

Geochemical Sampling Induced Polarization Survey

And Geological Mapping of the Kwah $1-6$ And Swan 1-8 Claims

For
FILMED
Northair Mines Ltd.
Eastfield Resources Ltd.
Joint Venture
By Mincord Exploration Consultants Ltd.

## GEOLOGICALBRANCH ASSESSMENTREPORT

## 19,131

Omineca Mining Division
Latitude: 55 degrees 32 minutes $N$
A. J. Buskas

Longitude: 125 degrees 20 minutes $W$ NTS Maps: $93 \mathrm{~N} / 6$ 93N/11
G. L. Garratt
J. W. Morton
A. Introduction ..... 1
B. Location, Access and Physiograph ..... 1
C. Ownership ..... 2
D. History ..... 2
E. Geology ..... 3
E1. Regional Geology ..... 3
E2. Property Geology ..... 4
E2.1 Introduction ..... 4
E2.2 Granite/Granodiorite (Unit 5) ..... 5
E2.3 Hybrid Quartz Monzonite (HQM) and Quartz Syenite (Unit 3) ..... 6
E2.4 Monzonite and Quartz Diorite (Unit 4) ..... 7.
E2.5 Takla Sediments/Volcaniclastics (Unit 2). ..... 7
E2.6 Cretaceous Conglomerate (Unit 7) ..... 8
E2.7 Cache Creek Rocks ..... 8
E2. 8 Structure ..... 8
E3. Mineralization and Alteration ..... 9
F. Geochemical Sampling ..... 9
G. Geophysical Survey ..... 12
H. Conclusions and Discussion ..... 13
I. Recommendations ..... 16
Appendices:

1. Statement of Qualifications
2. Certificate of Analyses and AnalyticalMethod
3. Rock Sample Descriptions and Core Sample Descriptions
4. Geophysical Survey Report; ..... A. $\operatorname{scot} t$
5. References
6. Summary of Previous Drilling
7. Statement of Expenditures
Figures:
8. General Location Map
9. Regional Location Map
Attachments:
10. Geology Map - North Sheet (1:5000)
11. Geology Map - South Sheer ..... (1:5000)
12. Geochemical Sampling Location and Results - North Sheet(1:5000)
13. Geochemical Sampling Location and Results - South Sheet(1:5000)
14. Induced Polarization Survey Chargeability, Plan(1:10,000)
15. Induced Polarization Survey Resistivity, Plan (1:10,000)
16. Induced Polarization Survey Pseudosections (Lines 000 and200s 1:5000)
17. Induced Polarization Survey Pseudosections (Lines 400 S and 600s 1:5000)
18. Induced Polarization Survey Pseudosections (Lines 1350S,1550s 1:5000)
19. Induced Polarization Survey Pseudosections (Lines 2550S,2750s 1:5000)
20. Induced Polarization Survey Pseudosections (Lines 2950s,3180s, 3380s 1:5000)
21. Induced Polarization Survey Pseudosections (Lines 4880s, 5080s, 5280s, 5480s 1:5000)

## A. Introduction

In the period between June 17, 1989 to July 24 an exploration program was carried out on the swan claims north of fort st. James, British Columbia. The Swan property is held by Eastfield Resources Ltd. under an option agreement, which gives Eastfield the right to acquire a $100 \%$ interest in the property subject to a 2\% net smelter royalty. An agreement between Eastfield and Northair Mines Ltd. allows for Northair to earn a $50 \%$ interest in the property. Northair Mines Ltd. is operator of the project and during 1989 contracted the exploration program to Mincord Exploration Consultants Ltd. of Vancouver.

The 1989 exploration program entailed establishing and cutting 22.6 kilometers of grid lines, prospecting and geological mapping the property. 162 rock samples, 143 silt samples and 55 soil samples were collected and analyzed by Acme Analytical Laboratories using multi element procedures. Samples from previous drilling were resampled, described and analyzed. 23.3 line kilometers of induced polarization survey was completed.

Geological mapping outlined the presence of five phases of the Hogem Batholith which showed intense fracturing due to the proximity of the Pinchi Fault. Mineralization is best developed in the Hybrid quartz Monzonite and Granite/Granodiorite units of the Hogem Batholith. Rock sampling indicated the presence of Au and Cu anomalies in the North Copper zone and Cu anomalies in the South Copper zone. Silt sampling indicated the presence of several $A u$ anomalies and $a$ few $C u$ anomalies. The induced polarization survey revealed three strong chargeabilty anomalies and several additional weaker chargeability anomalies.

The exploration program delineated six target zones. A two phase exploration program is recommended to test these targets. The first phase would comprise 7000 feet (2134 m) of diamond drilling. The second phase would consist of testing geochemical anomalies. Contingent upon the results of this program a second exploration program is recommended including an I.P. survey, diamond drilling and geochemical sampling.
B. Location, Access and Physiography

The Swan claims are located on Kwanika Creek, in the Swanell Ranges a subdivision of the Omineca Mountains. Specifically they are located northeast of Tsayta Lake, at 55 degrees 30 minutes North latitude, 125 degrees 20 minutes West longitude NTS maps 93N/6 and 93N/11. (see figures 1 and 2). Access to the claims is by two wheel drive gravel road from Fort st. James via Manson Creek, a distance of 256 kilometers. The road from Manson Creek continues west some 40 kilometers to Takla Lake where the B.C. Rail line is presently being restored to active use. The reactivation of the B.C. rail line will have significant impact on the viability of developing a copper or copper-gold orebody in this region. Fort st. James and Vanderhoof are regional centres for government, logging and agriculture and offer good logistical support.


Scale 1:7,500,000 opprox.

| EASTFIELD/NORTHAIR |  |  |
| :---: | :---: | :---: |
|  |  |  |
| GENERAL |  |  |
|  |  |  |



The claims occupy a drift covered U-shaped glacial valley with elevations varying from $900 \mathrm{~m}(2950 \mathrm{ft})$ to $1750 \mathrm{~m}(5750 \mathrm{ft})$. Within the valley, topography is for the most part gentle with very little relief, the only exception being a steep slope present on the west bank of Kwanika creek. A mixed pine and spruce forest cover the claims with occasional shallow lakes and swamps present. Most outcrops present are located on Kwanika Creek. Excepting the Kwanika Creek valley, which offers a north-south transect through the property, outcrop is scarce.

Kwanika Creek lies east of the Pacific divide and drains southward in to the Nation Lakes chain which flows eastward to Williston Lake and eventually the Peace River. There are no salmon or other coastal marine species in this water way.
C. Ownership

| claim | Units | Record No. | Record Date |
| :---: | :---: | :---: | :---: |
| Kwah 1 | 1 | 9901 | Oct 19, 1988 |
| Kwah 2 | 1 | 9902 | Oct 19, 1988 |
| Kwah 3 | 1 | 9903 | Oct 19, 1988 |
| Kwah 4 | 1 | 9904 | Oct 19, 1988 |
| Kwah 5 | 1 | 9905 | Oct 19, 1988 |
| Kwah 6 | 1 | 9906 | Oct 19, 1988 |
| Swan 1 | 20 | 10123 | Feb 16, 1989 |
| Swan 2 | 20 | 10124 | Feb 15, 1989 |
| Swan 3 | 20 | 10125 | Feb 13, 1989 |
| Swan 4 | 20 | 10126 | Feb 14, 1989 |
| Swan 5 | 20 | 10397 | May 6, 1989 |
| Swan 6 | 20 | 10398 | May 6, 1989 |
| Swan 7 | 20 | 10399 | May 4, 1989 |
| Swan 8 | 20 | 10400 | May 4, 1989 |

Total Claims: 14 Total Units: 166
The above listed claims are held under option by Eastfield Resources from W. Halleran of Fort St. James, B.C. A joint venture agreement between Eastfield and Northair Mines Ltd. was reached on May 1, 1989 whereby Northair must make cash payments totalling $\$ 300,000$ and complete $\$ 2,000,000$ in exploration over the next six years of which $\$ 100,000$ must be spent on exploration in the first year. These terms comply with Eastfield's right to earn $100 \%$ interest in the property, subject to a $2 \%$ NSR in favour of Mr. Halleran.

## D. History

Exploration in the vicinity of Kwanika creek first occurred in the late 1930 's and early 1940's following the discovery of mercury at Pinchi Lake in 1937. Initial exploration was directed towards mercury along the Pinchi fault and placer gold in Kwanika Creek. The area was first mapped in 1941 and 1943 by J.W. Armstrong of the Geological Survey of Canada. The Bralorne Takla

Mercury Mine, located 4 kilometers northwest of the property, operated from 1943 to 1944 producing 132,088 lbs of mercury. Placer gold operations have been worked intermittently to the present along Kwanika Creek on the southern half of the swan claims.

The outcrops along Kwanika Creek were recognized as having a copper (molybdenum) potential and staked in 1964 by A. Almond, G. Bleiler and A.G. Hodgson. Initial exploration was carried out in 1965 by Hogan Mines Ltd. and included bulldozer trenching, and two x-ray diamond drill holes totalling 87 feet (26.5 m). The property was optioned by Canex Aerial Exploration Ltd. (now Placer Dome Inc.) in 1966. Their program included building access roads, 42 miles ( 67.6 kilometers) of line cutting, geological, geochemical, magnetometer and I.P. surveys and trenching. Eleven AX diamond drill holes totalling 2807 feet $(855 \mathrm{~m})$ were completed before Canex terminated their option. In 1969 the property was optioned by Great Plains Development Company of Canada, Ltd. (now Norcen Energy Resources Ltd.). Their exploration program included a magnetometer survey and seven $B Q$ diamond drill holes totalling 4328 feet ( 1319 m ), before terminating their option. The result of the Canex and Great Plains work was the geological definition of a low grade copper deposit within an area of 1600 feet ( 488 m ) by 1000 feet ( 305 m ).

In 1972, Bow River Resources, formerly Hogan Mines Ltd, drilled six percussion holes for a total of 1800 feet ( 548 m ). That same year, J.A. Garnett of the B.C.D.M., with two assistants, spent 10 days mapping, investigating showings and logging core on the property. In 1973 the property was optioned by Pechiney Development Ltd. who expanded the area under investigation in a southerly direction. Their exploration program included establishing and cutting 40 line miles (64.4 kilometres) of grid, a ground magnetometer and I.P. survey, and 30 percussion drill holes totalling 9820 feet ( 2993 m ) before dropping their option. Subsequently Bow River Resources abandoned the claims.

Interest in the area was recently rekindled by $W$. Halleran who staked the Kwah claims on October 19, 1989 and demonstrated a copper-gold affinity in the mineralization. In mid-February 1989 W. Halleran staked the Swan 1-4 claims for Eastfield Resources Ltd. In early may 1989, Eastfield Resources staked the Swan 5-8 claims. On March 13, 1989 an agreement was formalized between $W$. Halleran and Eastfield whereby Eastfield has the right to earn a $100 \%$ interest in the Kwah and Swan claims subject to a $2 \%$ NSR in favor of Halleran.

## E. Geology

## E1. Regional Geology

The major geological features in the region of the swan Property are the Triassic aged Takla Group meta sediments which are
intruded by the various phases of the Hogem Batholith. Paleozoic aged Cache Creek Group rocks occupy the extreme western portions of the property. The Pinchi Fault, a major north northwest trending suture zone, separates the paleozoic terrain from Mesozoic and Cretaceous aged units which occur to the east.

The Cache Creek Group in the vicinity of the swan property is composed of limestones believed to be Permian in age. Ultramafics of unknown age have previously been included in the Cache creek but are now believed to be younger. Outcrops of Cache Creek limestone occur on Kwanika Creek in the southern part of the property and to the west of the creek in the central part of the property. A linear trending band of Cache Creek ultramafics are present in the western regions of the property. The Upper Triassic Takla Group metasediments outcrop in two places on Kwanika Creek. The most significant occurrence of this package is in the central part of the property where argillites, greywackes, volcaniclastic/greywackes and conglomerates occur. Two small outcrops of Takla argillite are present farther to the south.

The majority of rocks outcropping on the property belong to two of the intrusive phases of the Hogem Batholith. The first phase is Lower Jurassic in age and was classified by Garnett of the B.C. Department of Mines (1978) as having three distinct rock varieties; a Monzodiorite to Diorite; a Monzonite to Quartz Bearing Monzonite; and a Hybrid Quartz bearing Monzonite. The second phase is Lower Cretaceous in age and was classified by Garnett as a Quartz Monzonite to Granite variety.

On the south part of Kwanika Creek are two outcrops of a Polymict Boulder Conglomerate. These were considered by Garnett to be Upper Cretaceous in age. The major structural lineament in the area is the Pinchi Fault which trends north northwest and regionally varies from 100 to 1500 m wide. It separates the older Paleozoic rocks from younger Mesozoic rocks but cannot be directly observed as its surface trace is covered by glacial drift. The proximity of the Pinchi Fault to Kwanika Creek is evidenced by the presence of fractures, shears and faults in outcrops along the creek. It is speculated that this fault may have had significance in preparing adjacent terranes for ascending mineralizing hydrothermal systems.

## E2 Property Geology

## E2.1 Introduction

A lack of outcrop due to a thick cover of glacial drift severely limited geologic mapping. Most outcrops occur along the banks of Kwanika Creek where glacial drift has been eroded away and while this results in much less than $5 \%$ outcrop exposure, enough variety occurs to delineate the major units. Another inhibiting factor in the mapping was the high degree of alteration undergone by rocks of the Hogem Batholith. This makes the application of classical petrographic terms difficult. In an attempt to
circumvent this problem the rock units of Garnett (1978) were retained, but somewhat modified, for mapping. Garnett's units and their equivalents are listed below.

Garnett (1978)
Units used herein


The majority of outcrops present on the property belong to the various intrusive phases of the Hogem Batholith. These rock units may be thought of as two end members, with the Monzonite and Quartz Diorite as one and the Granite/Granodiorite as the other. The Hybrid Quartz Monzonite (H.Q.M.) and Quartz Syenite represent an intermediate group that are the result of hydrothermal alteration and silicification of the Monzonite unit during intrusion by the Granite/Granodiorite unit.

E2.2 Granite/Granodiorite (Unit 5)
The Granite/Granodiorite unit is the youngest of the five intrusive units and is considered to be Lower cretaceous in age. It outcrops in the northwest part of the property along west Kwanika Creek; in the centre of the property at about $9+00 \mathrm{~S}$ to $15+00 S$ and in the south from $30+50 S$ to $55+50$ S on Kwanika Creek. This unit is a pink leucocratic, medium grained intrusive which may contain up to $15 \%$ mafic minerals, usually less than $5 \%$. It varies from weakly to intensely fractured with fracturing most strongly developed in outcrops on the south part of the property. Plagioclase feldspars within this unit have commonly undergone argillic (sericitic?) alteration the intensity of which is proportional to fracturing. Hematite is also commonly present as patchy stains on fracture surfaces but may be pervasive. In only one instance was epidote observed in this unit occurring as rounded blebs up to 1 cm in size.

The Granite/Granodiorite may be cut by dark green/black, aphanitic diorite(?) dykes and rare feldspar porphyry dykes. The diorite(?) dykes usually possess strong chlorite alteration and have hematite coated fractures. Occasional melanocratic pods have also been observed in outcrop. Brecciation in this unit is very rare but has been observed in one outcrop north of $48+80 \mathrm{~s}$ on the east bank of Kwanika Creek. In this instance, the granitic rocks are cut by a black intrusive which contains rounded xenoliths of the country rock. Quartz and carbonate veining are present in outcrop but are not well developed. only in one instance was magnetism noted in these rocks.

The Granite/Granodiorite unit has been observed in contact with and intruding the Takla Group and intruding the H.Q.M. and Monzonite units. Where it is in contact and intrudes the Takla, it varies from a pale pink to purplish (hematite? staining), very fine grained intrusive, rarely containing $K$-feldspar phenocrysts.

Where it intrudes the H.Q.M. and Monzonite it occurs as salmon pink felsic dykes composed of K-feldspar with less than $10 \%$ quartz and less than $2 \%$ mafic minerals. The dykes have sheared contacts.

E2.3 Hybrid Quartz Monzonite (HQM) and Quartz Syenite (Unit 3)
The H.Q.M. is Lower Jurassic in age and outcrops in two zones on Kwanika creek from $0+00$ to $8+00 \mathrm{~s}$ and from $31+80 \mathrm{~s}$ to $36+00 \mathrm{~s}$. These two zones are separated by the Takla Group and the Monzonite and Granite/Granodiorite of the Hogem Batholith. The H.Q.M. is the most variable unit within the Hogem Batholith due to the wide variety and high degree of alteration it has undergone. Various rock types included in this unit are quartz Syenites, , Syenites, Syenodiorites, Monzonites, Monzodiorites and Diorites. In the northern zone during initial mapping a Quartz Syenite unit, composed of Syenites and Quartz syenites, was distinguished and has been included on the maps. It is now considered that this unit represents an alteration zone where substantial secondary $K$-feldspar and minor quartz have been introduced into the unit.

The H.Q.M. varies in color from a mottled pink to mottled green and black rock. It is medium grained to aphanitic (where strongly chlorite altered) and weakly to strongly fractured. It has undergone extensive alteration, including K-feldspar, chlorite, epidote, argillic and silicification. In addition, hematite commonly occurs on fracture surfaces (in association with chlorite and epidote alteration) and may also occur as discrete bright red blebs (sometimes mistaken for cinnibar). Quartz and carbonate veinlets are present in this unit, quartz veinlets are usually associated with K-feldspar alteration.

In outcrops at the south end of the north H.Q.M. zone there is the development of a breccia. It occurs in intensely chloritized rock and is best visible on freshly broken surfaces where clasts may protrude. it is thought that this breccia has channeled hydrothermal fluids as evidenced by the intense chlorite alteration associated with it.

An outcrop of H.Q.M., located at $34+50$ s to $36+00 \mathrm{~S}$ on the east bank of Kwanika Creek, has been pervasively cut by numerous carbonate veinlets striking from 140 degrees to 160 degrees. This outcrop is intensely fractured with $\mathrm{K}-\mathrm{feldspar}$, epidote alteration present, hematite is also present on fracture surfaces and associated with carbonate veinlets. This outcrop is a carbonate stockwork and is thought to represent the top end of a hydrothermal system. It has also been suggested that the breccia occurring to the north represents a lower part of this same hydrothermal system.

## E2.4 Monzonite and Quartz Diorite (Unit 4)

The Monzonite unit is also Lower Jurassic in age occurring north of camp on the east bank of Kwanika Creek, south of camp at approximately $2+00 \mathrm{~N} 5+25 \mathrm{~W}$ on a small tributary to the east of Kwanika Creek and between $27+50$ S and $29+50$ S on Kwanika Creek. It is a fine to medium grained leucocratic intrusive which may contain up to $50 \%$ mafic minerals, usually less than $30 \%$. The mafic minerals are predominantly biotite with lesser amounts of hornblende. It may also contain up to $5 \%$ quartz. This unit usually displays weak chlorite and epidote alteration with chlorite riming biotite grains and very rare epidote veinlets. It may sometimes display magnetism, very rare hematite staining and is rarely weakly mineralized with trace pyrite. Fracturing, shearing and faulting have been noted in the unit and it may be cut by quartz and carbonate veinlets.

A single outcrop of the Lower Jurassic Quartz Diorite was observed at approximately $2+00 \mathrm{~N}$ and $3+25 \mathrm{~W}$ on a small tributary to the east of Kwanika Creek. At this locality, it is silicified and contains up to $40 \%$ quartz most of which is blebby and appears to be secondary. it is strongly magnetic and contains $20 \%$ mafic minerals which are biotite and horn blende. No mineralization was observed in this unit.

E2.5 Takla Sediments/Volcaniclastics (Unit 2)
In the central portion of the claims from $15+00 \mathrm{~s}$ to $31+00 \mathrm{~s}$ outcrop the Upper Triassic Takla Group metasediments. They are predominantly argillites, interbedded black mudstones and brown siltstones, and possess a slaty cleavage which is parallel to bedding. Bedding within the argillites predominantly strikes from north to northwest and is relatively steeply dipping to the east or west varying from 60 degrees to 80 degrees. Tight concentric folding has been observed in the argillite. In two instances dykes, one a siliceous feldspar porphyry dyke and the other an altered mafic dyke, were observed cutting the argillite. The argillite also shows the development of numerous randomly oriented fractures which are resealed by carbonate veinlets. This feature is best developed at the contact with the Granite/Granodiorite and where the argillites are cut by dykes.

Also present in the area are greywackes and greywacke/volcaniclastics. The greywackes vary from siltstone to sandstone, are massive, do not exhibit cleavage and usually possess a weak limonite stain. In places they have been fractured and resealed by randomly oriented carbonate veinlets, but this is rare. Occasionally greywackes contain shale rip up clasts suggesting it is a mass flow. The greywacke/volcaniclastic differs from the greywacke in containing angular shards implying a volcanic component has been added to the sediments.

Rarely occurring in the Takla at this locality are the conglomerates. They are a paraconglomerate with pebble sized clasts and a fine grained black mud matrix. Commonly a weak limonite stain is present on the surface of the conglomerates.

Two small outcrops of argillite are present $48+80 \mathrm{~S}$ on Kwanika Creek. They are intimately associated with the Granite/Granodiorite unit and are fractured with randomly oriented carbonate veinlets resealing fractures. These argillites strike at 304 degrees and dip to the east at 84 degrees which is parallel to the contact with the intruding Granite/Granodiorite unit.

E2.6 Cretaceous Conglomerate (Unit 7)
Two outcrops of the Upper Cretaceous Polymict Boulder Conglomerate were encountered during mapping on the south part of Kwanika Creek. The unit varies from a para to orthoconglomerate with rounded pebble to cobble sized clasts in a red clay matrix. The cobbles and pebbles have a black coating which is thought to be hematite. Outcrops are bright red in color due to a pervasive hematite staining.

## E2.7 Cache Creek Rocks

Cache creek age blue grey limestone was encountered near an old prospect trench occurring at $33+00 \mathrm{~S} \quad 12+50 \mathrm{~W}$. Silicified ultramafic was observed immediately west of this limestone. It is thought that the old trench was once part of the Bowleg Group explored for its mercury potential by the Consolidated Mining and smelting co. of canada during the second world war.

## E2. 8 Structure

Structurally the most important feature in the immediate vicinity is the Pinchi Fault. Its proximity to Kwanika Creek has resulted in strong to intense fracturing with shearing developed in many outcrops on the creek. Fracturing within any single outcrop usually shows several orientations and these display complex cross cutting relations, indicating that several episodes of movement have occurred. Fractures are thought to have acted as conduits for hydrothermal fluids with subsequent deposition of minerals including pyrite, carbonate, quartz, K-feldspar, hematite, chlorite and epidote on fracture surfaces often pervading surrounding rock.

Some very basic fault trends were noted during mapping. These include northeast trending (probably the best developed), northwest trending, north trending and east trending faults. When slickensides were present they usually possessed shallow pitches (less than 20 degrees) indicating predominantly strike skip motion. However a few were also noted with steep pitches indicating predominantly dip skip motion. A structural analysis of the Swan property is beyond the scope of the present project. Suffice it to say that the area is structurally complex which is consistent with its proximity to the Pinchi Fault.

## E3 Mineralization and Alteration

The most common mineral present is pyrite. It may occur as disseminated grains, blebby masses up to 10 cm in size in shears and as veinlets filling fractures, and is present in the H.Q.M. and Granite/Granodiorite units. The most striking type of pyrite mineralization occurs in rusty gossans which occur within the north H.Q.M. zone. Here large blebs up to 10 cm in size and stringers up to $2-3 \mathrm{~mm}$ wide and disseminated grains of pyrite occur and may compose up to $20 \%$ of the outcrop in places. This type of mineralization is associated with shearing. Outcrops in these zones are usually silicified but may contain pods of intense argillic alteration.

Chalcopyrite mineralization in the H.Q.M. is usually associated with pervasive chlorite alteration while epidote, $K-f e l d s p a r$ and hematite are also present. In these instances chalcopyrite usually occurs as disseminated fine grains less than 1 mm in size but rare blebs $1-2 \mathrm{~mm}$ in size and stringers less than 1 mm wide may occasionally develop. Often grains of pyrite are also present and occasionally bornite grains may also be present. Relative concentrations of pyrite to chalcopyrite are often low in areas of higher copper values resulting in a relationship where higher copper-gold values may occur in areas of relatively low total sulfide content (1-2\% Total sulfides). It has been noted that better copper-gold values often occur with substantial geochemical zinc concentrations (up to +2000 ppm zn ).

Chalcopyrite may also occur in the Granite/Granodiorite unit. Often it occurs as blebs up to 5 mm in size with malachite and rarely azurite, as halos and on fracture surfaces. It may also occur as stringers less than 1 mm wide filling fractures. Pyrite and molybdenite may be present, along with argillic (sericite?) alteration and occasional hematite staining.

Molybdenite is of rare occurrence in the H.Q.M. and Granite/Granodiorite unit. It has been observed in the H.Q.M. occurring as blebs in quartz veins. In the Granite/Granodiorite unit it is associated with chalcopyrite and argillic (Sericite?) alteration, occurring as disseminated grains.

## F. Geochemical Sampling

Five types of geochemical sampling were done on the project, including soil, silt, rock, old trench and core sampling. Soil sampling was done on line $2+00$ s from $22+50 \mathrm{~W}$ to $26+00 \mathrm{~W}$; line $4+00 \mathrm{~S}$ from $22+00 \mathrm{~W}$ to $26+00 \mathrm{~W}$; and on lines $25+50 \mathrm{~S}$ and $27+50 \mathrm{~S}$ from $11+00 \mathrm{~W}$ to $15+00 \mathrm{~W}$. Samples were taken at 50 m intervals within 3 $m$ of the station, $10-20 \mathrm{~cm}$ below the surface, in the B soil horizon. Samples were not taken when the station was located in swampy or marshy ground. A total of 55 samples were taken. Soil samples were allowed to air dry before shipping to Acme Analytical Labs Ltd., Vancouver, where they were analyzed for 30 elements using ICP (Induced Coupled Plasma); and for Au, samples
prepared for fire assay and analyzed using AA (Atomic Absorption). These analytical results may be found in appendix 2, Certificates of Analyses. Soil sampling was done at these locations in hopes of geochemically confirming I.P. anomalies found on these lines. Results for the soil samples did not confirm the presence of a strong $C u$ or $A u$ geochemical anomaly associated with the I.P. high. However, two anomalous values for Au were found with 20 ppb Au present at $27+50 \mathrm{~S}, 14+25 \mathrm{~W}$ and 77 ppb Au at $25+50 \mathrm{~S}, 11+75 \mathrm{~W}$. It is impossible to predict the depth of overburden in this area and it should be noted that no outcrops occur here.

Silt sampling was done on all tributaries of Kwanika Creek, provided water flow was sufficient to warrant sampling. Samples were taken between $2+00 \mathrm{~N}$ and $33+80 \mathrm{~S}$ on the east side of Kwanika Creek, and between $11+00 S$ and $24+50$ S on the west side of Kwanika. Two problems hindered sampling on the west side of Kwanika Creek. First, a cat road is present running parallel to Kwanika Creek on top of the steep bank on the west side of the creek. It was felt that samples taken below the cat road would be affected by glacial drift moved during the building of the road. The second was the gentle nature of the topography above the cat road resulting in low water flow making creeks unsuitable for sampling. Silt samples were allowed to air dry before shipping to Acme Analytical laboratories Ltd., Vancouver, and analyzed for 30 elements using ICP; and for Au, samples were taken, 11 from the west side of Kwanika Creek and 132 from the east side. Results of the silt samples indicated the presence of a single $A u$ anomaly on the west bank of Kwanika at $24+00 \mathrm{~S} 5+00 \mathrm{~W}$ with 1227 ppb Au. An anomalous Cu value of 361 ppm Cu was recorded from the sample taken on Kwanika creek around line $33+80$. This sample is associated with $C u$ anomalies in rock samples collected at the same locality. Sampling on the east side of Kwanika Creek was more successful. The best results were obtained on two of the most northerly creeks denoted $0+95 \mathrm{~N}$, and $1+95 \mathrm{~S}$. The highest anomalies were obtained on creek $0+95 \mathrm{~N}$ with values of 42,112 , 25, 85 and 1422 ppb Au at $1+00 \mathrm{E}, 3+00 \mathrm{E}, 7+00 \mathrm{E}, 10+00 \mathrm{E}$ and $11+00 \mathrm{E}$ respectively. Three Cu anomalies were recorded on this creek at $16+00 E, \quad 17+00 E$ and $18+00 E$ on the south tributary of 114 and 108 ppm Cu respectively. A single Au anomaly was recorded on creek $0+30 S$ at $5+00 E$, of 106 ppb Au. Consistent but low Au anomalies were recorded on creek $1+95 \mathrm{~S}$ at $4+00 \mathrm{E}, 6+00 \mathrm{E}, 7+00 \mathrm{E}, 9+00 \mathrm{E}$ and $13+00 E$ of $22,21,25,45$ and 32 ppb Au respectively. A single Au anomaly of 104 ppb Au was recorded on creek $9+30 \mathrm{~S}$ at $5+00 \mathrm{E}$. Two Au anomalies of 47 and 117 ppb Au were found on creek 23+00s at $12+00 \mathrm{E}$ and $14+00 \mathrm{E}$. A single anomaly of 296 ppb Au was found on the west tributary of creek $29+50 \mathrm{~S}$ at $3+00 \mathrm{E}$. Two anomalies of 54 and 23 ppb Au were recorded on creek $34+25 \mathrm{~S}$ at $4+00 \mathrm{E}$ and $5+00 \mathrm{E}$ respectively.

Rock samples were collected from all intrusive outcrops and some of the outcrops of Takla Group metasediments during mapping. Most samples taken were a pseudo chip sample taken over 1 m at 90 degrees to any visible structure. Samples not of this variety
have been noted as such in appendix $I 3$ of this report. Samples were sent to Acme Analytical Laboratories Ltd. and analyzed for 30 elements using ICP, for Au, samples prepared for fire assay and analyzed by AA; and 77 of the samples analyzed for $H g$ by AA. A total of 162 rock samples were submitted.

The results of sampling indicate the presence of two anomalous copper zones described in earlier reports as the north and south copper zones. In the south zone, a Cu anomaly high of 9462 ppm Cu were recorded. The Cu anomalies here occur in the Granite/Granodiorite unit and in the Hybrid quartz Monzonite unit containing dykes of the Granite/Granodiorite unit.

The south zone is distinct from the north zone in not containing many anomalous Au values. Two of the samples, SW-AB-89-19d and $S W-A B-89-78 b$, contain quartz veins suggesting that the $A u$ here has been brought in by quartz.

The north copper zone differs from the south in that the anomalies present occur in the Hybrid Quartz Monzonite unit, and that a number of significant Au anomalies are present. However, Cu and Au anomalies do not appear to show a definitively direct correlation although they may occur together in the same sample. Samples from which high Cu anomalies were recorded usually where dark, strongly chloritized rocks ranging from syenodiorites to diorites. High Au anomalies were observed to more commonly be associated with silicification, quartz veining and pyrite mineralization. Gold values up to 1081 ppb were obtained from this style of mineralization (sample SW-AB-89-27f).

Anomalous Au values of 107 and 198 ppb were obtained from samples SW-AB-89-76 and SW-AB-89-MR-18 respectively, in the vicinity of west Kwanika Creek. These samples were taken from a strongly fractured, chlorite altered, monzonite/diorite with hematite coating fracture surfaces.
sample $\mathrm{SW}-\mathrm{AB}-89-48 \mathrm{a}$ is of interest as it contained a Pb anomaly of 880 ppm . This sample was taken from a quartz vein which also contained substantial Mo (1431 ppm), minor Cu (289 ppm) and Au (29 ppb).

An attempt was made to reassess some of the trenches dug in previous years. Unfortunately most trenches were badly caved in, water filled and even overgrown by bush. One trench, located near line $2+005$ on the east bank of Kwanika Creek, was scraped clear of a thin overburden cover to better expose the outcrop. The trench contained a silicified, occasionally argillic altered Quartz Syenite (H.Q.M. unit) with strong pyrite mineralization occurring over a 2 m width in interval TiA. Chip samples were taken the length of interval T1A ( 6.9 M ) and interval T1B ( 12.2 m ). The results may be found in appendix 2. Cu anomalies of 722 and 800 ppm and Au anomalies of 50 and 86 ppb were obtained from intervals T1A and T1B respectively.

Samples were taken of core from drill holes previously completed on the property. Unfortunately the poor condition of the core boxes made location of the samples impossible. They were analyzed by Acme Analytical Laboratories Ltd., Vancouver using multi element techniques the results of which can be found in appendix 2 and are described in appendix 3. Although anomalous Cu and Au results were obtained no direct correlation between rock types or alteration can be made due to the disrupted state of the core.
G. Geophysical Survey

A time domain induced polarization survey totalling 23.3 kilometers was completed by Scott Geophysics between July 10 and July 21, 1989. A Scintrex IPR-11 receiver and a Scintrex 10 kilowatt transmitter were utilized in the survey. A pole-dipole array using 5 or 10 separations of 50 meters each was employed.

The objectives of the survey were three fold. Firstly, the survey was designed to reorientate the original surveys completed by Canex Aerial Explorations and Pechiney Development subsequent to 1973. Secondly, a ten separation survey was completed on lines 2005 and 400 s to test for mineralization immediately west of the northern hybrid zone under deeper overburden cover. Deeper covered sources of mineralization would not have responded to earlier techniques. Thirdly, the new survey was completed to compare 'state of the art' methods to older somewhat obsolete techniques.

The "ten separation" survey completed on lines 200 s and 400 s outlines the geophysical anomaly which correlates to the mineralized northern hybrid zone. Chargeability responses from deeper separations (6-10) on line 200 and 400 s indicates that the geophysical response continues to approximately 1825 W which is 300 meters west of the western most drill holes giving this anomaly a minimum width of 725 m . The ten separation profile on line 200 s would also suggest that this anomaly may continue a further 250 meters to 2275 W where its expression is again reflected at shallower separations and where, coincidentally, the overburden cover again thins. The chargeability anomaly indicated on line 2550 S between 1150 W and 1500 W appears to form a southerly extension of this western anomaly. If these eastern and western anomalies do coalesce at depth, then a broad area of 2.3 kilometers by 0.9 kilometers exists in which there may be several zones equivalent to the northern hybrid zone.

The very strong chargeability anomaly encountered on the western end of lines 200s and 400s (2575W to 2775 W on line 200S) is believed to reflect altered ultramafic rocks. silicified and cinnabar rich ultramafics are exposed in old trenches west of the property and north of the survey area at 000 S 2800 W and 400 N 2725W. These trenches are on strike with this geophysical trend and are believed to define a fault trace of the Pinchi Fault zone.

Several additional weak chargeability anomalies were detected on the more southerly lines surveyed. Correlation of these anomalies with geological features is not possible at this time due to lack of information in these areas.
H. Conclusions and Discussion

H1. Conclusions

1. Geological mapping indicates the presence of 5 separate units of the Hogem Batholith on the property. The quartz syenite (3a) unit is actually a subdivision of the Hybrid quartz Monzonite (3b). Also present on the property are metasediments of the Takla Group.
2. Cache Creek Group limestones and silicified ultramafics occur on the western part of the property. Cinnabar and pyrite mineralization are known to occur just west of the property at the northern end and are hosted by silicified ultramafics and silicified limestone.
3. The Hogem Batholith and Takla Group are separated from the Cache Creek Group by the Pinchi Fault which is interpreted to trend northerly to northwesterly from the south-central to the northwest corner of the property.
4. The Pinchi Fault has strongly influenced the outcrops present on Kwanika Creek. This has been displayed by the strong fracturing and shearing present in many outcrops along the creek. Furthermore, intensity of fracturing appears to be proportional to alteration intensity.
5. Mineralization is best developed in the Hybrid Quartz Monzonite unit (3b) and in the Granite/Granodiorite unit (5).
6. The highest and most consistent copper and gold anomalies were recorded in rock samples collected from the North copper Zone. While gold and copper anomalies do show a spatial correlation, they often do not show direct relationships in individual samples. Anomalous concentrations of zinc commonly occur in association with copper-gold mineralization.
7. Somewhat lower copper anomalies were recorded in rocks collected from the South Copper zone. Gold anomalies were rare in this zone. Rock exposure, and therefore sample density, is much less in the south zone and might influence these relative results.
8. Silt sampling indicated significant gold anomalies on creeks $0+95 \mathrm{~N}$ and $1+95 \mathrm{~S}$ on the east side of Kwanika Creek. Three copper anomalies were also recorded on creek $0+95 \mathrm{~N}$. A significant solitary gold anomaly of 1227 ppb was found at $23+00 S 5+00 W$ on the west side of Kwanika Creek.
9. A strong broad chargeability anomaly was indicated as occurring on lines 200 S and 400 S from 1200 W to 1825 W . This anomaly may continue west to 2275 W where it is again reflected under shallower overburden depths. This anomaly may also connect with the anomaly on line 2550 s from 1130W to 1500W. If these western and eastern anomalies coalesce, a large area of 2.3 kilometers by 1.0 kilometers exists which could potentially host mineralization similar to the north copper zone. The north copper zone correlates strongly with the eastern I.P. chargeability anomaly.
10. A strong chargeability anomaly was recorded on the western ends of lines 200 S and 400 S. This is considered to reflect altered ultramafic rocks and may represent a trace of the Pinchi fault zone. Sulphide bearing zones of epithermal silicification may form portions of this anomaly.
11. The best copper mineralization was not always associated with the strongest sulphide mineralization. Therefore significant copper may be found where lower chargeability anomalies were detected. This is supported by the significant assay values recorded from DDH's A3, A5 and P5 which were drilled into the periphery of the broad northeastern IP anomaly $10.232 \% \mathrm{Cu} x$ $166 \mathrm{ft}, 0.16 \% \mathrm{Cu} \mathrm{x} 50 \mathrm{ft}$, and $0.17 \% \mathrm{Cu} \mathrm{x} 270 \mathrm{ft}$, respectively).
H. 2 Target Area Discussion

H2.a Eastern I.P. Anomaly
-1800 meter strike by 400 to 600 meter width, open to the north ( $0+00$ to 1550 s ).
-overlaps the known extent of drill and surface sample indicated northern copper deposit.
-describes a strong potential for extending the limits of the copper deposit to the south, west and north.
-drill hole and surface sampling defines this as the best known area of mineralization to date for copper and gold (zinc).
-the western boundary of the I.P. anomaly is suspect and may continue much further to the west, possibly coalescing with the western I.P. anomaly.
-the eastern edge of the anomaly appears to be partly masked by thick overburden.

H2.b Western I.P. Anomaly
-3500 meter strike (interpolated between 1550 s and 2550s) by 300 to 500 meter width, open to the north and south ( $0+00$ to 3380 s ).
-two apparently stronger chargeability zones lie within this anomaly.
-weakly mineralized intrusives outcropping to the north suggest that this anomaly overlies intrusive rocks.
-the western edge of this anomaly, at the northern end, is in contact with another very strong chargeability anomaly that is believed to be underlain by ultramafic rocks; this I.P. contact is therefore believed to mark, at least in part, the trace of the Pinchi Fault.
-the strength and breadth of this anomaly describe a strong potential for the discovery of additional copper (gold) deposits.

H2.c North Central I.P. Anomaly
-the area lying between the northern portions of the east and west I.P. anomalies.
-thick overburden cover (to 160 feet) characterizes this area, thinning to the west and east.
-the ten separation I.P. (lines $2+00 s$ and $4+00 s$ ) indicate that the eastern and western I.P. anomalies may continue through this central area. (Supported by flat shallow resistivity contours, non-parallel chargeability contours and broadening of the flanking anomalies at the deeper separations).

H2.d Cabin Zone
-several small weak chargeability anomalies between 2550 and 3380 f flanking Kwanika Creek.
-the only outcrops in this area carry weak copper mineralization and coincide with the narrow anomaly along Kwanika Creek on lines 3180 s and 3380 s .
-large massive K -feldspar (quartz) dykes occur in this area.
-the lack of geophysical response would restrict the potential of this area.

H2.e South zone
-three weak to moderate chargeability anomalies are open-ended from lines 4880 S to 5480 S and each display a width of 200 to 400 meters.
-the only outcrops in the area occur at the westernmost ends of 5280 S and 5480S; these display minor copper occurrences with little pyrite hosted by granite.
-hybrid rocks may be indicated by the presence of the limited mineralization and the I.P. anomalies.
-these targets may have potential to the north and south.

## H2.f Stream Geochemical Anomalies

-east of Kwanika Creek from creek $0+95 \mathrm{~N}$ to creek $1+95 \mathrm{~S}$.
-several gold and a few copper anomalies; gold peaks at 1422 ppb
-outcrop is extremely limited; by interpolation, the area is suspected to be underlain by varieties of diorite, granodiorite and mafic intrusions.
-with eleven anomalous gold samples, and three or more copper anomalies, an area of approximately 600 m . by 1400 m is defined as anomalous, requiring follow-up exploration.
-as isolated gold value ( 1227 ppb ) in a stream sediment sample from the west side of Kwanika Creek drains an area lacking of outcrop but underlain by a small weak chargeability anomaly near Kwanika Creek and by the large, strong chargeability anomaly of the western I.P. anomaly further upslope to the west.

## I. Recommendations

Six anomalous areas have been defined and each show their own exploration potential. Exploration to date on all but the eastern I.P. anomaly has been cursory, but allows some definition for the purpose of prioritizing the next phase of exploration in order to:
a. further delineate known mineralization and test the first-pass anomalies defined above and
b. define the risk of expanding the exploration to a thorough evaluation of all targets.

In this context, it is recommended that a two-part phase 1 program deal with the following:

Phase 1-A: Diamond Drilling (Approximately 7000 ft.)
Eastern I.P. Anomaly: four holes approx. 700 feet ( 213.3 m ) each located, where feasable, to retest previously drilled area as well as the western extension of the zone.
Western I.P. Anomaly: two angled holes approx. 700 feet $(213.3 \mathrm{~m})$ each, on the northern target; two angled holes approx. 700 feet (213.3 m each, on the southern target.

Central I.P. Anomaly: one vertical hole approx. 700 to 1000 feet.

Phase 1-B: Evaluation of Geochemical Anomalies
Grid soil sampling, approx, eight lines 1400 m long, 100 m apart, with 25 m . stations, in the area east of Kwanika Creek.

The Phase 1 program is estimated to cost $\$ 350,000.00$
Phase 2:
Contingent upon Phase 1, this program would entail a thorough evaluation of all target areas. Approximately 40 km of grid establishment, I.P. and magnetic surveys; 20,000 feet of drilling; further reconnaissance geochemical sampling.

The Phase 2 program is roughly estimated to cost $\$ 950,000.00$

## APPENDIX 1

Statement of Qualifications

I, Arvid John Buskas, of R.R. \#2, Wetaskiwin, Alberta, do hereby certify:

1. I graduated from the University of Alberta, Edmonton, in 1982 with a Bachelor of Science with Honours in Geology.
2. I graduated from the Australian National University, Canberra, Australia, in 1987 with a Master of Science in Geology.
3. From 1980 to 1983 I worked summers as a geological field assistant and have worked full time as a geologist since 1987.
4. I supervised the work described in this report, and undertook the geologic mapping and rock sampling program.


Dated at Vancouver, British Columbia, this 15 th day of September, 1989.

I, Glen L. Garratt, of 110 - 325 Howe street, in the city of Vancouver, British Columbia do hereby state that:

1. I am a practising geologist and have been since 1972 after completing the requirements for a B. Sc. (Geology) at the University of British Columbia.
2. I am a member in good standing of the Association of Professional Engineers, Geologists and Geophysicists of Alberta and a Fellow of the Geological Association of Canada.
3. The work reported herein was carried out under my supervision; the conclusions and discussions of the data are a consensus of the authors' opinions.
4. I consent to the use of this report by Norths mines $L$ td fulfill the requirements of regulatory agencies. Excerpts or quotations or summaries from this report may only be used with my consent.


Dated at Vancouver, British Columbia, this 15th day of September, 1989.

I, James William Morton, of 2750 Alma Street, Vancouver, British Columbia, do hereby certify:

1. I graduated from Carleton University, Ottawa, in 1971 with a Bachelor of Science on Geology.
2. I graduated from the University of British Columbia, Vancouver, in 1976 with a Master of Science in Soil Science.
3. I am a fellow of the Geological Association of Canada.
4. I supervised the work described in this report.

J. W. Morton
M. SC., F.G.A.C.

Dated at Vancouver, British Columbia, this 15 th of September, 1989.

## APPENDIX 2

Certificates of Analyses and Analytical Method

ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6 PHONE(604)253-3158 FAX(604)253-1716
GEOCHEMICAI, ANAIYSIS CERTIEICATE




MINCORD EXPLORATION File \# 89-1917

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| St-AB-89-1 | 1 | 9 | 2 | 16 | 1 | 1095 | 54 | 400 | 3.87 | 15 | 5 | 40 | 2 | 11 | 1 | 2 | $?$ | 11 | . 76 | . 092 | 2 | 309 | 4.71 | 35 | . 01 | 11 | . 05 | . 01 | . 01 | 3 | 3 | - |
| Sf-AB-99-2 | 19 | 635 | 1 | 19 | 1.7 | 8 | , | 491 | 3.14 | 1 | 5 | 10 | 9 | 28 | 1 | 2 | 2 | 37 | . 24 | . 042 | 8 | 8 | . 54 | 13 | . 02 | 6 | . 18 | . 03 | . 17 | 1 | 95 | 40 |
| St-AB-89-3. | 2 | 216 | 1 | 1 | 2.1 | 11 | 16 | 29 | 6.41 | 10 | 5 | HD | 1 | 3 | 1 | 2 | 2 | 9 | . 11 | . 040 | 2 | 1 | . 10 | 34 | . 01 | 2 | . 12 | . 01 | . 23 | 1 | 112 | - |
| Srr-AB-89-4a | 122 | 2601 | 1 | 18 | 1.5 | 11 | 28 | 451 | 6.41 | 17 | 5 | 10 | 6 | 25 | 1 | 2 | 2 | 69 | . 68 | . 043 | 14 | 11 | . 80 | 38 | . 01 | 2 | . 95 | . 02 | . 12 | 1 | 63 | - |
| S $7-\mathrm{AB}-89-4 \mathrm{~b}$ | 26 | 264 | 76 | 33 | . 8 | 1 | 6 | 111 | 2.22 | 103 | 5 | H0 | 3 | 32 | 1 | 2 | 2 | 42 | . 39 | . 060 | 7 | 5 | . 14 | 51 | . 01 | 2 | . 10 | . 04 | . 12 | 1 | $2!$ | 60 |
| 57-18-99-46 | 1 | 255 | 6 | 32 | . 5 | 5 | 12 | 315 | 3.05 | 53 | 5 | ND | 1 | 40 | 1 | 1 | 2 | 35 | 1.62 | . 054 | 7 | 8 | . 62 | 88 | . 01 | 9 | . 34 | . 02 | . 13 | 1 | 10 |  |
| S8-18-99-4d | 21 | 3665 | 22 | 9133 | 2.2 | 5 | 25 | 121 | 11.11 | 1012 | 1 | H1 | 1 | 45 | 46 | 4 | 3 | 25 | 1.00 | . 012 | 2 | 1 | . 26 | 11 | . 01 | 9 | . 25 | . 01 | . 11 | 1 | 66 |  |
| Sf-AB-99-4e | 13 | 16 | 119 | 28 | 1.1 | 4 | 8 | 210 | 2.51 | 15 | 5 | \% | 1 | 69 | 1 | 3 | 2 | 26 | 2.26 | . 028 | 3 | 7 | . 80 | 53 | . 01 | 5 | . 25 | . 02 | . 09 | 1 | 1 |  |
| SY-AB-99-4f | 2 | 661 | 1 | 26 | . 6 | 5 | 7 | 281 | 2.43 | 199 | 5 | WD | 3 | 51 | 1 | 3 | 2 | 30 | 1.90 | . 016 | 5 | 7 | . 68 | 57 | . 01 | 5 | . 26 | . 03 | . 12 | 1 | 28 | - |
| STR-AB-89-4g | 52 | 3693 | 9 | 108 | 4.1 | 1 | 29 | 598 | 3.89 | 278 | s | N0 | 6 | 42 | 1 | 3 | , | 46 | 1.93 | . 059 | 14 | 6 | . 53 | 10 | . 01 | 2 | . 29 | . 02 | . 10 | 1 | 134 | - |
| Sr-AB-89-5d | 106 | 5005 | 12 | 208 | 5.7 | 3 | 82 | 435 | 5.95 | 16 | 5 | v | 7 | 23 | 2 | 2 | 2 | 16 | 1.03 | . 048 | 7 | 8 | . 38 | 28 | . 01 | 11 | . 58 | . 02 | . 12 | 1 | 85 | 30 |
| ST-AB-99-5b | 3 | 1260 | 108 | 50 | 1.5 | 1 | 6 | 845 | 2.01 | 1 | s | 10 |  | 275 | 1 | 3 | 2 | 55 | 6.21 | . 060 | 9 | 21 | . 17 | 228 | . 06 | 3 | . 54 | . 06 | . 09 | 1 | 9 | 20 |
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| ST-18-99-6a | 56 | 412 | 10 | 12 | . 1 | 6 | 4 | ${ }^{13}$ | 0.64 | 6 | 5 | 10 | 6 | 1 | 1 | 1 | 4 | 17 | . 14 | . 033 | 1 | 6 | . 06 | 23 | . 01 | 8 | . 14 | . 02 | . 21 | 1 | 111 | - |
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| S1-18-99-7d | 1846 | 7120 | 19 | 51 | 6.1 | 6 | 14 | 222 | 5.00 | 1 | 5 | kD | 6 | 5 | 1 | 2 | 2 | 38 | . 14 | . 019 | 5 | 4 | . 31 | 32 | . 02 | 1 | . 68 | . 02 | . 22 | 1 | 691 | 5 |
| 51-88-99-7b | 69 | 2155 | 6 | 51 | 1.0 | 1 | 6 | 732 | 2.33 | 3 | 5 | HD | 1 | 45 | 1 | ? | 2 | 19 | . 58 | . 051 | 8 | 10 | . 74 | 101 | . 06 | 2 | 1.35 | . 05 | . 20 | 1 | 80 | 10 |
| 57-18-99-8 | 51 | 4067 | 13 | 11 | 3.1 | 1 | 1 | 044 | 5.16 |  | 5 | 10 | 6 | 24 | 1 | 1 | 2 | 51 | . 3 | . 018 | 8 | 11 | . 39 | 58 | . 08 | 5 | 1.79 | . 06 | . 36 | 3 | 107 | - |
| St-AB-69-9 | 24 | 8349 | 6 | 19 | 6.7 | 5 | 19 | 131 | 8.21 | 19 | 5 | ND | 7 | 11 | 1 | 2 | 2 | 44 | . 21 | . 016 | 6 | 15 | . 71 | 62 | . 06 | 7 | 1.39 | . 06 | . 31 | 1 | 216 | 10 |
| ST-18-89-10 | 11 | 640 | 3 | 45 | . 8 | 1 | 9 | 337 | 5.36 | 1 | 5 | 10 | 1 | 9 | 1 | 2 | 2 | 22 | . 24 | . 063 | 8 | 9 | . 61 | 41 | . 05 | 2 | 1.06 | . 05 | . 18 | 1 | 56 | - |
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| SU-AR-39-:! | ? | 193 | 50 | 212 | 1.0 | 6 | 4 | 435 | 1.97 | 53 | 5 | MD | S | 25 | 1 | 11 | 2 | 68 | . 59 | . 017 | 7 | 10 | . 81 | 21 | . 03 | 10 | . 90 | . 02 | . 29 | 1 | 26 | 10 |
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| S4-AB-99-15b | 2 | 32 | 4 | 15 | . 2 | 3 | 3 | 263 | 1.76 | 10 | 5 |  | 2 | 40 | 1 | 2 | 3 | 20 | 1.64 | . 013 | 7 | 6 | . 60 | 134 | . 01 | 13 | . 23 | . 02 | . 09 | 1 | 5 | 5 |
| ST-AB-89-: 56 | 29 | 1031 | 2 | 31 | . 1 | 5 | 19 | 141 | 3.12 | 1133 | 13 | ND | 3 | 49 | 1 | 2 | 2 | 62 | 1.95 | . 057 | 8 | 6 | . 54 | 288 | . 01 | 15 | . 21 | . 02 | . 07 | 1 | 18 | 20 |
| SW-AB-89-160 | 23 | 9462 | 10 | 64 | 5.7 | 5 | 15 | 701 | 2.64 | 2593 | 16 | YD | 2 | 106 | 1 | 1 | 2 | 38 | 5.40 | . 060 | 8 | 1 | . 40 | 51 | . 01 | 20 | . 40 | . 01 | . 16 | 2 | 101 | - |
| ST- 1 -18-89-17a | 56 | 141! | 5 | $g$ | 1.0 | 3 | 2 | 140 | . 69 | 16 | 5 | ND |  | 11 |  | 2 | 2 | 10 | . 18 | . 015 | 11 | 14 | . 06 | 51 | . 01 | 9 | . 14 | . 01 | . 05 | 1 | 11 | - |
| S $51-18-35-175$ | 357 | 28: | 4 | 12 | . 5 | 3 | 2 | 561 | . 86 | 1 | 5 | No | 5 | 50 | , | 2 | , | 13 | 3.11 | . 034 | 12 | 8 | 1.11 | 698 | . 01 | 11 | . 17 | . 02 | . 05 | 1 | 5 | - |
| S7-AB-89-i7c | 13 | 1135 | 3 | 14 | . 8 | 1 | 3 | 540 | 1.21 | 6 | 5 | ND | 5 | 42 | 1 | 2 | , | 13 | 2.65 | . 003 | 14 | 6 | . 65 | 46 | . 01 | 12 | . 09 | . 02 | . 01 | 2 | 24 | - |
| S4-AB-89-17d | 19 | 45 | 4 | 21 | . 1 | 3 | 4 | 430 | 2.62 | 3 | 5 | YD | 5 | 25 | 1 | 2 | 2 | 54 | 2.14 | . 056 | 12 | 2 | . 17 | 54 | . 01 | 16 | . 35 | . 02 | . 08 | 1 | 2 | 5 |
| S7-AB-89-17e | 11 | 448 | 2 | 15 | . 1 | , | 3 | 135 | 1.32 | 1 | 5 | ND |  | 39 |  | 2 | 2 | 25 | 1.84 | . 025 | ) | 3 | . 25 | 155 | . 01 | 16 | . 35 | . 02 | . 06 | 1 | 14 | 5 |
| S 51 -18-89-15 | 1 | 11 | 4 | 16 | . 2 | 7 | $g$ | 695 | 2.01 | 8 | 5 | ND | 3 | 176 | 1 | 2 | 2 | 11 | 8.32 | . 065 | 15 | 8 | . 78 | 1419 | . 01 | 15. | . 28 | . 01 | . 10 | 4 | 7 | - |
| Sfi-AB-69-19a | 3 | 326 | 1 | 13 | . 2 | 1 | 6 | 1180 | 2.29 | 25 | 5 | ND | 1 | 64 | 1 | 2. | 2 | 34 | 1.12 | . 038 | 12 | 1 | 1.14 | 118 | . 01 | 9 | . 24 | . 02 | . 06 | 2 | 21 | - |
| S 4 - AB -89-19 ${ }^{\text {S }}$ | 12 | 29 | 3 | 37 | . 1 | 4 | 7 | 305 | 2.17 | 9 | 5 | ND | 1 | 50 | 1 | 2 | 2 | 42 | 2.09 | . 043 | 9 | 6 | . 53 | 25 | . 01 | 10 | . 10 | . 02 | . 09 | 1 |  | 5 |
| SIT-AB-89-19\% | 21 | 1732 | 3 | 51 | 1.2 | 4 | 9 | 566 | 2.17 | 550 | 5 | ND | 3 | 26 | 1 | 2 | 2 | 38 | 1.49 | . 050 | 11 | 5 | . 50 | 51 | . 01 | 1 | . 26 | . 02 | . 06 | 1 | 41 | - |
| St-AB-99-191 | 16 | 2616 | 11 | 43 | 2.1 | 11 | 21 | 597 | 8.75 | 677 | 6 | ND | 1 | 36 | 1 | 4. | 1 | 31 | 1.90 | . 022 | 9 | 10 | . 64 | 12 | . 01 | 11 | . 25 | . 01 | . 06 | 1 | 208 | - |
| 51-AB-89-19e | 55 | 1875 | 3 | 51 | 1.5 | 3 | 9 | 544 | 2.55 | 505 | 5 | ND | 6 | 10 | 1 | 2 | 2 | 50 | 1.23 | . 051 | 11 | 1 | . 38 | 22 | . 01 | 12 | . 24 | . 02 | . 05 | 1 | 50 | - |
| SM-AS-8!-? ${ }^{\text {a }}$ | 15 | 414 | 1 | 17 | . 1 | 4 | 4 | 114 | 1.40 | 1 | 5 | MD | 2 | 83 |  | 2 | 2 | 19 | 4.51 | . 025 | 4 | 7 | . 99 | 151 | . 01 | 6 | . 23 | . 01 | . 06 | 1 | 55 | - |
| ST-AB-89-2Cb | 1 | 59 | 4 | 11 | . 1 | 1 | 5 | 183 | 2.05 | 1 | 5 | ND | 1 | 45 | 1 | 2 | 2 | 4 | 2.17 | . 052 | 9 | 6 | . 66 | 267 | . 01 | 9 | . 39 | . 01 | . 07 | ? | 2 | 5 |
| STD C/AU-R | 18 | 59 | 42 | 132 | 6.1 | 69 | 31 | 1119 | 4.15 | 41 | 22 | 7 | 37 | 50 | 18 | 18 | 19 | 60 | . 19 | . 092 | 38 | 53 | . 88 | 180 | . 07 | 34 | 1.96 | . 06 | . 13 | 12 | 470 | 1100 |


GEOCFIEMICAI ANAITSIS CERTIEICATE





## MINCORD EXPLORATION File \# 89-2122

| SAMPLIt | no | Cu | Pb | 28 | 19 | Mi | co | HIL | Pe | 15 | J | An | Th | Sr | cd | Sb | 81 | $V$ | Ca | $p$ | La | CI | ng | Ba | 11 | B | Al | $\boldsymbol{H}$ | I | \# | Anti | Hg |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | PPM | 98\% | PPM | PPM | PRM | PPM | H21 | PPM | \% | PPM | PPK | PPM | PPK | PPM | PPM | PPM | PPM | PPM | $\}$ | \% | PPM | PPM | \% | PPM | $\}$ | PPM | $\}$ | 1 | \% | PP! | PP8 | PP8 |
| S4-AB-99-21 | 1 | 109 | 1 | 76 | .1 | 29 | 25 | 1300 | 8.91 | 43 | 5 | UD | 1 | 859 | 1 | 2 | 2 | 101 | 8.00 | . 185 | 17 | 21 | 3.41 | 95 | . 01 | 23 | . 39 | . 02 | . 22 | 1 | 3 |  |
| ST-48-89-22 | 1 | 15 | 10 | 17 | . 1 | 12 | 10 | 430 | 2.51 | 9 | 5 | W | 1 | 106 | 1 | 3 | 2 | 39 | 2.61 | . 058 | 18 | 34 | 1.47 | 78 | . 01 | 21 | . 94 | . 13 | . 13 | 1 | 2 |  |
| SH-AB-89-23 | 1 | 36 | 3 | 53 | . 1 | 2 | 11 | 754 | 5.71 | 10 | J | HD | 1 | 117 | , | 2 | 2 | 167 | 2.68 | . 120 | 9 | 10 | . 70 | 50 | . 04 | 9 | . 61 | . 03 | . 08 | 1 | 9 | 100 |
| 57-18-89-24d | 64 | 129 | 2 | 11 | . 1 | 6 | 1 | 424 | 2.09 | 8 | 5 | ND | 1 | 25 | 1 | 2 | 2 | 18 | 2.42 | . 062 | 8 | 10 | 1.04 | 36 | . 01 | 1 | . 28 | . 03 | . 13 | 1 | 4 | 100 |
| SY-A8-89-21b | 49 | 900 | 1 | 7 | . 2 | 3 | 2 | 145 | . 47 | 325 | 5 | ND | 14 | 22 | 1 | 2 | 3 | 5 | . 75 | . 005 | 12 | 3 | . 22 | 22 | . 01 | 5 | . 23 | . 02 | . 10 | 1 | 12 |  |
| 58-A8-89-24c | 2025 | 670 | 2 | 13 | . 1 | 12 | 1 | 197 | 1.15 | 145 | 5 | H0 | , | 56 | 1 | 2 | 2 | 11 | 1.01 | . 016 | 1 | 11 | . 10 | 209 | . 01 | 2 | . 45 | . 04 | . 23 | 1 | 16 |  |
| 54-A8-89-? dd $^{\text {d }}$ | 5 | 143 | 2 | 39 | . 1 | 21 | 11 | 983 | 5.05 | 5 | 5 | ND | 1 | 185 | 1 | 2 | 2 | 107 | 4.05 | . 170 | 10 | 59 | . 72 | 155 | . 01 | 14 | . 94 | . 02 | . 22 | 1 | 11 | 20 |
| ST-AB-89-24e | 1190 | 5765 | 3 | 30 | . 8 | 5 | 9 | 128 | 3.00 | 1636 | 13 | VD | , | 146 | 1 | 2 | 2 | 94 | 3.14 | . 065 | 8 | 11 | 1.64 | 33 | . 01 | 4 | . 21 | . 03 | . 05 | , | 25 |  |
| 5W-AB-89-24if | 1111 | 2071 | 5 | 37 | . 6 | 2 | 5 | 715 | 2.36 | 787 | 16 | VD | 2 | 266 | 1 | 2 | 2 | 68 | 5.80 | . 069 | 13 | 9 | 2.36 | 284 | . 01 | 11 | . 19 | . 03 | . 06 | 1 | 10 | 10 |
| 54-18-89-25 | 18 | 405 | 7 | 33 | . 2 | 6 | 11 | 308 | 2.34 | 9 | 5 | ND | 8 | 28 | 1 | 2 | 2 | 42 | 1.14 | .051 | 11 | 9 | . 65 | 61 | . 05 | 10 | . 65 | . 03 | . 15 | 1 | 13 | - |
| ST-RB-89-25a | 10 | 291 | 2 | 31 | . 2 | 10 | 59 | 249 | 4.64 | 9 | 5 | ND | 9 | 53 | 1 | 2 | 2 | 33 | 1.24 | . 054 | 11 | 9 | . 13 | 35 | . 02 | 15 | . 50 | . 03 | . 08 | , | 6 |  |
| 5IT-AB-89-26 | 30 | 10597 | 21 | 406 | 12.9 | 1 | 50 | 318 | 14.36 | 14 | 5 | ND | 2 | 80 | 1 | 2 | 2 | 40 | 1.27 | . 057 | 9 | 13 | . 42 | 1 | . 03 | 16 | 1.31 | . 10 | . 11 | 1 | 117 | 30 |
| ST-AB-89-26a | 81 | 347 | 1 | 35 | . 1 | 15 | 19 | 240 | 3.18 | 1 | 5 | ND | 6 | 12 | 1 | 2 | 2 | 57 | . 54 | . 056 | 10 | 19 | . 87 | 34 | . 02 | 2 | . 12 | . 02 | . 13 | 1 | 12 |  |
| S7-AB-89-26b | 10 | 116 | 1 | 37 | . 7 | 12 | 1 |  | 10.44 | 22 | 5 | nd |  | 11 | 1 | 2 | 2 | 30 | . 35 | .053 | 1 | 11 | . 51 |  | . 02 | 1 | . 56 | . 01 | . 15 | 1 | 126 |  |
| SH-AB-89-27 | 12 | 3043 | 16 | 25 | 3.9 | 3 | 5 | 49 | 6.23 | 60 | 5 | W | 1 | 3 | 1 | 2 | 8 | 10 | . 09 | . 031 | 2 | 1 | . 06 | 20 | . 01 | 3 | . 28 | . 01 | . 14 | 2 | 133 |  |
| S7-AB-89-27a | 19 | 2896 | 8 | 37 | 2.6 | 5 | 1 | 212 | 5.86 | 23 | 5 | KD | 2 | 3 | 1 | 2 | 14 | 39 | . 15 | . 046 | 3 | 1 | . 39 | 19 | . 02 | 6 | . 62 | . 01 | . 20 | , | 99 | 5 |
| SH-A日-89-27b | 15 | 796 | 1 | 39 | . 8 | 2 | 6 | 490 | 6.27 | 25 | 5 | ND | 5 | 2 | 1 | 2 | 2 | 38 | . 15 | . 055 | 1 | 8 | . 76 | 27 | . 04 | 2 | 1.03 | . 01 | . 35 | 2 | 78 |  |
| 58-A8-89-27C | 13 | 5257 | 13. | 85 | 4.1 |  | 11 | 473 | 4.99 | 562 | 5 | HD | 2 | 31 | 1 | 2. | 2 | 17 | 1.82 | . 019 | 2 | 6 | . 60 | 11 | . 01 | 1 | . 30 | . 01 | . 13 | 1 | 96 | - |
| ST-AB-89-27d | 14 | 616 | 9 | 34 | . 5 | 3 | 4 | 378 | 3.84 | 1 | 5 | W | 5 | 29 | 1 | 2 | 2 | 49 | .12 | . 051 | 5 | 8 | . 83 | 41 | . 07 | 15 | 1.32 | . 02 | . 26 | 3 | 31 |  |
| SIT-AB-89-27e | 6 | 529 | 9 | 81 | . 7 | 5 | 5 | 861 | 2.12 | 10 | 5 | 10 | 5 | 131 | , | 2 | 2 | 85 | . 36 | . 057 | 6 | 15 | 1.05 | 76 | . 09 | 4 | 2.13 | . 06 | . 20 | 1 | 30 | 10 |
| SW-AB-89-27f | 2 | 1795 | 5 | 66 | 3.7 | 2 |  | 471 | 6.66 | 12 | 5 | WD | 3 | 2 | 1 | 2 | 2 | 20 | . 15 | . 058 | 5 | 6 | . 51 | 32 | . 03 | 26 | . 94 | . 01 | . 37 | 1 | 1081 |  |
| 5T-18-89-27g | 5 | 91 | 1 | 13 | . 1 | 20 | 12 | 161 | 4.85 | 1 | 5 | 17 |  | 30 | 1 | 2 | 2 | 45 | . 11 | . 042 | 2 | 1 | . 32 | 42 | . 02 | 2 | . 82 | . 02 | . 21 | 1 | 9 | - |
| S1-AB-89-27h | 48 | 3956 | 1411 | 95 | 14.9 | 251 | 39 |  | 19.00 | 11 | 5 | W | 1 | 1 | 1 | 4 | 21 | 12 | . 21 | . 013 | 2 | 10 | . 13 | 9 | . 01 | 2 | . 54 | . 01 | . 04 | 2 | 61 |  |
| Sti-18-89-28 | 7 | 966 | 16 | 42 | 1.8 | 1 | 30 | 552 | 6.13 | 368 | 13 | 10 | 5 | 35 | 1 | 3 | 2 | 29 | 1.11 | . 068 | 1 | 7 | . 19 | 1 | . 01 | , | . 33 | . 01 | . 14 | 1 | 20 | - |
| SII-A $-89-29$ | 13 | 52 | 18. | 570 | . 8 | 4 | 16 | 360 | 9.11 | 27 | 5 | m | 3 | 19 | 2 | 2 | 2. | 12 | 1.01 | . 056 | 5 | 6 | . 24 | 11 | . 01 | 7 | . 31 | . 01 | . 12 | 1 | 12 | - |
| ST-AB-89-292 | 1 | 21 | 9 | 58 | . 2 | 5 | 10 | 640 | 4.60 | 10 | 5 | $n$ |  | 39 | 1 | 2 | 2 | 20 | 2.02 | . 045 | 13 | 5 | . 31 | 21 | . 01 | 2 | . 36 | . 01 | . 13 | 1 | 36 | 5 |
| SW-As-99-30 | 11 | 38 | 25 | 538 | 1.2 | 1 | 14 | 129 | 9.11 | 10 | 5 | 10 | 6 | 9 | 2 | 2 | 2 | , | . 13 | . 072 | 6 |  | . 12 | 18 | . 01 | 6 | . 40 | . 01 | . 15 | 1 | 19 | 10 |
| ST-AB-89-304 | 6 | 505 | 25 | 611 | 2.1 | 1 | 15 |  | 15.50 | 16 | 5 | 10 | 1 | 19 | 2 | 2 | 2 | 25 | . 24 | . 065 | 6 | 7 | . 26 | 11 | . 02 | 17 | . 51 | . 01 | . 16 | 1 | 288 | - |
| STD C/AD-R | 18 | 59 | 10 | 131 | 6.7 | 69 | 30 | 1014 | 4.15 | 43 | 11 | 1 | 37 | 19 | 18 | 15 | 21 | 60 | . 51 | . 091 | 39 | 51 | . 96 | 178 | . 07 | 39 | 2.07 | . 06 | . 14 | 12 | 505 | 1300 |

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MINCORD EXPLORATION LTD PROJECT SWAN File \#89-2181

| sampest | no | Cl | Pb | 21 | Ag | Ni | Co | nn | \# | as | 0 | Au | th | 51 | ca | Sb | B1 | 7 | Ca | $?$ | La | CI | ¢ | 83 | ?! | 8 | A1 | 11 | 5 | H | $\mathrm{Al}^{18}$ | 4 g |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | P PM | P.p. | PPY | \% | PPM | PPM | PPM | ppy | : | PPY | P! | PPM | ppla | P?M | ? | PPM | PPM | ? P M | \% | 1 | P!9 | P! | \% | PPM | : | PPM | 1 | \% | \} | PPM | 9 P | PPE |
| St-98-q9-1je | 6 | 18E9 | 20 | 64 | 1.7 | 9 | 10 | 170 | 8.30 | 1: | 5 | Hiv | 6 | 6 | : | 2 | 24 | 18 | . 25 | . 41 | 7 | 4 | . 92 | 26 | . 05 | 3 | 1.30 | . 02 | . 19 | 2 | 37 | 5 |
| S 5 - AB -39-1:1 | 38 | 1002 | 20 | 82 | 2.1 | 2 | 10 | 241 | 6.09 | 33 | 5 | H0 | 6 | , | 1 | 1 | 11 | 59 | . 11 | . 315 | 1 | 9 | .91) | 36 | . 5 | 2 | 1.31 | . 02 | . 20 | ! | 135 | 5 |
| 54-RE-59-2! | 1 | 69 | 3 | 14 | . 2 | 9 | 14 | 410 | 3.17 | i 1 | ; | WD | 2 | 21: | ? | 2 | 2 | 112 | 4.0 | . 347 | 5 | 12 | . 79 | 60 | .i? | 16 | 3.25 | . 20 | . 19 | 1 | 5 | . |
| 50-46-j9-:12 | 3 | $11:$ | 1 | 48 | $\therefore$ | 10 | 16 | 431 | 3.58 | 19 | $\xi$ | ND |  | 23 | 2 | 2 | 2 | 105 | 3.24 | . 1.33 | 5 | 10 | . 31 | 17 | . 13 | 21 | 2.70 | . 14 | . 14 | 1 | ? | - |
| 54-AB-58-3: | 6 | $13 ?$ | 48 | 37 | . 2 | $!1$ | 11 | 325 | 2.92 | 9 | ; | ND | 2 | 140 | ! | 2 | 2 | 69 | 3.02 | . 676 | 7 | 11 | 1.62 | 196 | . 03 | 18 | . 35 | . 03 | . 05 | 1 | 2 | - |
| : | 24 | 15 | 35 | 24 | . | 1 | 6 | 2954 | 1.12 | , |  | HD | 2 | 214 | $!$ | , | 2 | 13 | 9.11 | . 105 | 15 | 18 | 3.79 | 23 | . 01 | 2 | . 05 | . 01 | . 01 | 1 | 1 | - |
| Six-23-29-93 | 1 | 24 | 2 | 53 | . 2 | 7 | 15 | 112 | 3.59 | 20 | 5 | YD | 2 | 236 | 1 | : | 2 | 79 | 3.90 | . A \% 2 | 5 | 4 | 1.29 | 45 | . 01 | 9 | 2.52 | . 11 | . 15 | 1 | 9 | - |
|  | 13 | 385 | 15 | 11 | . 1 | 10 | 10 | 645 | 2.31 | 97 | 5 | 10 | 9 | 14 | 1 | - | 2 | 29 | 2.12 | . 946 | ? | 4 | . 35 | 15 | . 01 | 3 | . 20 | . 02 | . 08 | 1 | 15 | - |
| 54-h3-69-:5 | 1 | $8!$ | $\because$ | 39 | .! | , | 12 | 61 ? | ¿.38 | !! | 5 | 10 | 4 | 113 | 2 | 2 | 2 | 97 | 3.41 | . 10 á | 13 | 3 | 1.11 | 127 | .0! | 3 | . 36 | . 03 | . 05 | 1 | 4 | - |
| - 3 - 48 -39-36 | 1 | 19 | 1 | 17 | . 1 | 12 | 4 | 299 | 1.63 | , | 5 | HD | 2 | 48 | 1 | 3 | 2 | 21 | 2.47 | . 043 | 11 | 16 | . 39 | 67 | . 01 | 1 | . 30 | . 02 | . 10 | 1 | 13 | - |
| 5z-8B-85-3ja | 1 | 323 | ? | 62 | . 2 | 99 | 29 | 173 | 4.75 | 79 | J | ND | 1 | 128 | - | 2 |  | 112 | 3.54 | .157 | 1 | 155 | 3.71 | 55 | . 08 | - | 1.44 | . 22 | . 64 | 1 | 16 | 30 |
| 54-13-39-37 | 1 | 90 | 11 | 103 | .! | 16 | 28 | 1385 | 5.7 | 23 | 5 | 30 | 2 | 30 | , | 2 | - | 177 | 4.01 | . 398 | 5 | 7 | 1.98 | 12 | . 02 | 8 | . 50 | . 02 | . 04 | 1 | 5 | 250 |
| Stl-Ab-89-28 | 1 | is | 1 | 55 | . 1 | 19 | 14 | 123 | 3.30 | $1 ?$ |  | YD | 3 | 86 | 1 | ? | 2 | 111 | 3.54 | . | $\underline{5}$ | 25 | 1.45 | ? 7 | . 01 | 15 | . 52 | . 02 | . 01 | 1 | 1 | - |
| St-48-:49-39 | 10 | 6522 | 5 | 27 | . 8 | 8 | 9 | 369 | 2.0 | 5 | 5 | HD | 1 | 26 | 2 | : | ? | 47 | 1.05 | . 017 | 11 | 9 | . 94 | 131 | . 04 | 1 | . 19 | . 03 | . 13 | 1 | 10 | 40 |
| S $\mathrm{H}-\mathrm{AB}-59-3 \mathrm{Sa}$ | 10 | 2267 | 11 | 45 | 1.6 | 3 | 1 | 314 | 3.57 | $?$ | 5 | YD | 6 | 68 | $?$ | 3 | 5 | 71 | 2.36 | . $0: 2$ | 13 | 3 | 1.52 | . 3 | . 07 | 1 | 1.20 | . 02 | . 11 | 1 | 11 | 20 |
| SI-AB-89-29b | 11 | 179 | - | 11 | . 1 |  | , | 271 | 1.44 | , | J | W0 |  | 17 | , | 2 | - | 25 | 1.1\% | . 025 | 9 | 3 | . 10 | 11 | . 01 | 11 | . 62 | . 03 | . 06 | 1 | 11 | 5 |
| S4-AB-89-39C | 5 | 541 | 6 | 19 | . 2 | 6 | 6 | 259 | 2.39 | 5 | 5 | HD | , | 35 | 1 | 2 | 2 | 52 | 1.13 | . 051 | 9 | 4 | . 56 | 63 | . 03 | 1 | . 72 | . 03 | . 05 | 1 | 19 | 30 |
| 57-A8-89-39 ${ }^{\text {d }}$ | 8 | 208 | 15 | 14 | . 2 | 3 | 1 | 219 | 1.i? | , | 5 | ND | 3 | 42 | 1 | 2 | , | 38 | 1.19 | . 046 | 8 | 14 | . 38 | 99 | . 06 | 5 | . 56 | . 04 | . 05 | $!$ | 5 |  |
| S4-AB-89-39e | 48 | 1238 | 3 | 18 | . 5 | 1 | 4 | 571 | 2.01 | 2 | 5 | KD | 5 | 80 | 1 | - | 2 | 56 | 2.55 | $\cdots .952$ | , | 1 | . 36 | 187 | . 09 | 6 | . 15 | . 03 | . 06 | 2 | 16 | 20 |
| 71/ | 11 | 122 | 10 | 23 | 2.2 | 6 | 24 | 184 | 5.87 | 13 | 5 | ND | 5 | 8 | 2 | , | 16 | 23 | . 23 | . 057 | 6 | 4 | . 10 | 5 | . 01 | 2 | . 59 | . 01 | . 16 | 1 | 86 | 50 |
| 118 | 11 | 800 | 12 | 39 | . 6 | 9 | 8 | 400 | 2.59 | 11 | 5 | HD | 1 | 57 | 1 | 2 | 10 | 63 | 1.27 | . 074 | 13 | 5 | . 97 | 123 | . 04 | 26 | . 86 | . 03 | . 09 | 1 | 36 | 5 |
| 51-AB-89-316 | 1 | 108 | 2 | 16 | . 2 | 11 | 16 | 454 | 4.64 | 6 | 5 | HD | 2 | 11 | 1 |  | 2 | 132 | 2.19 | . 102 | 7 | 14 | 1.05 | 11 | . 21 | 8 | 1.19 | . 04 | . 08 | 1 | 21 | 10 |
| STD $2 / \mathrm{MU-R}$ | 18 | 59 | \$1 | 126 | 6.6 | 67 | 31 | 1013 | 4.10 | 40 | 23 | 1 | 37 | 49 | 20 | 15 | 20 | 59 | . 50 | . 093 | 38 | 55 | . 21 | 155 | . 07 | 40 | 1.92 | . 07 | . 14 | 11 | 490 | 1400 |

MINCORD EXPLORATION PROJECT SWAN PROJECT FILE \# 89-2303
Page 5

| SAMPLE\% | Ho | CII | Pb | 21 | 19 | 11 | Co | Mn | 15 | As | 0 | AI | 7h | St | Cd | Sb | Bi | V | Cl | ? | La | Ct | ng | 88 | 11 | 1 | 11 | 4 | I | 1 | A ${ }^{\text {P* }}$ | R |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | PPM | PPM | PPM | P! | PEM | PPM | PPM | PPY: | $\}$ | PRK | PPM | PPM | PPK | PPM | PPY | P睘 | PPM | PPM | 1 | 3 | PPM | PPM | 1 | PPM | 1 | PRY | 1 | 1 | 1 | PRM | P93 | 2P9 |
| 54-AB-89-40 | 29 | 167 | 2 | 13 | . 6 | 5 | 9 | 235 | 2.77 | 11 | 5 | U1 | 1 | 120 | 1 | 3 | 3 | 66 | 1.02 | . 161 | 5 | 4 | . 61 | 16 | . 10 | 2 | 1.16 | . 02 | . 05 | 1 | 1 |  |
| 5if-גB-j9-41 | 1 | 41 | 6 | 10 | 1.0 | 4 | 1 | 519 | 1.99 | 11 | 5 | ND | 1 | 152 | 1 | 15 | 2 | 38 | 2.70 | . 037 | 9 | 13 | . 31 | 39 | . 01 | 1 | . 30 | . 03 | . 05 | 1 | 16 |  |
| S4-38-39-11. | ? | 6 | 6 | 23 | . 2 | 5 | 4 | 507 | 1.98 | 6 | 5 | ND | 3 | 101 | 1 | 2 | 2 | 42 | 2.23 | . 014 | 8 | 4 | . 17 | 41 | . 01 | 6 | . 35 | . 03 | . 05 | 1 | 5 | 30 |
| S7-AB-89-113 | 1 | 12 | 8 | 48 | . 3 | 2 | 5 | 862 | 2.26 | 1 | 5 | 10 | 3 | 107 | 1 | , | 2 | 45 | 3. 25 | . 034 | 10 | 13 | 1.15 | 48 | . 01 | 2 | . 29 | . 04 | . 05 | 1 | 15 | 10 |
| S\%-8B-89-12 | 3 | 8 | 4 | 36 | . 3 | 3 | 5 | 600 | 2.26 | 21 | 5 | HD | 3 | 119 | 1 | 2 | 2 | 49 | 3.37 | . 037 | 9 | 4 | . 32 | 91 | . 01 | 13 | . 14 | . 02 | . 05 | 1 | 1 | - |
| 57-18-39-13 | 1 | 25 | 2 | 51 | . 2 | 1 | 5 | 1151 | 2.63 | 11 | 5 | HI | 6 | 67 | 1 | 2 | 2 | 49 | 2.91 | . 058 | 14 | 9 | . 60 | 68 | . 01 | 1 | . 34 | . 02 | . 08 | 1 | 2 | 5 |
| 511-88-23-43A | 4 | 21 | 4 | 112 | . 2 | 6 | 9 | 826 | 2.15 | 10 | 5 | HD | 6 | 43 | 1 | 2 | 2 | 49 | 3.03 | . 962 | 13 | 4 | . 09 | 36 | . 01 | 6 | . 46 | . 02 | . 07 | 1 | 2 | - |
| S7-A8-39-438 | 2 | 19 | 2 | 66 | . 3 | 5 | 11 | 816 | 2.91 | 17 | 5 | ND | 5 | 96 | 1 | 2 | 2 | 48 | 2.83 | . 016 | 8 | 21 | 1.23 | 20 | . 01 | $\boldsymbol{f}$ | . 25 | . 02 | . 09 | 1 | 11 | - |
| 54-18-99-44 | 1 | 35 | 2 | 50 | . 2 | 23 | 1 | 506 | 3.65 | 7 | 5 | HD | 2 | 95 | 1 | 2 | 2 | 97 | 1.15 | . 056 | 1 | 40 | . 11 | 125 | . 03 | 15 | . 69 | . 02 | . 11 | 1 | 1 | 10 |
| 57-18-99-45 | $!$ | 14 | 1 | 43 | . 2 | 9 | 2 | 1008 | 2.99 | 3 | 5 | HD | 6 | 103 | 1 | 2 | 2 | 64 | 2.19 | . 068 | 12 | 8 | . 95 | 12 | . 01 | 1 | . 48 | . 03 | . 07 | 1 | 1 | - |
| 5x-38-99-46 | 3 | 48 | 5 | 23 | . 2 | 5 | 12 | 554 | 2.92 | 4 | 5 | 10 | 6 | 39 | 1 | 2 | 2 | 41 | 1.50 | . 041 | 10 | 11 | . 48 | 41 | . 01 | 2 | . 30 | . 03 | . 07 | 1 | 8 | - |
| 58-AB-99-46A | 2 | 8 | 2 | 11 | . 1 | 3. | 14 | 151 | 2.21 | 1 | 5 | HD | 6 | 12 | 1 | 2 | 2 | 36 | 1.71 | . 014 | 11 | 1 | . 45 | 35 | . 01 | 11 | . 12 | . 02 | . 06 | 1 | 1 |  |
| SY-AB-39-468 | 2 | 20 | 2 | 24 | . 2 | 1 | 1 | 550 | 2.50 | 16 | 5 | ND | 1 | 45 | 1 | 2 | 2 | 41 | 1.61 | . 055 | 12 | 5 | . 49 | 105 | . 01 | 17 | . 19 | . 04 | . 12 | 1 | 5 |  |
| 57-88-89-46C | 4 | 15 | 1 | 11 | . 2 | 1 | 1 | 573 | 1.91 | 12 | 5 | HO | 3 | 107 | 1 | 2 | 2 | 41 | 1.08 | . 051 | 11 | 13 | . 46 | 36 | . 01 | 1 | . 59 | . 02 | . 15 | 1 | 6 | - |
| S $\mathrm{S}-\mathrm{AB}-39-47$ | 3 | 29 | 2 | 52 | . 2 | 5 | 1 | 843 | 2.54 | 33 | 5 | ND | 4 | 10 | 1 | 2 | 2 | 48 | 1.89 | . 055 | 11 | 5 | . 13 | 51 | . 01 | 2 | . 31 | . 02. | . 06 | 1 | 1 | - |
| ST-15-99-48 | 1 | 62 | 1 | 25 | . 1 | 3 | 1 | 555 | 2.10 | 5 | 5 | no | , | 15 | 1 | 2 | 2 | 44 | 3.21 | . 081 | 14 | 10 | . 19 | 120 | . 01 | 1 | . 55 | . 02 | . 13 | 1 | 4 | 10 |
| 5Y-AB-39-48A | 1131 | 289 | 880 | 28 | 8.0 | 6 | 9 | 472 | 3.17 | 9 | 5 | ND | 1 | 41 | 4 | 2 | 36 | 51 | 4.11 | . 014 | 279 | 5 | . 07 | 15 | . 01 | 17 | . 24 | . 01 | . 09 | 1 | 29 | 20 |
| 5y-AB-89-48B | 2 | 21 | 2 | 29 | . 1 | 19 | 11 | 477 | 4.59 | 9 | 5 | 10 | 1 | 112 | 1 | 2 | 2 | 81 | 1.57 | . 154 | 3 | 19 | 2.13 | 26 | . 18 | 15 | 1.91 | . 02 | . 11 | 2 | 1 | 10 |
| S5-38-59-49 | 7 | 21 | 7 | 19 | . 5 | j | 3 | 446 | 3.07 | 2 | 5 | ND | 1 | 28 | 1 | 3 | 2 | 51 | . 72 | . 052 | 13 | 6 | . 73 | 65 | . 01 | 9 | . 89 | . 02 | . 06 | 1 | 5 | - |
| 5 5 - 28 -89-50 | 11 | 9704 | 1 | 181 | 1.6 | 14 | 6 | 140 | 4.25 | 3 | 5 | H0 | 5 | 14 | 2 | 2 | 12 | 66 | 2.18 | . 057 | 8 | 6 | 1.28 | 54 | . 10 | 2 | 1.05 | . 03 | . 21 | 1 | 51 | - |
| Sy-AB-¢9-5! | 1 | 215 | 7 | 41 | . 3 | 20 | 5 | 363 | 2.16 | 13 | 5 | ND | 1 | 10 | 1 | 2 | 2 | 28 | 3.10 | . 045 | 15 | 14 | 1.39 | 20 | . 01 | 36 | . 58 | . 04 | . 03 | 1 | 1 | 380 |
| ST-18-59-52 | 8 | 1809 | 1 | 11 | 2.1 | 2 | 1 | 995 | 6.40 | 34 | 5 | HD | 7 | 1 | 1 | 3 | 3 | 45 | . 36 | . 041 | , | 4 | . 94 | 35 | . 05 | 6 | 1.51 | . 02 | . 31 | 1 | 120 | 5 |
| S\%-AB-93-53 | $69^{\circ}$ | 1138 | 57 | 2859 | 1.8 | 6 | 5 | 1080 | 2.16 | ? | 5 | ND | 5 | 21 | 10 | 2 | 9 | 66 | . 63 | . 038 | 1 | 1 | . 59 | 57 | . 04 | 2 | . 90 | . 06 | . 17 | 1 | 368 | - |
| STG-89-1 | 1 | 271 | 12 | 1238 | . 9 | 1 | 1 | 2310 | 4.41 | 80 | 5 | HD | 2 | 111 | j | 2 | 9 | 54 | 9.95 | . 001 | 2 | 2 | 2.13 | 45 | . 01 | 1 | . 36 | . 01 | . 01 | 1 | 116 | 30 |
| STC-89-\% | 6 | 2984 | 13 | 251 | 6.7 | 3 | 9 | 1697 | 6.80 | 9 | 5 | HD | 6 | 35 | 2 | 2 | 11 | 62 | 1.57 | . 062 | 10 | 3 | 1.28 | 16 | . 03 | 3 | 1.82 | . 02 | . 22 | 1 | 76 | - |
| SYG-89-3 | 1 | 15 | 2 | 108 | . 1 | 6 | 2 | 493 | 2.89 | 10 | 5 | ND | 1 | 368 | $?$ | 2 | 2 | 24 | 16.22 | . 011 | 2 | 6 | 7.91 | 32 | . 01 | 1 | . 15 | . 02 | . 01 | 1 | 1 | - |
| SW-89-41 | 12 | 1641 | 2 | 18 | . 1 | 2 | 3 | 235 | 2.13 | 2 | 5 | ND | 3 | 13 | 1 | 3 | 2 | 41 | 1.14 | . 056 | 9 |  | . 51 | 97 | . 04 | 13 | . 82 | . 04 | . 06 | 1 | 42 |  |
| 57-89-42 | 52 | 6385 | 7 | 35 | 1.1 | 5 | 10 | 530 | 3.08 | 6 | 5 | ND | 5 | 10 | 1 | 2 | 2 | 81 | 1.34 | . 014 | 13 | I | 1.24 | 169 | . 06 | 2 | 1.04 | . 01 | . 11 | 1 | 12 | 10 |
| 54-39-4.3 | 1 | 370 | 2 | 14 | . 3 | 24 | 30 | 298 | 5.34 | 8 | 5 | ND | 1 | 8 | 1 | 2 | 2 | 136 | . 72 | . 012 | 2 | 1 | 1.27 | 59 | . 01 | 5 | 2.28 | . 03 | . 04 | 1 | 2 | - |
| 37-89-48-15 | ! | 1 | 2 | 4 | . | 11 | 1 | 25 | . 22 | 2 | 5 | ND | $!$ | 39 | , | 2 | ; | 1 | 23.55 | . 604 | 2 | 1 | 2.36 | 11 | . 01 | 2 | . 02 | . 01 | . 01 | 1 | 3 | 30 |
| 54-89-42-:5 | i | 5 | 2 | 3 | .! | 9i4 | 13 | 504 | 3.08 | 2 | 5 | HD | 1 | i6 | 1 | 2 | : | 6 | 3.82 | . 501 | 2 | 178 | 14.25 | 2 | . 01 | 18 | . 04 | . 01 | . 01 | 1 | 2 | 38 |
| ST-39-4P-! 7 | 1 | 1 | : | ; | . 1 | 5 | 1 | :? | . 07 | $?$ | 5 | 1 d | i | 112 | 1 | $?$ | 2 | 1 | 39.98 | . 395 | 2 | 1 | . 15 | :5 | . 11 | 1 | . 01 | . 01 | . 01 | 1 | 1 | !29 |
| 54-39-43-15 | $: 0$ | 561 | 2 | 54 | 2.9 | 15 | 13 | 133 | $\bigcirc .15$ | 17 | ; | HD | 1 | 5 | 1 | 2 | , | 21 | . 10 | . 0 | 3 | 20 | . 15 | 14 | . 01 | 3 | . 63 | . 01 | . 22 | 1 | 198 | 10 |
| \% 7 - $-37-48019$ | 1 | $: 2$ | 4 | ój | . 1 | 1 | 6 | 12:1 | $3.5 ?$ | 3 | 5 | H | 2 | 19 | : | 2 | 2 | 82 | . 60 | . 098 | 10 | 13 | 1.26 | 338 | . 01 | 1 | 1.14 | . 02 | . 07 | 1 | j | 29 |

                    GEOCHEMICAI ANALYSIS CERTIEICATE
    



MINCORD EXPLORATION LTD File \# 89-2335

| samplei | Mo | Cl | Pb | $2 \pi$ | Ag | Ni | Co | Kn | ie | As | 0 | Au | Th | Sr | Cd | Sb | Bi | $v$ | Ca | P | La | Cr | Mg | Ba | 71 | 8 | 11 | Na | 1 | H | Au** | H9 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | PPM | PPM | PPM | P8M | PPM | PRM | PPM | PPM | 3 | P9\% | P! ${ }^{\text {P }}$ | PPM | PPM | PFM | PPM | PPM | PPY | PPM | 3 | 1 | PPY | PPY | \% | PPM | 1 | PRM | 1 | $\}$ | 1 | PPM | 999 | PPB |
| SH-AB-89-54 | 8 | 49 | 112 | 173 | 1.0 | 3 | 5 | 398 | 2.32 | 5 | 5 | ND | 3 | 20 | 5 | 2 | 2 | 39 | 1.15 | . 047 | 5 | 4 | . 62 | 64 | . 04 | 2 | . 69 | . 01 | . 08 | 1 | 27 |  |
| 57-18-89-35 | 2 | 3155 | 10 | 174 | 10.0 | 1 | 13 | 1680 | 8.32 | 24 | 5 | HD | 6 | 49 | ? | i | 11 | 68 | . 16 | . 052 | 1 | 2 | 2.96 | 21 | . 13 | 9 | 2.52 | . 03 | . 20 | 1 | 119 | 10 |
| 54-98-59-56 | 3 | 130 | 8 | 62 | . 3 | 5 | 7 | 665 | 3.36 | $!$ | 5 | N0 | 6 | 39 | 1 | 2 | 2 | 75 | 1.17 | . 074 | 13 | 4 | . 94 | 69 | . 09 | 4 | . 93 | . 04 | . 10 | 1 | 14 | . |
| ST-AB-89-57 | 1 | 1161 | 6 | 51 | 2.0 | 4 | 15 | 139 | 4.70 | 119 | 5 | ND | 9 | 35 | 1 | 2 | 11 | 41 | 1.94 | . 048 | 10 | 2 | . 64 | 49 | . 03 | 12 | 1.10 | . 02 | . 11 | 1 | 67 | - |
| S4-AB-99-59 | 3 | 235 | 2 | 22 | . 3 | 5 | 9 | 425 | 2.36 | 6 | 5 | WD | 6 | 55 | 1 | 2 | 2 | 41 | 2.32 | . 065 | 15 | 4 | . 12 | 40 | . 05 | 3 | . 64 | . 03 | . 13 | 1 | 8 | - |
| S $71-86$-89-59 | 3 | 192 | 111 | 118 | 2.7 | 39 | 11 | 1296 | 3.78 | 10 | 5 | ND | 1 | 123 | 1 | 2 | 3 | 129 | 7.18 | . 079 | 5 | 124 | 2.13 | 91 | . 01 | 1 | 1.14 | . 02 | . 08 | 1 | 15 | - |
| SW-AB-95-69 | 1 | 197 | 2 | 41 | . 9 | 4 | 6 | 487 | 2.74 | 6 | 5 | HD | 5 | 62 | 1 | 2 |  | 58 | 2.34 | . 072 | 12 | 1 | . 47 | 30 | . 04 | 6 | . 66 | . 03 | . 11 | 1 | 29 | - |
| S 8 - $48-98-69$ | 10 | 1091 | 2 | 48 | 1.0 | 5 | 16 | 574 | 3.01 | 12 | 5 | ND | 5 | 113 | $!$ | 2 | 2 | 60 | 1.56 | . 070 | 9 | 1 | . 99 | 12 | . 13 | 2 | 1.33 | . 03 | . 12 | 1 | 57 | 5 |
| 37-8B-j9-6 | 11 | 2427 | 14 | 78 | 1.6 | 4 | 1 | 384 | 1.11 | 5 | 5 | 4D | 7 | 59 | 1 | 2 | 11 | 56 | 1.20 | . 054 | 9 | 10 | .60 | 63 | . 11 | 2 | . 54 | . 04 | . 08 | $!$ | 25 | - |
| S 8 - $48-29-53$ | 25 | \$356 | 70 | 2523 | 1.8 | 5 | 12 | 903 | 4.34 | 3 | 5 | HD | 1 | 34 | 10 | 2 | 16 | 65 | 1.59 | . 036 | 11 | 4 | . 18 | 30 | . 02 | 2 | . 79 | . 02 | . 13 | 1 | 101 | - |
| SW-AB-59-3i | 8 | 384 | 27 | 111 | . 5 | 5 | 5 | 833 | 4.01 | 5 | 5 | \% 1 | 6 | 11 | 1 | 2 | 2 | 59 | . 21 | . 041 | 6 | 10 | . 79 | 40 | . 04 | 2 | 1.07 | . 02 | . 28 | 1 | 30 | - |
| ST-A3-99-5j | 14 | 1926 | 117 | 505 | 2.9 | 4 | 12 | 1196 | 5.33 | 13 |  | ND | 6 | 26 | 3 | 2 | 2 | 81 | . 16 | . 049 | 9 | 1 | 1.14 | 6 i | . 13 | 8 | 1.81 | . 02 | . 37 | 1 | 112 | - |
| SH-AB-85-50 | 4 | 874 | \% | 48 | 1.0 | 4 |  | 533 | 3.83 | 8 | 5 | HD | 7 | 80 | 1 | 2 | 2 | 63 | 1.40 | . 017 | 10 | 12 | 1.16 | 36 | . 12 | 1 | 1.36 | . 04 | . 14 | 1 | 42 | f |
| ST-AB-:9-67 | 1 | 121 | 3 | 28 | . 3 | 5 | 1 | 521 | 3.15 | 1 | J | ND | j | 66 | ! | 2 | - | 70 | 1.69 | . 097 | 14 | 4 | . 35 | 51 | . 01 | 1 | . 16 | . 03 | . 08 | 1 | 25 | , |
| SW-AB-59-6E | 1 | 190 | ? | 39 | . 1 | 14 | 13 | 378 | 4.66 | 7 | 5 | ND | 1 | 116 | 1 | , | , | 139 | 2.05 | . 134 | 8 | 39 | . 78 | 117 | . 14 | 5 | . 95 | . 03 | . 16 | 1 | 15 | 5 |
| St-AB-29-nisa | 1 | 302 | 2 | 34 | . 4 | 21 | 17 | 293 | 5.34 | 2 | 5 | ND | 1 | 160 | 1 | 2 | 2 | 111 | 2.63 | . 169 | 88 | 69 | 1.31 | 70 | . 13 | 9 | 1.34 | . 06 | . 09 | - | 14 | - |
| 370 C/AU-R | 1 | 60 | 37 | I | 1.1 | 68 | 31 | 949 | 4.06 | 40 | 18 | 6 | 37 | 49 | 19 | 16 | 22 | 58 | . 31 | . 890 | 38 | 55 | . 89 | 176 | . 07 | 32 | 1.88 | . 96 | 14 | 11 | 190 | 1300 |

MINCORD EXPLORATION PROJECT SWAN EILE \# 89-2431
Page 4

| SAMPIS | :10 | Cl | Ph | 2i | : 9 | H1 | $c$ | Ms | It | is | 4 | A 1 | 7 | Sr | Cd | Sh | 3 i | V | C3 | P | La | C: | 49 | E | 71 | I | 11 | Ha | $\underline{1}$ | \% |  | $(30 \sin )$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | ¢PY | PPY | ! | PPM | ?! ! | pPr | PPY | 29 | \% | P? | 398 | P9, | EPK | P: | p:y | 3:M | 2P! | P! M | ? | $\}$ | PPM | ! | $\xi$ | PPY | 1 | 9P4 | 1 | 1 | \% | 89\% | ? P Q |  |
|  | $!$ | 55 | 1 | 33 | $\therefore$ | 25 | $: 2$ | 407 | 2.:2 | 10 | 5 | HD | 1 | 10: | $!$ | 2 | ? | 79 | 1.810 | . 136 | ; | 74 | . 7 | :2 | . 13 | 4 | . 38 | . 02 | . 17 | 1 | 5 |  |
| jx-ç-c: | 4 | 376 | 1 | 210 | . 7 | 2 | 1 | 841 | 3.: 3 | 2 | 5 | 80 | ? | 69 | : | ! | ? | 18 | 1.40 | . 35 ? | ! | 1 | ! | 40 | . 02 | 1 | . 92 | . 32 | . 11 | , | 4 |  |
| SW-E9-c! : | 18 | 86 | 11 | 250 | $2 . ?$ | 8 | 13 | 132 | 9.57 | : 5 | 5 | W | ? | 50 | 1 | ? | 3 | 12 | . 28 | . 634 | 5 | $i$ | .19 | 15 | . 01 | 3 | . 50 | . 01 | . 17 | 1 | $22:$ |  |
| 57-89-C:3 | 68 | 3904 | 1 | 37 | 1. 3 | 1 | 1 | 431 | ¢.08 | 5 | 5 | N0 | ; | 29 | 1 | 2 | 1 | 11 | . 7 | . 51 | 12 | 7 | . ji | 25 | . 02 | 17 | . 94 | . 02 | . 19 | 1 | 11 |  |
| SH-AB-¢ $\frac{9}{}$ | 2 | 155 | 3 | 23 | . 1 | 4 | j | 297 | 2.27 | 2 | 5 | 110 | 3 | 35 | 1 | ? | : | 96 | . 57 | . 073 | 8 | 11 | . 45 | 198 | . 10 | 2 | . 65 | . 03 | . 07 | 1 | 7 |  |
| Sti-AB-3¢-: ${ }^{\text {S }}$ | 1 | 111 | ? | 34 | . 1 | 12 | 15 | 525 | 1.26 | 13 | 5 | N0 | 1 | 198 | - | ? | i | 123 | 3.93 | .105 | 4 | 24 | . 95 | is | . 13 | 21 | 2.40 | . 13 | . 17 | 1 | 11 |  |
|  | , | 108 | 4 | 45 | . 1 | 10 | 12 | $49^{\circ}$ | 3.71 | 9 | 5 | HD | ! | 123 | 1 | 2 | 2 | 119 | 3.41 | . 093 | 6 | 17 | . 9 i | 33 | . 18 | 8 | 1.87 | . 07 | . 13 | 1 | 14 |  |
| 54-88-9!-70 | ! | 67 | 1 | 49 | . 1 | 9 | 15 | 593 | 4.09 | 8 | 5 | YD | 1 | 158 | ! | 2 | 2 | $1: 0$ | S. 21 | . 094 | 5 | 12 | .i! | 59 | . 15 | 16 | 1.58 | . 07 | . 15 | 1 | 5 |  |
|  | : | 92 | $?$ | 44 | . | 9 | 13 | 100 | ?.5? | : | 5 | 80 | 1 | : 01 | ! | 2 | 2 | 113 | 2.02 | . 099 | 5 | 16 | . 97 | 10 | . 19 | 7 | 1.15 | . 03 | . 15 | 1 | 7 |  |
| 52-68-89-7id | $!$ | 69 | 1 | 13 | . 2 | 9 | 14 | $45:$ | $\vdots$ ¢: | 1 | ; | S0 | 1 | 203 | ! | 2 | ? | $1: 9$ | 3.30 | . 091 | 5 | 18 | . 93 | 20 | . 20 | 10 | 2.44 | . 11 | .19 | 1 | 16 |  |
| :3-95-3i-: | 1 | 33 | 4 | 35 | . 1 | 20 | 13 | 620 | 2.18 | 5 | j | WD | $\stackrel{1}{4}$ | 119 | $!$ | 2 |  | 86 | 6.45 | . 230 | 7 | 78 | $1 .: 6$ | $9 E$ | . 31 | 9 | 1.12 | . 02 | . 07 | : | $?$ |  |
| S 5 -13-33-:? | 1 | 105 | 13 | 55 | . 1 | 169 | $3 ?$ | 507 | 1.11 | 1 | , | HD | 9 | 917 | , | ? | ? | 83 | 4.05 | . 215 | 29 | 159 | 3.09 | 1010 | . 11 | 9 | 2.13 | . 04 | 1.11 | 1 | 2 |  |
| 314-48-53-:3 | 1 | 52 | 19 | 118 | . | 21 | $1 ?$ | 922 | .75 | 12 | 5 | 910 |  | 126 | 1 | 2 | ? | 91 | 4.15 | . 078 | 13 | 29 | . 95 | 94 | . 01 | 10 | 1.15 | . 02 | . 14 | 1 | 1 |  |
| 571-38-39-: | 15 | 121 | 5 | 98 | . 9 | , | , | 997 | !.! | 1 | 5 | 10 | 6 | : | 1 | ? | 2 | 65 | . 19 | . 033 | 11 | 1 | .0is | 65 | . 01 | 6 | . 32 | . 02 | . 07 | 1 | 4 |  |
| 54-48-5c-75 | ! | 17 | 5 | 20 | . 1 | 5 | 6 | 303 | 2.40 | $\vdots$ | 5 | 10 | 7 | 12 | ! | 2 | : | 61 | . 46 | . 063 | 8 | 9 | . 40 | 59 | . 08 | 2 | . 76 | . 02 | . 06 | 1 | , |  |
| 57-3B-39-: 5 | 1 | 212 | 10 | 404 | . 1 | 15 | 27 | 2336 | 3.39 | 18 | 5 | HD | 1 | 5 | ! | $?$ | , | 30 | . 17 | . 089 | 5 | il | 1.42 | 12 | . 93 | - | 2.39 | . 01 | . 44 | : | 107 |  |
|  | $!$ | 19 | ! | 27 | . 1 | 4 | 7 | 1! 1 | 2.:3 | 3 | 5 | YD | ; | 19 | 1 | 2 | ? | 40 | . 55 | . 065 | 15 | 9 | . 61 | 201 | . 01 | 2 | . 58 | . 02 | . 10 | 1 | j |  |
| 37-12-23-1: | : | 河 | - | 12 | .! | ! | 11 | 965 | 2.32 | 3 | 3 | H2 | 2 | :00 | $!$ | 2 | - | 68 | 1. 32 | .17 | $1:$ | 11 | . 67 | 14: | . 01 | 3 | . 14 | . 12 | . 07 | 1 | $j$ |  |
|  | !11 | 105 | 25 | 35 | . 7 | 1 | 1 | gSé | 2.35 | 1 | 5 | 40 | - | 157 | ! | ? | ? | 53 | 3.:9 | . 262 | 9 | 13 | . 52 | 105 | . 01 | 7 | . 39 | . 02 | . 0 ! | 1 | 55 |  |
| 51-AB-29-7: | 272 | 41 | 24 | 38 | . 3 | 6 | 7 | 759 | :. 31 | ? | 5 | HD | 1 | 98 | 1 | 2 | , | ii | 2.35 | . 173 | 13 | 11 | . $5:$ | 136 | . 01 | 9 | . 0 | . 02 | . 11 | 1 | 109 |  |
|  | 210 | 163 | 20 | 18 | . 9 | 1 | $1:$ | 791 | 2.39 | ; | 5 | WD | 3 | 87 | ! | 2 | ? | 52 | 1.88 | . 667 | 10 | 12 | . 72 | 40 | . 01 | 5 | . 46 | . 02 | . 14 | 1 | 65 |  |
|  | 1 | 19 | , | :9 | . | 4 | 9 | 518 | 1.33 | $?$ | , | 4.0 | $!$ | 110 | $!$ | 2 |  | 16 | 1.34 | . 135 | 8 | 6 | . 52 | $5 i$ | . 12 | 1 | 1.06 | . 02 | . 01 | $!$ | ${ }^{1} 1$ |  |
|  | 1 | 33 | 2 | 26 | . 1 | 2 | 9 | 416 | 3.31 | 2 | 5 | VD | ! | 34 | 1 | 2 | 2 | 84 | . 26 | . 121 | 6 | 1 | . 12 | 37 | . 07 | 2 | . 90 | . 02 | . 07 | 1 | 1 |  |
|  | 1 | 45 | 1 | 23 | . 1 | $!$ | 9 | 354 | $\pm .46$ | ? | 5 | HD | - | 38 | ! | 2 | 3 | 112 | . 83 | . 147 | 6 | 5 | . 38 | is | . 12 | 2 | . 22 | . 04 | . 10 | 1 | ; |  |
| STD C!ajo- | 18 | 58 | 40 | 132 | 5.7 | 68 | 30 | :939 | 4.05 | 39 | 18 | 7 | $\therefore 8$ | 50 | i? | :4 | 22 | 59 | . 47 | . 990 | 39 | 51 | . 93 | 179 | . 07 | 33 | 1.94 | . 06 | . 13 | 11 | 180 |  |



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## MINCORD EXPLORATION File \#89-2348

| SAMPLE $¢$ | Mo | Cl | Pb | 211 | Ag | Hi | Co | Ma | Ie | As | 0 | Au | Th | Sr | Cd | Sb | B1 | $v$ | Ca | $p$ | La | Cr | Hg | 81 | Ti | B | 11 | Ha | I | W | Au* | Hg |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | PPM | PPM | PPM | PPM | PPM | PPM | Ppy | PPM | $\}$ | PPM | PPM | P! M | PPM | PPM | PPY | PPM | PPM | PPM | $\xi$ | \% | P?M | PPM | \} | PPM | $\}$ | PPM | \% | $\}$ | \% | PPM | ? 98 | PPB |
| SW-89-Cl | 31 | 816 | 5 | 32 | 1.0 | 5 | 31 |  | 13.22 | 17 | 5 | ND | 6 | 262 | 1 | $?$ | 2 | 19 | . 35 | . 064 | 3 | 3 | . 19 | 26 | . 03 | 18 | . 56 | . 02 | . 17 | 2 | 161 | 50 |
| : $31-89-C 2$ | 4 | 7275 | 3 | 11 | 3.2 | 1 | 8 | 539 | 5.56 | 22 | 5 | ND | 5 | 31 | 1 | 2 | 5 | 11 | . 97 | . 048 | 13 | 3 | . 89 | 41 | . 03 | 2 | 1.29 | . 01 | . 16 | 1 | 119 | 20 |
| 54-89-63 | 5 | 1233 | 1 | 134 | . 8 | 6 | 7 | 949 | 3.84 | 13 | 5 | WD | 1 | 91 | 1 | 2 | 2 | 69 | . 81 | . 043 | 13 | 1 | . 83 | 50 | . 03 | 3 | . 91 | . 05 | . 25 | 1 | 31 | 10 |
| S11-89-C4 | 1 | 11 | 3 | 35 | . 1 | 35 | 14 | 321 | 2.99 | 32 | 5 | ND | 1 | 120 | I | 2 | 2 | 11 | . 97 | . 137 | 6 | 81 | . 92 | 42 | . 11 | 6 | 1.02 | . 04 | . 21 | 3 | 5 | 20 |
| SM-89-C5 | 10 | 2459 | 38 | 54 | 1.8 | 8 | 5 | 834 | 4.40 | 12 | 5 | ND | 5 | 67 | 1 | ? | 6 | 50 | 1.52 | . 048 | 13 | 1 | . 79 | 56 | . 02 | 10 | . 96 | . 02 | . 16 | 1 | 46 | 5 |
| 57-A8-C6 | \% | 481 | 9 | 57 | . 5 | 8 | 13 | 389 | 3.40 | 38 | 5 | ND | ; | 103 | 1 | 4 | 2 | 58 | 1.49 | . 065 | 8 | 4 | . 61 | 55 | . 07 | 8 | . 99 | . 04 | . 09 | 2 | 17 | 50 |
| S7-89-67 | 23 | 1762 | 1 | 12 | 1.5 | 6 | 1 | 170 | 2.38 | 50 | 5 | YD | 1 | 13 | $!$ | 2 | 2 | 33 | 1.51 | . 046 | 10 | 3 | . 65 | 97 | . 01 | 8 | . 29 | . 02 | . 16 | 1 | 57 | 30 |
| St-89-C8 | 16 | 2908 | ? | 37 | 1.1 | 5 | 9 | 598 | 5.15 | 138 | 5 | MD | 6 | 13 | 1 | 2 | 12 | 31 | . 80 | . 050 | 6 | 2 | . 51 | 35 | . 01 | 13 | . 57 | . 01 | . 23 | 2 | 49 | 5 |
| SH-89-C9 | 9 | 2720 | 3 | 123 | 2.1 | 3 | 5 | 327 | 4.19 | 46 | 5 | ND | 5 | 90 | 1 | 11 | 2 | 13 | 1.93 | . 050 | 7 | 3 | . 46 | 75 | . 02 | 13 | 1.04 | . 01 | . 33 | 1 | 71 | 70 |
| -37-89-C10 | 20 | 1980 | 3 | 70 | 1.7 | 3 | 9 | 518 | 4.64 | 14 | 5 | HD | 7 | 111 | 1 | 2 | 16 | 65 | 1.02 | . 070 | 6 | 3 | 1.16 | 37 | . 11 | 6 | 1.65 | . 05 | . 21 | 1 | 36 | 13 |
| SW-89-C11 | 29 | 4265 | 36 | 124 | 3.7 | 1 | 50 | 1048 | 7.19 | 15 | 5 | HD | 5 | 90 | 2 | $?$ | 12 | 54 | 2.11 | . 044 | 13 | 2 | . 66 | 21 | . 03 | 6 | . 81 | . 02 | . 17 | 1 | 123 | 20 |
| S7-89-C12 | 10 | 2935 | $i$ | 44 | 1.2 | 5 | 1 | 159 | 3.32 | 29 | 5 | \$0 | 5 | 55 | 1 | 3 | 2 | 67 | 1.17 | . 057 | 11 | 1 | . 91 | 53 | . 03 | 10 | . 97 | . 03 | . 16 | 1 | 48 | 10 |
| Si-99-Cl3 | 6 | 308 | 6 | 31 | . 3 | 5 | 8 | 109 | 2.76 | 11 | 5 | ND | 8 | 64 | 1 | 2 | 2 | 40 | . 95 | . 019 | 9 | 1 | . 84 | 57 | . 24 | 5 | . 86 | . 02 | . 09 | 3 | 18 | ; |
| 57-89-c.44 | 9 | 582 | 5 | 62 | . 5 | 1 | 22 | 117 | 5.61 | 9 | 5 | HD | 3 | 64 | 1 | , | 2 | 98 | 2.99 | . 098 | 9 | 1 | 1.52 | 41 | . 06 | 6 | 1.51 | . 02 | . 16 | 1 | 20 | 20 |
| SH-39-C15 | 4 | 989 | 2 | 59 | . 9 | 8 | B | 347 | 3.19 | 61 | 5 | ND | 4 | 40 | ! | 2 | 2 | 33 | 1.89 | . 050 | 8 | 3 | . 68 | 87 | . 01 | 11 | . 29 | . 02 | . 16 | 1 | 19 | 10 |
| STD C/AU-? | 18 | 62 | 43 | 132 | 6.3 | 70 | 31 | 1049 | 4.11 | 44 | 20 | 1 | 37 | $5!$ | 18 | 15 | 18 | 62 | . 52 | . 089 | 40 | 51 | . 91 | 194 | . 07 | 19 | 1.99 | . 06 | . 13 | 12 | 895 | 1400 |




 MINCORD EXPLORATION PROJECT SWAN PROJECT File \＃89－2303 Page 1

| she： | Ho | A | Pb | 25 | Ag | $1 \pm$ | ${ }^{5}$ | Mn | Ei | As | $v$ | A 4 | Ph： | S5 | Cd | St | 31 | $\exists$ | Ca | P | L | c： | Hg | B2 | 71 | 3 | 11 | Na | ¢ | i | 36＊＊ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | P9\％ | 2？ | PPY | PRY | P？ | ？ | ？ | ¢ | \} | PPM | ！？ | PPM | ！Py | PPM | PPM | PPM | 998980 | PPM | $\xi$ | 1 | ！！！ | P？ | 1 | 389 | 3 | 3？ | \％ | $\}$ | $\}$ | 9 M | ？${ }^{\text {P }}$ |
| ctasy lis0z | 3 | \％ | 16 | ge | ．1 | 32 | 13 | $55_{6}$ | 2.31 | 6 | 5 | ND | $!$ | 34 | 1 | 2 | 2 | 71 | ． 12 | ． 096 | 11 | \＄9 | ． 57 | 259 | ． 04 | 7 | 1.38 | ． Ol | ． 07 | 2 | 42 |
|  | ？ | $3 i$ | 14 | 78 | ． 1 | 42 | 13 | 59 | 4．i： | 4 | 5 | NO | ！ | $5!$ | ！ | ？ | 3 | 95 | ． 69 | ．：06 | ！1 | 6： | ． 55 | 231 | ． 04 | 1 | 1.29 | ． 01 | ． 07 | 1 | 1 |
| 0－¢S： | 3 | 65 | 10 | ¢？ | ． 1 | ¢0 | 12 | 672 | 3．7： | 7 | 5 | Y12 | 1 | 34 | 1 | 2 | ？ | 71 | ．i1 | ． 106 | 11 | 54 | ．$: 3$ | 265 | ． 34 | 4 | 1.34 | ． 6 ！ | ． 07 | 1 | 112 |
| 0＋95：$i+038$ | ： | 63 | 14 | 81 | ． 1 | 37 | 13 | 127 | 4．3i | 11 | 5 | H | ！ | ！ | $!$ | ？ | 2 | 95 | ． 11 | ． 106 | 11 | 50 | ． 51 | 254 | ． 04 | 1 | 1.39 | ． 31 | ． 07 | 1 | 4 |
| 0＋3E\＃joucz | 3 | 12 | ！1 | Q！ | ． 2 | 31 | 14 | 138 | 4．： | 9 | 5 | IIC | 2 | i？ | 1 | 2 | 3 | 106 | ． 90 | ． 118 | 11 | 6 | ． 50 | 225 | ． 04 | $?$ | 1.20 | ． 01 | ． 07 | 1 | 9 |
| 54951 ${ }^{\text {a }}$－002 | 1 | 69 | 12 | 90 | ． 1 | 31 | 12 | 630 | 1．： | 1 | ； | vD | 1 | 8 | $!$ | 2 | 2 | 67 | ． 92 | ． 114 | 12 | 52 | ． 51 | 278 | ． 04 | 5 | 1.97 | ． 01 | ． 07 | 1 | 16 |
| 6＋55：7－06E | 3 | 65 | ！？ | 75 | ． 1 | 3 | 11 | 661 | ． | 7 | 5 | Hid | $!$ | $3{ }^{3}$ | $!$ | 2 | 6 | ： | ． 55 | ．096 | 11 | 52 | ．j！ | 214 | ． 05 | 2 | 1.29 | ． 01 | ． 07 | 1 | 25 |
| 0＋95i $3+008$ | 3 | 59 | 13 | 16 | ． | 32 | 11 | 631 | 3.93 | 6 | g | NS | 1 | 5 | 1 | ？ | ， | $6 j$ | ． 65 | ． 069 | 10 | ：iv | ． 53 | 255 | ． 34 | 5 | 1.29 | ． 1 ！ | ． 37 | 1 | 15 |
|  | 1 | 62 | 12 | $9!$ | ． 3 | 2E | $: 2$ | 791 | 3． 3 | 5 | $j$ | 4 | 2 | 53 | 1 | 6 | ， | $6 j$ | ． 58 | ． 384 | 11 | 48 | ． 55 | 399 | ． 34 | ＋ | 1.47 | ． 01 | ．A9 | 1 | $i$ |
| $0+95.10: 002$ | i | 89 | 35 | ： 05 | ． 2 | 37 | 12 | 713 | 3.31 | 1 | 5 | NO | 1 | 62 | $!$ | 2 | \％ | 63 | ． 16 | ． 193 | 11 | 48 | ． 5 | 344 | ． 03 | 8 | ！． 61 | ． 01 | ． 38 | $!$ | 35 |
| f＋534 ： 3 ？ | 1 | ：9 | ：6 | 95 | ． 1 | 31 | 11 | 689 | 3．：9 | 4 | 5 | 1 | 1 | ¢ | 1 | ？ | ： | 72 | ． 12 | ．095 | $1!$ | 49 | ． 51 | 297 | ． 04 | 2 | 1.14 | ． 01 | ． 07 | 1 | ：122 |
| 0＋954 ：24．305 | $?$ | 30 | 14 | 91 | ． 5 | 45 | 13 | 350 | 1.41 | 5 | 5 | HD | －？ | 54 | ， | ， | 2 | 11 | ． 60 | ． 388 | ！！ | 41 | ． 59 | 211 | ． 04 | 1 | 1.36 | ． 01 | ． 35 | 1 | 7 |
| ¢ $+55.12+005$ | 3 | 69 | 19 | 24 | ． 3 | 39 | 11 | 505 | ！\％ | 9 | 5 | 15 | 1 | 52 | 1 | 2 | 3 | 32 | ． 33 | ． 392 | ！ 1 | 46 | ．j5 | 321 | ． 03 | 2 | 1.63 | ． 01 | ． 08 | － | $i$ |
| j＋95 ： $1+005$ | 3 | 53 | ：1 | $9 ?$ | ． 1 | 35 | ！ 1 | 995 | ¢． 61 | 5 | 5 | 10 | $!$ | 31 | 1 | ： | 2 | 11 | ． 12 | ． 092 | 11 | 49 | ． 51 | 307 | ． 04 | 6 | 1.43 | ． 01 | ． 07 | 1 | 3 |
| D．53M 15：00E | ？ | 54 | 14 | 84 | ． 1 | 35 | 12 | 955 | 3．j1 | ！ | 5 | 10 | 1 | 51 | 1 | ？ | 2 | 9 | ． 65 | ． 090 | 10 | 47 | ． 50 | 277 | ． 04 | 2 | 1.30 | ． 21 | ． 07 | ！ | 1 |
| 9＋959 Lotacz sumt | 4 | 114 | 2！ | 139 | ． 1 | 39 | 13 | 114 | 3.94 | 9 | f | HD | $!$ | is | ！ | 2 | ？ | 19 | ． 36 | ． 110 | 13 | 41 | ． 51 | 398 | ． 03 | 1 | 2．2？ | ． 01 | ． 10 | $!$ | 3 |
|  | 5 | 39 | 11 | 102 | $\therefore$ | 38 | 14 | 1457 | ？．3？ | ， | 5 | 13 | 1 | 7 | i | ， | 2 | 11 | ． 84 | ． 093 | 11 | 44 | ． 51 | 381 | ． 04 | 2 | 1.55 | ． 01 | ． 07 | 1 | 2 |
| ค＋93． $11+105$ | $t$ | 108 | 12 | 115 | ． 3 | 17 | $1!$ | 640 | 3．71 | 7 | 5 | 40 | 1 | 15 | $!$ | ？ | ？ | 12 | ． 32 | ． 101 | 12 | 13 | ． 56 | 392 | ． 33 | ？ | 2.08 | ． 01 | ． 09 | 1 | 3 |
|  | 4 | 68 | $!4$ | ¢¢ | ． 2 | 36 | 13 | 639 | \． 3 | 10 | 5 | ND | 1 | ； | 1 | 2 | ？ | 55 | ． 53 | ． 896 | 12 | 43 | ． 51 | 300 | ． 03 | 4 | 1.48 | ． 01 | ． 07 | 3 | 8 |
|  | 4 | 114 | 21 | 139 | ． 5 | $\therefore 0$ | 11 | 708 | 1．50 | 10 | ； | ND | ！ | 30 | 1 | 2 | ？ | 32 | ． 85 | ． 1.95 | 12 | 46 | ． 59 | 136 | ． 03 | 1 | 2.30 | ． 01 | ． 10 | 1 | 9 |
| 0t305 1＋0CE | 2 | 47 | 16 | 55 | ． 1 | 11 | 10 | 363 | 3.50 | $i$ | 5 | HD | 1 | 8 | 1 | 2 | 2 | 47 | ． 35 | ． 043 | 11 | 6 | ． 52 | 138 | ． 05 | ， | ． 93 | ． 01 | ． 06 | $!$ | 3 |
| 0＋30s $5+008$ | ？ | 48 | 1 | 65 | ． 1 | 53 | 11 | 468 | $\therefore .36$ | 9 | 5 | N0 | 1 | 30 | ， | 2 | 3 | 50 | ． 11 | ． 049 | 10 | 68 | ． 62 | 161 | ． 04 | 1 | 1.96 | ． 11 | ． 06 | 1 | $\dagger$ |
| 0＋355 3＋5CE | ： | 16 | 13 | 52 | ． 3 | 13 | 11 | 494 | 3.12 | 9 | 5 |  | － | 30 | 1 |  | 2 | 43 | ． 10 | ． 017 | 10 | 36 | ． 55 | 176 | ． 04 | 2 | 1.11 | ． 01 | ． 87 | 1 | 59 |
| 0＋305 4＋008 | ， | 59 | 11 | 68 | ． 2 | 46 | 11 | 471 | 2.81 | 1 | 5 | 40 | 1 | 31 | 1 | 2 | 2 | 50 | ． 14 | ． 047 | 11 | 53 | ． 57 | 212 | ． 04 | 1 | 1.27 | ． 01 | ． 07 | 1 | $i$ |
| j＋jos $5+$ tios | 2 | 56 | 12 | 61 | ． 1 | 12 | 9 | 103 | ：．54 | 1 | j | 10 | 1 | 32 | 1 | 2 | 2 | 48 | ． 13 | ． 043 | 11 | \％ | ． 52 | 191 | ． 01 | 5 | 1.17 | ． 01 | ． 07 | 1 | 106 |
| 0＋ios atocs | ？ | 65 | 15 | 63 | ． 1 | 18 | 10 | 465 | 2.61 | 9 | ） | N0 | 1 | 37 | 1 | 2 | 3 | 13 | ． 17 | ． 216 | 11 | 59 | ． 58 | 224 | ． 04 | 5 | 1．31 | ． 01 | ． 07 | 1 | 4 |
| 0＋3．55 i －00E | ？ | 59 | 19 | ：0 | ． 2 | 53 | 10 | 187 | ：．33 | 7 | 5 | ND | 1 | 37 | $!$ | ］ | 3 | 4 | ． 18 | ． 052 | 11 | 63 | ． 57 | 22？ | ． 01 | 2 | 1.31 | ． 01 | ． 08 | 1 | 1 |
| 2＋30s $8+508$ | 1 | 63 | $1 ?$ | 79 | ， | 54 | ：0 | 13j | ¿．31 | 1 | 5 | ND | ， | 19 | 1 | ， | 2 | 47 | ． 19 | ． 050 | 11 | 60 | ． 60 | $25!$ | ． 03 | 5 | 1． 13 | ． 01 | ． 07 | 1 | 12 |
| 1＋355 2＋005 | ： | 37 | 9 | ：9 | ． 1 | 38 | 10 | 386 | 3.39 | 8 | 5 | WD | 1 | 35 | 1 | ？ | 2 | 72 | .17 | ． 065 | 8 | 65 | ．j3 | 121 | ． 05 | 6 | ． 91 | ． 01 | ． 06 | 1 | 2 |
| 1＋9ES $3+005$ | ！ | 13 | 1 | 62 | ． 1 | 42 | 10 | 510 | 3.63 | $i$ |  | $N$ | 1 | 39 | 1 | ， | 1 | 60 | ． 47 | ． 056 | 9 | 62 | ． 51 | 152 | ． 05 | ？ | 1.00 | ． 01 | ． 06 | ： | 1 |
| 1＋95s $1+005$ | ？ | 15 | 5 | ： 1 | ． 2 | 43 | 12 | 351 | $\therefore: 8$ | 9 | 5 | W10 | ！ | 16 | 1 | 2 | 2 | 59 | ． 54 | ． 063 | 9 | 62 | ． 60 | 179 | ． 94 | 5 | 1.11 | ． 01 | ． 06 | 1 | 22 |
| 1＋9： 5 5063 | ？ | 51 | $1:$ | 14 | ． 1 | 58 | ！1 | 690 | 2．f？ | 8 | 5 | N0 | ！ | 17 | 1 | ， | ， | 55 | ． 54 | ． 362 | 10 | 61 | ． 61 | 178 | ． 05 | 1 | 1.18 | ． 01 | ． 01 | 1 | 9 |
| 1．95 5 －+80 E | ？ | 46 | 1 | － | ． 1 | 35 | 12 | 511 |  | 1 | 5 | 119 | $!$ | 37 | $!$ | ？ | ？ | 13 | ． 33 | ． 073 | 9 | 53 | ． 57 | 20！ | ． 04 | $?$ | 1.30 | .01 | ． 66 | 1 | ： |
| ！ 4 25s $9+953$ | ？ | 53 | 11 | 11 | ． 1 | 19 | 11 | 318 | 2.21 | 5 | 5 | ND | ， | 65 | 1 | 2 | ， | 55 | ． 70 | ． 980 | 19 | 19 | ． 51 | 22 | ． 01 | ， | 1.17 | ． 01 | ． 61 | ！ | 9 |
| ！ 405 E $9+008$ | ？ | ； | ii | ：？ | ． 1 | 31 | 12 | 336 | ：$:$ ？ | 7 | ； | NO | 1 | \％ | － | ？ | 3 | 9 | ． 92 | ． 086 | ： 0 | 48 | ． 5 | －25 | ． 04 | 3 | 1.19 | ． 01 | ． 07 | 1 | 6 |
| ： 909 Sac | ： | 12 | 14 | ： | ． 1 | 12 | 1.3 | ミ： | ．3i | j | ！ | WD | 1 | 65 | 1 | － | $?$ | 9 | ． 70 | ． 191 | ： 0 | 46 | ． 51 | 219 | ． 04 | 19 | ：． 16 | ． 31 | ． 31 | 1 | 15 |
| ミッ こ：ñ－ | ： | ；9 | 46 | ： | i．1 | is | $\because 1$ | 950 | ¿ | 36 | 19 | 7 | 37 | ； | 17 | ： | 17 | \＄9 | ． 30 | ． 087 | 38 | ：5 | ． 37 | 175 | ． i | 33 | 1.96 | ． 06 | ． 3 | ！1 | 31 |

MINCORD EXPLORATION PROJECT SWAN PROJECT FILE \# 89-2303
Page 2

| 5AMPLE | no | Cl | Pb | 20 | 19 | Hi | Co | HI | fe | As | 0 | 10 | Th | Sr | cd | Sb | 81 | $\nabla$ | Ca | ? | 4 | Cr | ng | B8 | II | B | 11 | Na | 1 | V | A17 $^{17}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | PPM | P9\% | PPM | PPM | PFM | PFM | PPM | PPM | \% | Prn | PPM | PPM | PPM | PPM | PPM | PPM | PPM | PPM | \} | \} | PPM | PPM | 1 | PPM | $\}$ | PPM | 1 | 1 | 1 | PPM | PPB |
| 14955 104008 | 2 | 41 | 9 | 17 | . 3 | 34 | 10 | 594 | 2.93 | 8 | 5 | HD | 2 | 67 | 1 | 2 | 2 | 63 | . 70 | . 083 | 10 | 15 | . 51 | 225 | . 04 | 5 | 1.50 | . 01 | . 07 | 1 | 10 |
| 16955 11+008 | 3 | 50 | 11 | 13 | . 2 | 46 | 11 | 1618 | 2.97 | 9 | 5 | ND | 2 | 59 | 1 | 2 | 1 | 58 | . 69 | . 083 | 11 | 15 | . 50 | 220 | . 04 | 4 | 1.13 | . 01 | . 07 | 1 | 6 |
| 1+955 12+008 | 2 | 51 | 16 | 87 | . 2 | 31 | 11 | 567 | 3.16 | 9 | 5 | YD | 1 | 71 | 1 | 3 | 2 | 12 | . 75 | . 084 | 10 | 15 | . 50 | 234 | . 04 | 2 | 1.57 | . 01 | . 07 | 1 |  |
| 1+955 13+008 | 3 | 61 | 11 | 101 | . 2 | 34 | 11 | 680 | 3.26 | 9 | 5 | HD | 2 | 90 | 1 | 1 | 2 | 69 | . 90 | . 088 | 11 | 45 | . 58 | 306 | . 04 | 2 | 1.90 | . 01 | . 09 | 1 | 32 |
| 1+955 11+00E | 3 | 58 | 13 | 90 | . 1 | 33 | 11 | 692 | 3.19 | 6 | 5 | HD | 1 | 31 | 1 | 3 | 4 | 70 | . 82 | . 087 | 11 | 13 | . 55 | 283 | . 04 | 11 | 1.13 | . 01 | . 08 | 1 | $8$ |
| 3+305 3+008 | 2 | 59 | 10 | 80 | . 1 | 63 | 15 | 1830 | 3.34 | 13 | 5 | HD | 2 | 41 | 1 | 2 | 2 | 50 | . 56 | . 055 | 12 | 59 | . 65 | 252 | . 06 | 2 | 1.29 | . 01 | . 08 | 1 | 5 |
| 3+305 4+00E | 2 | 65 | 11 | 64 | . 1 | 45 | 12 | 541 | 3.10 | 9 | 5 |  | 1 | 57 | 1 | 2 | 2 | 14 | . 17 | . 078 | 10 | 67 | . 61 | 212 | . 05 | 3 | 1.49 | . 01 | . 08 | 1 | 12 |
| 3+305 5+008 | 2 | 68 | 10 | 57 | . 2 | 39 | 11 | 138 | 1.03 | 6 | 5 | ND | 2 | 55 | 1 | 2 | 2 | 68 | . 70 | . 069 | 10 | 57 | . 58 | 218 | . 06 | 1 | 1.10 | . 01 | . 07 | 1 | 5 |
| 5+305 3+002 | 2 | 82 | 13 | 11 | . 1 | 58 | 13 | 487 | 3.16 | 13 | 5 | VD | 2 | 46 | 1 | 2 | 2 | 68 | . 66 | . 069 | 11 | 72 | . 89 | 192 | . 06 | 5 | 1.27 | . 01 | . 08 | 1 | 8 |
| 5+305 4+001 | 2 | 52 | 6 | 65 | . 1 | 51 | 12 | 986 | 3.19 | 13 | 5 | ND | 2 | 40 | 1 | 2 | 2 | 61 | . 55 | . 065 | 11 | 7 | . 82 | 179 | . 06 | 10 | 1.08 | . 01 | . 06 | 1 | 1 |
| 5+305 5+008 | 2 | 57 | 5 | 67 | . 1 | 65 | 11 | 548 | 2.99 | 11 | 5 | HD | 2 | 47 | 1 | 2 | 2 | 52 | . 60 | .058 | 11 | 67 | . 82 | 204 | . 05 | 1 | 1.15 | . 01 | . 07 | 1 | 1 |
| 5+305 6+001 | 3 | 68 | 6 | 60 | . 1 | 10 | 11 | 493 | 1.09 | 8 | 5 | ND | 1 | 59 | 1 | 2 | 2 | 65 | . 13 | . 074 | 10 | 59 | . 59 | 257 | . 05 | 1 | 1.35 | . 01 | . 01 | 1 | 3 |
| 5+305 $7+001$ | 4 | 97 | 15 | 63 | . 1 | 35 | 11 | 475 | 3.25 | 9 | 5 | HD | 1 | 57 | 1 | 2 | 2 | 69 | . 17 | . 017 | 10 | 56 | . 61 | 217 | . 04 | 5 | 1.53 | . 01 | . 08 | i | 8 |
| 5+305 8+008 | 3 | 18 | 11 | 67 | . 2 | 37 | 13 | 557 | 4.28 | 6 | 5 | ND | 2 | 63 | 1 | 2 | 2 | 105 | . 90 | . 118 | 11 | 75 | . 12 | 220 | . 06 | 6 | 1.11 | . 01 | . 09 |  | 14 |
| 5+305 9.400 E | 2 | 71 | 9 | 68 | . 1 | $3:$ | 13 | 529 | 3.71 | 8 | 5 | ND | 1 | 61 | 1 | 2 | 2 | 81 | . 85 | . 103 | 10 | 64 | . 69 | 221 | . 05 | f | 1.12 | . 01 | . 08 | 1 | , |
| $5+30510+908$ | 2 | 34 | 11 | 10 | . 1 | 31 | 11 | 500 | 3.59 | 6 |  | \$5 | : | 62 | 1 | 2 | 3 | 82 | . 80 | . 086 | 11 | 62 | . 61 | 221 | . 06 | 5 | 1.35 | . 01 | . 08 | 1 | 6 |
| 5495 11:06E | 1 | 65 | 11 | 65 | . 1 | 32 | 11 | 513 | 3.79 | 8 | 5 | HD | 1 | 63 | 1 | 2 | 2 | 88 | . 32 | . 8 ? | 10 | 61 | . 56 | 215 | . 05 | 10 | 1.29 | . 01 | . 08 | 1 | 2 |
| $5+4055+008$ | 1 | 12 | ; | 13 | . 1 | 52 | 19 | $5!6$ | 2.93 | 10 | 5 | ND | ? | 17 | 1 | ? | , | 50 | . 52 | . 018 | 11 | 65 | . 57 | 189 | . 04 | 6 | 1.18 | . 01 | . 08 | 1 | 5 |
| 7rijs jatos | 2 | 29 | 7 | !! | . 1 | $5!$ | 12 | 522 | 2.:! | 7 | 5 | ND | 4 | 32 | 1 | 3 | 2 | 43 | . 50 | . 051 | 10 | 61 | . 65 | 114 | . 06 | 10 | . 31 | . 01 | . 06 | 1 | 1 |
| 9+395 5+008 | 3 | 55 | 6 | 11 | . 1 | 49 | 11 | 519 | 3.23 | 10 | 5 | MD | ? | 15 | 1 | ? | 2 | 55 | . 63 | . 050 | 10 | 65 | . 57 | 170 | . 05 | 5 | 1.06 | . 01 | . 01 | 1 | 104 |
| 9+305 6.005 | 4 | 64 | 7 | 3 | . 2 | 44 | 10 | 310 | 2.9? | 8 | 5 | ND | 2 | 53 | 1 | ? | 2 | 55 | . 22 | . 059 | 10 | 61 | . 55 | 201 | . 04 | 7 | 1.21 | . 01 | . 08 | 1 | 6 |
| $9+$ j0S $9+008$ | 5 | 71 | 14 | 32 | . | 14 | 10 | 534 | :. 93 | 12 |  | YD | ? | 51 | 1 | ? | 2 | 51 | .ía | . 256 | 11 | 59 | . 55 | 204 | . 04 | 1 | 1.31 | . 01 | . 08 | 1 | 7 |
| 9+305 7+002 NORTH TRIB | 1 | 31 | 12 | \% 0 | . 2 | 41 | 11 | 789 | 2.95 | 6 | $j$ | ND |  | 53 | 1 | ? | 3 | 39 | . 87 | . 059 | 10 | 56 | . 19 | 183 | . 04 | 5 | 1.10 | . 01 | . 05 | 1 | 4 |
| $9+3053+008$ | 1 | 69 | 10 | 63 | . 2 | 10 | 10 | 500 | 2.98 | 12 | 5 | ND | 1 | 52 | 1 | 2 | 3 | 55 | . 31 | .05? | 10 | 55 | . 19 | 216 | . 04 | 1 | 1.31 | . 01 | . 01 | 1 | 1 |
| 12+705 6+008 | 2 | 52 | 11 | 13 | . 3 | 51 | 10 | 505 | 3.14 | 11 | 5 | ND | 2 | 16 | 1 | 2 | 3 | 57 | . 39 | . 057 | 11 | 64 | . 58 | 210 | . 04 | 4 | 1.37 | . 01 | . 09 | 1 | 13 |
| 13+50S $6+608$ | 1 | 55 | 8 | 61 | . 2 | 16 | 11 | 511 | 3.18 | 8 | 5 | N0 | 2 | 13 | 1 | $?$ | 2 | 62 | . 60 | . 049 | 11 | 68 | . 59 | 184 | . 01 | 1 | 1.13 | . 01 | . 08 | 1 | 1 |
| 13+65S $5+005$ | 1 | 15 | 13 | 11 | . 2 | 45 | 11 | 518 | 3.14 | 22 | 5 | .1D | 3 | 37 | 1 | 2 | 3 | 54 | . 57 | . 064 | 9 | 59 | . 62 | 136 | . 07 | 6 | 1.24 | . 01 | . 09 | 1 | 6 |
| 13+655 6+008 | 1 | 52 | 9 | 61 | . 1 | 53 | 12 | 466 | 3.84 | 11 | 5 | ND | 3 | 10 | 1 | 2 | , | 81 | . 59 | . 058 | 11 | 84 | . 59 | 155 | . 05 | 14 | 1.09 | . 01 | . 07 | 1 | 3 |
| 13+655 $7+008$ | 1 | 60 | 12 | 69 | . 2 | 15 | 11 | 528 | 3.14 | 7 | 5 | ND | , | 46 |  | 3 | 2 | 11 | . 70 | . 061 | 9 | 65 | . 56 | 197 | . 04 | 3 | 1.30 | . 01 | . 08 | 1 | 1 |
| 13+655 8+008 | 1 | 85 | 5 | 52 | . 2 | 35 | 11 | 480 | 3.36 | 11 | 5 | ND | 2 | 54 | 1 | 2 | 2 | 13 | . 18 | . 064 | 11 | 59 | . 53 | 185 | . 05 | 1 | 1.30 | . 01 | . 08 | 1 | 1 |
| 15+50s 5+258 | 1 | 70 | 9 | 71 | . 2 | 58 | 12 | 548 | 3.62 | 12 |  | YD | 2 | 51 | 1 | 2 | 2 | 67 | . 85 | . 071 | 11 | 71 | . 68 | 220 | . 01 | 9 | 1.50 | . 01 | . 10 | 1 | 1 |
| 17+005 5+008 | 2 | 55 | 15 | 10 | . 1 | \$9 | 11 | 511 | 3.17 | 10 | 5 | 10 | 1 | 40 | , | 3 | 2 | 51 | . 53 | . 052 | 11 | 68 | . 65 | 162 | . 05 | 2 | 1.12 | . 01 | . 07 | 1 | 10 |
| 17+005 5+008 | 2 | 54 | 9 | 73 | . 2 | 64 | 12 | 198 | 3.33 | 16 | 5 | yD |  | 36 | 1 | , | 4 | 53 | . 16 | . 050 | 11 | 76 | . 66 | 111 | . 05 | 5 | 1.04 | . 01 | . 06 | 1 | 18 |
| $17+0057+008$ | 2 | 82 | 5 | 62 | . 3 | 51 | 11 | 623 | 1.15 | 9 | 5 | 10 | 2 | 59 | , | 2 | 2 | 58 | . 11 | . 064 | 11 | 60 | . 65 | 215 | . 04 | 9 | 1.63 | . 01 | . 10 | 1 | ? |
| $21+0055+008$ | 1 | 43 | 3 | 37 | . 1 | 16 | 10 | 688 | 3.23 | 7 | 5 | W0 | 2 | 46 | 1 | 2 | 3 | 11 | . 60 | . 055 | 10 | 57 | . 50 | 172 | . 05 | 5 | 1.24 | . 01 | . 07 | 1 | 5 |
| $21+0056+008$ | 1 | 13 | 10 | 57 | . 1 | 46 | 13 | 1510 | 3.12 | 10 | 5 | 3 y | 1 | 13 | 1 | 2 | 3 | 59 | . 62 | . 855 | 10 | 52 | . 53 | 195 | . 05 | 9 | 1.26 | . 01 | . 06 | 1 | 5 |
| STD C/AU-S | 19 | 82 | 12 | 132 | 6.7 | 13 | 31 | 1023 | 4.11 | 15 | 13 | 7 | 40 | 51 | 19 | 15 | 18 | 61 | . 52 | . 088 | 40 | 55 | . 92 | 189 | . 07 | 38 | 1.93 | . 06 | . 13 | 11 | 52 |

MINCORD EXPLORATION PROJECT SWAN PROJECT EILE \# 89-2303
SAMPLE1

$$
\begin{aligned}
& \begin{array}{rrrrr}
M O & C Q & P b & 2 Q & A g \\
P Q H & P P M & P P M & P P M & P P M
\end{array} \\
& \text { N1 CO } \\
& \begin{array}{c}
\mathrm{Mn} \\
\mathrm{gPM}
\end{array} \\
& \text { If } \\
& \begin{array}{lr}
\text { As } & \text { U } \\
\text { PM } & \text { PPM }
\end{array} \\
& \begin{array}{c}
214 \\
\text { 89n }
\end{array} \\
& \begin{array}{c}
\text { Th } \\
\text { PRM }
\end{array} \\
& \begin{array}{lrrr}
\text { Cd } & \text { Sb } & B L \\
& \text { PPK } & \text { PPK } & \text { PPM }
\end{array} \\
& \begin{array}{c}
\text { La } \\
\text { PPM }
\end{array} \\
& \begin{array}{cc}
\mathrm{Mg} & \mathrm{Ba} \\
\mathrm{~F} & \mathrm{PPM}
\end{array} \\
& \begin{array}{c}
11 \\
i
\end{array} \\
& \text { PPM } \\
& \begin{array}{c}
\mathrm{Ha} \\
\text { i }
\end{array}
\end{aligned}
$$

$21+005$ 1+00E
$21+0058+008$
$22+0052+008$
$22+00534008$
22:00s 4+00E
$22+0055+008$
$22+00 \mathrm{~S}$ 6+002
$23+0052+008$
$23+005$
$3+008$
$23+0053+008 \mathrm{~A}$

| 23-005 $4+008$ |
| :---: |
| 23+10¢ 5 5008 |
| $23+0056+005$ |
| $23+0057+008$ |
| 23+00S 8+008 |
| 23+005 9+008 |
| 2? $200510+00 \mathrm{E}$ |
| $23+00511+008$ |
| $23+00512+008$ |
| $23+00513+008$ |
| 23+005 14+002 |
| 23+005 15+008 |
| $23+00516+002$ |
| 21+75s $2+008$ |
| 27+005 1+008 |


| $27+005$ 2+008 |
| :---: |
| 29+50S 1+008 |
| 29+50S $2+008$ |
| 29+50S 2+008 |
| $29+5053+001$ |


$30+0051+00 \mathrm{E}$

| 2 | 47 | 9 | 62 | .3 | 42 | 14 | 1286 | 3.38 | 6 |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 1 | 53 | 6 | 58 | .1 | 37 | 9 | 389 | 2.95 | 8 |
| 2 | 86 | 21 | 100 | .1 | 50 | 16 | 1509 | 4.17 | 12 |
| 2 | 52 | 12 | 76 | .2 | 15 | 15 | 1962 | 4.03 | 12 |
| 4 | 63 | 13 | 79 | .2 | 43 | 15 | 1475 | 4.19 | 11 |
| 5 | 56 | 15 | 14 | . .1 | 39 | 21 | 3120 | 6.68 | 26 |
| 1 | 11 | 10 | 39 | .1 | 27 | 12 | 1052 | 2.94 | 6 |
| 2 | 13 | 13 | 56 | .1 | 18 | 11 | 118 | 4.37 | 5 |
| 6 | 19 | 18 | 60 | .4 | 34 | 11 | 1025 | 3.28 | 1 |
| 2 | 18 | 8 | 51 | .1 | 17 | 9 | 394 | 3.94 | 4 |


| 5 | MD | 1 | 47 | 1 |
| :--- | :--- | :--- | :--- | :--- |
| 5 | KD | 1 | 45 | 1 |
| 5 | ND | 1 | 73 | 1 |
| 5 | MD | 1 | 53 | 1 |
| 5 | MD | 1 | 51 | 1 |


| 1 | 2 | 2 |
| :--- | :--- | :--- |
| 1 | 2 | 2 |
| 1 | 2 | 2 |
| 1 | 2 | 2 |
| 1 | 2 | 2 |


| 61 | .57 | .056 |  |
| ---: | ---: | ---: | ---: |
| 60 | .52 | .052 |  |
| 65 | 1.05 | .087 | 1 |
| 64 | .67 | .015 | 12 |
| 67 | .64 | .078 | 1 | $\begin{array}{llll}48 & .52 & 180 & .04 \\ 51 & .51 & 162 & .01 \\ 53 & .74 & 337 & .03 \\ 45 & .61 & 248 & .03 \\ 46 & .63 & 295 & .03\end{array}$


| 6 | 1.20 | .01 | .06 |
| :--- | :--- | :--- | :--- |
| 3 | 1.16 | .01 | .06 |
| 2 | 2.22 | .01 | .12 |
| 2 | 1.56 | .01 | .07 |
| 2 | 1.79 | .01 | .09 |


| 5 | ND | 2 | 62 | 1 |
| :--- | :--- | :--- | :--- | :--- |
| 5 | WD | 1 | 37 |  |
| 5 | MD | 1 | 51 | 1 |
| 5 | HD | 1 | 92 |  |
| 5 | HD | 1 | 50 | 1 |


| 2 | 11 |
| ---: | ---: |
| 2 | 65 |
| 2 | 116 |
| $?$ | 61 |
| $?$ | 105 |


| .73 | .083 |
| :--- | :--- |
| .16 | .061 |
| .62 | .100 |
| .91 | .068 |
| .62 | .098 | $\begin{array}{llll}10 & .55 & 279 & .03 \\ 14 & .37 & 125 & .04 \\ 39 & .18 & 117 & .04 \\ 13 & .57 & 331 & .03 \\ 37 & .12 & 162 & .04\end{array}$

2
2
2
3
5
$\begin{array}{rrr}1.53 & .01 \\ .85 & .0 \\ 1.00 & .01 \\ 1.66 & .0 \\ & .93 & .01\end{array}$ $\begin{array}{ll}01 & .08 \\ 01 & .05 \\ 01 & .05 \\ 01 & .07 \\ .01 & .05\end{array}$
$30+0052+008$
STD c,au-s

| 2 | 53 | 7 | 58 | .1 | 20 | 11 | 473 | 4.26 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2 | 52 | 11 | 63 | .1 | 18 | 12 | 188 | 1.37 |
| 2 | 51 | 11 | 56 | .1 | 21 | 11 | 411 | 1.05 |
| 1 | 60 | 10 | 65 | .1 | 20 | 11 | 199 | 4.11 |
| 2 | 66 | 16 | 65 | .1 | 21 | 11 | 409 | 3.88 |
|  |  |  |  |  |  |  |  |  |
| 1 | 63 | 11 | 63 | .1 | 18 | 12 | 160 | 4.30 |
| 1 | 69 | 11 | 73 | .1 | 22 | 12 | 604 | 1.29 |
| 2 | 51 | 9 | 59 | .1 | 18 | 10 | 178 | 3.87 |
| 1 | 61 | 16 | 62 | .1 | 17 | 11 | 165 | 4.23 |
| 2 | 65 | 13 | 63 | .2 | 12 | 12 | 513 | 1.15 |


| 3 | 5 |
| :--- | :--- |
| 1 | 5 |
| 3 | 5 |
| 5 | 5 |
| 5 | 5 |


| MD | 1 | 59 |
| :--- | :--- | :--- |
| WD | 1 | 58 |
| WD | 1 | 53 |
| MD | 1 | 60 |
| KD | 1 | 61 |


| 2 | 112 | .72 | .105 |
| :--- | ---: | ---: | ---: |
| 2 | 115 | .71 | .108 |
| 2 | 107 | .65 | .109 |
| 2 | 115 | .73 | .110 |
| 2 | 97 | .73 | .114 |


| 10 | 3 |
| :--- | :--- |
| 11 | 3 |
| 10 | 3 |
| 10 | 42 |
| 11 | 32 |


| 38 | .49 | 203 | .04 |
| :--- | :--- | :--- | :--- |
| 39 | .49 | 192 | .04 |
| 36 | .46 | 181 | .04 |
| 42 | .49 | 205 | .04 |
| 32 | .50 | 223 | .04 |


| 2 | 1.08 | .01 | .08 |
| :--- | :--- | :--- | :--- |
| 2 | 1.11 | .01 | .06 |
| 2 | 1.03 | .01 | .08 |
| 2 | 1.12 | .01 | .07 |
| 2 | 1.20 | .01 | .07 |

1
2
9
1
1

MINCORD EXPLORATION PROJECT SWAN PROJECT FILE \# 89-2303

| SAMPLEA | no | CuI | Pb | 2n | Ag | 1 | Co | Mr | Te | As | U | Au | Th | ST | cd | Sb | 81 | V | Ca | P | La | C: | Hg | Ba | 11 | $B$ | 11 | Na | I | N | $3 \mathrm{SO}^{2}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | PPM | PPM | PPM | PPY | P? | F! | PPM | PPM | 1 | P品 | PPM | PPM | PPM | PPM | PPM | PPM | PPM | P! | \} | $\}$ | P! | PPM | ; | PPM | 1 | PPM | $\}$ | \% | $\}$ | 89\% | PP8 |
| 30+005 3+008 | 7 | 60 | 14 | 59 | . 3 | 21 | 10 | 179 | 3.95 | 3 | 5 | HD | 1 | 126 | 1 | 2 | 2 | 106 | 1.26 | . 093 | 10 | 32 | . 49 | 152 | . 04 | 3 | 1.62 | . 01 | . 08 | 2 | 1 |
| $30+0054+008$ | 6 | 59 | 14 | 54 | . 1 | 19 | 10 | 618 | 4.36 | 5 | 5 | ND | 1 | 114 | 1 | 2 | 2 | 133 | 1.15 | . 098 | 10 | 36 | . 15 | 406 | . 05 |  | 1.41 | . 01 | . 08 | 1 | 1 |
| 30+005 $5+00 \mathrm{E}$ | 8 | 61 | 12 | 35 | . 1 | 19 | 10 | 626 | 3.88 | 10 | 5 | ND | 1 | 116 | 1 | 2 | 2 | 100 | 1.17 | . 093 | 9 | 35 | . 46 | 115 | . 04 | 5 | 1.13 | . 01 | . 08 | 2 | 1 |
| 32+50S $2+008$ | 2 | 11 | 19 | 83 | . 2 | 29 | 16 | 1231 | 5.05 | 26 | 5 | H0 | 2 | 92 | 1 | 2 | 2 | 112 | 1.30 | . 131 | 13 | 38 | . 61 | 193 | . 06 | 8 | 1.12 | . 01 | . 09 | 1 | s |
| 32+505 3+006 | 3 | 50 | 6 | 53 | . 2 | 34 | 13 | 961 | 3.90 | 9 | 5 | WD | 2 | 70 | 1 | 2 | 2 | 85 | . 75 | . 088 | 10 | 46 | . 54 | 173 | . 08 | 1 | . 98 | . 01 | . 05 | 1 | 11 |
| 324505 4 4008 | 1 | 29 | 6 | 72 | . 2 | 39 | 11 | 1266 | 3.86 | 11 | 5 | HD | 2 | 63 | 1 | 2 | 2 | 55 | . 60 | . 074 | 9 | 52 | . 52 | 252 | . 05 | 3 | . 78 | . 01 | . 05 | 1 | 1 |
| $32+5055+008$ | 3 | 28 | 5 | 31 | . 2 | 38 | 11 | 1018 | 3.39 | 9 | 5 | NO | 1 | 58 | 1 | 2 | 2 | 61 | . 55 | . 074 | 9 | 53 | . 14 | 228 | . 05 | 2 | . 13 | . 01 | . 04 | 1 | 5 |
| $32+50564008$ | 4 | 30 | 9 | 69 | . 2 | 39 | 12 | 1275 | 3.59 | 8 | 5 | ND |  | 61 | 1 | , | 2 | 52 | . 59 | . 071 | 1 | 49 | . 16 | 255 | . 05 | 5 | . 18 | . 01 | . 05 | 1 | 2 |
| 32+505 7+008 | 1 | 29 | 8 | 57 | . 1 | 41 | 9 | 577 | 2.72 | 1 | 5 | HD | 2 | 35 | 1 | 2 | 2 | 49 | . 38 | . 058 | 11 | 53 | . 46 | 158 | . 05 | 2 | . 88 | . 01 | . 06 | 1 | 3 |
| $34+2551+008$ | 6 | 41 | 12 | 33 | . 2 | 15 | 8 | 584 | 1.20 | 6 | 5 | ND | 1 | 91 | 1 | 2 | ? | 99 | . 29 | . 097 | 1 | 24 | . 37 | 219 | . 05 | 6 | . 88 | . 01 | . 05 | 1 | 15 |
| 34+255 $2+002$ | 1 | 15 | 8 | 51 | . 2 | 13 | 1 | 635 | 3.54 | 1 | 5 | HD | 1 | 95 | 1 | 2 | 2 | 110 | 1.04 | . 106 | 8 | 22 | . 38 | 229 | . 05 | 2 | . 89 | . 01 | . 05 | 1 | 11 |
| 34+25s 3+002 | 5 | 31 | 1 | 11 | . 2 | 11 | 8 | 452 | 4.10 | 7 | 5 | WD | 1 | 78 | $!$ | 2 | 2 | 131 | . 16 | . 110 | $\$$ | 22 | . 31 | 183 | . 05 | 2 | . 78 | . 01 | . 04 | 1 | 10 |
| 34+255 4+002 | 5 | 11 | 9 | 43 | . 2 | 12 | 8 | 114 | 1.06 | 5 | 5 | HD | 1 | 93 | 1 | 2 | 2 | 131 | . 95 | . 110 | 8 | 23 | . 35 | 199 | . 05 | 2 | . 83 | . 01 | . 04 | 1 | 54 |
| $34+2555+008$ | 5 | 52 | 14 | 58 | . 1 | 3 | 11 | 512 | 5.92 | 5 | 5 | N0 | , | 79 | 1 | 2 | 2 | 190 | . 97 | . 116 | 3 | 20 | . 10 | 163 | . 05 | 11 | . 91 | . 01 | . 04 | 1 | 23 |
| $34+2555+008$ NORTA TRIB | 5 | 17 | 6 | 54 | . 2 | 20 | 8 | 331 | 3.03 | 6 | 5 | HD | 1 | 91 | 1 | 2 | 2 | 39 | . 90 | . 090 | 9 | 31 | . 12 | 249 | . 05 | 7 | . 93 | . 01 | . 05 | 1 | 6 |
| 34+255 6+008 | 5 | 70 | 10 | 46 | . 2 | 9 | 8 | 186 | 3.35 | 4 | 5 | ND | 1 | 85 | 1 | 2 | , | 198 | 1.22 | . 107 | 1 | 17 | . 35 | 184 | . 04 | 2 | . 88 | . 01 | . 05 | 1 | 16 |
| 34+255 7+1005 | 5 | 65 | 14 | 41 | . 1 | 1 | 9 | 567 | 4.18 | 5 | 9 | ND | 1 | 83 | 1 | 2 | 2 | 14 | 1.19 | . 102 | 1 | 16 | . 36 | 170 | . 04 | 9 | . 84 | . 01 | . 05 | 2 | 17 |
| $3540051+008$ | 5 | 67 | 10 | 52 | . 1 | 29 | 8 | 623 | 2.76 | 6 | 5 | ND | 1 | 130 | 1 | 2 | 2 | 65 | 1.33 | . 088 | 12 | 31 | . 42 | 352 | . 03 | 5 | 1.60 | . 01 | . 07 | 1 | 1 |
| $36+005$ ! +008 | 13 | 64 | 12 | 51 | . 3 | 22 | 10 | 1365 | 3.33 | 11 | 5 | ND | 1 | 107 | 1 | 2 | , | 73 | 1.14 | . 093 | 12 | 27 | . 47 | 370 | . 04 | 2 | 1.70 | . 01 | . 07 | 1 | 1 |
| $36+0052+008$ | 13 | \$1 | 13 | 53 | . 2 | 19 | 10 | 1305 | 1.08 | 7 | 5 | N0 | 1 | 104 | 1 | 2 | 2 | 12 | 1.11 | . 087 | 11 | 21 | . 41 | 354 | . 04 | 1 | 1.55 | . 01 | . 06 | 1 | 5 |
| $36+0053+00 \mathrm{E}$ - | 13 | 16 | 11 | 39 | . 2 | 19 | 10 | 1237 | 3.32 | 12 | 5 | nd | 1 | 100 | 1 | 2 | 2 | 17 | 1.08 | . 091 | 10 | 23 | . 43 | 356 | . 04 | 4 | 1.51 | . 01 | . 06 | 1 | 1 |
| $36+3054+008$ | 13 | 55 | 11 | 35 | . 2 | 19 | 10 | 1311 | 3.68 | 8 | 5 | ND | 1 | 120 | 1 | , | 2 | 82 | 1.38 | . 111 | 11 | 25 | . 43 | 398 | . 04 | 6 | 1.61 | . 01 | . 08 | 1 | 1 |
| $36+0055+008$ | 14 | 15 | 10 | 33 | . 2 | 17 | 9 | 1298 | 3.11 | 10 | 5 | ND | 1 | 108 | 1 | 2 | 2 | 75 | 1.17 | . 101 | 10 | 22 | . 41 | 342 | . 04 | 2 | 1.19 | . 01 | . 06 | 1 | 5 |
| $36+0056+008$ | 1 | 57 | 13 | 54 | . 2 | 22 | 9 | 658 | 2.87 | 5 | 5 | ND | 1 | 156 | 1 | 2 | 2 | 75 | 1.52 | . 088 | 9 | 10 | . 44 | 416 | . 04 | 4 | 1.51 | . 01 | . 06 | 1 | 17 |
| 5TD C'AU-j | 18 | 57 | 44 | 132 | 7.2 | 68 | 29 | 937 | 3.81 | 12 | 20 | 1 | 36 | 48 | 18 | 15 | 20 | 58 | . 45 | . 096 | 38 | 56 | . 81 | 176 | . 07 | 11 | 1.93 | . 06 | . 14 | 12 | 51 |

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MINCORD EXPLORATION PROJECT SWAN File \# $\% 9-2431$ Page 1

| SAMPLEI | Ho | Cl | \% ${ }^{\text {b }}$ | In | Ag | Ni | Co | Yn | \% | As | 0 | A\\| | Th | Sr | id | 5b | 31 | V | C3 | P | La | C? | Mg | B2 | 11 | 9 | 11 | Ha | [ | N | $\mathrm{ADP}^{\text {P }}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | PPK | 8P\% | P9! | PPM | PPM | PPY | P! | P9, | $\}$ | PFM | P? | PPM | PPM | PPM | !? | PPM | 9P! | ! P! | $t$ | 3 | P! | PFY | $\}$ | P! | \% | Pey | 1 | \% | 1 | PPY | PP9 |
| 94734 5980\| | 2 | 46 | 9 | 98 | . 2 | 35 | 12 | 630 | 3.46 | 11 | 5 | YD | i | 28 | $\vdots$ | 2 | 2 | 43 | . 62 | . 060 | 11 | 64 | . 30 | 242 | . 04 | 9 | 1.13 | . 01 | . 08 | 1 | $t$ |
| ? $40045000 \%$ | 1 | 52 | 6 | 63 | . 1 | 71 | 11 | 375 | 2. 13 | 9 | 5 | Vid | ! | 22 | 1 | 2 | ? | 12 | . 14 | . 854 | 12 | 79 | . 32 | 110 | . 08 | ? | . 95 | . 01 | . 05 | 1 | ; |
| 11+305 $5+00 \%$ | 2 | 59 | 7 | 91 | . 2 | 158 | 18 | 1858 | 3.57 | 25 | 5 | ND | 1 | 32 | 1 | 2 | 2 | 35 | 1.34 | .064 | 7 | 111 | 1.31 | 205 | . 02 | 9 | 1.10 | . 01 | . 04 | 1 | 9 |
| 11+505 ${ }^{\text {* }}$ +2014 P | 9 | 11 | 13 | 291 | . 1 | 120 | 13 | 1031 | 4.21 | 23 | 5 | ND | 1 | 50 | 2 | 2 | $t$ | 19 | . 66 | . 060 | 10 | 57 | . 35 | 189 | . 22 | 10 | 1.15 | . 01 | . 13 | 1 | 5 |
| :1+505 :-60\% | 3 | 62 | 6 | 118 | . 2 | 11: | 14 | 631 | 3.55 | 20 | 5 | ND | 1 | 40 | 1 | 2 | 3 | 52 | . 96 | . 060 | 8 | 98 | . 59 | 196 | . 02 | 12 | 1.15 | . 01 | . 07 | 1 | $1:$ |
|  | 1 | 57 | 12 | 162 | .1 | 109 | 19 | i191 | 1.90 | 15 | 5 | ND | 1 | 31 | 1 | 2 | 2 | 65 | . 15 | .050 |  | 10 | . 92 | 112 | . 02 | d | 1.00 | . 01 | . 09 | , | f |
| 15+00s s-006 P | 2 | $2!$ | 5 | 48 | . 2 | 41 | 18 | 1965 | 3.23 | 17 | 5 | ND | $!$ | 32 | 1 | 2 | ? | 35 | . 49 | . 619 | 7 | 37 | . 59 | 170 | . 24 | 3 | . 91 | . 01 | . 04 | 1 | 1 |
| 23+100 S-502 $P$ | 1 | 16 | ? | 12 | .! | 11 | 1 | 215 | 1.97 | 2 | ; | ND | 1 | 20 | 1 | 2 | : | 21 | . 11 | . 038 | ; | 57 | 1.05 | 63 | . 01 | 1 | . 67 | . 01 | . 04 | 1 | 12:\% |
|  | $!$ | 24 | 1 | 10 | . 1 | 35 | 7 | 434 | 2.21 | 7 | 5 | ND | 1 | 25 | 1 | 2 | 2 | 33 | . 11 | . 071 | 8 | 30 | . 37 | 76 | . 04 | 5 | . 63 | . 01 | . 03 | ? | ? |
| 32:45s : 2 +03i $P$ | 3 | 28 | 6 | Si | . 1 | 96 | 14 | 2965 | 2.73 | 17 | 5 | HD | 1 | 25 | 1 | 2 | : | 25 | 1.12 | . 041 | 6 | 14 | 1.31 | 259 | . 02 | 9 | . 15 | . 01 | . 04 | 1 | 4 |
| (57) Cl (10-: | 17 | 53 | 40 | 132 | 6.5 | 37 | 30 | 1035 | 4.13 | 14 | 19 | 7 | 35 | 50 | 18 | 16 | 17 | 57 | . 50 | . 092 | 38 | 50 | . 93 | 194 | . 07 | 36 | 1.98 | . 06 | . 14 | 12 | $5!$ |


| 3גMP! ${ }^{\text {a }}$ | \% | Cl | Pb | 9 | 19 | Hi | Co | Hz | If | ds | is | dut | \% ${ }^{\text {c }}$ | : | Cd | Sb | 31 | $V$ | Cl | ? | La | C5 | $1: 9$ | 81 | 51 | 8 | 11 | Ha | ¢ | * | i4* |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | \% | P9! | !py | P? | 3! ${ }^{\text {P }}$ | 194 | P! | ! ${ }^{\text {! }}$ | 1 | PPY | PPM | צ989 | ? 94 | P? | SYM | 2gy | P! | 8.3 | \} | \$ | PPY | 89\% | 1 | Pe. | 1 | 8en | 1 | \} | $\}$ | EPY | ? ${ }^{\text {P }}$ |
|  | 1 | 10 | 29 | 145 | . 3 | 105 | 42 | 2459 | 3.75 | 29 | ; | 710 | 1 | 13 | i | 3 | ? | 11 | $\therefore 9$ | . 045 | 9 | 119 | 1.16 | 217 | . 03 | 5 | 2.22 | .1! | . 09 | ? | 5 |
| 54 ? 700 S 25t:54 P | 1 | 40 | 11 | 119 | . 2 | 125 | 21 | 115 | 4.60 | 22 | 5 | 4 D | 1 | : 0 | 1 | 2 | j | i? | . 27 | . 039 | s | 128 | 1.24 | 299 | . 41 | 1 | 2.01 | .6! | . 09 | $!$ | 1 |
|  | : | 39 | 5 | 67 | . 2 | 84 | 12 | 502 | 3.16 | 13 | 5 | ID | 1 | 15 | 1 | 2 | 2 | 31 | . 31 | . 039 | 1 | 112 | 1.21 | $13{ }^{\circ}$ | . 04 | 3 | 1.30 | . 01 | . 85 | 1 | 6 |
| SI $2+0652+1734$ | 2 | 91 | 1 | 10 | . 3 | 158 | 8 | 243 | 2.89 | 8 | 5 | YD | 1 | S | 1 | 2 |  | 32 | . 50 | . 026 | 10 | 159 | 1.11 | 178 | . 03 | 1 | 1.31 | . 01 | . 01 | 1 | 6 |
|  | 2 | 23 | 11 | 59 | . 1 | 75 | 22 | 1474 | 2.90 | 9 | 5 | 4 N | 1 | 29 | 1 | 2 | 2 | 37 | . 19 | . 211 | 1 | 81 | . 24 | 163 | . 03 | 3 | 1.20 | . 01 | . 05 | 1 | 4 |
|  | 1 | 35 | 13 | 58 | . 1 | 17 | 10 | 146 | 2.92 | 1 | 5 | HD | 1 | 11 | 1 | 2 | 2 | 30 | . 31 | . 030 | $s$ | 75 | . 75 | 204 | . 02 | 1 | 1.02 | . 01 | . 04 | 1 | ! |
|  | $!$ | 26 | 10 | 67 | . 1 | 95 | 10 | 221 | 1.21 | 10 | 5 | ND | 1 | 8 | , | 2 | 2 | 42 | . 12 | . 017 | 9 | 113 | 1.41 | 111 | . 01 | 2 | 1.47 | . 01 | . 32 | 1 | 1 |
|  | 1 | 9 | 1 | 41 | . 1 | 62 | 7 | 164 | 1.12 | 2 | 5 | 40 | 1 | $?$ | 1 | , | 2 | 29 | . 11 | . 014 | 9 | 111 | 1.38 | 94 | . 01 | 2 | 1.19 | . 01 | . 31 | 1 | 5 |
| 5\% 2+0Js | 16 | 56 | $1:$ | 229 | . 2 | 73 | 13 | i69 | 1.17 | ii | 5 | \% | 1 | : | 1 | 3 | 2 | 80 | . 05 | . 043 | 6 | 53 | . 12 | 219 | . 01 | 8 | 1.01 | . 01 | . 04 | 1 | ¢ |
| 57 :roos -2.ijix P | 4 | 10 | 13 | :31 | . ${ }^{2}$ | 187 | 31 | 1237 | S. 3 | 23 | 5 | ND | 1 | $3 i$ | 1 | : | 3 | 63 | . 43 | .082 | 1 | 190 | 1.35 | 218 | . 01 | 6 | 1.83 | . 01 | . 98 | 1 | 5 |
| ST 2tage :atait $P$ | 2 | 36 | 11 | 95 | . 1 | 96 | 16 | 636 | 2.98 | 9 | 5 | 10 | , | 31 | 1 | 3 | 3 | 51 | . 10 | .03C | 10 | 109 | 1.05 | 256 | . 02 | 3 | 1.55 | . 01 | . 37 | 1 | 2 |
| St 4 +6: $521+750$ | $!$ | 1 | 11 | 19 | . 1 | 36 | 5 | 235 | 1.75 | 7 | ) | H | 1 | 11 | 1 | : | 2 | 25 | . 19 | .031 | 11 | 58 | . 76 | 97 | . 03 | 2 | . 96 | . 01 | . 01 | 1 | 12 |
|  | $!$ | 9 | 2 | 31 | . 1 | 34 | 6 | 200 | 1.70 | 3 | 5 | 40 | 1 | 11 | 1 | , | 2 | 24 | . 19 | . 032 | 12 | 53 | . 76 | 81 | . 04 | 4 | . 92 | . 01 | . 03 | , | 1 |
| ST $1+005$ 2t+23iP- | 1 | 9 | 5 | 29 | . 1 | 30 | 6 | 213 | 1.51 | 1 | 5 | $4 D$ | 1 | 11 | 1 | 2 | 2 | 21 | . 22 | . 030 | 11 | 56 | . 64 | 19 | . 01 | 2 | . 71 | . 01 | . 03 | 1 | 5 |
|  | 2 | 16 | 2 | 44 | . 1 | 36 | 19 | 450 | 2.69 | 13 | ; | HD | 1 | 13 | 1 | 2 | 2 | 38 | . 23 | . 126 | 9 | 60 | . 75 | 145 | . 04 | 4 | 1.17 | . 01 | . 05 | 1 | 3 |
|  | 1 | 1 | $!$ | 17 | . 1 | 23 | 5 | 197 | 1.57 | 1 |  | 4 D | 1 | $!$ | 1 | ? | ? | 15 | . 11 | . 018 | 10 | 51 | . 35 | 96 | . 09 | 2 | . 39 | . 01 | . 03 | 1 | 2 |
| 54 4 ¢0is | 1 | 9 | 三 | 40 | . 1 | 30 | 5 | 189 | 1.5E | ? | 5 | ND | $!$ | 10 | 1 | , | 2 | 25 | . 16 | . 026 | 11 | 54 | . 68 | !11 | . 03 | 6 | 1.00 | . 01 | . 01 | 1 | 3 |
| ST400s :? | 1 | 1 | 8 | 39 | . 1 | 4 | 1 | 172 | 1.38 | 1 | 5 | Yo | ! | 11 | 1 | : | 2 | 25 | . 15 | . 024 | 10 | 5 | . 57 | 113 | . 02 | 2 | 1.15 | . 01 | . 04 | 1 | 15 |
|  | - | $1:$ | 11 | 50 | . 1 | 51 | 17 | 73 | 1.01 | 9 | 5 | HD | 1 | 12 | - | + | , | 59 | . 21 | . 036 | 8 | 101 | 1.21 | 171 | . 03 | $\delta$ | 1.65 | . 01 | . 36 | 1 | ! |
|  | 1 | \% | 5 | 18 | . | 28 | 1 | 116 | 1.5: | 1 | § | N0 | 1 | ? | 1 | , | , | 24 | . $\quad 1$ | . 022 | 11 | 51 | . 58 | 96 | . 03 | 5 | . 85 | . 01 | .84 | 1 | : |
|  | $!$ | 13 | 1 | ji | . 1 | 11 | $\delta$ | 221 | 1.90 | 5 |  | YD | 1 | 11 | 1 | 2 | 2 | 28 | . | . 038 | 10 | 65 | . 84 | 128 | . 02 | 1 | 1.17 | . 01 | . 04 | 1 | 9 |
| 31 4 +00s 29tsiy P | 3 | if | : 5 | 97 | . 1 | 69 | 15 | : 301 | 4.85 | 15 | 5 | W0 | 1 | 15 | 1 | - | 2 | 51 | . 21 | . 212 | 9 | 102 | . 92 | 276 | . 02 | 4 | 2.01 | . 81 | . 10 | 1 | 1 |
|  | 1 | ! | $i$ | 48 | . 1 | 13 | 7 | 233 | :. 65 | 5 | 5 | 4 D | 1 | 11 | 1 | , | 2 | 26 | . 28 | . 031 | 11 | 67 | . 76 | 100 | . 03 | 2 | 1.30 | . 01 | . 28 | 1 | 1 |
|  | ? | 36 | 14 | 93 | . 2 | 39 | ${ }^{13}$ | 119 | ? 39 | :2 | 5 | HD | 1 | 13 | ! | 2 | ? | 55 | . 22 | . 043 | 8 | 142 | 1.10 | 241 | . 22 | 1 | 2.03 | . 01 | . 08 | 1 | 5 |
|  | 2 | 39 | 5 | 95 | . 6 | 82 | :0 | 175 | $\pm .2$ | :5 | 5 | 30 | ? | ? | 1 | 2 | 3 | 36 | . 20 | . 030 | 9 | 67 | . 5 | 161 | . 03 | 3 | 1.72 | . 01 | . 03 |  | ! |
|  | ? | 3 | 9 | 107 | . 1 | 51 | : | 164 | 3.13 | 13 | 5 | 90 | $!$ | 5 | , | 3 | , | 39 | . 38 | . 055 | 13 | 63 | . 41 | 111 | . 13 | 4 | 1.71 | . 41 | . 31 | 1 | 1 |
| 34 2St50S 13+3i\% | $?$ | ij | 10 | 85 | . 1 | 11 | \% | 111 | 2.17 | 11 | ; | MD | 2 | ? | 1 | 2 | ? | 38 | . ${ }^{\text {i }}$ | . 053 | 10 | 63 | . 13 | 93 | . 03 | 2 | 1.38 | . 01 | . 02 | 2 | 3 |
| 54 2St50S 13+25i | 2 | 21 | 1 | 80 | . 1 | 50 | 1 | 119 | 2.33 | 11 | 5 | YD | 1 | 10 | 1 | : | 1 | 19 | . 21 | . 064 | , | 63 | . 51 | 91 | . 03 |  | 1.12 | . 01 | . 03 | 1 | 12 |
| 34 25.j95 : 3 +0¢ | $!$ | 21 | 6 | 57 | . 1 | 14 | 7 | 307 | 2.19 | j | 5 | VD | 1 | 12 | 1 |  | , | 29 | . 35 | . 028 | 9 | 56 | . 61 | 100 | . 03 | 2 | 1.00 | . 01 | . 03 | 1 | 1 |
| 54 25+505 12475\% | 3 | 30 | 1 | 111 | . 1 | 11 | 3 | 213 | 3.10 | 15 | 5 | ND | 1 | 14 | 1 | 2 | 2 | 50 | . 20 | . 051 | 10 | 60 | . 54 | 101 | . 04 | 1 | 1.15 | . 01 | . 04 | 1 | 1 |
|  | 3 | 21 | 5 | 93 | . 1 | 31 | $\stackrel{1}{2}$ | 189 | 2.79 | 11 | 5 | ND | 1 | $1:$ | 1 | 2 | 2 | 50 | . 17 | . 048 | 10 | 51 | . 14 | 92 | . 04 | 3 | . 96 | . 01 | . 03 | 1 | 3 |
| S1 $25+50511+2$ Y | ? | 22 | S | \%i | . 1 | 21 | ; | 132 | i. 08 | 13 | 5 | ND | 1 | 12 |  | - |  | 36 | . 19 | . 023 |  | 38 | .29 | 107 | . 04 | 2 | . 92 | . 01 | . 02 |  | ? |
| \#1 35+50s 12:tioy | ? | ?1 | g | 65 | .! | 38 | ! | 2:9 | 3.04 | 15 | ) | 40 | 1 | : | 1 | 2 | 2 | 14 | . 5 | . 035 | 7 | 5 | . 50 | 112 | . 02 | 2 | 1.01 | . 01 | . 12 | 1 | ? |
| *R : 5 50s :11:5\% | ; | 10 | 8 | 92 | . 2 | 18 | !! | 202 | 1.68 | 41 | 5 | NO | 1 | 31 | ! | 2 | , | 60 | . 30 | . 049 | 8 | 21 | . 21 | 314 | . 03 | 8 | 1.35 | . 01 | . 01 | - | 11 |
| 34 3 \% 5 ¢ | 4 | 29 | 9 | 31 | .! | 18 | i | 218 | 2.91 | 21 | 5 | Yi | 1 | 3 | 1 | 2 | 2 | 53 | . 9 | . 043 | 9 | 22 | . 16 | 17 | . 05 | 2 | . 64 | . 01 | . 33 | 1 | : |
| \$7 251505 114.10\% | 2 | 12 | 9 | 50 | . 1 | 12 | 1 | 116 | 2.10 | 9 | 5 | HD | \% | 3 | 1 | $?$ | ? | 51 | . 15 | . 019 | 10 | 19 | . 09 | 37 | . 05 | $i$ | . 51 | . 01 | . 01 | 13 | : |
| 5is C'AJ- | :3 | 62 | 44 | $1: 2$ | 5.6 | 71 | 31 | 2133 | 4.15 | 10 | 20 | 7 | 37 | 19 | 18 | 15 | 20 | 57 | . 3 | . 992 | 38 | 50 | . 94 | 134 | . 07 | 41 | 2.05 | . 06 | . 13 | 13 | $1!$ |

Soil -
MINCORD EXPLORATION PROJECT SWAN FILE $\doteq 89-2431$
Page 3.


## APPENDIX 3

Rock Sample Descriptions and Core Sample Descriptions

The following are descriptions for rocks collected for assay from the Swan property. Unless otherwise noted, samples are a pseudo chip sample taken over 1 m . at 90 degrees to any visible structure.

| Sample \# | Location | Description |
| :---: | :---: | :---: |
| SW-AB-89-1 | See Map | Altered ultramafic, Listwanite. |
|  |  | Composed predominantly of carbonate, |
|  |  | fractured veinlets <1 mm wide. Rock |
|  |  | is strongly foliated and weathers |
|  |  | rusty brown. |
| SW-AB-89-2 | See Map | Granite? Quartz Syenite. Medium |
|  |  | grained with dark green aphanitic |
|  |  | clasts, relatively unaltered. Quartz |
|  |  | veinlets present may contain pyrite |
|  |  | and hematite stringers. Pyrite $1-2 \%$. |

SW-AB-89-3 See Map

SW-AB-89-4a See Map

SW-AB-89-4b See Map

SW-AB-89-4C

SW-AB-89-4d

Granite? Quartz Syenite. Covered with rusty limonite coating, and leached sulphur. Pyrite 5-10\%. Rock has been strongly altered (silicification, argillic alteration) but appears to have been same rock type as previous sample.

Granite? Quartz Syenite. Composed predominantly of K-feldspar $<5 \%$ quartz and mafic minerals (amphibole?). Pyrite disseminated throughout much of outcrop but also present as blebs up to 8 cm wide stringers. Sample comes from a sheared part of outcrop with limonite coating near a minor fault, 1-2\% chalcopyrite and pyrite with some minor malachite staining.

Granite? Quartz Syenite as previous sample except sample is strongly sheared with limonite coating. Percentage sulphides difficult to estimate due to oxidation, leached sulphur and red staining present probably hematite (cinnabar?).

Granite? Quartz Syenite. Same as previous sample.

Granite? Quartz Syenite. Same as previous sample but outcrop is a pulverized fault gouge containing predominantly sulphides, pyrite and chalcopyrite, leached sulphur and a white salt? present.

| Sample \# | Locatio | Description |
| :---: | :---: | :---: |
| SW-AB-89-4e | See Map | Granite? Quartz Syenite. Comes from a fault, but not cross faults (shears?) of samples $4 b-d$. Sample is leucocratic, mafic minerals <5\%, pyrite $3-4 \%$, as small stringers $<1 \mathrm{~mm}$ wide, predominantly as blebs $3-5 \mathrm{~mm}$ in size and occasionally as euhedral grains. Argillic? alteration present. |
| SW-AB-89-4f | See Map | Granite? Quartz Syenite as previous sample but less altered, pyrite $2-3 \%$ as blebs up to 5 cm . Molybdenite? present. |
| SW-AB-89-4g | See Map | Granite? Quartz Syenite as previous sample. Pyrite/chalcopyrite 2-3\% as disseminated grains, occasionally as stringers. |
| SW-AB-89-5a | See Map | Hybrid Quartz Monzonite? Melanocratic, purplish in outcrop. sample contains pyrite and chalcopyrite 1-2\%, malachite staining present on some fracture surfaces. |
| SW-AB-89-5b | See Map | Hybrid Quartz Monzonite? Sample associated with a fault, chlorite and epidote alteration present, outcrop cut by carbonate veinlets with hematite (cinnabar?). |
| SW-AB-89-5C | See Map | Grey Quartz veinlet $5-10 \mathrm{~cm}$ wide, 1.5 m long in a fault hosted by Granite? Quartz Syenite about 1 m above contact with Hybrid Quartz Monzonite? Fault and vein strike 040 degrees. Contains $10-20 \%$ pyrite also hematite present. Sample taken is solely of quartz. (Grab). |
| SW-AB-89-6a | See Map | Hybrid Quartz Monzonite? Originally a dark melanocratic? rock. Strongly silicified, light grey in color with a limonite coating and leached sulphur. Pyrite 4-5\% as disseminated euhedral grains and irregular blebs. |
| SW-AB-89-6b | See Map | Same as previous sample. |


| Sample \# | Location | Description |
| :---: | :---: | :---: |
| SW-AB-89-7a | See Map | Hybrid Quartz Monzonite? Dark grey rock, silicified and cut by quartz veinlets containing molybdenite as blebs up to 5 cm in length. Pyrite and chalcopyrite 1-2\%. |
| SW-AB-89-7b | See Map | Hybrid Quartz Monzonite (Silicified Monzonite). Dark grey rock, with a limonite coating. 1-2\% pyrite and chalcopyrite with malachite and hematite on fracture surfaces. |
| SW-AB-89-8 | See Map | Hybrid Quartz Monzonite, silicified, highly fractured, with rusty limonite coating and weathered surfaces, $10 \%$ pyrite chalcopyrite. Malachite occasionally present on fracture surfaces. |
| SW-AB-89-9 | See Map | Hybrid Quartz Monzonite, silicified, $10-20 \%$ pyrite and chalcopyrite with limonite coating weathered surfaces. |
| SW-AB-89-10 | See Map | Hybrid Quartz Monzonite, silicified, fresh surface light grey, weathered surface coated with limonite, $1-2 \%$ pyrite as disseminated grains. |
| SW-AB-89-11 | See Map | Hybrid Quartz Monzonite. Black to green chlorite altered Monzonite, weathered surface limonite coated. <1\% pyrite and chalcopyrite with hematite and rare malachite on fracture surfaces. |
| SW-AB-89-12 | See Map | Hybrid Quartz Monzonite, with limonite on weathered surface. Fault gouge?, <br> chlorite, <br> argillic? <br> alteration and secondary $K$-feldspar present. chalcopyrite and pyrite present amount present difficult to estimate in gouge. |
| SW-AB-89-13a | See Map | Hybrid Quartz Monzonite. Monzonite/ Diorite. Chlorite alteration with secondary K-feldspar present, weakly silicified, 1-2\% chalcopyrite and pyrite present. |
| SW-AB-89-13b | See Map | $\begin{array}{lll}\text { Hybrid Quartz Monzonite. } & \text { Black } \\ \text { silicified rock, Diorite? } & 5-10 \%\end{array}$ pyrite and chalcopyrite. |


| Sample \# | Location | Description |
| :---: | :---: | :---: |
| SW-AB-89-13C | See Map | Hybrid Quartz Monzonite. Dark grey |
|  |  | to black (Syenodiorite/Diorite?) |
|  |  | Strongly fractured, chlorite altered, |
|  |  | moderately silicified with rare |
|  |  | quartz veinlets. 2-3\% chalcopyrite |
|  |  | and pyrite as disseminated grains |
|  |  | occasionally as veinlets up to 1 mm |
|  |  | wide. Secondary K-feldspar present |
|  |  | adjacent to sample where outcrop is |
|  |  |  |
| SW-AB-89-13d | See Map | Same as previous sample but with more plagioclase present. |
| SW-AB-89-14 | See Map | Angular rubble on creek bank in |
|  |  | vicinity of KWA5. Pinkish monzonite |
|  |  | with weak argillic? alteration, |
|  |  | weathered surface with limonite |
| SW-AB-89-15a | See Map | Monzonite? Has undergone intense |
|  |  | argillic? alteration which is |
|  |  | pervasive, weathered surface with a |
|  |  | rusty limonite coating, 1\% pyrite. |
| SW-AB-89-15b | See Map | Diorite? Bright green rock cut by |
|  |  | numerous carbonate veinlets with |
|  |  | variable orientations. Hematite |
|  |  | staining on rock (cinnabar?). |
| SW-AB-89-16a | See Map | Granite / Granodiorite (possibly |
|  |  | Syenite?) Argillic altered, 1-2\% |
|  |  | chalcopyrite with malachite staining. Outcrop is strongly fractured. |
| SW-AB-89-16b | See Map | Same as previous sample but no |
|  |  | chalcopyrite present. Pinkish mineral |
|  |  | stain present hematite (cinnabar?). |
| SW-AB-89-16C | See Map | Same as SW-AB-89-16a but with 1-2\% |
|  |  | pyrite and chalcopyrite and some |
|  |  | minor malachite staining. |
| SW-AB-89-16d | See Map | Same as SW-AB-89-16a but with 2-3\% |
|  |  | chalcopyrite and pyrite as |
|  |  | disseminated grains and blebs and |
|  |  | some minor malachite staining. |
| SW-AB-89-17a | See Map | Granite pink on fresh surface rusty |
|  |  | orangish limonite coating on |
|  |  | weathered surface, 5-10\% mafic |
|  |  | minerals, weakly silicified. Trace |
|  |  | chalcopyrite and molybdenite, |
|  |  | malachite staining, outcrop with a |
|  |  | blocky fracture. |


| Sample \# | Location | Description |
| :---: | :---: | :---: |
| SW-AB-89-17b | See Map | Granite as previous sample. Strongly fractured (fault present) weathered surface with a rusty limonite coating. Molybdenite 2-3\% chalcopyrite <1\%. |
| SW-AB-89-17c | See Map | Granite as previous sample, with a blocky fracture and limonite coating weathered surfaces. 2-3\% chalcopyrite and pyrite, malachite staining present. |
| SW-AB-89-17d | See Map | Granite as previous sample. Weakly fractured with hematite (cinnabar?) on fracture surfaces. |
| SW-AB-89-17e | See Map | Granite as previous sample. Weakly fractured with $1-2 \%$ pyrite and chalcopyrite. Hematite (cinnabar?) on fracture surfaces. |
| SW-AB-89-18 | See Map | Intensely silicified rock containing bull white quartz veinlets no obvious mineralization present. |
| SW-AB-89-19a | See Map | Granite? pink in color with a limonite coated weathered surface and argillic? alteration, $T R$ epidote present. 1-2\% pyrite and chalcopyrite with malachite staining. |
| SW-AB-89-19b | See Map | Granite? as previous sample but less altered. Pyrite $<1 \%$. Hematite staining (cinnabar?) present. |
| SW-AB-89-19C | See Map | Granite? as previous sample but more altered. Chalcopyrite, pyrite 3-4\% with malachite and azurite on fracture surfaces. |
| SW-AB-89-19d | See Map | Grey and white quartz has been fractured and resealed by clay. Chalcopyrite and pyrite 5-10\%. (Grab). |
| SW-AB-89-19e | See Map | Granite? as sample SW-AB-89-19a-19C less altered by fault than 19d. 1-2\% chalcopyrite with malachite staining. |
| SW-AB-89-20a | See Map | Granite, outcrop fractured and jointed, chlorite, biotite argillic? altering alteration |


| Sample \# | Location | Description |
| :---: | :---: | :---: |
| SW-AB-89-20b | See Map | As previous sample but with hematite on fracture surfaces. |
| SW-AB-89-21 | See Map | Silicified Volcaniclastic? Greywacke. Part of Takla Group. Light grey to white weathers a rusty brown cut by quartz veinlets. metallic sheen on fracture surface possibly arsenopyrite? |
| SW-AB-89-22 | See Map | Intensely silicified fine grained Granite. Light grey to white weathers a rusty orangey brown <1\% pyrite present. |
| SW-AB-89-23 | See Map | Fine grained granite, weathers rusty orange, purple on fresh surfaces sample cut by numerous carbonate veinlets. Purplish staining of groundmass hematite? |
| SW-AB-89-24a | See Map | Granite, with 5-10\% epidote, 1\% hematite as veinlets. |
| SW-AB-89-24b | See Map | Pale pink Granite with moderate argillic? alteration. Small rusty patches on outcrop, 2-3\% molybdenite present, <1\% chalcopyrite present with malachite halos. |
| SW-AB-89-24C | See Map | Granite, weathers a rusty orange color, fresh surface pink. Molybdenite $2-3 \%$ on fracture surfaces, chalcopyrite <1\% with malachite stained halos. |
| SW-AB-89-24d | See Map | Black silicified rock with rusty limonite weathered surface. Fractures coated with a bright red mineral, hematite (cinnabar?) < $1 \%$ pyrite present. |
| SW-AB-89-24e | See Map | Light pink Granite with moderate argillic alteration. 5-10\% molybdenite with $2-3 \%$ chalcopyrite/ pyrite. |
| SW-AB-89-24f | See Map | Same as previous sample but with only 1\% chalcopyrite and pyrite. |
| SW-AB-89-25 | See Map | Hybrid Quartz Monzonite, melanocratic, chlorite? altered. Contains 1\% pyrite. |


| Sample \# | Location | Description |
| :---: | :---: | :---: |
| SW-AB-89-25a | See Map | Hybrid Quartz Monzonite, weathered surface with limonite coating, 1-5\% pyrite as disseminated grains, stringers and blebs up to 2-3 cm. |
| SW-AB-89-26 | See Map | Hybrid Quartz Monzonite, dark green grey, chlorite? alteration, 5-10\% pyrite and chalcopyrite with occasional malachite stains. |
| SW-AB-89-26a | See Map | Hybrid Quartz Monzonite, associated with a minor fault. Limonite coating on weathered surface. $10 \%$ epidote, moderately <br> silicified, $1-2 \%$ disseminated chalcopyrite and pyrite, occasionally as blebs. |
| SW-AB-89-26b | See Map | Hybrid Quartz Monzonite, moderately to intensely silicified (pure quartz in parts), limonite patches present over outcrop. Up to $20 \%$ sulphides present predominately pyrite with minor chalcopyrite. |
| SW-AB-89-27 | See Map | Hybrid Quartz Monzonite, weathered surface with a limonite coating, silicified fresh surface light grey in color. Sulphur leaching out of as disseminated grains, stringers and blebs up to 2-3 cm in size. |
| SW-AB-89-27a | See Map | As previous sample. |
| SW-AB-89-27b | See Map | As previous sample. |
| SW-AB-89-27C | See Map | Hybrid Quartz Monzonite, weathered surface with a limonite coating, moderate argillic alteration. 1-2\% disseminated sulphides, pyrite and chalcopyrite. |
| SW-AB-89-27d | See Map | Hybrid Quartz Monzonite, intensely silicified fresh surface looks like dark grey to black quartz, 2-3\% pyrite. |
| SW-AB-89-27e | See Map | Hybrid Quartz Monzonite, cut by numerous carbonate veinlets, weathered surface with limonite coating. Sample taken across a fault contains 2-3\% chalcopyrite and pyrite with occasional malachite stains. |


| Sample \# | Location | Description |
| :---: | :---: | :---: |
| SW-AB-89-27£ | See Map | Hybrid Quartz Monzonite, moderately to intensely silicified, clay and leached sulphur on fracture surfaces with limonite coated weathered surface, 5\% chalcopyrite and pyrite. |
| SW-AB-89-27g | See Map | Silicified Hybrid Quartz Monzonite, fresh surface light grey, weathered surface with limonite coating, leached sulphur on fracture surfaces, $10 \%$ pyrite present. |
| SW-AB-89-27h | See Map | Silicified Hybrid Quartz Monzonite, cut by quartz veinlets with $20 \%$ pyrite and chalcopyrite present. |
| SW-AB-89-28 | See Map | Hybrid Quartz Monzonite, moderately fractured, weak to moderate argillic alteration, weathered surface with limonite coating, $10-15 \%$ pyrite as disseminated grains and veinlets. |
| SW-AB-89-29 | See Map | Hybrid <br> Quartz <br> Monzonite, <br> Syenodiorite, moderately to intensely silicified, weathered surface with limonite coating. Pyrite present as large blebs 20 cm long $2-4 \mathrm{~cm}$ wide. |
| SW-AB-89-29a | See Map | Hybrid Quartz Monzonite, Syenodiorite, intensely silicified fresh surface light grey, carbonate veinlets present, 1-2\% pyrite as disseminated grains. |
| SW-AB-89-30 | See Map | Hybrid Quartz Monzonite, intensely silicified, fresh and weathered surface chocolate brown 5-10\% pyrite present as stringers. |
| SW-AB-89-30a | See Map | Hybrid Quartz Monzonite, syenodiorite, silicified fresh surface light grey, weathered surface with limonite coating and leached sulphur. $20 \%$ sulphides present pyrite and chalcopyrite. |
| SW-AB-89-31 | See Map | Hybrid Quartz Monzonite, containing secondary $K$-feldspar, cut by numerous carbonate veinlets, no obvious mineralization present. |


| Sample \# | Location | Description |
| :---: | :---: | :---: |
| SW-AB-89-31a | See Map | Hybrid Quartz Monzonite, dark green on surface due to chlorite alteration, epidote and hematite present, cut by carbonate veinlets, secondary K-feldspar present. Trace chalcopyrite and pyrite on fracture surfaces. |
| SW-AB-89-31b | See Map | Hybrid Quartz Monzonite, Monzonite, plagioclase weak to moderate argillic? alteration. Chlorite and hematite on fracture surfaces. Trace pyrite as disseminated grains << 1 mm in size. |
| SW-AB-89-32 | See Map | Hybrid Quartz Monzonite, limonite on weathered surface, epidote and hematite present, 1-2\% pyrite as subhedral disseminated grains up to 1 mm in size. Epidote and hematite stringers. (Grab) |
| SW-AB-89-32a | See Map | Quartz vein in HybridQuartz <br> Monzonite <br> stringers. (Grab)Quans <br> hematite |
| SW-AB-89-33 | See Map | Hybrid Quartz Monzonite, Biotite Monzonite, $55 \%$ quartz, carbonate veinlets present; secondary K-feldspar, epidote and hematite on fractures. |
| SW-AB-89-34 | See Map | Leucocratic Granite, predominantly K-feldspar but plagioclase present and moderately to strongly altered 1-2\% pyrite present. |
| SW-AB-89-35 | See Map | Granite to Granodiorite, weakly fractured, plagioclase with moderate argillic? alteration, hematite on fracture surfaces. Trace pyrite present as disseminated grains. |
| SW-AB-89-36 | See Map | Granite, moderately to weakly fractured with limonite coating weathered surfaces, silicified in places, hematite present on some fracture surfaces. Trace pyrite as disseminated grains. |


| Sample \# | Location |  | Description |
| :---: | :---: | :---: | :---: |
| SW-AB-89-36a | See | Map | Diorite Feldspar Porphyry, weakly to |
|  |  |  | moderately fractured with limonite |
|  |  |  | on fractured surfaces. Plagioclase |
|  |  |  | laths pale green undergoing |
|  |  |  | alteration to sericite? or chlorite? |
|  |  |  | Pervasive hematite? staining of |
|  |  |  | groundmass, cut by carbonate |
|  |  |  | veinlets. |
| SW-AB-89-37 | See | Map | Very fine grained Granite, |
|  |  |  | occasionally with K-feldspar |
|  |  |  | phenocrysts. Weathered surface |
|  |  |  | black, unweathered surface purplish |
|  |  |  | possibly hematite? staining, cut by |
|  |  |  | quartz veinlets. |
| SW-AB-89-38 | See | Map | Same as previous sample except |
|  |  |  | strongly fractured, weathers pale |
|  |  |  | orange with patchy limonite stains. |
| SW-AB-89-39 | see | Map | Hybrid Quartz Monzonite. |
|  |  |  | (Syenite/syenodiorite) Weakly to |
|  |  |  | moderately fractured, sample composed |
|  |  |  | predominantly of K-feldspar, chlorite |
|  |  |  | alteration along fractures. <1\% |
|  |  |  | chalcopyrite on fracture surfaces as |
|  |  |  | very fine grains occasionally as blebs. |
| SW-AB-89-39a | See | Map | Hybrid Quartz Monzonite. Intensely |
|  |  |  | fractured with chlorite alteration. |
|  |  |  | Cinnabar? <1\% as veinlets. <1\% |
|  |  |  | chalcopyrite as blebs. |
| SW-AB-89-39b | See | Map | Hybrid Quartz Monzonite, intensely |
|  |  |  | fractured with secondary K-feldspar, |
|  |  |  | chlorite and epidote alteration. |
|  |  |  | Sample taken 1 m on either side of a |
|  |  |  | chalcopyrite veinlet. |
| SW-AB-89-39C | See | Map | Hybrid Quartz Monzonite, intensely |
|  |  |  | fractured, chlorite and hematite |
|  |  |  | present on fractures, epidote also |
|  |  |  | present, trace pyrite. |
| SW-AB-89-39d | See | Map | Hybrid Quartz Monzonite, |
|  |  |  | predominantly K-feldspar, fracture |
|  |  |  | surfaces with chlorite and epidote, |
|  |  |  | no visible mineralization. |


| Sample \# | Location | Description |
| :---: | :---: | :---: |
| SW-AB-89-39e | See Map | Hybrid Quartz Monzonite, moderately |
|  |  | fractured, strong chlorite alteration |
|  |  | along fractures, hematite staining on |
|  |  | fractures, epidote also present. |
|  |  | Trace pyrite and chalcopyrite as |
|  |  | disseminated grains. Trace bright |
|  |  | red hematite (cinnabar?) veinlets. |
| SW-AB-89-40 | See Map | Monzonite medium to coarse grained |
|  |  | with 5\% Biotite, limonite on |
|  |  | weathered |
|  |  | fractured. No visible mineralization. |
| $S W-A B-89-41$ | See Map | Granodiorite (predominantly with |
|  |  | plagioclase) intense argillic? |
|  |  | alteration, mafic minerals altering |
|  |  | to chlorite, hematite on fractures. |
| SW-AB-89-41a | See Map | Granite/Granodiorite (sample taken |
|  |  |  |
|  |  | staining otherwise as above. |
| $S W-A B-89-41 b$ | See Map | Granite moderately to intensely |
|  |  | fractured. Plagioclase with |
|  |  | argillic? alteration, rare patches of |
|  |  | hematite staining on fractures and in shears. |
| SW-AB-89-42 | See Map | Granodiorite, moderately fractured, |
|  |  | patchy limonite on weathered |
|  |  | surfaces, argillic? alteration of |
|  |  | plagioclase, hematite on fracture |
|  |  | surfaces. |
| $S W-A B-89-43$ | See Map | Granite, plagioclase with weak |
|  |  | argillic/sericite? alteration, patchy |
|  |  | limonite staining on weathered |
|  |  | surfaces, hematite on fractures, |
|  |  | occasionally with trace malachite |
|  |  | stains. |
| SW-AB-89-43a | See Map | Granite/Granodiorite, plagioclase |
|  |  | with weak to moderate argillic? |
|  |  | alteration, fracture surfaces with |
|  |  | limonite coating, fresh surface with |
|  |  | a purplish groundmass (Hematite?). |


| Sample \# | Location | Description |
| :---: | :---: | :---: |
| $S W-A B-89-43 b$ | See Map | Granodiorite, plagioclase intense to moderately altered (argillic?/ sericite?), pervasive hematite, secondary quartz as rounded blebs, trace pyrite as oxidized disseminated grains. |
| SW-AB-89-44 | See Map | Polymictic Boulder conglomerate, ortho to paraconglomerate with rounded boulders and pebbles with black coating (hematite?) in a red clay matrix with pervasive hematite staining of outcrop. |
| SW-AB-89-45 | See Map | Granite/Granodiorite rock is crumbly from alteration (argillic?) with pervasive hematite staining and patchy limonite on weathered surfaces. Chlorite present on fracture surfaces, $<1 \%$ chalcopyrite as small blebs and stringers. |
| SW-AB-89-46 | See Map | Granite weak to intensely fractured, weak argillic? alteration, hematite on fractures it may be pervasive, patchy limonite on weathered surfaces. Trace chalcopyrite on fractures. |
| $S W-A B-89-46 a$ | See Map | Same as previous sample except intense argillic? alteration, strongly fractured (taken by fault) $1-2 \%$ chalcopyrite as veinlets $<1 \mathrm{~mm}$ wide. |
| $S W-A B-89-46 b$ | See Map | Same as previous sample, chalcopyrite $1-2 \%$ as veinlets $<1 \mathrm{~mm}$ wide. |
| SW-AB-89-46C | See Map | Granodiorite, plagioclase moderate to weakly altered dark grey groundmass, rock cut by a contorted network of hematite veinlets. Trace chalcopyrite as disseminated grains. |
| SW-AB-89-47 | See Map | Granodiorite, strongly fractured, network of limonite veinlets pervade rock, plagioclase moderately to intensely altered. |


| Sample \# | Location | Description |
| :---: | :---: | :---: |
| SW-AB-89-48 | See Map | Granite, medium to coarse grained biotite Granite. Plagioclase unaltered, biotite grains with chlorite altered rims, epidote may be present, secondary $K$-feldspar present in part of rock. Trace chalcopyrite and pyrite as disseminated grains. Quartz 5\%. |
| SW-AB-89-48a | See Map | Quartz vein with 2-3\% molybdenite and 4-5\% chalcopyrite. (Grab). |
| $S W-A B-89-48 b$ | See Map | Diorite? Very fine grained dark green rock, intensely fractured with interstitial epidote, hematite on fracture surfaces. |
| SW-AB-89-49 | See Map | Granite. Secondary K-feldspar  <br> veinlets. $10-15 \%$ biotite with <br> chlorite altered rims. $5-10 \%$ quartz  <br> present. cur by rare quartz  <br> veinlets, blotchy hematite stains  |
| SW-AB-89-50 | See Map | Hybrid Quartz Monzonite with strong chlorite alteration, brecciated/ sheared, weathers black with secondary calcite present. Small quartz veinlet present possibly minor flooding. $5 \%$ chalcopyrite. |
| $S W-A B-89-51$ | See Map | Feldspar Porphyry, argillic? alteration of feldspars, rusty limonite staining. Trace pyrite as disseminated $\quad$ grains. $\quad$ Trace chalcopyrite and arsenopyrite? in veinlets. Feldspar phenocrysts in quartz rich groundmass. |
| SW-AB-89-52 | See Map | Hybrid Quartz Monzonite, aphanitic black rock, intensely fractured, intense chlorite alteration, 1-2\% pyrite as disseminated grains, $1 \%$ chalcopyrite as disseminated grain. |
| SW-AB-89-53 | See Map | Hybrid Quartz Monzonite, moderately fractured, chlorite alteration, hematite staining on fracture surfaces, chaotic quartz stringers present, white mica, possibly cinnabar? (hematite). |


| Sample \# | Location | Description |
| :---: | :---: | :---: |
| SW-AB-89-54 | See Map | Hybrid Quartz Monzonite, Syenite? 10\% mafic minerals, quartz stringers present with interstitial chlorite. Trace chalcopyrite as disseminated grains. |
| SW-AB-89-55 | See Map | Hybrid Quartz Monzonite, intense chlorite alteration, trace red mineral (cinnabar?). Chalcopyrite 4-5\% as veinlets within chlorite alteration. |
| SW-AB-89-56 | See Map | Hybrid Quartz Monzonite, Monzonite to Monzodiorite, $30 \%$ secondary K-feldspar, mafic minerals $10-15 \%$, chalcopyrite and pyrite $<1 \%$ as disseminated grains, trace magnetite. |
| SW-AB-89-57 | See Map | Hybrid Quartz Monzonite, highly variable with up to $70 \%$ secondary K-feldspar, $<10 \%$ mafic minerals as low as $5 \%$, otherwise $10-20 \%$ mafic minerals. Chlorite alteration, epidote as blebs, 2-3\% chalcopyrite as disseminated grains and stringers. |
| SW-AB-89-58 | See Map | Hybrid Quartz Monzonite, 60\% k -feldspar, epidote as blebs and on fracture surfaces, calcite veinlets and interstitial calcite, chlorite alteration on fractures, chalcopyrite and pyrite $3-4 \%$ as veinlets and disseminated grains. |
| SW-AB-89-59 | See Map | Hybrid Quartz Monzonite, aphanitic, weakly fractured, cut by quartz carbonate veinlets, intense chlorite alteration rare hematite stains. $1-2 \%$ chalcopyrite and pyrite as disseminated grains. |
| SW-AB-89-60 | See Map | Hybrid Quartz Monzonite with 20-30\% secondary K-feldspar, epidote, chlorite alteration associated with more mafic portions of rock, occasional quartz stringers present. $1-2 \%$ chalcopyrite and pyrite disseminated grains. |



| Sample \# | Location | Description |
| :---: | :---: | :---: |
| SW-AB-89-68 | See Map | Monzonite, fine to medium grained, 20\% mafic minerals predominantly biotite, occasionally with hematite on fractures, weakly magnetic. |
| SW-AB-89-68a | See Map | Monzodiorite? Diorite, medium to fine grained, $70 \%$ mafic minerals, strongly magnetic, epidote $10 \%$ as veinlets and grains. Trace pyrite as disseminated grains. |
| SW-AB-89-69 | See Map | Granite, 70-80\% feldspar <br> predominantly $\quad$ K-feldspar, $10-15 \%$  <br> mafics mostly biotite, $10-15 \%$  <br> quartz, rock is magnetic. biotite  <br> altering to chlorite, smail hematite   <br> patches present.   |
| SW-AB-89-70 | See Map | Hybrid Quartz Menzonite, fine grained $40 \%$ mafic minerals, $60 \%$ felsic minerals, weak mineralization trace pyrite. Rock is strongly fractured and cut by carbonate veinlets. |
| SW-AB-89-70a | See Map | Hybrid Quartz Monzonite as previous sample, except intensely fractured, strong chlorite alteration on fractures, hematite staining, but by carbonate veinlets. |
| SW-AB-89-70b | See Map | Hybrid Quartz Monzonite as previous sample, moderately to strongly fractured with epidote present, cut by carbonate veinlets. |
| SW-AB-89-70c | See Map | Hybrid Quartz Monzonite as previous sample, strongly to moderately fractured, epidote on fractures, trace chalcopyrite and pyrite, cut but calcite veinlets. |
| SW-AB-89-70d | See Map | Hybrid Quartz Monzonite as previous sample, strongly fractured, strong chlorite alteration on fractures, cut by calcite veinlets, chalcopyrite < $1 \%$. |
| SW-AB-89-71 | See Map | Greywacke, composed of silt and sand sized particles, no mineralization but limonite on weathered surface, cut by carbonate veinlets with various orientations. |


| Sample \# | Location | Description |
| :---: | :---: | :---: |
| SW-AB-89-72 | See Map | Unusual Rock. Composed of $40 \%$ mica, soft blue mineral (not talc) $30 \%$. Carbonate $30 \%$ Cut by carbonate stringers. |
| SW-AB-89-73 | See Map | Paraconglomerate with sand to pebble sized grains in a mud matrix. No mineralization but limonite stained patches on weathered surface. |
| SW-AB-89-74 | See Map | Granite, predominantly $\mathrm{K}-\mathrm{feldspar}$ and quartz, medium to coarse grained, trace pyrite as disseminated grains. |
| SW-AB-89-75 | See Map | Granite, medium to coarse grained, composed of K-feldspar, quartz, $15 \%$ mafic minerals mostly biotite (greenish altering to chlorite?). Magnetite grains up to 2-3 mm in size, rare hematite stains. |
| SW-AB-89-76 | See Map | Diorite? Strongly fractured, dark green aphanitic rock, strongly mineralized $5-10 \%$ pyrite as disseminated grains and stringers. |
| SW-AB-89-77 | See Map | Granite, coarse to medium grained, $20 \%$ mafic minerals, $10 \%$ quartz, remainder k-feldspar, spots of hematite stains. |
| SW-AB-89-78 | See Map | Hybrid Quartz Monzonite. Syenite? fine to medium grained, $70 \%$ feldspar, $30 \%$ mafic minerals, quartz veinlets present. Trace Molybdenite? veinlets. |
| SW-AB-89-78a | See Map | Hybrid Quartz Monzonite, strongly fractured, strongly altered (chlorite and argillic?) hematite staining, quartz and carbonate veinlets present. <1\% pyrite present. |
| SW-AB-89-78b | See Map | Hybrid Quartz Monzonite, strong alteration (chlorite? sericite?), cut by quartz veinlets. Pyrite and chalcopyrite $1-2 \%$ as disseminated grains. |
| SW-AB-89-78C | See Map | Hybrid Quartz Monzonite as previous sample, cut by quartz veinlets containing chalcopyrite and molybdenite? Chalcopyrite and pyrite 1-2\%. |


| Sample \# | Location | Description |
| :---: | :---: | :---: |
| SW-AB-89-79 | See Map | Monzodiorite / Monzonite, grained with $30 \%$ mafics predominantly biotite which is chlorite altered. |
| SW-AB-89-80 | See Map | Monzonite, fine to medium grained, $30 \%$ mafic minerals, magnetic. |
| SW-AB-89-81 | See Map | Quartz $\quad$ Diorite with $20 \%$ mafic <br> minerals, $40 \%$ quartz and $40 \%$ <br> plagioclase, no obvious  <br> mineralization, sample is strongly    <br> magnetic.    |
| SWG-89-1 | See Map | Quartz carbonate network (veins) in a shear. $0.2-10 \%$ pyrite; reddish spots cinnabar? (Grab) |
| SWG-89-2 | See Map | Hybrid Quartz Monzonite. +/- epidote and carbonate K -feldspar and quartz. 2-4\% chalcopyrite and pyrite on fractures. (Grab) |
| SWG-89-3 | See Map | Takla argillite cut by carbonate +\chalcedony veinlets 7 to 10 cm wide generally 3 cm wide. Mostly carbonate banded with botryoidal chalcedony. (Grab) |
| SWM-89-1 | See Map | Salmon Pink, K-feldspar flooded Syenite, minor chalcopyrite. (Grab) |
| SWM-89-2 | See Map | Calcite vein in biotite altered broken intrusive. Vein attitide 050 degrees dip and width indeterminant, sample over 0.3 m . |
| SWM-89-3 | See Map | Dark Hybrid quartz Monzonite. (Grab) |
| SWM-89-15 | See Map | Altered limestone in old prospect pit. (Grab) |
| SWM-89-16 | See Map | silicified ultramafic, vuggy calcite and chalcedonic quartz veinlets trending 060 degrees dipping 60 degrees north. (Grab) |
| SWM-89-17 | See Map | Limestone. (Grab) |
| SWM-89-18 | See Map | Pyritic intrusive, green, full of quartz phenocrysts, Quartz Monzonite? (Grab) |
| SWM-89-19 | See Map | Altered Quartz Monzonite, chloritic and hematitic, fractured, bedrock in old cat trench. (Grab) |


| Sample \# | Location | Description |
| :---: | :---: | :---: |
| SW-89-C1 | Unknown | Very pyritic, quartz rich breccia. Pyrite $>30 \%$; Quartz $>20 \%$; remainder altered to ?? BQ core. |
| SW-89-C2 | Unknown | Chlorite $\quad$ altered $\quad$ Hybrid Quartz  <br> Monzonite. Chlorite $\quad>60 \% ;$ strong  <br> mineralization chalcopyrite and  <br> pyrite. BQ core.   |
| SW-89-C3 | A3 460'-? | Granite: moderate secondary silicification; moderate K-feldspar metasomatism; moderate mineralization pyrite and chalcopyrite. Ax core. |
| SW-89-C4 | Unknown | Quartz Diorite, relatively unmineralized; low K -feldspar index; mafic minerals 30-40\%; altered? AX core. |
| SW-89-C5 | Unknown | Hybrid Quartz Monzonite. K-feldspar content variable up to $30 \%$ also strong chlorite alteration; quartz veinlets $20-30 \%$; moderate mineralization pyrite and chalcopyrite 2-3\%. BQ core. |
| SW-89-C6 | A1 30' to 60' | Quartz Syenite/Granite. K-feldspar 70-80\%; mafic minerals $10-20 \%$; quartz 5-10\% occasionally as veinlets. Epidote as occasional stringers mineralization weak to moderate where core is a breccia. AX core. |
| SW-89-C7 | Unknown | Quartz flooded rock almost completely silicified with quartz veinlets (stockwork?). Molybdenite? 1\%; pyrite and chalcopyrite as veinlets and disseminated grains 2-3\%. BQ core. |
| SW-89-C8 | $\begin{aligned} & \text { B2 Box } 14 \\ & 308^{\prime}-333^{\prime} \end{aligned}$ | Granite? Quartz flooded; pyrite as disseminated grains; hematite staining associated with best chalcopyrite mineralization; chalcopyrite $3-4 \%$ as disseminated grains and veinlets. Chalcopyrite replacing mafics comagmatic (D. Petersen pers. comm.). BQ core. |



| Sample \# | Location | Description |
| :--- | :--- | :--- |
| SW-89-C17 | Unknown |  |
|  |  | Granite. Moderately to strongly <br> fractured with chlorite alteration. |
|  |  |  |
| PWyrite and chalcopyrite 1\% present in |  |  |
| fractures. BQ core. |  |  |

## APPENDIX 4

# INDUCED PDLARIZATION/RESISTIVITY SURVEYS 

SWAN PROPERTY, TAKLA AREA, B.C.

```
on behalf of
```

EASTFIELD RESOURCES LTD.
110-325 Howe Street
Vancouver, B.C. V6C 127

## Field work completed: July 10 to 21,1989

by

Alan Scott, Geophysicist SCOTT GEDPHYSICS LTD. 4013 West 14 th Avenue Vancouver, 日.C. VGR $2 \times 3$

August B, 1989
TABLE OF CONTENTS
page
1 Introduction ..... 1
2 Survey Location ..... 1
3 Survey Grid and Survey Coverage ..... 1
4 Persannel ..... 1
5 Instrumentation and procedures ..... 2
6 Kecommendations ..... 2

## 1. INTRDDUCTION

Induced polarization and resistivity surveys were conducted over portions of the Swan Property, Takla Area, B.C, within the period July 10 to 2l, 1989. The work was conducted by Scott Geophysics Ltd. on behalf of Eastfield Resources Ltd.

The pole dipole electrode array was used on the induced polarization survey, with an "a" spacing of 50 meters and "n" separations of 1 to 5 , except for lines 2005 and 4005 which were read at "n" separations of 1 to 10. The current electrode was to the east of the receiving electrodes on all survey lines.

## 2. SURVEY LOCATION

The Swan Property straddles Kwanika Creek, approximately 12 kms northeast of Tsayta Lake. Access to the survey area is from the Takla Landing road some 60 kilometers west of Manson Creek.
3. SURVEY GRID AND SURVEY COVERAGE

A total of 23.3 line kilometers of induced polarization survey were completed on the Swan Property. Details of lines surveyed are given in the production reports.

## 4. PERSONNEL

Ken Moir, technician, was the party chief on the survey and operated the IPRIl receiver, Bill Morton, geologist, was the Eastfield Resources' representative on site for the duration of the survey.
5. INSTRUMENTATION AND PRDCEDURES

A Scintrex $1 P R 11$ time domain microprocessor based receiver and a Scintrex TSQ4 10 kilowatt transmitter were used for the induced polarization survey. Readings were taken using a 2 second on/2 second off alternating square wave. The chargeability for the eighth slice 1690 to 1050 milliseconds after shutoff midpoint at 870 milliseconds l is the value that has been plotted on the accompanying plans and pseudosections.

The survey data was archived, processed, and plotted using a Sharp PC7000 microcomputer running Scintrex Soft 11 and proprietary software. All chargeability values were analyzed for their spectral characteristics using a curve matching procedure (Soft Il).

## 6. RECOMMENDATIONS

A preliminary examination of the results of the induced polarization survey indicates the presence of moderate to strong chargeability highs that merit further work.

Correlation of the results of this survey to geological and geochemical information, is required before any specific recommendations could be made.

Respectfully Submitted,


Alan Scott, Geophysicist

APPENDIX 5

References

## References

|  | Kwanika Creek Deposit Hogan Mines Ltd. Unpublished company report. |
| :---: | :---: |
| Garnett, J.A., 1978 | Geology and Mineral Occurrences of the Southern Hogem Batholith. Ministry of Mines and Petroleum Resources, Bulletin 70. |
| Guelpa, J.P., 1974 | - Assessment Report Boom Group, Frankie Group, Maya Group, Jam Group, Four Group Kwanika Creek Property. Dept. of Mines and Petroleum Resources, Assessment Report no. 5266. |
| Hallof, P.G. and <br> Goudie, M.A., 1973 | Report on the Induced Polarization and Resistivity Survey on the Kwanika Creek Property, Kwanika Creek Area, Omineca M.D., B.C., Dept. of Mines and Petroleum Resources, Assessment Report no. 4826. |
| Mann, D.M., 1969 | - Kwanika Creek, B.C. for Great Plains Development Comapny of Canada. Unpublished Company Report. |
| Morton, J.W., 1973 | - Geochemical, Soil Survey, VLF-EM and Magnetometer Survey Preliminary Geological Mapping on the Nation Claims. Unpublished company Report. |
| Phendler, R.W., 1973 | - Geophysical Report on a Ground and Boom Claim Groups, Kwanika Creek Area, Omineca M.D., B.C., of Bow River Resources Ltd. and Pechiney Development Ltd. Dept. of Mines and Petroleum Resources Assessment Report no. 4773. |
| Sawyer, D.A., 1969 | - Great Plains Development Company of Canada Ltd., Kwanika Creek Project. Unpublished Company Report. |
| Sinclair, A.J., 1969 | - Petrography of seven specimens from Hogem Batholith for Great Plains Development Company. Unpublished Company Report. |

## APPENDIX 6

## Summary of Previous Drilling

## HOGAN MINES - DRILL HOLE RESULTS (1965)

```
X-1: 47 ft. @ 0.26% Cu
X-2: 40 ft.@ 0.53% Cu
CANEX AERIAL - DRILL HOLE RESULTS (1966)
A-1: (60,800 N/5,800 E, -90)
        0-15 casing
        15-137 - syenite
        137-170 - ch1. schist, bx (m.syenite)
        (ch1,serp,graph alt'n)
    170-464 - syenite
        (unit 6/6A)
```

    150-160: \(0.11 \% \mathrm{Cu} \times 10^{\prime}\)
    270-280: \(0.11 \% \mathrm{Cu} \times 10^{\circ}\)
            (rest of hole < 0.11\% Cu)
    A-2: ( $60,000 \mathrm{~N} / 1,200 \mathrm{E},-90$ )
0-49 casing
49-93 - syenite (m.granite)
93-102 - fault gouge (graph)
102-201 - syenite
(unit 7(9) interfingering with unit 6/6A)
50-90: $\quad 0.062 \% \mathrm{Cu} \times 40^{\circ}$
90-140: $0.154 \% \mathrm{Cu} \times 50^{\prime}$
140-170: $0.07 \% \mathrm{Cu} \times 30^{\prime}$
$\frac{170-200:}{} \frac{0.183 \% \mathrm{Cu} \times 30^{\prime}}{50-200:} 0$.
A-3: (59,200 N/1,400 E, -90)
0-54 casing
54-90 - gnte
90-200 - gndte (Qtz Dte)
54-90 -(clay), epid,ch1,carb
90-180 -chl, clay, carb
180-200 -clay, epid, ch1, carb
(unit 7(9) interfingering with 6/6A)
34-80: $\quad 0.128 \% \mathrm{Cu} \times 6^{\prime}$
80-130: $0.40 \% \mathrm{Cu} \times 50^{\circ}$
$\frac{130-200:}{} \frac{0.181 \% \mathrm{Cu} \times 70^{\prime}}{34-200:}$,
A-4: $(60,800 \mathrm{~N} / 7,400 \mathrm{E},-90)$
0-106 - casing
106-325 - Qtz Dte (m.pegmatitic dykes)
106-325 -clay, ch1 (epid) (Kspar) calc
-weak alt'n
(unit 6 cut by pegmatitic dykes of 9(7)?)
no assays

```
A-5: (60,800 SNS/6,600 E, -90 )
    0-42 casing
    42-50 - gnte
    50-61 - dyke
    61-69 - bxt'd - silcfd.
    69-120 - andesite (dyke?)
    120-220 - gnte
        (unit 7 (9) cut by large andesite dyke)
    170-220: 0.16% Cu x 50'; no other assays
A-6: (62,400 N/6,350 E, -90)
    0-98 casing
    98-105 - Fldsp. Porph
    105-111 - gnte
    111-130 - syenodte
    130-186 - gnte
    186-190 - syenodte
    190-311 - gnte
        (unit 7(9) cutting unit 6)
    only 2 samples, no numbers
A-7: (63,250 N/7,500 E, -90 )
    0-81 casing
    81-167 - gndte
    167-198 - bxt'd,sh'd gndte
    198-203 - gndte
    203-246 - Bx, shear (unit 9)
    246-278 - gndte
    2 samples, no numbers
A-8: (58,200 N/7,000 E, -90 )
    0-15 casing
    15-24 - gnte
    24-32 - no recovery
    32-55 - gnte
    55-75 - shear,gnte.Bx
    75-298 - gnte,abund.bxt'n + shearing
        (unit 6/6A,interfingers of 7(9)
    15-24: 0.03% Cu
    55-65: 0.04% Cu
    75-85: }0.12%\textrm{Cu
    85-180: 0.048% Cu
    210-298: 0.058% Cu
    no other sampling
42-220 - -chl,calc,(epid,hem),(qtz)
98-311 -qtz,(hem,calc,arg)
    -weak alt'n
81-278 -chl,carb (m.epid)
        -wk alt'n
    15-298 -ch1,Kspar, carb,qtz (clay)(hem)
    -generally weak alt'n-mod.
```

```
A-9: (58,200 N/6,500 E, -60 /270 )
    0-15 casing
    15-93 - syenite 15-67 -Kspar,Chl,epid
    93-100 - mylonite
    100-106 - syenite
    106-132 - mylonite
    132-180 - syenite
    180-200 - bxt'd. shear
    200-355 - syenite (shearing)
    (unit 6)
    80-90: 0.02% Cu
    170-180: 0.02
    190-200: 0.05
    220-230: 0.05
    250-260: 0.12% Cu
    no other sampling
A-10: abandoned @ 27' (58,400 N/7,300 E, -60 /brg 90 )
A-11: (51,200 N/9,050 E, -90)
    0-20 casing
    20-128 - qtz,dte -wk ch1 (m.qtz,calc)
    (unit 5)
GREAT PLAINS DRILL HOLE RESULTS (1969, 1970 (C-1,2))
B-1: (59,200 N/5,750 E,west bank, -75 /90 )
    0-7 casing
    7-160 - granodiorite 0-160 -dom.,epid-ch1 (qtz)
    160-180 - qtz,diorite 160-200 -chl.clay,Kspar,qtz
    180-190 - gndte 
    200-340 -ch1,clay (epid,calc,qtz)(hem)
    190-210 - qtz diorite (bxt'd) 340-390 -Kspar,qtz,chl
    210-250 - gndte
    250-300 - qtz,dte
    300-360 - gndte
    360-390 - qtz,dte
        (unit 6A)
    10'-110': 0.087% Cu x 100'
    110-390': 0.317% Cu x 280'
    10'-390': 0.256% Cu x 300'
B-2: (90 /-75 , E. end of Trench 2W)
    0-10 casing
    10-20 - qtz dte 10-140 -epid,ch1,calc,clay
    20-70 - gndte
    70-90 - qtz dte
    90-110 - qndte
    110-120 - qtz dte
    120-197 - gndte
    197-212 - syenite,syenodte
    212-381 - gndte (syneodte,dte)
        (unit 6A cut by 7(9))
    (140-390: 0.34 x 250'; 140'-300':
    0.43 x 150'; 300-390: 0.22 x 90')
    140-200 -clay,Kspar,qtz,(m.epid)chl.
    200-360 -ch1,clay,calc(epid)
    360-381 -qtz,Kspar,clay
```

```
        10'-260': 0.217% Cu x 250'
    260-320: 0.446% Cu x 60'
    320-381: 0.178% Cu \times 61'
B-3: (60,020 N/5,250 E, 90 /-65)
    0-84' - o/b casing
    84-121 - syenite 84-402 -ch1,epid,clay,(hem),calc
    121-142 - gndte
    142-148 - qtz dte
    148-207 - gndte
    207-218 - qtz dte
    218-243 - Bxt'd zone
    243-402 - gndte (black argillite 320-321)
        (unit 6A?)
    390-400: 0.14% Cu x 10'
B-4:(60,200N/5,625 E-west bank Kwanika Cr, 105 /-75 )
    0-22 casing
    22-432 - gndte (qtz dte; and dykes) 20-70 -ch1,clay,qtz,calc (m.hem)
    (unit 6/6A?)
    20-180: 0.134% Cu x 160'
    180-210: 0.386% Cu x 30'
    210-430: 0.16% Cu x 220
B-5: (290 /-75 ) (58,800/ ? )
    0.12 casing
    12-90 - granite 12-195 -clay,qtz,calc (hem) chl
    90-103 - syenite
    103-359 - gndte (granite)
    (unit 7(9) breccia)
    1 sample no number
C-1: 0'-610': unit 6/6A epid-chl-Kspar 0-610': 0.17% Cu
    610'-1,142': unit 7(9) 610-1,192': 0.06
C-2: 0'-620': unit 6/6A epid-chl-silica 0-620': 0.21
    620'-1,170': unit 7(9) 620-1,170': 0.04
BOW RIVER RESOURCES PERCUSSION HOLE RESULTS (1972) (a11 -90 )
```

```
P-1: 10-300 ft: 0.04% Cu
```

P-1: 10-300 ft: 0.04% Cu
P-2: 30-300 ft: 0.03% Cu
P-2: 30-300 ft: 0.03% Cu
P-3: 50-300 ft: 0.09% Cu
P-3: 50-300 ft: 0.09% Cu
P-4: 30-300 ft: 0.16% Cu
P-4: 30-300 ft: 0.16% Cu
P-5: 30-300 ft: 0.17% Cu
P-5: 30-300 ft: 0.17% Cu
P-6: 30-300 ft: 0.15% Cu

```
P-6: 30-300 ft: 0.15% Cu
```


## APPENDIX 7

## Expenditure Statement

MAY 1 - AUGUST 31, 1989

Professional Fees:

| G. L. Garratt | 2 days @ $\$ 300 /$ day | 600.00 |
| :--- | :--- | ---: |
| J. W. Morton | 11 days $\$ 300 /$ day | $3,300.00$ |
| A. Buskas | 55 days @ $\$ 275 /$ day | $15,125.00$ |

Field Personnel Fees:

Pierre MacKenzie Shawn Novak
Anne Serra Ian Hayton Ernie Pacholuk Terry MacKenzie

Camp Rental:
Truck Rental:
ATV Rental:
Radio Rental:
Generator Rental:
Transportation:

Fuel:
Travel Expenses:
Field Equipment:
Analyses:

Sub-Contractors:
43 days @ $\$ 200 /$ day
43 days @ $\$ 200 /$ day
43.5 days @ $\$ 200 /$ day

7 days @ \$200/day
6.5 days @ $\$ 200 /$ day
6.5 days @ $\$ 200 /$ day

42 days @ \$150/day
49 days @ $\$ 60 /$ day
42 days @ \$50/day
3 handhelds @ $\$ 37.50 /$ wk
June 8 - September 7
Helicopter
. 3 hrs @ $\$ 500 / \mathrm{hr}$
$1.2 \mathrm{hrs} @ \$ 500 / \mathrm{hr}$
9.4 hrs @ $\$ 484.79 / \mathrm{hr}$

Fixed Wing - Charter
Scheduled Flight

380 samples @ \$15.46/sample Petrographic

Geophysical- 23.3 km . I.P.
Expediting
Geological - 2 days @ $\$ 325 /$ day
6 days @ \$225/day 6 days @ $\$ 200 /$ day

Secretarial:
Communication:

Reproduction:
Freight:
Drafting:
Miscellaneous:
Food:
$5 \%$ cash handling charge on $\$ 214.25$

Professional Fees:

| G. L. Garratt | 2 days @ $\$ 300 /$ day | 600.00 |
| :--- | :--- | ---: |
| J. W. Morton | 11 days @ $\$ 300 /$ day | $3,300.00$ |
| A. Buskas | 55 days @ $\$ 275 /$ day | $15,125.00$ |

Field Personnel Fees:
Pierre MacKenzie
Shawn Novak
Anne Serra
Ian Hayton
Ernie Pacholuk
Terry MacKenzie
Camp Rental:
Truck Rental:
ATV Rental:
Radio Rental:
Generator Rental:
Transportation:

Fuel:
Travel Expenses:
Field Equipment:
Analyses:
360 samples @ \$15.46/sample Petrographic
$\begin{array}{ll}43 \text { days @ } \$ 200 / \text { day } & 8,600.00 \\ 43 \text { days @ } \$ 200 / \text { day } & 8,600.00\end{array}$
43.5 days @ $\$ 200 /$ day 8,700.00

7 days @ $\$ 200 /$ day $1,400.00$
6.5 days @ $\$ 200 /$ day $1,300.00$
6.5 days @ $\$ 200 /$ day $1,300.00$

42 days @ $\$ 150 /$ day 6,300.00
49 days @ $\$ 60 /$ day $2,940.00$
42 days @ $\$ 50 /$ day $2,100.00$
3 handhelds © \$37.50/wk 658.98
June 8 - September 7 1,526.40
Helicopter 237.50
$\begin{array}{ll}.3 \mathrm{hrs} @ \$ 500 / \mathrm{hr} & 150.00 \\ 1.2 \mathrm{hrs} @ \$ 500 / \mathrm{hr} & 600.00\end{array}$
4,557.00
Fixed Wing - Charter Scheduled Flight

4,208.00
924.00

2,843.80
2,401.65
7,140.92
5,874.80
5.00

Geophysical- 23.3 km I.P. $15,851.99$
Expediting
714.00

Geological
D. Bailey 2 days @ $\$ 325 /$ day 650.00
W. Halleran 6 days @ \$225/day 1,350.00
E. MacKenzie 6 days @ $\$ 200 /$ day $1,200.00$

Secretarial:
Communication:
Radio Rental 103.90
Telephone 310.29
Reproduction:
Freight:
Drafting:
Miscellaneous:
Food:
5\% cash handling charge on $\$ 214.25$
56.30

1,773.99
831.94
129.88

5,561.35
10.71


19, 131elooor map
(North Sheet)













GEOLOGICALBRANCH

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## (SMENTREPORT <br> 19,131







GEOLOGICALBRANCH ASSESSMENTREPORT
19,131


|  |  |
| :---: | :---: |






[^0]:    - assay required for correct result -

