

CYPRUS ANVIL MINING CORPORATIONEXPLORATION REPORT
ANVIL PROJECT

The 1975 exploration work on the Anvil Project can be divided into three areas of interest. These are:

1. Swim Lake area,
2. Grum-Vangorda area,
3. Faro Claim area.

The bulk of this work was diamond drilling, followed by geophysics and geology.

Two new zones of sulfide mineralization on Cyprus Anvil controlled ground were discovered - one under Swim Lake and one on the Tie claims. The Faro sulfide zone was shown to extend downdip for at least 1,600 feet, probably as one continuous mineralized sheet.

Electromagnetic, magnetic, and gravity surveys were conducted in selected areas on the Gal and Ed claims. Turam electromagnetic and ground magnetometer surveys were conducted to provide this type of information for most of Cyprus Anvil's claim holdings on the southwest side of the Anvil Range. On the Faro claims, Turam electromagnetic, ground magnetic, and gravity surveys were completed on the West Faro extension grid to the northwest of the Faro ore zones. On the Tie claims, a gravity survey on the 1966 grid evaluated magnetic and conductor anomalies previously delineated. On the SB and Sea claims, a ground magnetometer survey was completed to cover Swim Lake. On the Rich claims, a short gravity survey explored for potential massive sulfides associated with a Turam electromagnetic anomaly.

Induced potential test surveys were conducted on the Faro ore body and Faro claims.

DIAMOND DRILLING

Eighteen diamond drill holes, totalling 22,045 feet, were drilled by Exploration on the Anvil claims on the Anvil Project in the Anvil District, Yukon Territory. Five drill holes were completed in the Swim Lake area, defined as all Cyprus Anvil held ground to the southeast of Blind Creek. Four holes were drilled in the Vangorda area, defined as ground from the Anvil Mine Road - Mye Creek, southeast to Blind Creek. Nine holes were drilled in the Faro area, defined as the ground from Next Creek southeast to the Anvil Mine road at the Vangorda turnoff. In addition to these holes, Exploration also participated in Engineering Holes 75-10 and 75-11 at the mine with the Mine Engineering Department, to test for repetition of the Faro sulfide horizon at depth. The costs of drilling more than 50 feet past the sulfides were paid by Exploration.

In the Swim Lake area, significant zones of sulfide mineralization (mainly pyrite and pyrrhotite) were encountered in three holes; a fourth hole was abandoned before reaching the sulfide horizon and the fifth hole at the east end of the Sea claim block was barren of sulfides. In the Vangorda area, three holes intersected extensions of the Grum horizons on Cyprus Anvil controlled ground, and the fourth, an assessment hole, was located on the Dy claims to resolve geology and geophysical interpretation problems. In the Faro area, two holes intersected downdip projections of the Faro sulfides, three were spotted on minor geophysical targets, and three were part of a fence of the deep drill test program for the downdip projection of the Faro sulfide horizon.

TABLE 1
 1975 DIAMOND DRILL HOLE SUMMARY
 ANVIL DISTRICT, YJKON TERRITORY

Hole	Location	Grid	Footage	Claim	Notes
456-75-01	12S 92E	Swim Lake	1,039	SB 4	50' H ₂ O; sulfides 825-908'.
456-75-02	9S 76E	Swim Lake	442	SB 2	162' H ₂ O; Stuck - lost hole.
456-75-03	2N 56E	Swim Lake	1,189	SEA 10	176' H ₂ O; sulfides 935-1,011'.
456-75-04	4S 76E	Swim Lake	925	SB 1/SB 2	Sulfides 802-925'.
456-75-05	7+50N 258E	East Sea Turam	400	SEA 164	Assessment hole. 182' overburden. Schist.
456-65-06	14N 72W	AEX (Extended) on Doal Lake	516	RICH 36	Lost hole. Intercepted updip projection of Grum sulfides.
456-75-07	12N 72W	AEX (Extended) on Doal Lake	946	RICH 36	Updip projection Grum sulfide sections. Batholith at 910'.
456-75-08	21S 48E	Gale-Dy	757	DY 185	Assessment hole. All uniform carbonate chlorite sericite phyllite.
456-75-09	1N 116W	AEX Grid	1,720	TIE 23	Test of down plunge projection of Grum deposit. Intercepted top of sulfides at 1,429'.
456-75-10	6W 32S	Bill, Lo, Joe	957	GAL 71	Gravity EM target. Graphite.
456-75-11	13E 8N 859.29S 14,756.26E 3,656.56 277,954.77 22,683 409.10	Bill, Lo, Joe Anvil Mine Co-ords. T.P.C.	1,486	FARO 58	Strat. test, downdip from Faro No. 2. Graphite 540-570'. No massive sulfides.
456-75-12	7,607.80N 12,638.88E 3,959.67 Elev.	Anvil Mine Co-ords.	2,406	FARO 68	Strat. test, downdip from Faro No. 3. Geol. Sec. 118.

Summaries for the drill holes are given below.

Hole 456-75-1, at 92E, 12S, Swim Lake Grid, was drilled to 1,039' and encountered:

0 -	50	Water.
50 -	165	Lake bottom sediments.
165 -	414	Chlorite sericite graphite quartz phyllite.
414 -	497	Chlorite sericite quartz phyllite.
497 -	504	Quartzite.
504 -	660	Chlorite sericite quartz phyllite.
660 -	678	Graphitic sericite chlorite quartz phyllite.
678 -	825	Chlorite sericite quartz phyllite - minor graphite.
825 -	1,039	Sericite chlorite quartz phyllite; 20% <u>sulfide mineralization</u> 825 - 912'.

Hole 456-75-2, at 9S, 76E of Swim Lake Grid, was drilled to 442' and encountered:

0 -	162	Water.
162 -	178	Lake bottom sediments.
178 -	335	Sericite chlorite graphite carbonate phyllite. Minor galena.
335 -	363	Medium grey, carbonate rich, phyllite.
363 -	378	Sericite chlorite graphite quartz phyllite.
378 -	395	Quartzite, with minor chlorite.
395 -	442	Sericite chlorite graphite quartz phyllite.

10 - 15% total sulfides 378.5 - 419' with minor galena and sphalerite.

Hole lost and drill moved to 456-75-4 site.

1,429 - 1,631 Mainly graphitic phyllite. Mineralized.
1,631 - 1,720 Anvil batholith.

In mineralized section, short sections of massive sulfides and longer sections of banded ore are present. Best assays over longer intercepts are:

Banded Ore

1,431.3 - 1,436.5	5.1'	0.07% Cu	1.47% Pb	2.55% Zn
1,462.6 - 1,465.2	2.6'	0.04% Cu	1.89% Pb	2.69% Zn
1,469.2 - 1,474.4	5.2'	0.08% Cu	1.37% Pb	1.71% Zn

Massive Sulfides

1,459.25 - 1,460.25	1.0'	0.34% Cu	3.15% Pb	11.10% Zn
1,462.5 - 1,463.3	0.8'	0.04% Cu	1.50% Pb	1.78% Zn
1,464.0 - 1,465.1	1.1'	0.04% Cu	3.00% Pb	4.50% Zn

Hole 456-75-10 was drilled to 955', at 6W, 32S on the Bill Lo Joe grid on a coincident gravity/E-M target. This hole encountered:

0 - 10 Overburden.
10 - 60 Graphitic phyllite.
60 - 955 Biotite muscovite schist.

Hole 456-75-11, located at 13E, 8N of the 1966 Bill Lo Joe grid and Faro 58 mineral claim on a gravity anomaly. This hole encountered:

0 - 30 Overburden.
30 - 540 Biotite muscovite schist.
540 - 570 Graphitic schist.
570 - 1,486 Biotite muscovite schist.

The location of the graphitic section is in the approximate site of the downdip projection of graphitic rocks related to the Faro ore horizon. Only minor pyrrhotite and pyrite have been encountered to date. The bottom contact of the calc-silicate unit - schist unit was also encountered at the projected depth.

Hole 456-75-14, located on Pelly River Mines Bill 37 mineral claim located just to the east of the main mine townsite road, was terminated at 2,417 feet in the lower schist unit. The top 1,459' of hole were drilled NQ and, from there, completed BQ. The main rock units encountered were:

0 -	1	Phyllite.
1 -	562	Calc-silicate.
562 -	641	Diorite.
641 -	796	Carbonaceous schist.
796 -	953	Andalusite schist.
953 -	1,239	Schists and metabasites.
1,239 -	1,774	Graphitic schist with graphite content highly variable, occasional fills of minor metabasite units.
1,774 -	2,417	Schist.

Hole 456-75-15, located within the mine area between dumpsite hole 71 DS 1, which contained a 48' intersection of sulfides, and Faro #3 ore zone, was terminated at 821' after intersecting about 50' of sulfides. This hole was drilled in the mine area by the Exploration Department because of the reluctance of the Engineering Department to drill off the extensions of known sulfides from the Faro ore bodies.

of Rose Creek. The position of this drill hole will be surveyed to obtain an exact location. This hole was located to test the down plunge projection of the Faro mineralized horizon. This hole encountered:

- 0 - 51 Overburden.
- 51 - 653 Schist. Highly altered and brecciated 162 - 210' (fault zone). Bleached schist to 425'. Skarn 501 - 607.5'.
- 653 - 777 Bleached diorite dike (?).

This hole must be in a large fault zone. The bleaching is probably a product of weathering along the fault zone. This hole is probably collared in the foot wall below the Faro mineralized horizon.

Hole 456-75-18, a 1,410', -60° hole bearing N 52 E, was located on mine section co-ordinate 124/12 or mine grid co-ordinates 7,603.00N, 13,966E.

This hole penetrated:

- 0 - 8 Triconed.
- 8 - 270 Calc-silicate unit.
- 270 - 653 Upper, andalusite bearing, schist unit.
- 653 - 672 Graphitic schist.
- 672 - 721.4 Upper, andalusite bearing, schist.
- 721.4 - 771.1 Mineralized section.
- 771.1 - 1,410 Upper, andalusite bearing, schist unit with incipient staurolite at 1,002'. At 972.5' is a 0.05' fragment of massive sulfides. Assay results are attached as a separate page.

This hole was located to test for the down dip extensions of the Faro No. 3 ore zone, and to test for an anomalous, steeply dipping, conductor first

Hole 75-11 was drilled through the known ore zone to test for a repeat of the mineralized section at depth by folding. This hole was abandoned in the schist unit at 2,159 feet after the core barrel was stuck and could not be recovered. The postulated underfolded sulfide horizon did not materialize at the drilled depth, about 1,500' below the Faro ore bodies.

The costs of both holes will be shared by the Engineering Department with a contribution of \$25,000.

GEOPHYSICS

Turam electromagnetic, ground magnetic, and gravity surveys were undertaken in various parts of the Anvil claims. Two lines of IP were conducted to determine if the rock type distribution below the surface could be identified.

In the district, all gravity surveys have been tied by metering and surveying in the preparation of the overall district gravity map.

Ground magnetometer grids were tied in the West Faro, Gal-Ed, and Hek areas in planning for a district-wide ground magnetic map.

Electrical Surveys

Turam Surveys

The district-wide Turam coverage was continued in 1975 with surveys covering the West Faro Extension Grid and the Hek Grid to the northwest of the Faro claims, and partially covered the Gal-Ed claims.

On the West Faro Extension Grid, coverage included the Davis E-M gravity (1971) anomaly and extended to the northwestern border of the Faro claim group. Significant individual exploration targets were not outlined by this

the Gal-Ed grid and extending to the northeast along a line parallel to the deep drill holes 456-75-12, 456-75-13, 456-75-14, across Faro No. 3 ore body and into the Anvil batholith. The second test line was along Line 184W of the West Faro extension grid, also from Rose Creek to the northeast to the end of the grid line. The results along Line 192W, along the line of section of deep drilling, shows a good general correlation between the known rock distribution and chargeability and resistivity results of this survey. The correlation is general because of the 600-foot "a" spacings and up to 4n separations. This spacing and wide separations were used because theoretically they would give a penetration of over 2,000' and this would be close to the depth of the drill holes.

Basically, the IP survey, on Line 192, allows a plot of four zones of characteristic chargeability resistivity associations which correlate well with the known surface and subsurface rock distribution. Of more immediate exploration significance is the definition of three conductors which are interpreted as graphitic rock units, two of which may represent one "stratigraphic" horizon on two limbs of a fold. This is in the area of the mine and may be the unit spatially related to the Faro mineralized horizon. The third unit is "stratigraphically" higher than the lower unit. Corroberating evidence for three conductors comes from the 1964 Lockwood airborne E-M survey which defined three near-surface conductors in the same area where the IP defined conductors might project to the surface.

The IP survey, on Line 184W of the West Faro grid, using 300 foot "a" electrode spacing, tested the system away from sources of extraneous man-made interference as could have been present at the mine and, in addition, it provided an evaluation at depth of the gravity high. The results of this

showed the area to be underlain by chlorite phyllites. The conductivity of similar rocks elsewhere in the district did not yield similar E-M response.

Tie Grid

A gravity survey was conducted on the 1966 Tie Grid to determine if gravity anomalies are present in this area of multiple magnetic anomalies. The initial interpretation of the gravity survey suggests no large zones of anomalous mass concentrations which could be related to a large, near-surface, massive sulfide deposit.

West Faro Extension Grid

This grid was tied on to the original Faro Grid to provide gravity coverage for the entire Faro claim block. This survey would also provide a re-evaluation of the 1971 Davis gravity anomaly. A broad zone of gravity highs was defined coincident with the zone of poor conductors, which were trenched and shown to be underlain by greenstones. The character of the anomalies suggests a deeper seated cause, but the relationship to the greenstone is so good to make it too fortuitous to be just coincident.

Magnetometer Surveys

Ground magnetometer surveys were conducted on the eastern end of Swim Lake, the Hek Grid, the Gal-Ed Grid, and the West Faro Extension Grid.

Swim Lake

The survey was tied to the 1974 survey and completed coverage of Swim Lake. While the distribution of the main anomaly could be determined, the tie to the 1974 was poor and causes a "step" in the magnetic values between the 1974 and 1975 values.

Faro Claims

Three trenches were cut on the West Faro Extension gravity highs and one was cut on the "Davis" anomaly to determine the nature of and sample bedrock and determine the depth to bedrock. The following zones were trenched:

L184W	30+65S to 33S	30+65S to 32S - Chlorite sericite phyllite. 32+00S to 33+00S - Chlorite phyllite and greenstone.
L176W	30+00S to 32+00S	Biotite and biotite graphite phyllites, chlorite greenstone.
L120W	44+00S to 46+00S	44+00S to 45+00S - Phyllite. 45+00S to 46+00S - Graphitic phyllite.
L148W	15+00S to 17+00S (Davis Anomaly)	Bedrock not reached. Trench to 16' deep at 14+50S. Only chlorite phyllite greenstone float found in trench.

Densities were determined for surface samples taken over the zone of the gravity anomaly. The greenstone samples had a density of 2.9 g/cc to 3.0 g/cc, while the phyllites had a density of 2.6 g/cc to 2.7 g/cc. This suggests that the gravity high reflects this higher density rock unit. (The size, distribution and shape of anomaly had led to this conclusion originally.)

In addition to the above trenching, four samples of different materials were taken for chemical analysis from a trench cut on L224W, 28+00S to 31+00S on the West Faro Extension Grid. This trench was cut to expose any source of high lead in soil samples from this area, but no high lead values were found in the trench samples.

Results of the West Faro Extension soil geochemical survey were plotted. Several zones of high metal content in soil were located. Most of these may be related to changes in the underlying rock type, but one zone on Lines 224W and 232W, over 500 foot lengths of sampled line, contained up to several thousand parts per million lead.

SOIL GEOCHEMICAL SURVEYS

Soil samples were taken from the West Faro Extension and Hek Grids and their total copper, lead and zinc contents determined using atomic absorption spectrophotometric methods by Acme Analytical Labs, Ross River, Y.T. A hot aqua regia digestion was used to release the base metals into solution.

Faro Grid

Soil samples were collected on the West Faro Extension Grid on a 200-foot sample station on lines spaced 800 feet apart. The material collected was below the organic and ash layer. Sampling was contracted out to and conducted by John Young.

Several individual high one station anomalies of several hundred parts per million lead and/or zinc appear randomly scattered through the sample area. Two adjacent lines, 224W and 232W, contained anomalous high lead values (to 2,360 ppm) in samples taken between 24S and 34S and 8S to 14S respectively. No outcrop was found in these areas. A bulldozer trench on L224W between 28S to 31S exposed greenstone with minor pyrite and a one foot graphite-quartz vein, but no source for the lead. The source of the lead in samples on L232W is not known. Immediately to the north of the anomalous sample station are greenstone outcrops, but on basis of E-M data, the rocks underlying the anomalous section are thought to be phyllite or possibly the calc-silicate unit.

sample grid. On the south side of the base line are several zones of anomalous high base metal content. Four samples with anomalously high zinc content found on Lines 72W and 80W from 64S to 72S. In this same area are three samples containing average plus two to three standard deviations (125 ppm to 158 ppm) zinc. This is the only area of the grid with a multi-station zinc in soil anomaly. All other samples with moderately high zinc content are randomly distributed one station anomalies.

The soil samples with anomalous lead content show a similar distribution to those of zinc, with four of the highly anomalous values (those greater than 108 ppm) coming from sediments along Rose Creek valley. Only two samples with anomalously high values were found elsewhere on the grid and these came from widely separated sites. One of these (at Line 200N, 8+00E) has an associated moderately high zinc content and it represents the only true multi-element anomalous soil geochemical sample.

Soil samples with anomalous copper content also show a distribution similar to that of lead and zinc, with the largest number of anomalous samples found along the Rose Creek valley. Five other samples with high copper content come from wide, randomly scattered sites along Rose Creek valley.

The largest number of samples with anomalous metal content and also those with the highest metal content were found along Rose Creek valley and probably reflect the contamination from the 1975 tailings spill. Only one other cluster of six samples with high zinc content was found on the grid and is on two adjacent lines at the western-most corner of the soil grid. This area, on the basis of outcrop and geophysical data, is inferred to be underlain by an amygdaloidal chloritic phyllite unit which, elsewhere in the

where the area is underlain by amphibolites and greenstone.

STAKING

Six Gran claims, numbered 1 through 6, were restaked. These claims are located on the east side of the Rose Creek valley, approximately 12 miles northwest of the Faro claims.

SURVEYING

Elevation control was obtained from Vangorda Creek to Swim Lake and Anvil mine site. Control was from a geodetic station at the Faro townsite. Survey was by Hosford, Impy and Welter, land surveyors and engineers, Whitehorse.

LINE CUTTING

Five grids were cut in 1975. These are:

1. Tie Grid - 8.9 miles, re-cut of 1966 grid for gravity survey.
2. Faro Grid - ("Davis anomaly") - 8.9 miles re-chain and picket for Turam survey.
3. Gal-Ed Grid - re-chain and picket 80 miles for completion of Turam survey.
4. Hek Grid - approximately 36 miles to be cut on HEK, DA, FUBAR, etc., claims involved in Cyprus Anvil - Hecla joint venture.
5. West Faro Extension Grid - approximately 35 miles as a tie-on grid to the west of original Faro grid. Lines to be cut to the west end of the Faro claim block, north to the batholith contact and south to Rose Creek.