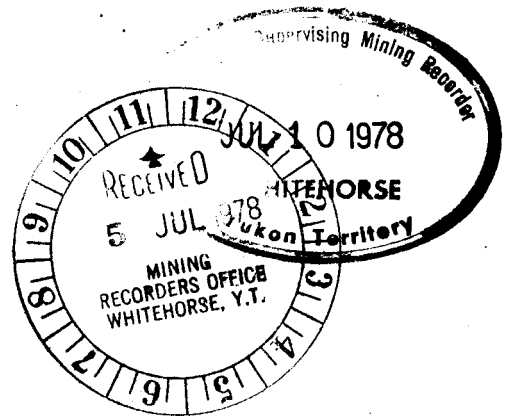


GEOLOGICAL REPORT

URN CLAIM GROUP

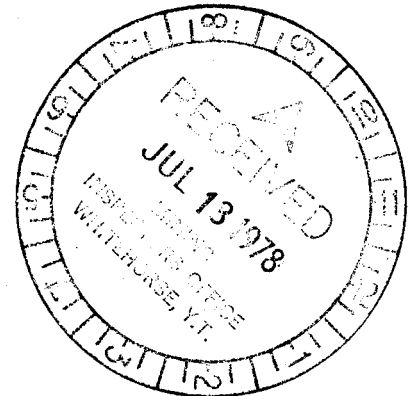


Whitehorse Mining District

N. T. S. 105 K - 5, 6

Latitude: 62° 20' 30" N

Longitude: 133° 31' 48" W



By:

J. P. FRANZEN

CYPRUS ANVIL MINING CORPORATION

May 26, 1978.

090345
Field Work Done During the Period: July 19 - August 11, 1977.

This report has been reviewed by the Geological Survey and is recommended to the Commission for consideration of appropriation work in the amount of

\$10,000

D. B. Craig

Considered as transportation work under Section 53 (c) of the General Mining Act.

B. R. Baxter

B. R. BAXTER
Supervising Mining Recorder

Assistant Secretary of the Interior

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APPENDICES

- ~~Appendix I ^{STET} URN Assay Results~~
- ~~Appendix II Statement of Qualifications~~
- ~~Appendix III List of Personnel and Dates Worked on the Claims~~
- ~~Appendix IV Summary of Costs~~
- ~~Appendix V Affidavit Supporting Summary of Costs~~
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LIST OF CLAIMS

<u>Claims</u>	<u>Grant Nos.</u>	<u>Recording Date</u>	<u>Expiry Date</u>
URN 1 - 124	YA19142 - YA19265	July 13, 1977	July 13, 1978
URN 125 - 131	YA19734 - YA19740	September 12, 1977	September 12, 1978

GEOLOGICAL REPORT

URN CLAIM GROUP

INTRODUCTION

Bedded barite occurrences are widespread in Eastern Selwyn Basin. These barite horizons occur near the base of Lower Devonian to Mississippian Earn Group. Similar barite occurrences are now known in Western Selwyn Basin. URN claims 1 - 131 were staked to cover this new barite locality. The claims are located in Whitehorse Mining District at approximately $62^{\circ} 20' 30''$ N x $133^{\circ} 31' 48''$ W. Access to the property is by helicopter. A three kilometer extension of an existing cat trail from the Cyprus Anvil Minesite would provide bulldozer access to the property.

SUMMARY

An on-going regional mapping program in the Faro area has outlined several bedded barite occurrences within previously unrecognized Lower Devonian-Mississippian Earn Group strata. These barite beds outcrop on the north slope of Rose Mountain, seven kilometers west of the Faro open pit and concentrator (Figure 1). Three barite beds have been noted and represent two or possibly three separate horizons. Continuity within and correlation between these horizons is hampered by lack of outcrop. Nevertheless, topographic, structural and tenor information from known exposures has restricted the area of immediate economic interest. Rigorous mapping of the URN claims may reveal additional potentially economic sites.

GEOLOGY

The claim group is underlain by an apparently continuous southwest dipping Paleozoic stratigraphic section (Figures 2 and 3). Locally, Vangorda Formation (Kechika Group) units are overlain by the Lower Devonian to Mississippian Earn Group (Figure 4). Anvil Range Group and structurally emplaced Vangorda Creek Ultramafic Complex dominate the upper part of the section. Baritic horizons are restricted to the Earn Group.

The lower barite horizon, Unit 6B, has a potential strike length in excess of 3.7 kilometers based on three known exposures. Barite continuity for this distance is dubious as barite has been observed to grade laterally into buff-weathering phyllitic chert wall rocks. Nevertheless, the potential exists for subcropping barite in the three kilometers between URN Sites 4 and 10. Here, moderate (30°) stratigraphic dips into the stream dissected hillside could provide potentially favourable quarry sites should high grade barite be found. Assay results from Sites 4 and 10 are 63% BaSO_4 /10 meters and 48% BaSO_4 /4 meters respectively (Appendix I). Wall rocks at the samples sites were not observed but local topography suggest a true barite thickness not exceeding 15 - 20 meters.

The upper barite horizon, Unit 6D, is 300 meters immediately up-section from Unit 6B. This horizon is continuously exposed along 1.2 kilometers of strike length (Sites 3, 5, and 6). To the east Unit 6D appears to have been eroded shortly after deposition since barite cobbles (nodules?) occur in phyllitic chert wall rocks; to the west, barite float occurs three kilometers along strike from the last barite outcrop. Unit 6D has a true thickness of approximately 10 - 12 meters with most outcrops in the 1.5 - 4.5 meters range. Wall rocks are not exposed in the latter instances. Assay data are incomplete but moderate 25° - 55° dips into the rugged hillside preclude any open pit potential.

The barite horizon of immediate economic interest straddles map sheets D-6 and E-6. Correlation with Unit 6B or 6D, or the possibility of a third horizon, is uncertain. This latter possibility has some credibility since

ANVIL RANGE LITHOSTRATIGRAPHIC CODE

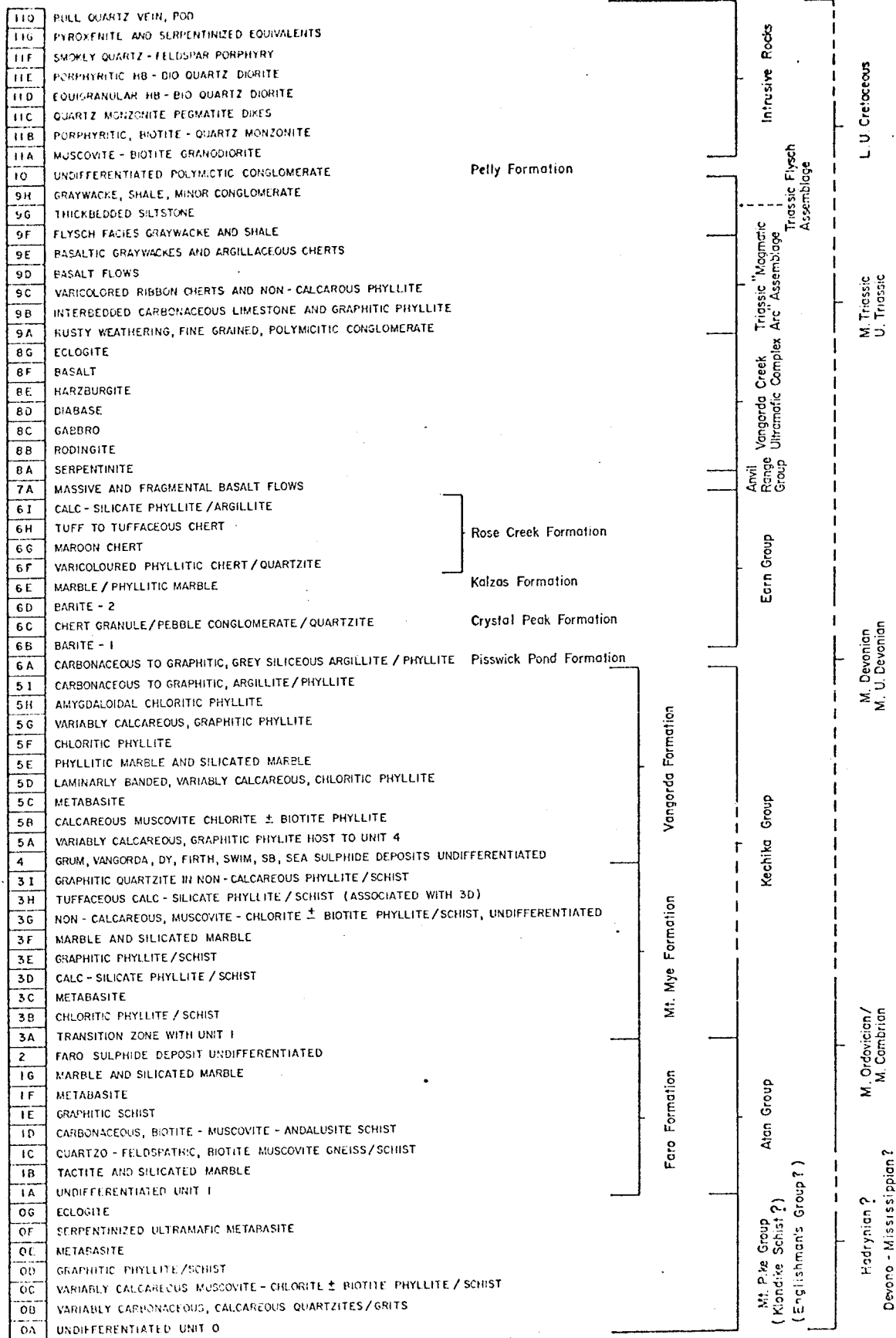


Figure 4

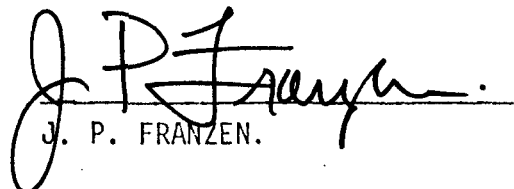
shale and conglomerate form the respective footwall and hanging wall, whereas all other barite occurrences have phyllitic chert wall rocks. URN Sites 1, 2, 8 and 9 are located on this horizon to give a projected strike length of 4.3 kilometers. URN Site 2 locally grades 88% BaSO₄/20 meters (apparent thickness) but dips steeply into the hillside. At Site 9, a 3 meter sample assayed 90% BaSO₄ and occupies a topographically favourable quarry site with the barite horizon approaching dip slope attitudes; the eastern-most exposure (URN Site 8) is much more siliceous and less than 6 meters thick. Site 1, central to the above localities, 12 - 15 meters thick (approximate true thickness) and has interbanded low and high grade zones (Appendix I). Progressive thickness and grade variations exhibited by these exposures may indicate a crude decrease in grade and thickness of barite from west to east.

CONCLUSIONS AND RECOMMENDATIONS

Two, and possible three barite horizons outcrop seven kilometers west of the Cyprus Anvil open pit. To date, one locality, Site 9, appears to have open pit potential. This site should be trenched and mapped in detail to determine thickness, attitude and continuity of the barite horizon.

A 50,000 metric tonne/season open pit operation at a rate of 500 metric tonne/day for a 10 year period would require proven reserves of 500,000 metric tonnes. A barite panel 170m long x 75m deep x 10m thick would contain these reserves. Thicker and lower grade panels could also be considered but would require beneficiation at the Cyprus Anvil concentrator.

Respectfully submitted,
CYPRUS ANVIL MINING CORPORATION


J. P. FRANZEN.

May 26, 1978.

URN ASSAY RESULTS

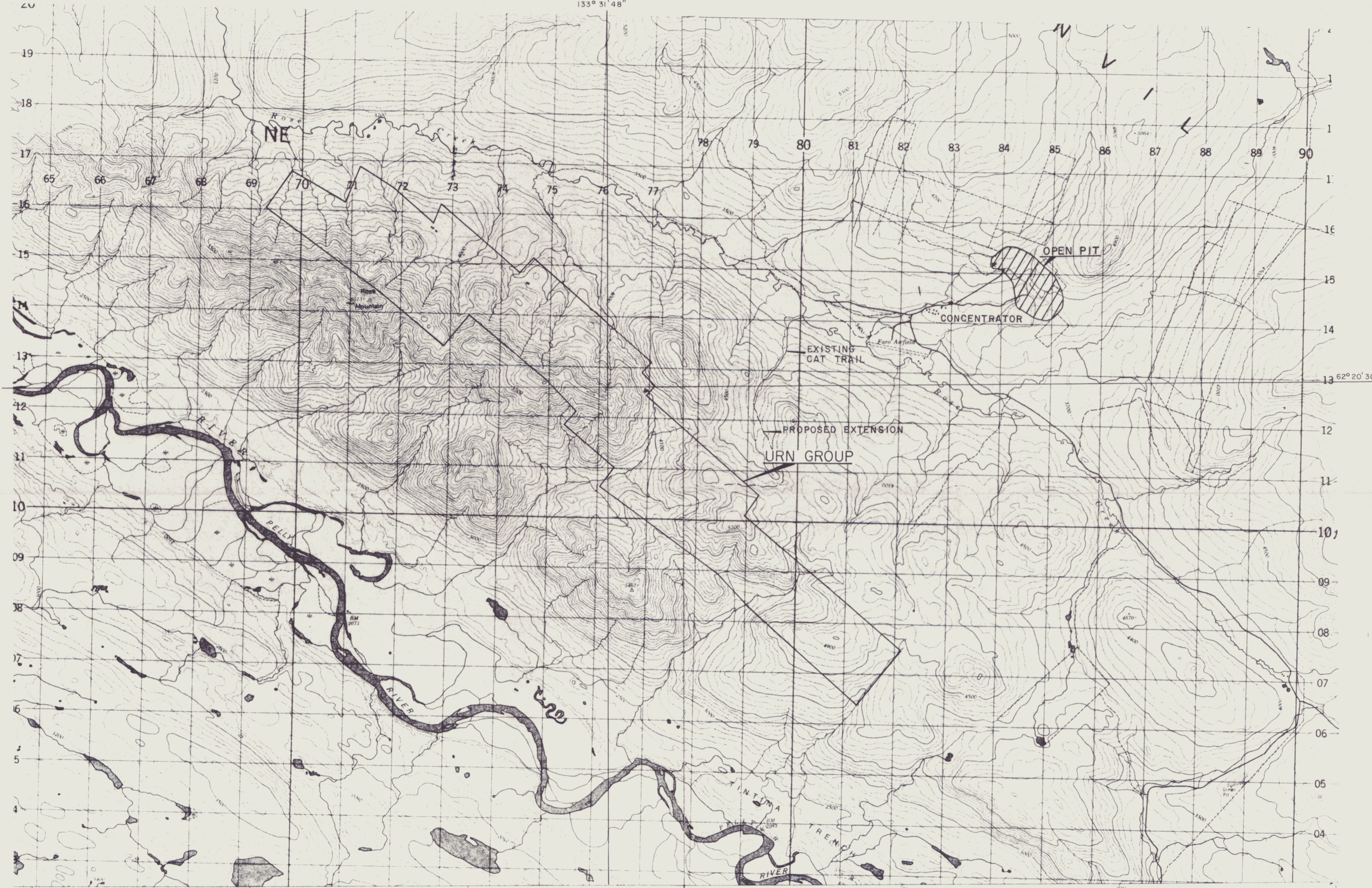
URN ASSAY RESULTS

APPENDIX I

<u>Samp. No.</u>	<u>Interval Metres</u>	<u>BaSO4</u>	<u>S.G.</u>	<u>SiO2</u>	<u>FeO</u>	<u>CaO</u>	<u>S</u>
<u>SITE 1</u>							
<u>Zone A</u>							
3001	0.0 - 2.0	76.8	3.84				
3002	2.0 - 4.0	25.5	3.00				
3003	4.0 - 6.0	18.4	2.79				
3004	6.0 - 8.5	80.1	3.78	18.0	0.44	0.042	0.29
<u>Zone B</u>							
3005	0.0 - 3.5	47.2	3.19				
3006	3.5 - 5.5	44.8	3.17				
3007	5.5 - 7.5	70.1	3.56				
<u>Zone C</u>							
3008	0.0 - 4.0	76.4	3.80				
3009	4.0 - 8.0	74.7	3.62				
3010	8.0 - 12.0	78.6	3.83				
3011	12.0 - 14.5	42.4	3.11				
3012	14.5 - 16.5	36.0	2.96				
3013	16.5 - 19.5	40.7	2.99				
3014	19.5 - 22.5	17.3	2.77				
3015	22.5 - 25.5	38.6	2.94				
3016	25.5 - 28.0	67.1	3.48				
<u>SITE 2</u>							
<u>Zone A</u>							
3017	0.0 - 2.0	86.2	4.11	9.77	0.06	0.034	0.22
3018	2.0 - 4.0	86.7	4.00	10.72	0.14	0.038	0.26
3019	4.0 - 6.0	93.1	4.12	6.36	0.21	0.039	0.19
3020	6.0 - 8.0	90.6	4.10	7.20	0.14	0.036	0.21
3021	8.0 - 10.0	90.1	4.02	8.71	0.12	0.031	0.20
3022	10.0 - 12.0	89.4	4.02	9.09	0.06	0.038	0.26
3023	12.0 - 14.0	91.7	4.11	7.55	0.06	0.039	0.21
3024	14.0 - 16.0	86.6	3.96	12.62	0.12	0.043	0.23
3025	16.0 - 18.0	84.3	3.95	12.90	0.21	0.049	0.23
3026	18.0 - 20.0	83.5	3.94	14.66	0.17	0.046	0.23
<u>Zone B</u>							
3027	0.0 - 2.0	71.6	3.61				
3028	2.0 - 4.0	74.4	3.63				
3029	4.0 - 5.0	72.6	3.63				
<u>Zone C</u>							
3030	0.0 - 2.0	91.2	4.00	7.85	0.06	0.041	0.22
3031	2.0 - 4.0	79.9	3.77				

<u>Samp.</u> <u>No.</u>	<u>Interval</u> <u>Metres</u>	<u>BaSO4</u>	<u>S.G.</u>	<u>SiO2</u>	<u>FeO</u>	<u>CaO</u>	<u>S</u>
<u>SITE 3</u>							
3032	0.0 - 2.0	72.0	3.73				
3033	2.0 - 4.0	50.6	3.00				
3034	4.0 - 6.0	43.4	3.20				
3035	6.0 - 8.0	67.0	3.67				
3036	8.0 - 10.0	55.8	3.44				
3037	10.0 - 12.0	42.0	3.13				
<u>SITE 4</u>							
3038	0.0 - 2.0	47.7	3.24				
3039	2.0 - 4.0	73.0	3.87				
3040	4.0 - 6.0	56.8	3.44				
3041	6.0 - 8.0	68.6	3.66				
3042	8.0 - 10.0	69.0	3.68				
<u>SITE 9</u>							
3052	0.0 - 3.0	94.15	4.13	4.78	0.44	0.07	0.26
<u>SITE 10</u>							
3053	0.0 - 4.0	47.8					

* Sites 5 - 8 inclusive samples lost in transit.



45 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90
 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4
 133° 31' 48" 136° 30' 62° 20' 30'

FIGURE 1
 CYPRUS ANVIL MINING CORPORATION
 URN GROUP
 NTS 105-K-5,6
LOCATION MAP
 APRIL, 1978 SCALE 1:50,000
 JPF/rwr (Reference Map Sheets D-6 & E-6)

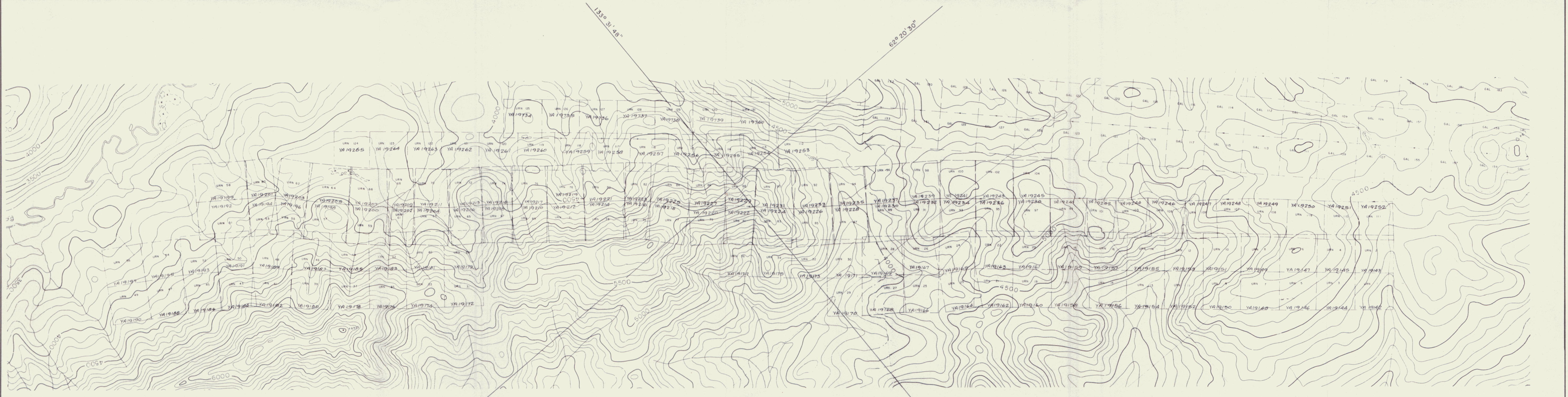


FIGURE 2

CYPRUS ANVIL MINING CORPORATION	
URN GROUP	
CLAIM MAP	
APRIL, 1978 JPF /rwr	SCALE 1" = 2000' (1:24,000) (Reference Map Sheets D-6 & E-6)

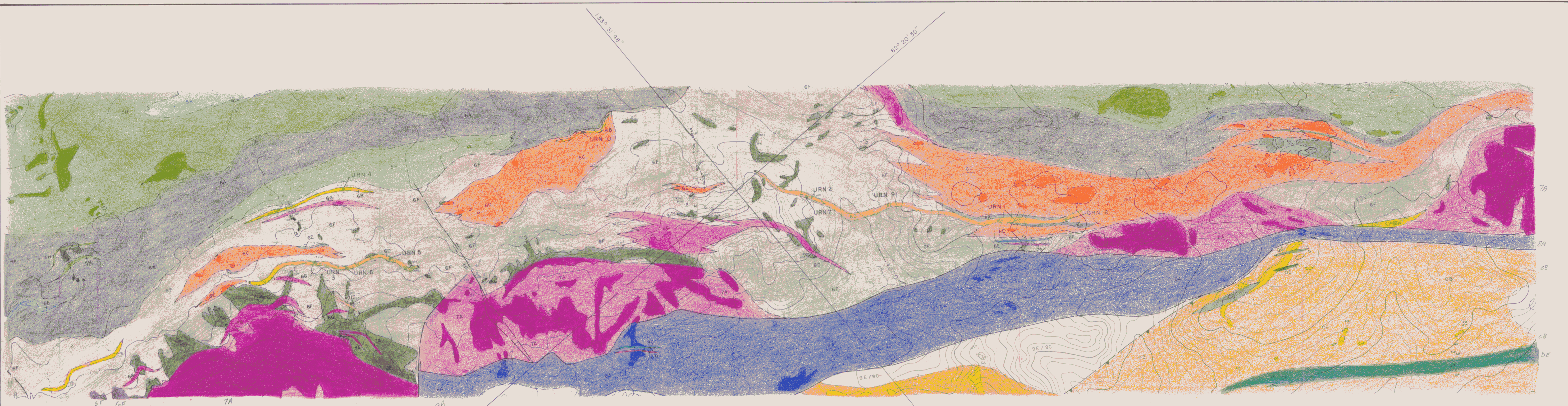


FIGURE 3

CYPRUS ANVIL MINING CORPORATION	
URN GROUP	
GEOLOGY MAP	
APRIL, 1978 JPF / rwr	SCALE 1" = 2000' (Reference Map Sheets D-6 & E-6)