82-269-10334 5

# DEKALB MINING CORPORATION

#### CAPTAIN LAKE BARITE PROSPECT

TRENCHING AND GEOLOGICAL REPORT

LIARD MINING DIVISION

BRITISH COLUMBIA

SHAWN CLAIM (20 units)

NTS: 104P12,13 LATITUDE: 59<sup>0</sup>45'N LONGITUDE: 129<sup>0</sup>45'W

PROJECT NO. 4554663

DATE CLAIM RECORDED: 1981 MAY 19

W.H. THOMPSON

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1982 APRIL





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# 1.0 <u>SUMMARY</u>

In 1981 May Dekalb Mining Corporation staked and recorded twenty units in one "Shawn" claim for barite, on and around Alec Chief Creek, in Northern B.C., some 50 km north of Cassiar. Later in 1981 July a trenching, mapping and sampling program was executed.

The results of these efforts exposed a significant barite deposit with potential of several million tons. No further work is planned for the deposit at this time due to its remoteness and present difficulties in marketing barite.

FIG 1. CANADA DEPARTMENT OF ENERGY, MINES AND RESOURCES . SURVEYS AND MAPPING BRANCH **IONS IN FEET** ELEVATIONS IN FEI (Joins Wolf Lake - Watson Lake 105 S.E.) 130° YUKON TERRITORY 50 50 30' 20' 10' 10' 30' 20' C6016<sup>411115</sup> PROVINCE OF BRITISH COLUM AF1 60 00 6327 6750-~ ~ 6446 ธรรอั 00 8 6085 A 6700 ひご 5750± ALTE CHIEF AK DETAIN **A6606** 6596 © 6488 CLAIR KN11 Ĩn. 00 Ś 6553Ø 5248 864 6237 ß 4567 J. 7012 (6050-) • 71,50 6162 3 69) Mui 6204 00  $\sim$ Jo. 7109 ß **N100** 6250±) X 3 LAKE BARITE CAPTAIN SCALE 1-500.000 . ... DEKALB MINING CORPORATION ELEVATIONS IN FEET LOCATION MAP (SHAWN CLAIM) NTS 104P 12E, W/13E, W. Kilometres 10 Nautical Miles Statule Miles 5



Page + 130°00' 45' · 30 15' 60'00' 3000 ONE AO Captair Lk 14 ব EN 1000-14 ywacke, ocks; ind 5: nian; 7a, 6b, 6c; MAP IIIOA mitic s iartzite, GEOLOGY laminat may be Mc DAME Captain Lake-Barite Geology Map Scale 1:253,440 CASSIAR DISTRICT BRITISH COLUMBIA IAN ritic an Scale: One Inch to Four Miles =  $\frac{1}{253,440}$ art or opian Miles 12



Description of pertiment formations. from Map 1110 A McDame B.C. By: Price and Gabrielse 1950-1954.

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# McDame Map-Area, British Columbia

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# Table of Formations<sup>1</sup>

|            |   | · · · · ·   |  |  |  |  |  |  |
|------------|---|---|--|--|--|--|--|--|
| Era        | Period or<br>epoch  | Formation and thickness<br>(feet)   | Lithology  |  |  |  |  |  |
| Cenozoic   | Pleistocene and Recent  |   | Glacial and glacio-fluvial<br>deposits, lacustrine depos-<br>its, stream deposits, felsen-<br>meer, talus, soil  |  |  |  |  |  |
|            |   | Disconformable contac   | t  |  |  |  |  |  |
|            | Tertiary or Pleistocene   |   | Vesicular basalt   |  |  |  |  |  |
|            |   | Relations unknown   |  |  |  |  |  |  |
|            | Tertiary and (?)<br>Earlier   | Rapid Formation in part   | Conglomerate, sandstone,<br>shale; coal  |  |  |  |  |  |
| Mesozoic   | Rapid Formation in faul<br>Precambrian rocks  | t contact with, or overlying  | unconformably, Cambrian and  |  |  |  |  |  |
|            | Jurassic or Cretaceous  | Cassiar Intrusions  | Quartz monzonite, granodio-<br>rite, granite, porphyritic<br>granite; aplite, pegmatite  |  |  |  |  |  |
|            | Cassiar Intrusions not i<br>Group and older rock  | n contact with Nizi Format<br>is  | ion are intrusive into Sylvester   |  |  |  |  |  |
| Palaeozoic | Middle Mississippian  | Nizi Formation 1,000±   | Limestone, cherty limestone,<br>greywacke, pebble-con-<br>glomerate; minor slate and<br>quartzite  |  |  |  |  |  |
|            | Nizi Formation unconformably overlies Sylvester Group between Four Mile and<br>Rapid Rivers and Kechika Group east of Solitary Lake; relations between Nizi<br>Group and ultramafic rocks unknown |   |  |  |  |  |  |  |
|            | Mississippian (?)   |   | Peridotite, dunite, pyroxen-<br>ite, serpentinite  |  |  |  |  |  |
|            | Intrusive contact   |   |  |  |  |  |  |  |
|            | Upper Devonian and<br>Lower Mississippian   | Sylvester Group 15,000+   | Greenstone, chert-quartz<br>arenite, chert, argillite,<br>slate, quartzite; grey-<br>wacke, limestone, con-<br>glomerate   |  |  |  |  |  |
|            | Conformable (?) contact   |   |  |  |  |  |  |  |
|            | Middle and (?)<br>Upper Devonian  | Upper division: platy, grey<br>limestone<br>Lower division: grey and<br>black, fetid dolomite |  |  |  |  |  |  |
|            | Disconformable contact  |   |  |  |  |  |  |  |
|            | Silurian and (?)<br>Devonian  | Sandpile Group (?) in part<br>1,160±  | Upper division: laminated<br>fine-grained dolomite<br>Middle division: sandstone,<br>quartzite, dolomitic sand-<br>stone, sandy dolomite, do-<br>lomite; dolomite breccia<br>Lower division: laminated<br>siltstone and dolomite |  |  |  |  |  |

#### General Geology

#### Period or Formation and thickness Era Lithology epoch (feet) Silurian and (?) Devonian strata overlie disconformably rocks of Kechika Group on limbs of the McDame synclinorium; may be in part or entirely, correlative to Sandpile Group Upper Ordovician, Dolomite, cherty dolomite, sandy dolomite, dolomitic Sandpile Group 1,500+ Lower and Middle Silurian sandstone, quartzite, chert Disconformable contact Middle and (?) Upper Cambrian, Lower and Kechika Group 1,000-2,500+ Upper division: black, laminated, pyritic and carbo-naceous shale and slate, Middle Ordovician minor argillaceous limestone Lower division: limestone, argillaceous limestone, calcareous phyllite, phyllite, conglomerate Conformable contact Lower Cambrian Atan Group 3,000 Upper division: limestone, dolomite; minor shale Lower division: quartzite, argillite; slate, shale, siltstone, pebble-conglomcrate Conformable contact Late Precambrian Good Hope Group Limestone, dolomite, quart-4,000± zite, grit, siltstone, sandy limestone, argillite, slate, red and green slate, shale, limestone Precambrian and/or Horseranch Group Quartzite, feldspathic quart-Cambrian 7,500+ zite, quartz-mica schist, granitic gneiss; crystalline limestone, hornfels, skarn, peridotite, pegmatite

Table of Formations (Conc.)

<sup>&</sup>lt;sup>1</sup>Since compilation of this report the writer has collected fossils of late Triassic, possibly late Karnian, age from outcrops of platy, dark grey, fetid, crystalline limestone northwest of Blue River at latitude 59° 37′ 30″ and longitude 129° 58′ 05″. The fossils include *Halobia* sp. (identified by E. T. Tozer, Geological Survey of Canada) and vertebrae of the ichthyosaur, *Californosaurus* (identified by Wann Langston, Jr., Natuonal Museum of Canada). The limestone beds, less than 25 feet thick, are overlain, locally, in the core of a syncline by serpentinized peridotite forming three conspicuous snall knobs. This locality was brought to the writer's attention by J. J. McDougal (personal communication, 1960). W. J. Wolfe (perscomm., 1962) has collected Permian fusulinids from beds of sandy limestone outcropping on the southwest slope of a ridge 0.9 mile south of triangulation station, elevation 7,028 feet, northwest of Blue River. The limestone unit, about 500 feet thick, is overlain conformably by basilt and andesite flows. The lower contact is not exposed but appears to be marked by a major fault or unconformity. Although Triassic and Permian rocks may occur elsewhere in the McDame synchinorium they are believed to be restricted to the area northwest of Blue River.

## 2.0 INTRODUCTION

# 2.1 LOCATION

The Captain Lake barite property is some 50 km north of the town of Cassiar on and around Alec Chief Creek in northern Bristish Columbia.

# 2.2 ACCESS

Access to the property is by helicopter from Watson Lake.

## 2.3 **PROPERTY DESCRIPTION**

The property was originally recognized as a copper prospect. No reports were found that revealed any significant work was done on the property.

Dekalb Mining Corporation in 1981 staked the prospect for barite, after originally inspecting the prospect for silver potential.

In the 1981 season an extensive trenching program revealed a significant deposit of barite that consisted of several zones conforming to the sedimentary structures in the area. No significant amounts of other potentially economic minerals were recognized.

#### 2.4 PHYSIOGRAPHY

The prospect lies on a tributary of Alec Chief Creek in the Cassiar Mountains on the edge of Dease Plateau, at an elevation of about 3800 feet (1158 meters). Ref. map 1110A McDame Cassiar District by L. Price and H. Gabrielse 1954. The timber line is at about 4,500 feet (1400 m). The property is covered by widely spaced immature and semi-mature spruce and pine, with minimal undergrowth except in the valleys.

#### 2.5 GLACIATION

During the Pleistocene, glacial ice moved in a northeasterly and easterly direction. This was confirmed in the trenching where subcrop and the uppermost outcrop of the formations were unusually contorted towards the east. Also fresh barite boulders, that likely came from the trenching area were discovered in glacial till to the east, and northeast of the deposit. The barite beds strikes generally to the north and dip at about  $70^{\circ}$  to the west.

# 3.0 EXPLORATION PROGRAM

# 3.1 <u>SUMMARY OF WORK DONE</u>

Initially the prospect was examined and some brief prospecting was done. Because of the topographic location, Dekalb Mining Corporation elected to trench the deposit. One old trench was extended, and three new trenches were cut into the side of the hill, crosscutting the barite zones. This was done with two D-6 bulldozers. These machines were walked in from the Cassiar Highway, west One Ace Mountian, thence south to a point between Captain Lake and Alec Chief Lake. From this point an old cat trail was followed to the property, a total from the highway of about 26 miles (41.6 km). This operation was supported by helicopter from Watson Lake, Yukon Territory.

#### 3.2 **PROSPECTING**

The only area prospected in any detail was in the immediate vicinity of the main showings.

#### 3.3 SURVEYING

A compass survey of the trenches was done with the use of a Brunton compass. The survey gives the position of the trenches with respect to each other, and relative elevations.

# 3.4 TRENCHING

Four trenches were cut into the side of the hill, with two D-6 bulldozers working simultaneously. The trenches were excavated down as far as 4 meters in an attempt to locate consolidated bedrock.

The longest trench is about 300 metres long and averages about 12 metres wide. Increasing overburden to the north curtailed the trenching that might have extended the mineralized zones. No trenching was done south of Alec Chief Creek.

#### 3.5 <u>SAMPLING</u>

Chip samples were taken over all the zones where barite occurred in the trenches. A total of 30 chip samples were taken.

# 3.6 <u>ASSAYING</u>

The samples were assayed by Core Laboratories - Canada Ltd. in Calgary for specific gravity, Ba SO<sub>4</sub>, and total hardness. One 30 metal spectrographic analysis was done by Chemex Labs in Calgary on a representative sample.

# 4.0 MINERALIZATION

# 4.1 EXTENT OF MINERALIZATION

Numerous bands of barite bearing rock were exposed. The main barite zone is over 35 metres wide and consists of six barite rich bands that individually are up to 5 metres wide. This zone was traced on the surface for up to 120 metres in length. Barite boulders were found up to one kilometer northeast of the trenches.

# 5.0 GEOLOGY

#### 5.1 REGIONAL GEOLOGY

The area is underlain by Paleozoic rocks of the Ordovician, Silurian and Devonian Sandpile Group. The middle and upper Devonian McDame Group, and the Upper Devonian to Lower Mississippian Sylvester Group. Detailed description of these rocks can be found in GSC Memoir 319, 1963, by H. Gabrielse.

# 5.2 LOCAL GEOLOGY

The immediate area of the prospect is underlain by what is thought to be a section of the Silurian and (?) Devonian Sandpile Group. The rocks exposed include sandstones, shales, dolomites, dolmitic breccias, limestones, and chert (map in folder). The rocks strike portherly and dip 70-75° to the unst

The rocks strike northerly and dip 70-75° to the west. Numerous continuous barite bands occur within the sequence. Barite also occurs as clumps within the shales, dolomites and sandstones. 6.0 BIBLIOGRAPHY

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- 1) GSC paper 64-48 The Blue River Intrusion, Cassiar District, B.C. by W.J. Wolfe.
- 2) GSC Mem. 319. McDame Map-Area, Cassiar District, B.C. by H. Gabrielse.
- 3) B.C. Ministry of Energy, Mines and Petroleum Res. Minfile reference No. 104P 049.

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| 7.0 <u>STATE</u>       | EMENT OF COSTS   |              |
|------------------------|--|--------------|
| DATE 1981<br>FROM - TO |  |              |
| July 8 - 18            | l Geol @ \$150/day x ll days   | \$ 1,650.00  |
| July 13 - 18           | l consultant + expenses  | 1,059.00     |
|                        | Shipping equipment   | 490.25       |
|                        | Food - camp  | 415.20       |
|                        | Motel: Geologist, Consultant,<br>Management                                    |              |
|                        | Meals:   | 400.20       |
|                        | Auto Rental  | 806.77       |
|                        | Maps   | 17.50        |
| July 9 - 18            | Helicopter - personnel } in<br>- fuel } and<br>- food }out<br>- reconnaisance} | 9,991.OC5    |
|                        | Expediting   | 203.20       |
|                        | Assays:<br>1) 30 samples-specific gravity<br>total hardness                    |              |
|                        | Ba SO4   | 1,290.00     |
|                        | 2) 1 thirty metal spec   | 28.00        |
| July 8 - 18            | Two D-6 Bulldozers Mob/Demob<br>and trenching with operator                    | 19,590.00    |
|                        | TOTAL  | \$ 35,941.17 |

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# 8.0 QUALIFICATIONS

4. . .

NAME WILLIAM HENRY THOMPSON

EDUCATION I have completed four years of full time geological studies at the Universities of Victoria and Saskatchewan (Saskatoon Campus).

#### EXPERIENCE

- I have been employed as a geologist since 1972 with the following companies:
- Consolidated Churchill Copper Corporation (Mine Geologist)
- 2) Dumbarton Mines Ltd. (Mine Geologist)
- 3) Internation Minerals & Chemical Corp. (Mine Geologist, Exploration Geologist)
- 4) United States Steel Corporation (Exploration Geological Consultant)
- 5) Dekalb Mining Corporation (Exploration Geologist, Mine Geologist)

#### PROFESSIONAL ASSOCIATION

I am an Associate Member of the Geological Association of Canada.

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APPENDIX A

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|        | 3/11/82. 7.37.40   |           | · · · ·                       |                  | DEKALB                            | HINING DEPERATI               | CN          | PROJEC                |  | DHCUBO PA                         | ADE JE          | ·    |
|--------|--|-----------|-------------------------------|------------------|-----------------------------------|-------------------------------|-------------|-----------------------|--|-----------------------------------|-----------------|------|
| 2      | DEKALB X OF EXPENDI<br>OPERATOR- DEKALB  | TURES-100 | ,000000X                      | ~~               | Honth                             | OF FEBRUARY 1992              | 17 <u>8</u> | DIST<br>RE<br>TE/PROV | RICT-4 WESTERN<br>310N-5 VANCOUVE<br>INCE-54 B. C. | CANADA<br>R                       | . † :           | et e |
|        | CURRENT KONTH  |           | 51<br>SUP                     | 52<br>PLIE8      | 53 54                             | CON- CONSULT                  | 57          | 58                    | 59 60<br>TRANS TRANS                               | 61 62<br>GOVIENT PROPRTY          | 63              | •    |
| ٦      | WORK CLASS   | TOTAL.    | WAGES E                       | and<br>Cuip      | CAMP EXPENSE<br>COST ACCNTS       | COSTE EXPRES                  | ASEAYS      | over<br>Head          | PORT PORT<br>AIR GROUND                            | PROPRIY OPTION<br>PAYHNTS PAYHNTS | MISC ·          |      |
|        | 01 GEDLOGY<br>02 GEOPHYSICS-AIR<br>03 GEOPHYS-GROUND<br>04 GEDCHEMISTRY<br>05 LINE CUTTING<br>06 STAKING<br>07 DRILLING<br>08 TRENCHING  |           |                               |                  | -                                 |                               |             |                       |  |                                   | , :             |      |
| R<br>R | <ul> <li>OP UNDRGRND DEVEL</li> <li>10 FEASIBILITY</li> <li>11 METALLURGY</li> <li>12 ACCESS</li> <li>13 LEGAL SURVEY</li> <li>14 RECLAMATION</li> <li>15 EXPEDITING</li> <li>16 HOLDING COST</li> </ul> |           |                               | •                |                                   |                               |             |                       |  |                                   | •               |      |
|        | 17 HEAD OFFICE<br>18 OTHER<br>19 MANAGEMENT FEE<br>TOTAL HONTH   |           |                               |                  |                                   |                               |             | 47                    |  | •                                 | • •             |      |
|        | 101AL 110  | 2467      | 121                           | 176              |                                   |                               | 1290        | 15                    | 867  | -                                 | ·               | `    |
|        | TOTAL CURULATIVE   | 54128     | 121                           | 1995             | 583                               | 1059                          | 1385        | 7109                  | 22986  |                                   | 339             |      |
|        | CURRENT BUDGET<br>WORK CLASS<br>01 GEOLOGY   |           | ACTUA<br>YEAR T<br>DAT<br>116 | L<br>D<br>E<br>4 | CLERENT<br>YEAR<br>BUDGET<br>8400 | UNEXPENDED<br>BALANCE<br>7236 |             |                       | ACTUAL<br>CUMULATIVE<br>TO DATE<br>24223           |                                   | <b>ĕ</b> er ≁ ' |      |
| 3      | 03 GEOPHYSICS-AIR<br>03 GEOPHYS-GROUND   |           |                               |                  | 13300                             | 13300                         | ÷ •••••••   | ····, ,               | 1059   | •                                 | +_ <b>-</b>     | •    |
| 1      | 05 LINE CUTTING  |           |                               |                  |                                   |                               |             |                       | 822  | ·*• .                             |                 |      |
|        | 07 DRILLING<br>08 TRENCHING<br>09 UNDRGRND DEVEL   | <u>.</u>  | 129                           | 0                | 25000                             | 25000<br>1290-                |             |                       | 95<br>16110  |                                   |                 | , `, |
|        | 11 HETALLURGY<br>12 ACCESS<br>13 LEGAL SURVEY  |           |                               |                  | 13600                             | 13600                         |             | . —                   | 4371   |                                   | •               |      |
|        | 14 RECLAMATION<br>15 EXPEDITING<br>16 HOLDING COST<br>17 HEAD OFFICE   | ,         | `1                            | 3                | 600<br>100<br>1100                | 600<br>100<br>1087            |             |                       | 7109   |                                   |                 |      |
| K      | 19 MANAGEMENT FEE<br>TOTAL   |           | 246                           | 7                | 62100                             | 59633                         |             |                       | 54129  |                                   |                 |      |

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APPENDIX B

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CORE LABORATORIES - CANADA LTD.

CALGARY, ALBERTA



1 of 1 7061-81-307

1981 08 26

PAGE FILE DATE

COMPANY

DeKalb Mining Corporation

Sample: Barite Date Received: 1981 07 21 Date Analyzed: 1981 08 26

# <u>Analysis</u>

| Sample        | Specific Gravity<br>at 20°C | Total Hardness<br>(mg/kg Calcium) | Barium Sulphate<br>(Weight %) |  |  |
|---------------|-----------------------------|-----------------------------------|-------------------------------|--|--|
| 0-1           | 4 . 27                      | 46                                | 90 - 1                        |  |  |
| 0-2           | 3.57                        | 182                               | 73.6                          |  |  |
| 0-3           | 3,95                        | 215                               | 76.8                          |  |  |
| 0-4           | 4,09                        | 140                               | 85.5                          |  |  |
| 0-5           | 4,17                        | 155                               | 88.2                          |  |  |
| 0-6           | 4.12                        | 145                               | 85-8                          |  |  |
| 0-7           | 4.09                        | 128                               | 86.0                          |  |  |
| 0-8           | 4.01                        | 146                               | 81.6                          |  |  |
| 0-9           | 4 26                        | 73                                | 84.4                          |  |  |
| 0-10          | 4.01                        | 131                               | 84.6                          |  |  |
| 0-11          | 4.23                        | 118                               | 86.5                          |  |  |
| 1-1           | 3.98                        | 106                               | 82.1                          |  |  |
| 1-2           | 4.13                        | 99                                | 90.0                          |  |  |
| 1-3           | 4,19                        | 168                               | 91.3                          |  |  |
| 1-4           | 4.20                        | 161                               | 88.5                          |  |  |
| 1-5           | 4.18                        | 162                               | 88.4                          |  |  |
| 1-6           | 3.63                        | 204                               | 61.3                          |  |  |
| 1_7           | 3,89                        | 135                               | 78.7                          |  |  |
| 1-8           | 4,01                        | 165                               | 83.3                          |  |  |
| 1-9           | 3.39                        | 542                               | 52.1                          |  |  |
| 1-10          | 3,80                        | 209                               | 76.1                          |  |  |
| 1-11          | 3.81                        | 143                               | 75.9                          |  |  |
| 1-12          | 3.88                        | 277                               | 77.5                          |  |  |
| 1-13          | 3,91                        | 128                               | 78.5                          |  |  |
| 1-14          | 3.88                        | 226                               | 76_0                          |  |  |
| 2-1           | 4.11                        | 106                               | 85.8                          |  |  |
| $\frac{1}{2}$ | 4.16                        | 231                               | 88.7                          |  |  |
| 2-3           | 4.15                        | 135                               | 87.3                          |  |  |
| 2-4           | 4_09                        | 199                               | 87.7                          |  |  |
| 3-1           | 4.11                        | 266                               | 87.6                          |  |  |

Captain Lk. BC.

| <b>Դ</b> ՝ | WREAB   | (<br>CORE LABORATORIES - CANADA LTD.<br>CALGARY, ALBERTA | JUN                  | 1 1981 P16<br>Shawa claim<br>Captain hk, |
|------------|---------|--|----------------------|--|
| )          | COMPANY | DeKalb Mining Corporation                                | PAGE<br>FILE<br>DATE | 1 of 1<br>7061-81-204<br>1981 05 27      |

| <u>Analysis of Barite Sample</u> |       |      |        |      |  |  |  |
|----------------------------------|-------|------|--------|------|--|--|--|
| High                             | grade | Jiab | sample |      |  |  |  |
| Specific Gravity                 |       |      |        | 4.41 |  |  |  |
| Barium Sulphate (BaSO4)          |       |      | 9!     | 5.7% |  |  |  |

Total Hardness (Ca) - 160 ppm

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2021 - 41 AVE. N.E. CALGARY, CANADA T2E 6P2 CALGARY TELEPHONE (403) 276-9627 TELEX 038-25541 EDMONTON 6112 DAVIES ROAD, EDMONTON, CANADA T6E 4M9 TELEPHONE (403) 465-9877 TELEX 037-41596

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# **CERTIFICATE OF ANALYSIS**

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MINERAL

• GAS WATER

 OIL • SOILS VEGETATION

· ENVIRONMENTAL ANALYSIS

P.17

JUNE 12, 1981

PROJECT NO. 9147-1-3589

DEKALB MINING CORPORATION

Novitue ... B.C. CAPTININ LIC DATE

|                       | DOMET              |                  |         |  |                        | /  |
|-----------------------|--------------------|------------------|---------|--|------------------------|--|
| SAMPLE NO. :CO        | ncentration Limit  | (PPM) White      | e Magne | tic Concentra                          |                        | 1 2 . 2  |
| Aluminum              | 0.02%              |                  |         |  | /                      | COKE   |
| Antimony              | 100                | 3%<br>1-1        |         |  | 7                      |  |
| Arsenic               | 100                | DC1              |         | ア                                      | (0                     |  |
| Barium                | 2                  | DCT              |         |  | æ 5 ° 4                |  |
| Beryllium             | 5                  | ~5000            |         | C.                                     | <u> </u>               |  |
| Bismuth               |                    | <u>bci</u>       |         | ^                                      | · (2_ : _              |  |
| Boron                 | 20                 | bel              |         | Ac.                                    |                        | 1.   |
| Cadmium               | 50                 | bcl              |         | 131 *                                  | ~ ` / <del>/</del> ~~~ | and the second s |
| Calcium               | 0.057              | bel              |         | - <u></u>                              | Ca is                  | gunt.  |
| Chromium              | 10                 | 1%               |         | ,                                      | •                      | -  |
| Cobalt                | <u></u>            | 5000             |         |  |                        |  |
| Copper                | 2                  | 20               |         | ······································ |                        |  |
| Sermanium             | <u>م</u><br>10     | 30               |         |  |                        |  |
| ron                   | 10057              | bcl              |         |  |                        |  |
| bad.                  | 0.05%              | 10%              |         |  |                        |  |
|                       |                    |                  |         | _                                      |                        |  |
| Aspesson co           | 0.02%              | 2%               |         |  |                        |  |
| anganese<br>Alwhdorw- | 5<br>100           | 1000             |         |  |                        |  |
| bioko7                | 100                | bcl              |         |  |                        |  |
| HCREL<br>Hobium       | 20                 | 300              |         |  |                        |  |
|                       | 200                | bcl              |         |  |                        |  |
| otassium              | 0.5%               | 1%               |         |  |                        |  |
| llicon                | 0.05%              | 15%              |         |  |                        |  |
| llver                 | 1                  | bcl              |         |  |                        |  |
| Odium                 | 0.1%               | 0.5%             |         |  |                        |  |
| horium                | 200                | bcl              |         |  |                        |  |
| in                    | 10                 | 20               |         |  |                        |  |
| itanium               | 20                 | >5000            | -       |  |                        |  |
| anadium               | 50                 | 500 -            |         |  |                        |  |
| inc                   | 20                 | 300              |         |  |                        |  |
| <u>irconium</u>       | 20                 | 500              |         |  |                        |  |
|                       | CENII OU           |                  | ·       | <u> </u>                               | <u> </u>               |  |
|                       | >5000 ppm          | -> 5000 ppm      | HOGRA   | PHIC ANALYSES                          |                        |  |
|                       | 5000 ppm           | = 2500-10000 ppm | 20 ppm  | - 20-100 ppm<br>= 10-50 ppm            |                        |  |
|                       | 2000 ppm           | = 1000-4000 ppm  | 10 ppm  | = 5-20 ppm                             |                        |  |
|                       | 1000 ppm           | = 500-2000 ppm   | 5 ppm   | = 2—10 ppm                             |                        |  |
|                       | 500                | - 250 1000       |         | ,                                      | <u></u>                |  |
|                       | 200 ppm<br>200 nnm | = 200-1000 ppm   | 2 ppm   | = 1-4 ppm                              |                        |  |
|                       | 100 ppm            | = 100            | 1 ppm   | = 0.5-2 ppm                            | - P                    |  |
| <b>`</b>              | Ranges for         |                  | 001     | - Delow concentratio                   | n limit                |  |



CERTIFIED BY

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|            |                | •.  |   |                 | , INVO      | ICE NO. LUU             | 1434                       |
|------------|----------------|---|---|-----------------|-------------|-------------------------|----------------------------|
|            |                |   |   |                 | <u></u>     |                         | P)B                        |
|            |                | LAB CORE  | LABORATORIES — C<br>Petroleum Reservoir Eng   | ANADA           | LTD.        | Post f Station "A"      | , Box 5670<br>TA T2H 1Y1   |
|            |                |   |   | <br>II          | NVOICE DATE | 81 09 30                |                            |
| $\bigcirc$ |                |   | · ·   | с               | RDER NO.    | <b>.</b> • •            |                            |
|            | Г              | DEKALB MINING CORPORATION<br>7TH FLOOR-630-SIXTH AVEN   | ₩   | . <b>E</b>      | DATE        |                         |                            |
| SOLI<br>TO | D              | CALGARY, ALBERTA<br>ATT: MR. W.H. THOMPSON              |   | F               | IELD        |                         |                            |
| · ·        |                |   |   | . <b>v</b>      | VELL NO.    | BARITE SA               | MPLES                      |
|            | L              |   |   | P               | ROVINCE     | ALBERTA                 |                            |
| CLIEN      | IT NO.         | 059490  |   | S               | м. 93LAB NO | 7061 <sub>ЈОВ NO</sub>  | 81-307                     |
| SERVICE    | QUANTITY       |   | DESCRIPTION                                   |                 |             | UNIT PRICE              | AMOUNT                     |
| -          | 30<br>30<br>30 | SPECIFIC GRAVITIES<br>TOTAL HARDNESS<br>BARIUM SULPHATE | 4554663<br>OLNT.                              | ? OB -          | -57         | 14.50<br>14.00<br>14.50 | 435.00<br>420.00<br>435.00 |
|            |                |   |   |                 |             |                         |                            |
| _          |                | (   | ORIGIN  | Al              |             | TOTAL \$<br>=           | 1290.00                    |
|            |                | P   | AYABLE IN CANADIAN CL<br>TERMS: NET CASH 30 I | JRRENCY<br>DAYS | ;<br>INV(   | DICE No. 10             | 0434                       |
|            |                |   | Involtes for Your Eilers Mr. Do               | Not Sand Sa     |             |                         |                            |

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