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REPORT

for

PENGELLY MINES LTD.

on the

MAMMOTH MINE

near

SILVERTON, B. C.

in the

Slocan Mining Division

°
49 58' N Latitude

°
117 18' W Longitude

N.T.S. 82 F 14 W

MINFILE # 60

by

ALEX BURTON, P. ENG.,
Burton Consulting Inc.,
5 - 924 West Hastings Street,
Vancouver, B.C. V6C 1E4

SEPTEMBER, 1980

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INTRODUCTION

The Mammoth Mine east of Silverton, B.C. has seen intermittent production from 1922, of silver, lead, zinc ore on the Mammoth complex vein system from the surface down 1,200 vertical feet to the 12 level.

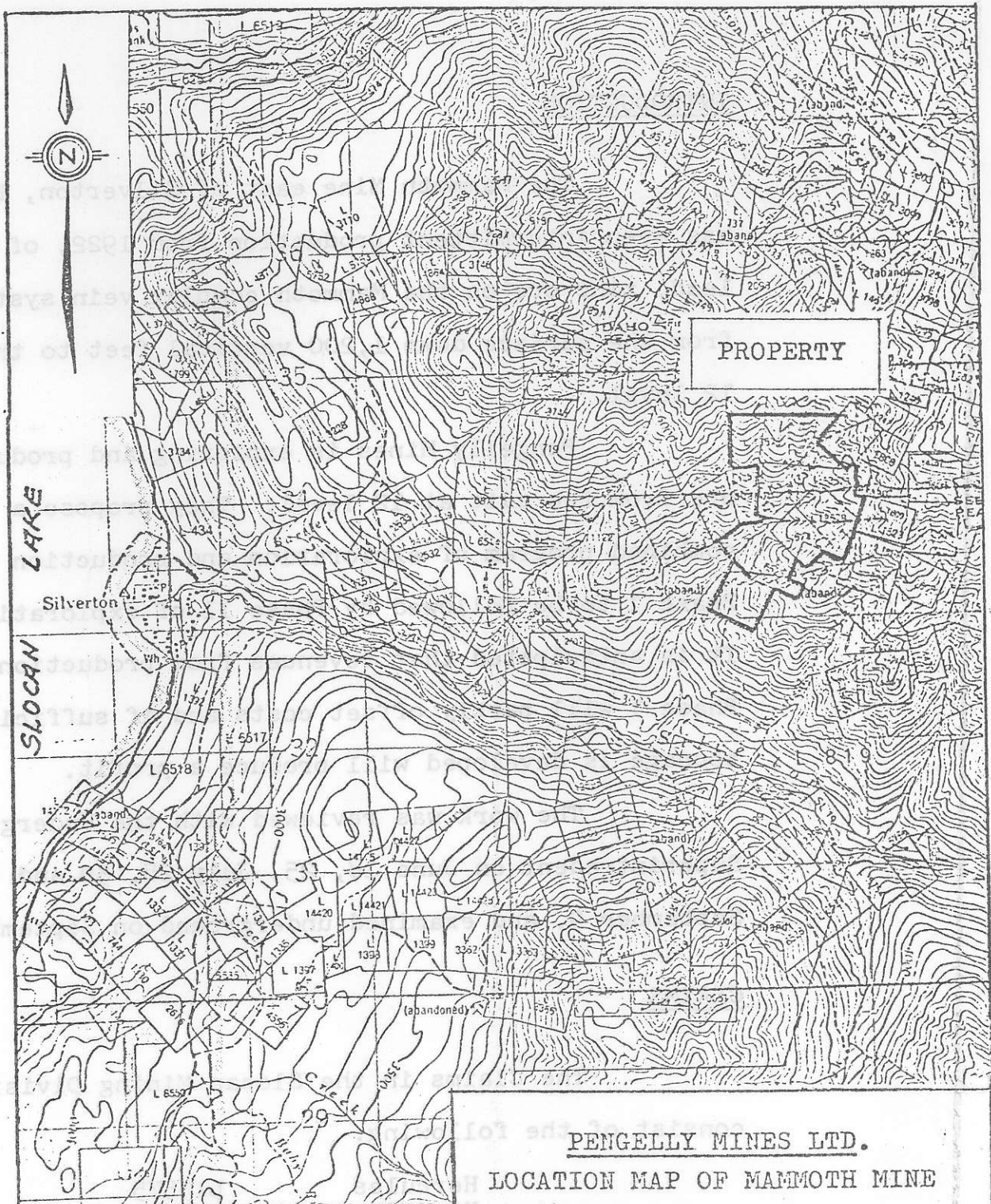
Pengelly Mines is exploring and producing ore from the adit at 12 level. They propose a combined program of exploration and production for Phase 1 to be followed by Phase 11 of exploration. It is anticipated that revenues from production in Phase 1 will partly offset costs and if sufficient tonnage is developed will produce a profit.

The work was reviewed with the Underground Superintendent on June 18, 25, July 28, 30 and September 9, and examined underground on September 8, 1980.

CLAIMS

The Claims in the Slocan Mining Division consist of the following:

Hercules	L13575
High Ore	L13574
Mammoth	L13572
Moose	L13573
Gem Fr.	L13578
Buffalo	L674
Buster Fr.	79
Evelyn	L6526
Lost Cause	



To accompany report by A. Burton, P.Eng.
 Burton Consulting Inc.
 Suite 5-924 W. Hastings
 Vancouver, B.C. V6C 1E4

PENGELLY MINES LTD.
 LOCATION MAP OF MAMMOTH MINE
 SLOCAN MINING DIVISION
 Scale: 1 : 50000
 Date : December 2, 1980.

LOCATION AND ACCESS

The Mammoth Mine is up Avison Creek, a tributary of Silverton Creek which flows west into Slocan Lake at Silverton, B.C. The 12 level is reached by a road up the mountain to the adit portal at elevation 4,295 feet. Here are located the dry, the shop, a locomotive charging station and a 400 ton ore bin. Access to the adit at 9 level is difficult even on foot, as the last section of the road was lost in a slide. Underground a raise has been rehabilitated from 12 level up to 11 level and part way to 10 level. Entry to the higher levels is blocked and would require extensive and expensive rehabilitation. Air, water and track are laid and operating on the 12 level.

PHYSIOGRAPHY

The mine is located on the south facing precipitous slope of Selkirk Peak, over 7,500 feet.

The slope is timbered with tamarack, fir, plus pine, cedar and balsam except in the steeper canyons and slopes where slides have cleared the hillsides. The upper part of the Claims are above timberline. The Mammoth vein lode is well known from

underground workings. The vein at 12 level is too deep to explore from the surface. Further exploration will have to be done from underground openings.

Mining operations would be difficult from December to the end of February due to snowfall on the access road and should probably be shut down for that period.

GEOLOGY

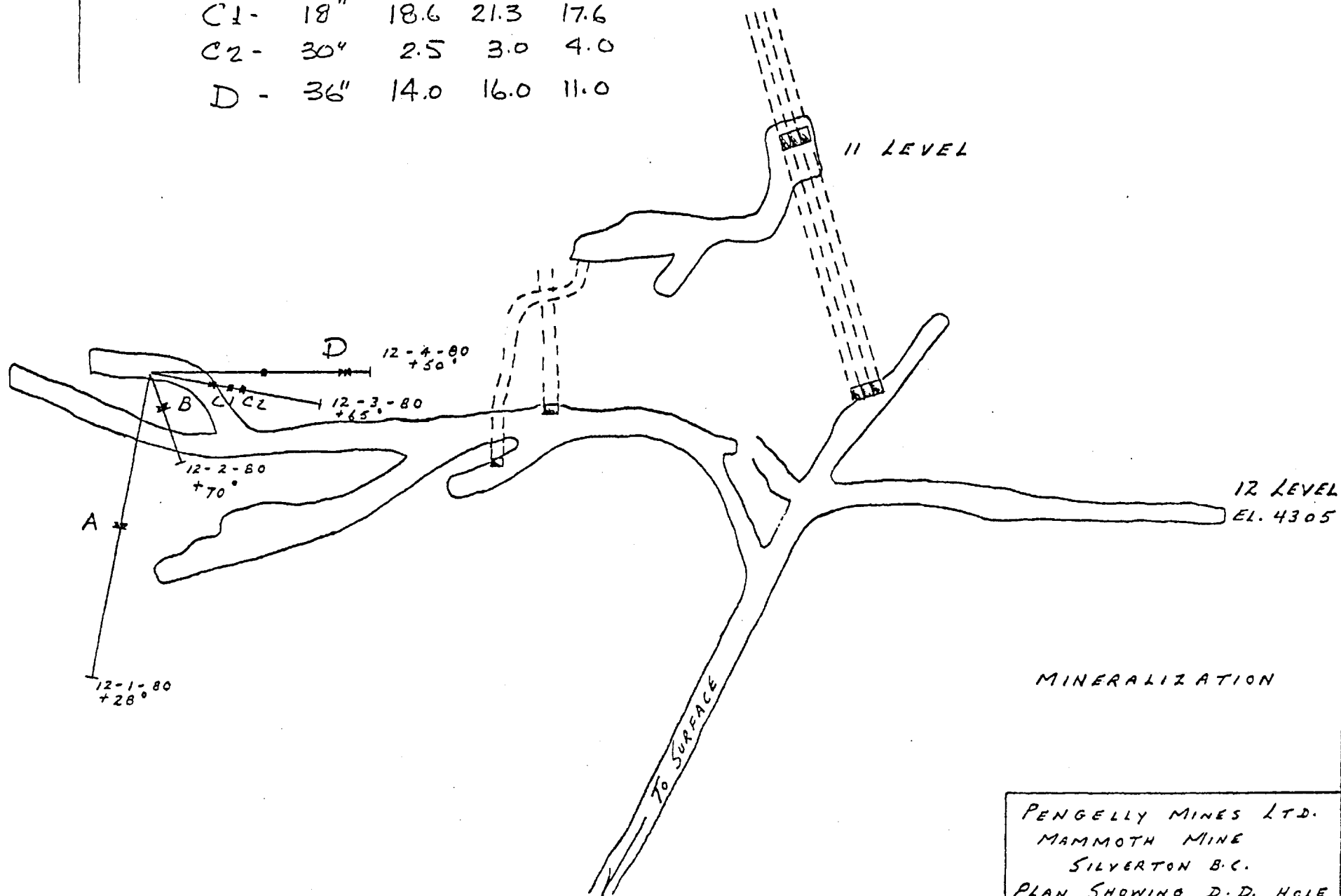
The mine is entirely within the Slocan Group of Triassic Age about two miles north of the Nelson Batholith. Rocks on the property include argillite, quartzite and limestone.

The 12 level is mainly argillites, ranging from sheared graphitic argillites through argillites to sandy or limy argillites. The sediments are well faulted and sheared in the vicinity of the Mammoth lode, bedding is obscure and any fold structures not decipherable.

The Mammoth lode system is a series of sub parallel south dipping, east striking fault strands with lenses and veins of sulphide mineralization conformable within the structures.

The main production has been from ore shoots along either the hanging wall or footwall of

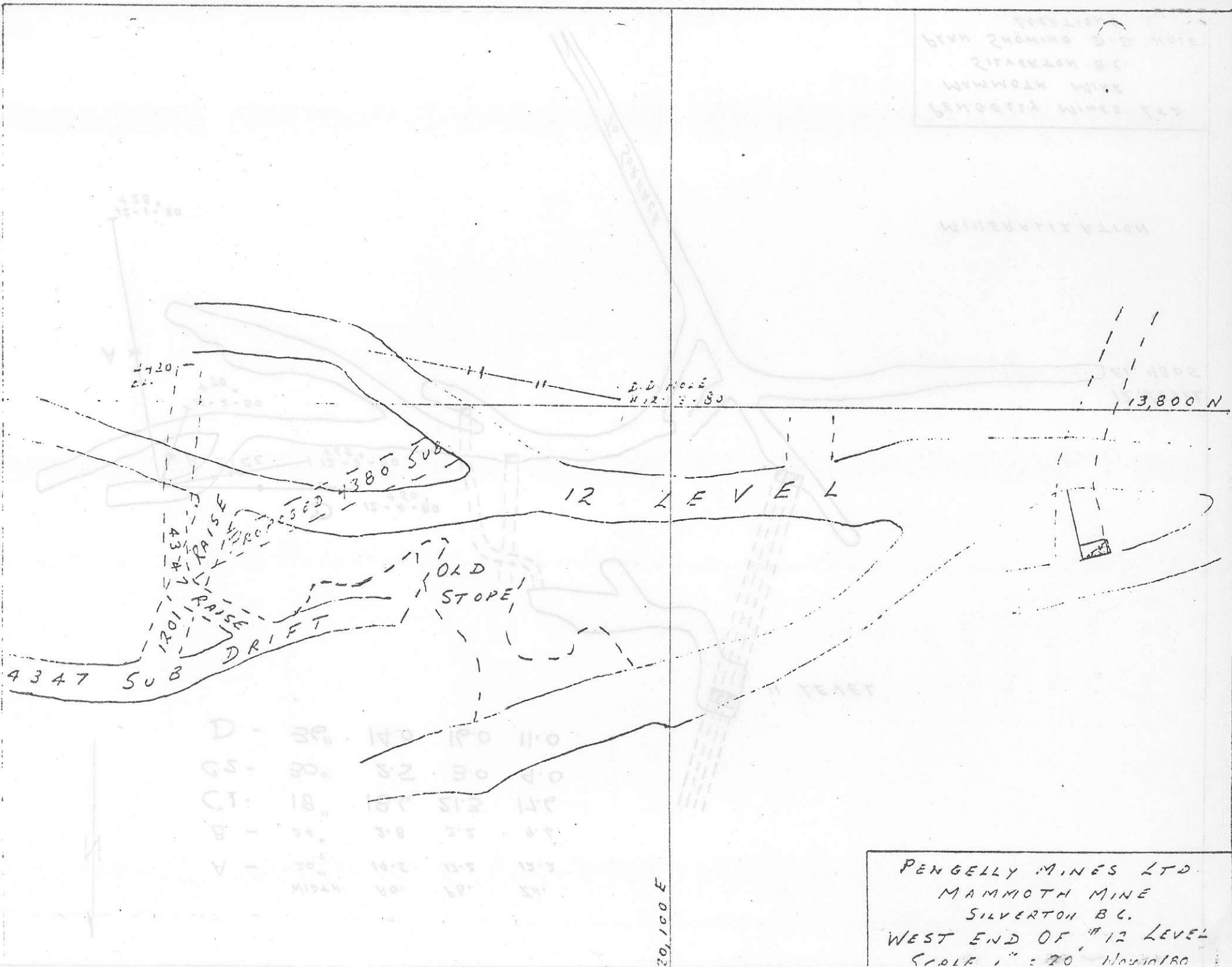
	WIDTH	AG.	Pb.	Zn.
A -	20"	14.5	17.2	12.2
B -	24"	2.8	3.2	9.6
C1 -	18"	18.6	21.3	17.6
C2 -	30"	2.5	3.0	4.0
D -	36"	14.0	16.0	11.0



MINERALIZATION

PENGELLY MINES LTD.
 MAMMOTH MINE
 SILVERTON B.C.
 PLAN SHOWING D.D. HOLE
 LOCATIONS

12-1-80
 13,800 N
 13,800 N
 13,800 N



PENGELLY MINES LTD
 MAMMOTH MINE
 SILVERTON B.C.
 WEST END OF #12 LEVEL
 SCALE 1" = 20' Nov 1980

the Mammoth structure. On flexures oreshoots may swell. On other less important structures within the main hanging wall and footwall smaller oreshoots and non-commercial sulphide shoots occur.

Carbonate zones, with calcite and siderite occur within the Mammoth system and the sulphide zones are commonly spatially related. Sulphides in the mine are pyrite, galena and sphalerite. The pyrite is normally in individual crystals disseminated throughout the country rock and appears to be syngenetic. Most of the oreshoots appear to be composed of galena and sphalerite with carbonates and only accessory pyrite. The sphalerite is a brown colour and carries significant cadmium. Silver generally reports with the galena, but with enough exceptions to this rule that a separate silver mineral is suspected.

POTENTIAL

Recent attempts to reach known mineralization in the higher levels have been unsuccessful due to the difficulties of rehabilitating the old workings. Exploration has been thus restricted to the 12 level. Diamond drilling from the end of the 12 level adit crosscut above 12 level on the east side of the adit crosscut encountered only low grade mineralization.

Diamond drilling from the west end of the 12 level workings encountered interesting sections of mineralization. The mineralization in these holes and some other previously known mineralization can be developed and produced from the 12 level.

Mineralization encountered in drill hole 12-1-80 of 20" of 14.5 oz/T Ag, 17.2% pb and 12.2% Zn has been raised on 1201 raise and followed east and west of the raise with the 4347 a slusher sub drift for roughly 80 feet. Between 40 and 50 feet of this mineralization appears visually to be of mineable width and grade.

Roughly 400 tons of muck from this operation is presently in the ore bin, soon to be trucked out and sold. Tonnage of mineable ore in this oreshoot can not be estimated as the geometry of the present workings makes it impossible to do further test drilling on this zone. Proceeding with mine openings in the zone to produce ore is the best route.

The 4380 sub level has recently been extended to cut D.D.H. 12-3-80 and has reportedly exposed a 12' length of 2' wide "clean ore". For production there should be a new raise up from the box hole on 12 level.

This testing/production should proceed at the same time as new exploration from the west end of 12 level.

EXPLORATION ON WEST END OF 12 LEVEL

Considerable untested ground exists above the present western 12 level workings. To the west of the present western end of 12 level there is a large area that is down dip of the mined out stopes above 9 level. This ground has never been tested.

It is proposed that an opening be driven from 12 level into the footwall in order to provide diamond drill stations for drilling up holes to test the zone above 12 level.

Any mineralization found can be followed in Phase 11 up from 12 level with some expectation of income from ore produced.

OTHER EXPLORATION AND DEVELOPMENT

Rehabilitation and opening up of known and probable mineralization in the higher levels should be actively followed up as availability of finances dictates. This work is well covered in a report by Walter E. Clarke, P. Eng. dated October 30, 1979 and is not repeated here.

PLANT

An increase in plant is required.

The air line has significant air loss and will not support both the extraction of ore from the known oreshoots and the driving of the crosscut for the drill stations. An increase in compressor capacity and air line diameter will be needed. Some accessory equipment for the mining operation will have to be acquired.

SUGGESTED BUDGET

PHASE 1

Compressor	\$ 20,000
Pipe	17,000
Equipment	10,000
135 feet of slusher crosscut	13,500
100 feet of slusher drift	10,000
75 feet of raise	7,500
3,000 feet of diamond drilling	60,000
Engineering	10,000
Contingency	<u>17,000</u>

\$165,000

PHASE 11

100 feet drift	15,000
100 feet slusher drift	10,000
200 feet raise	40,000
Diamond drilling	10,000
Engineering	10,000
Contingency	<u>15,000</u>

\$100,000

TOTAL PHASE 1 AND PHASE 11 \$265,000

Ally Austin

REFERENCES

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- LITTLE, H.W. (1960) Nelson Map Area, West Half,
British Columbia.
Geological Survey, Canada
Memoir 228

BURTON CONSULTING INC.

ALEX BURTON, P. ENG.
GEOLOGICAL CONSULTANT

BUS 669-2413
or
RES 270-2327

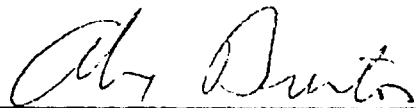
5-924 W. HASTINGS ST.
VANCOUVER, B.C.
CANADA V6C 1E4

CERTIFICATE

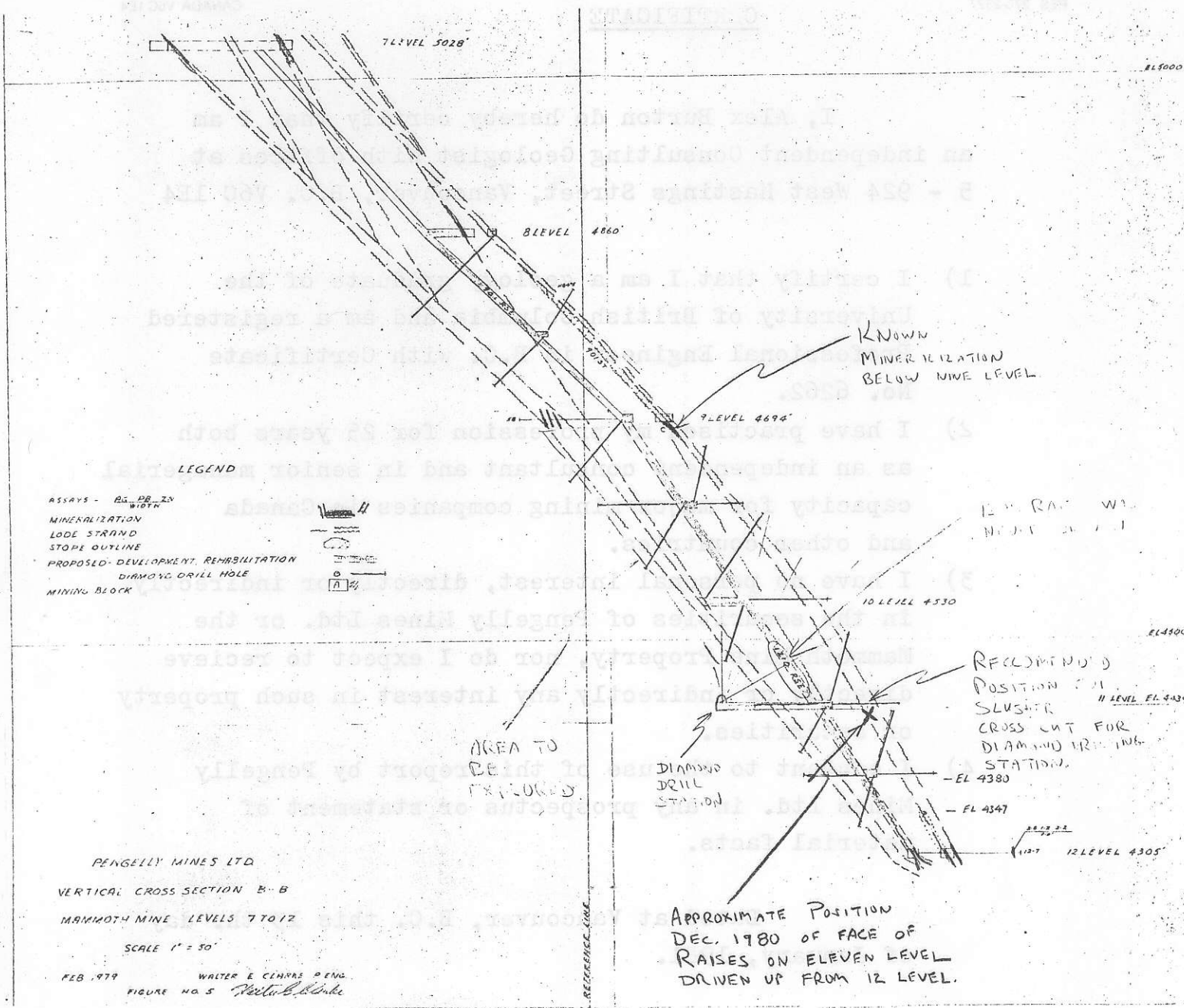
I, Alex Burton do hereby certify that I am an independent Consulting Geologist with offices at 5 - 924 West Hastings Street, Vancouver, B.C. V6C 1E4

- 1) I certify that I am a geology graduate of the University of British Columbia and am a registered Professional Engineer in B.C. with Certificate No. 6262.
- 2) I have practised my profession for 25 years both as an independent consultant and in senior managerial capacity for major mining companies in Canada and other countries.
- 3) I have no personal interest, directly or indirectly in the securities of Pengelly Mines Ltd. or the Mammoth Mine Property, nor do I expect to receive directly or indirectly any interest in such property or securities.
- 4) I consent to the use of this report by Pengelly Mines Ltd. in any prospectus or statement of material facts.

Dated at Vancouver, B.C. this 13 th. day of January, 1981.



Alex Burton, P.Eng.
Consulting Geologist.



LEGEND

ASSAYS - Ag, Pb, Zn
 MINERALIZATION
 LODGE STRAND
 SLOPE OUTLINE
 PROPOSED DEVELOPMENT, REHABILITATION
 DIAMOND DRILL HOLE
 MINING BLOCK

PENGELLY MINES LTD
 VERTICAL CROSS SECTION B-B
 MAMMOTH MINE LEVELS 770/12
 SCALE 1" = 30'
 FEB. 1979
 WALTER E. CLARKE, P. ENG.
 FIGURE NO. 5

APPROXIMATE POSITION
 DEC. 1980 OF FACE OF
 RAISES ON ELEVEN LEVEL
 DRIVEN UP FROM 12 LEVEL.

KNOWN
 MINERALIZATION
 BELOW NINE LEVEL.

RECOMMENDED
 POSITION FOR
 SLUSHER
 CROSS CUT FOR
 DIAMOND DRILLING
 STATION
 11 LEVEL EL. 4369

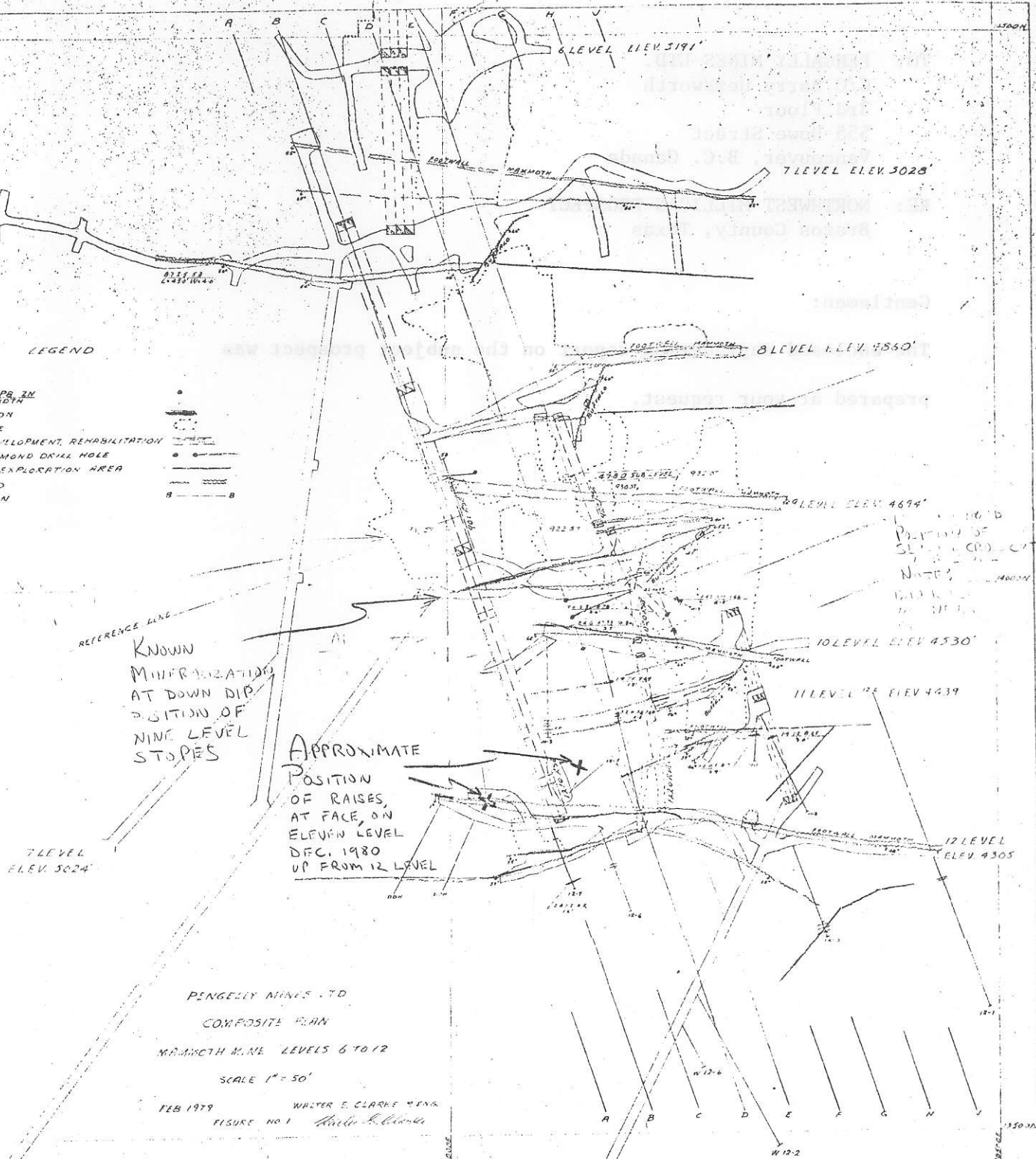
AREA TO
 BE
 EXPLORED

REFERENCE LINE

Alex Burton
 Alex Burton, P. Eng.
 Consulting Geologist

LEGEND

- ASSAYS - 06 PB 2M WIDTH
- MINERALIZATION
- STOPE OUTLINE
- PROPOSED DEVELOPMENT, REHABILITATION
- DIAMOND DRILL HOLE
- PROSPECTIVE EXPLORATION AREA
- EGGE STRAND
- CROSS SECTION



POSITION OF
SLICE CRACK
NOTES
1980

PENGELLY MINES LTD
COMPOSITE PLAN
MAMMOTH MINE LEVELS 6 TO 12
SCALE 1" = 50'

FEB 1979 WALTER E. CLARKE M.E.N.S.
FIGURE NO. 1

1350.00

TO: PENGALLY MINES LTD.
C/O Barry Hemsworth
3rd Floor
555 Howe Street
Vancouver, B.C. Canada

RE: NORTHWEST MILLICAN PROSPECT
Brazos County, Texas

Gentlemen:

The enclosed engineering report on the subject prospect was prepared at your request.

dabney engineering company

Northwest Millican Prospect
Brazos County, Texas

I, Inmann T. Dabney, Jr., certify:

1. That I am a professional engineer with a business address of 507 North Belt, Suite 600, Houston, Texas 77060.
2. That I am a member of the S.P.E. and ASME and a registered Professional Engineer in the State of Texas with certificate number 38223.
3. That I hold a B.S. degree in Mechanical Engineering from University of Houston.
4. That I have been a practicing Petroleum Engineer for 15 years.
5. That information sources used to develop the described prospect report were Production Information Services, Texas Railroad Commission reports, and personal knowledge of the area.
6. I have been requested by Cannon Resources Ltd. to prepare a review of the current status of the exploratory and development activity in the Northwest Millican area of Brazos County.
7. I do not have at this time any interest in oil or gas properties owned or operated by Cannon Resources Ltd or its affiliates.

Signed:

I. T. Dabney, Jr.

Dated:

11/21/72

At:

Houston Texas

NORTHWEST MILLICAN PROSPECT

INTRODUCTION:

The Northwest Millican prospect is located in Brazos County, near the junction of Burleson, Brazos and Washington Counties, approximately ten miles northwest of Navasota, Texas. The acreage, outlined on the attached map, includes the majority of the Robert Millican Survey, the James Millican Survey and the southern half of the Walter Southerland Survey. Prior to 1979 there were no deep penetrations of the creaceous section in this Block of acreage. The area was thought to be prospective of hydrocarbons as shallow as 6000 feet in the Wilcox section, and as deep as 15000 feet in the Rodessa and Sligo formations. Drilling activity in the general area of the prospect has been quite active over the last year and half. As the shallow chalk trend developed eastward thru Lee, Burleson and Brazos Counties, more and more wells have been drilled to the deeper Austin Chalk horizons and have approached the Northwest Millican Block from the Northwest. Subclarksville, Woodbine, Georgetown and Edwards wells have been drilled to the north and northeast of the block by various operators. The performance of these wells is not well documented since few gas lines are available in this area and none of the wells have produced for any length of time. However, Published Production Information reports indicate that successful completions have been made. Immediately west of the Northwest Millican block, Daleco Resources of California has drilled and has in various stages of completion and production a total of five wells and six completions. Successful completions in the

area according to railroad commission records are in the Georgetown, Edwards and Austin Chalk formation. Daleco has also re-entered and deepened two Austin Chalk wells and made successful Georgetown gas completions. Other operators of note in the area include Hunt Oil, Martin Oil and Gas, Clayton Williams, SaSalle Energy, and Gulf Oil.

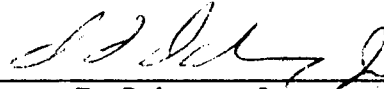
ENGINEERING CONSIDERATIONS:

Exploratory drilling in the Northwest Millican block should be prospective of hydrocarbons in all of the geological sections mentioned earlier. Because of potential lost circulation problems in the Austin Chalk section, protective casing is normally set below that interval to protect shallower zones and to prevent loss of large quantities of drilling mud into the Chalk section. The occurrence of lost circulation while drilling the Austin Chalk has proven to be a strong indication of a highly fractured Chalk section abundant in secondary porosity and is a positive factor in indicating a potentially successful Austin Chalk completion. As Austin Chalk development continues to approach this general area both in the shallow and deep sections the potential for the Chalk to prove productive on this acreage becomes more likely. The ability to make a commercial gas completion in deeper horizons such as the Edwards, Glen Rose, Rodessa and Sligo, appears to be dependent upon the operators ability to successfully stimulate these zones. Stimulation technology has advanced to the point to allow fracturing these deep zones, however, the high temperatures and high closure stresses encountered make it necessary to use expensive proppants and high cost treatments. It is

likely that these type treatments may be required to establish commercial production. Commercial completion of these "tight reservoirs", could be made more economical should they be classified under Department of Energy "Tight Reservoir" classifications which allow significantly higher gas prices to be collected for the production.

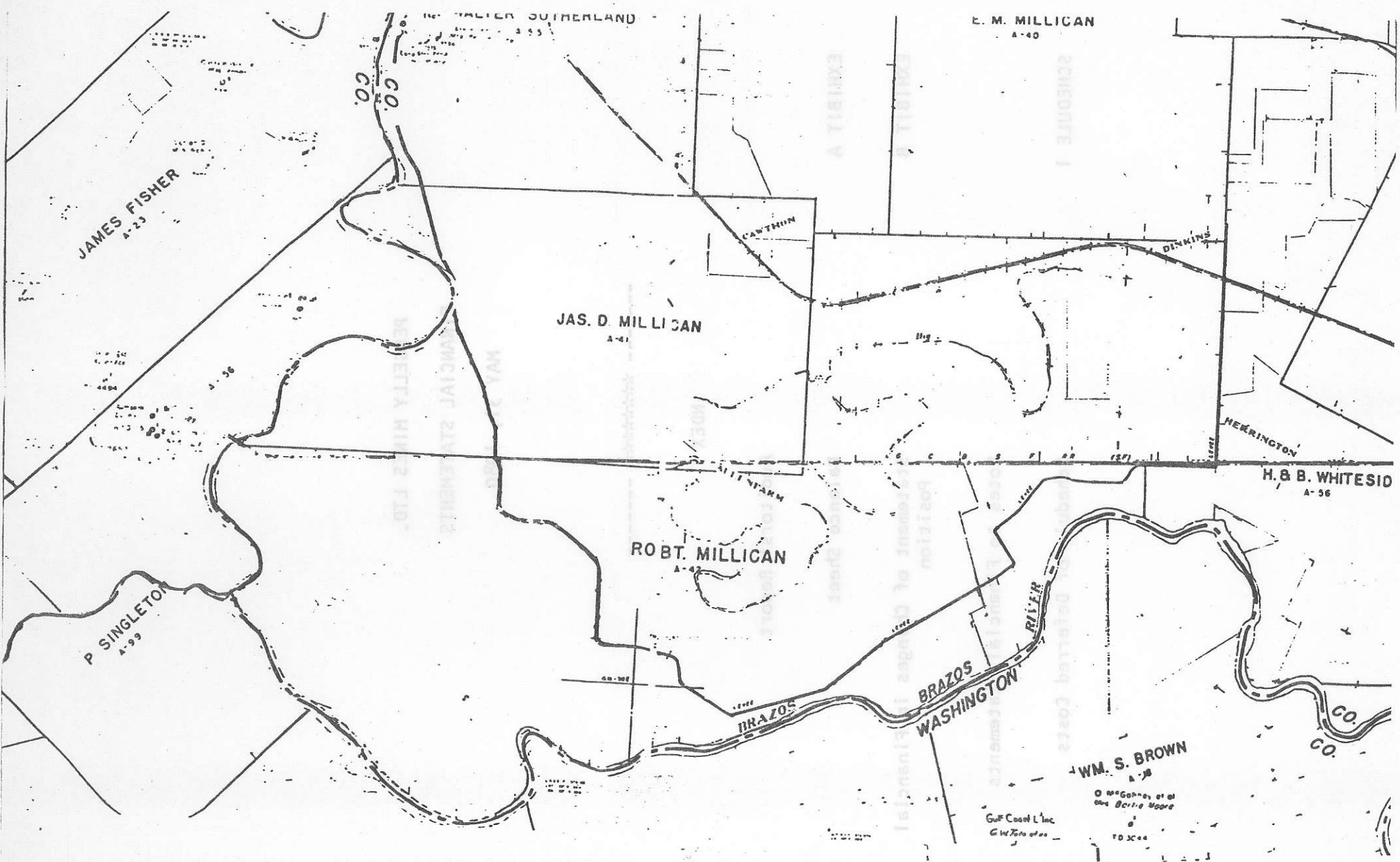
SUMMARY:

In reviewing the activity in the general area of this prospect, including the close offsets summarized above, it is apparent that successful gas completions have been made. Since very few wells have been on production for any significant length of time, an accurate estimate of recoverable reserves is not possible. The high activity in the general area since early 1979 adds encouragement to the assumption that the Northwest Millican acreage is prospective in numerous horizons. However, Exploratory Drilling is necessary to fully evaluate the potential of this area.



Inmann T. Dabney, Jr.
Petroleum Engineer

11/21/80
Dated



JAMES FISHER
A-23

WALTER SUTHERLAND
A-55

E. M. MILLICAN
A-40

JAS. D. MILLICAN
A-41

ROBT. MILLICAN
A-42

P. SINGLETON
A-99

H. B. WHITESID
A-56

WM. S. BROWN
A-38

Gulf Coast L. Inc.
6/16/76 of 22
W. S. Brown
70.3000

CO.

CANTON

DINKINS

HERRINGTON

BRAZOS

BRAZOS
WASHINGTON

RIVER

CO.
CO.

PENGELLY MINES LTD.
FINANCIAL STATEMENTS
MAY 31, 1980

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