014118

GEOLOGICAL and DRILLING REPORT

DWONK Claim Group

Watson Lake Mining District

Yukon Territory

N.T.S. 105-G-14

Latitude: 61° 57' N

Longitude: 131° 10' W

Anmac Project

By:

L. C. Pigage

CYPRUS ANVIL MINING CORPORATION

March 1981

Field work completed from May 26 - July 29, 1980

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TABLE I

LIST OF CLAIMS

Property	Claim No.	Grant No.	Recording Date
DWONK	1 - 90	YA 25521 - YA 25610	Sept. 2, 1977
GONZO	1 - 24	YA 56660 - YA 56683	Sept. 17, 1980

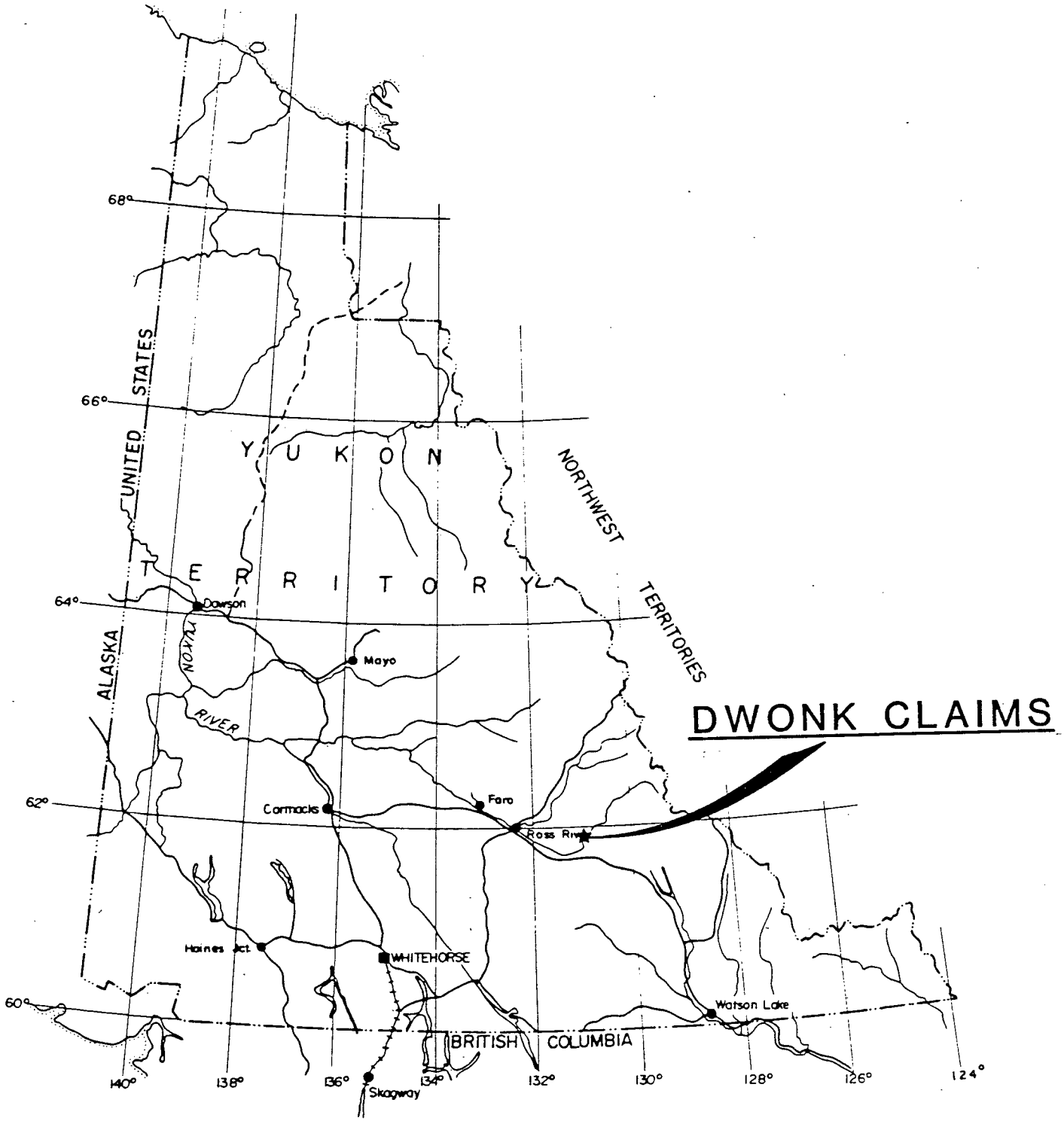
INTRODUCTION

The DWONK claim group is located along the Pelly River in the area of Slate Rapids (figure 1). The claims are 70 km east of Ross River, Y.T. The region immediately surrounding the claims has subdued topography with a maximum relief of less than 90 m (300 feet). Outcrop is limited largely to exposures along the Pelly River and associated smaller streams.

The claims were staked in 1977 to cover two massive barite exposures within Devonian-Mississippian black shales. During 1977 soil geochemical surveys were completed to outline any associated Cu, Pb, Zn mineralization. In 1978 magnetic and horizontal loop electromagnetic surveys were conducted on a grid covering the barite outcrops. In all cases results from the surveys were inconclusive, and further work was recommended (Roberts 1978).

A diamond drill program was initiated during the 1980 field season to test:

1) the lateral and down dip extent of the massive barite exposures,
2) the geologic model that the barite exposures represent the distal facies of a stratiform massive sulphide deposit within the host carbonaceous phyllites.



CYPRUS ANVIL MINING CORPORATION

LOCATION MAP

YUKON

SCALE : 1" = 100 MILES

FIGURE 1

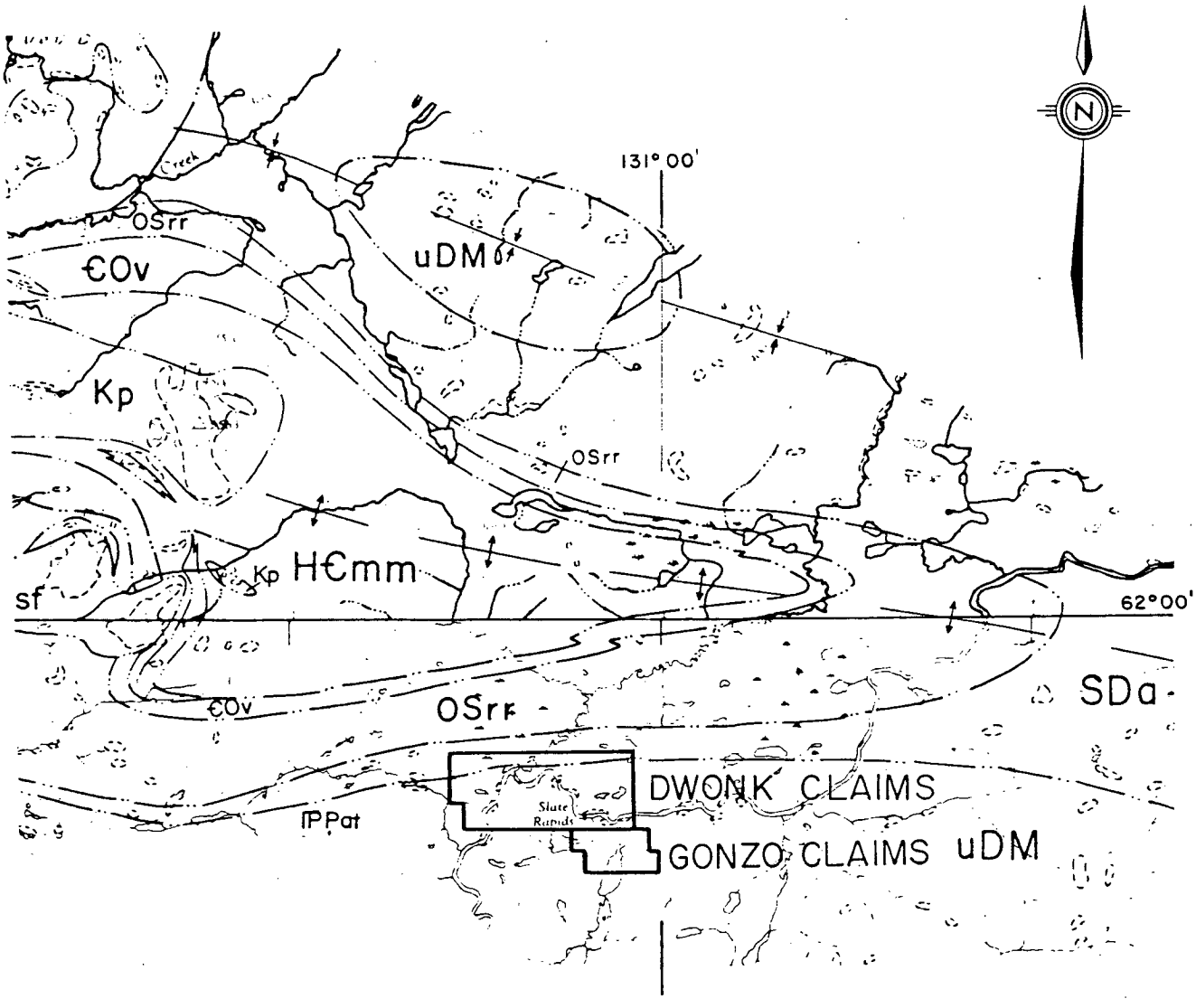
Five holes for a total of 1154.4 meters (3788 feet) were completed between May 26 and July 29, 1980. Core for these holes is currently stored at Grum Camp, near Faro, Y.T.

Detailed property geologic mapping was conducted concurrently with the drilling program. A small silt geochemical sampling program was conducted along the Pelly River on the eastern portion of the claims. An IP survey was also completed along one extended line (L-110E) to test the feasibility of using the IP method to differentiate between the different lithologies on the claims. Results from these different projects are presented in this report.

The combined drill-geology camp was serviced by a charter helicopter based in Faro, Y.T.

REGIONAL GEOLOGY

Lithologic units near the DWONK range in age from Hadrynian to Cretaceous (figure 2). Early Paleozoic (late Cambrian to early Devonian) deposition in east-central Yukon was dominated by the Selwyn Basin, consisting of a thin-bedded shale and chert sequence (Wavy-banded, Road River Formation). The basin was flanked to the northeast and southwest by marginal shallow water carbonate and orthosandstone depositional facies (Askin Group). The DWONK claims (figures 2,4) are partly underlain by the marginal facies carbonates and orthoquartzites of the Askin Group (SDa).



Legend

Kp	Smoky quartz feldspar porphyry
uDM	Black shale, ss, chert pebble conglomerate "black clastics"
SDa	Dolomite, quartzite, Askin Group
OSrr	Black shale, chert, Road River Formation
€Ov	Calcareous pelite, Vangorda Formation
H€mm	Pelitic schist, Mt. Mye Formation

Outcrop

Anticline

Syncline

Scale 1 : 250,000

Miles 5 0 5

Kilometres 5 0 5

CYPRUS ANVIL MINING CORPORATION

DWONK & GONZO CLAIMS

WATSON LAKE M.D.-Y.T.

REGIONAL GEOLOGY

NTS: 105-G-14
SURVEY BY: LCP
DRAWN BY: r.w.r.

DATE: MAY 1981

FIGURE 2

The relatively stable basin configuration during the early Paleozoic was interrupted in late Devonian by a regional marine transgressive sequence. The resulting black shales, siltstones, greywackes, and chert pebble conglomerates are locally termed the "Black Clastics" (uDM). In the DWONK area this transgressive sequence rests unconformably on the Askin Group (figures 2, 4).

Structurally the DWONK area has been subjected to several deformations. The earliest D1 deformation forming the pervasive S1 foliation occurred between Triassic and late Cretaceous (Triassic metasediments contain the S1 foliation and late Cretaceous granitic intrusions post-date the D1 deformation). Minor structures associated with later deformation phases are only locally developed.

The dominant structural feature near the DWONK is a large west-trending antiform cored by the late Cretaceous Mt. Tidd Batholith (figure 2). This antiform probably formed synchronously with emplacement of the granitic core; it is correlated with a regional post-D1 deformation (D2 ?).

Relative positions of the different depositional facies of the Selwyn Basin have been disrupted by major right-lateral strike slip movement along the Finlayson Lake Suture Zone and the Tintina Fault Zone. Both of these systems trend roughly northwest and pass south

of the DWONK. Large scale faults in the DWONK area are probably related to stress systems imposed by transcurrent movement along these fault zones.

STRATIGRAPHY DWONK and GONZO CLAIMS

A detailed stratigraphy for the DWONK claims has been determined by constructing North-South vertical cross-sections through each of the massive barite outcrops (figures 4, 6). Outcrops away from the cross-sections were projected east or west onto the appropriate section. The orientation of the sections was chosen to be normal to the regional trend of the Askin - "Black Clastic" contact.

From figures 4 and 6 it is obvious that outcrop control for section C-D is more extensive than that for A-B. Section C-D, however, is complicated by a steep fault which causes repetition of some of the units. Both sections are considered schematic because of undetected structural complications.

Askin Group (SDa)

The northern part of the DWONK claims is underlain by scattered outcrops of the Silurian-Devonian Askin Group (SDa). Lithologies include fossiliferous fissile to massive limestone, massive to laminated dolomite, and massive calcareous orthoquartzite. The most common fossils are crinoid stems (including some 2-hole crinoids). Solitary coral fossils were observed at station DW 42.

TABLE 2

uDM Stratigraphy - DWONK claims

uDM_5	Intercalated grey to black noncalcareous phyllite, grey siltstone, and minor greywacke. All units contain elongate pyritic nodules. Contains minor bands of chert pebble conglomerate (uDM_c).
uDM_4	Slightly calcareous, finely laminated, grey siltstone.
uDM_3	Dark grey, poorly bedded, micaceous siltstone with minor black phyllite interbands. Contains pyritic nodules up to 10 mm long.
uDM_1 + uDM_{1b}	Dark grey (uDM_1) to black (uDM_{1b}), noncalcareous phyllites with thin grey siltstone interbands. Locally contains minor thin limestones (uDM_m). May be siliceous in part.
uDM_b	Massive barite
uDM_{1b}	Black noncalcareous phyllite.
uDM_2	Grey, noncalcareous phyllite with thin dark grey phyllite interbands. On western margin of DWONK claims this basal unit consists of black chert + black siliceous phyllite (uDM_{1c}) with minor chert pebble conglomerate (uDM_c)
uDM_1	Dark grey, noncalcareous phyllite with thin grey siltstone interbands. On western margin of DWONK claims this basal unit consists of black chert + black siliceous phyllite (uDM_{1c}) with minor chert pebble conglomerate (uDM_c).
SDa	Askin Group Limestones, dolomites, and orthoquartzites.

The contact with the overlying "Black Clastics" is exposed only in the stream near the center of the claims (station DW 20). Black noncalcareous phyllites (uDM) structurally overlie intercalated limestone and dolomite (SDa). The apparent conformity of the contact probably results from transposition of primary bedding So during the D1 deformation.

"Black Clastics" (uDM)

Table 2 contains a composite stratigraphy for the upper Devonian-Mississippian "Black Clastics" in the immediate vicinity of the barite outcrops on DWONK. The predominant rock types are grey to black noncalcareous phyllites. The massive barite exposures occur near the base of the uDM section. A greater proportion of coarse-grained clastics occur on the west part of the DWONK claims (see figure 4).

The dominant lithology is a medium to dark grey, noncalcareous phyllite (uDM_1). This lithology forms the basal unit in outcrops visible on the Pelly River. Primary depositional layering (So) is locally visible as indistinct color-banding on a scale of a few millimeters. Thin bands of grey siltstone are intercalated throughout the unit. The siltstones are slightly calcareous and commonly display crossbedding and graded bedding primary depositional structures. Typically the siltstones weather to a brownish color because of disseminated pyrite. Thin bands of fine-grained, equigranular, chlorite-muscovite phyllite occur in minor amounts. These chloritic phyllites are considered to be metavolcanics.

Intervals of black phyllite containing pyritic nodules are also common. Where the black phyllite predominates, the unit is designated as uDM_{1b}.

On the western margin of the DWONK, the basal uDM section consists of interbanded black chert and black siliceous phyllite (uDM_{1c}). Chert bands in this unit are up to 1 meter thick. Overall, uDM_{1c} has a ribbon-banded appearance.

Overlying uDM_1 is a distinctive medium grey phyllite with thin dark grey phyllite interbands (uDM_2). Color banding is on the scale of a few millimeters and gives this unit a characteristic pinstriped appearance. Minor thin, slightly calcareous siltstone bands are also present.

The massive barite exposures (uDM_b) consist of fine to coarsely crystalline barite with local occurrences of disseminated pyrite. Limestone concretions occur within the barite in the western outcrop (DW 21). With both outcrops, the barite horizon is enclosed by uDM_1 and/or uDM_{1b}. At station DW 21, the overlying black phyllite (uDM_{1b}) contains a thin, dark grey, nonfossiliferous limestone unit (uDM_m).

Above the barite horizons is a dark grey, poorly bedded, micaceous siltstone with minor black phyllite interbands (uDM_3). The S1 foliation is poorly developed in this unit and consists of anastamosing micaceous laminae. Pyritic nodules up to 10 mm long are common in both the siltstones and the intercalated black phyllites.

Overlying uDM_3 is a slightly calcareous, finely laminated grey siltstone (uDM_4). It is readily distinguishable by its brown-weathering color, flaggy weathering appearance, and absence of a micaceous aspect. At station DW 24 this unit does not contain pyritic nodules (in contrast to uDM_3).

Unit uDM_4 is overlain by grey to black phyllites containing appreciable amounts of intercalated grey siltstone and greywacke (uDM_5). This unit has been differentiated from uDM_1 because of its greatly increased siltstone content. Characteristically the intercalated greywackes are up to 10 cm thick and weather to an orange-brown color. The greywackes contain soft sediment deformation structures as well as crossbedding and graded bedding. Elongate pyritic nodules occur in both the siltstones and the phyllites.

Chert pebble conglomerates and associated coarse grained greywackes (uDM_c) are intercalated with the other units on the western margin of the DWONK. Individual conglomerate units range in thickness from a few centimeters to 50 meters. Clasts are matrix supported. Clast lithologies include cream and black shale as well as grey and black chert. On the western margin of the DWONK, uDM_c occurs both near the base and higher up in the uDM stratigraphic section.

Fine-grained, nonfossiliferous, dark grey limestone (uDM_m) occurs as thin bands throughout the "Black Clastic" section. Generally individual limestone units are less than 1 meter thick. At station

DW 36, however, the limestone unit is greater than 40 meters thick.

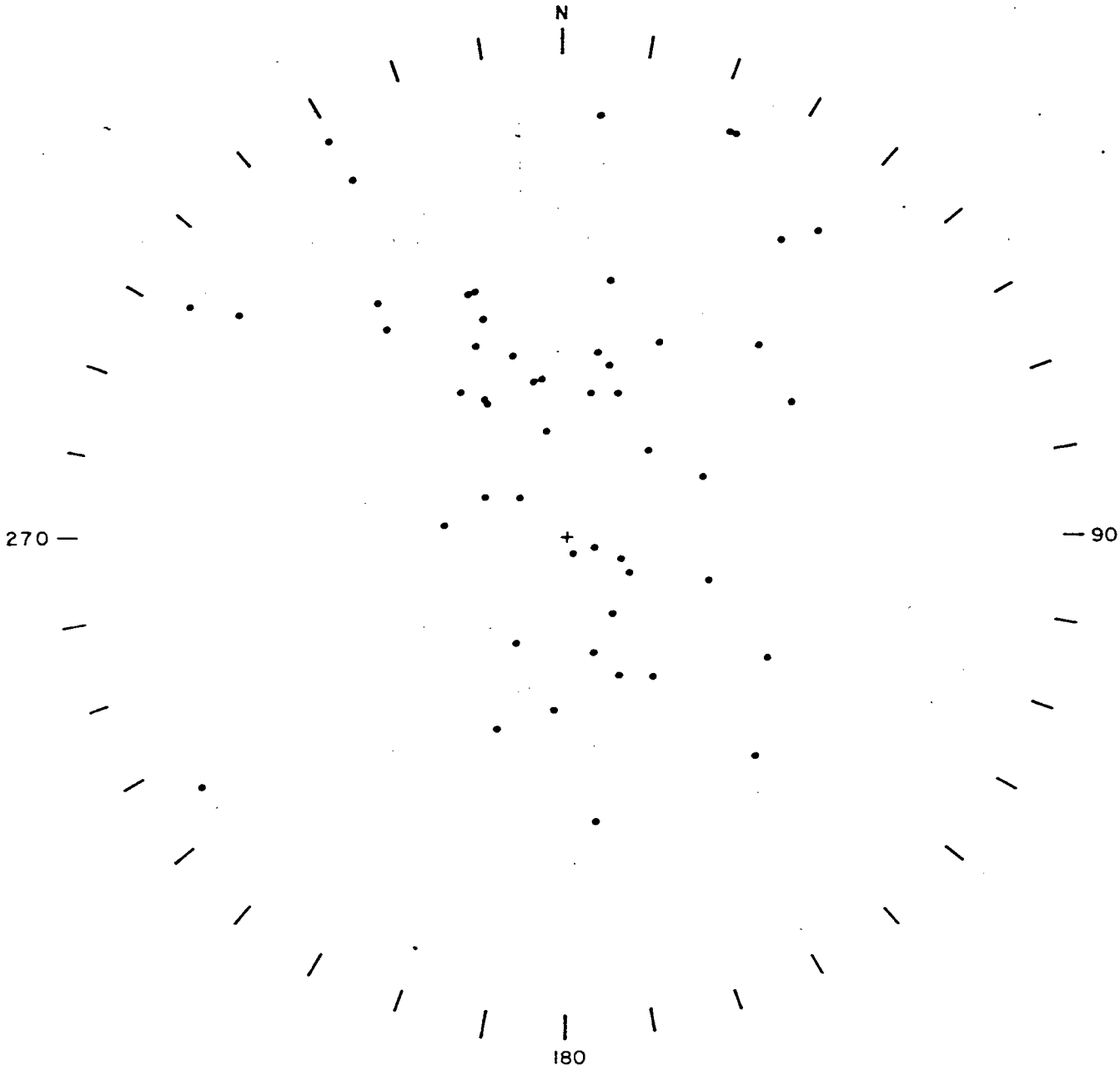
STRUCTURAL GEOLOGY

All stratigraphic units in the DWONK area have been effected by two recognized phases of folding. Minor structures associated with each phase of deformation were distinguished by structural style, orientation, and overprinting relations. The following sections discuss the style and orientation of each of these deformation phases.

D1 Deformation

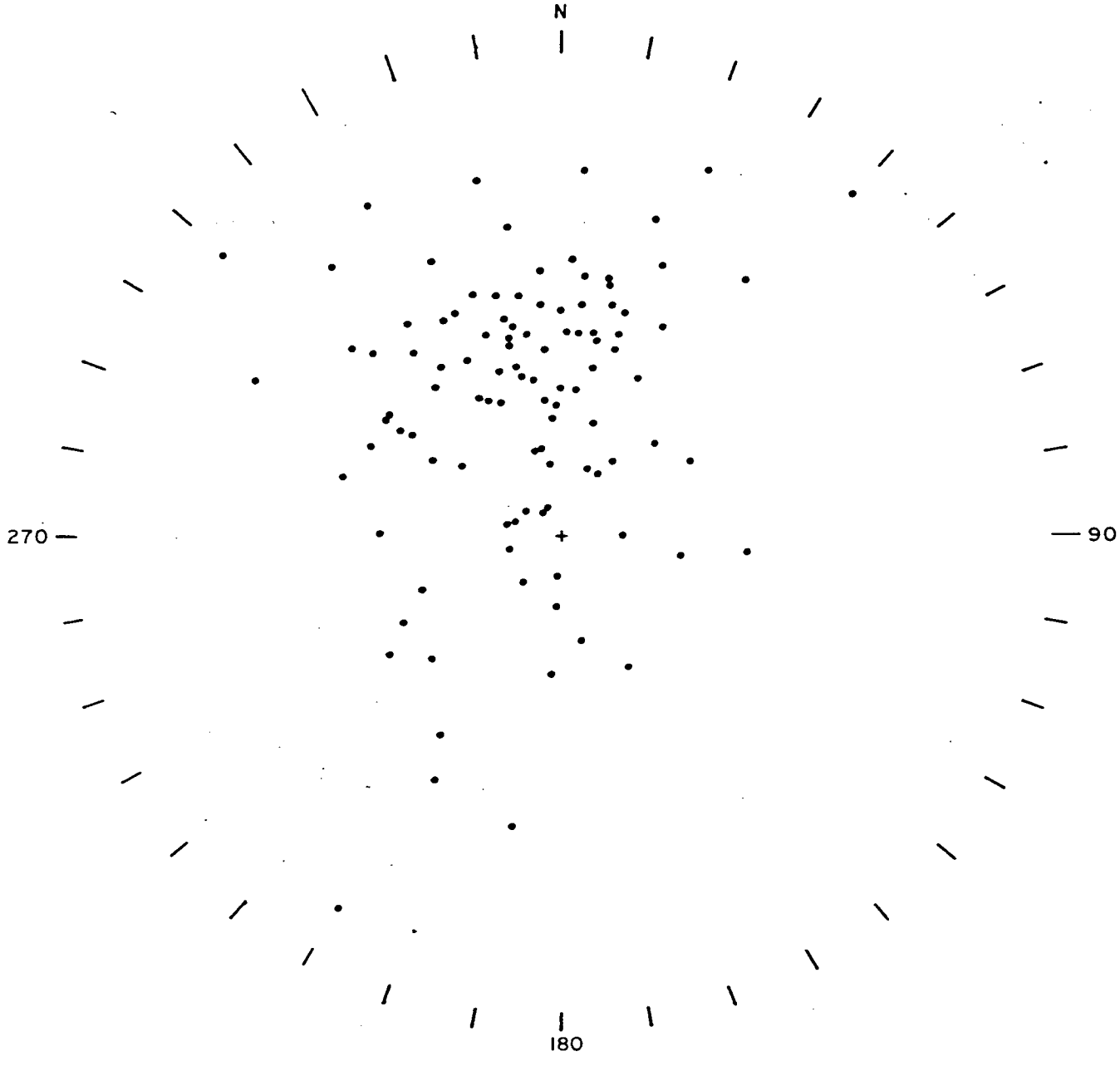
The earliest minor structures are D1 folds in the So primary layering. D1 minor folds are accompanied by a pervasive S1 axial plane schistosity which forms the dominant metamorphic/deformation foliation in the DWONK area. D1 folds are tight to isoclinal, recumbent structures.

Figures 7 and 8 are equal area stereonet representations of S_0 and S1 surfaces, respectively, for the map area. Both S_0 and S1 strike E-W and dip 30^{o}-40^{o} to the south. Scatter of points in the N-S direction is caused by later S2 deformation. The similar orientations for S_0 and S1 corresponds to their subparallel orientation in outcrop.



S_0 Layering - 52 points

DWONK



S_1 Foliation - 105 points

DWONK

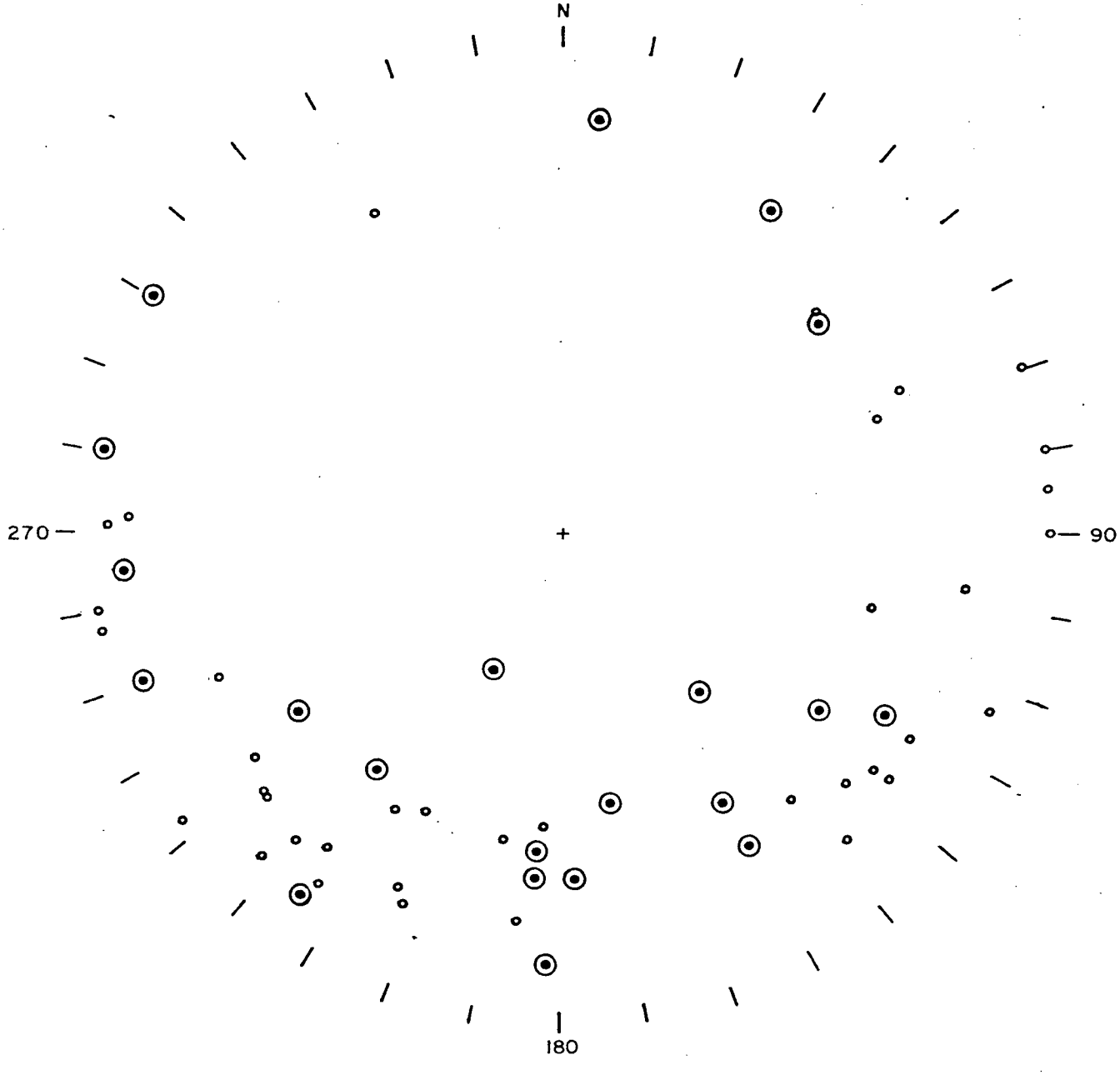
Figure 9 illustrates the S_0/S1 intersection and L1 fold axis lineations for the DWONK. L1 lineations have variable orientations within the S1 axial plane surface. This change in orientation is probably caused by inhomogeneous flattening of D1 minor structures either late in D1 deformation or during the D2 deformation.

A probable D1 anticline-syncline fold couplet in the southwest part of the DWONK (figure 4) was recognized on the basis of S_0 orientations and repetition of lithologies. These folds are fairly open, plunge gently west, and verge toward the north.

In other parts of the DWONK area D1 minor folds are tight to isoclinal, plunge south, and verge toward the east. Since the west-plunging D1 folds are more open structures, the probable original orientation of D1 structures was E-W. Increased flattening of D1 structures in the central and east parts of the map area then rotated them to a N-S orientation. If this model is correct then intensity of D1 deformation decreases toward the southwest.

D2 Deformation

D2 deformation is characterized by locally developed, upright, open to tight V-shaped minor folds. D2 folds typically contain an S2 axial plane crenulation cleavage in the hinge zone. The S1 foliation in hinge zones of D2 folds in phyllite units is commonly broken and



L_1 Lineations

⊙ Measured — 21 pts.

○ Intersection of S_0 & S_1 measurements — 39 pts.

DWONK

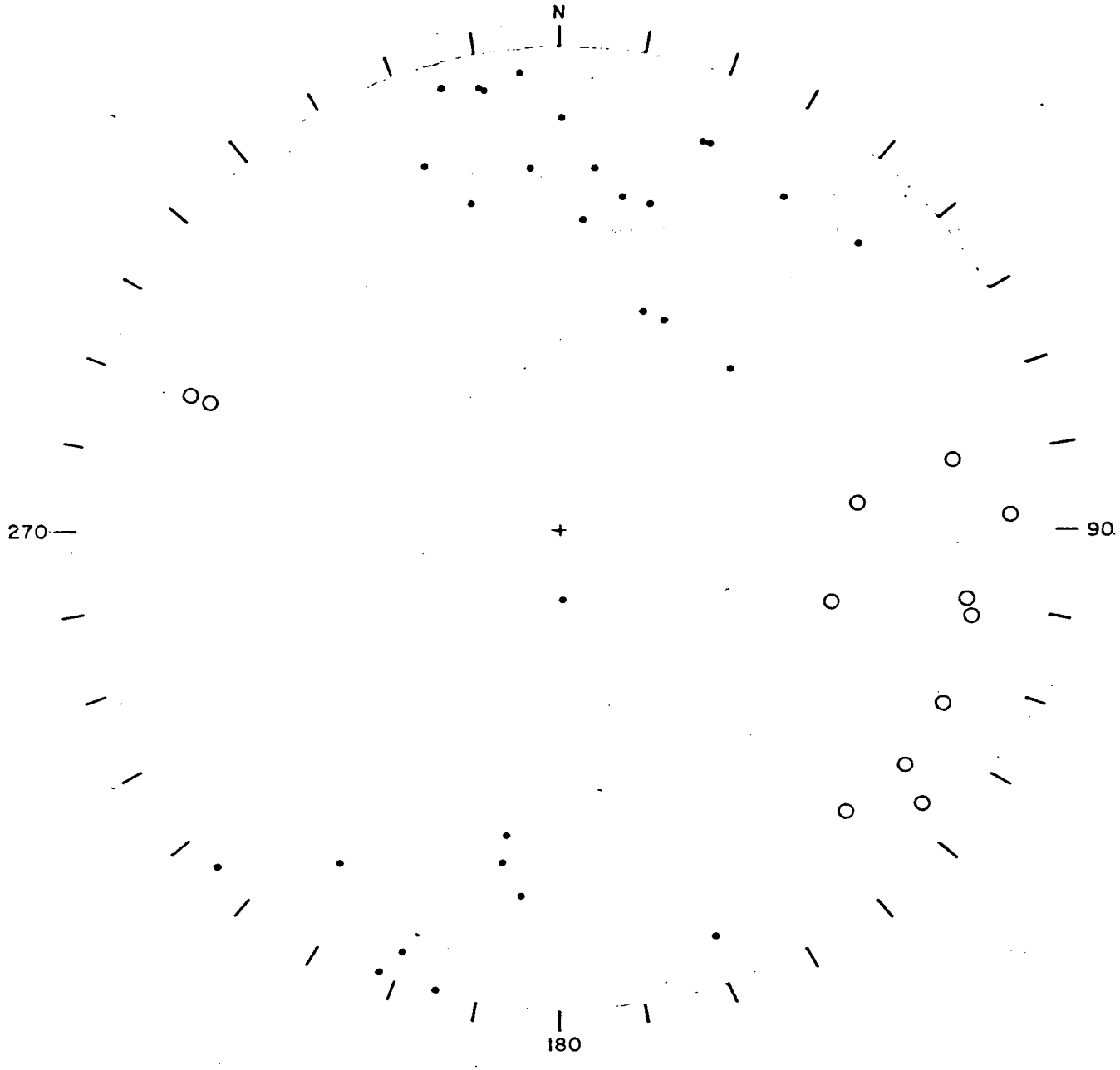
and disrupted with abundant quartz (±pyrite) veins and pods.

Figure 10 is an equal area stereonet representation of D2 planar and linear structures. D2 minor folds trend E-W and plunge gently to the east. Axial plane surfaces are steeply dipping either toward the N or S. In most instances D2 folds have a north vergence. The partial girdles of S_0 and S1 surfaces (Figures 7 and 8) in the N-S direction are caused by the D2 deformation.

Figure 4 illustrates two regions where D2 folds are evident from distribution of lithologies and/or orientations of S1 and S_0. The northerly dip of S_0 and S1 in the southeast part of the map area is caused by a D2 synform (Stations DW 5, DW 6, DW 10-15). In the north part of the claims the variation in orientation of the Askin-"Black Clastic" contact is interpreted as resulting from as east-plunging D2 antiform-synform couplet.

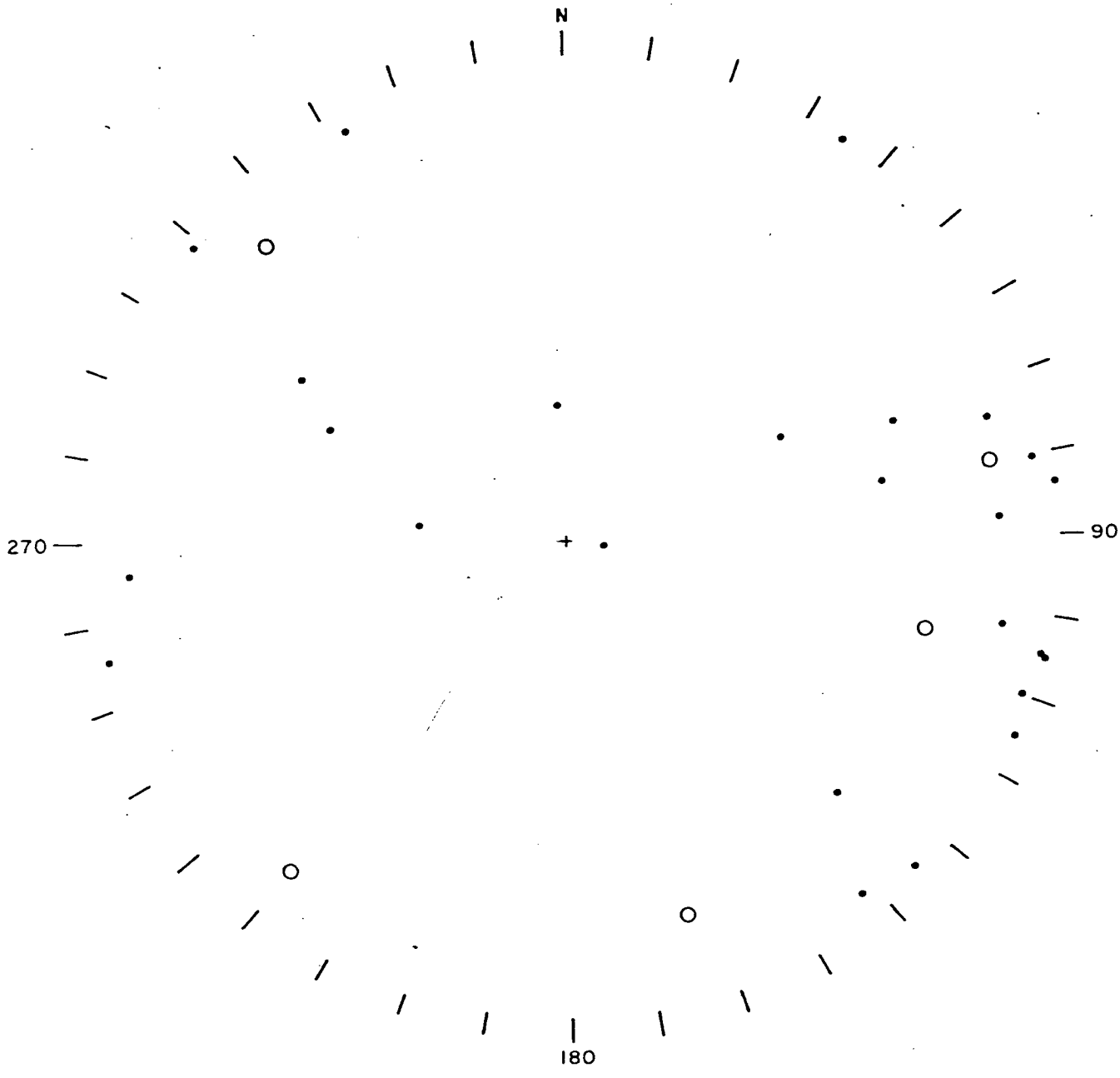
Other Deformation

The DWONK area also contains north and northeast trending fractures and late brittle folds (figure 11). Locally the north trending structures form a weak crenulation cleavage. These structures disrupt the S1 foliation and form angular folds with broken hinge zones.



S_2 Cleaveage - 29 points • L_2 Lineation - 12 points ○

DWONK



Late features S_3 ?

○ Lineation – 5 points

• Planes – 27 points

DWONK

Three steeply dipping to vertical faults have been recognized on the east side of the DWONK (figure 4). All three faults have right lateral sense of movement with west side being down. The location and orientation of these faults have been inferred from the field geologic mapping, the drilling program, and the induced polarization survey. All three faults were assumed to have the same trend (007^{o}). Movement along the faults is considered to be late in the structural history of the area.

1980 DRILL PROGRAM RESULTS

The 1980 field geology mapping (see figure 4 and 6) showed that the two massive barite exposures are contained within essentially the same stratigraphy and therefore probably represent the same stratigraphic horizon. The 1980 drill program was designed to test the lateral and down dip extent of the barite horizon and to determine if the barite represented the distal facies of a stratiform massive sulphide body in the host "Black Clastics" (uDM).

Previous work (Roberts 1978) showed that the barite outcrops do not contain significant base metals. The east showing was considered more favorable as a drill target since it contained a thin massive pyrite zone within the barite. The following section describes the results for the 5 completed holes. Lithologic and structural logs for these holes are presented in the appendix.

DDH 80-DW-01 and 80-DW-02

DDH 80-DW-01 was sited at L90E/8+00S to test the downdip extent of the east barite showing (figure 4). Intersection of the barite horizon was expected at a depth of 230 meters. The hole was lost at 117 meters in dark grey graphitic phyllites (uDM_1). The hole contained extensive fault gouge, broken core, and weathered (soft and punky) phyllite.

DDH 80-DW-02 was sited 3 meters northwest of 80-DW-01. This DDH was completed to a total depth of 289.9 meters. The entire interval down to 228 meters consisted of noncalcareous, dark grey phyllite with thin grey siltstone interbands (uDM_1). From 228 meters to 250 meters, 80-DW-02 intersected a basal uDM conglomerate. The conglomerate consisted of calcareous black shale, limestone, dolomite, and calcareous sandstone clasts in a dark grey calcareous shale to sandstone matrix. All clasts were matrix supported. Numerous calcareous grey shale interbands were present in the conglomerate. At 250 meters the DDH passed into orthoquartzites and dolomites of the Askin Group (SDa).

The barite horizon was not encountered in these drill holes. Both holes encountered lithologies locally restricted to the footwall of the barite horizon (uDM_1 and SDa).

DDH 80-DW-03

DDH 80-DW-03 was sited at L90E, 3+00S to provide a partial cross-section with 80-DW-02 along L90E. The total depth drilled was 298.7 meters. The entire interval down to 271.3 meters consisted of dark grey, graphitic phyllite with thin siltstone interbands (uDM_1). At 271.3 meters the DDH passed into massive orthoquartzites and dolomite belonging to the Askin Group (SDa).

As with the two previous holes, DDH 80-DW-03 appears to have been collared in the footwall of the barite horizon.

DDH 80-DW-04

DDH 80-DW-04 was sited at L80E, B/L 0 to test the lateral and down dip extent of the barite horizon between the two showings. The hole was completed to a total depth of 187.4 meters. The upper part of the DDH (down to 62.4 meters) consisted of dark grey to black phyllitic siltstone with intervals of dark grey to black, noncalcareous phyllite (uDM_3). The interval from 62.4 to 92.6 meters contained a zone of broken core and fault gouge followed by an interval of dark grey phyllite with thin light grey phyllite interbands. Lithologically this last phyllite sequence is intermediate in appearance between uDM_1 and uDM_2. From 92.6 to 169.7 meters the dominant lithology was

the grey pinstriped phyllite (uDM_2). The DDH bottomed in dark grey, noncalcareous phyllite (uDM_1).

DDH 80-DW-04 intersected the lithologies overlying and underlying the barite horizon although the horizon itself was not encountered. At the stratigraphic position of the barite, the drillhole contained a region of fault gouge and breccia. It is not known whether this fault zone is a large or small scale feature.

DDH 80-DW-05

DDH 80-DW-05 was sited at L50E, 3+00S to test the lateral continuity of the barite horizon between the two barite outcrops. The drillhole went through 76 meters of overburden before finally intersecting bedrock. Drilling was discontinued at a depth of 79.6 meters because of problems in keeping the drillhole open.

The bottom 3 meters of core consisted of a dark grey, noncalcareous phyllite with narrow (1 cm) black phyllite bands. This lithology most closely resembles the dark grey phyllites encountered in DDH 80-DW-04 just above the grey pinstriped phyllite (uDM_2). Barite was not encountered in DDH 80-DW-05. Results from this DDH are inconclusive because not enough core was obtained to positively ascertain the stratigraphic sequence at the bottom of the drillhole. It may be that the barite horizon in this immediate area has been removed by erosion.

Summary

DDH 80-DW-01 through 80-DW-03 were all collared in dark grey, noncalcareous phyllites of the footwall (uDM_1). Both 80-DW-02 and 80-DW-03 intersected the Askin Group (SDa) at shallower levels than expected. The complete absence of hanging wall lithologies in the drillholes and the shallow Askin Group (SDa) intersections indicate the presence of a fault passing east of the eastern barite exposure and west of the drillholes (figure 4). The observed patterns cannot be readily explained through folding because the drill core appears to represent a homoclinal sequence.

Sense of movement on the fault is right lateral. Estimated vertical separation across the fault surface is 150 to 200 meters. This proposed fault has been correlated with the steep fault observed in outcrop at station DW-24. At DW-24 the fault juxtaposes uDM_1 phyllites (southeast) against uDM_4 siltstones (northwest). When all these factors are considered, the fault is constrained to have a trend of 007^{o}.

The local occurrence of a basal conglomerate in DDH 80-DW-02 suggests that the unconformable contact between the uDM "Black Clastics" and the underlying Askin Group had at least some topographic relief.

DDH 80-DW-04 and 80-DW-05 did not intersect the barite horizon. In 80-DW-04 the barite horizon is absent although lithologies stratigraphically above and below the horizon were intersected. Results

for 80-DW-05 were inconclusive because not enought core was recovered to definitively determine the location of the core in the stratigraphic column. Initial results from these two holes would indicate that the barite horizon is lensoid rather than being laterally continuous between the two outcrop exposures.

1980 SILT GEOCHEMICAL SAMPLING PROGRAM

The geologic mapping, drilling, and geophysical programs during 1980 field season resulted in the recognition of three previously unmapped faults on the east side of the DWONK claims. Lithologic units on the east side of each fault have been displaced toward the south.

A small silt sampling program was conducted along the Pelly River on the east portion of the DWONK claims to see if the displaced barite horizon could be detected geochemically. Sampling was restricted to the Pelly River since previous studies in this area have shown that the overburden on the plateau effectively masks any geochemical signature (Roberts 1978).

A total of 54 samples were collected and analyzed for Cu, Pb, Zn, and Ba by Acme Analytical Laboratory. Results of the survey are presented in figure 5. It can be seen that none of the samples are anomalous. The offset extensions of the barite horizon cannot be located by means of the geochemical program.

1980 GEOPHYSICAL PROGRAM

An induced polarization survey along one extended line (L110E) was conducted to test the feasibility of using IP to distinguish the contact between the Askin Group (SDa) and the overlying "Black Clastics" (uDM).

The survey was conducted over a total distance of 9400 feet (2865 meters) using a dipole-dipole array with a dipole spacing of 200 feet. Results of the survey are presented in figure 12.

The dominant feature in the survey is a prominant low in both chargeability and apparent resistivity extending roughly from station 14N to 32N. This feature has tentatively been explained as a fault zone. The extensive length of the geophysical anomaly indicates that the fault zone must cross the IP survey line at a very acute angle. The appropriate fault arrangement is indicated in figure 4.

Other features in the survey appear to be related largely to surface effects. Variations are probably related to overburden and/or permafrost.

Comparison of figure 4 with the IP survey results shows that the Askin-uDM contact as presently interpreted cannot be readily determined from the IP survey.

SUMMARY and CONCLUSIONS

A detailed stratigraphy for the uDM sequence containing the two massive barite exposures has been determined for the DWONK claims. Comparison of lithologic units associated with each of the showings proves that the two barite outcrops represent the same stratigraphic horizon. This stratigraphic interval occurs near the base of the uDM section.

1980 drilling results indicate that massive barite occurs as discontinuous lenses within the host uDM black phyllites and siltstones. DDH 80-DW-04 did not intersect the barite horizon although the overlying and underlying lithologies were both encountered. Therefore the eastern showing does not extend to the west and south as far as the DDH.

DDH 80-DW-05 encountered over 75 meters of overburden. Results from the DDH are inconclusive; the barite horizon may have been eroded in the area immediately surrounding this drillhole.

Three north-trending, near-vertical faults have been recognized on the east side of the claim group. Right lateral movement of these faults has progressively displaced lithologic units on the east side towards the south. Total horizontal displacement for all three faults is approximately 2440 meters (8000 feet).

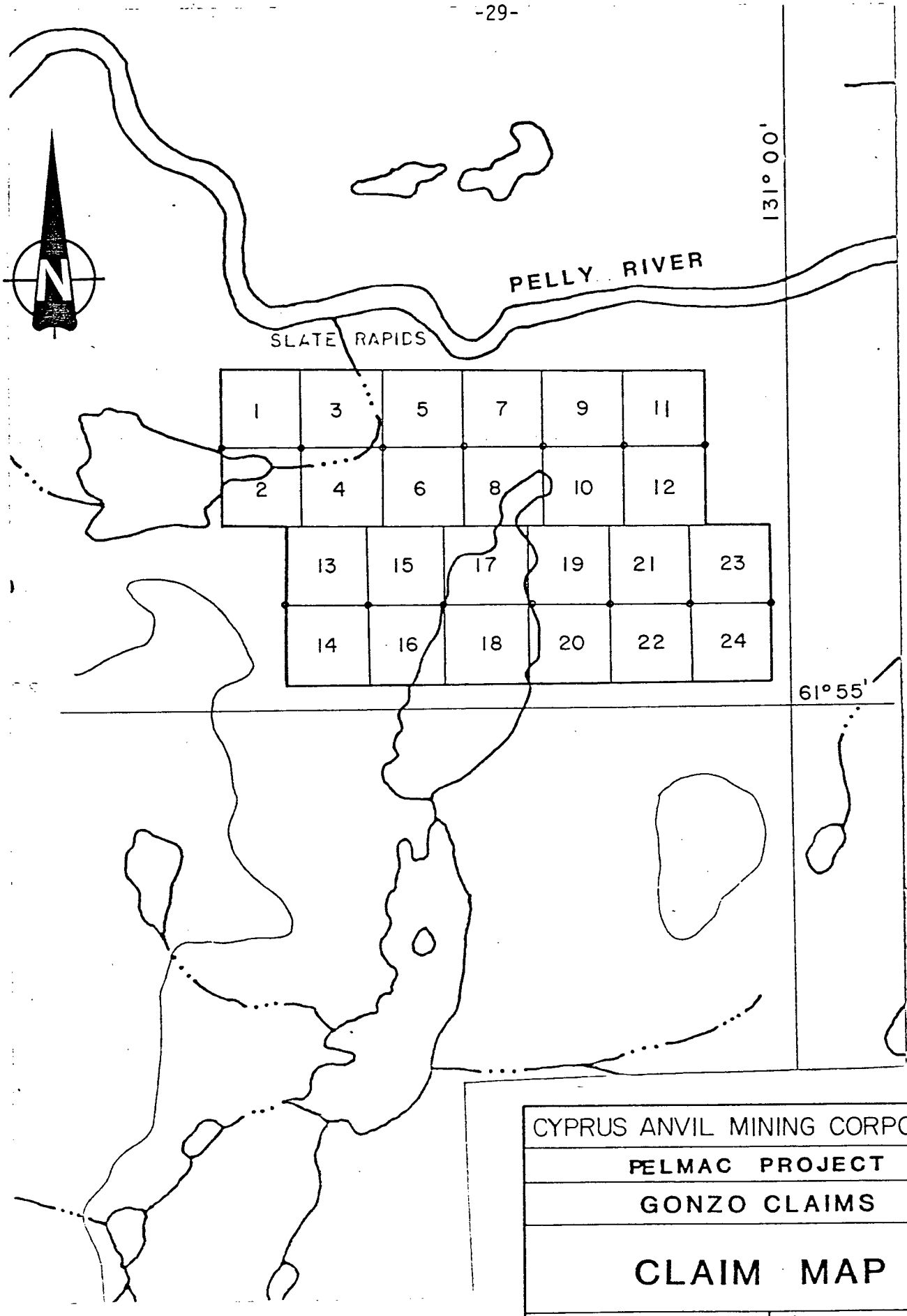
A small silt sampling survey along the Pelly River was completed to see if the displaced barite horizon could be geochemically detected. Results from the survey were not anomalous. It is uncertain whether the horizon was absent or just not detected.

An IP geophysical survey was completed along one extended line to determine if the Askin-uDM contact could be detected geophysically. Unfortunately the survey line intercepted a fault zone at a very acute angle. As a result the dominant feature in the survey is an extensive zone of low chargeability and low apparent resistivity corresponding to the fault trace. The Askin-uDM contact could not be readily detected from the IP survey.

FURTHER WORK

The lateral and down dip extent of the western barite showing has not yet been tested. The interval between the two barite outcrops does not look very promising because of possible erosion (80-DW-05) of the interesting stratigraphic interval and the lensoid nature of the eastern barite showing (80-DW-04).

On the east side of the claims the stratigraphic interval containing the barite horizon has been displaced an undetermined interval toward the south. The Gonzo claims (figure 13) were staked in August 1980 (registered September 17, 1980) to cover the displaced



CYPRUS ANVIL MINING CORPORATION

PELMAC PROJECT

GONZO CLAIMS

CLAIM MAP

NTS: 105-6-14
SURVEY BY:
DRAWN BY: r.w.r.

DATE: SEPT 22, 1980
SCALE 1"=2640'

eastern extension of the barite horizon. The area covered by the Gonzo claims is characterized by a singular lack of outcrop. It is uncertain how exploration should proceed in trying to assess the feasibility of drill targets in the area of the DWONK and GONZO claims. Unless a feasible method is determined for locating the stratigraphic horizon containing the massive barite lenses, it does not seem warranted to randomly select drill targets based on the schematic geology resulting from the poor outcrop exposure.

SELECTED REFERENCES

Roberts, W. 1978. Geological, Geochemical and Geophysical Report on the DWONK Group. Cyprus Anvil Mining Corporation internal report., 13p.

APPENDIX I - Lithologic Logs

CYPRUS ANVIL MINING CORPORATION

DIAMOND DRILL CORE LOG

Hole Number: 80-DW-01

Fabric Orientation Diagram:

Project: ANMAC (DWONK claims)

Location: N.T.S. 105-G-14

Claim: DWONK 48

Terr. Plane Co-ords.: Latitude 61° 57' N N

Longitude 131° 04' W E

Grid Co-ords.: L 90E, 8 S

Inclination: -90°

All symmetry determinations looking W with S_1 dipping S with dip azimuth _____.

Elevation: 2800 feet

Total Depth: 117.0 meters

Purpose: test downdip extent of east barite showing

Logged by: L. Pigage

Date(s) Logged: June 1 - June 8, 1980

Drilling Contractor: ARCTIC

Core:

Size	From	To
BQ	0	117

Collar Cased and Capped: _____

Started: June 1, 1980

Completed: June 8,1980

DDH 80-DW-01

1. 0.0 - 3.9 Triconed - no core.

2. 3.9 - 9.1 Fine-grained black graphitic phyllite. Slightly to moderately calcareous. Abundant fractures filled with white calcite. Core much broken. At 4.5 m - 0.03 m of breccia with phyllite and pyrite fragments in a white calcite matrix.

Measured Core Axis angle S_1

4.4 m	50^o
6.4 m	30^o
9.1 m	63^o

3. 9.1 - 81.5 Fine-grained dark grey to black graphitic phyllite. Locally slightly calcareous. Irregular fractures filled with quartz + calcite. Core much broken. Large part of interval consists of soft, very weathered (mud) phyllite and brecciated phyllite (like fault gouge). S_0 layering only locally visible.

Measured Core Axis angle S_1

21.8 m	80^o
27.0 m	47^o
34.5 m	70^o ($\sim S_0$)
41.6 m	85^o
51.2 m	60^o
64.0 m	55^o
78.3 m	65^o

4. 81.5 - 81.9 Fine-grained, green phyllite. Massive, equigranular texture. Spotted appearance. Quartz + calcite veins. Presumably metavolcanic. Contace S_0 with graphitic phyllite is subparallel S_1. Contact angle core axis = 70^o.

5.	81.9 - 93.2	Similar to Unit #3. Noncalcareous black graphitic phyllite. Irregular quartz ± calcite veins. Core much broken with local breccia, gouge, and mud.
		Core Axis angle S_1 83.4 m 80°
		86.1 m 60°
		93.0 m 80°
6.	93.2 - 96.2	Similar to Unit #4. Quartz-calcite veins common. S_o contact disrupted by veins.
7.	96.2 - 115.0	Same as Unit #3. Laminations S_o locally present on scale of mm. Pyrite nodules and disseminated pyrite in phyllite at 105.1 m. S_o laminae parallel S_1 foliation.
		Core Axis angle S_1 96.2 m 65°
		99.5 m 85°
		105.1 m 40°
		108.4 m 45°
		115.0 m 80°
8.	115.0 - 115.4	Same as Unit #4. Only minor veins.
9.	115.4 - 117.0	Same as Unit #3.
		Core Axis angle S_1 116.9 m 85°
	117.0	END OF HOLE

CYPRUS ANVIL MINING CORPORATION

DIAMOND DRILL CORE LOG

ole Number: 80-DW-02

Fabric Orientation Diagram:

roject: ANMAC (DWONK claims)

ocation: N.T.S. 105-G-14

Claim: DWONK 48

Terr. Plane Co-ords.: Latitude 61° 57' N N

Longitude 131° 04' W E

Grid Co-ords.: L 90 E, 8 S

Inclination: -90

All symmetry determinations looking

W with S_1 dipping

Elevation: 2800 feet

S with dip azimuth _____.

Total Depth: 289.9 meters

urpose: test down dip extent of east barite showing

ogged by: L. Pigage

Date(s) Logged: June 10 - June 22, 1980

rilling ontractor: ARCTIC

Core:

Size	From	To
NQ	0	131.4
BQ	131.4	289.9

Collar Cased and Capped: ____

Started: June 10, 1980

Completed: June 22, 1980

LITHOLOGIC LOG

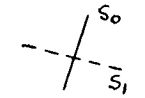
DDH 80-DW-02

1. 0.0 - 98.1 — Triconed - no core.

2. 98.1 - 98.4 — Fine-grained, dull green chloritic phyllite. Equigranular, massive. Contains abundant white quartz + calcite veins.

   Core Axis angle S_0 contact - 55^0

3. 98.4 - 119.3 — Black graphitic, noncalcareous phyllite. Locally much broken with minor breccia. Quartz-calcite veinlets - especially in disrupted areas. Phyllite shows thin laminar banding with fine-grained greywacke to siltstone. Greywackes generally less than 30 cm thick. Disseminated pyrite common in the greywackes. Generally S_0 subparallel S_1.

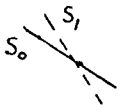
Core Axis angle	S_0 and S_1	45^0	99.3 m
	S_0 and S_1	27^0	107.1 m
	S_0 and S_1	45^0	108.1 m
	S_1	70^0	112.8 m
	S_0	30^0	117.1 m
	S_1	80^0	
	S_0	77^0	118.8 m
	S_1	80^0	

4. 119.3 - 119.7 — Fine-grained, equigranular chloritic phyllite. Noncalcareous. Dull green. Same as Unit #2.

   Core Axis angle S_0 contact 75^0 119.6 m

5. 119.7 - 130.9

Fine dark grey graphitic noncalcareous phyllite. Core locally broken. Quartz veins locally - subparallel to S_1 . Thin siltstone to greywacke bands present. Occasionally see small pyrite nodules. Similar to Unit #3.

Core Axis angle			
	S_1	55^o	124.3 m
	S_0	72^o	126.6 m
	S_1	65^o	
	S_1	75^o	129.2 m
	S_1	85^o	130.8 m

6. 130.9 - 145.4

Same as Unit #5. Rock extensively broken with breccia and fault gouge. Gouge contains rounded clasts of quartz and pyrite.

Core Axis angle			
	S_1	55^o	131.4 m
	S_1	70^o	136.3 m
	S_1	50^o	141.5 m
	S_1	50^o	144.5 m

7. 145.4 - 151.9

Dark grey noncalcareous phyllite. Colour banded in greys on scale of a few mm to cm. Contains thin light grey siltstone to greywacke bands. Greywackes contain disseminated pyrite. Graded bedding indicates stratigraphic Tops towards top of hole. Generally S_0 subparallel to S_1. This unit contains a greater number of thin greywacke/siltstone bands than Unit #3. Otherwise they are very similar. Minor thin quartz $\pm$ calcite veins.

Core Axis angle				
	S_0	and S_1	65^o	146.4 m
	S_0	and S_1	55^o	149.6 m
		S_1	70^o	150.6 m

8. 151.9 - 161.3

Same as Unit #7. Core more broken with intervals of fault gouge. More extensive quartz veins. Large quartz vein at 160.6 m contains angular phyllite fragments. Small intervals show post-S_1 brittle folding. Generally S_o subparallel S_1. Graded bedding in siltstone/greywacke indicates stratigraphic Tops is UP the DDH.

Core Axis angle	S_1	55^o	152.3 m
	S_o and S_1	70^o	154.9 m
	S_o and S_1	53^o	157.3 m
	S_1	27^o	159.7 m
	S_1	75^o	160.5 m

9. 161.3 - 189.4

Same as Unit #7. Small veins are quartz $\pm$ dolomite (white). Disseminated pyrite in siltstone/greywackes not evenly distributed - forms elongate pods in S_1/S_o. Small fault gouge interval at 186.8 m.

Core Axis angle	S_o and S_1	65^o	163.3 m
	S_o and S_1	73^o	166.4 m
	S_o and S_1	70^o	171.6 m
	S_o and S_1	58^o	177.4 m
	S_o and S_1	75^o	185.8 m
	S_o and S_1	75^o	187.9 m

10. 189.4 - 191.9

Poorly foliated, fine-grained, equigranular biotite quartz diorite. Light grey colour. Locally slightly calcareous. Contains minor disseminated pyrite. Very pyritic phyllite at upper and lower contacts. One shear zone with augen of quartz veins, phyllite, quartz diorite. Phyllite at contacts contains quartz diorite augen in shear zones. Quartz veins in intrusive do not extend into phyllite.

Core Axis angle contact 85^o 189.4 m

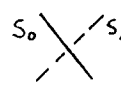
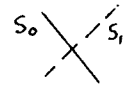
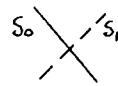
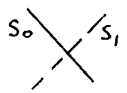
11. 191.9 - 199.4

Dark grey, noncalcareous phyllite. Similar to Unit #7. Does not contain abundant greywacke bands. Colour banded in shades of dark grey. Abundant quartz-calcite veins and stringers. Rock very broken with some fault gouge. Small intervals with cataclastic augen texture - augen include quartz diorite, quartz vein material, phyllite. In some small regions can see that S_0 is not subparallel to S_1. Upper part of interval contains minor thin quartz diorite bands.

Core Axis angle	S_1	55^0	193.8 m
	S_0 and S_1	60^0	198.6 m

12. 199.4 - 227.8

Dark grey noncalcareous phyllite. Similar to Unit #7. Same as Unit #11 only core not broken - only minor fault gouge intervals. Colour banded in shades of dark grey. Greywacke/siltstone bands present but not abundant. Get pyrite cubes with quartz pressure shadows as well as the fine disseminated pyrite. Quartz-calcite veins common - often planar but not subparallel S_1. Fault gouge at 208.6 - 209.0 m and 227.1 - 227.8 m. S_0 at high angle to S_1 at 201.3 - 209.2 m.

Core Axis angle		S_1	65^0	201.4 m
		S_0	83^0	
		S_1	62^0	202.8 m
		S_0	40^0	
		S_1	65^0	205.7 m
		S_0	65^0	
		S_1	70^0	207.6 m
		S_0	65^0	
	S_0 and S_1		85^0	209.4 m
	S_0 and S_1		86^0	213.5 m
	S_0 and S_1		84^0	218.5 m
	S_0 and S_1		88^0	224.6 m
	S_0 and S_1		73^0	226.3 m

13. 227.8 - 235.1

Depositional conglomerate to breccia. Matrix is medium to dark grey phyllite to quartzite. Clasts include phyllite and fossiliferous to unfossiliferous limestone (marble). Size of clasts varies widely - rock is poorly sorted to unsorted. Both matrix and clasts are calcareous. S_1 foliation appears to go through clasts - also wraps around them. Many clasts have angular shape. Clasts matrix supported Also have thin interbands of dark grey calcareous phyllite. S_0 in clasts of conglomerate often is at angle to S_1.

Core Axis angle S_1 73^o 230.7 m
S_1 72^o 233.7 m

14. 235.1 - 236.1

Dark grey thinly banded calcareous phyllite. Contains abundant thin greywacke bands - one band contains large pyrite cube.

Core Axis angle S_1 and S_0 84^o 235.5 m

15. 236.1 - 250.2

Same as Unit #13. Most clasts are fine-grained phyllitic, nonfossiliferous limestone. One black chert clast at 236.7 m. Minor interbands of dark grey phyllite. Clast size generally smaller. As go down this interval tend to get fewer clasts. Matrix has texture of sandstone - generally grey to dark grey - very calcareous. Fault gouge zone 248.7 - 249.8 m.

Core Axis angle S_1 70^o 238.8 m
S_1 68^o 245.6 m
S_1 72^o 250.0 m

16. 250.2 - 253.4

Medium grey calcareous quartzite with thin black phyllite interbands. Rock extensively fractured with white calcite filling fractures. One small marble interband. Layering not readily visible.

Core Axis angle S_1 42^o 251.4 m

17. 253.4 - 255.0

Same rock type as Unit #16. Rock extensively broken with calcite filling fractures. Large calcite veins have abundant angular clasts - fragments of calcareous quartzite.

18. 255.0 - 258.5 — Dominantly calcareous conglomerate/breccia interbanded with black phyllite and calcareous quartzite. Abundant white calcite veins. Conglomerate has marble clasts. Real mixture of rock types in short interval.

Core Axis angle S_1 57^0 256.0 m

19. 258.5 - 262.9 — Interbanded black graphitic calcareous phyllite and medium grey calcareous quartzite. Rock extremely broken - much of it is in small pieces.

Core Axis angle S_1 40^0 261.8 m

20. 262.9 - 274.2 — Massive grey dolomite with thin phyllite and calcareous quartzite interbands. Quartz-calcite veins. Dolomite has stylolitic texture. Phyllite generally forms very thin graphitic films in dolomite.

Core Axis angle S_1 74^0 264.0 m
S_1 54^0 268.1 m
S_1 58^0 271.3 m
S_1 65^0 274.5 m

21. 274.2 - 279.4 — Core very broken, brecciated, some fault gouge. Dominantly massive, fine-grained, grey dolomite. Minor graphitic phyllitic partings. Stylolitic texture. Lower part of interval has large white calcite vein with angular country rock fragments.

22. 279.4 - 282.3 — Dark grey calcareous quartzite. Contains abundant grey calcareous phyllite clasts. Poor core recovery. Open spaces when drilling down. Abundant sulphurous water coming out of hole.

23. 282.3 - 289.0 — Massive grey dolomite. Abundant white calcite veins. Stylolitic texture.

24. 289.0 - 289.9 — Finely laminated grey dolomitic phyllite. A few larger quartz clasts visible. See a phase 1 minor fold in layering - South vergence (S_1 fold).

Core Axis angle S_0 and S_1 289.0 m
S_0 and S_1 289.9 m

289.9 END OF HOLE

CYPRUS ANVIL MINING CORPORATION

DIAMOND DRILL CORE LOG

Hole Number: 80-DW-03

Fabric Orientation Diagram:

Project: ANMAC (DWONK claims)

Location: N.T.S. 105-G-14

Claim: DWONK 47

Terr. Plane Co-ords.: Latitude 61° 57' N N

Longitude 131° 04' W E

Grid Co-ords.: L 90 E, 3 S

Inclination: -90°

All symmetry determinations looking W with S 1 dipping

Elevation: 2840 feet

S with dip azimuth _____.

Total Depth: 298.7 meters

Purpose: test down dip extent of east barite showing

Logged by: L. Pigage

Date(s) Logged: July 5 - July 6, 1980

Drilling Contractor: ARCTIC

Core:

Size	From	To
NQ	0	134.7
BQ	134.7	298.7

Collar Cased and Capped: _____

Started: June 27, 1980 Completed: July 5, 1980

LITHOLOGIC LOG

DDH 80-DW-03

1.	0.0 - 10.1	Triconed - no core.
2.	10.1 - 43.4	Dark grey, noncalcareous, graphitic phyllite. Core generally looks very broken with fault-gouge - probably results from deep weathering profile. Quartz-calcite veins - locally these veins are broken and form white clasts in phyllite matrix. Poorly preserved S_1 foliation. S_o not visible. Locally quartz-carbonate clasts contain disseminated pyrite.

Core Axis angle S_1 60^o 20.7 m
S_1 70^o 32.6 m
S_1 72^o 41.7 m

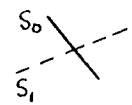
3.	43.4 - 70.1	Dark grey, noncalcareous, graphitic phyllite. Core less broken than Unit #2 - otherwise same as Unit #2. Locally quartz-calcite veins. Very minor thin grey siltstone/greywacke layers. Generally S_o not visible - only see a weathered S_1. At 48.9 m - abundant quartz-carbonate veins with disrupted S_1 foliation. Probably a minor S_2 fold.

Core Axis angle S_1 65^o 43.9 m
S_1 55^o 53.7 m
S_1 75^o 70.0 m

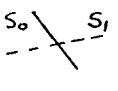
4.	70.1 - 102.1	Dark grey, noncalcareous graphitic phyllite. Same as Unit #2 and 3. Core only locally broken. Very minor quartz-calcite veins. Phyllite shows thin banding in shades of grey. Thin siltstone/greywacke bands present - more common and thicker than in Unit #3. Locally S_o at a high angle to S_1 foliation. Minor disseminated pyrite. Graded bedding indicates stratigraphic tops is toward top of DDH.

4. (Continued)

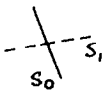
Core Axis angle



S_1	88^0	71.8 m
S_0	55^0	

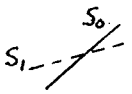


S_1	80^0	72.9 m
S_0	52^0	



S_1	75^0	77.0 m
S_0	40^0	

S_1	70^0	79.9 m



S_1	84^0	84.2 m
S_0	57^0	

S_1 and S_0 65^0 88.4 m

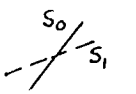
Graded bedding - strat. tops is Up the DDH

S_1	55^0	93.6 m
S_1	50^0	94.7 m
S_0	10^0	

S_0 subparallel core axis

S_0	85^0	96.7 m
S_1	15^0	

Graded bedding indicates strat tops down DDH



S_1	60^0	97.9 m
S_0	25^0	

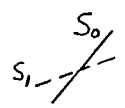
Graded bedding indicates strat tops down DDH

S_1 and S_0 35^0 100.0 m

S_1 and S_0 40^0 101.7 m

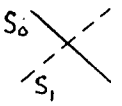
5. 102.1 - 102.4

Medium-grey siltstone/greywacke with dark grey phyllite interbands. Both lithologies are noncalcareous. Minor calcite-quartz veins. Locally S_0 is subparallel core axis.

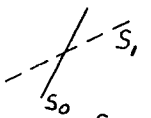
Core Axis angle  S_1 60^0 102.2 m
S_0 40^0

6. 102.4 - 161.6

Dark grey noncalcareous phyllite. Minor quartz-calcite veins. Thin grey siltstone/greywacke bands. These bands often contain elongate nodular pyrite. the greywacke/siltstone bands vary from mm to 5 cm thick. Similar to Unit #4.

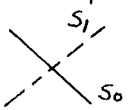
Core Axis angle  S_1 75^0 106.1 m
S_0 70^0

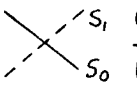
graded bedding - strat tops UP DDH

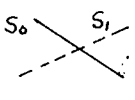
 S_1 80^0 109.8 m
S_0 40^0

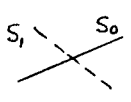
S_1 and S_0 85^0 111.1 m

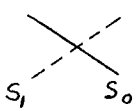
graded bedding - strat tops UP DDH

 S_1 80^0 117.3 m
S_0 80^0

 S_1 80^0 121.0 m
S_0 55^0

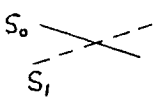
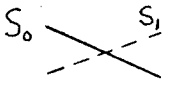
 S_1 80^0 121.4 m
S_0 55^0

 S_1 78^0 125.9 m
S_0 70^0

 S_1 70^0 127.8 m
S_0 76^0

6. (Continued)

Core Axis angle

	S_1 and S_0	80^0	132.6 m
	S_1	80^0	133.2 m
	S_0	82^0	
	S_1 and S_0	80^0	136.6 m
subparallel	S_1	72^0	139.0 m
	S_0	70^0	
	S_1	70^0	145.2 m
	S_0	83^0	

graded bedding - strat tops UP DDH

S_1 and S_0	77^0	148.8 m
S_1 and S_0	74^0	152.1 m
S_1 and S_0	70^0	158.5 m
S_1 and S_0	74^0	161.8 m

7. 161.6 - 195.1

Dark grey noncalcareous graphitic phyllite. Similar to Unit #6. Contains thin siltstone/greywacke bands. Core more extensively broken with local fault gouge. Generally S_0 not readily visible.

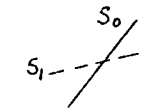
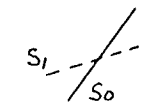
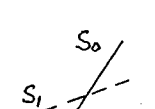
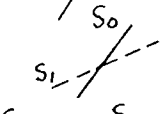
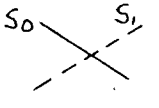
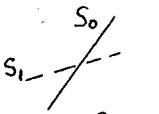
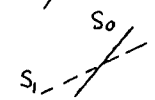
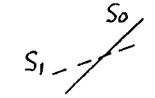
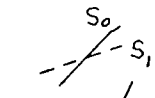
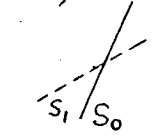
Core Axis angle

S_1	80^0	165.0 m
S_1	58^0	171.4 m
S_1	85^0	178.0 m
S_1	73^0	181.0 m
S_1	80^0	186.0 m
S_0	77^0	
S_1 and S_0	68^0	188.1 m
S_1	75^0	193.9 m

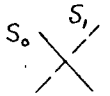
graded bedding - strat tops UP DDH

8. 195.1 - 271.3

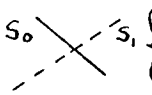
Same as Unit #6. Noncalcareous dark grey graphitic phyllite. Minor laminar banding in greys. Thin siltstone/greywacke layers. Minor crosscutting quartz-calcite veins filling fractures. Nodules of pyrite. Both S_0 and S_1 are locally present. Siltstone/greywacke contains commonly disseminated pyrite.

Core Axis angle			
	S_1	83^0	195.5 m
	S_0	66^0	
	S_1	70^0	197.7 m
	S_0	45^0	
	S_1 and S_0	70^0	200.1 m
	S_1	83^0	201.7 m
	S_0	20^0	
	S_1	75^0	204.5 m
	S_0	32^0	
	S_1	80^0	206.1 m
	S_0	40^0	
	S_1	73^0	208.4 m
	S_0	40^0	
	S_1	80^0	209.2 m
	S_0	53^0	
	S_1	88^0	211.7 m
	S_0	50^0	
	S_1	68^0	214.1 m
	S_0	52^0	
	S_1	78^0	217.2 m
	S_0	35^0	

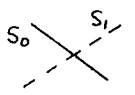
8. (Continued) Core Axis angle



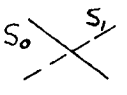
S_1		72^o	218.4 m
S_0		77^o	



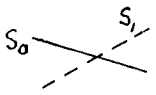
S_1		65^o	218.7 m
S_0		70^o	



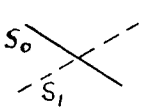
S_1		66^o	221.4 m
S_0		74^o	



S_1		78^o	222.7 m
S_0		70^o	
S_1		66^o	227.1 m
S_1	and S_0	59^o	228.1 m
S_1	and S_0	59^o	231.1 m
S_1	and S_0	60^o	231.9 m
S_1	and S_0	67^o	238.9 m
S_1	and S_0	67^o	241.4 m
S_1	and S_0	65^o	243.4 m
S_1	and S_0	67^o	249.7 m
S_1	and S_0	62^o	254.0 m



S_1		67^o	255.8 m
S_0		85^o	



S_1		70^o	258.7 m
S_0		50^o	
S_1	and S_0	73^o	263.3 m
S_1		70^o	264.5 m
S_1	and S_0	55^o	267.8 m
S_1		65^o	269.4 m

8.	(Continued)	Lower interval (just before 271) core much more fractured and broken. Extensive quartz-calcite veins. S_1 foliation disturbed - S_0 not readily visible.
9.	271.3 - 273.7	Interbanded quartzite and massive dolomite. Both lithologies light to medium grey. Locally core much broken and fractured. In places forms a breccia with very angular clasts. Fractures filled by quartz. Some dolomite looks fossiliferous. Core Axis angle S_0 60^o 271.6 m
10.	273.7 - 276.5	Same rock type as Unit #9. Core present only as small broken fragments - gravel to coarse sand size.
11.	276.5 - 290.8	Dominantly calcareous quartzite. Medium to light grey. Fractures filled by calcite. Locally brecciated. Locally contains fault gouge. Massive appearance - only occasionally see S_0 layering. Locally see stylolitic texture in calcareous quartzite (very hard on knife-blade). Core Axis angle S_1 62^o 282.2 m S_1 and S_0 70^o 283.3 m
12.	290.8 - 292.0	Light grey noncalcareous quartzite. Equigranular. Locally highly fractured with quartz and calcite filling fractures.
13.	292.0 - 298.7	Slightly calcareous to noncalcareous quartzite. Massive, equigranular, light grey. No readily visible S_1 or S_0. Locally fractured and brecciated - core may form "unconsolidated" gravel.
	298.7	END OF HOLE

CYPRUS ANVIL MINING CORPORATION

DIAMOND DRILL CORE LOG

ole Number: 80-DW-04

Fabric Orientation Diagram:

roject: ANMAC (DWONK claims)

ocation: N.T.S. 105-G-14

Claim: DWONK 47

Terr. Plane Co-ords.: Latitude 61° 57' N N

Longitude 131° 04' W E

Grid Co-ords.: L 80 E, B/L 0

Inclination: -90°

All symmetry determinations looking W with S_1 dipping S with dip azimuth ____.

Elevation: 2850 feet

otal Depth: 187.4 meters

urpose: ____

ogged by: L. Pigage

Date(s) Logged: July 7 - 16, 1980

rilling ontractor: ARCTIC

Core:

Size	From	To
NQ	0	137.5
BQ	137.5	187.4

Collar Cased and Capped: ____

Started: July 7, 1980

Completed: July 16, 1980

LITHOLOGIC LOG

DDH 80-DW-04

1. 0.0 - 13.5 — Triconed - no core.

2. 13.5 - 15.8 — Dark grey to black noncalcareous graphitic phyllite. Very minor siltstone bands. Locally contains thin bands with disseminated pyrite. Calcite in fractures - one small interval is breccia with phyllite clasts in calcite-rich matrix. S_0 only poorly and locally visible. Core locally broken and fractured.

Core Axis angle	S_1	55^0	13.7 m
	S_1 and S_0	70^0	14.4 m

3. 15.8 - 21.3 — Slightly calcareous, dark grey to black, graphitic phyllite. S_0 not readily visible. Minor amounts of disseminated pyrite in thin bands. Calcite fills fractures.

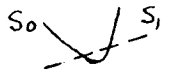
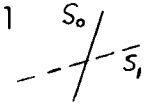
Core Axis angle	S_1	70^0	15.8 m
	S_1	68^0	21.0 m

4. 21.3 - 22.6 — Finely laminated, grey, calcareous siltstone with phyllite partings. Locally laminae are indistinct and slightly irregular. Minor disseminated pyrite in thin bands. Generally S_0 is subparallel to S_1.

Core Axis angle	S_1 and S_0	65^0	21.9 m

5. 22.6 - 64.2 — Dark grey to black, graphitic, calcareous, phyllitic siltstone. Ribbon-banded appearance with dark grey phyllite intercalated with medium-dark grey siltstone. Layers on a scale of about 10 mm. Siltstone more calcareous than phyllite. Disseminated pyrite locally present - most commonly nodular - associated with siltstone. Calcite fills fractures. S_0 strongly folded - delineated by the ribbon-banding. Nodular pyrite also associated with white calcite filling fractures - commonly looks broken and brecciated with calcite "pressure shadow". Interbanded phyllite is siliceous. Core locally broken and brecciated with minor gouge developed.

5. (Continued)

	Core Axis angle		
	S_1 and S_o	74^o	24.3 m
	S_1 and S_o	70^o	35.2 m
	S_1 and S_o	70^o	38.4 m
S_o dips $\approx 90^o$ to S_1 	S_1	70^o	38.6 m
	S_o	60^o	
ZXsymmetry to microlithons	S_1	74^o	40.2 m
M symmetry to minor folds	S_1 and S_o	75^o	42.0 m
S symmetry	S_1	70^o	43.6 m
	S_1 and S_o	69^o	47.9 m
S symmetry	S_1 and S_o	63^o	51.0 m
S symmetry	S_1	63^o	53.3 m
S symmetry	S_1 and S_o	63^o	54.0 m
	S_1	75^o	56.4 m
S_1 fold trends 90^o to dip of S_1 	S_1	60^o	57.0 m
	S_o	03^o	
	S_1	67^o	58.7 m
	S_1 and S_o	70^o	62.5 m
	S_1 and S_o	59^o	63.2 m

6. 64.2 - 74.8

Core very broken with breccia and fault gouge. Upper part of interval like Unit #5. Lower part of interval like Unit #7. Calcite ± quartz veins common. S_1 schistosity very disturbed and folded.

Core Axis angle S_0 / S_1 - / { S_1 67^0 66.8 m; S_0 41^0

Disseminated pyrite in siltstone/greywacke

S_1	64^0	69.6 m
S_0	folded and disturbed	
S_1	27^0	70.4 m
S_1	75^0	70.8 m
S_1	0^0	72.2 m
S_1	80^0	74.7 m

7. 74.8 - 92.6

Dark grey noncalcareous phyllite. Variably laminated with thin light grey phyllite bands - these range up to 2 - 3 cm thick. Minor siltstone/greywacke bands - these bands contain disseminated pyrite. Two thin bands are calcareous. In places light grey bands are boudinaged to form discontinuous ovals in S_0 plane. Quartz-calcite veins present - veins are very abundant and thick from 74.8 - 78.4 m. Phyllite forms angular fragments in the quartz-calcite veins.

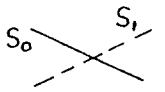
Core Axis angle S_1 and S_0 78^0 74.8 m

Graded bedding indicates Tops Up DDH.

S_1 and S_0	40^0	78.4 m
S_1 and S_0	45^0	80.0 m
S_1 and S_0	65^0	83.5 m
S_0	75^0	86.4 m
S_1	70^0	
S_1 and S_0	75^0	87.5 m
S_1 and S_0	70^0	89.4 m

Note - get boudinage-type texture of S_0 (disrupted) when S_0 and S_1 are not subparallel.

7. (Continued)

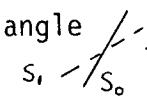


S_1	60^0	91.0 m
S_0	75^0	
S_1	72^0	92.0 m

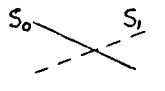
8. 92.6 - 108.4

Light grey phyllite with thin dark grey phyllite bands. Banding on a scale of a few mm. Contains thin light grey siltstone bands. Nodular to disseminated pyrite in siltstone. Siltstone layers are calcareous - light grey phyllite is locally slightly calcareous but usually noncalcareous. This unit looks like footwall of barite horizon. Pyritic nodules also present. Thin calcite veins ± quartz.

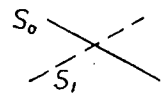
Core Axis angle



S_1	82^0	92.6 m
S_0	47^0	
S_1	77^0	93.7 m
S_0	46^0	



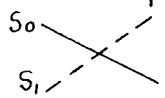
S_1	73^0	94.4 m
S_0	82^0	



S_1	75^0	95.1 m
S_0	85^0	

Graded bedding shows Tops UP DDH

S_1 and S_0	76^0	95.9 m
S_1 and S_0	83^0	99.3 m



S_1	80^0	101.2 m
S_0	75^0	

Graded bedding shows Tops UP DDH.

S_1	64^0	101.4 m
S_0	90^0	

Graded bedding shows Tops DOWN DDH.

8. (Continued)

Core Axis angle

S_o dips gently at 90° to S_o — S_1 77° — 102.7 m

S_o dips West — S_o 86°

Graded bedding shows TOPS DOWN DDH.

S_1 and S_o 78° 103.3 m

Graded bedding shows TOPS DOWN DDH.

S_1 and S_o 68° 104.8 m

Graded bedding shows TOPS UP DDH.

S_1 and S_o 75° 106.0 m

S_1 and S_o 41° 108.2 m

9. 108.4 - 128.6

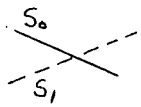
Same as Unit #8. Core more broken with minor fault gouge developed. Only a few thin siltstone layers. Unit only locally slightly calcareous - most commonly noncalcareous. Abundant calcite veins along fractures.

Core Axis angle S_1 and S_o 80° 108.8 m

S_1 70° 112.5 m

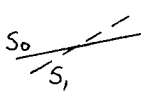
S_o 77°

Graded bedding shows TOPS DOWN DDH.



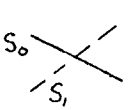
S_1 56° 114.9 m

S_o 85°



S_1 48° 118.0 m

S_o 84°



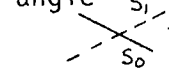
S_1 50° 118.6 m

S_o 75°

Graded bedding shows TOPS DOWN DDH.

9. (Continued)

Core Axis angle



S_1	55^0	119.8 m
S_0	70^0	
S_1	52^0	122.4 m
S_0	78^0	
S_1 and S_0	68^0	124.3 m
S_1	50^0	126.8 m
S_0	55^0	

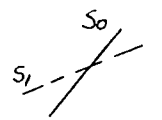
S_0 dips to E 90^0 to

10. 128.6 - 142.3

Same as Unit #8. Core less broken than Unit #9. During part of interval dark grey/light grey banding is not present (although generally characteristic for this unit).

Core Axis angle

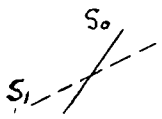
S_1	74^0	130.0 m
S_0	63^0	
S_1	73^0	131.7 m
S_0	65^0	
S_1	70^0	132.4 m
S_0	62^0	



Graded bedding shows TOPS UP DDH.

S_1	62^0	135.6 m
S_0	67^0	
S_1	66^0	137.2 m
S_1	73^0	139.3 m
S_0	62^0	

S_0 dips W at 45^0 to



Graded bedding shows TOPS UP DDH.

S_1	69^0	142.1 m
S_0 subparallel S_1		

11. 142.3 - 147.4

Dark grey to black noncalcareous graphitic phyllite. Minor thin laminations. Contains thin silty layers with abundant nodular pyrite. Minor quartz-carbonate veins fill fractures. Minor intervals where core much broken.

Core Axis angle $\begin{cases} S_1 & 78^o \\ S_o & 70^o \end{cases}$ 143.8 m

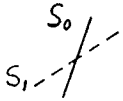
S_o dips E $\sim 40^o$ from S_1

Graded bedding shows TOPS UP DDH.

12. 147.4 - 169.7

Similar to Unit #8. Again the silty layers are slightly calcareous.

Core Axis angle



$\begin{cases} S_1 & 87^o \\ S_o & 64^o \end{cases}$ 148.5 m

$\begin{cases} S_1 & 65^o \\ S_o & 70^o \end{cases}$ 150.0 m

Graded bedding shows TOPS DOWN DDH.

$\begin{cases} S_1 & 64^o \\ S_o & 60^o \end{cases}$ 152.7 m

$\begin{cases} S_1 & 75^o \\ S_o & 60^o \end{cases}$ 155.1 m

Graded bedding shows TOPS DOWN DDH.

$\begin{cases} S_1 & 70^o \\ S_o & 75^o \end{cases}$ 158.6 m

$\begin{cases} S_1 & 70^o \\ S_o & 65^o \end{cases}$ 160.2 m

S_1 and S_o 65^o 161.1 m

$\begin{cases} S_1 & 75^o \\ S_o & 70^o \end{cases}$ 164.5 m

S_1 65^o 165.9 m

13. 169.7 - 176.6

Dark grey graphitic noncalcareous phyllite. Minor thin laminations delineate S_o. Abundant quartz ± minor calcite veins. Thin layers in phyllite consist of disseminated pyrite (massive).

Core Axis angle	S_1	and S_o	85^o	171.3 m
	S_1		75^o	174.6 m

14. 176.6 - 187.4

Same as Unit #13 only does not contain abundant quartz-calcite veins. Thin veins along fractur
Again massive disseminated pyrite in thin layers in the graphitic phyllite. Minor colour laminations delineate S_o.

Core Axis angle	S_1	and S_o	40^o	177.5 m
	S_1	and S_o	65^o	178.8 m

Graded bedding shows TOPS UP DDH.

	S_1	and S_o	80^o	182.9 m
	S_1		75^o	185.0 m
	S_1		85^o	187.0 m

187.4 END OF HOLE

CYPRUS ANVIL MINING CORPORATION

DIAMOND DRILL CORE LOG

Hole Number: 80-DW-05

Fabric Orientation Diagram:

Project: ANMAC (DWONK claims)

Location: N.T.S. 105-G-14

Claim: DWONK 43

Terr. Plane Co-ords.: Latitude 61° 57' N N

Longitude 131° 04' W E

Grid Co-ords.: L 50 E, 3 S

Inclination: -90°

All symmetry determinations looking W with S_1 dipping S with dip azimuth _____.

Elevation: 2820 feet

Total Depth: 79.6 meters

Purpose: _____

Logged by: J. Mortensen Date(s) Logged: _____

Drilling Contractor: ARCTIC

Core:	Size	From	To
	NQ	0	36.9
	BQ	36.9	79.6

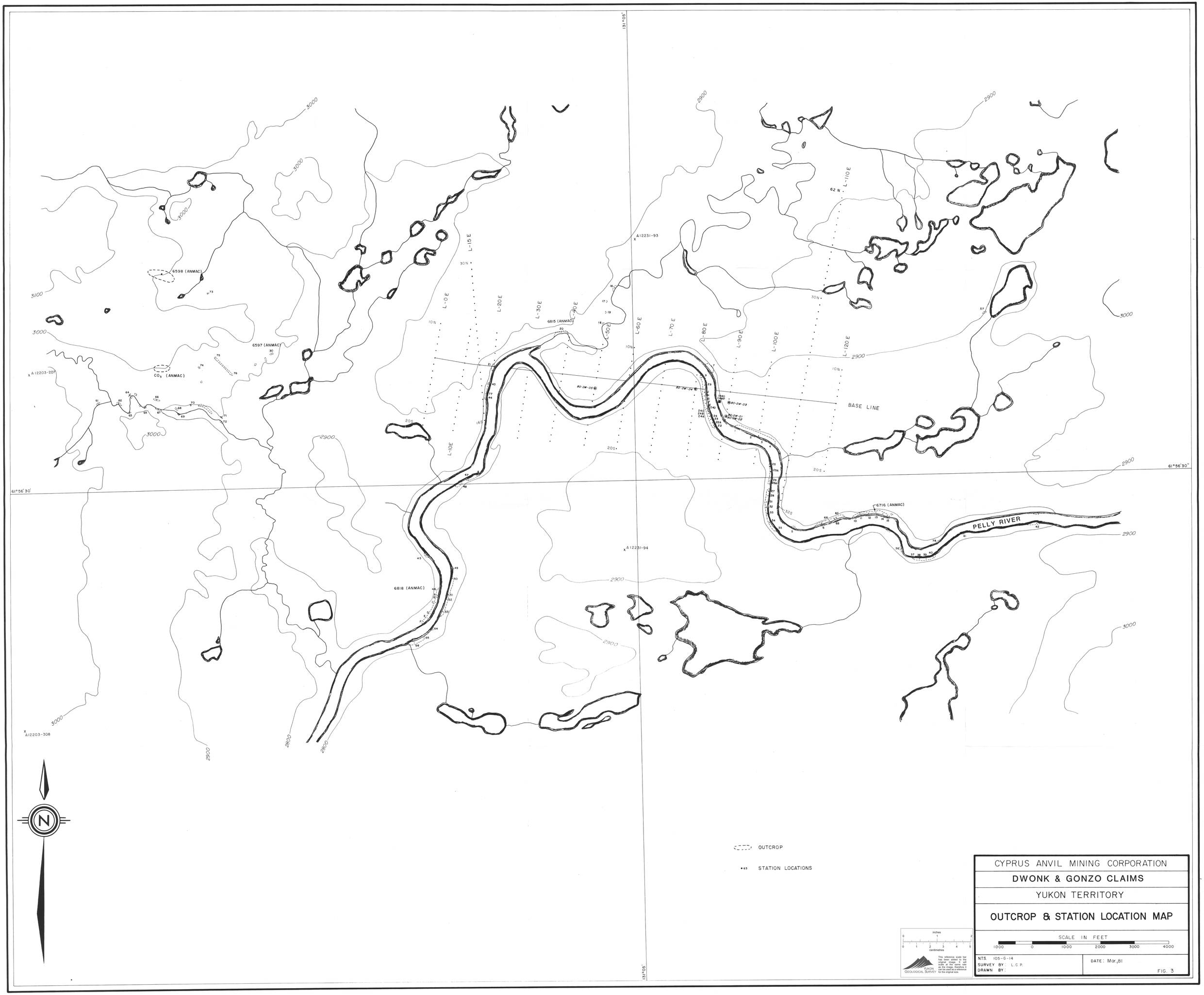
Collar Cased and Capped: _____

Started: July 21, 1980 Completed: July 28, 1980

LITHOLOGIC LOG

DDH 80-DW-05

1.	0.0 - 250.0	Triconed in overburden - approximately 5 feet into bedrock.
2.	250.0 - 253.0	Dark grey, noncalcareous, nonpyritic phyllite. Strongly foliated.
3.	253.0 - 255.0	Dark grey phyllite as above with narrow black bands of phyllite ~1 cm thick. Ribbon banded appearance.
4.	255.0 - 259.0	Phyllite as in Unit #3.
5.	259.0 - 261.5	Banded, noncalcareous phyllite as above.
	261.5	END OF HOLE



CYPRUS ANVIL MINING CORPORATION

DWONK & GONZO CLAIMS

YUKON TERRITORY

OUTCROP & STATION LOCATION MAP

SCALE IN FEET

1000 0 1000 2000 3000 4000

N.T.S. 105-G-14

SURVEY BY : L.C.P.

DRAWN BY :

DATE : Mar,81

FIG. 3

This reference scale bar has been added to the original image. It will scale at the same ratio as the original and can be used as a reference for the original size.

YUKON GEOLOGICAL SURVEY

131°05'

61°56'30"

LEGEND

Upper Devonian - Mississippian

Black Clastic Unit

- uDM_c Chert pebble conglomerate
- uDM_m Dark grey limestone
- uDM_5 Dark grey phyllite with interbands of siltstone and greywacke
- uDM_4 Finely laminated siltstone
- uDM_3 Poorly bedded micaceous siltstone
- uDM_b Massive bedded barite
- uDM_2 Medium grey phyllite with thin dark phyllite interbands (pinstripe unit)
- uDM_1 Dark grey phyllite
- uDM_{1b} Black phyllite
- uDM_{1c} Black chert and siliceous black phyllite

SILURIAN-DEVONIAN

Askin Group

- SD_a Limestone, dolomite, orthquartzite

S_0 S_1 S_2

L_1 L_2 phase 1 and 2 folds

faults

OUTCROP

•63 STATION LOCATIONS

CYPRUS ANVIL MINING CORPORATION

DWONK & GONZO CLAIMS

YUKON TERRITORY

GEOLOGICAL MAP

SCALE IN FEET

1000 0 1000 2000 3000 4000

NTS 105-G-14

SURVEY BY : L.C.P.

DRAWN BY : C.L.C.

DATE : MARCH 20, 1981

FIG. 4

This reference scale bar has been added to the original image. It will shrink or stretch as well as the image, therefore it can be used as a reference for the original size.

YUKON GEOLOGICAL SURVEY

CLAIM BOUNDARY

PELLY RIVER

MDTM 39 - 23, 5, 86, 1800 SAMPLE NUMBER- Cu, Pb, Zn, Ba (analysis in parts per million)

• Silt sample

SCALE IN FEET

1000 0 1000 2000 3000 4000

CYPRUS ANVIL MINING CORPORATION

MacMILLAN PROJECT

DWONK CLAIMS

GEOCHEMICAL VALUES MAP

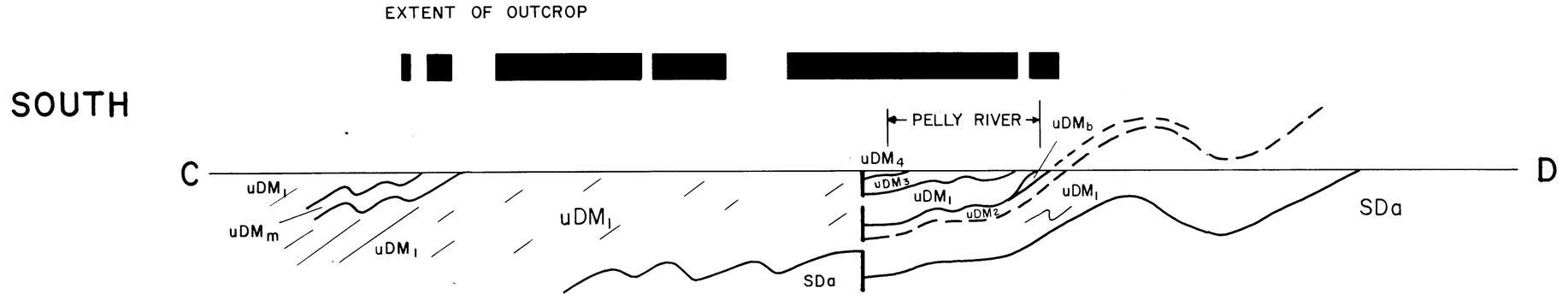
Cu, Pb, Zn

REVISED: Oct. 20, 1980
Mar. 81

NTS: 105-G-14
DRAWN BY: WR/rwr
DATE: FEB., 1978

FIG. 5.

VERTICAL CROSS – SECTION DWONK CLAIMS



Scale: 1" = 1000 feet

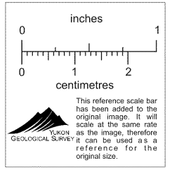
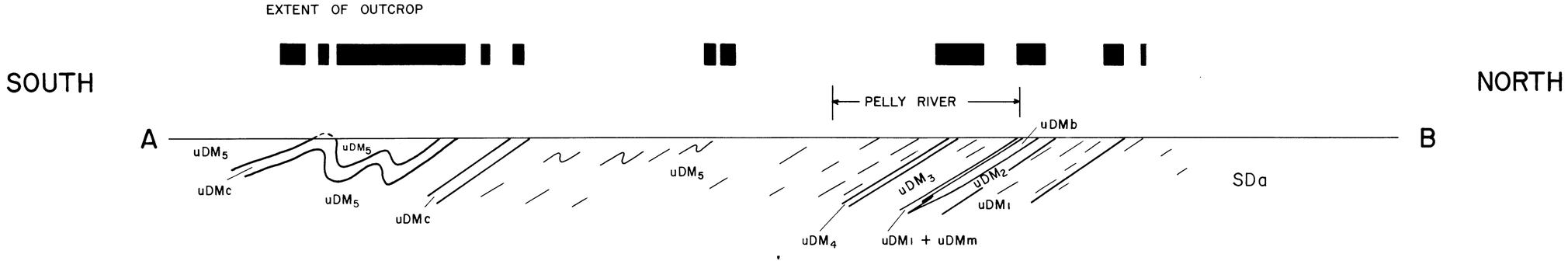
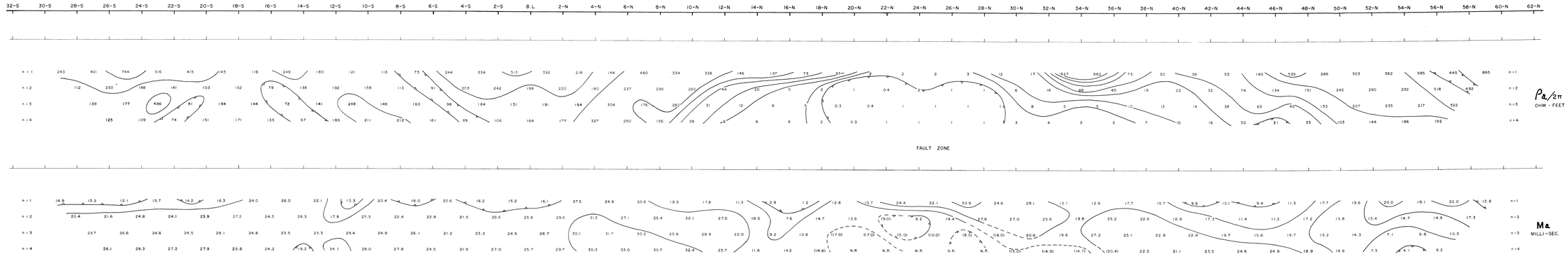


FIGURE 6

VERTICAL CROSS - SECTION DWONK CLAIMS



Scale: 1" = 1000 feet



INDUCED POLARIZATION SURVEY

DWONK GRID

LINE 110-E

DIPOLE - DIPOLE ARRAY

a = 200 FEET

SCALE 1" = 200'

FIG. 12