES LIMITED	
PC BRITISH COLUMBIA COAL PROPERTIES	
DATE DRAWN: OCTOBER, 1971.	SCALE: 1" = 10 Miles
DRAWN BY: JWM, DLM	N.T.S.

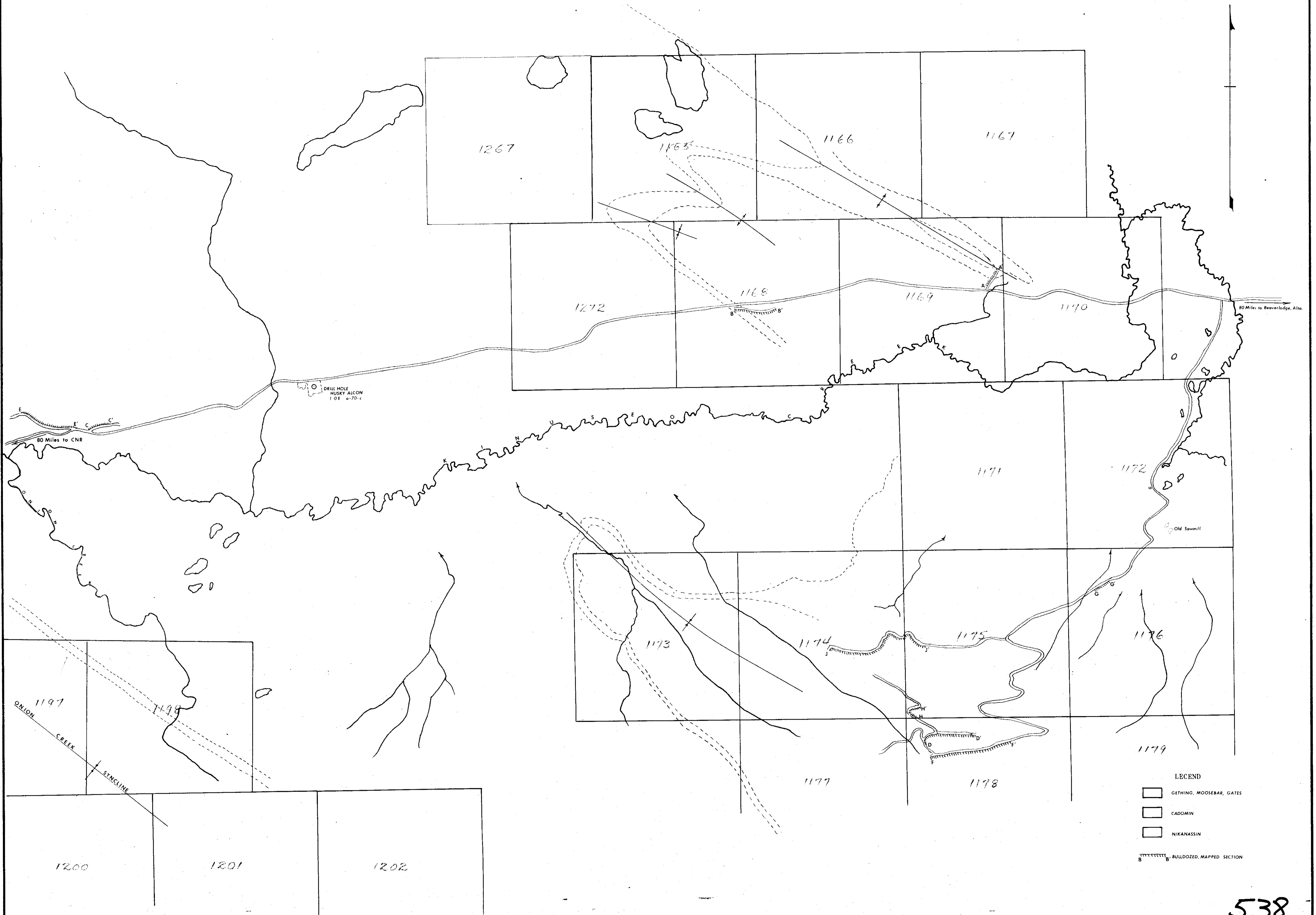


- GA GATES
- MO MOOSEBAR
- GE GETHING

<b>McINTYRE PORCUPINE MINES LIMITED</b>	
PINE PASS PHOTO GEOLOGY	
DATE DRAWN: OCTOBER, 1971	SCALE: 1" = 1 Mile
DRAWN BY: JWM DLM	N.T.S. 93-0-9

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② PR-M-B 71(2)A



- LEGEND
- GETHING, MOOSEBAR, GATES
  - CADOMIN
  - NIKANASSIN
  - B BULDOZED, MAPPED SECTION

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⑤ PR-M-B 71(2)A

McINTYRE PORCUPINE MINES LIMITED

MONKMAN PASS AREA

LOCATION OF SECTIONS

DATE DRAWN: OCTOBER, 1971	SCALE: 1" = 1320'
DRAWN BY: JWM DLM	NIS



HULCROSS SHALE

COAL 10-0'  
COAL 5-5'  
COAL 5-0'  
COAL 2-0'

GATES SANDSTONE

COAL 10-5'  
COAL 10-0'

F - F'  
SECTION  
FIELD

MOOSEBAR SHALE

COAL 6-0'  
COAL 13-0'

B - B'  
SECTION  
FIELD

GETHING SANDSTONE

COAL 4-5'

?  
?

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PR-M-B 71(2)A

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McINTYRE PORCUPINE MINES LIMITED

MONKMAN PASS AREA  
COLUMNAR SECTION

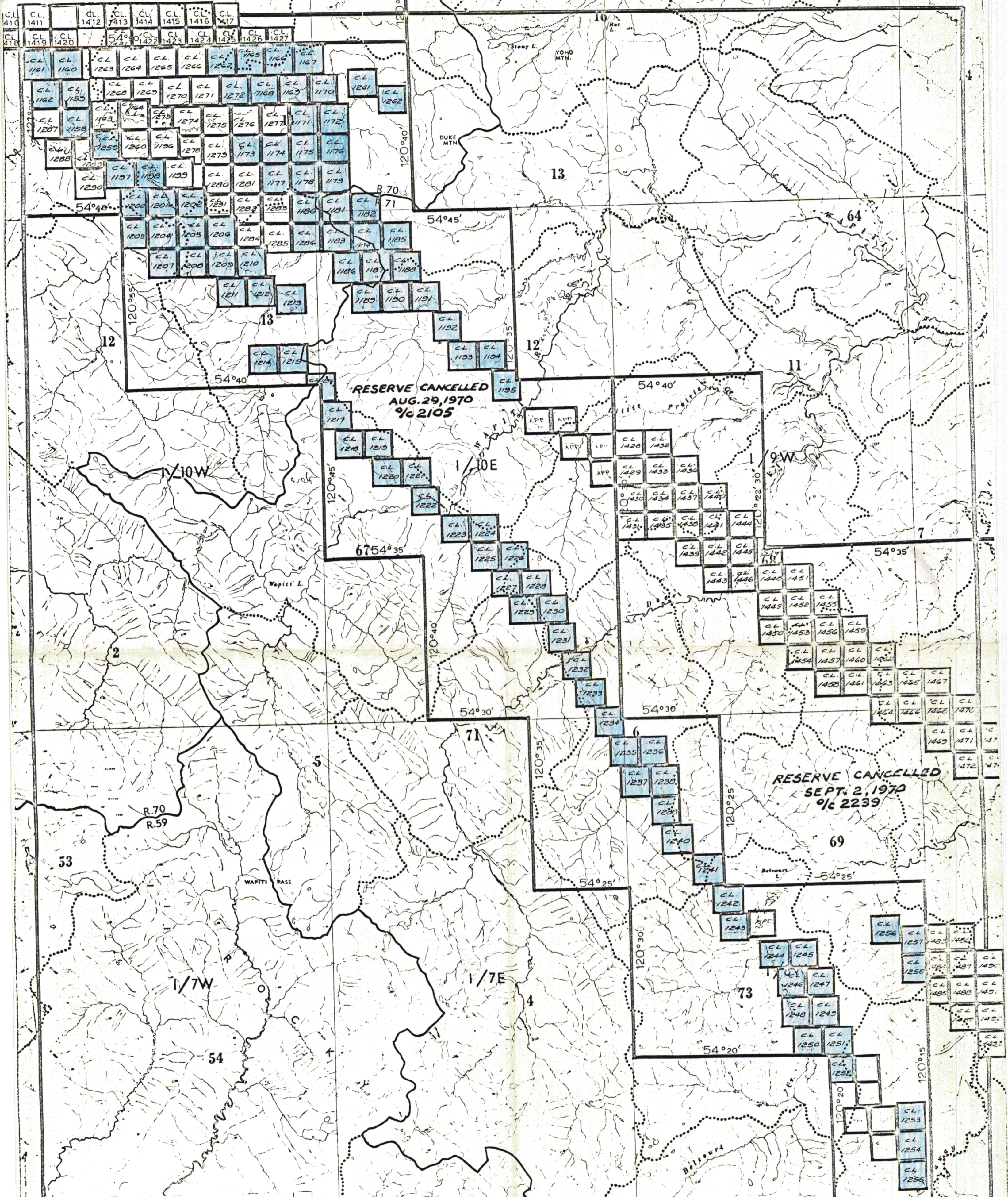
DATE DRAWN: OCTOBER, 1971

SCALE: 1" 200'

DRAWN BY: JWM, DLM

N.T.S.

CADOMIN CONGLOMERATE



McINTYRE PORCUPINE MINES LIMITED  
**MONKMAN PASS COAL LEASES**  
 DATE DRAWN: **AUG. 7, 1970** SCALE: **1" = 2 Miles**  
 DRAWN BY: **MacLeod** NTS **93 1**

**538** (4) **PR-M-B 71(2)A**