## SKUHUN PROJECT

## 1982 Diamond Drilling Report

on the

SKU 1, SKU 2, SKU 3 and GOOD NEWS 1 Claims
Kamloops Mining Division

SKU 4 Claim
Nicola Mining Division

NTS: 92I/6E, 7W
LAT: $50^{\circ} 18$ LN LONG: $120^{\circ} 57^{\circ} W$

Owner \& Operator: SMD MINING CO. LTD.


David T.M. Chan

## SUMMARY

The Skuhun Group claims are located 18 km south of the Highland Valley in southern British Columbia (NTS: 92I/6E, 7W), 30.4 km northwest of Merritt. The claims are located near the southern margin of the copper depleted central core of the Guichon Creek Batholith, in an area structurally similar to the Highland Valley copper district.

Previous exploration on the claims did not locate any signification sulphide mineralization but a weak pyrite zone and an area of fracture-controlled malachite, bornite mineralization was outlined.

The claims overlie granodiorite and monzonite of the Bethsaida, Bethlehem, and Highland Valley phases and are located along the Skuhun Valley fault immediately east of its intersection with the Lornex fault. 1982 diamond drilling consists of seven NQ holes, totalling 677.6 metres, drilled on the SKU 1, 2 claims. Diamond drilling concentrated along the Skuhun Creek Fault and its intersection with structural lineaments, to test possible Cu-Mo mineralization under an area of overburden and sparse outcrop.

Drilling revealed propylitic, montmorillitic and weak argillic alteration in faulted and fractured granodiorite and porphyritic monzonite. Clay and calcite-coated fracture sets contain minor malachite. No significant amount of sulphides were encountered. The best hole to date is DDH-1, drilled in Bethlehem phase granodiorite, which averaged 426 ppm Cu over 78.3 metres. All of the drill holes contained less than 6 ppm Mo.

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## 1. INTRODUCTION

## (i) Location and Access

The. Skuhun Group is located near the southern end of the Guichon Creek Batholith about 30.4 km northwest of Merritt, B.C. (Figure 1). The claim group lies immediately south of Skuhun Creek and approximately $2,500 \mathrm{~m}$ east of its confluence with Skuhost Creek. Access to the property is east via the Skuhun Creek road from Highway 8 for 12.5 km .

## (ii) Claim Definition

The property was acquired from Pearl Resources Ltd. in May 1981 and subsequently ownership was transferred to SMD Mining Company Limited.

The Skuhun Group consists of SKU 1, SKU 2, SKU 3, SKU 4 and GOOD NEWS 1 claims totalling 82 units. The SKU 1, 2, 3 and GOOD NEWS 1 claims are located in the Kamloops Mining Division and the SKU 4 claim is located in the Nicola Mining Division (Figure 2).

TABLE 1
CLAIM DATA

| Claim | Units | Record No. | Record Date |
| :--- | ---: | :---: | :--- |
|  |  |  |  |
| SKU 1 | 20 | 2245 |  |
| SKU 2 | 20 | 2246 |  |
| SKU 3 | 16 | 3072 | November 8, 1979 |
| SKU 4 | 6 | 757 | November 10, 1980 |
| GOOD NEWS 1 | 20 | 2374 | November 8, 1979 |
|  |  |  | January 28, 1980 |




## (iii) Previous Work

The Ministry of Mines and Petroleum Resources mapped the area between 1969 and 1974 (McMillian, 1978). The claim area and adjoining ground has been explored by Canex Placer (1969-70), Cominco (1969-81), Cities Services Minerals Corp. (1975-76), Pearl Resources Ltd. (1979-80), and SMD Mining Co. Ltd. (1981-82).

Canex Placer and Cominco conducted magnetic, induced polarization-resistivity and geochemical surveys over parts of the claim area and adjoining ground (Cannon, 1969). In 1969, Canex Placer drilled eight percussion holes. No sulphide mineralization was encountered.

Cities Services Minerals Corporation drilled three rotary holes north of Skuhun Creek in 1975 (Nordin, 1975). No hydrothermal alteration or sulphide mineralization were encountered.

Pearl Resources Ltd. drilled seven percussion holes in SKU 1 claim in 1980. The highest values were encountered in PDH-80-1 which contained 30 metres averaging 132 ppm Cu and 3.8 ppm Mo (De Leen, 1980).

SMD Mining Co. Ltd. conducted geological survey and percussion drilling in 1981. Nine vertical holes totalling 713.3 metres were drilled. The best values were found in PDH-81-1, averaging 178 ppm Cu and 1.8 ppm Mo over 91 metres (Ruck, 1981).

## 2. DIAMOND DRILLING

Seven NQ diamond drill holes totalling 677.7 m were drilled by J.T. Thomas Diamond Drilling Ltd. of Smithers between March 11 and April L. Five holes were drilled along the Skuhun Creek Fault near the Bethsaida and Bethlehem contact to test possible fracture-controlled copper-molybdenum mineralization (Drawing 1). Two holes were drilled further east along the Skuhun Creek-Fault to replace percussion drill holes PDH 81-4 and 81-8 which were abandoned in overburden. Drill holes are summarized in Table 2, drill logs are in Appendix A.

DDH 1 was drilled, at the intersection of the Skuhun Creek Fault and a northwesterly trending lineament, in an area of magnetic low.

DDH 2 was drilled, at the intersection between the Skuhun Creek Fault and two lineaments (northwest and southwest striking), in an area of magentic low.

DDH 3 was drilled, to replace DDH 2 which was abandoned in overburden, in an area of magnetic low 240 metres southwest of DDH 2.

DDH 1, 2, 3 are located in the trend of a northerly striking dyke-swarm transecting the SKU 1 claim.

DDH 4 was drilled in an area of magnetic low in the vicinity of the Skuhun Creek Fault.

DDH 5 was drilled at the intersection between the Skuhun Creek Fault. and a northerly trending lineament, in an area of magnetic low.

DDH 6 was drilled at the intersection between the Skuhun Creek Fault and two lineaments (northeast and northwest striking).

DDH 7 was drilled at the intersection between the Skuhun Creek Fault and two lineaments (north and east striking).

Average drilling cost was $\$ 100.5 / \mathrm{m}$ excluding road construction, mobilization/demobilization. Average advance per shift when drilling was 29.3 metres.

The drill cores from each hole were split in halves and analyzed geochemically for copper and molybdenum every 5 metres by Acme Analytical Laboratories Ltd. of Vancouver. The results of the analysis are included in Appendix B. Drill cores are stored at DDH I site.

## TABLE 2

SUMMARY OF DIAMOND DRILLING - SKUHUN PROJECT 1982

| DDH | From | To(m) | Length(m) | Rock Type | Cu(ppm) | Mo(ppm) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | $\begin{gathered} 0 \\ 44.2 \end{gathered}$ | $\begin{array}{r} 44.2 \\ 122.5 \end{array}$ | $\begin{aligned} & 44.2 \\ & 78.3 \end{aligned}$ | Overburden Medium-grained granodiorite | 426 | 2 |
| 2 | 0 | 53.34 | 53.34 | Overburden |  |  |
| 3 | 0 | 24.38 | 24.38 | Overburden |  |  |
|  | 24.38 | 82.3 | 57.92 | Coarse-grained granodiorite | 8 | 1 |
|  | 82.3 | 114.0 | 31.7 | Porphyritic Monzonite | 19 | 1 |
|  | 114.0 | 137.16 | 23.16 | Coarse-grained Granodiorite | 12 | 1 |
| 4 | 0 | 9.14 | 9.14 | Overburden |  |  |
|  | 9.14 | 33.5 | 24.36 | Fine-grained Granodiorite | 60 | I |
|  | 33.5 | 90.22 | 56.72 | Medium-grained Granodiorite | 86 | 1 |
| 5 | 0 | 42.9 | 42.9 | Overburden |  |  |
|  | 42.9 | 91.44 | 48.54 | Coarse-grained Granodiorite | 78 | 1 |
| 6 | 0 | 51.82 | 51.82 | Overburden |  |  |
|  | 51.82 | 91.44 | 39.62 | Fine-grained Granodiorite | 63 | 2 |
| 7 | 0 | 54.86 | 54.86 | Overburden |  |  |
|  | 54.86 | 91.44 | 36.58 | Fine-grained Granodiorite | 48 | 1 |

## 3. GEOLOGY

## (i) General

The Skuhun Group claims are located along the southern margin of the central core of the Guichon Batholith immediately east of the intersection of the Lornex and Skuhun Creek Faults. The claims overlie the Bethsaida granodiorite, monzonite Bethlehem granodiorite and the Bethlehem granodiorite - Chataway granodiorite contacts (Drawing 1). The claims cover a zone of fractured rock located along the east trending Skuhun Creek Fault occurring within the northern claim boundary. Malachite and chalcopyrite were noted in outcrops on the SKU 1 claim, near percussion drill holes 80-1 and 80-2.

The copper-molybdenum deposits in the Highland Valley occur where major faults are intersected by other faults and where intense fracture zones and northerlytrending dyke swarms are associated with the Bethsaida-Bethlehem phase contact.

The Skuhun claim group covers an area geologically and structurally similar to the Highland Valley. The Skuhun Creek Fault is one of the major faults transecting the inner core of the Guichon Batholith. Two northerly-striking dyke swarms outcrops just north of the Skuhun Group area (Drawing 1) and are projected to intersect the Skuhun Creek Fault within the claim area.

## (ii) Local Geology

Diamond drilling intersected granodiorites of the Highland Valley phase, Bethlehem phase, and Bethsaida phase. A small body of porphyritic monzonite intrudes the Bethsaida granodiorite in DDH 3. Distinction between the phases is mainly based on textures and mineral contents (Northcote, 1969 and McMillian, 1978).

Fine-grained Granodiorite

Fine-grained granodiorite occurs in DDH 6, DDH 7 and at the top of DDH 4. This unit is equigranular and plagioclase occurs as light grey subhedral to anhedral
grains ( $1-2 \mathrm{~mm}$ ). Orthoclase is very fine-grained, interstitual to plagioclase and finegrained anhedral quartz $(0.5-1 \mathrm{~mm})$. Partly chloritized poikilitic hornblende and biotite are equally abundant and they vary from 1 to 5 mm in length. The rock is generally unaltered and only weakly fractured. Weak propylitic alteration occurs in fault zones where abundant sericite, clay, calcite, and epidote are found. Trace of malachite and disseminated magnetite occur in fractures. Salmon pink-coloured aplite dykes ( $1-3 \mathrm{~cm}$ ) are common particularly in DDH 4. Thin K-feldspar envelopes (less than 2 mm ) occur around barren quartz veins and fractures. This unit resembles the Chataway variety of the Highland Valley phase.

Medium-grained Granodiorite

This unit occurs in DDH 1 and the bottom of DDH 4. Textually, the rock is equigranular to weakly porphyritic and medium-grained. Plagioclase occurs as subhedral to euhedral grains ( $2-3 \mathrm{~mm}$ ) with anhedral quartz grains ( $2-4 \mathrm{~mm}$ ). Orthoclase is fine-grained, interstitual to plagioclase and quartz. Poikilitic and irregularly distributed biotite and hornblende are strongly chloritized. Strong montmorillonitic to weak argillic alteration occurs at the top half of DDH 1 and weak propylitic alteration occurs in the bottom. Specular hematite and disseminated magnetite are very common and are generally associated with quartz veining. Fracture-controlled malachite and bornite occur in minor amounts. Faulting and strong fracturing are common in this unit in DDH 1. This unit resembles the Bethlehem phase which surrounds the younger Bethsaida phase coarse-grained granodiorite.

Coarse-grained Granodiorite

Coarse-grained granodiorite occurs in DDH 3 and DDH 5. Coarse-grained biotite books ( $2-5 \mathrm{~mm}$ ) and clear, anhedral quartz ( $2-5 \mathrm{~mm}$ ) grains occur with grey subhedral plagioclase grains ( $2-4 \mathrm{~mm}$ ). Orthoclase is pink and interstitual to plagioclase, quartz and mafics. This unit is weakly fractured, and propylitic alteration is weak to moderate. Fine-grained disseminated magnetite is common in the coarse-grained granodiorite. Biotite books are partly replaced by chlorite. Epidote clots commonly occur with chlorite. Feldspars are partly replaced by sericite and clay near fault
zones. Calcite, clay and hematite are common in fractures. Minor malachite occurs in fractures. The rock resembles the Bethsaida phase which forms the inner core of the Guichon Creek batholith.

## Porphyritic Monzonite

Pink porphyritic monzonite occurs as a small dyke-like body intruding the Bethsaida coarse-grained granodiorite in DDH 3. Contacts with the granodiorite are bounded by fault gouges. The rock is medium-grained porphyritic with subhedral grey plagioclase ( $1-5 \mathrm{~mm}$ ) and anhedral quartz $(1-2 \mathrm{~mm})$ phenocrysts. Pale pink poikilitic orthoclase and fine-grained plagioclase form the matrix. Disseminated biotite and hornblende (less than 1 mm ) are partly chloritized. Propylitic alteration is limited to fault zones where sericite and clay replaced the feldspar. Disseminated magnetite is common in the porphyritic monzonite. This unit is probably related to the northerlystriking dyke swarms north of DDH-3.

## (iii) Structure

The Skuhun Creek Fault is the major structural feature of the claim area. Northeast and northwest striking structural lineaments, detectable on airphotographs, intersect the Skuhun Creek Fault. All diamond drill holes intersected fault and shear zones. Clay gouges up to two metres thick are common in major fault zones. Fractures are generally sub-parallel, $60^{\circ}$ to $65^{\circ}$ to core axis in DDH 1, 3, 4, 5, and $30^{\circ}$ to $40^{\circ}$ to core axis in DDH 6,7. Average fracture density is four fractures $/ \mathrm{m}$.

Minor quartz veining ( $1-20 \mathrm{~mm}$ ) occurs in DDH 1, 3, and 6. They are sub-parallel to fractures and usually contain disseminated magnetite and specular hematite.

Salmon pink aplite dykes and veins occur in DDH 4, 5. These dykes are $1-50 \mathrm{~mm}$ thick and are composed of fine-grained K-feldspar and quartz. No mineralization is associated with the aplite dykes that intrude both the Bethlehem and the Bethsaida phases.

## (iv) Alteration

Deuteric and local hydrothermal alteration occur in all the intrusive phases. Deuteric alteration is primarily propylitic. Biotite and hornblende are chloritized and epidotized and orthoclase are pink to red. Feldspars are fresh to partly altered to sericite and carbonate near fault zones.

Hydrothermal alteration is sporadic and limited to fault and shear zones. Pervasive montmorillonitic to weak argillic facies are common throughout DDH 1 but the most intense hydrothermal alteration is fracture-controlled.

Where argillic or montmorillonitic alteration occurs the rock is soft and appears pale-green and grey. Plagioclase are extensively replaced by clay and sericite. Mafics are replaced by chlorite and carbonate leaving vague grain outline. Pervasive and microvein calcite usually accompany the alteration. Disseminated magnetite is commonly replaced by hematite.

Weak potassic alteration occurs in DDH 6 in strongly fractured zones. Pink Kfeldspar envelopes ( $1-3 \mathrm{~mm}$ ) appear around quartz microveins and fractures. The alterations are minor and do not associate with any mineralization.

## (v) Mineralization

Specular hematite and magnetite are common while supergene malachite and bornite are minor and fracture-controlled. Specular hematite occurs mainly in quartz veins and as fine-grained clusters in fractures. Disseminated magnetite are primary and occur throughout all phases. Malachite occurs as coatings on fractures and in fault gouges commonly with calcite, specularite and magnetite in DDH 1, 4, 5, 7. Disseminated bornite was noted in DDH 1 in quartz vein and in a fracture. The best mineralization occurs in DDH 1, 1,840 ppm Cu over 10 metres, in strongly altered medium-grained granodiorite. No molybdenum mineralization was found.

## 4. ROAD CONSTRUCTION

Removal of snow on existing roads on the claim area was performed by a CASE1150 tractor supplied by J.T. Thomas Ltd. Approximately 1.2 km of roads were constructed to provide access to the drill sites using the CASE-1150 tractor and a TD20E tractor supplied by H.E. Sanders Ltd. (Drawing 1)

## 5. ITEMIZED COST STATEMENT - SKUHUN GROUP



Supervision and
core logging - David Chan, SMD Mining Co. Ltd., Vancouver, B.C. March 8 - April 2, 1982
Labour ( 26 days @ $\$ 150.00 /$ day ) $3,900.00$
Disbursements 1,602.38
Truck Rental ( 1 mo . @ $\$ 900 / \mathrm{mo}$. + insurance and mileage chg) 1,315.88
Report Writing (7 days @ \$150.00/day)
Total $\frac{1,050.00}{\$ 7,868.26}$

## 6. STATEMENT OF QUALIFICATIONS

I, David T.M. Chan, Vancouver, British Columbia, hereby certify:

1) That I am a geologist residing at 1191 Marsden Court, Burnaby, British Columbia.
2) That I am a graduate of the University of Toronto with a B.Sc. degree in Geology in 1979.
3) That I have practiced my profession since graduation.
4) That I personally supervised and carried out the work on the Skuhun Group claims.


David T.M. Chan
April, 1982

## 7. REFERENCES

## Cannon, R.W.

1969: Assessment Report 2177: Magnetometer Survey for Tyner Lake Mines Ltd. (N.P.L.), Highland Valley, B.C.

1969: Assessment Report 2201: Induced Polarization Survey for Tyner Lake Mines Ltd. (N.P.L.), Highland Valley, B.C.

De Leen, J.
1980: Assessment Report 8616: Percussion Drilling and Sampling on the Sku Group of Mineral Claims - Pearl Resources Ltd.

Hamilton, J.
1969: Assessment Report 2086: Induced Polarization and Resistivity Survey Bin Grid, Spences Bridge Area, Highland Valley, B.C.

MacMillan, W.J.
1978: Geology of the Guichon Creek Batholith and Highland Valley, Preliminary Map 30, B.C. Ministry of Energy, Mines and Petroleum Resources.

Nordin, G.
1975: Geological, Geophysical, Rotary Drilling Report on the Burns Claims Cities Service Minerals Corp.

Northcote, K.E.
1969: Geology and Geochronology of the Guichon Creek Batholith, Bulletin 56, B.C. Ministry of Energy, Mines and Petroleum Resources.

Ruck, P.J.
1981: Geology, Percussion Drilling and Geochemical Analyses on the Skuhun Group claims. Unpublished assessment report.

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## APPENDIX A

DRILL LOGS

0

Company: SMD Mining Co. Ltd.
Project: SKUHUN
Grid:
Disposition: MC 2245
Drill Contractor: J. T. Thomas
$\begin{array}{llll}\text { Core Size: } & \text { 1. NQ } & \text { From: } 44.2 & \text { To: } 122.5 \\ & \text { 2. } & & \text { From: } \\ & 3 . & \text { From: } & \end{array}$
Casing Type: HW , NW $\quad$ From: 0 To: $44.20 \mathrm{~m} \quad$ Removed(?): Yes
Core Stored at: Drill site
Hole Location (Grid coordinates): 3580 E 1870 N
Hole Elevation: $1128 \mathrm{~m} \quad$ Determined by: Map Rel. to: Sea level
Hole Bearing 0 Relative to True North

Hole Dip:
Depth:


Hole Drilled to Determine: Possible Cu-Mo mineralization associated with the Skuhun Creek Fault

| Summary Log: | Quaternary/Recent | From: 0 | To: 44.2 |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  | From: 44.2 | To: 122.5 |  |
|  | Granodiorite (medium-grained) | From: | To: |  |
|  |  | From: | F | To: . |

COMMENTS:

| Dopin |  | Llithology | Rock Typo | Deserlpilion | MInapallzallon Alloralion Fracturing | R <br> 10 C.A. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| From | To |  |  |  |  |  |
| 0 | 44.2 |  | OVERBURDEN |  |  |  |
| 44.2 | 89.0 |  | GRANODIORITE | Mottled light green, buff and grey; fine-to mediumgrained; subhedral to euhedral plagioclase ( $2-3 \mathrm{~mm}$, $50-60 \%$ ); anhedral quartz interstitial to plagioclase (2-4 mm, $15-20 \%$ ); disseminated anhedral biotite and hornblende ( $0.5-1 \mathrm{~mm}, 10 \%$ ); interstitial orthoclase masses ( $<1 \mathrm{~mm}, 5 \%$ ). Feldspars are complettely altered to clay, sericite and montmorillonite (?). Chlorite after mafics. Abundant calcite veins and clay-coated fractures. | 3 to 5 fractures/m <br> 1 to 2 quartz veins/m (barren) <br> Intermediate argillic or montmorillonitic alteration <br> Trace of malachite in fractures. <br> Disseminated magnetite in groundmass. |  |

44.2-58: Weathered zone, intense fracturing with strong limonite coating. Rock is locally vuggy and friable.

59-60.2: Fault zone with quartz-magnetite veins (1-10 mm ); disseminated specular magnetite in mafics, and also as sub-hedral clots ( $<2 \mathrm{~mm}$ ); rock is very friable with abundant clay gouges.
72.7-73.8: Fault, gouge zone, quartz vein with disseminated specular hematite '

Trace of malachite
coating on fractures:
$44.7 \mathrm{~m}, 46.8 \mathrm{~m}, 47.9 \mathrm{~m}$
57 m
57.4 m ; malachite on $45^{\circ}$ gouge zone (fault?)
$59.6 \mathrm{~m}:$ quartz-magne- $55^{\circ}$
tite vein
61.2 m : specular hema- $55^{\circ}$
tite on fracture
70.8 m : calcite vein $\quad 78^{\circ}$

Fault top: $72.7 \mathrm{~m} \quad 40^{\circ}$
Fault bottom: $73.8 \mathrm{ml} \quad 45^{\circ}$



Company: SMD Mining Co. Ltd.
Project: SKUHUN
Grid:
Disposition: MC 2245
Drill Contractor: J. T. Thomas

Hole No. : SK DDH-2
Commenced: 16 Mar 82
Completed: 17 Mar 82
Logged by: D. Chan
TOTAL DEPTH: 53.34 m


Removed(.?): Yes
Core Stored at: Drill site
Hole Location (Grid co-ordinates): 3150 E $1800 N$
Hole Elevation: 1158 m
Determined by: Map Rel. to: sea level
Hole Bearing_ 000 Relative to True North.

Hole Dip: Depth:


Hole Drilled to Determine: Possible Cu-Mo mineralization associated with the Skuhun Creek Fault

Summary Log: Quaternary/Recent

| From: 0, | To: 53.34 |  |
| :--- | :--- | :--- |
| From: |  | To: |
| From: | To: |  |
| From: | To: . $\quad$. |  |

COMMENTS: Hole abandoned at 53.34 m in overburden. No bedrock intersected

Drlll Hole No. SK-DDH-2
Shoot 1 이 1

| Doplh | (m) | L.lihology | Rock Type | Deserlpilion | - | Minapalizallon Alleration Frocluring | $\begin{gathered} \mathrm{B} \\ \text { 10 C.A. } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| From | To |  |  |  |  |  |  |

053.34 OVERBURDEN No samples collected

END OF HOLE AT 53.34 m .

0
Company: SMD Mining Co. Ltd.
Project: SKUHUN
Grid:
Disposition: MC '2245
Drill Contractor: J. T. Thomas
$\begin{array}{lll}\text { Core Size: } & \text { 1. NQ } & \text { From: 24.38 To: 137.16 } \\ & \text { 2. } & \text { From: } \\ & \text { 3. } & \text { From: }\end{array}$
Casing Type: HW, NW - From: 0 To: 24.38
Core Stored at: Drill site
Hole Location (Grid co-ordinates): $2910 \mathrm{E}, 1730 \mathrm{~N}$
Hole Elevation: 1189 m Determined by: map Rel. to: sea level

Hole Bearing_ 0 Relative to True North

Hole Dip:
Depth:


Hole Drilled to Determine: Possible Cu-Mo mineralization associated with the Skuhun Creek fault

Summary Log: | Quaternary/Recent |
| :--- |
| Granodiorite (coarse-grained) |
|  |
|  |
|  |
| Pranphyritic monzonite |
| Granodiorite (coarse-grained) |

COHUAENTS:

| Dapl | (m) | Lithology | Hock Type | Oescriplion | MInopalizallon Alleration Fracluring |  <br> $10 \mathrm{C}, \mathrm{A}$. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| From | To |  |  |  |  |  |
| 0-24.38 |  |  | OVERBURDEN |  |  |  |
| 24.38-82.3 |  | $\begin{aligned} & \text { 罦 } \\ & \text { N } \\ & \text { Th } \\ & \text { 꽇 } \\ & \text { in } \end{aligned}$ | GRANODIORITE | Light grey, mottled pale pink and green; coarse-grained granular; subhedral plagioclase ( $2-4 \mathrm{~mm}, 50-55 \%$ ); | 2-3 fractures/m. Calcite coated fractures. | $60^{\circ}$ |
|  |  | $20-25 \%$ ); pink-coloured interstitial orthoclase ( 1 mm , $5-10 \%$ ); subhedral to euhedral biotite books ( $2-5 \mathrm{~mm}$, $5-10 \%$ ) and minor euhedral hornblende. Mafics partly altered to chlorite. Feldspars are unaltered except in fault zones where clay and sericite partly replace plagioclase and minor orthoclase. |  | Fresh to very weak propylitic alteration. Nil sulphides |  |  |
|  |  | 24-36: Weak weathering zone, trace of limonite-coated fractures. |  | 34-37 m: Subparalle1 fractures with abundant calcite and clay | $60^{\circ}$ |  |
|  |  | 51-53.4: Fault zone, abundant clay gouges, 25\% core recovery. Granodiorite appears pale green. Abundant pervasive carbonate. |  | Strong sericite/clay alteration. Chlorite after mafics |  |  |
|  |  |  |  | 53.4 m: Fault bottom | $65^{\circ}$ |  |
|  |  | 58.8-64: Increasing chlorite alteration after biotite. Trace of interstitial epidote. |  |  |  |  |
|  |  | 74.3-77.7: Strong alteration, abundant chlorite and clay. Epidote clusters in mafics. |  | 77 m : Subparallel fractures, chlorite and clay filled. | $30^{\circ}$ |  |
|  |  | 79.5-80.4: Fault zone, strong propylitic alteration. Porphyritic monzonite below fault zone. |  |  |  |  |



## DRILL HOLE SUMMARY

0
Company: SMD Mining Co. Ltd.
Project: SKUHUN
Grid:
Disposition: •502245
Drill Contractor: J. T. Thomas
$\begin{array}{llll}\text { Core Size: } & \text { 1. NQ } & \text { From: 9.14 } & \text { To: 89.22 } \\ & \text { 2. } & & \text { From: } \\ & \text { 3. } & & \text { From: }\end{array}$
Casing Type: HW, NW . From: 0_To:_9.14_ Removed(?): Yes

Core Stored at: Drill site
Hole Location (Grid coordinates): $\quad 2380 \mathrm{E}, 1730 \mathrm{~N}$
Hole Elevation: $\quad 1177$ m
Determined by: map
Rel. to: sea level

Hole Bearing $\qquad$ Relative to True North
(.) Hole Dip: Depth:


Hole No.: SK DDH-4
Commenced: 20 Mar 82
Completed: 22 Mar 82
Logged by: D. Chan
TOTAL DEPTH: 91.44 m
-

Possible Cu-Mo mineralization associated with the Skuhun Creek fault

| Summary Log: | Quaternary/Recent | From: 0 | To: 9.14 |  |
| :--- | :--- | :--- | :--- | :--- |
|  | Granodiorite (fine-grained) |  |  |  |
|  | Granodiorite (medium-grained) | From: 9.14 |  | To: 33.5 |
|  |  | From: 33.5 | To: 90.22 |  |

COMMENTS:


| Dopin | （m） | LIthologx | Rock Typo | Descriplion | － | Minapalizallon Allerallon Frocluring | Io C．A． |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| From | To |  |  |  |  |  |  |

42．5－56：Fault，core completely broken，less than 30\％ recovery，abundant clay gouges．

59．7：Aplite dyke， $40^{\circ}$ to C．A．
59．7－66：Local pervasive epidotization in ground mass

72－78．4：Shear zone，core badly broken：

78．4－81．4：Abundant chlorite and epidote，disseminated magnetite and red hematite coating．
80．5：Aplite dyke， $60^{\circ}$ to C．A．
81．4－91．22：Unaltered zone，fine－grained disseminated magnetite and red hematite coating are common
84．7：Quartz vein with K－feldspar envelope（ $35^{\circ}$ to C．A．） nil sulfides．
85．4－85．7：Fault，intense clay alteration after feldspars，
86．5：Malachite coating in fracture with disseminated magnetite．

END OF HOLE AT 90.22 m

Trace of limonite and hematite coating．
$60-3 \mathrm{~m}$ ：Malachite coating on fractures with disseminated magnetite．
65.4 m ：Malachite in． $50^{\circ}$ fractures
Weak propylitic alter－ ation
72.3 m ：Trace of mala－ chite on fracture
78.8 m ：Trace of malachite

2 fractures／m．

Fault bottom

O
Company: SMD Mining Co. Ltd.
Project: SKUHUN
Grid:
Disposition: MC•2245
Drill Contractor: J. T. Thomas
$\begin{array}{rlll}\text { Core Size: } & \text { 1. } \mathrm{NQ} & \text { From: } 42.9 & \text { To: } 91.44 \\ 2 . & & \text { From: } \\ & 3 . & \text { From: } & \end{array}$
Casing Type: • HW, NW From: 0 To: 42.9
Core Stored at: Drill site
Hole Location (Grid co-ordinates): $2120 \mathrm{E}, 1880 \mathrm{~N}$
Hole Elevation: 1128 m , Determined by: map Rel. to: sea level
Hole Bearing_ 0 Relative to True North.

Hole Dip:
Depth:


Hole Drilled to Determine: Possible Cu-Mo mineralization associated with the Skuhun Creek fault.

| Sumnary Log: | Quaternary/Recent |
| ---: | :--- |
| Granodiorite (coarse-grained) |  |

COHMENTS:

| Dipih (m) |  | Lithology | Rock Typo | Deseripilion | Minarailzailon Allarallon Fracluring | $\begin{gathered} x \\ \text { to } C . A . \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| From | To |  |  |  |  |  |

0-42.9
42.9-91.44 GRANODIORITE

Light grey, mottled pink and pale green; coarse-grained, 3 fractures $/ \mathrm{m}$. granular; sub-hedral plagioclase ( $1-4 \mathrm{~mm}, 50-55 \%$ ); anhedral coarse-grained quartz (2-5 mm, 20-25\%); interstitial orthoclase ( $<0.5 \mathrm{~mm}, 5-10 \%$ ); subhedral biotite
BETHSAIDA PHASE books ( $2-5 \mathrm{~mm}, 5-10 \%$ ); minor subhedral hornblende. Granodiorite here is the same phase as that of DDH-3.

Biotite and hornblende are partly chloritized. Feldspars are mostly unaltered. Alteration is stronger in fault
and shear zones.
45.8 : Trace of malachite, bornite
48.2-50: Fracture zone, badly broken core with abundant clay gouges.
59.7, 62.8: Fractures with pervasive calcite and malachite coatings.
70-73: Fault zone, less than $50 \%$ core recovery.
81.4-82: Shear zone, badly fractured core, red hematite coatings on fractures ( $50^{\circ}$ to C.A.)
83.4-83.8: Fault zone, less than $30 \%$ core recovery. Hematite/clay gouges 85.3: Aplite dyke
85.7: Calcite coated fracture

86-91.44: Little to no alteration

END OF HOLE AT 91.44 m.
45.8 m : Fracture $50^{\circ}$
50.4 m : Disseminated malachite.

Pale-green clays after
feldspars near fault
79.15 m : Trace of $35^{\circ}$
malachite in fracture.
Fresh to weak propylitic alteration
Trace of malachite in some fractures.
Fine-grained disseminated magnetite is very common.

Trace of malachite ..... $45^{\circ}$
86.7 m : Disseminated ..... $50^{\circ}$

## DRILL HOLE SUMMARY

$\bigcirc$
Company: SMD Mining Cọ. Ltd.
Project: SKUHUN
Grid:
Disposition: MC 2246
Drill Contractor: J. T. Thomas
$\begin{array}{llll}\text { Core Size: } & \text { 7. } & \mathrm{NQ} & \text { From: } 51.82 \\ \text { 2. } & \text { To: } 91.44 \\ & 3 . & \text { From: } & \text { To: } \\ & & \text { From: }\end{array}$
Casing Type: HW NW From: 0 To: $51.82 \quad$ Removed (?) : Yes
Core Stored at: Drill site
Hole Location (Grid coordinates): - 6040 E , 1840 N
Hole Elevation: $\quad 1265 \mathrm{~m} \quad$ Determined by: map Rel. to: sea level
Hole Bearing_ $0 \quad$ Relative to True North.

Hole Dip: Depth:


Hole Drilled to Determine: Hole drilled to replace percussion drill hole (SK-81-4) lost in overburden

Summary Log: Quaternary/Recent Granodiorite (fine-grained)

From: $0 \quad$ To: 51.82
From: 51.82 To: 91.44
From: 51.82 To:
From: $\quad$ : To:

COMMENTS:

Orlll Hole No. SK-DDH-6


## DRILL HOLE SUMMARY



Hole Drilled to Determine: $\quad \begin{aligned} & \text { Hole drilled to replace percussion drill hole (SK-81-8) } \\ & \text { lost in overburden }\end{aligned}$

Summary Log: Quaternary/Recent Granodiorite (fine-grained)

| From: | 0 |  | To: 54.86 |
| :--- | :---: | :--- | :--- |
| From: | 54.86 | To: 91.44 |  |
| From: |  | To: |  |
| From: |  | . | To: : . . |

COHMENTS:

OIIII Hole No. SK-DDH-7
Shoot 1 of 1


## APPENDIX B

## Drill Core Geochemistry Results

## for

$\mathrm{Cu}, \mathrm{Mo}$
O

ACME ANALYTICAL LABORATORIES LTD.
To: Saskatchewan Mining Development Corp., Acsaying \& Trice Analysis \# 330 - 1130 W. Pender St., Vancouver, B.C. V6E 4A4
phone:253-3158
c.c. Sturdy-Stone Centre, Saskatoon.

GEOCHEMICAL ASSAY CERTIFICATE
Project : Skuhun 4944 Req. 0609, $0610 \& 0611$
Fie Na _-_82-0174
Type of Samples Cores
Disposition
1


ACME ANALYTICAL LABORATORIES LTD.
To: Saskatchewan Mining Development Corp. 852 E. Hastings St., Vancouver, B. C. veA 1R6 phone:253-3158

File No _ 82-0174

## GEOCHEMIĆAL ASSAY CERTIFICATE

Disposition
2


Dont fiem
Tk

## APPENDIX C

J.T. Thomas Diamond Drilling Ltd. Invoice
Acme Analytical Labs Ltd. Invoice
Redhawk Rentals Ltd. Invoice
H.E Sanders Ltd. Invoice
J.T. IHOMAS

DIAMOND DRILLING (1980) LTD.
PH. 847-3531
P.O. BOX 394

VOJ 2NO
SMITHERS, B.C.
To: SMD Mining Co. Itd.
330-1130 West Pender Street Vancouver, B.C. V6E $4 A 4$

Invoice: \#82-3
Invoice Date:
Property: $\qquad$ STMAY 1982 Skuhun Creek

This is our invoice for diamond drilling and other services as per contract. Drill 38-3

Diamond Drilling: Total Meterage -677.7 \$44,746.97
See attached page 2. (2223 feet)
Mian and Machine Hours: (Driliing broken ground, 15,880.00 tractor rental, standby, etc.) See attached page 3.

Materials Used; Lost or Damaged: $14,871.51$ See attached pages $4 \& 5$.

Mobilisation/Demobilisation (lump sum): 3,000.00
Note: Extra was charged on move out - much longer move than anticipated.

Acid Tests:
$\mathrm{n} / \mathrm{c}$
Room and Board:
TOTAL
$\mathrm{n} / \mathrm{c}$
\$78,498.48

The above calculations are agreed to by:

## ACME ANALYTICAL LABORATORIES LTD.

Date: April 14, 1982
-Saskatchewan Mining Development Corp., \#330 - 1130 W. Pender St. , Vancouver, B.C. V6E 4A4

TERMS: NET TWO WEEKS 2\% PEA MONTH CHARGED ON OVERDUE ACCOUNTG.

| NUMEER | ASSAY | Pric\% | AMOUNT |
| :---: | :---: | :---: | :---: |
|  | Project : Skuhun 4944 Req.: 0609, 0610 \& 0611 P.O. \# 04378 |  |  |
| 55 | Geochem Mo and Cu assays 0 | \$2.45 | \$134.75 |
| 271 | (meter) Core Sample for Splitting © | 2.25 | 609.75 |
| 403 | (1bs) Sample over 10 lbs (Total $953 \mathrm{lbs}-550 \mathrm{lbs}=403 \mathrm{lbs}$ ) | 0.25 | 100.75 |
| 55 | Core sample preparations @ | 2.50 | 137.50 |
|  |  |  | \$982.75 |
|  | Motorways \# 1989405-4 |  | 52.90 |
|  | \# 1989413-8 |  | 58.84 |
|  | - \# 1989410-4 |  | 75.73 |
|  |  |  | \$1170,22 |
|  |  | , ${ }^{-}$ |  |

## ACME ANALYTICAL LABORATORIES LTD.

PHONE: 253.3158
852 East Hastings St., Vancouver, B.C. V6A 1R6
Fale: $\frac{82-0189}{\text { April 14, } 1982}$
Saskatchewan Mining Development Corp. \#330 - 1130 W. Pender Vancouver, B.C V6E 4A4


TERMS: NET TWO WEEKS 2\% PER MONTH CHARGED ON OVEADUE ACCOUNTS.


## invoice

```
FsASK. Mining dEVELGPMENT CORPN.
    330, 1130 W. PENDER ST.
        VANCOUVER, B. C.
        v6E 4A4
                7
CONTRACT NO. 165 VEHICLE NO. 367 YOUR P.O. 02316 \(\quad\) DATEMARCH \(31 / 82\)

RENTAL OF 1981 TOYOTA 4 WHEEL DRIVE STATION WAGON UNDER CONTRACT FROM MARCH 8, 1982:
\begin{tabular}{llr} 
RENTAL FEE MARCH 8 - APRIL 8 PER CONTRACT & \$ 900.00 \\
SALES TAX 6X & 54.00 \\
INSURANCE FEE MARCH B - APRIL B PER CONTRACT
\end{tabular}

INSURANCE FEE MARCH 8 - APRIL 8 PER CONTRACT

TOTAL


\section*{REDHAMK RENTALS}


RENTAL OF 4 WHEEL DRIVE TOYOTA LAND CRUISER NO. 367 UNDER CONTRACT. FROM MARCH BTH; VEHICLE RETURNED IN SATISFACTORY CDNDITION APPIL ETH WITH TANKS FULL:

RENTAL FEE - ONE MONTH MINIMUM PREVIDUSLY INVOICED
KM FEE - MILES TRAVELLED 4616
KMS ALLOWED - 2400
EXTRA KMS . 12 EACH . 2216
s 265.92
SALES TAX 6\%
15.26

S 281.88

In Account With
H. E. SANDERS LTD.

LOGGING CONSTRUCTION
Bax 80 - Lower_Nicola, B.C. - VOK \(1 Y 0\)

..STK.

VIANCcinlef, B.C. VEE4FOR APFROVAL

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