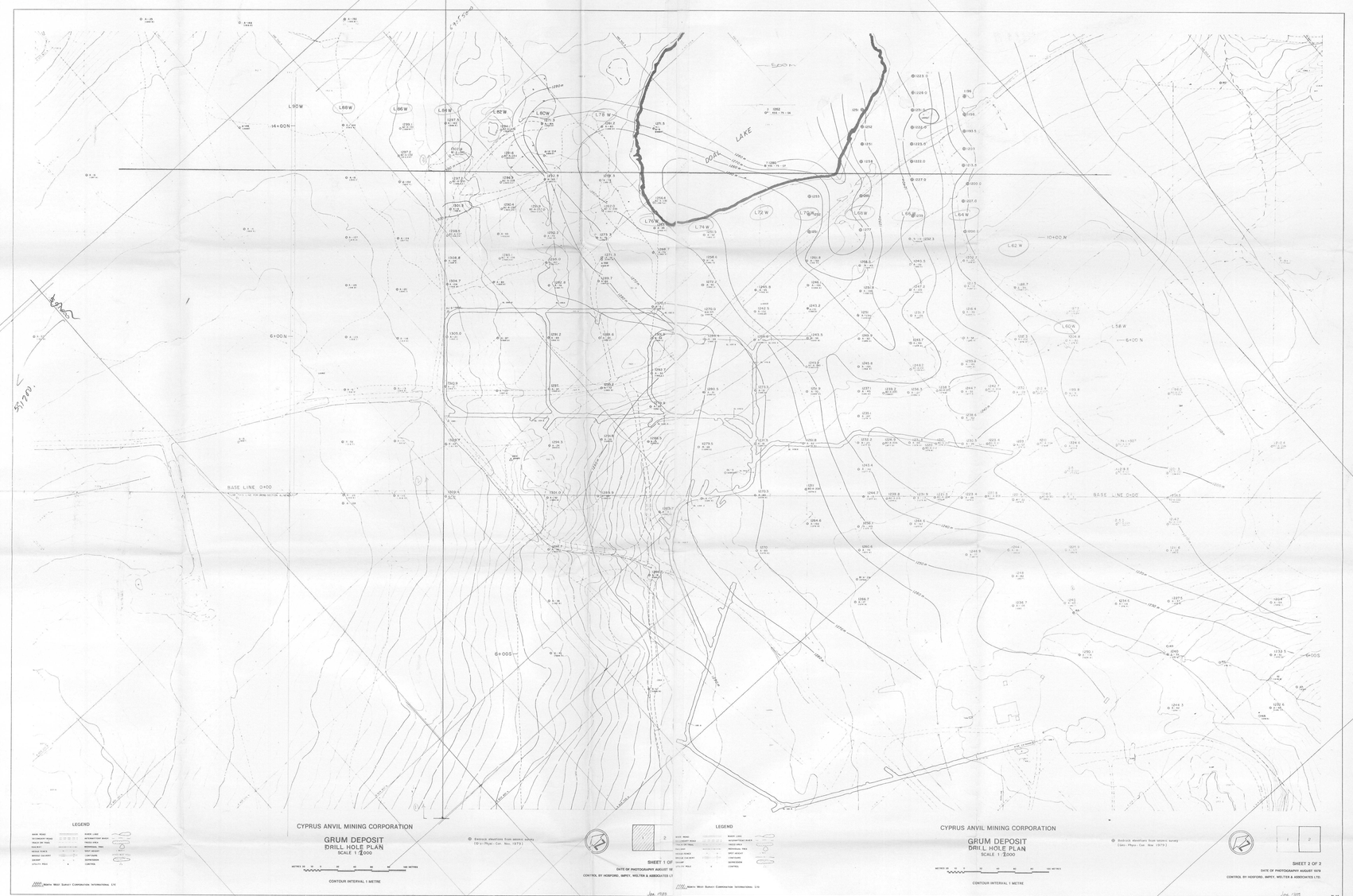
Grum Feb/83

R Calo.



- DO Sect 54N
Plunge Cased
Named.

Sections are 60.693m. apart

9161/9166

FIRTH

GRUM DEPOSIT
Property Limits (UTM)

Direction of Base Line (w.r.t UTM-North)

End-Points of Base Line.

① KA-GRID POINT 9146.0N, 9144.0E

② $N_{UTM} = N_0 + S*(N_{KA}\cdot\cos\alpha + E_{KA}\cdot\sin\alpha)$ = 6,894,007.1169 + 0.99950853(9146.0 * 0.9996229 + 9149.0 * 0.0274612)
= 6,894,007.1169 + 0.99950853(9140.5518 + 251.1052) = 6,894,007.1169 + 0.99950853(9391.657)
= 6,894,007.1169 + 9387.041 = 6,903,394.12

③ $E_{UTM} = E_0 + S*(-N_{KA}\cdot\sin\alpha + E_{KA}\cdot\cos\alpha)$ = 584,995.9084 + 0.99950853(-251.1052 + 9140.5518) = 584,995.9084 + 0.99950853(8889.4466)
= 584,995.9084 + 8885.0774 = 593,880.98

④ KA-GRID POINT (NEW) 11412.39N, 6778.51E

(a) $N_{UTM} = N_0 + S*(N_{KA}\cdot\cos\alpha + E_{KA}\cdot\sin\alpha)$ = 6,894,007.1169 + 0.99950853(11412.39 * 0.9996229 + 6778.51 * 0.0274612)
= 6,894,007.1169 + 0.99950853(11408.866 + 186.146) = 6,894,007.1169 + 0.99950853(11594.282)
= 6,894,007.1169 + 11588.533 = 6,905,595.65

(b) $E_{UTM} = E_0 + S*(-N_{KA}\cdot\sin\alpha + E_{KA}\cdot\cos\alpha)$ = 584,995.9084 + 0.99950853(-11412.39 * 0.0274612 + 6778.51 * 0.9996229)
= 584,995.9084 + (-313.34772 + 6775.9558) * 0.99950853 = 584,995.9084 + 0.99950853(6462.5559)
= 584,995.9084 + 6459.3796 = 591,455.288

Length of Base Line

ΔN_{UTM}	6,903,394.12	ΔE_{UTM}	593,880.98
	6,905,595.65		591,455.28
	2,201.53		2,425.70

$\Delta L_{UTM} = ((\Delta N_{UTM})^2 + (\Delta E_{UTM})^2)^{1/2}$ = 3275.7831

ΔN_{KA} =	9146.00	ΔE_{KA} =	9144.00
	11412.39		6778.51
	2266.39		2365.0

$\Delta L_{KA} = ((\Delta N_{KA})^2 + (\Delta E_{KA})^2)^{1/2}$ = 3277.3667

$\Delta L_{UTM} = 0.99950853 \cdot \Delta L_{KA}$ ~ 3275.7559

Close enough.

018295

This reference scale has been added to the original image. It was not on the original, therefore it can be used as a reference for the original size.
YUKON GEOLOGICAL SURVEY