003135

CURRAGH RESOURCES INC. FARO OPERATIONS
MINERAL INVENTORY, OCTOBER 1,1990

CURRAGH RESOURCES INC.

MINERAL INVENTORY, OCTOBER 1,1990

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1.0 SUMMARY

Total Faro Division geological reserve in five mineral deposits on October 1, 1990 is 84.3 million tonnes grading 9.72 % combined lead and zinc.

From this geological reserve base there are detailed or preliminary mine plans for each deposit. In addition, there are existing low and high grade stockpiles which are partially consumed in current plans. These plans contain a total mining and stockpile reserve of 50.2 million tonnes grading 3.61% lead, 5.13% zinc and approximately 55 grams per tonne silver.

Faro, Vangorda, and Grum mineral inventories have changed significantly since January 1, 1989. Changes are due in part to; (1) waste stripping and mining depletion, (2) additional diamond drilling, (3) new geological interpretations, (4) new approaches to grade calculations, (5) New ultimate pit designs for Faro and Vangorda were completed in 1989. Changes to the mineral inventories of each deposit are detailed in section 2.

There has been no change to the mineral inventories of Dy and Swim deposits during this period.

1:1 DEFINITION OF TERMS

Geological Reserve:

The term geological reserve is used to refer to the total in-situ material in a mineral deposit. Normally this is quoted above a specific cut-off grade, however the practicality of mining the material has not been established. The geological reserves will include both material inside and outside of potential mining volumes.

Geological reserves are classified as proven, probable, or possible following the Ontario Professional Engineers and Ontario Securities Commission guidelines (see appendix B and C). In the case of these deposits, reserves are classified as proven if the mineralization is within 150 feet of a drillhole intersection.

Mining Reserve:

The term mining reserve is used to refer to quantities of ore in a mineral deposit for which a detailed or conceptual mine plan exists. In all cases the mining reserves are a subset of the geological reserves and are calculated from the same base of information. A specific cut-off grade relevant to the economics of the mining method is applied. In most cases mining dilution and mining recovery adjustments are made. The economic feasibility of mining the reserve has not necessarily been established nor are the deposits necessarily committed to production.

Mining Reserves are classified as proven and probable based on Ontario Securities Commission definitions (see appendix B and C).

TABLE 1
CURRAGH RESOURCES INC. - FARO DIVISION
GEOLOGICAL RESERVES AS OF OCTOBER 1, 1990

DEPOSIT	CLASS	CUT-OFF%	ORE TONNES	LEAD ZINC	% LEAD	% ZINC	g/mt SILVER	g/mt GOLD	SOURCE
FARO									
Zone 3 Only	Proven	+6%	3,352,000	8.36	2.99	5.37	27	0.11	90-2b
Zone 3 Only	Proven	+5%	4,832,000	7.46	2.66	4.80	25	0.12	90-2b
Zone 3 Only	Proven	+4%	6,760,000	6.62	2.36	4.26	23	0.13	90-2b
Zone 3 Only	Proven	+3%	8,611,000	5.95	2.11	3.84	22	0.13	90-2b
SW Underground	Probable	+9%	2,246,000	12.80	5.04	7.76	68	NA	90-6
Total Deposit	All	4 or 9	9,006,000	8.16	3.03	5.13	34	NA	
	All	3 or 9	10,857,000	7.37	2.72	4.65	32	NA	
GRUM									
Main Zone (61W-87W)	Proven	+6%	23,963,000	10.36	3.90	6.46	66	1.00	89-8
Main Zone (61W-87W)	Proven	+5%	27,855,000	9.68	3.66	6.02	61	0.98	89-8
Main Zone (61W-87W)	Proven	+4%	32,181,000	8.98	3.40	5.58	57	0.95	89-8
Main Zone (61W-87W)	Proven	+3%	35,723,000	8.45	3.22	5.23	54	0.93	89-8
Champ Zone (51W-61W)	Probable	+4%	1,700,000	7.80	3.50	4.30	46	NA	89-16
NW Zone (87W-100W)	Possible	NA	8,000,000	10.00	NA	NA	NA	NA	89-17
Total Deposit	Prov.+ Prob.	+4%	33,881,000	8.92	3.41	5.52	56	NA	
		+3%	37,423,000	8.42	3.23	5.19	54	NA	
VANGORDA									
Total Deposit	Proven	+6%	5,927,000	9.81	4.36	5.45	55	0.83	90-15
Total Deposit	Proven	+5%	6,557,000	9.39	4.16	5.23	52	0.81	90-15
Total Deposit	Proven	+4%	7,244,000	8.93	3.95	4.98	49	0.78	90-15
Total Deposit	Proven	+3%	8,115,000	8.34	3.68	4.66	46	0.77	90-15
DY									
Total Deposit	Probable	+9%	21,060,000	12.28	5.54	6.74	84	0.95	89-12
SWIM									
Total Deposit	Probable	+4%	5,130,000	7.90	3.50	4.40	47	NA	89-15
TOTAL FARO DIVISION*									
	Proven		46,185,000	8.63	3.33	5.29	51	0.80	
	Probable		30,136,000	11.32	5.04	6.28	74	NA	
	Possible		8,000,000	10.00	NA	NA	NA	NA	
ALL CATAGORIES			84,321,000	9.72	NA	NA	NA	NA	

* Reserve cutoff is 4% Pb+Zn for reserves which may possibly be mined by open pit methods.
Reserve cutoff is 9% Pb+Zn for reserves which may possibly be mined by underground methods.
Faro 3-4% Pb+Zn material is stockpiled in the low grade stockpile.

TABLE OF SOURCES

90-2b C.R.I. (Sept 1990); F9005 in-situ reserve calculation below Sept 30/90 survey surface (no adjustments), in-house report.
90-6 C.R.I. (Sept 1989); S89 Alpha II Mine Plan. 364,000 tonnes ore mined start-up Jan 1990 to Sept 30/90 subtracted from original Alpha II geological reserve.
89-8 C.R.I. (June 1986); G8606 in-situ (5% SG reduction removed) reserve calculation, in-house report.
89-16 Kerr Addison Mines (1978); Sectional Calc. by A.Y. Po in Sirola (1977) Grum Joint Venture Mineral Inventory
89-17 C.R.I. (1984); Estimate of reserve based on extrapolation of sections NW of Main Zone
90-15 C.R.I. (Sept 1990); V9009 in-situ (no adjustments) reserve calculation, in-house report.
89-12 C.A.M.C. (1982); R.W. Rollings polygonal reserve calculation in Dy Reserve Summary, C.A.M.C. in-house report.
89-15 Vintila I. (March 1988); Preliminary Open pit Reserve Evaluation For The Swim Deposit, page 5.

TABLE 2
CURRAGH RESOURCES INC. - FARO DIVISION
MINING RESERVES AS OF OCTOBER 1, 1990

DEPOSIT	CLASS	CUT-OFF%	WASTE TONNES	ORE TONNES	LEAD+ ZINC	% LEAD	% ZINC	g/mt SILVER	g/mt GOLD	STRIP RATIO	SOURCE
FARO											
Zone 3 Pit	Proven	+6%		2,073,000	8.12	2.81	5.31	22	0.12		90-4
Zone 3 Pit	Proven	+5%		3,017,000	7.30	2.53	4.77	21	0.13		90-4
Zone 3 Pit	Proven	+4%	4,917,000	4,118,000	6.58	2.29	4.29	20	0.14	1.19	90-4
Zone 3 Pit	Proven	+3%	3,928,000	5,107,000	5.99	2.08	3.91	18	0.14	0.77	90-4
SW Underground	Probable	+9%		814,000	10.38	4.11	6.27	60	NA	NA	90-6
Total Deposit	All	4 or 9		4,932,000	7.21	2.59	4.62	27	NA	NA	
	All	3 or 9		5,921,000	6.59	2.36	4.23	24	NA	NA	
FARO STOCKPILES											
Low Grade	Proven	3-5%	NA	1,800,000	4.51	1.80	2.71	NA	NA	NA	90-11
High Grade	Proven	+5%	NA	912,000	6.22	2.36	3.86	NA	NA	NA	90-11
Total Stockpiles				2,712,000	5.09	1.99	3.10	NA	NA		
GRUM PIT											
Total GIV88 pit	Proven	+6%		14,512,000	9.49	3.56	5.93	57	0.91		90-13
Total GIV88 pit	Proven	+5%		17,938,000	8.72	3.25	5.47	52	0.84		90-13
Total GIV88 pit	Proven	+4%	169,907,000	21,245,000	8.07	3.00	5.07	48	0.80	8.00	90-13
Total GIV88 pit	Proven	+3%	171,839,000	23,177,000	7.69	2.87	4.82	49	0.78	7.41	90-13
VANGORDA PIT **											
Total VIV89 pit	Proven	+6%		5,212,000	8.31	3.70	4.61	46	0.67		90-17
Total VIV89 pit	Proven	+5%		5,612,000	8.04	3.58	4.47	44	0.66		90-17
Total VIV89 pit	Proven	+4%	13,989,920	6,022,000	7.75	3.43	4.32	43	0.64	2.32	90-17
Total VIV89 pit	Proven	+3%	13,571,960	6,440,000	7.43	3.29	4.14	41	0.64	2.11	90-17
VANGORDA STOCKPILE		+5%		164,000	8.19	4.11	4.08	NA	NA		90-6
DY UNDERGROUND											
Stope + Pillar	Probable	+9%	NA	11,300,000	12.66	5.82	6.84	83	0.94	NA	89-3
SWIM PIT											
Total Pit	Probable	+4%	24,265,000	3,910,000	7.13	3.22	3.91	42	NA	6.21	89-15
TOTAL FARO DIVISION*											
SP's, Faro, Grum and Vangorda Pit			Proven	34,261,000	7.60	2.92	4.68	NA	NA		
Faro and Dy Underground, Swim Pit			Probable	16,024,000	11.19	5.10	6.10	72	NA		
ALL CATAGORIES			Total	50,285,000	8.74	3.61	5.13	NA	NA		

* Ore cutoff is 4% Pb+Zn for open pits, 9% Pb+Zn for underground reserves.
Faro 3-4% Pb+Zn material is stockpiled in the low grade stockpile.
** up to 15% of the Vangorda mining reserve may be refractory

TABLE OF SOURCES

90-4 C.R.I. (Sept 1990); F9009 mining reserve calculation, remaining reserve below Sept 30/90 survey surface within FIV89 Ultimate Pit. 95% mining recovery.

90-6 C.R.I. (Sept 1990); Sept 1990 Month End General Manager's Report. 364,000 tonnes ore mined start-up Jan. 1990 to Sept 30/90 subtracted from original Alpha II mining reserve.

90-13 C.R.I. (Sept 1990); G9009 3D computer block model, 95% mining recovery. 7,210,000 tonnes waste mined Jan 88 to Sept 30, 1990 (Sept 1990 Month End General Manager's Report.)

90-17 C.R.I. (Sept 1990); V9009 calculation, geology composites, 20% dilution at "0" grade. 90% mining recovery, remaining reserves below Sept 30/90 survey surface within VIV89 Ultimate Pit, in-house report.

89-3 C.R.I (Sept 1990); PROSPECTUS (Based on S89 Alpha 2 mine plan).

89-15 Vintila I. (March 1988); Preliminary Open pit Reserve Evaluation For The Swim Deposit, page 5.

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2.0 HISTORICAL CHANGES TO RESERVES (1989 TO 1990)

Historical changes to geological and mining reserves at Faro operations since January 1, 1989 are outlined in tables 3 thru 10. Changes to the reserves are chronologically ordered and explanations for each change are given.

There have been significant changes to the Faro, Grum, and Vangorda reserves due to; (1) mining depletion at Faro and Vangorda, (2) changes to reserve calculation methods for Faro, Grum, and Vangorda, (3) new ultimate pit designs for Faro and Vangorda.

Dy and Swim reserves have not changed significantly.

2.1 FARO ZONE 3 DEPOSIT

TABLE 3
FARO DEPOSIT: HISTORICAL GEOLOGICAL AND MINING RESERVES
(1989 - 1990)

GEOLOGICAL RESERVES - EXCLUDING UNDERGROUND (PROVEN)
(no mining loss or adjustments)

PERIOD	CUT OFF	ORE TONNES	LEAD ZINC	% LEAD	% ZINC	g/mt Ag	g/mt Au	LEAD+ZINC METAL TNN	SOURCE	INTERPRETATION
1989 Jan 1	4.0	16,339,000	8.26	3.08	5.18	35	0.13	1,349,000	89-1	F8805
May 1990; Completion of 117 additional diamond drillholes. Geological rock model edited to respect additional drilling information. New reserve calculation (F9005) replacing the earlier (F8805 May 1988) calculation.										
Jan 1, 1989 to Jul 1, 1990; Mining of approximately 8.0 million tonnes of ore.										
1990 Jul 1	4.0	8,173,000	6.69	2.40	4.29	24	0.14	546,000	90-2a	F9005
Jul 1, 1989 to Oct 1, 1990; Mining of approximately 1.3 million tonnes of ore.										
1990 Oct 1	4.0	6,760,000	6.62	2.36	4.26	23	0.13	447,000	90-2b	F9005

MINING RESERVES - EXCLUDING UNDERGROUND (PROVEN)

PERIOD	CUT OFF	ORE TONNES	LEAD ZINC	% LEAD	% ZINC	g/mt Ag	g/mt Au	LEAD+ZINC METAL TNN	SOURCE	INTERPRETATION
1989 Jan 1	4.0	14,051,000	7.75	2.96	4.79	33	0.11	1,088,000	89-2	F8805
1989 Jul 1	4.0	12,011,000	7.43	2.75	4.68	31	0.21	892,000	89-3	F8908
September 1989; New Faro Ultimate Pit design (FIV89) replacing Cloutier's revised BZ Pit.										
1990 Jan 1	4.0	10,342,000	7.33	2.65	4.68	29	0.10	758,000	90-1	F8908
1990 Jul 1	4.0	5,818,000	6.70	2.39	4.31	22	0.16	389,000	90-3	F9005
August 1990; new cross, long, and plan section geology interpretation. September 1990; New mining reserve calculation (F9009). 113,000 tonnes removed from remaining reserves due to NE wall failure										
1990 Oct 1	4.0	4,118,000	6.58	2.29	4.29	20	0.14	270,000	90-4	F9009

NOTES

- Key changes to modelling assumptions and parameters are explained in appendix E

SOURCES

89-1 C.R.I. (Jan 89); F8805 interpretation, in-situ reserve calculation, no adjustments.
90-2a C.R.I. (Jul 90); F9005 interpretation in-situ reserve calculation,no adjustments.
90-2b C.R.I. (Sep 90); F9005 interpretation, in-situ reserve calculation, no adjustments.
89-2 C.R.I. (Jan 89); MAXIPLAN calculation of 1989 starting mining reserve, based on F8805 interpretation, geology composites, diluted 10%, mining recovery = 95%
89-3 C.R.I. (May 90); PROSPECTUS (Alpha 2 mine plan based on F8908 reserves)
90-1 C.R.I. (Jan 90); F8908 3D computer block model, bench composites, 95% mining recovery.
90-3 C.R.I. (Jul 90); F9005 3D computer block model, bench composites, 95% mining recovery.
90-4 C.R.I. (Sep 90); F9009 3D computer block model, bench composites, 95% mining recovery.

2.2 FARO UNDERGROUND

TABLE 4
FARO UNDERGROUND: HISTORICAL GEOLOGICAL AND MINING RESERVES
(1989 - 1990)

GEOLOGICAL RESERVES - FARO UNDERGROUND (PROBABLE)
(no mining loss or adjustments)

PERIOD	CUT OFF	ORE TONNES	LEAD+ ZINC	% LEAD	% ZINC	g/mt Ag	g/mt Au	LEAD+ZINC METAL TNNS	SOURCE
1989 Jan 1	9.0	2,610,000	12.80	5.04	7.76	67	NA	334,000	89-4
January 1, 1989 to July 1, 1990; mining of 156,000 tonnes.									
1990 Jul 1	9.0	2,454,000	12.80	5.04	7.76	67	NA	314,000	90-5
July 1, 1990 to October 1, 1990; mining of 208,000 tonnes.									
1990 Oct 1	9.0	2,246,000	12.80	5.04	7.76	67	NA	287,000	90-6

MINING RESERVES - FARO UNDERGROUND (PROBABLE)

PERIOD	CUT OFF	ORE TONNES	LEAD+ ZINC	% LEAD	% ZINC	g/mt Ag	g/mt Au	LEAD+ZINC METAL TNNS	SOURCE
1989 Jan 1	9.0	2,014,000	11.59	4.59	7.00	61	NA	233,000	89-5
February 1989; New mine plan; S89 Alpha II. Carbonaceous ore types removed from the Alpha II mining reserve.									
1989 Jul 1	9.0	1,178,000	10.38	4.11	6.27	60	NA	122,000	89-6
1990 Jul 1	9.0	1,022,000	10.38	4.11	6.27	60	NA	106,000	90-5
1990 Oct 1	9.0	814,000	10.38	4.11	6.27	60	NA	84,000	90-6

SOURCES

89-4 Kilborn Limited (Feb 87); Faro Underground Mining, page 6-3
90-5 C.R.I. (June 1990); General Manager's Report. Mined reserves subtracted from 1989 starting geological or mining reserve.
90-6 C.R.I. (Sept 1990); General Manager's Report. Mined reserves subtracted from 1989 starting geological or mining reserve.
89-5 C.R.I. (May 1990); PROSPECTUS, based on S89 Alpha II Mine Plan.
89-6 C.R.I. (Feb 1989); S89 Alpha II Mine Plan.

2.3 FARO STOCKPILES

TABLE 5
FARO STOCKPILE INVENTORY
(1989 - 1990)

HIGH GRADE +5% LEAD+ZINC

PERIOD	CUT OFF	ORE TONNES	LEAD+ ZINC	% LEAD	% ZINC	g/mt Ag	g/mt Au	LEAD+ZINC METAL TNNS	SOURCE
1989 Jan 1	5.0	177,900	8.54	3.58	4.96	46	NA	15,000	89-7
1990 Jan 1	5.0	160,500	6.38	2.45	3.93	33	NA	10,000	90-9
1990 Jul 1	5.0	744,000	7.92	3.07	4.85	NA	NA	58,000	90-10
1990 Oct 1	5.0	912,000	6.22	2.36	3.86	NA	NA	56,000	90-11

LOW GRADE 3-5% LEAD+ZINC

PERIOD	CUT OFF	ORE TONNES	LEAD+ ZINC	% LEAD	% ZINC	g/mt Ag	g/mt Au	LEAD+ZINC METAL TNNS	SOURCE
1989 Jan 1	3.0	721,200	4.66	1.92	2.74	27	NA	33,000	89-7
1990 Jan 1	3.0	1,434,800	4.58	1.85	2.73	28	NA	65,000	90-9
1990 Jul 1	3.0	1,601,000	4.53	1.84	2.69	NA	NA	72,000	90-5
September 1, 1990 Faro low grade cutoff lowered to 3%									
1990 Oct 1	3.0	1,800,000	4.51	1.80	2.71	NA	NA	81,000	90-6

NOTES

- 3-4% material stockpiled in the low grade stockpile.

SOURCES

89-7 C.R.I. (Dec 1988) Faro Geology Department December 1988 Month End Report.
90-9 C.R.I. (Dec 1989) General Manager's December 1989 Month End Report
90-5 C.R.I. (June 1990) General Manager's June 1990 Month End Report
90-6 C.R.I. (Sept 1990) General Manager's September 1990 Month End Report

2.4 GRUM DEPOSIT

TABLE 6
GRUM DEPOSIT: HISTORICAL GEOLOGICAL AND MINING RESERVES
(1989 - 1990)

PERIOD	CUT OFF	ORE TONNES	LEAD+ ZINC	% LEAD	% ZINC	g/mt Ag	g/mt Au	LEAD+ZINC METAL TNNS	SOURCE	INTERPRETATION
GEOLOGICAL RESERVES MAIN ZONE (PROVEN) (no mining loss or adjustments)										
1989 Jan 1	4.0	32,182,000	8.98	3.40	5.58	57	0.95	2,889,000	89-8	G8606
1990 Oct 1	4.0	---------------------- NO CHANGE ----------------------								
GEOLOGICAL RESERVES CHAMP ZONE (PROBABLE) (no mining loss or adjustments)										
1989 Jan 1	4.0	1,700,000	7.80	3.50	4.30	57	0.95	132,000	89-16	
1990 Oct 1	4.0	---------------------- NO CHANGE ----------------------								
GEOLOGICAL RESERVES NW UNDERGROUND (POSSIBLE) (no mining loss or adjustments)										
1989 Jan 1	9.0	8,000,000	10.00	NA	NA	NA	NA	800,000	89-17	
1990 Oct 1	9.0	---------------------- NO CHANGE ----------------------								
MINING RESERVES (PROVEN)										
1989 Jan 1	4.0	25,161,000	7.97	2.96	5.01	50	0.81	2,005,000	89-9	G8705
Additonal diamond drilling of 56 drillholes in three seperate programs completed in 1987, 1988, and 1989. August 1990; Simpson, Adamson (C.A.M.C.) geological interpretation edited to respect additional drilling. September 1990; Completion of 6m bench composited mining reserve calculation (G9009).										
1990 Oct 1	4.0	21,245,000	8.07	3.00	5.07	48	0.80	1,714,000	90-13	G9009

NOTES
- Champ and NW zones are not included in current mine plans.

SOURCES
89-8 C.R.I. (Jun 86); G8606 in-situ reserve calculation, 5% pulp SG reduction removed..
89-9 C.R.I. (Jan 89); Alpha Mine Plan Reserves based on G8705 calculation, 15% dilution, 95% mining recovery.
90-13 C.R.I. (Sep 90); G9009 mining reserve calculation. Bench composites, 95% mining recovery.
89-16 Kerr Addison Mines (1978); A.Y. Po in Sirola (1977) Grum Joint Venture Mineral Inventory.
89-17 C.A.M.C. (1984) Estimate of reserve based on extrapolation of reserves NW of main zone.

2.5 VANGORDA DEPOSIT

TABLE 7
VANGORDA DEPOSIT: HISTORICAL GEOLOGICAL AND MINING RESERVES
(1989 - 1990)

PERIOD	CUT OFF	ORE TONNES	LEAD+ ZINC	% LEAD	% ZINC	g/mt Ag	g/mt Au	LEAD+ZINC METAL TNNS	SOURCE	INTERPRETATION
GEOLOGICAL RESERVES (PROVEN) (no mining loss or adjustments)										
1989 Jan 1	4.0	8,161,000	8.67	3.79	4.88	54	0.76	707,000	89-10	V8803
August 1988; completion of 63 additional diamond drill holes. March 1988; New geological interpretation of the Vangorda orebody. December 1988; New reserve calculation (V8912) replacing the earlier V8803 calculation.										
1990 Jul 1	4.0	8,471,000	8.14	3.57	4.57	52	0.77	689,000	90-14	V8912
August 1990; completion of 120 additional diamond drillholes. Drillhole grid is 15.24m NE-SW by 30.48m NW-SE. August 1990; total dataset = 445 drillholes (rotary and diamond) of which 319 diamond drillholes (6700 assay intervals) were selected for grade compositing. All rotary holes and selected 1951-55 DDH's with questionable recoveries and drill logs were excluded. September 1990; New cross section, long section, and bench geology plans were interpreted. October 1990; New computer reserve calculation (V9009) replacing the V8912 calculation.										
1990 Oct 1	4.0	7,244,000	8.93	3.95	4.98	49	0.78	646,000	90-15	V9009
MINING RESERVES (PROVEN)										
1989 Jan 1	4.0	6,935,000	8.00	3.49	4.51	48	0.65	554,000	89-11	V8803
December 1989; New Vangorda Ultimate Pit design (VIV89).										
1990 Jul 1	4.0	5,669,000	8.96	3.94	5.02	56	0.79	507,000	90-16	V8912
Mining loss increased to 10%, Dilution increased to 20% at "0" grade.										
1990 Oct 1	4.0	6,022,080	7.75	3.43	4.32	43	0.64	466,000	90-17	V9009

NOTES

- Important changes in modelling parameters and assumptions are are explained in appendix E:

SOURCES

89-10 C.R.I. (Mar 88); V8803 3D computer block model in-situ reserve calculation.
90-14 C.R.I. (Dec 89); V8912 3D computer block model in-situ reserve calculation.
90-15 C.R.I. (Sep 90); V9009 3D computer block model in-situ reserve calculation.
89-11 C.R.I. (Jan 89); Alpha Mine Plan Reserves based on V8803 model, 15% dilution, 95% mining recovery.
90-16 C.R.I. (Sep 90); V8912 3D computer block model mining reserve calculation. Bench composites, 95% mining recovery.
90-17 C.R.I. (Sep 90); V9009 3D computer block model mining reserve calculation. Geology composites,20% dilution, 90% mining recovery.

2.6 VANGORDA STOCKPILES

TABLE 8
VANGORDA STOCKPILE INVENTORY
(1989 - 1990)

HIGH GRADE +5% LEAD+ZINC

PERIOD	CUT OFF	ORE TONNES	LEAD+ ZINC	% LEAD	% ZINC	g/mt Ag	g/mt Au	LEAD+ZINC METAL TNNS	SOURCE
1990 Jul 1	5.0	Nil							
1990 Oct 1	5.0	164,000	8.19	4.11	4.08	NA	NA	13,000	90-6

LOW GRADE 3-5% LEAD+ZINC

1990 Jul 1	3.0	Nil							
1990 Oct 1	3.0	Nil							

NOTES

- Approximately 30% of stockpiled material is oxidized and may be refractory.

SOURCES

90-6 C.R.I. (Sept 1990) General Manager's September 90 Month End Report.

2.7 DY DEPOSIT

TABLE 9
DY DEPOSIT: HISTORICAL GEOLOGICAL AND MINING RESERVES
(1989 - 1990)

GEOLOGICAL RESERVES (PROBABLE)
(no mining loss or adjustments)

PERIOD	CUT OFF	ORE TONNES	LEAD+ ZINC	% LEAD	% ZINC	g/mt Ag	g/mt Au	LEAD+ZINC METAL TNNS	SOURCE
1989 Jan 1	9.0	21,059,000	12.28	5.54	6.74	83	0.95	2,586,000	89-12
1990 Oct 1	9.0	---------------------- NO CHANGE ----------------------							

MINING RESERVES (PROBABLE)

PERIOD	CUT OFF	ORE TONNES	LEAD+ ZINC	% LEAD	% ZINC	g/mt Ag	g/mt Au	LEAD+ZINC METAL TNNS	SOURCE
1989 Jan 1	9.0	11,404,000	13.94	6.47	7.47	95	1.02	1,589,000	89-13
1989 Jul 1	9.0	11,300,000	12.66	5.82	6.84	83	0.94	1,430,000	89-3
1990 Oct 1	9.0	---------------------- NO CHANGE ----------------------							

NOTES

- mining reserve includes primary stoping and pillar tonnage.

SOURCES

89-12 Rollings, R.W. (1982); Reserve Summary, Cyprus Anvil Mining Corporation in-house report
89-13 Canadian Mine Development (May 88); Dy Deposit Exploration and Mining Cost Estimate, page 9.
89-3 C.R.I. PROSPECTUS (May 90), Based on S89 Alpha 2 mine plan.

2.8 SWIM DEPOSIT

TABLE 10
SWIM DEPOSIT: HISTORICAL GEOLOGICAL AND MINING RESERVES
(1989 - 1990)

GEOLOGICAL RESERVES (PROBABLE)
(no mining loss or adjustments)

PERIOD	CUT OFF	ORE TONNES	LEAD+ ZINC	% LEAD	% ZINC	g/mt Ag	g/mt Au	LEAD+ZINC METAL TNNS	SOURCE
1989 Jan 1	4.0	5,130,000	7.90	3.50	4.40	47	NA	405,000	89-15
1990 Oct 1	4.0	----------	----------	---------- NO CHANGE	----------	----------	----------	----------	

MINING RESERVES (PROBABLE)

PERIOD	CUT OFF	ORE TONNES	LEAD+ ZINC	% LEAD	% ZINC	g/mt Ag	g/mt Au	LEAD+ZINC METAL TNNS	SOURCE
1989 Jan 1	4.0	3,910,000	7.13	3.22	3.91	42	NA	278,000	89-15
1990 Oct 1	4.0	----------	----------	---------- NO CHANGE	----------	----------	----------	----------	

NOTES
- Swim reserves not included in S89 Alpha 2 long range mine plan.
- Reserves calculated by the polygonal method.
- March 1988; Preliminary open pit design. (SIV88 Pit)

SOURCES
89-15 Vintila, I. (March 88); Preliminary Open Pit Reserve Evaluation For The Swim Deposit, page 5.

APPENDIX A

3

APPENDIX A

SUPPORTING DOCUMENTATION

The following pages are excerpts from the critical passages in the various documents referred to in the source column in the reserve tables (Tables 1-10)

SOURCE 89 - 1 (JANUARY 1, 1969)

FARO DEPOSIT - GEOLOGICAL RESERVES AS OF JAN. 1, 1989

F8805 CALCULATION (EXCLUDING UNDERGROUND)

PC-MINE VERSION 1.10 CURRAGH RESOURCES SOFTWARE BY GEMCOM SERVI
SERIAL NO : 20000 ********* FARO DEPOSIT - F8805 MODEL ********* MODUL
5/ 1/1989 P

IN-SITU ORE RESERVE EVALUATION

DESCRIPTION : FARO Remaining Geological Reserves as of Dec 31 1988 - Excluding SW Underground.

TOTAL FOR ALL BENCHES

TOP ELEVATION : 4270.00 [ft]
BOTTOM ELEVATION : 3090.00 [ft]

SURFACE GRID RECORD : 21 F88-12 FARO Dec 88 Month End Pit Surface (PCSURVEY)
RESERVE OUTSIDE POLYGON RECORD : 56 Faro SW Underground Perimeter (Kilborn Feb/87)

INCREMENTAL RESULTS

CUT-OFF GRADES FROM [%Pb+Zn]	TO [%Pb+Zn]	VOLUME [bcf x1000]	DENSITY [tn/bcf]	TONNAGE [TONS x1000]	AVERAGE GRADES [%Pb+Zn]	[%Pb]	[%Zn]	[Ag g/T]	[Au g/T]
5.000	100.000	126179.50	.112	14108.65	8.848	3.326	5.522	36.872	.129
4.000	5.000	24299.68	.092	2230.43	4.496	1.543	2.953	24.853	.144
.010	4.000	64365.23	.103	6653.31	2.683	.967	1.716	16.414	.107
.000	.010	9975748.00	.076	757655.90	.000	.000	.000	.000	.000
TOTAL		10190590.00	.077	780648.30	.196	.073	.123	.877	.004

SOURCE 89 - 2 (FEBRUARY 1989)

FARO DEPOSIT - PIT MINING RESERVES AS OF JAN. 1, 1989

MAXIPLAN CALCULATION USING F8805 RESERVE BASE

02/08/89

FAX TO CAM RUUD
WHITEHORSE OFFICE

ENCLOSED ARE THE BACK UPS FOR THE FARO PIT RESERVES WASTE + ORE 1989-1991 FOR YOUR FINAL RESERVES

Kelvo.

2 FILE : f89start.wr1 Millfeed 13 262 tpd 1989 - MONTHLY PRODUCTION SCHEDULE PLAN : Fare 89start actual per budget
3 27-Jan-89 or Conc. 1 538 tpd
4 07:01:49 PM
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		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1829														
1830	Overall Summary:													
1831														
1832	Rock Waste - Tonnes	833 627	747 418	758 629	530 246	689 591	776 401	916 833	1 284 484	1 010 532	439 658	762 719	683 431	9 433 568
1833	Calc Sill Waste - Tonnes	26 376	0	1 677	0	0	0	0	0	0	0	0	0	28 074
1834	Sulph Waste - Tonnes	70 500	79 074	112 451	119 793	103 715	104 129	125 629	127 793	133 348	201 403	171 527	79 647	1 429 009
1835	Total Waste - Tonnes	930 523	826 492	872 758	650 039	793 306	880 530	1 042 463	1 412 278	1 143 880	641 061	934 246	763 077	10 890 651
1836	Ore Mined : Low Grade Ore	34 805	22 135	30 571-	0	68 980	77 719	50 475	22 054	10 515	40 315	11 150	10 306	379 024
1837	Medium Grade Ore	27 334	33 289	48 173	63 026	105 610	77 917	36 947	6 117	7 836	22 200	18 042	15 828	462 319
1838	High Grade Ore	510 467	413 419	415 797	367 368	383 161	312 092	276 187	105 502	265 601	718 510	461 387	411 772	4 641 261
1839	Total Ore (surface) - Tonnes	572 605	468 844	494 540	430 394	557 750	467 727	363 608	133 673	283 951	781 025	490 579	437 906	5 482 604
1840	Total Mined - Tonnes	1 503 128	1 295 336	1 367 298	1 080 433	1 351 056	1 348 257	1 406 071	1 545 951	1 427 831	1 422 086	1 424 825	1 200 983	16 373 255
1841	Strip Ratio	1.6	1.8	1.8	1.5	1.4	1.9	2.9	10.6	4.0	0.8	1.9	1.7	2.0
1842														
1843	Pit Ore - Tonnes To Mill	418 500	378 000	418 500	405 000	418 500	405 000	418 500	418 490	405 000	418 500	405 000	331 500	4 840 492
1844	Head Grades: % Pb+Zn	8.06	8.03	7.86	8.03	7.70	7.80	7.96	7.45	7.72	8.11	8.15	8.06	7.91
1845	% Pb	3.29	3.23	3.12	3.17	2.97	2.85	2.95	2.79	3.00	3.37	3.36	3.24	3.11
1846	% Zn	4.77	4.80	4.74	4.86	4.73	4.95	5.02	4.67	4.72	4.74	4.79	4.82	4.80
1847	g/t Ag	35	32	30	32	30	27	34	33	42	47	44	38	35
1848	g/t Au	0.07	0.06	0.06	0.07	0.09	0.07	0.12	0.12	0.19	0.16	0.21	0.12	0.11
1849														
1850	Underground Ore	0	0	0	0	0	0	0	0	0	0	0	0	0
1851	Head Grades: % Pb+Zn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1852	% Pb	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1853	% Zn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1854	g/t Ag	0	0	0	0	0	0	0	0	0	0	0	0	0
1855	g/t Au	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1856														
1857	Total Mill Feed - Tonnes	418 500	378 000	418 500	405 000	418 500	405 000	418 500	418 490	405 000	418 500	405 000	331 500	4 840 492
1858	Head Grades % Pb+Zn	8.06	8.03	7.86	8.03	7.70	7.80	7.96	7.45	7.72	8.11	8.15	8.06	7.91
1859	% Pb	3.29	3.23	3.12	3.17	2.97	2.85	2.95	2.79	3.00	3.37	3.36	3.24	3.11
1860	% Zn	4.77	4.80	4.74	4.86	4.73	4.95	5.02	4.67	4.72	4.74	4.79	4.82	4.80
1861	g/t Ag	35	32	30	32	30	27	34	33	42	47	44	38	35
1862	g/t Au	0.07	0.06	0.06	0.07	0.09	0.07	0.12	0.12	0.19	0.16	0.21	0.12	0.11
1863														
1864														
1865	Pit Ore Stockpile - Tonnes	1 296 124	1 386 968	1 443 008	1 557 930	1 697 180	1 759 907	1 705 015	1 420 198	1 299 149	1 661 674	1 747 253	1 853 659	
1866	Head Grades: % Pb+Zn	6.05	6.06	5.91	5.57	5.46	5.25	5.07	4.66	4.59	5.96	6.32	6.39	
1867	% Pb	2.53	2.52	2.44	2.25	2.17	2.07	1.99	1.85	1.82	2.43	2.58	2.60	
1868	% Zn	3.52	3.54	3.47	3.31	3.29	3.18	3.07	2.81	2.77	3.53	3.74	3.78	
1869	g/t Ag	33	32	31	30	29	29	29	29	28	35	37	37	
1870	g/t Au	0.01	0.02	0.03	0.05	0.06	0.07	0.07	0.06	0.06	0.09	0.11	0.11	
1871														
1872	Conc Pit Ore: Pb DMTonnes	18 072	15 943	16 876	16 621	15 967	14 796	16 002	14 986	15 782	18 878	18 167	14 028	196 118
1873	% Pb Rec	79.80	79.40	78.69	78.66	78.13	77.78	78.58	78.17	79.14	81.09	80.71	79.41	79.18
1874	% Pb	60.83	60.89	60.88	60.73	60.80	60.76	60.58	60.83	60.88	60.51	60.40	60.80	60.73
1875	g/t Ag	410	380	359	375	368	348	434	436	542	533	501	456	430
1876	g/t Au	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1877														
1878	Conc U/G Ore: Pb DMTonnes	0	0	0	0	0	0	0	0	0	0	0	0	0
1879	% Pb Rec	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

FILE : f89start.wr1 — Millfeed 13 242 tpd — 1989 - MONTHLY PRODUCTION SCHEDULE — PLAN : Faro 89start actual per budget

27-Jan-89 — or Conc. 1 530 tpd

07:01:49 PM

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
	% Pb	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	g/t Ag	0	0	0	0	0	0	0	0	0	0	0	0	0
	g/t Au	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Conc Pb Tot:	Pb DMTonnes	18 072	15 943	16 876	16 621	15 967	14 796	16 002	14 986	15 782	18 878	18 167	14 028	196 118
	% Pb Rec	79.80	79.40	78.69	78.66	78.13	77.78	78.58	78.17	79.14	81.09	80.71	79.41	79.18
	% Pb	60.83	60.89	60.88	60.73	60.80	60.76	60.58	60.83	60.88	60.51	60.40	60.80	60.73
	g/t Ag	410	380	359	375	368	348	434	436	542	533	501	456	430
	g/t Au	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Conc Pit Ore:	Zn DMTonnes	31 254	28 383	30 916	30 848	30 921	31 503	33 234	30 751	30 164	31 427	30 806	25 014	365 221
	% Zn Rec	77.76	77.65	77.40	77.84	77.58	78.03	78.52	78.16	78.32	78.58	78.71	77.63	78.02
	% Zn	49.62	49.62	49.64	49.70	49.66	49.61	49.60	49.64	49.63	49.61	49.61	49.60	49.63
Conc U/G Ore:	Zn DMTonnes	0	0	0	0	0	0	0	0	0	0	0	0	0
	% Zn Rec	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	% Zn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Conc Zn Tot:	Zn DMTonnes	31 254	28 383	30 916	30 848	30 921	31 503	33 234	30 751	30 164	31 427	30 806	25 014	365 221
	% Zn Rec	77.76	77.65	77.40	77.84	77.58	78.03	78.52	78.16	78.32	78.58	78.71	77.63	78.02
	% Zn	49.62	49.62	49.64	49.70	49.66	49.61	49.60	49.64	49.63	49.61	49.61	49.60	49.63
Conc Tot:	DMTonnes	49 326	44 326	47 791	47 470	46 888	46 299	49 237	45 737	45 946	50 305	48 973	39 042	561 339

Concentrates Summary:

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
Conc Pb Tot:	Pb DMTonnes	18 072	15 943	16 876	16 621	15 967	14 796	16 002	14 986	15 782	18 878	18 167	14 028	196 118
	% Pb Rec	79.80	79.40	78.69	78.66	78.13	77.78	78.58	78.17	79.14	81.09	80.71	79.41	79.18
	% Pb	60.83	60.89	60.88	60.73	60.80	60.76	60.58	60.83	60.88	60.51	60.40	60.80	60.73
	g/t Ag	410	380	359	375	368	348	434	436	542	533	501	456	430
	g/t Au	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Conc Zn Tot:	Zn DMTonnes	31 254	28 383	30 916	30 848	30 921	31 503	33 234	30 751	30 164	31 427	30 806	25 014	365 221
	% Zn Rec	77.76	77.65	77.40	77.84	77.58	78.03	78.52	78.16	78.32	78.58	78.71	77.63	78.02
	% Zn	49.62	49.62	49.64	49.70	49.66	49.61	49.60	49.64	49.63	49.61	49.61	49.60	49.63
Conc Tot:	DMTonnes	49 326	44 326	47 791	47 470	46 888	46 299	49 237	45 737	45 946	50 305	48 973	39 042	561 339

90START2.WK1

2 FILE : Millfeed 13 749 tpd 1990 - MONTHLY PRODUCTION SCHEDULE PLAN : Fare 90start wo fillramp
3 20-Jan-89 or Conc. 1 533 tpd
4 07:32:41 PM
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6

Row	Item		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1829															
1830	Overall Summary:														
1831															
1832	Rock Waste - Tonnes		721 347	593 076	552 595	1 197 332	1 407 223	1 204 417	907 905	753 367	521 080	289 750	113 098	169 943	8 431 153
1833	Calc Sili Waste - Tonnes		0	0	0	0	0	0	0	0	0	0	0	0	0
1834	Selph Waste - Tonnes		79 033	70 789	107 810	0	67 243	169 999	164 383	236 392	339 527	406 956	397 208	407 119	2 446 459
1835	Total Waste - Tonnes		800 380	663 866	660 405	1 197 332	1 474 466	1 374 416	1 072 287	989 760	860 607	696 704	510 305	577 062	10 877 613
1836	Ore Mined :	Low Grade Ore	23 985	7 312	4 298	(55 883)	4 008	12 887	166 371	101 036	130 721	127 480	121 600	117 890	761 704
1837		Medium Grade Ore	24 736	26 890	52 006	(13 645)	4 534	33 473	79 878	56 824	41 500	47 245	72 722	75 723	501 885
1838		High Grade Ore	432 567	397 693	378 267	0	39 151	56 623	219 921	340 840	341 274	393 966	438 975	601 984	3 641 282
1839	Total Ore (surface) - Tonnes		481 287	431 895	434 571	(69 528)	47 692	102 982	466 170	498 720	513 494	568 691	633 298	795 597	4 904 871
1840	Total Mined - Tonnes		1 281 667	1 095 761	1 094 976	1 127 824	1 522 158	1 477 399	1 538 457	1 488 480	1 374 102	1 265 398	1 143 603	1 372 659	15 782 483
1841	Strip Ratio		1.7	1.5	1.5	(17.2)	30.9	13.3	2.3	2.0	1.7	1.2	0.8	0.7	2.2
1842															
1843	Pit Ore - Tonnes To Mill		426 250	385 000	426 250	412 500	426 250	412 500	426 250	426 250	412 500	426 250	412 200	426 250	5 018 452
1844	Head Grades	% Pb+Zn	7.66	7.62	7.66	7.57	7.39	7.41	6.46	7.23	7.94	8.24	8.08	8.10	7.61
1845		% Pb	3.20	2.91	2.95	3.08	3.12	3.04	2.29	2.40	2.94	3.31	3.11	3.14	2.96
1846		% Zn	4.45	4.72	4.71	4.49	4.27	4.37	4.17	4.84	5.01	4.94	4.98	4.96	4.66
1847		g/t Ag	41	34	34	42	44	40	27	25	29	38	36	38	36
1848		g/t Au	0.14	0.13	0.08	0.16	0.17	0.17	0.15	0.17	0.15	0.12	0.08	0.08	0.13
1849															
1850	Underground Ore		0	0	0	0	0	0	0	0	0	0	0	0	0
1851	Head Grades	% Pb+Zn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1852		% Pb	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1853		% Zn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1854		g/t Ag	0	0	0	0	0	0	0	0	0	0	0	0	0
1855		g/t Au	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1856															
1857	Total Mill Feed - Tonnes		426 250	385 000	426 250	412 500	426 250	412 500	426 250	426 250	412 500	426 250	412 200	426 250	5 018 452
1858	Head Grades	% Pb+Zn	7.66	7.62	7.66	7.57	7.39	7.41	6.46	7.23	7.94	8.24	8.08	8.10	7.61
1859		% Pb	3.20	2.91	2.95	3.08	3.12	3.04	2.29	2.40	2.94	3.31	3.11	3.14	2.96
1860		% Zn	4.45	4.72	4.71	4.49	4.27	4.37	4.17	4.84	5.01	4.94	4.98	4.96	4.66
1861		g/t Ag	41	34	34	42	44	40	27	25	29	38	36	38	36
1862		g/t Au	0.14	0.13	0.08	0.16	0.17	0.17	0.15	0.17	0.15	0.12	0.08	0.08	0.13
1863															
1864															
1865	Pit Ore Stockpile - Tonnes		1 908 696	1 955 591	1 963 912	1 551 412	1 172 854	863 336	903 256	975 726	1 076 720	1 219 161	1 440 259	1 809 606	
1866	Head Grades	% Pb+Zn	6.30	6.39	6.40	6.09	5.59	4.79	4.37	4.34	4.31	4.34	4.61	5.14	
1867		% Pb	2.57	2.60	2.60	2.47	2.26	1.92	1.68	1.65	1.64	1.64	1.73	1.93	
1868		% Zn	3.73	3.79	3.80	3.62	3.33	2.88	2.68	2.69	2.68	2.70	2.88	3.21	
1869		g/t Ag	36	36	36	35	32	28	25	24	24	24	24	25	
1870		g/t Au	0.11	0.11	0.11	0.10	0.08	0.06	0.05	0.06	0.07	0.07	0.07	0.08	
1871															
1872	Conc Pit Ore:	Pb DMTonnes	17 905	14 443	16 258	16 644	17 506	16 418	12 236	12 780	15 710	18 613	16 872	17 688	193 072
1873		% Pb Rec	79.56	78.41	78.27	79.76	80.15	79.83	76.35	76.35	79.01	80.16	79.41	79.29	79.00
1874		% Pb	60.69	60.78	60.50	60.91	60.90	60.92	60.92	61.00	60.96	60.69	60.24	59.95	60.69
1875		g/t Ag	496	450	436	523	543	502	416	379	382	452	434	459	459
1876		g/t Au	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1877															
1878	Conc U/G Ore:	Pb DMTonnes	0	0	0	0	0	0	0	0	0	0	0	0	0
1879		% Pb Rec	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

2	FILE : 90START1.WR1	Millfeed 13 749 tpd				1990 - MONTHLY PRODUCTION SCHEDULE				PLAN : Faro 90start no fillramp					
3	28-Jan-89	or Conc. 1 533 tpd													
4	07:32:41 PM														
5			JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
6															
1880		% Pb	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1881		g/t Ag	0	0	0	0	0	0	0	0	0	0	0	0	0
1882		g/t Au	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1883															
1884	Conc Pb Tot:	Pb DMTonnes	17 905	14 443	16 258	16 644	17 506	16 418	12 236	12 780	15 710	18 613	16 872	17 688	193 072
1885		% Pb Rec	79.56	78.41	78.27	79.76	80.15	79.83	76.35	76.35	79.01	80.16	79.41	79.29	79.00
1886		% Pb	60.69	60.78	60.50	60.91	60.90	60.92	60.92	61.00	60.96	60.69	60.24	59.95	60.69
1887		g/t Ag	496	450	436	523	543	502	416	379	382	452	434	459	459
1888		g/t Au	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1889															
1890	Conc Pit Ore:	Zn DMTonnes	29 527	28 547	31 376	28 971	28 470	28 256	27 499	32 336	32 589	33 127	32 407	33 482	366 587
1891		% Zn Rec	77.17	78.00	77.54	77.70	77.64	77.75	76.70	77.79	78.28	78.09	78.32	78.46	77.81
1892		% Zn	49.60	49.61	49.59	49.63	49.64	49.63	49.62	49.60	49.60	49.60	49.59	49.59	49.61
1893															
1894	Conc U/G Ore:	Zn DMTonnes	0	0	0	0	0	0	0	0	0	0	0	0	0
1895		% Zn Rec	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1896		% Zn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1897															
1898	Conc Zn Tot:	Zn DMTonnes	29 527	28 547	31 376	28 971	28 470	28 256	27 499	32 336	32 589	33 127	32 407	33 482	366 587
1899		% Zn Rec	77.17	78.00	77.54	77.70	77.64	77.75	76.70	77.79	78.28	78.09	78.32	78.46	77.81
1900		% Zn	49.60	49.61	49.59	49.63	49.64	49.63	49.62	49.60	49.60	49.60	49.59	49.59	49.61
1901															
1902	Conc Tot:	DMTonnes	47 432	42 990	47 634	45 615	45 977	44 674	39 734	45 116	48 300	51 740	49 279	51 170	559 659
1903															
1904															
1905	Concentrates Summary:														
1906															
1907	Conc Pb Tot:	Pb DMTonnes	17 905	14 443	16 258	16 644	17 506	16 418	12 236	12 780	15 710	18 613	16 872	17 688	193 072
1908		% Pb Rec	79.56	78.41	78.27	79.76	80.15	79.83	76.35	76.35	79.01	80.16	79.41	79.29	79.00
1909		% Pb	60.69	60.78	60.50	60.91	60.90	60.92	60.92	61.00	60.96	60.69	60.24	59.95	60.69
1910		g/t Ag	496	450	436	523	543	502	416	379	382	452	434	459	459
1911		g/t Au	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1912															
1913	Conc Zn Tot:	Zn DMTonnes	29 527	28 547	31 376	28 971	28 470	28 256	27 499	32 336	32 589	33 127	32 407	33 482	366 587
1914		% Zn Rec	77.17	78.00	77.54	77.70	77.64	77.75	76.70	77.79	78.28	78.09	78.32	78.46	77.81
1915		% Zn	49.60	49.61	49.59	49.63	49.64	49.63	49.62	49.60	49.60	49.60	49.59	49.59	49.61
1916															
1917	Conc Tot:	DMTonnes	47 432	42 990	47 634	45 615	45 977	44 674	39 734	45 116	48 300	51 740	49 279	51 170	559 659
1918															

2 FILE : 91 start1.wr1 Millfeed = 12 443 tpd 1 991 - MONTHLY PRODUCTION SCHEDULE PLAN : Farm 91start wo fillramp
3 28-Jan-89 or Conc. = 1 415 tpd
4 12:54:23 AM
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454:408

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1 829														
1 830	Overall Summary:													
1 831														
1 832	Rock Waste - Tonnes	115 665	64 879	22 159	125 966	105 724	44 688	49 496	15 735	0	0	0	0	544 312
1 833	Calc Sili Waste - Tonnes	0	0	0	0	0	0	0	0	0	0	0	0	0
1 834	Sulph Waste - Tonnes	464 839	446 394	586 776	432 332	391 235	350 335	56 071	2 359	0	0	0	0	2 730 340
1 835	Total Waste - Tonnes	580 505	511 273	608 935	558 298	496 959	395 023	105 567	18 094	0	0	0	0	3 274 652
1 836	Ore Mined : Low Grade Ore	106 270	69 710	94 544	76 342	42 387	236	21 011	0	0	0	0	0	410 520
1 837	Medium Grade Ore	93 931	32 565	113 057	64 298	16 400	384	41 718	0	0	0	0	0	362 354
1 838	High Grade Ore	552 758	606 867	516 774	345 972	144 940	213 797	459 896	49 298	0	0	0	0	2 890 303
1 839	Total Ore (surface) - Tonnes	752 959	709 143	724 376	486 632	203 728	214 417	522 625	49 298	0	0	0	0	3 663 177
1 840	Total Mined - Tonnes	1 333 463	1 220 416	1 333 311	1 044 930	700 686	609 440	628 192	67 392	0	0	0	0	6 937 829
1 841	Strip Ratio	0.8	0.7	0.8	1.1	2.4	1.8	0.2	0.4	0.0	0.0	0.0	0.0	0.9
1 842														
1 843	Pit Ore - Tonnes To Mill	426 250	333 000	426 250	412 500	426 250	412 500	426 250	426 249	412 500	426 250	412 500	0	4 542 498
1 844	Head Grades: % Pb+Zn	7.80	7.68	7.70	7.68	7.84	7.72	7.51	7.64	7.61	7.65	7.73	0.00	7.69
1 845	% Pb	2.77	2.88	2.78	2.56	2.94	2.76	2.48	2.67	2.74	2.76	2.79	0.00	2.74
1 846	% Zn	5.03	4.80	4.92	5.12	4.90	4.96	5.03	4.97	4.87	4.89	4.94	0.00	4.95
1 847	g/t Ag	29	31	27	24	29	25	24	27	28	28	28	0	27
1 848	g/t Au	0.09	0.08	0.09	0.14	0.10	0.08	0.07	0.08	0.08	0.08	0.08	0.00	0.09
1 849														
1 850	Underground Ore	0	0	0	0	0	0	0	0	0	0	0	0	0
1 851	Head Grades: % Pb+Zn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1 852	% Pb	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1 853	% Zn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1 854	g/t Ag	0	0	0	0	0	0	0	0	0	0	0	0	0
1 855	g/t Au	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1 856														
1 857	Total Mill Feed - Tonnes	426 250	333 000	426 250	412 500	426 250	412 500	426 250	426 249	412 500	426 250	412 500	0	4 542 498
1 858	Head Grades: % Pb+Zn	7.80	7.68	7.70	7.68	7.84	7.72	7.51	7.64	7.61	7.65	7.73	0.00	7.69
1 859	% Pb	2.77	2.88	2.78	2.56	2.94	2.76	2.48	2.67	2.74	2.76	2.79	0.00	2.74
1 860	% Zn	5.03	4.80	4.92	5.12	4.90	4.96	5.03	4.97	4.87	4.89	4.94	0.00	4.95
1 861	g/t Ag	29	31	27	24	29	25	24	27	28	28	28	0	27
1 862	g/t Au	0.09	0.08	0.09	0.14	0.10	0.08	0.07	0.08	0.08	0.08	0.08	0.00	0.09
1 863														
1 864														
1 865	Pit Ore Stockpile - Tonnes	2 136 315	2 510 458	2 808 584	2 952 244	2 729 722	2 531 639	2 620 014	2 251 063	1 838 563	1 412 313	999 813	999 813	
1 866	Head Grades: % Pb+Zn	5.45	5.91	5.94	5.98	5.80	5.84	6.27	6.14	5.81	5.25	4.23	4.23	
1 867	% Pb	2.02	2.20	2.20	2.20	2.13	2.15	2.27	2.23	2.11	1.92	1.56	1.56	
1 868	% Zn	3.42	3.71	3.74	3.78	3.67	3.69	3.99	3.91	3.70	3.34	2.68	2.68	
1 869	g/t Ag	26	27	26	26	26	26	26	26	25	24	23	23	
1 870	g/t Au	0.08	0.08	0.08	0.09	0.09	0.08	0.08	0.08	0.08	0.08	0.08	0.08	
1 871														
1 872	Conc Pit Ore: Pb DMTonnes	15 219	12 472	15 084	13 404	16 166	14 638	13 450	14 619	14 550	15 123	14 796	0	159 521
1 873	% Pb Rec	77.97	78.45	77.71	77.38	78.77	78.46	77.44	78.25	78.33	78.37	78.45	0.00	78.15
1 874	% Pb	60.51	60.59	60.97	60.99	60.99	60.96	60.95	60.94	60.96	60.96	60.96	0.00	60.89
1 875	g/t Ag	385	393	355	326	361	318	325	359	375	374	373	0	359
1 876	g/t Au	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1 877														
1 878	Conc U/G Ore: Pb DMTonnes	0	0	0	0	0	0	0	0	0	0	0	0	0
1 879	% Pb Rec	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

2 FILE : 91 start1.wr1 Millfeed = 12 445 tpd 1 991 - MONTHLY PRODUCTION SCHEDULE PLAN : Faro 91start no fillramp
3 28-Jan-89 or Conc. = 1 415 tpd
4 12:54:23 AM
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Row			JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
880		% Pb	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
881		g/t Ag	0	0	0	0	0	0	0	0	0	0	0	0	0
882		g/t Au	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
883															
884	Conc Pb Tot:	Pb DMTonnes	15 219	12 472	15 084	13 404	16 166	14 638	13 450	14 619	14 550	15 123	14 796	0	159 521
885		% Pb Rec	77.97	78.45	77.71	77.38	78.77	78.46	77.44	78.25	78.33	78.37	78.45	0.00	78.15
886		% Pb	60.51	60.59	60.97	60.99	60.99	60.96	60.95	60.94	60.96	60.96	60.96	0.00	60.89
887		g/t Ag	385	393	355	326	361	318	325	359	375	374	373	0	359
888		g/t Au	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
889															
890	Conc Pit Ores	Zn DMTonnes	33 959	25 293	33 000	33 565	32 996	32 602	34 293	33 820	31 829	33 086	32 380	0	356 825
891		% Zn Rec	78.55	77.99	78.01	78.80	78.29	79.01	79.41	79.25	78.67	78.71	78.79	0.00	78.70
892		% Zn	49.59	49.59	49.60	49.60	49.60	49.61	49.61	49.62	49.61	49.61	49.61	0.00	49.61
893															
894	Conc U/G Ores	Zn DMTonnes	0	0	0	0	0	0	0	0	0	0	0	0	0
895		% Zn Rec	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
896		% Zn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
897															
898	Conc Zn Tot:	Zn DMTonnes	33 959	25 293	33 000	33 565	32 996	32 602	34 293	33 820	31 829	33 086	32 380	0	356 825
899		% Zn Rec	78.55	77.99	78.01	78.80	78.29	79.01	79.41	79.25	78.67	78.71	78.79	0.00	78.70
900		% Zn	49.59	49.59	49.60	49.60	49.60	49.61	49.61	49.62	49.61	49.61	49.61	0.00	49.61
901															
902	Conc Tot:	DMTonnes	49 178	37 765	48 084	46 969	49 162	47 241	47 743	48 440	46 379	48 209	47 176	0	516 346
903															
904															
905	Concentrates Summary:														
906															
907	Conc Pb Tot:	Pb DMTonnes	15 219	12 472	15 084	13 404	16 166	14 638	13 450	14 619	14 550	15 123	14 796	0	159 521
908		% Pb Rec	77.97	78.45	77.71	77.38	78.77	78.46	77.44	78.25	78.33	78.37	78.45	0.00	78.15
909		% Pb	60.51	60.59	60.97	60.99	60.99	60.96	60.95	60.94	60.96	60.96	60.96	0.00	60.89
910		g/t Ag	385	393	355	326	361	318	325	359	375	374	373	0	359
911		g/t Au	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
912															
913	Conc Zn Tot:	Zn DMTonnes	33 959	25 293	33 000	33 565	32 996	32 602	34 293	33 820	31 829	33 086	32 380	0	356 825
914		% Zn Rec	78.55	77.99	78.01	78.80	78.29	79.01	79.41	79.25	78.67	78.71	78.79	0.00	78.70
915		% Zn	49.59	49.59	49.60	49.60	49.60	49.61	49.61	49.62	49.61	49.61	49.61	0.00	49.61
916															
917	Conc Tot:	DMTonnes	49 178	37 765	48 084	46 969	49 162	47 241	47 743	48 440	46 379	48 209	47 176	0	516 346
918															

SOURCE 89 - 3 (MAY 1990)

CURRAGH RESOURCES INC. PROSPECTUS

ANVIL DISTRICT MINING RESERVES AS OF JULY 1, 1989

Reserves. Substantially all of the Company's mineable ore reserves at the Faro Division have been confirmed by the mining engineering firm of Kilborn Limited and reported in the document entitled, "Review of the Mineral Properties of Curragh Resources Inc. and Affiliates," dated October 1989 and reflecting estimates as of July 1, 1989 (the "Reserve Report"), and such information is included herein and in the prospectus in reliance upon the authority of such firm as experts in mining and reserve determination. The Reserve Report relies upon geological and property holdings data provided by the Company and upon open pit designs for the Faro and Swim deposits of the Faro Division prepared by an independent consultant retained by the Company. The Company determined the reserves by mapping, drilling, sampling, assaying and other standard evaluation methods generally utilized by the mining industry. In general, Kilborn Limited found the Company's estimates for the Faro Division to be adequate. John B. Mitchell, a director of the Company, is the President and Chief Operating Officer of Kilborn Limited. The following tables present the estimates as of July 1, 1989 of diluted ore reserves for the Faro Division:

Diluted Ore Reserves
Faro Division — Company Estimates

	Tonnes	Short Tons (3)	Zinc	Lead	Silver	Gold	Silver	Gold	Stripping Ratio
	(In thousands)		(Percentage)		(Grams per tonne)		(Troy ounces per short ton)		
Proven Reserves (1)(2):									
Faro open pit (4)	12,011	13,240	4.68%	2.75%	31	0.21	0.9052	0.0061	1.45:1
Faro stockpile (4)	1,215	1,339	3.26%	2.04%	27	—	0.7884	—	n/a
Grum open pit	25,161	27,735	5.01%	2.96%	50	0.81	1.4600	0.0237	6.96:1
Probable Reserves (1)(2):									
Faro underground (4)	1,178	1,299	6.27%	4.11%	60	0.31	1.7520	0.0091	n/a
Vangorda open pit	6,935	7,644	4.51%	3.49%	48	0.65	1.4016	0.0190	2.23:1
Dy underground	11,300	12,456	6.84%	5.82%	83	0.94	2.4236	0.0274	n/a
	57,800	63,713	5.23%	3.54%	52	0.66	1.5184	0.0193	—

Faro Division — Kilborn Limited Estimates

	Tonnes	Short Tons (3)	Zinc	Lead	Silver	Gold	Silver	Gold	Stripping Ratio
	(In thousands)		(Percentage)		(Grams per tonne)		(Troy ounces per short ton)		
Proven Reserves (1)(2):									
Faro open pit (4)	10,519	11,595	5.73%	3.19%	37.1	—	—	—	1.79:1
Faro stockpile (4)(5)	1,215	1,339	3.26%	2.04%	27	—	0.7884	—	n/a
Grum open pit	24,110	26,576	5.15%	3.08%	52.58	—	—	—	7.31:1
Probable Reserves (1)(2):									
Faro underground (4)	2,000	2,205	7.07%	4.57%	61.59	—	—	—	—
Vangorda open pit	6,327	6,974	4.45%	3.59%	47.55	0.57	—	—	2.54:1
Dy underground	11,510	12,687	6.46%	4.99%	78.6	0.87	—	—	—
	55,681	61,376							

(1) The combined cut-off grade of zinc plus lead is 4% for open pit and stockpile reserves and 9% for underground reserves. Combined grade means the combined amount of zinc and lead metals in the ore. Thus, ore with the same combined grade may contain varying grades of zinc and lead.

(2) In 1989, the average mill recovery was 77.04% for zinc, 77.90% for lead, 49.81% for silver and 28.70% for gold. The percentages and amounts set forth in the table do not reflect these mill recovery rates.

(3) Converted to short tons for convenience.

(4) Under production.

(5) As estimated by Curragh Resources. Stockpile not checked by Kilborn Limited.

Diluted Ore Reserves
Faro Division — Company Estimates

	Average Grade	
	1988	1989
Lead	3.61%	2.93%
Zinc	4.86%	4.69%
Silver	52.0 grams/tonne	34.94 grams/tonne
Gold	0.27 grams/tonne	0.12 grams/tonne

Between July 1, 1989 and March 31, 1990 the Company mined approximately 3.8 million tonnes of ore from the Faro Division.

All of the Faro Division ore bodies are contained in the same general geological environment. The Faro, Grum and Vangorda ore bodies are of a nature and size to allow open pit mining methods. At Faro, a small high grade ore body, adjoining the open pit ore body, has been delineated and mining by underground techniques has begun. The Dy deposit, which is deep and of high grade, will also be mined by underground mining methods.

The Company's mine at Faro is currently the largest open pit zinc and lead mine in North America based on total concentrate production. Currently, all ore production at the Faro Division is from the Faro open pit and underground mines, while the nearby Grum and Vangorda ore bodies, which are reached from the Faro concentrator by a separate mine haul road, are being developed. The Company is currently designing a shaft for the development of the Dy ore body.

Mine Plan. The Company's current mine plan for the Faro Division (the "Mine Plan"), as revised through September 1989, contemplates continued ore production from the Faro open pit through 1991 which, with supplemental ore from a small underground operation currently being developed in the Faro deposit immediately adjacent to the open pit, will provide all of the ore feed to the concentrator through mid-1991. The Company anticipates that by the end of 1991, the existing Faro ore body will be exhausted. In order to maintain current production at the Company's existing concentrator through 2000, the Mine Plan contemplates that ore supply will be drawn from the nearby Grum and Vangorda open pits and the Dy underground mine.

Ore reserves in the Grum, Vangorda and Dy ore bodies consist of both zinc and lead sulfide ores. The current Mine Plan contemplates the extraction of the ores at a rate which will have mined the stated reserves of the Faro open pit and underground mine, the Grum and Vangorda open pits and 8.5 million tonnes from the Dy underground mine by the end of the year 2000 (the end of the current Mine Plan). The Company estimates and the Mine Plan includes substantial stockpiles of unprocessed mined ore at the end of the year 2000. The Mine Plan is subject to change and does not presently contemplate exploitation of any other mineralization on the Faro Division's properties. See "Mineral Inventory" below.

The Mine Plan contemplates zinc and lead concentrates production, increasing to levels in excess of the current level of production, through the year 2000. In all, the Mine Plan contemplates production of 4.0 million tonnes of zinc concentrate and 2.3 million tonnes of lead concentrate, containing 4.0 billion pounds of zinc metal payable, 2.9 billion pounds of lead metal payable, 43.7 million ounces of silver metal payable and 272,400 ounces of gold metal payable during the years 1990 through 2000. The Company estimates and the Mine Plan includes substantial amounts of metals contained in unprocessed, stockpiled mined ore at the end of the year 2000. However, until the Company has mined from the Grum, Vangorda and Dy deposits and processed ore from these deposits in its concentrator, no assurances can be given as to the accuracy of the production estimates of the Mine Plan.

Mineral Inventory. In addition to the ore reserves scheduled for extraction in the Mine Plan, the Company holds leases or claims in respect of a significant quantity of mineralized materials located in or near the Faro Division which are not currently scheduled for concentrate production. This additional mineralization has a combined zinc and lead grade ranging from 3% to in excess of 9%, totalling 26.6 million tonnes on an undiluted basis. The Company estimates that, of this amount, approximately 4.4 million tonnes, ranging in grades from 3% to 4%, will have been stockpiled at the end of the year 2000 as a result of the mining operations contemplated in the Mine Plan. Kilborn Limited has confirmed 15.4 million tonnes of this inventory. There can be no assurance that the Company will schedule these mineralized materials for extraction, nor can there be any assurance that such mineralization can be extracted on a profitable basis.

Mining. Currently, the Company's mining operations at the Faro mine are conducted by open pit techniques, which involve the drilling, blasting, loading and hauling of a large enough horizontal slice of the ore deposit to allow the mining equipment to operate in a cost-efficient and effective manner. In order to access the ore in an open pit, the waste or uneconomic material is first removed. After blasting, the waste material is loaded and hauled for permanent disposal to waste dumps outside and, to a lesser extent, in the mined out area of the Faro pit. The ore is loaded and hauled to the primary crusher at the concentrator. The Mine Plan contemplates use of open pit mining techniques for the Vangorda and Grum deposits.

The Mine Plan also contemplates underground mining in the Faro and Dy deposits. In its underground mines, the Company expects primarily to use trackless room and pillar methods with diesel and electric equipment, although the Company also expects to use other methods, such as longhole stoping, in some zones of the Dy deposit. These methods use drilling and blasting to drive tunnels to and through the ore and produce rooms or stopes from which ore may be extracted. Access from the surface to the Faro underground mine is by an inclined tunnel, while at Dy, access will be via a 2,000 foot vertical shaft. The underground mining methods the Company contemplates using are commonly used in the underground mining business.

Concentrating. Sulfide zinc and lead ores from the open pit are transported by large off-highway trucks from the Faro open pit to the primary crusher at the concentrator. The concentrator crushes, grinds and upgrades ("concentrates") the ores by standard flotation methods to produce a zinc concentrate with a zinc metal content of approximately 50% and a lead concentrate with a lead metal content of approximately 60%, along with silver and gold metals contents. In 1988, the zinc and lead metal content of the ores was 4.86% and 3.61%, respectively, and in 1989, 4.69% and 2.93%, respectively. The grade quality and types of ore vary from place to place throughout an ore deposit and, for this reason, the Company maintains ore stockpiles in front of the crusher for blending purposes which allows the Company to feed ore of more consistent quality to the concentrator, resulting in more efficient concentrator operations. In the concentration process, the lead concentrate is first separated by flotation of the ground sulfide ore, followed by the separation of zinc concentrate by flotation. The concentrates are separately dewatered, dried and stored at site for transportation to smelters. During the year ended December 31, 1989, the concentrator processed an average of approximately 12,000 tonnes of ore per day.

The principal materials used in the Company's operations are lime, soda ash, flotation reagents, water, coal, diesel fuel, electricity and steel grinding media. The Faro Division obtains coal and water required for operations primarily from properties either owned by it or leased from others. All other materials used by the Faro Division are acquired from third parties. Under an agreement with the Yukon Electric Company, a public utility owned and administered by the Yukon Government, the Company's hydroelectric rates for the Faro Division may not be increased above the average rates charged to other users in Yukon prior to March 1993.

In 1988, the Company began a program of improvements to its current concentrator operations in order to produce higher and more consistent grades of concentrates and enable the Company to increase its output of concentrates. Through December 31, 1989, the Company has spent approximately $8.8 million on the Faro concentrator improvements. The Company expects to spend an additional $6.4 million through 1990 to complete the program. Under the current Mine Plan, the Company expects to incur ongoing capital replacement expenditures to the concentrator, including upgrading of the tailings disposal facilities, of approximately $17.0 million through the year 2000. The concentrator currently produces a full capacity and the Company expects that, following upgrading, production will increase by approximately 1,000 tonnes of ore per day.

SOURCE 89 - 04 (FEBRUARY 1987)

KILBORN LIMITED; FARO UNDERGROUND MINING, PAGE 6-3

The mine will be operated on a two - ten hour shift, five day per week basis. Production per operating day will be 2000 tonnes. Access will be provided by a decline. Hydraulic jumbos and trackless loaders and trucks will be used to drive the decline and the access drifts to the stoping areas. Stope mining operations will be conducted with short hole, portable drills and electric slushers.

6.2 ORE RESERVES

The ore zone shown on Figure 6.2-1 is an extension of the orebody being mined by the Faro open pit. The reserves are based on surface drill holes as indicated in the figure. A geolocial reserve was calculated by the polygon method using the following parameters:

a) Minimum insitu grade 9 percent Pb + Zn.
b) Minimum mining height 2.1 metres.
c) Maximum radius of influence 46 metres.
d) Minimum pillar between underground reserves and final open pit wall is 15 metres.

These reserves are considered to be in the probable catagory.

Geological reserves are given in table 6.2-1.

Mining reserves are calculated from geological reserves on the following parameters:

a) Dilution - 10 percent at zero grade.
b) Mining Recovery - 75 percent of inplace reserves.

Mining Reserves are given in table 6.2-1.

Table 6.2-1

Geological Reserves

Ore Type	Lead Percent	Zinc Percent	Silver gm/tonne	Quantity tonnes
2A	1.98	3.88	13.86	58,000
2BG	5.09	7.69	67.51	2,288,000
2H	5.21	9.26	82.17	264,000
TOTAL	5.04	7.76	67.90	2,610,000
	Mining Reserve			
TOTAL	4.59	7.00	61.29	2,014,000

6.3 MAJOR DEVELOPMENT

Major development prior to the start of production is shown on Figure 6.3-1 and comprises 3 main areas:

- Main access decline;
- Mining levels;
- Ventilation Raise.

The main access decline will be collared on the west wall of the existing open pit at 3670 ft elevation. The grade of the decline will be 15 percent. Dimensions of the decline will be 4.3 metres high by 5.2 metres wide. This decline will be positioned to permit intersection of the bottom of the ore zone at 30 metres vertical intervals. Prior to start of production 1219 metres of decline will be driven. Two main level drifts will be driven as part of the preproduction development at 3300 and 3400 ft elevations. This major drifting will amount to 1128 metres of which 579 metres will be at the 3400 ft elevation. The remaining 550 metres of pre-production development will be at the 3200 ft elevation. These drifts will have the same dimensions as the decline.

The main ventilation downcast raise will be driven from the end of the 3300 ft level to surface in a distance of 245 metres. This raise will be a 2.4 metre diameter bored raise fitted with an emergency escape manway.

SOURCE 89 - 6 (FEBRUARY 1989)

CURRAGH RESOURCES INC.

ALPHA 2 MINE PLAN

C U R R A G H   R E S O U R C E S   I N C
Mill Feed Schedule

89-09-11
17:19

89-6

S89 - ALPHA 2 MINE PLAN

V & G Mining Block Reserves Based on "V8803 & G8705" M

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Total
Faro Open Pit Ore													
+Pb Gr		0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
+Pb Rec		0.0%	1.0%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	
+Zn Gr		0.0	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	
+Zn Rec		0.0%	1.0%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	
Faro Open Pit Ore													
Tonnes		4 252	2 597	0	450	0	0	825	418	330	0	0	8 872
% Pb + Zn		8.2	8.6	0.0	6.0	0.0	0.0	6.0	4.6	4.5	0.0	0.0	7.66
% Pb		3.2	2.9	0.0	2.1	0.0	0.0	2.1	1.7	1.7	0.0	0.0	2.79
% Zn		5.0	5.7	0.0	3.9	0.0	0.0	3.9	2.9	2.8	0.0	0.0	4.87
Ag g/t		35	26	0	26	0	0	26	22	22	0	0	30
Au g/t		0.23	0.23	0.00	0.18	0.00	0.00	0.18	0.15	0.15	0.00	0.00	$\boxed{0.21}$
Pb Conc		175 360	98 442	0	12 004	0	0	21 855	8 701	6 791	0	0	323 154
% Pb		60.4	59.5	0.0	59.9	0.0	0.0	59.9	59.9	59.9	0.0	0.0	60.06
Pb recovery		79.1%	78.8%	0.0%	75.5%	0.0%	0.0%	75.4%	72.6%	72.4%	0.0%	0.0%	78.3%
Ag g/t		435	319	0	413	0	0	413	420	421	0	0	397
Ag recovery		51.3%	47.0%	0.0%	42.2%	0.0%	0.0%	42.1%	39.7%	39.5%	0.0%	0.0%	48.3%
Au g/t		1.4	1.4	0.0	1.4	0.0	0.0	1.4	1.4	1.4	0.0	0.0	1.40
Au recovery		25.6%	23.5%	0.0%	21.1%	0.0%	0.0%	21.1%	19.8%	19.8%	0.0%	0.0%	24.1%
Zn Conc		319 760	235 408	0	26 469	0	0	48 000	16 149	12 468	0	0	658 254
% Zn		52.1	51.1	0.0	51.1	0.0	0.0	51.1	51.1	51.1	0.0	0.0	51.55
Zn recovery		78.2%	81.2%	0.0%	77.0%	0.0%	0.0%	76.8%	68.9%	68.4%	0.0%	0.0%	78.6%
Faro Stockpile													
High Grade		250	0	0	0	0	0	0	0	0	0	0	
%Pb+Zn		8.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Medium Grade		817	1 268	1 268	818	818	818	18	0	0	0	0	
%Pb+Zn		6.0	6.0	6.0	6.0	6.0	6.0	6.0	0.0	0.0	0.0	0.0	
Low Grade		1 974	2 814	2 814	2 814	2 814	2 814	2 789	2 389	2 059	2 059	2 059	
%Pb+Zn		4.6	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Faro U/G Ore													
Tonnes		478	500	200	0	0	0	0	0	0	0	0	1 178
% Pb + Zn		10.2	10.5	10.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.38
% Pb		4.1	4.1	4.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.11
% Zn		6.2	6.3	6.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.27
Ag g/t		57	62	62	0	0	0	0	0	0	0	0	60
Au g/t		0.35	0.29	0.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	$\boxed{0.31}$
Pb Conc		25 475	26 225	10 490	0	0	0	0	0	0	0	0	62 190
% Pb		60.8	60.7	60.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	60.73
Pb recovery		79.6%	76.8%	76.8%	ERR	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	77.9%
Ag g/t		456	606	606	0	0	0	0	0	0	0	0	544
Ag recovery		42.6%	51.5%	51.5%	ERR	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	48.1%
Au g/t		1.4	1.4	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.40
Au recovery		21.3%	25.8%	25.8%	ERR	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	23.7%
Zn Conc		46 725	49 704	19 882	0	0	0	0	0	0	0	0	116 311
% Zn		52.0	50.1	50.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.86
Zn recovery		82.4%	78.6%	78.6%	ERR	0	0	0	0	0	0	0	80.1%

V & G Mining Block Reserves Based on "V8803 & G8705" M

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Total
Vangorda Ore													
+Pb Gr		6.0	6.0	6.0	6.0	4.0	4.0	6.0	6.0	6.0	6.0	6.0	
+Pb Rec		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
+Zn Gr		1.0	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	
+Zn Rec		0.5%	1.0%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	
Vangorda Ore													
Tonnes		0	1 602	3 932	1 000	0	400	0	0	0	0	0	6 935
% Pb + Zn		0.0	7.8	7.9	8.4	0.0	8.4	0.0	0.0	0.0	0.0	0.0	8.01
% Pb		0.0	3.4	3.5	3.7	0.0	3.7	0.0	0.0	0.0	0.0	0.0	3.50
% Zn		0.0	4.5	4.5	4.7	0.0	4.7	0.0	0.0	0.0	0.0	0.0	4.51
Ag g/t		0	48	49	52	0	52	0	0	0	0	0	49
Au g/t		0.0	0.6	0.7	0.7	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.66
Pb Conc		0	76 335	192 817	52 772	0	21 836	0	0	0	0	0	343 760
% Pb		0.0	59.1	59.4	59.2	0.0	57.2	0.0	0.0	0.0	0.0	0.0	59.17
Pb recovery		0.0%	84.0%	83.7%	84.3%	0.0%	84.3%	0.0%	0.0%	0.0%	0.0%	0.0%	83.9%
Ag g/t		0	679	666	660	0	638	0	0	0	0	0	666
Ag recovery		0.0%	66.8%	66.8%	66.8%	0.0%	66.8%	0.0%	0.0%	0.0%	0.0%	0.0%	66.8%
Au g/t		0.0	5.9	6.8	6.5	0.0	6.3	0.0	0.0	0.0	0.0	0.0	6.53
Au recovery		0.0%	49.3%	49.3%	49.3%	0.0%	49.3%	0.0%	0.0%	0.0%	0.0%	0.0%	49.3%
Zn Conc		0	101 949	252 015	68 314	0	27 313	0	0	0	0	0	449 591
% Zn		0.0	56.4	56.2	56.2	0.0	56.2	0.0	0.0	0.0	0.0	0.0	56.23
Zn recovery		0.0%	80.4%	80.8%	81.3%	0.0%	81.3%	0.0%	0.0%	0.0%	0.0%	0.0%	80.8%
Vangorda Stockpile													
High Grade		0	0	1 400	400	400	0	0	0	0	0	0	
%Pb+Zn		0.0	0.0	8.4	8.4	8.4	0.0	0.0	0.0	0.0	0.0	0.0	
Low Grade		0	85	0	0	0	0	0	0	0	0	0	
%Pb+Zn		0.0	3.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

Mill Feed Schedule

V & G Mining Block Reserves Based on "V8803 & 88705" M

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Total
Grua Ore													
+Pb Gr		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
+Pb Rec		0.5%	1.0%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	
+Zn Gr		1.0	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	
+Zn Rec		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Grua Ore													
Tonnes		0	0	50	2 010	3 307	2 950	2 566	2 930	3 000	3 300	3 302	23 415
% Pb + Zn		0.0	0.0	3.9	7.8	8.4	7.5	8.7	9.0	9.0	8.1	6.3	8.07
% Pb		0.0	0.0	1.3	2.9	3.2	2.7	3.3	3.3	3.4	2.9	2.3	3.00
% Zn		0.0	0.0	2.7	4.9	5.2	4.7	5.4	5.7	5.5	5.2	4.0	5.07
Ag g/t		0	0	25	48	51	45	55	56	59	51	40	51
Au g/t		0.0	0.0	0.6	0.7	0.8	0.7	0.8	0.9	1.0	0.8	0.7	0.81
Pb Conc		0	0	746	78 500	142 683	108 078	116 265	133 001	141 511	131 437	101 469	953 690
% Pb		0.0	0.0	59.0	59.0	59.0	59.0	59.0	59.0	59.0	59.0	59.0	59.00
Pb recovery		0.0%	0.0%	69.9%	79.8%	80.4%	79.1%	80.6%	80.7%	81.5%	80.2%	77.9%	80.1%
Ag g/t		0	0	645	698	693	684	711	723	737	750	693	713
Ag recovery		0.0%	0.0%	38.5%	56.9%	58.1%	55.6%	58.2%	58.4%	59.4%	58.5%	53.2%	57.5%
Au g/t		0.0	0.0	9.8	5.9	5.6	5.6	5.9	6.6	6.9	6.8	7.1	6.33
Au recovery		0.0%	0.0%	26.6%	31.3%	31.7%	31.3%	32.1%	31.9%	32.6%	32.1%	30.5%	31.7%
Zn Conc		0	0	1 811	143 680	253 045	204 359	204 783	246 208	245 119	251 596	187 694	1 738 294
% Zn		0.0	0.0	56.5	56.5	56.5	56.5	56.5	56.5	56.5	56.5	56.5	56.50
Zn recovery		0.0%	0.0%	76.3%	82.5%	83.0%	82.5%	83.1%	83.1%	83.4%	83.2%	81.0%	82.8%
Grua Stockpile													
High Grade		35	244	1 370	4 784	1 824	916	810	899	1 325	1 962	0	
%Pb+Zn		6.0	5.6	7.3	8.4	8.4	6.6	6.6	6.9	7.9	7.9	0.0	
Low Grade		0	56	308	447	458	833	1 171	1 456	1 114	1 907	567	
%Pb+Zn		0.0	3.8	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	

V & G Mining Block Reserves Based on "V8803 & G8705" M

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Total
Dy Ore													
Tonnes		0	0	500	1 000	1 000	1 000	1 000	1 000	1 000	1 000	1 000	8 500
% Pb + Zn		0.0	0.0	15.4	14.1	13.3	13.3	12.8	12.8	12.8	12.6	12.6	13.20
% Pb		0.0	0.0	6.2	5.8	5.8	5.8	5.7	5.7	5.7	5.8	5.8	5.80
% Zn		0.0	0.0	9.2	8.3	7.5	7.5	7.1	7.1	7.1	6.8	6.8	7.40
Ag g/t		0.0	0.0	98.0	92.0	90.0	90.0	87.0	87.0	87.0	87.0	87.0	89
Au g/t		0.0	0.0	0.9	0.8	0.9	0.9	1.0	1.0	1.0	1.0	1.0	0.94
Pb Conc		0	0	40 725	75 783	76 705	76 705	75 519	75 519	75 519	76 573	76 573	649 621
% Pb		0.0	0.0	60.7	60.7	60.7	60.7	60.7	60.7	60.7	60.7	60.7	60.70
Pb recovery		0	0	0	0	0	0	0	0	0	0	0	80.0%
Ag g/t		0	0	620	625	604	604	593	593	593	585	585	599
Ag recovery													51.5%
Au g/t		0.0	0.0	2.6	2.6	3.0	3.0	3.2	3.2	3.2	3.3	3.3	3.07
Au recovery													25.0%
Zn Conc		0	0	75 617	136 503	122 754	122 754	116 371	116 371	116 371	111 625	111 625	1 029 992
% Zn		0.0	0.0	50.1	50.1	50.1	50.1	50.1	50.1	50.1	50.1	50.1	50.10
Zn recovery		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	82.0%
All Ore													
Tonnes		4 730	4 699	4 682	4 460	4 307	4 350	4 391	4 348	4 330	4 300	4 302	48 899
% Pb + Zn		8.4	8.5	8.8	9.2	9.5	8.9	9.2	9.5	9.5	9.2	7.8	8.93
% Pb		3.2	3.2	3.8	3.6	3.8	3.5	3.6	3.7	3.8	3.6	3.1	3.55
% Zn		5.1	5.3	5.0	5.5	5.7	5.4	5.5	5.8	5.7	5.6	4.6	5.39
Ag g/t		37	37	54	57	60	56	57	60	62	59	51	54
Au g/t		0.2	0.4	0.7	0.7	0.8	0.7	0.7	0.9	0.9	0.9	0.8	0.69
Pb Conc		200 835	201 002	244 778	219 058	219 388	206 620	213 639	217 222	223 820	208 011	178 042	2 332 415
% Pb		60.5	59.5	59.7	59.7	59.6	59.4	59.7	59.6	59.6	59.6	59.7	59.69
Pb recovery		79.2%	80.4%	82.7%	80.7%	80.3%	79.9%	79.8%	80.1%	80.6%	80.1%	78.8%	80.3%
Ag g/t		437.7	493.1	655.3	648.0	662.3	649.7	638.8	665.7	678.9	689.1	646.9	626
Ag recovery		49.9%	56.6%	63.0%	56.3%	55.8%	55.0%	54.5%	55.5%	56.3%	56.1%	52.5%	55.8%
Au g/t		1.4	3.1	5.9	4.7	4.7	4.7	4.5	5.2	5.5	5.5	5.5	4.64
Au recovery		25.0%	38.1%	45.4%	33.6%	30.0%	31.1%	29.5%	29.9%	30.6%	30.2%	28.8%	32.0%
Zn Conc		366 485	387 062	349 324	374 966	375 799	354 426	369 154	378 728	373 958	363 221	299 319	3 992 442
% Zn		52.1	52.3	54.5	53.7	54.4	54.3	53.8	54.3	54.3	54.5	54.1	53.84
Zn recovery		78.7%	80.6%	80.9%	81.7%	82.7%	82.2%	81.9%	82.1%	82.4%	82.8%	81.3%	81.6%
		100.6%	100.0%	99.7%	100.0%	100.0%	100.0%	99.9%	99.9%	99.7%	99.8%	99.9%	
Total Conc		567 320	588 064	594 102	594 025	595 187	561 046	582 793	595 950	597 779	571 231	477 361	6 324 857
	=======	=======	=======	=======	=======	=======	=======	=======	=======	=======	=======	=======	=========
Stockpiles													
High + Medium		1 102	1 512	4 038	6 001	3 041	1 734	828	899	1 325	1 962	0	
Low Grade		1 974	2 955	3 122	3 262	3 273	3 647	3 960	3 845	3 173	3 966	2 626	
lead rec		79.2%	80.4%	82.7%	80.7%	80.3%	79.9%	79.8%	80.1%	80.6%	80.1%	78.8%	
zinc rec		78.7%	80.6%	80.9%	81.7%	82.7%	82.2%	81.9%	82.1%	82.4%	82.8%	81.3%	

FARO OPEN PIT	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Mined - HIGH																	
Tonnes	0	3 341 316	1 696 022	0	0	0	0	0	0	0	0	0	0	0	0	0	0
%Pb+Zn	0.00	8.90	9.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
%Pb	0.00	3.41	3.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
%Zn	0.00	5.50	6.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ag g/t	0	38	27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Au g/t	0.00	0.12	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lead con	0	151 614	74 043	0	0	0	0	0	0	0	0	0	0	0	0	0	0
%Pb	0	60	59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ag g/t	0	426	295	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Au g/t	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Zn con	0	292 817	181 805	0	0	0	0	0	0	0	0	0	0	0	0	0	0
%Zn	0	50	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Opening stockpile - HIGH																	
Tonnes			115 681	0	0	0	0	0	0	0	0	0	0	0	0	0	0
%Pb+Zn			8.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
%Pb			3.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
%Zn			5.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ag g/t			32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Au g/t			0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lead con			4 880	0	0	0	0	0	0	0	0	0	0	0	0	0	0
%Pb			58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ag g/t			367	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Au g/t			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Zn con			10 968	0	0	0	0	0	0	0	0	0	0	0	0	0	0
%Zn			50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pit to Mill - HIGH																	
Tonnes		3 091 316	1 696 022														
%Pb+Zn	0.00	8.90	9.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
%Pb	0.00	3.41	3.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
%Zn	0.00	5.50	6.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ag g/t	0.00	38.07	26.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Au g/t	0.00	0.12	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lead con	0	140 270	74 043	0	0	0	0	0	0	0	0	0	0	0	0	0	0
%Pb	0	60	59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ag g/t	0	426	295	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Au g/t	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Zn con	0	270 908	181 805	0	0	0	0	0	0	0	0	0	0	0	0	0	0
%Zn	0	50	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Stockpile to Mill - HIGH																	
Tonnes			115 681														
%Pb+Zn	0.00	0.00	8.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
%Pb	0.00	0.00	3.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
%Zn	0.00	0.00	5.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ag g/t	0.00	0.00	32.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Au g/t	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lead con	0	0	4 880	0	0	0	0	0	0	0	0	0	0	0	0	0	0
%Pb	0	0	58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ag g/t	0	0	367	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Au g/t	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Zn con	0	0	10 968	0	0	0	0	0	0	0	0	0	0	0	0	0	0
%Zn	0	0	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0

FARO OPEN PIT	[illegible]	[illegible]	19..	199.	1993	1994	995	76	[illegible]	[illegible]	[illegible]	2000	2001	2002	2003	[illegible]	[illegible]
Closing Stockpile - HIGH																	
Tonnes	0	250 000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
%Pb+Zn	0.00	8.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
%Pb	0.00	3.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
%Zn	0.00	5.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ag g/t	0.00	38.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Au g/t	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lead con	0	11 344	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
%Pb	0.00	60.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ag g/t	0.00	426.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Au g/t	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zn con	0	21 909	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
%Zn	0.00	49.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mill Feed Total - HIGH																	
Tonnes	0	3 091 316	1 811 703	0	0	0	0	0	0	0	0	0	0	0	0	0	0
%Pb+Zn	0.00	8.90	9.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
%Pb	0.00	3.41	3.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
%Zn	0.00	5.50	6.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ag g/t	0.00	38.07	26.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Au g/t	0.00	0.12	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lead con	0	140 270	78 923	0	0	0	0	0	0	0	0	0	0	0	0	0	0
%Pb	0.00	60.04	58.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ag g/t	0.00	426.35	299.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Au g/t	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zn con	0	270 908	192 773	0	0	0	0	0	0	0	0	0	0	0	0	0	0
%Zn	0.00	49.58	49.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mined - MEDIUM																	
Tonnes	0	1 887 459	1 058 439	0	0	0	0	0	0	0	0	0	0	0	0	0	0
%Pb+Zn	0.00	6.04	5.94	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
%Pb	0.00	2.23	2.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
%Zn	0.00	3.82	3.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ag g/t	0	28	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Au g/t	0.00	0.10	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lead con	0	52 891	26 875	0	0	0	0	0	0	0	0	0	0	0	0	0	0
%Pb	0	59	59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ag g/t	0	426	368	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Au g/t	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Zn con	0	109 063	63 065	0	0	0	0	0	0	0	0	0	0	0	0	0	0
%Zn	0	50	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Opening stockpile - MEDIUM																	
Tonnes			994 179	1 267 618	1 267 618	817 618	817 618	817 618	17 618	0	0	0	0	0	0	0	0
%Pb+Zn			6.04	6.02	6.02	6.02	6.02	6.02	6.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
%Pb			2.14	2.12	2.12	2.12	2.12	2.12	2.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
%Zn			3.90	3.90	3.90	3.90	3.90	3.90	3.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ag g/t			27.00	26.13	26.13	26.13	26.13	26.13	26.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Au g/t			0.10	0.09	0.09	0.09	0.09	0.09	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lead con			26 763	33 706	33 706	21 740	21 740	21 740	468	0	0	0	0	0	0	0	0
%Pb			59	59	59	59	59	59	59	0	0	0	0	0	0	0	0
Ag g/t			416	406	406	406	406	406	406	0	0	0	0	0	0	0	0
Au g/t			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

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FARO OPEN PIT	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Pit to Mill - MEDIUM																	
Tonnes		1 070 483	785 000														
%Pb+Zn	0.00	6.04	5.94	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
%Pb	0.00	2.23	2.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
%Zn	0.00	3.82	3.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ag g/t	0.00	27.63	22.98	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Au g/t	0.00	0.10	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lead con	0	29 997	19 932	0	0	0	0	0	0	0	0	0	0	0	0	0	0
%Pb	0	59	59	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ag g/t	0	426	368	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Au g/t	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Zn con	0	61 856	46 773	0	0	0	0	0	0	0	0	0	0	0	0	0	0
%Zn	0	50	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Stockpile to Mill - MEDIUM																	
Tonnes					450 000			800 000	17 618	0							
%Pb+Zn	0.00	0.00	6.04	6.02	6.02	6.02	6.02	6.02	6.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
%Pb	0.00	0.00	2.14	2.12	2.12	2.12	2.12	2.12	2.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
%Zn	0.00	0.00	3.90	3.90	3.90	3.90	3.90	3.90	3.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ag g/t	0.00	0.00	27.00	26.13	26.13	26.13	26.13	26.13	26.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Au g/t	0.00	0.00	0.10	0.09	0.09	0.09	0.09	0.09	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lead con	0	0	0	0	11 965	0	0	21 272	468	0	0	0	0	0	0	0	0
%Pb	0	0	59	59	59	59	59	59	59	0	0	0	0	0	0	0	0
Ag g/t	0	0	416	406	406	406	406	406	406	0	0	0	0	0	0	0	0
Au g/t	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Zn con	0	0	0	0	26 738	0	0	47 535	1 047	0	0	0	0	0	0	0	0
%Zn	0	0	50	50	50	50	50	50	50								
Closing Stockpile - MEDIUM																	
Tonnes	0	816 976	1 267 618	1 267 618	817 618	817 618	817 618	17 618	0	0	0	0	0	0	0	0	0
%Pb+Zn	0.00	6.04	6.02	6.02	6.02	6.02	6.02	6.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
%Pb	0.00	2.23	2.12	2.12	2.12	2.12	2.12	2.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
%Zn	0.00	3.82	3.90	3.90	3.90	3.90	3.90	3.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ag g/t	0.00	27.63	26.13	26.13	26.13	26.13	26.13	26.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Au g/t	0.00	0.10	0.09	0.09	0.09	0.09	0.09	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lead con	0	22 894	33 706	33 706	21 740	21 740	21 740	468	0	0	0	0	0	0	0	0	0
%Pb	0.00	59.43	58.86	58.86	58.86	58.86	58.86	58.86	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ag g/t	0.00	425.51	406.20	406.20	406.20	406.20	406.20	406.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Au g/t	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zn con	0	47 207	75 320	75 320	48 582	48 582	48 582	1 047	0	0	0	0	0	0	0	0	0
%Zn	0.00	49.57	49.56	49.56	49.56	49.56	49.56	49.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mill Feed Total - MEDIUM																	
Tonnes	0	1 070 483	785 000	0	450 000	0	0	800 000	17 618	0	0	0	0	0	0	0	0
%Pb+Zn	0.00	6.04	5.94	0.00	6.02	0.00	0.00	6.02	6.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
%Pb	0.00	2.23	2.03	0.00	2.12	0.00	0.00	2.12	2.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
%Zn	0.00	3.82	3.91	0.00	3.90	0.00	0.00	3.90	3.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ag g/t	0.00	27.63	22.98	0.00	26.13	0.00	0.00	26.13	26.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Au g/t	0.00	0.10	0.06	0.00	0.09	0.00	0.00	0.09	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lead con	0	29 997	19 932	0	11 965	0	0	21 272	468	0	0	0	0	0	0	0	0
%Pb	0.00	59.43	58.58	0.00	58.86	0.00	0.00	58.86	58.86	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ag g/t	0.00	425.51	368.41	0.00	406.20	0.00	0.00	406.20	406.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Au g/t	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zn con	0	61 856	46 773	0	26 738	0	0	47 535	1 047	0	0	0	0	0	0	0	0
%Zn	0.00	49.57	49.55	0.00	49.56	0.00	0.00	49.56	49.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

[illegible] 11-Sep [illegible]

FARO OPEN PIT	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Mined - LOW																	
Tonnes	0	916 762	840 314	0	0	0	0	0	0	0	0	0	0	0	0	0	0
%Pb+Zn	0.00	4.52	4.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
%Pb	0.00	1.69	1.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
%Zn	0.00	2.82	2.86	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ag g/t	0	23	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Au g/t	0.00	0.07	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lead con	0	18 909	15 608	0	0	0	0	0	0	0	0	0	0	0	0	0	0
%Pb	0	59	60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ag g/t	0	421	372	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Au g/t	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Zn con	0	37 506	34 843	0	0	0	0	0	0	0	0	0	0	0	0	0	0
%Zn	0	50	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Opening stockpile - LOW																	
Tonnes			1 974 128	2 814 442	2 814 442	2 814 442	2 814 442	2 814 442	2 789 442	2 389 442	2 059 442	2 059 442	2 059 442	2 059 442	2 059 442	2 059 442	2 059 442
%Pb+Zn			4.56	4.52	4.52	4.52	4.52	4.52	4.52	4.52	4.52	4.52	4.52	4.52	4.52	4.52	4.52
%Pb			1.76	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70
%Zn			2.80	2.82	2.82	2.82	2.82	2.82	2.82	2.82	2.82	2.82	2.82	2.82	2.82	2.82	2.82
Ag g/t			23.00	21.90	21.90	21.90	21.90	21.90	21.90	21.90	21.90	21.90	21.90	21.90	21.90	21.90	21.90
Au g/t			0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Lead con			42 071	57 679	57 679	57 679	57 679	57 679	57 167	48 969	42 206	42 206	42 206	42 206	42 206	42 206	42 206
%Pb			59	59	59	59	59	59	59	59	59	59	59	59	59	59	59
Ag g/t			429	413	413	413	413	413	413	413	413	413	413	413	413	413	413
Au g/t			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Zn con			72 307	107 150	107 150	107 150	107 150	107 150	106 198	90 970	78 406	78 406	78 406	78 406	78 406	78 406	78 406
%Zn			50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
Pit to Mill - LOW																	
Tonnes																	
%Pb+Zn	0.00	4.52	4.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
%Pb	0.00	1.69	1.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
%Zn	0.00	2.82	2.86	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ag g/t	0.00	22.81	19.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Au g/t	0.00	0.07	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lead con	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
%Pb	0	59	60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ag g/t	0	421	372	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Au g/t	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Zn con	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
%Zn	0	50	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Stockpile to Mill - LOW																	
Tonnes								25 000	400 000	330 000							
%Pb+Zn	0.00	0.00	4.56	4.52	4.52	4.52	4.52	4.52	4.52	4.52	4.52	4.52	4.52	4.52	4.52	4.52	4.52
%Pb	0.00	0.00	1.76	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70
%Zn	0.00	0.00	2.80	2.82	2.82	2.82	2.82	2.82	2.82	2.82	2.82	2.82	2.82	2.82	2.82	2.82	2.82
Ag g/t	0.00	0.00	23.00	21.90	21.90	21.90	21.90	21.90	21.90	21.90	21.90	21.90	21.90	21.90	21.90	21.90	21.90
Au g/t	0.00	0.00	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Lead con	0	0	0	0	0	0	0	512	8 198	6 763	0	0	0	0	0	0	0
%Pb	0	0	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59
Ag g/t	0	0	429	413	413	413	413	413	413	413	413	413	413	413	413	413	413
Au g/t	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Zn con	0	0	0	0	0	0	0	952	15 229	12 564	0	0	0	0	0	0	0
%Zn	0	0	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50

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FARO OPEN PIT	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Closing Stockpile - LOW																	
Tonnes	0	1 974 128	2 814 442	2 814 442	2 814 442	2 814 442	2 814 442	2 789 442	2 389 442	2 059 442	2 059 442	2 059 442	2 059 442	2 059 442	2 059 442	2 059 442	2 059 442
%Pb+Zn	0.00	4.56	4.52	4.52	4.52	4.52	4.52	4.52	4.52	4.52	4.52	4.52	4.52	4.52	4.52	4.52	4.52
%Pb	0.00	1.76	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70
%Zn	0.00	2.80	2.82	2.82	2.82	2.82	2.82	2.82	2.82	2.82	2.82	2.82	2.82	2.82	2.82	2.82	2.82
Ag g/t	0.00	23.00	21.90	21.90	21.90	21.90	21.90	21.90	21.90	21.90	21.90	21.90	21.90	21.90	21.90	21.90	21.90
Au g/t	0.00	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Lead con	0	42 071	57 679	57 679	57 679	57 679	57 679	57 167	48 969	42 206	42 206	42 206	42 206	42 206	42 206	42 206	42 206
%Pb	0.00	59	58.90	58.90	58.90	58.90	58.90	58.90	58.90	58.90	58.90	58.90	58.90	58.90	58.90	58.90	58.90
Ag g/t	0.00	429	413.48	413.48	413.48	413.48	413.48	413.48	413.48	413.48	413.48	413.48	413.48	413.48	413.48	413.48	413.48
Au g/t	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zn con	0	72 307	107 150	107 150	107 150	107 150	107 150	106 198	90 970	78 406	78 406	78 406	78 406	78 406	78 406	78 406	78 406
%Zn	0.00	50	49.56	49.56	49.56	49.56	49.56	49.56	49.56	49.56	49.56	49.56	49.56	49.56	49.56	49.56	49.56
Mill Feed Total - LOW																	
Tonnes	0	0	0	0	0	0	0	25 000	400 000	330 000	0	0	0	0	0	0	0
%Pb+Zn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.52	4.52	4.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00
%Pb	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.70	1.70	1.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00
%Zn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.82	2.82	2.82	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ag g/t	0.00	0.00	0.00	0.00	0.00	0.00	0.00	21.90	21.90	21.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Au g/t	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lead con	0	0	0	0	0	0	0	512	8 198	6 763	0	0	0	0	0	0	0
%Pb	0.00	0.00	0.00	0.00	0.00	0.00	0.00	58.90	58.90	58.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ag g/t	0.00	0.00	0.00	0.00	0.00	0.00	0.00	413.48	413.48	413.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Au g/t	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zn con	0	0	0	0	0	0	0	952	15 229	12 564	0	0	0	0	0	0	0
%Zn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.56	49.56	49.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mill Feed Total - ALL																	
Tonnes	0	4 161 799	2 596 703	0	450 000	0	0	825 000	417 618	330 000	0	0	0	0	0	0	0
%Pb+Zn	0.00	8.17	8.56	0.00	6.02	0.00	0.00	5.97	4.59	4.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00
%Pb	0.00	3.10	2.86	0.00	2.12	0.00	0.00	2.10	1.72	1.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00
%Zn	0.00	5.07	5.70	0.00	3.90	0.00	0.00	3.87	2.86	2.82	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ag g/t	0.00	35.38	25.72	0.00	26.13	0.00	0.00	26.00	22.07	21.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Au g/t	0.00	0.11	0.06	0.00	0.09	0.00	0.00	0.09	0.05	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lead con	0	170 268	98 855	0	11 965	0	0	21 784	8 666	6 763	0	0	0	0	0	0	0
%Pb	0.00	59.93	58.48	0.00	58.86	0.00	0.00	58.86	58.90	58.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lead rec	0.0%	79.0%	77.8%	0.0%	74.0%	0.0%	0.0%	73.9%	71.1%	70.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Ag g/t	0.00	426.20	313.44	0.00	406.20	0.00	0.00	406.37	413.09	413.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Silver rec	0.0%	49.3%	46.4%	0.0%	41.3%	0.0%	0.0%	41.3%	38.8%	38.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Au g/t	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zn con	0	332 764	239 546	0	26 738	0	0	48 487	16 275	12 564	0	0	0	0	0	0	0
%Zn	0.00	49.58	49.56	0.00	49.56	0.00	0.00	49.56	49.56	49.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Mine Plan 589 11-Sep 05:19 PM V & G Mining Block Reserves Based on "V8803 & G8705" Models.

VANGORDA OPEN PIT	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Mined - HIGH																	
Tonnes	0	0	1 602 029	4 900 460	0	0	0	0	0	0	0	0	0	0	0	0	0
%Pb+Zn	0.00	0.00	7.82	8.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
%Pb	0.00	0.00	3.35	3.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
%Zn	0.00	0.00	4.46	4.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ag g/t	0	0	48	52	0	0	0	0	0	0	0	0	0	0	0	0	0
Au g/t	0.00	0.00	0.57	0.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lead con	0	0	84 960	287 615	0	0	0	0	0	0	0	0	0	0	0	0	0
%Pb	0	0	53	53	0	0	0	0	0	0	0	0	0	0	0	0	0
Ag g/t	0	0	579	570	0	0	0	0	0	0	0	0	0	0	0	0	0
Au g/t	0	0	4	5	0	0	0	0	0	0	0	0	0	0	0	0	0
Zn con	0	0	103 434	337 444	0	0	0	0	0	0	0	0	0	0	0	0	0
%Zn	0	0	55	55	0	0	0	0	0	0	0	0	0	0	0	0	0
Opening stockpile - HIGH																	
Tonnes	0	0	0	0	1 400 460	400 000	400 000	0	0	0	0	0	0	0	0	0	0
%Pb+Zn	0.00	0.00	0.00	0.00	8.43	8.43	8.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
%Pb	0.00	0.00	0.00	0.00	3.71	3.71	3.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
%Zn	0.00	0.00	0.00	0.00	4.72	4.72	4.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ag g/t	0	0.00	0.00	0.00	52.13	52.13	52.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Au g/t	0.00	0.00	0.00	0.00	0.70	0.70	0.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lead con	0	0	0	0	82 195	23 477	23 477	0	0	0	0	0	0	0	0	0	0
%Pb	0	0	0	0	53	53	53	0	0	0	0	0	0	0	0	0	0
Ag g/t	0	0	0	0	570	570	570	0	0	0	0	0	0	0	0	0	0
Au g/t	0	0	0	0	5	5	5	0	0	0	0	0	0	0	0	0	0
Zn con	0	0	0	0	96 435	27 544	27 544	0	0	0	0	0	0	0	0	0	0
%Zn	0	0	0	0	55	55	55	0	0	0	0	0	0	0	0	0	0
Pit to Mill - HIGH																	
Tonnes			1 602 029	3 500 000													
%Pb+Zn	0.00	0.00	7.82	8.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
%Pb	0.00	0.00	3.35	3.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
%Zn	0.00	0.00	4.46	4.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ag g/t	0.00	0.00	48.45	52.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Au g/t	0.00	0.00	0.57	0.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lead con	0	0	84 960	205 420	0	0	0	0	0	0	0	0	0	0	0	0	0
%Pb	0	0	53	53	0	0	0	0	0	0	0	0	0	0	0	0	0
Ag g/t	0	0	579	570	0	0	0	0	0	0	0	0	0	0	0	0	0
Au g/t	0	0	4	5	0	0	0	0	0	0	0	0	0	0	0	0	0
Zn con	0	0	103 434	241 009	0	0	0	0	0	0	0	0	0	0	0	0	0
%Zn	0	0	55	55	0	0	0	0	0	0	0	0	0	0	0	0	0
Stockpile to Mill - HIGH																	
Tonnes					1 000 460		400 000										
%Pb+Zn	0.00	0.00	0.00	0.00	8.43	8.43	8.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
%Pb	0.00	0.00	0.00	0.00	3.71	3.71	3.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
%Zn	0.00	0.00	0.00	0.00	4.72	4.72	4.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ag g/t	0.00	0.00	0.00	0.00	52.13	52.13	52.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Au g/t	0.00	0.00	0.00	0.00	0.70	0.70	0.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lead con	0	0	0	0	58 718	0	23 477	0	0	0	0	0	0	0	0	0	0
%Pb	0	0	0	0	53	53	53	0	0	0	0	0	0	0	0	0	0
Ag g/t	0	0	0	0	570	570	570	0	0	0	0	0	0	0	0	0	0
Au g/t	0	0	0	0	5	5	5	0	0	0	0	0	0	0	0	0	0
Zn con	0	0	0	0	68 891	0	27 544	0	0	0	0	0	0	0	0	0	0
%Zn	0	0	0	0	55	55	55	0	0	0	0	0	0	0	0	0	0

VANGORDA OPEN PIT	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Closing Stockpile - HIGH																	
Tonnes	0	0	0	1 400 460	400 000	400 000	0	0	0	0	0	0	0	0	0	0	0
%Pb+Zn	0.00	0.00	0.00	8.43	8.43	8.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
%Pb	0.00	0.00	0.00	3.71	3.71	3.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
%Zn	0.00	0.00	0.00	4.72	4.72	4.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ag g/t	0.00	0.00	0.00	52.13	52.13	52.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Au g/t	0.00	0.00	0.00	0.70	0.70	0.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lead con	0	0	0	82 195	23 477	23 477	0	0	0	0	0	0	0	0	0	0	0
%Pb	0.00	0.00	0.00	53.25	53.25	53.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ag g/t	0.00	0.00	0.00	569.56	569.56	569.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Au g/t	0.00	0.00	0.00	4.57	4.57	4.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zn con	0	0	0	96 435	27 544	27 544	0	0	0	0	0	0	0	0	0	0	0
%Zn	0.00	0.00	0.00	54.75	54.75	54.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mill Feed Total - HIGH																	
Tonnes	0	0	1 602 029	3 500 000	1 000 460	0	400 000	0	0	0	0	0	0	0	0	0	0
%Pb+Zn	0.00	0.00	7.82	8.43	8.43	0.00	8.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
%Pb	0.00	0.00	3.35	3.71	3.71	0.00	3.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
%Zn	0.00	0.00	4.46	4.72	4.72	0.00	4.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ag g/t	0.00	0.00	48.45	52.13	52.13	0.00	52.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Au g/t	0.00	0.00	0.57	0.70	0.70	0.00	0.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lead con	0	0	84 960	205 420	58 718	0	23 477	0	0	0	0	0	0	0	0	0	0
%Pb	0.00	0.00	53.10	53.25	53.25	0.00	53.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ag g/t	0.00	0.00	579.23	569.56	569.56	0.00	569.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Au g/t	0.00	0.00	4.23	4.57	4.57	0.00	4.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zn con	0	0	103 434	241 009	68 891	0	27 544	0	0	0	0	0	0	0	0	0	0
%Zn	0.00	0.00	54.87	54.75	54.75	0.00	54.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Req'd Feed																	
Req'd Conc																	
Mined - LOW																	
Tonnes	0	0	84 718	347 420	0	0	0	0	0	0	0	0	0	0	0	0	0
%Pb+Zn	0.00	0.00	3.92	3.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
%Pb	0.00	0.00	1.77	1.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
%Zn	0.00	0.00	2.15	2.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ag g/t	0	0	21	23	0	0	0	0	0	0	0	0	0	0	0	0	0
Au g/t	0.00	0.00	0.55	0.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lead con	0	0	1 968	7 098	0	0	0	0	0	0	0	0	0	0	0	0	0
%Pb	0	0	56	57	0	0	0	0	0	0	0	0	0	0	0	0	0
Ag g/t	0	0	373	449	0	0	0	0	0	0	0	0	0	0	0	0	0
Au g/t	0	0	3	4	0	0	0	0	0	0	0	0	0	0	0	0	0
Zn con	0	0	2 426	10 689	0	0	0	0	0	0	0	0	0	0	0	0	0
%Zn	0	0	53	53	0	0	0	0	0	0	0	0	0	0	0	0	0
Opening stockpile - LOW																	
Tonnes	0	0	0	84 718	0	0	0	0	0	0	0	0	0	0	0	0	0
%Pb+Zn	0.00	0.00	0.00	3.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
%Pb	0.00	0.00	0.00	1.77	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
%Zn	0.00	0.00	0.00	2.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ag g/t	0	0.00	0.00	21.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Au g/t	0.00	0.00	0.00	0.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lead con	0	0	0	1 968	0	0	0	0	0	0	0	0	0	0	0	0	0
%Pb	0	0	0	56	0	0	0	0	0	0	0	0	0	0	0	0	0
Ag g/t	0	0	0	373	0	0	0	0	0	0	0	0	0	0	0	0	0
Au g/t	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0
Zn con	0	0	0	2 426	0	0	0	0	0	0	0	0	0	0	0	0	0

Mine Plan 589 11-Sep 05:19 PM V & G Mining Block Reserves Based on "VB803 & G8705" Models.

VANGORDA OPEN PIT	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Pit to Mill - LOW																	
Tonnes				347 420													
%Pb+Zn	0.00	0.00	3.92	3.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
%Pb	0.00	0.00	1.77	1.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
%Zn	0.00	0.00	2.15	2.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ag g/t	0.00	0.00	21.49	22.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Au g/t	0.00	0.00	0.55	0.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lead con	0	0	0	7 098	0	0	0	0	0	0	0	0	0	0	0	0	0
%Pb	0	0	56	57	0	0	0	0	0	0	0	0	0	0	0	0	0
Ag g/t	0	0	373	449	0	0	0	0	0	0	0	0	0	0	0	0	0
Au g/t	0	0	3	4	0	0	0	0	0	0	0	0	0	0	0	0	0
Zn con	0	0	0	10 689	0	0	0	0	0	0	0	0	0	0	0	0	0
%Zn	0	0	53	53	0	0	0	0	0	0	0	0	0	0	0	0	0
Stockpile to Mill - LOW																	
Tonnes				84 718	0		0										
%Pb+Zn	0.00	0.00	0.00	3.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
%Pb	0.00	0.00	0.00	1.77	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
%Zn	0.00	0.00	0.00	2.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ag g/t	0.00	0.00	0.00	21.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Au g/t	0.00	0.00	0.00	0.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lead con	0	0	0	1 968	0	0	0	0	0	0	0	0	0	0	0	0	0
%Pb	0	0	0	56	0	0	0	0	0	0	0	0	0	0	0	0	0
Ag g/t	0	0	0	373	0	0	0	0	0	0	0	0	0	0	0	0	0
Au g/t	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0
Zn con	0	0	0	2 426	0	0	0	0	0	0	0	0	0	0	0	0	0
%Zn	0	0	0	53	0	0	0	0	0	0	0	0	0	0	0	0	0
Closing Stockpile - LOW																	
Tonnes	0	0	84 718	0	0	0	0	0	0	0	0	0	0	0	0	0	0
%Pb+Zn	0.00	0.00	3.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
%Pb	0.00	0.00	1.77	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
%Zn	0.00	0.00	2.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ag g/t	0.00	0.00	21.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Au g/t	0.00	0.00	0.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lead con	0	0	1 968	0	0	0	0	0	0	0	0	0	0	0	0	0	0
%Pb	0.00	0.00	56.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ag g/t	0.00	0.00	372.93	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Au g/t	0.00	0.00	3.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zn con	0	0	2 426	0	0	0	0	0	0	0	0	0	0	0	0	0	0
%Zn	0.00	0.00	53.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mill Feed Total - LOW																	
Tonnes	0	0	0	432 138	0	0	0	0	0	0	0	0	0	0	0	0	0
%Pb+Zn	0.00	0.00	0.00	3.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
%Pb	0.00	0.00	0.00	1.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
%Zn	0.00	0.00	0.00	2.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ag g/t	0.00	0.00	0.00	22.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Au g/t	0.00	0.00	0.00	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lead con	0	0	0	9 066	0	0	0	0	0	0	0	0	0	0	0	0	0
%Pb	0.00	0.00	0.00	56.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ag g/t	0.00	0.00	0.00	432.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Au g/t	0.00	0.00	0.00	3.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zn con	0	0	0	13 115	0	0	0	0	0	0	0	0	0	0	0	0	0
%Zn	0.00	0.00	0.00	53.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

VANGORDA OPEN PIT	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Mill Feed Total - ALL																	
Tonnes	0	0	1 602 029	3 932 138	1 000 460	0	400 000	0	0	0	0	0	0	0	0	0	0
%Pb+Zn	0.00	0.00	7.82	7.93	8.43	0.00	8.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
%Pb	0.00	0.00	3.35	3.48	3.71	0.00	3.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
%Zn	0.00	0.00	4.46	4.45	4.72	0.00	4.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ag g/t	0.00	0.00	48.45	48.86	52.13	0.00	52.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Au g/t	0.00	0.00	0.57	0.68	0.70	0.00	0.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lead con	0	0	84 960	214 486	58 718	0	23 477	0	0	0	0	0	0	0	0	0	0
%Pb	0.00	0.00	53.10	53.39	53.25	0.00	53.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lead rec	0.0%	0.0%	84.0%	83.7%	84.3%	0.0%	84.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Ag g/t	0.00	0.00	579.23	563.76	569.56	0.00	569.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Silver rec	0.0%	0.0%	63.4%	62.9%	64.1%	0.0%	64.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Au g/t	0.00	0.00	4.23	4.53	4.57	0.00	4.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zn con	0	0	103 434	254 124	68 891	0	27 544	0	0	0	0	0	0	0	0	0	0
%Zn	0.00	0.00	54.87	54.67	54.75	0.00	54.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

[illegible]

GRUM OPEN PIT	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Mined - HIGH																	
Tonnes	0	34 628	209 792	1 125 938	5 013 457	346 596	2 042 684	2 459 351	2 768 594	2 926 174	3 937 528	0	0	0	0	0	0
%Pb+Zn	0.00	6.01	5.52	7.64	8.79	8.51	6.28	8.83	9.51	9.96	8.11	0.00	0.00	0.00	0.00	0.00	0.00
%Pb	0.00	2.27	1.92	2.81	3.30	3.59	2.21	3.36	3.50	3.81	2.93	0.00	0.00	0.00	0.00	0.00	0.00
%Zn	0.00	3.73	3.60	4.84	5.49	4.92	4.07	5.48	6.01	6.15	5.18	0.00	0.00	0.00	0.00	0.00	0.00
Ag g/t	0	37	33	46	54	55	37	56	59	65	51	0	0	0	0	0	0
Au g/t	0.00	0.48	0.67	0.70	0.80	0.75	0.50	0.84	0.98	1.08	0.84	0.00	0.00	0.00	0.00	0.00	0.00
Lead con	0	1 031	5 125	42 299	226 137	17 186	58 704	112 812	132 836	155 083	156 550	0	0	0	0	0	0
%Pb	0	58	58	58	58	58	58	58	58	58	58	0	0	0	0	0	0
Ag g/t	0	651	643	670	692	651	646	700	714	732	737	0	0	0	0	0	0
Au g/t	0	5	8	6	6	5	5	6	7	7	7	0	0	0	0	0	0
Zn con	0	1 886	11 026	82 025	416 592	25 700	123 213	203 673	252 228	274 838	308 389	0	0	0	0	0	0
%Zn	0	55	55	55	55	55	55	55	55	55	55	0	0	0	0	0	0
Opening stockpile - HIGH																	
Tonnes	0	0	34 628	244 420	1 370 358	4 783 815	1 823 815	916 499	809 999	898 593	1 324 767	1 962 295	0	0	0	0	0
%Pb+Zn	0.00	0.00	6.01	5.59	7.27	8.36	8.36	6.56	6.56	6.85	7.85	7.94	0.00	0.00	0.00	0.00	0.00
%Pb	0.00	0.00	2.27	1.97	2.66	3.12	3.12	2.33	2.33	2.45	2.89	2.90	0.00	0.00	0.00	0.00	0.00
%Zn	0.00	0.00	3.73	3.62	4.62	5.24	5.24	4.23	4.23	4.40	4.97	5.04	0.00	0.00	0.00	0.00	0.00
Ag g/t	0	0.00	37.00	33.57	43.78	51.07	51.07	38.90	38.90	40.88	48.64	49.41	0.00	0.00	0.00	0.00	0.00
Au g/t	0.00	0.00	0.48	0.64	0.69	0.77	0.77	0.54	0.54	0.58	0.74	0.77	0.00	0.00	0.00	0.00	0.00
Lead con	0	0	1 031	6 156	48 455	202 422	77 173	28 020	24 764	29 015	51 601	76 948	0	0	0	0	0
%Pb	0	0	58	58	58	58	58	58	58	58	58	58	0	0	0	0	0
Ag g/t	0	0	651	644	667	686	686	653	653	662	693	707	0	0	0	0	0
Au g/t	0	0	5	7	6	6	6	5	5	6	6	6	0	0	0	0	0
Zn con	0	0	1 886	12 912	94 937	378 577	144 331	57 612	50 918	58 989	99 017	148 948	0	0	0	0	0
%Zn	0	0	55	55	55	55	55	55	55	55	55	55	0	0	0	0	0
Pit to Mill - HIGH																	
Tonnes					1 600 000	346 596	1 250 000	2 459 351	2 680 000	2 500 000	3 300 000						
%Pb+Zn	0.00	6.01	5.52	7.64	8.79	8.51	6.28	8.83	9.51	9.96	8.11	0.00	0.00	0.00	0.00	0.00	0.00
%Pb	0.00	2.27	1.92	2.81	3.30	3.59	2.21	3.36	3.50	3.81	2.93	0.00	0.00	0.00	0.00	0.00	0.00
%Zn	0.00	3.73	3.60	4.84	5.49	4.92	4.07	5.48	6.01	6.15	5.18	0.00	0.00	0.00	0.00	0.00	0.00
Ag g/t	0.00	37.00	33.00	46.00	54.00	55.00	37.00	56.00	59.00	65.00	51.00	0.00	0.00	0.00	0.00	0.00	0.00
Au g/t	0.00	0.48	0.67	0.70	0.80	0.75	0.50	0.84	0.98	1.08	0.84	0.00	0.00	0.00	0.00	0.00	0.00
Lead con	0	0	0	0	72 170	17 186	35 923	112 812	128 585	132 496	131 203	0	0	0	0	0	0
%Pb	0	58	58	58	58	58	58	58	58	58	58	0	0	0	0	0	0
Ag g/t	0	651	643	670	692	651	646	700	714	732	737	0	0	0	0	0	0
Au g/t	0	5	8	6	6	5	5	6	7	7	7	0	0	0	0	0	0
Zn con	0	0	0	0	132 952	25 700	75 399	203 673	244 157	234 810	258 458	0	0	0	0	0	0
%Zn	0	55	55	55	55	55	55	55	55	55	55	0	0	0	0	0	0
Stockpile to Mill - HIGH																	
Tonnes						2 960 000	1 700 000	106 500				1 962 295					
%Pb+Zn	0.00	0.00	6.01	5.59	7.27	8.36	8.36	6.56	6.56	6.85	7.85	7.94	0.00	0.00	0.00	0.00	0.00
%Pb	0.00	0.00	2.27	1.97	2.66	3.12	3.12	2.33	2.33	2.45	2.89	2.90	0.00	0.00	0.00	0.00	0.00
%Zn	0.00	0.00	3.73	3.62	4.62	5.24	5.24	4.23	4.23	4.40	4.97	5.04	0.00	0.00	0.00	0.00	0.00
Ag g/t	0.00	0.00	37.00	33.57	43.78	51.07	51.07	38.90	38.90	40.88	48.64	49.41	0.00	0.00	0.00	0.00	0.00
Au g/t	0.00	0.00	0.48	0.64	0.69	0.77	0.77	0.54	0.54	0.58	0.74	0.77	0.00	0.00	0.00	0.00	0.00
Lead con	0	0	0	0	0	125 249	71 934	3 256	0	0	0	76 948	0	0	0	0	0
%Pb	0	0	58	58	58	58	58	58	58	58	58	58	0	0	0	0	0
Ag g/t	0	0	651	644	667	686	686	653	653	662	693	707	0	0	0	0	0
Au g/t	0	0	5	7	6	6	6	5	5	6	6	6	0	0	0	0	0
Zn con	0	0	0	0	0	234 246	134 533	6 695	0	0	0	148 948	0	0	0	0	0
%Zn	0	0	55	55	55	55	55	55	55	55	55	55	0	0	0	0	0

[illegible]	[illegible]	[illegible]	[illegible]	19..	1993	1994	1995	1996	[illegible]	[illegible]	[illegible]	20..	2001	2002	2003	2004	[illegible]
Closing Stockpile - HIGH																	
Tonnes	0	34 628	244 420	1 370 358	4 783 815	1 823 815	916 499	809 999	898 593	1 324 767	1 962 295	0	0	0	0	0	0
%Pb+Zn	0.00	6.01	5.59	7.27	8.36	8.36	6.56	6.56	6.85	7.85	7.94	0.00	0.00	0.00	0.00	0.00	0.00
%Pb	0.00	2.27	1.97	2.66	3.12	3.12	2.33	2.33	2.45	2.89	2.90	0.00	0.00	0.00	0.00	0.00	0.00
%Zn	0.00	3.73	3.62	4.62	5.24	5.24	4.23	4.23	4.40	4.97	5.04	0.00	0.00	0.00	0.00	0.00	0.00
Ag g/t	0.00	37.00	33.57	43.78	51.07	51.07	38.90	38.90	40.88	48.64	49.41	0.00	0.00	0.00	0.00	0.00	0.00
Au g/t	0.00	0.48	0.64	0.69	0.77	0.77	0.54	0.54	0.58	0.74	0.77	0.00	0.00	0.00	0.00	0.00	0.00
Lead con	0	1 031	6 156	48 455	202 422	77 173	28 020	24 764	29 015	51 601	76 948	0	0	0	0	0	0
%Pb	0.00	58.00	58.00	58.00	58.00	58.00	58.00	58.00	58.00	58.00	58.00	0.00	0.00	0.00	0.00	0.00	0.00
Ag g/t	0.00	651.00	644.34	666.74	685.95	685.95	653.47	653.47	662.34	692.83	707.38	0.00	0.00	0.00	0.00	0.00	0.00
Au g/t	0.00	4.89	7.49	6.01	5.75	5.75	5.37	5.37	5.54	6.07	6.30	0.00	0.00	0.00	0.00	0.00	0.00
Zn con	0	1 886	12 912	94 937	378 577	144 331	57 612	50 918	58 989	99 017	148 948	0	0	0	0	0	0
%Zn	0.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	0.00	0.00	0.00	0.00	0.00	0.00
Mill Feed Total - HIGH																	
Tonnes	0	0	0	0	1 600 000	3 306 596	2 950 000	2 565 851	2 680 000	2 500 000	3 300 000	1 962 295	0	0	0	0	0
%Pb+Zn	0.00	0.00	0.00	0.00	8.79	8.37	7.48	8.74	9.51	9.96	8.11	7.94	0.00	0.00	0.00	0.00	0.00
%Pb	0.00	0.00	0.00	0.00	3.30	3.17	2.73	3.32	3.50	3.81	2.93	2.90	0.00	0.00	0.00	0.00	0.00
%Zn	0.00	0.00	0.00	0.00	5.49	5.21	4.75	5.43	6.01	6.15	5.18	5.04	0.00	0.00	0.00	0.00	0.00
Ag g/t	0.00	0.00	0.00	0.00	54.00	51.48	45.11	55.29	59.00	65.00	51.00	49.41	0.00	0.00	0.00	0.00	0.00
Au g/t	0.00	0.00	0.00	0.00	0.80	0.77	0.65	0.83	0.98	1.08	0.84	0.77	0.00	0.00	0.00	0.00	0.00
Lead con	0	0	0	0	72 170	142 435	107 857	116 068	128 585	132 496	131 203	76 948	0	0	0	0	0
%Pb	0.00	0.00	0.00	0.00	58.00	58.00	58.00	58.00	58.00	58.00	58.00	58.00	0.00	0.00	0.00	0.00	0.00
Ag g/t	0.00	0.00	0.00	0.00	692.00	681.74	672.65	698.69	714.00	732.00	737.00	707.38	0.00	0.00	0.00	0.00	0.00
Au g/t	0.00	0.00	0.00	0.00	5.67	5.64	5.59	5.86	6.55	6.76	6.76	6.30	0.00	0.00	0.00	0.00	0.00
Zn con	0	0	0	0	132 952	259 946	209 932	210 368	244 157	234 810	258 458	148 948	0	0	0	0	0
%Zn	0.00	0.00	0.00	0.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	0.00	0.00	0.00	0.00	0.00
Req'd Feed																	
Req'd Conc																	
Mined - LOW																	
Tonnes	0	0	56 287	301 404	549 468	10 906	374 439	338 378	534 872	157 827	793 318	0	0	0	0	0	0
%Pb+Zn	0.00	0.00	3.77	3.93	3.86	3.95	4.02	3.90	3.91	3.88	3.84	0.00	0.00	0.00	0.00	0.00	0.00
%Pb	0.00	0.00	1.27	1.26	1.27	1.51	1.38	1.57	1.55	1.54	1.52	0.00	0.00	0.00	0.00	0.00	0.00
%Zn	0.00	0.00	2.50	2.68	2.58	2.43	2.64	2.33	2.36	2.34	2.31	0.00	0.00	0.00	0.00	0.00	0.00
Ag g/t	0	0	24	25	24	31	25	27	28	27	26	0	0	0	0	0	0
Au g/t	0.00	0.00	0.78	0.55	0.49	1.12	0.46	0.66	0.73	0.73	0.64	0.00	0.00	0.00	0.00	0.00	0.00
Lead con	0	0	847	4 477	8 287	201	6 214	6 540	10 184	2 968	14 761	0	0	0	0	0	0
%Pb	0	0	58	58	58	58	58	58	58	58	58	0	0	0	0	0	0
Ag g/t	0	0	600	634	614	719	601	592	620	605	586	0	0	0	0	0	0
Au g/t	0	0	14	10	9	17	8	10	11	11	10	0	0	0	0	0	0
Zn con	0	0	1 933	11 212	19 629	363	13 706	10 720	17 189	5 028	24 909	0	0	0	0	0	0
%Zn	0	0	55	55	55	55	55	55	55	55	55	0	0	0	0	0	0
Opening stockpile - LOW																	
Tonnes	0	0	0	56 287	307 691	447 159	458 065	832 504	1 170 882	1 455 754	1 113 581	1 906 899	566 899	566 899	566 899	566 899	566 899
%Pb+Zn	0.00	0.00	0.00	3.77	3.90	3.89	3.89	3.95	3.93	3.93	3.92	3.89	3.89	3.89	3.89	3.89	3.89
%Pb	0.00	0.00	0.00	1.27	1.26	1.26	1.27	1.32	1.39	1.45	1.46	1.49	1.49	1.49	1.49	1.49	1.49
%Zn	0.00	0.00	0.00	2.50	2.65	2.63	2.62	2.63	2.54	2.48	2.46	2.40	2.40	2.40	2.40	2.40	2.40
Ag g/t	0	0.00	0.00	24.00	24.82	24.56	24.72	24.84	25.47	26.40	26.48	26.28	26.28	26.28	26.28	26.28	26.28
Au g/t	0.00	0.00	0.00	0.78	0.59	0.56	0.57	0.52	0.56	0.62	0.64	0.64	0.64	0.64	0.64	0.64	0.64
Lead con	0	0	0	847	4 581	6 685	6 886	13 100	19 640	25 630	19 795	34 556	10 273	10 273	10 273	10 273	10 273
%Pb	0	0	0	58	58	58	58	58	58	58	58	58	58	58	58	58	58
Ag g/t	0	0	0	600	628	623	626	614	607	612	611	600	600	600	600	600	600
Au g/t	0	0	0	14	11	10	10	9	9	10	10	10	10	10	10	10	10

GRUM OPEN PIT	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Pit to Mill - LOW																	
Tonnes				50 000	410 000												
%Pb+Zn	0.00	0.00	3.77	3.93	3.86	3.95	4.02	3.90	3.91	3.88	3.84	0.00	0.00	0.00	0.00	0.00	0.00
%Pb	0.00	0.00	1.27	1.26	1.27	1.51	1.38	1.57	1.55	1.54	1.52	0.00	0.00	0.00	0.00	0.00	0.00
%Zn	0.00	0.00	2.50	2.68	2.58	2.43	2.64	2.33	2.36	2.34	2.31	0.00	0.00	0.00	0.00	0.00	0.00
Ag g/t	0.00	0.00	24.00	25.00	24.00	31.00	25.00	27.00	28.00	27.00	26.00	0.00	0.00	0.00	0.00	0.00	0.00
Au g/t	0.00	0.00	0.78	0.55	0.49	1.12	0.46	0.66	0.73	0.73	0.64	0.00	0.00	0.00	0.00	0.00	0.00
Lead con	0	0	0	743	6 184	0	0	0	0	0	0	0	0	0	0	0	0
%Pb	0	0	58	58	58	58	58	58	58	58	58	0	0	0	0	0	0
Ag g/t	0	0	600	634	614	719	601	592	620	605	586	0	0	0	0	0	0
Au g/t	0	0	14	10	9	17	8	10	11	11	10	0	0	0	0	0	0
Zn con	0	0	0	1 860	14 647	0	0	0	0	0	0	0	0	0	0	0	0
%Zn	0	0	55	55	55	55	55	55	55	55	55	0	0	0	0	0	0
Stockpile to Mill - LOW																	
Tonnes									250 000	500 000		1 340 000					
%Pb+Zn	0.00	0.00	0.00	3.77	3.90	3.89	3.89	3.95	3.93	3.93	3.92	3.89	3.89	3.89	3.89	3.89	3.89
%Pb	0.00	0.00	0.00	1.27	1.26	1.26	1.27	1.32	1.39	1.45	1.46	1.49	1.49	1.49	1.49	1.49	1.49
%Zn	0.00	0.00	0.00	2.50	2.65	2.63	2.62	2.63	2.54	2.48	2.46	2.40	2.40	2.40	2.40	2.40	2.40
Ag g/t	0.00	0.00	0.00	24.00	24.82	24.56	24.72	24.84	25.47	26.40	26.48	26.28	26.28	26.28	26.28	26.28	26.28
Au g/t	0.00	0.00	0.00	0.78	0.59	0.56	0.57	0.52	0.56	0.62	0.64	0.64	0.64	0.64	0.64	0.64	0.64
Lead con	0	0	0	0	0	0	0	0	4 193	8 803	0	24 283	0	0	0	0	0
%Pb	0	0	0	58	58	58	58	58	58	58	58	58	58	58	58	58	58
Ag g/t	0	0	0	600	628	623	626	614	607	612	611	600	600	600	600	600	600
Au g/t	0	0	0	14	11	10	10	9	9	10	10	10	10	10	10	10	10
Zn con	0	0	0	0	0	0	0	0	8 766	16 994	0	43 865	0	0	0	0	0
%Zn	0	0	0	55	55	55	55	55	55	55	55	55	55	55	55	55	55
Closing Stockpile - LOW																	
Tonnes	0	0	56 287	307 691	447 159	458 065	832 504	1 170 882	1 455 754	1 113 581	1 906 899	566 899	566 899	566 899	566 899	566 899	566 899
%Pb+Zn	0.00	0.00	3.77	3.90	3.89	3.89	3.95	3.93	3.93	3.92	3.89	3.89	3.89	3.89	3.89	3.89	3.89
%Pb	0.00	0.00	1.27	1.26	1.26	1.27	1.32	1.39	1.45	1.46	1.49	1.49	1.49	1.49	1.49	1.49	1.49
%Zn	0.00	0.00	2.50	2.65	2.63	2.62	2.63	2.54	2.48	2.46	2.40	2.40	2.40	2.40	2.40	2.40	2.40
Ag g/t	0.00	0.00	24.00	24.82	24.56	24.72	24.84	25.47	26.40	26.48	26.28	26.28	26.28	26.28	26.28	26.28	26.28
Au g/t	0.00	0.00	0.78	0.59	0.56	0.57	0.52	0.56	0.62	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64
Lead con	0	0	847	4 581	6 685	6 886	13 100	19 640	25 630	19 795	34 556	10 273	10 273	10 273	10 273	10 273	10 273
%Pb	0.00	0.00	58.00	58.00	58.00	58.00	58.00	58.00	58.00	58.00	58.00	58.00	58.00	58.00	58.00	58.00	58.00
Ag g/t	0.00	0.00	600.00	627.71	623.40	626.19	614.24	606.83	612.07	611.01	600.32	600.32	600.32	600.32	600.32	600.32	600.32
Au g/t	0.00	0.00	13.69	10.51	9.92	10.12	8.89	9.14	9.74	9.92	9.75	9.75	9.75	9.75	9.75	9.75	9.75
Zn con	0	0	1 933	11 285	16 267	16 630	30 336	41 056	49 479	37 513	62 422	18 557	18 557	18 557	18 557	18 557	18 557
%Zn	0.00	0.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00
Mill Feed Total - LOW																	
Tonnes	0	0	0	50 000	410 000	0	0	0	250 000	500 000	0	1 340 000	0	0	0	0	0
%Pb+Zn	0.00	0.00	0.00	3.93	3.86	0.00	0.00	0.00	3.93	3.93	0.00	3.89	0.00	0.00	0.00	0.00	0.00
%Pb	0.00	0.00	0.00	1.26	1.27	0.00	0.00	0.00	1.39	1.45	0.00	1.49	0.00	0.00	0.00	0.00	0.00
%Zn	0.00	0.00	0.00	2.68	2.58	0.00	0.00	0.00	2.54	2.48	0.00	2.40	0.00	0.00	0.00	0.00	0.00
Ag g/t	0.00	0.00	0.00	25.00	24.00	0.00	0.00	0.00	25.47	26.40	0.00	26.28	0.00	0.00	0.00	0.00	0.00
Au g/t	0.00	0.00	0.00	0.55	0.49	0.00	0.00	0.00	0.56	0.62	0.00	0.64	0.00	0.00	0.00	0.00	0.00
Lead con	0	0	0	743	6 184	0	0	0	4 193	8 803	0	24 283	0	0	0	0	0
%Pb	0.00	0.00	0.00	58.00	58.00	0.00	0.00	0.00	58.00	58.00	0.00	58.00	0.00	0.00	0.00	0.00	0.00
Ag g/t	0.00	0.00	0.00	634.00	614.00	0.00	0.00	0.00	606.83	612.07	0.00	600.32	0.00	0.00	0.00	0.00	0.00
Au g/t	0.00	0.00	0.00	9.79	8.62	0.00	0.00	0.00	9.14	9.74	0.00	9.75	0.00	0.00	0.00	0.00	0.00
Zn con	0	0	0	1 860	14 647	0	0	0	8 766	16 994	0	43 865	0	0	0	0	0
%Zn	0.00	0.00	0.00	55.00	55.00	0.00	0.00	0.00	55.00	55.00	0.00	55.00	0.00	0.00	0.00	0.00	0.00

OPEN				1[illegible]	199[illegible]	1994	1995	[illegible]96	[illegible]7	[illegible]	[illegible]	2000	2001	2002	2003	2004	2005
Mill Feed Total - ALL																	
Tonnes	0	0	0	50 000	2 010 000	3 306 596	2 950 000	2 565 851	2 930 000	3 000 000	3 300 000	3 302 295	0	0	0	0	0
%Pb+Zn	0.00	0.00	0.00	3.93	7.78	8.37	7.48	8.74	9.03	8.95	8.11	6.29	0.00	0.00	0.00	0.00	0.00
%Pb	0.00	0.00	0.00	1.26	2.89	3.17	2.73	3.32	3.32	3.42	2.93	2.33	0.00	0.00	0.00	0.00	0.00
%Zn	0.00	0.00	0.00	2.68	4.90	5.21	4.75	5.43	5.71	5.54	5.18	3.96	0.00	0.00	0.00	0.00	0.00
Ag g/t	0.00	0.00	0.00	25.00	47.88	51.48	45.11	55.29	56.14	58.57	51.00	40.02	0.00	0.00	0.00	0.00	0.00
Au g/t	0.00	0.00	0.00	0.55	0.74	0.77	0.65	0.83	0.94	1.00	0.84	0.72	0.00	0.00	0.00	0.00	0.00
Lead con	0	0	0	743	78 353	142 435	107 857	116 068	132 779	141 300	131 203	101 231	0	0	0	0	0
%Pb	0.00	0.00	0.00	58.00	58.00	58.00	58.00	58.00	58.00	58.00	58.00	58.00	0.00	0.00	0.00	0.00	0.00
Lead rec	0.0%	0.0%	0.0%	68.4%	78.3%	78.9%	77.6%	79.1%	79.2%	80.0%	78.7%	76.4%	0.0%	0.0%	0.0%	0.0%	0.0%
Ag g/t	0.00	0.00	0.00	634.00	685.84	681.74	672.65	698.69	710.62	724.53	737.00	681.70	0.00	0.00	0.00	0.00	0.00
Silver rec	0.0%	0.0%	0.0%	37.7%	55.8%	57.0%	54.5%	57.2%	57.4%	58.3%	57.5%	52.2%	0.0%	0.0%	0.0%	0.0%	0.0%
Au g/t	0.00	0.00	0.00	9.79	5.90	5.64	5.59	5.86	6.63	6.95	6.76	7.13	0.00	0.00	0.00	0.00	0.00
Zn con	0	0	0	1 860	147 598	259 946	209 932	210 368	252 923	251 804	258 458	192 813	0	0	0	0	0
%Zn	0.00	0.00	0.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	0.00	0.00	0.00	0.00	0.00

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Total 89 - 2000
FARO PIT OPERATIONS													
Waste Mined		7 231	3 089										10 320
Ore Mined		6 146	3 753										9 899
Total Surface Mined		13 377	6 842										20 219
Ore Mined Faro U/G		478	500	200									1 178
Ore Mined Dy				500	1 000	1 000	1 000	1 000	1 000	1 000	1 000	1 000	8 500
Mill Feed		4 252	2 597		450			825	418	330			8 872
Operating Hours													
Shovels		8 383	5 068										13 451
Haul Truck Wabco		10 466	7 649	625	1 406			2 578	1 305	1 031			25 060
Haul Truck Euclid		51 048	29 748										80 796
Haul Truck Unit Rig				5 556	11 111	11 111	11 111	11 111	11 111	11 111	11 111	11 111	94 444
Haul Truck Other 170		15 768	10 512										26 280
Dozer		2 000	1 000	500	500	500	500	500	500	500	500	500	7 500
Loader - No Prod		2 074											2 074
Loader - Mine Prod		4 584	3 059	250	563			1 031	522	413			10 422
Loader - Ore (F)				625	1 250	1 250	1 250	1 250	1 250	1 250	1 250	1 250	10 625
Loader - Ore (Dy)													
Loader		8 658	4 059	1 375	2 313	1 750	1 750	2 781	2 272	2 163	1 750	1 750	30 621
Grader		8 714	9 198	5 256	5 256	5 256	5 256	5 256	5 256	5 256	5 256	5 256	65 216
RTD		5 256	2 628										7 884
Drill		5 103	2 649										7 752

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Total 89 - 2000
VANGORDA PIT OPERATIONS													
Waste Mined (incl O/B)		1 658	7 194	6 582									15 434
O/B Mined		1 370	4 925	1 106									7 401
Ore Mined		143	1 544	5 248									6 935
Total Moved		1 801	8 738	11 829									22 368
Mill Feed			1 602	3 932	1 000		400						6 935
Operating Hours													
Shovels		1 225	7 100	8 854									17 179
Haul Truck Wabco		3 614	18 798	36 880									59 292
Haul Truck Euclid		104											104
Haul Truck Unit Rig			14 564	35 747	9 095		3 636						63 042
Haul Truck Other 170		2 628	10 512	10 512									23 652
Dozer		1 000	1 500	1 500									4 000
Loader - No Prod													
Loader - Mine Prod			2 003	4 915	1 251		500						8 668
Loader - Ore		1 000	3 503	6 415	1 251		500						12 668
Loader Total													
Grader			2 628	5 256									7 884
RTD			2 628	5 256									7 884

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Total 89 - 2000
GRUM PIT OPERATIONS													
Waste Mined (incl O/B)		12 363	12 336	15 572	23 438	27 551	26 583	14 777	14 123	13 774	12 912		173 429
O/B Mined		8 387	8 878	5 658	950	1 493	4	200	32	11			25 612
Ore Mined		57	244	1 427	5 563	358	2 417	2 798	3 303	3 084	4 731		23 982
Total Moved		12 420	12 580	17 000	29 000	27 908	29 000	17 575	17 426	16 858	17 643		197 411
Mill Feed		—		50	2 010	3 307	2 950	2 566	2 930	3 000	3 300	3 302	23 415
Operating Hours													
Shovels		9 155	11 101	13 058	21 560	20 796	21 482	13 035	12 911	12 488	13 069		148 655
Haul Truck Wabco													
Haul Truck Euclid			7 299	7 796	44 676	44 676	33 507	33 507	33 507	33 507	33 507		271 982
Haul Truck Unit Rig		19 518	22 338	22 338	22 338	3 339	11 169						101 040
Haul Truck Other 170			7 746	22 375	30 689	21 429	41 414	31 669	34 150	37 263	52 456	17 543	296 733
Dozer		9 641	10 512	21 024	31 536	31 536	31 536	21 024	21 024	21 024	15 768		214 625
Loader - No Prod		2 247	2 000	2 000	2 000	2 000	2 000	1 500	1 000	1 000	1 000		16 747
Loader - Mine Prod													
Loader - Ore				63	2 513	4 133	3 688	3 207	3 663	3 750	4 125	4 128	29 268
Loader Total		2 247	2 000	2 063	4 513	6 133	5 688	4 707	4 663	4 750	5 125	4 128	46 015
Grader		5 256	3 942	5 256	10 512	10 512	10 512	10 512	10 512	10 512	7 884		85 410
RTD		3 154	5 256	5 256	10 512	10 512	10 512	10 512	10 512	5 256	5 256		76 738
Drill		2 565	987	3 192	8 403	6 693	7 853	5 043	5 174	4 983	5 593		50 488
Operators Summary													
Shovel		13	16	16	16	16	16	10	10	10	10		
Drill		8	8	8	8	8	8	6	4	4	4		
Equipment		40	41	41	40	40	40	33	33	30	25	7	
Truck		53	63	75	69	46	58	46	46	48	56	16	

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Total 89 - 2000
EQUIPMENT SUMMARIES													
Shovel Hours Scheduled		18 763	23 269	21 912	21 560	20 796	21 482	13 035	12 911	12 488	13 069		
Capital Fleet		4	4	4	4	4	4	4	4	4	4	4	
Effective Utilization		54%	66%	63%	62%	59%	61%	37%	37%	36%	37%		
Productivity (t/h)		1 324	1 210	1 316	1 345	1 342	1 350	1 348	1 350	1 350	1 350	ERR	
Excess Capacity (000 t)		6 837	753	2 586	3 061	4 092	3 166	14 569	14 737	15 308	14 524	32 167	
Loader Hours Scheduled		11 905	9 562	9 853	8 076	7 883	7 938	7 489	6 935	6 913	6 875	5 878	
Capital Fleet		3	3	3	2	2	2	2	2	2	2	2	
Effective Utilization		45%	36%	37%	46%	45%	45%	43%	40%	39%	39%	34%	
Excess Capacity (000 t)		3 879	5 753	5 521	2 475	2 629	2 585	2 944	3 388	3 405	3 435	4 233	
Truck Hours Scheduled		84 750	108 141	131 316	119 316	80 555	100 837	78 865	80 073	82 912	97 074	28 654	
Capital Fleet		23	30	30	28	26	22	20	20	20	22	14	
Effective Utilization		42%	41%	50%	49%	35%	52%	45%	46%	47%	50%	23%	
Productivity		381	304	255	280	400	331	279	272	256	226	150	
Drill Hours Scheduled		7 701	4 975	7 185	8 403	6 693	7 853	5 043	5 174	4 983	5 593		
Capital Fleet		2	2	2	2	2	2	2	2	2	2	2	
Effective Utilization		44%	28%	41%	48%	38%	45%	29%	30%	28%	32%		
Productivity		2 317	2 886	3 071	3 338	3 947	3 692	3 445	3 362	3 381	3 154	ERR	
Dozer Hours Scheduled		14 269	22 024	32 036	32 036	32 036	32 036	21 524	21 524	21 524	16 268	500	
Capital Fleet		5	6	6	6	6	6	6	4	4	4	2	
Effective Utilization		33%	46%	61%	61%	61%	61%	41%	61%	61%	46%	3%	
RTD Hours Scheduled		8 410	10 512	10 512	10 512	10 512	10 512	10 512	10 512	5 256	5 256		
Capital Fleet		2	2	2	2	2	2	2	2	1	1	1	
Effective Utilization		48%	60%	60%	60%	60%	60%	60%	60%	60%	60%		
Grader Hours Scheduled		13 970	15 768	15 768	15 768	15 768	15 768	15 768	15 768	15 768	13 140	5 256	
Capital Fleet		3	3	3	3	3	3	3	3	3	3	2	
Effective Utilization		53%	60%	60%	60%	60%	60%	60%	60%	60%	50%	30%	

TRUCK FLEETS

Wabco Fleet	
Availability	70%
Utilization	70%
Payload	105
Rel Productivity	70%
Euclid Fleet	
Availability	75%
Utilization	85%
Payload	150
Rel Productivity	100%
Unit Rig Fleet	
Availability	75%
Utilization	85%
Payload	150
Rel Productivity	95%
Cat 195 Fleet	
Availability	75%
Utilization	85%
Payload	175
Rel Productivity	100%

Note: "Rel Productivity" refers to productivity relative to the Euclid fleet.

ORE/STOCKPILE

FRONT END LOADER	
Availability	75%
Utilization	85%
Productivity	800
Wabcos - Faro Pit S/P	
Availability	70%
Utilization	70%
Productivity	320
Wabcos - Faro U/G Ore	
Availability	70%
Utilization	70%
Productivity	200
Cat 195 - Vangorda Ore	
Availability	75%
Utilization	85%
Productivity	110
Cat 195 - Grum Ore	
Availability	75%
Utilization	85%
Productivity	175
Cat 195 - Dy Ore	
Availability	75%
Utilization	85%
Productivity	90

SUPPORT EQUIPMENT

TRACKED DOZER	
Availability	75%
Utilization	80%
GRADER	
Availability	75%
Utilization	80%
RUBBER TIRED DOZER	
Availability	75%
Utilization	80%
DRILL	
Availability	85%
Utilization	85%
Prodt'y Waste	4 000
Prodt'y Ore	2 000
SHOVEL	
Availability	80%
Utilization	85%
Productivity	1350

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	
FLEET SIZE													
Wabco		8	8	6	4	4	2	2	2	2	4	2	
Euclid		10	10	8	8	8	6	6	6	6	6		
Unit Rig		4	4	4	4	2	2						
Other 170		1	8	12	12	12	12	12	12	12	12	12	
FLEET HOURS AVAILABLE													
Wabco		34 339	34 339	25 754	17 170	17 170	8 585	8 585	8 585	8 585	17 170	8 585	
Euclid		55 845	55 845	44 676	44 676	44 676	33 507	33 507	33 507	33 507	33 507		
Unit Rig		22 338	22 338	22 338	22 338	11 169	11 169						
Other 170		5 585	44 676	67 014	67 014	67 014	67 014	67 014	67 014	67 014	67 014	67 014	
FARO REQUIREMENTS													
MINING REQUIREMENTS													
Average Productivity		283	230	230	230	230	230	230	230	230	230	230	
Euclid Hrs Reqd		47 214	29 748										
Euclid Hrs Taken		47 214	29 748										
Euclid Hrs remaining													
Unit Rig Hrs Reqd													
Unit Rig Hrs Taken													
Euclid Hrs remaining													
Wabco Hrs reqd													
Wabco Hrs Taken													
ORE/STOCKPILE													
Total Rehandle		3 189	1 948		450			825	418	330			
Wabco Hours		9 967	6 086		1 406			2 578	1 305	1 031			
FARO UNDERGROUND													
Tonnes		478	500	200									1 178
Wabco Hours		1 494	1 563	625									
VANGORDA MINING													
Euclid Hrs Reqd		3 713	18 798	36 880									
Euclid Hrs Taken		3 713	18 798	36 880									
Euclid Hrs remaining													
Unit Rig Hrs Reqd													
Unit Rig Hrs Taken													
Euclid Hrs remaining													
Other 170 Hrs Reqd													
Other 170 Hrs Taken													
Euclid Hrs remaining													
Wabco Hrs reqd													
Wabco Hrs Taken													
VANGORDA ORE													
Tonnes			1 602	3 932	1 000		400						6 935
Other 170 Hours			14 564	35 747	9 095		3 636						

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	
GRUN MINING													
Euclid Hrs Reqd		24 826	36 266	48 118	90 815	47 848	66 543	47 267	48 914	51 307	65 306		
Euclid Hrs Taken		4 918	7 299	7 796	44 676	44 676	33 507	33 507	33 507	33 507	33 507		
Euclid Hrs remaining		19 908	28 967	40 322	46 139	3 172	33 036	13 760	15 407	17 800	31 799		
Unit Rig Hrs Reqd		20 956	30 491	42 444	48 567	3 339	34 775	14 484	16 218	18 737	33 473		
Unit Rig Hrs Taken		20 956	22 338	22 338	22 338	3 339	11 169						
Euclid Hrs remaining			7 746	19 101	24 918		22 425	13 760	15 407	17 800	31 799		
Other 170 Hrs Reqd			7 746	19 101	24 918		22 425	13 760	15 407	17 800	31 799		
Other 170 Hrs Taken			7 746	19 101	24 918		22 425	13 760	15 407	17 800	31 799		
Euclid Hrs remaining													
Wabco Hrs reqd													
Wabco Hrs Taken													
GRUN ORE													
Tonnes				573	1 010	3 750	3 323	3 134	3 280	3 406	3 615	3 070	25 161
Other 170 Hours				3 274	5 771	21 429	18 989	17 909	18 743	19 463	20 657	17 543	
DY ORE													
Tonnes				500	1 000	1 000	1 000	1 000	1 000	1 000	1 000	1 000	8 500
Other 170 Hours				5 556	11 111	11 111	11 111	11 111	11 111	11 111	11 111	11 111	
TOTAL HOURS USED													
Wabco		11 460	7 649	625	1 406			2 578	1 305	1 031			
Euclid		55 845	55 845	44 676	44 676	44 676	33 507	33 507	33 507	33 507	33 507		
Unit Rig		20 956	22 338	22 338	22 338	3 339	11 169						
Other 170			22 310	63 677	50 896	32 540	56 161	42 780	45 261	48 374	63 567	28 654	
UNITS REQUIRED													
Wabco		2.7	1.8	0.1	0.3			0.6	0.3	0.2			
Euclid		10.0	10.0	8.0	8.0	8.0	6.0	6.0	6.0	6.0	6.0		
Unit Rig		3.8	4.0	4.0	4.0	0.6	2.0						
Other 170			4.0	11.4	9.1	5.8	10.1	7.7	8.1	8.7	11.4	5.1	
80% Truck Drivers		53	63	75	69	46	58	46	46	48	56	16	

SOURCE 89 - 7 (JANUARY 1, 1989)

CURRAGH RESOURCES INC.

FARO GEOLOGY DEPARTMENT MONTH END REPORT

DECEMBER 31, 1988

CURRAGH RESOURCES INC.
GEOLOGY DEPARTMENT SUMMARY REPORT
DECEMBER 1988 MONTH END
(HIGH GRADE)

AY/BZ Phase	OreTns	%Pb	%Zn	Ag g/t	PbTns	ZnTns	Ag kg
F8805 Model	335,910	4.68	6.30	54	15,721	21,162	18,049
F8805 Diluted	369,501	4.25	5.73	49	15,721	21,162	18,049
FI Model	281,740	4.18	6.19	60	11,777	17,440	16,904
FI Diluted	309,914	3.80	5.63	55	11,777	17,440	16,904
Blast Holes	306,259	3.78	4.98	49	11,567	15,249	15,070
Truck Count	318,521						

Blast Hole vs:	OreTns	%Pb	%Zn	Ag g/t	PbTns	ZnTns	Ag kg
F8805 Model	-8.8%	-19.3%	-21.0%	-8.4%	-26.4%	-27.9%	-16.5%
F8805 Diluted	-17.1%	-11.2%	-13.1%	0.7%	-26.4%	-27.9%	-16.5%
FI Model	8.7%	-9.6%	-19.6%	-18.0%	-1.8%	-12.6%	-10.8%
FI Diluted	-1.2%	-0.6%	-11.5%	-9.8%	-1.8%	-12.6%	-10.8%

Truck Count vs:	
F8805	-5.2%
F8701A Diluted	-13.8%
FI	13.1%
FI Diluted	2.8%
Blast Holes	4.0%

INVENTORY

	TONNES	%Pb	%Zn	Ag g/t
BROKEN IN PIT:				
BZ 3470 Med	50,668	2.43	3.51	23

	TONNES	%Pb	%Zn	Ag g/t	Change
HIGH GRADE STOCKPILES:					
Coarse Ore	34,850	3.68	5.26	48	(22,797)
Crusher	0				(17,501)
B	83,598	4.30	5.90	50	11,070
M	59,492	2.52	3.45	39	(7,543)
	=======	====	====	====	
Total Inventory:					
Broken	50,668	2.43	3.51	23	
Stockpile	177,940	3.58	4.96	46	

CURRAGH RESOURCES INC.
GEOLOGY DEPARTMENT SUMMARY REPORT
DECEMBER 1988 MONTH END
(LOW GRADE)

AY/BZ Phase	OreTns	%Pb	%Zn	Ag g/t	PbTns	ZnTns	Ag kg
F8805 Model	74,710	1.57	2.87	29	1,174	2,143	2,132
F8805 Diluted	82,181	1.43	2.61	26	1,174	2,143	2,132
FI Model	45,280	2.35	2.34	53	1,063	1,060	2,379
FI Diluted	49,808	2.13	2.13	48	1,063	1,060	2,379
Blast Holes	19,654	1.97	2.83	42	387	556	825
Truck Count	44,229						

Blast Hole vs:	OreTns	%Pb	%Zn	Ag g/t	PbTns	ZnTns	Ag kg
F8805 Model	-73.7%	25.4%	-1.3%	47.2%	-67.0%	-74.0%	-61.3%
F8805 Diluted	-76.1%	37.9%	8.5%	61.9%	-67.0%	-74.0%	-61.3%
FI Model	-56.6%	-16.1%	20.8%	-20.1%	-63.6%	-47.6%	-65.3%
FI Diluted	-60.5%	-7.7%	32.8%	-12.1%	-63.6%	-47.6%	-65.3%

Truck Count vs:	
F8805 Diluted	-46.2%
FI Diluted	-11.2%
Blast Holes	125.0%

INVENTORY

	TONNES	%Pb	%Zn	Ag g/t	Change
BROKEN IN PIT:					
BZ 3450 LgA	9,854	2.20	2.45	24	
LOW GRADE STOCKPILES:					
Lg "A" Stockpile	508,544	2.03	2.65	28	19,304
Lg "C" Stockpile	212,700	1.65	2.96	23	0
	=======	====	====	====	
Total Inventory:					
Broken	9,854	2.20	2.45	24	
Stockpile	721,244	1.92	2.74	27	

SOURCE 89 - 8 (JUNE 1986)

CURRAGH RESOURCES INC.

GRUM GEOLOGICAL RESERVES - MAIN ZONE

G8606 CALCULATION (MAIN ZONE ONLY)

G8606 MODEL GEOLOGICAL RESERVES FOR THE TWO CONSTITUENT MODELS
AND FOR THE ENTIRE DEPOSIT (EXCLUDING RAMP ZONE)
Aug 1, 1990

ABOVE GRUM (1336.0 M TO 1088.5 M)
5% SG REDUCTION

CUTOFF	VOLUME	S.G.	ORE	%Pb+Zn	LEAD	ZINC	SILVER	GOLD
+3%	7,276,500	3.28	23,851,230	8.40	3.14	5.26	53	0.86
+4%	6,620,400	3.30	21,831,290	8.85	3.30	5.56	55	0.88
+5%	5,620,320	3.34	18,749,640	9.57	3.56	6.01	59	0.91
+6%	4,677,480	3.37	15,765,300	10.34	3.84	6.50	64	0.92

ABOVE GRUM (1336.0 M TO 1088.5 M)
5% SG REDUCTION REMOVED

CUTOFF	VOLUME	S.G.	ORE	%Pb+Zn	LEAD	ZINC	SILVER	GOLD
+3%	7,276,500	3.44	25,043,792	8.40	3.14	5.26	53	0.86
+4%	6,620,400	3.46	22,922,855	8.85	3.30	5.56	55	0.88
+5%	5,620,320	3.50	19,687,122	9.57	3.56	6.01	59	0.91
+6%	4,677,480	3.54	16,553,565	10.34	3.84	6.50	64	0.92

UNDER GRUM (1088.5 M TO 868.0 M)
5% SG REDUCTION

CUTOFF	VOLUME	S.G.	ORE	%Pb+Zn	LEAD	ZINC	SILVER	GOLD
+3%	2,810,700	3.62	10,171,050	8.53	3.39	5.14	57	1.10
+4%	2,403,540	3.67	8,817,870	9.30	3.66	5.64	62	1.14
+5%	2,090,880	3.72	7,779,380	9.95	3.89	6.06	66	1.17
+6%	1,880,820	3.75	7,057,100	10.40	4.04	6.36	69	1.18

ABOVE GRUM (1336.0 M TO 1088.5 M)
5% SG REDUCTION REMOVED

CUTOFF	VOLUME	S.G.	ORE	%Pb+Zn	LEAD	ZINC	SILVER	GOLD
+3%	2,810,700	3.80	10,679,603	8.53	3.39	5.14	57	1.10
+4%	2,403,540	3.85	9,258,764	9.30	3.66	5.64	62	1.14
+5%	2,090,880	3.91	8,168,349	9.95	3.89	6.06	66	1.17
+6%	1,880,820	3.94	7,409,955	10.40	4.04	6.36	69	1.18

TOTAL DEPOSIT (1336.0 M 868.0)
5% SG REDUCTION

CUTOFF	VOLUME	S.G.	ORE	%Pb+Zn	LEAD	ZINC	SILVER	GOLD
+3%	10,087,200	3.37	34,022,280	8.44	3.21	5.23	54	0.93
+4%	9,023,940	3.40	30,649,160	8.98	3.40	5.58	57	0.95
+5%	7,711,200	3.44	26,529,020	9.68	3.66	6.02	61	0.98
+6%	6,558,300	3.48	22,822,400	10.36	3.90	6.46	66	1.00

TOTAL DEPOSIT (1336.0 M 868.0)
5% SG REDUCTION REMOVED

CUTOFF	VOLUME	S.G.	ORE	%Pb+Zn	LEAD	ZINC	SILVER	GOLD
+3%	10,087,200	3.54	35,723,394	8.45	3.22	5.23	54	0.93
+4%	9,023,940	3.57	32,181,618	8.98	3.40	5.58	57	0.95
+5%	7,711,200	3.61	27,855,471	9.68	3.66	6.02	61	0.98
+6%	6,558,300	3.65	23,963,520	10.36	3.90	6.46	66	1.00

SOURCE 89 - 9 (JANUARY 1989)

CURRAGH RESOURCES INC.

GRUM MINING RESERVES AS OF JANUARY 1, 1989

ALPHA MINE PLAN BASED ON G8705 RESERVES

Pit Production Summary: Grand Total

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	Total
Waste rock	110054	9560761	9449681	17556870	15261520	22145240	30859340	27787600	26121767	31323420	7616420		197792673
Overburden	642502	7347807	4692635	2384716	5351719	6451748	2002219	1731284	826249	69507	0		31580386
Sulphide Waste	0	2642	15635	710510	525661	6022	147937	471145	1220875	475840	563253		4139520
All Waste	752556	16911210	14157951	20652096	21138900	28603010	33009496	29990029	28168891	31868767	8179673		233512579
+ 5 % tonnes		57716	212216	3540616	3451647	74225	621260	3435351	4828997	1755428	3762671		21740127
%Pb+Zn		5.89	5.55	7.26	7.36	12.49	10.87	9.15	9.48	8.32	8.99		8.55
%Pb		2.21	1.93	2.60	2.63	5.17	4.43	3.47	3.47	3.29	3.35		3.18
%Zn		3.68	3.62	4.66	4.73	7.32	6.44	5.68	6.01	5.03	5.64		5.38
Ag g/t		37	33	42	43	87	73	56	59	54	59		53
Au g/t		0.48	0.67	0.63	0.68	0.75	0.87	0.88	0.96	0.79	1.01		0.84
Concentrate Equivalent													
Pb Conc DMT		1544	4056	117074	115600	5560	38549	160400	224984	76690	167253		912554
%Pb		60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00		60.00
Ag g/t		810	828	800	812	840	817	826	844	813	876		833
Au g/t		5.31	8.42	5.97	6.40	3.57	4.85	6.22	6.86	5.91	7.51		6.52
Zn Conc DMT		3035	10942	246695	245643	8695	63151	303740	453999	134456	326840		1797216
%Zn		55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00		55.00
4 - 5 % tonnes			53271	794573	396738		137270	422650	850135	223828	374795		3253262
%Pb+Zn			3.78	3.89	3.97		4.06	3.88	3.87	3.84	3.88		3.89
%Pb			1.26	1.28	1.29		1.73	1.53	1.54	1.55	1.55		1.45
%Zn			2.52	2.61	2.68		2.33	2.35	2.33	2.29	2.33		2.44
Ag g/t			24	25	24		31	27	26	30	27		26
Au g/t			0.77	0.46	0.45		0.82	0.63	0.64	0.76	0.79		0.61
Concentrate Equivalent													
Pb Conc DMT			726	10983	5546		2763	7281	14838	3918	6587		52642
%Pb			60.00	60.00	60.00		60.00	60.00	60.00	60.00	60.00		60.00
Ag g/t			897	912	871		864	834	816	917	842		859
Au g/t			14.66	8.76	8.42		11.67	10.11	10.02	12.05	12.39		10.20
Zn Conc DMT			1787	27870	14341		4208	13079	25985	6714	11461		105445
%Zn			55.00	55.00	55.00		55.00	55.00	55.00	55.00	55.00		55.00
Total Waste Mined	752556	16911210	14157951	20652096	21138900	28603010	33009496	29990029	28168891	31868767	8179673		233512579
Total Ore Mined	0	57716	265487	4335191	3848385	74225	758530	3858001	5679132	1979256	4137466		24993309
Total Tonnes Mined	752556	16968926	14423438	24987287	24987285	28677235	33840026	33848030	33848023	33848023	12317139		258505968
Strip Ratio		293.01	53.33	4.76	5.49	385.36	43.62	7.77	4.96	16.10	1.98		9.34

SOURCE 89 - 11 (JANUARY 1989)

CURRAGH RESOURCES INC.

VANGORDA MINING RESERVES AS OF JANUARY 1, 1989

ALPHA MINE PLAN BASED ON V8803 RESERVES

57-11

Pit Production Summary: Vangorda

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	Total
Waste rock	1176277	1972163	2594409										5742929
Overburden	5214587	3196395	658416										9069398
Sulphide Waste	274726	860474	2689175										3824375
All Waste	6665590	6029032	5942000										18634702
+ 5 % tonnes	501642	1093336	4229724										5824702
%Pb+Zn	7.31	8.04	8.77										8.51
%Pb	3.12	3.42	3.85										3.71
%Zn	4.19	4.62	4.92										4.80
Ag g/t	44	50	54										52
Au g/t	0.49	0.58	0.62										0.60
Concentrate Equivalent													
Pb Conc DMT	24159	58614	259969										342742
%Pb	53.06	53.16	53.31										53.27
Ag g/t	600	617	6.02										153
Au g/t	4.04	4.31	3.87										3.96
Zn Conc DMT	29647	72594	302267										404508
%Zn	54.9	54.71	54.7										54.72
4 - 5 % tonnes	98574	143439	392051										634064
%Pb+Zn	3.86	3.9	3.91										3.90
%Pb	1.6	1.64	1.72										1.68
%Zn	2.26	2.26	2.19										2.22
Ag g/t	27	29	24										26
Au g/t	0.35	0.45	0.6										0.53
Concentrate Equivalent													
Pb Conc DMT	1984	2876	8486										13346
%Pb	54.23	54.51	55.25										55.37
Ag g/t	616	664	519										543
Au g/t	3.44	3.05	5.95										4.95
Zn Conc DMT	2828	4151	10957										17936
%Zn	52.40	52.69	52.74										52.60
Total Waste Mined	6665590	6029032	5942000										
Total Ore Mined	600216	1236775	4621775										
Total Tonnes Mined	7265806	7265807	10563855										25095468
Strip Ratio	11.11	4.87	1.29										2.09

SOURCE 89 - 12 (1982)

CYPRUS ANVIL MINING CORPORATION

ROLLINGS, R.W.; DY RESERVE SUMMARY

05MAR82 DY

WEIGHTED AVGS BY INTERVAL & FACIES EX115

POLYGON	ORE VOLUMES	ORE TONNES	Cu	Pb	Zn	Ag(grams)	Au(grams)	TONNAGE PROPORTION
			---------M E T A L	T O N N E S	----------			
NON-CONT	5,296,632.00	21,059,980.12	25,654.134	1,165,712.407	1,418,728.508	1764,270,074.17	19,994,409.25	100.00
4A	496,904.00	1,585,548.44	771.282	67,420.239	114,346.506	107,731,978.12	944,233.57	7.53
4D+4C	882,172.00	3,114,316.00	3,091.161	143,667.659	223,263.724	243,050,546.18	2,823,727.58	14.79
4E+4F	1,090,392.00	4,555,781.60	8,122.792	224,991.916	291,814.284	348,562,000.93	5,482,746.53	21.63
4G+4K	2,505,472.00	10,799,385.00	13,325.395	718,691.539	778,873.383	1058,183,792.18	10,629,186.42	51.28
4H	14,656.00	59,526.32	94.170	4,047.235	3,159.206	5,746,833.36	36,445.82	.28
4L	69,408.00	237,301.68	245.752	15,586.868	10,098.533	16,876,771.15	181,935.79	1.13
4J	51,936.00	184,290.88	103.242	10,587.825	16,850.417	16,569,767.84	132,892.74	.88
OTHER	185,692.00	519,631.24	51.144	278.148	534.256	1,336,811.98	39,273.28	2.47

POLYGON	% Cu	% Pb	% Zn	Ag(g/mT)	Au(g/mT)
NON-CONT	.120	5.540	6.740	83.77	.95
4A	.050	4.250	7.210	67.95	.60
4D+4C	.100	4.610	7.170	78.04	.91
4E+4F	.180	4.940	6.410	76.51	1.20
4G+4K	.120	6.650	7.210	97.52	.98
4H	.160	6.800	5.310	96.54	.61
4L	.100	6.570	4.260	71.12	.77
4J	.060	5.750	9.140	89.91	.72
OTHER	.010	.050	.100	2.57	.08

NOTE: 1. VOLUMES CALCULATED USING DRILL-HOLE ORE INTERCEPTS WHICH MAY BE GREATER THAN TRUE THICKNESSES.
2. VOLUMES CALCULATED USING CONSTANT THICKNESS OVER POLYGONAL AREA.
3. TONNES CALCULATED USING ASSUMED SPECIFIC GRAVITIES IN SOME CASES.

**THIS REPORT WAS REQUESTED BY: BOBN .EXPLORE AT: 16:58:11

SOURCE 89 - 13 (MAY 1988)

CANADIAN MINE DEVELOPMENT

DY EXPLORATION AND MINING COST ESTIMATE, PAGE 9

MINE STOPING TONNAGE

	Tonnes	S.G.	% Pb	% Zn	gm/t Ag	gm/t Au
B2 Block	3,979,873	3.50	5.55	9.33	90.3	0.85
Primary Stoping	2,466,167	3.50	5.54	9.29	91.6	0.85
A2.4 East Block	1,346,638	3.89	7.81	5.30	103.7	1.01
Primary Stoping	792,440	3.89	7.81	5.30	103.7	1.01
A2 East	2,954,198	4.35	6.31	7.46	93.8	1.18
Primary Stoping	1,798,586	4.35	6.81	7.46	93.8	1.18
A2 West	3,122,822	4.43	7.22	6.05	98.9	1.08
Primary Stoping	1,925,741	4.43	7.22	6.05	98.9	1.08
Primary Stoping	6,982,934	4.02	6.59	7.47	95.6	1.02
Pillar Ore	4,420,596	4.02	6.28	7.47	94.4	1.02
Total	11,403,530	4.02	6.47	7.47	95.1	1.02
Additional Indicated Ore Reserves	9,656,450	3.93	4.30	5.88	70.4	0.87
Geological Reserve	21,059,980	3.98	5.54	6.74	83.8	0.95

SOURCE 89 - 15 (MARCH 1988)

VINTILA, I.; PRELIMINARY OPEN PIT EVALUATION

FOR THE SWIM DEPOSIT, PAGE 5

1. SCOPE OF WORK

Mr. Gregg Jilson, Manager of Regional Geology for Curragh Resources Inc. requested I. Vintila, P.Eng. to prepare a preliminary study concerning the possiblity of open pit mining in the Swim Polymetallic (Pb, Zn, Ag) deposit owned by Curragh Resources Inc.

The Swim Lake deposit is located 17 km east of the town of Faro and 25 km southeast of the existing Faro open pit mine and concentrator.

2. INFORMATION BASE

The geological and topographical data received was prepared by Kerr Addison Mines Ltd. and consisted of:

- Diamond drill hole logs and assays
- Geology sections 104, 106, 108, 110, 112, 114, 116, 118, 120 and 124 - scale 1:500
- Longitudinal section - scale 1:1000
- Bedrock geology and topography - scale 1:1000
- Diamond drill collars and topography - scale 1:1000

There are 44 diamond drill holes in the area of the Swim Deposit. The holes were drilled in the period 1964-1971. Of these holes, 37 define the actual Swim Deposit.

3. GEOLOGY OF THE DEPOSIT AREA

The deposit occurs stratigraphically just beneath the basal carbonaceous member of the Vangorda formation. Swim is similar to the other lead-zinc deposits of the Anvil Range. It consists of a massive sulphide zone surrounded and underlain by disseminated sulphides in quarzite, commonly carbonaceous. The deposit is a folded stratiform ore layer with an extensively altered and sulphide impregnated footwall. The ore layer forms a shallowly northwest plunging, recumbant, isoclinal fold closing to the southwest. A steeply dipping late stage fault separates the deposit into two domains. The deposit is truncated at depth by a flat-lying fault subparallel to the axial plane of the major fold. Metamorphic conditions at Swim were greenschist facies thus the ores are finegrained like Vangorda and Grum.

4. GEOLOGICAL RESERVES

An analysis of the drill hole intersection with the ore was done and the results are shown in Table 1. The ore intervals were divided in two categories; high grade ore over 5% Pb and Zn and low grade, 4-5% Pb and Zn.

Based on the above data a rough estimation of the In Situ reserves in the area, was done in the same table resulting:

	m3 x 103	tonnes x 103	Pb+Zn(%)	Pb(%)	Zn(%)	Ag(g/t)
HIGH GRADE	1079.5	4150.0	8.7	3.9	4.8	51.0
LOW GRADE	273.0	980.0	4.5	1.8	2.7	28.0
TOTAL	1352.5	5130.0	7.9	3.5	4.4	47.0

5. PIT-DESIGN

The conceptual scheme of the pit is based on the truck and shovel operation method.

- Pit slope geometry
  Rock highwall slope 45°
  Overburden slope 30°

- Pit ramps:
  Width 25-30 m
  Maximum grade 8-10 %

The thickness of the overburden in the area is approximately 10 m.

To define the limits of the pit, the geological sections at a scale of 1:500, prepared by Kerr Addison Ltd. were used. The sections were completed with a rough interpretation of the possible extensions of the two categories of ore, done by Mr. Gregg Jilson.

The mining of the pit will be done in two phases with the intention of saving excavation beyond the limits of the pit for road construction (see Figures 16 and 17).

In the first phase the haul road will be built in the western half of the pit and the main production will be mined in the eastern half of the pit until the bottom.

As soon as possible the waste will be backfilled and a new road will be built over the backfilled waste, in the eastern area of the pit. The mining of the western half of the pit will be done using the new road and backfilling all the remaining waste (see Figure 17).

TABLE 2

SWIM PIT
IN SITU RESERVES CALCULATION

SECTION NO.	AREA m2	VOLUME m3x10 3	Pb+Zn %	Pb %	Zn %	Ag g/t
106						
HIGH GRADE	600	36.0	8.5	3.7	4.8	62
LOW GRADE	480	28.8	4.1	2.1	2.0	33
108						
HIGH GRADE	582	32.0	6.7	2.1	4.6	31
	1029	56.6	6.8	1.9	4.9	39
	560	30.8	8.5	3.1	5.4	72
	75	4.1	8.4	2.9	5.5	24
	292	16.1	8.0	3.1	4.9	45
TOTAL HIGH GRADE		139.6	7.4	2.4	5.0	45
LOW GRADE	222	12.2	4.1	1.5	2.6	25
	210	11.5	4.7	1.9	2.8	33
	40	2.2	4.4	1.3	3.1	27
TOTAL LOW GRADE		25.9	4.4	1.7	2.7	29
110						
HIGH GRADE	594	35.6	10.5	4.8	5.7	50
	410	24.6	8.2	3.8	4.4	41
	120	7.2	6.9	3.2	3.7	45
	75	4.5	7.3	3.1	4.2	55
	100	6.0	8.9	3.2	5.7	60
TOTAL HIGH GRADE		77.9	9.1	4.1	5.5	48
LOW GRADE	200	12.0	4.6	1.9	2.7	24
	90	5.4	4.6	2.1	2.5	43
	100	6.0	4.0	1.9	2.1	34
TOTAL LOW GRADE		23.4	4.5	2.0	2.5	31
112						
HIGH GRADE	204	12.2	7.4	3.3	4.1	40
	130	7.8	6.8	2.8	4.0	45
	120	7.2	8.7	4.7	4.0	55
	150	9.0	6.0	3.1	2.9	30
	180	10.8	7.4	3.1	4.3	36
TOTAL HIGH GRADE		47.0	7.2	3.3	3.9	40
LOW GRADE	156	9.4	4.2	2.2	2.0	24

SECTION NO.	AREA m2	VOLUME m3x10 3	Pb+Zn %	Pb %	Zn %	Ag g/t
114						
HIGH GRADE	354	21.2	10.1	5.2	4.7	21
	864	51.8	7.9	3.7	4.2	49
TOTAL HIGH GRADE		73.0	8.5	4.1	4.4	41
LOW GRADE	260	15.6	4.9	2.1	2.8	38
	120	7.2	4.8	2.2	2.6	28
TOTAL LOW GRADE		22.8	4.8	2.1	2.7	35
116						
HIGH GRADE	1365	81.9	14.9	7.1	7.8	80
	185	11.1	13.5	6.4	7.1	55
	156	9.4	5.2	1.9	3.3	16
	612	36.7	10.9	6.9	4.0	60
	210	12.6	6.2	3.1	3.1	47
TOTAL HIGH GRADE		151.7	12.5	6.4	6.1	67
118						
HIGH GRADE	882	52.9	7.2	3.3	3.9	36
	475	28.5	7.6	3.0	4.6	47
	840	50.2	7.1	2.9	4.2	56
	525	31.5	6.2	1.0	5.2	51
	300	18.0	8.8	4.5	4.3	37
TOTAL HIGH GRADE		181.3	7.2	2.9	4.3	46
LOW GRADE	135	8.1	4.6	1.9	2.7	16
	275	16.5	4.7	2.1	2.6	44
	245	14.7	4.2	1.8	2.4	52
	273	16.4	4.1	2.1	2.0	18
TOTAL LOW GRADE		55.7	4.3	2.0	2.3	35
120						
HIGH GRADE	105	6.3	13.2	5.8	7.4	65
	150	9.0	6.0	2.9	3.1	12
	267	16.0	13.8	7.5	6.3	99
	45	2.7	7.6	4.6	3.0	51
	149	8.9	9.2	4.2	5.0	54
	33	2.0	7.1	1.5	5.6	72
TOTAL HIGH GRADE		44.9	10.6	5.2	5.4	64

SECTION NO.	AREA m2	VOLUME m3x10 3	Pb+Zn %	Pb %	Zn %	Ag g/t
122						
HIGH GRADE	75	4.5	6.4	3.1	3.3	56
	215	12.9	8.2	4.7	3.5	38
	140	8.4	9.0	3.6	5.4	58
TOTAL HIGH GRADE		25.8	8.2	4.1	4.1	48
LOW GRADE	75	4.5	4.7	2.0	2.7	25

TABLE 3

<u>SWIM PIT</u>

RESERVES SUMMARY

MARCH, 1988

SECTION	VOLUME m3x10	Pb+Zn(%)	Pb(%)	Zn(%)	Ag(%)
		HIGH GRADE			
106	36.0	8.5	3.7	4.8	62
108	139.6	7.4	2.4	5.0	45
110	77.9	9.1	4.1	5.0	48
112	41.0	7.2	3.3	3.9	40
114	73.0	8.5	4.1	4.4	41
116	151.7	12.5	6.4	6.1	67
118	181.3	7.2	2.9	4.3	46
120	44.9	10.6	5.2	5.4	64
122	25.8	8.2	4.1	4.1	48
TOTAL m3x103	771.2				
HIGH GRADE tx103	2970	8.9	4.0	4.9	51
		LOW GRADE			
106	28.8	4.1	2.1	2.0	33
108	25.9	4.4	1.7	2.7	29
110	23.4	4.5	2.0	2.5	31
112	9.4	4.2	2.2	2.0	24
114	22.8	4.8	2.1	2.7	35
116	--	--	--	--	--
118	55.7	4.3	2.0	2.3	35
120	--	--	--	--	--
122	4.5	4.7	2.0	2.7	25
TOTAL m3x103	170.5				
LOW GRADE tx103	610	4.4	2.0	2.4	32
TOTAL tx103 IN SITU	3580	8.2	3.7	4.5	48

SOURCE 89 - 16

KERR ADDISON MINES (1978)

CHAMP ZONE GEOLOGICAL RESERVES

AY PO IN SIROLA (1977) GRUM JOINT VENTURE

MINERAL INVENTORY

GRUM JOINT VENTURE

REVISED MINERAL INVENTORY - "CHAMP ZONE"

March 21, 1978 (A.Y. Po)

Calculations based on reinterpreted sulphide boundaries. CHAMP zone is bounded by 51W to 63W on cross section and by 13S to 1S on longitudinal section.

Drill Indicated

Category	Metric Tonnes	% Lead	% Zinc	gms/m.t. Silver
+ 12%	140,461	7.16	8.36	79
10 - 12%	342,218	4.71	6.31	63
+ 10%	482,679	5.42	6.91	68
8 - 10%	206,468	3.90	5.14	48
+ 8%	689,147	4.96	6.38	62
6 - 8%	225,979	3.07	3.86	40
+ 6%	915,126	4.49	5.76	57
4 - 6%	777,505	2.34	2.55	33
+ 4%	1,692,631	3.51	4.28	46

Drill Possible

+12%	-	-	-	-
10 - 12%	-	-	-	-
+ 10%	-	-	-	-
8 - 10%	-	-	-	-
+ 8%	-	-	-	-
6 - 8%	37,870	3.28	4.63	34
+ 6%	37,870	3.28	4.63	34
4 - 6%	77,440	1.88	2.60	22
+ 4%	115,310	2.34	3.26	26

SOURCE 89 - 17

CYPRUS ANVIL MINING CORPORATION

GRUM NW ZONE

ESTIMATE OF GEOLOGICAL RESERVES

NORTHWEST OF CROSS SECTION 80 W

Grum NW Extension
Estimate of Geological Reserve

Northwest of section 86W to about 100W there are scattered holes with high grade intersections. These show that the ore extends into this area and is likely contiguous. Based on extending sectional reserves between 80W and 86W a ball park estimate of underground potential in the area is 8 million tonnes at an approximate grade of 10% Pb + Zn. Ore intersections are below 300 metres. This estimate is highly speculative and additional drilling is required for more detailed ore definition.

SOURCE 90 - 01 (JANUARY 1990)

FARO DEPOSIT - PIT MINING RESERVES AS OF JAN. 1, 1990

F8908 CALCULATION

CURRAGH RESOURCES INC. - F8900 INTERPRETATION

Faro Computer Reserve Predictions vs Actual Blasthole Results By Year and Bench

F8900 - Undiluted, Uncut, Bench Composite Reserves
- 95% Mining Recovery

Period: Remaining as of January 1, 1990

%Pb+Zn Cutoff = 4%

Bench	Volume bcy	Density mt/bcy	Tonnes	%Pb+Zn	%Pb	%Zn	Ag g/mt	Au g/mt	Metal
3950	0	0.00	0	0.00	0.00	0.00	0.0	0.00	0
3910	0	0.00	0	0.00	0.00	0.00	0.0	0.00	0
3890	0	0.00	0	0.00	0.00	0.00	0.0	0.00	0
3870	0	0.00	0	0.00	0.00	0.00	0.0	0.00	0
3850	0	0.00	0	0.00	0.00	0.00	0.0	0.00	0
3830	0	0.00	0	0.00	0.00	0.00	0.0	0.00	0
3810	0	0.00	0	0.00	0.00	0.00	0.0	0.00	0
3790	311	3.21	998	9.90	3.52	6.37	42.1	0.12	99
3770	964	3.41	3,287	8.46	3.10	5.36	35.2	0.37	278
3750	3,048	2.74	8,360	5.28	1.94	3.34	33.4	0.10	441
3730	1,431	2.90	4,152	4.93	2.10	2.83	39.7	0.09	205
3710	10,294	3.11	31,960	5.27	2.68	2.59	50.1	0.28	1,685
3690	18,660	3.25	60,544	5.83	2.33	3.50	34.1	0.17	3,530
3670	28,954	2.96	85,709	6.09	2.32	3.77	25.4	0.15	5,220
3650	84,683	2.72	230,708	6.66	2.37	4.29	21.9	0.11	15,365
3630	106,330	2.79	296,467	6.38	2.14	4.24	21.6	0.10	18,915
3610	118,459	2.86	338,400	6.40	2.15	4.26	22.0	0.12	21,691
3590	128,254	2.85	365,798	6.38	2.33	4.05	26.5	0.16	23,338
3570	204,636	2.91	595,242	6.71	2.54	4.16	27.8	0.13	39,881
3550	222,331	3.03	673,256	6.10	2.28	3.82	27.7	0.10	41,069
3530	243,043	2.99	727,491	7.07	2.74	4.33	35.0	0.11	51,434
3510	336,893	3.05	1,026,285	7.19	2.73	4.46	31.3	0.07	73,790
3490	377,860	3.11	1,175,321	7.08	2.69	4.39	31.4	0.08	83,213
3470	392,477	3.07	1,205,400	8.40	3.14	5.26	33.3	0.07	101,254
3450	304,310	3.12	949,240	7.90	2.75	5.15	32.4	0.08	74,990
3430	219,811	3.18	698,986	7.25	2.56	4.69	26.7	0.06	50,671
3410	187,033	3.08	575,187	6.68	2.41	4.27	24.6	0.06	38,422
3390	135,159	3.07	414,922	7.07	2.40	4.67	21.2	0.05	29,335
3370	112,954	2.88	324,976	8.70	2.86	5.84	22.8	0.08	28,273
3350	102,069	2.57	261,792	9.86	2.98	6.87	27.7	0.12	25,786
3330	73,519	2.51	184,804	10.82	3.33	7.49	31.0	0.05	19,996
3310	42,233	2.44	103,089	8.86	3.04	5.83	45.8	0.12	9,137
Total	3,454,914	2.99	10,342,223	7.33	2.65	4.68	29.23	0.09	758,016

CURRAGH RESOURCES INC. - F8900 INTERPRETATION

Faro Computer Reserve Predictions vs Actual Blasthole Results By Year and Bench

F8900 - Undiluted, Uncut, Bench Composite Reserves
- 95% Mining Recovery

Period: Remaining as of January 1, 1990

%Pb+Zn Cutoff = 5%

Bench	Volume bcy	Density mt/bcy	Tonnes	%Pb+Zn	%Pb	%Zn	Ag g/mt	Au g/mt	Metal
3950	0	0.00	0	0.00	0.00	0.00	0.0	0.00	0
3910	0	0.00	0	0.00	0.00	0.00	0.0	0.00	0
3890	0	0.00	0	0.00	0.00	0.00	0.0	0.00	0
3870	0	0.00	0	0.00	0.00	0.00	0.0	0.00	0
3850	0	0.00	0	0.00	0.00	0.00	0.0	0.00	0
3830	0	0.00	0	0.00	0.00	0.00	0.0	0.00	0
3810	0	0.00	0	0.00	0.00	0.00	0.0	0.00	0
3790	311	3.21	998	9.90	3.52	6.37	42.1	0.12	99
3770	964	3.41	3,287	8.46	3.10	5.36	35.2	0.37	278
3750	1,524	2.79	4,256	6.07	2.14	3.93	33.7	0.17	258
3730	529	2.28	1,207	6.25	2.16	4.10	38.9	0.05	76
3710	6,158	3.11	19,143	5.64	2.88	2.76	58.7	0.24	1,080
3690	11,445	3.22	36,841	6.67	2.39	4.27	30.1	0.12	2,454
3670	20,620	3.01	61,997	6.68	2.58	4.11	26.6	0.17	4,140
3650	68,543	2.75	188,756	7.17	2.60	4.57	23.5	0.13	13,534
3630	80,921	2.82	228,304	6.96	2.34	4.62	22.6	0.12	15,890
3610	88,292	2.89	255,056	7.02	2.41	4.61	24.8	0.14	17,905
3590	89,411	2.90	259,065	7.14	2.64	4.50	28.1	0.19	18,497
3570	148,750	2.96	440,202	7.47	2.81	4.66	29.3	0.15	32,883
3550	161,905	3.06	495,102	6.65	2.54	4.11	31.1	0.11	32,924
3530	189,023	3.00	567,426	7.81	3.05	4.76	30.6	0.13	44,316
3510	277,400	3.09	857,660	7.74	2.93	4.80	33.0	0.07	66,297
3490	294,327	3.16	930,288	7.76	2.94	4.82	33.3	0.08	72,190
3470	346,419	3.08	1,068,076	8.92	3.31	5.61	34.5	0.07	95,272
3450	269,012	3.13	842,346	8.35	2.88	5.47	33.0	0.08	70,336
3430	172,882	3.19	551,029	8.00	2.84	5.16	20.8	0.06	44,082
3410	135,600	3.14	425,401	7.40	2.69	4.71	26.6	0.07	31,480
3390	106,205	3.19	339,100	7.68	2.62	5.05	21.4	0.04	26,016
3370	106,889	2.91	310,688	8.90	2.94	5.96	22.9	0.08	27,651
3350	101,304	2.57	260,177	9.89	3.00	6.89	27.0	0.12	25,731
3330	70,987	2.52	178,895	11.03	3.39	7.64	31.0	0.04	19,732
3310	40,740	2.44	99,465	9.00	3.08	5.93	46.4	0.11	8,962
Total	2,790,256	3.02	8,424,047	7.98	2.88	5.09	31.00	0.09	672,090

SOURCE 90 - 02a (JULY 1, 1990)

FARO DEPOSIT - GEOLOGICAL RESERVES AS OF JULY 1, 1990

F9005 CALCULATION (EXCLUDING UNDERGROUND)

IN-SITU ORE RESERVE EVALUATION

DESCRIPTION : Geological Reserves - Outside of Underground

TOTAL FOR ALL BENCHES

TOP ELEVATION : 4270.00 [ft]
BOTTOM ELEVATION : 3190.00 [ft]

SURFACE GRID RECORD : 14 June 1990 Month End Cut Surface (CORRECTED MINESURVEY)
RESERVE OUTSIDE POLYGON RECORD : 0 Faro Underground Limits - Kilborn Eng.
BENCHES USED :
BENCH 1 TO 45
BLOCKS USED :
COLUMNS 1 TO 128 ROWS 1 TO 128

INCREMENTAL RESULTS

CUT-OFF GRADES FROM [%Pb+Zn]	TO [%Pb+Zn]	VOLUME [bcf x1000]	DENSITY [tn/bcf]	TONNAGE [TONS x1000]	AVERAGE GRADES [%Pb+Zn]	[%Pb]	[%Zn]	[Ag g/m]	[Au g/m]
6.000	50.000	39965.64	.106	4234.13	8.328	3.005	5.323	27.782	.126
5.000	6.000	18251.95	.098	1793.35	5.458	1.925	3.533	21.136	.164
4.000	5.000	22153.04	.097	2145.48	4.491	1.601	2.890	19.597	.157
3.000	4.000	20652.89	.096	1980.61	3.543	1.229	2.314	16.297	.152
.010	3.000	20106.58	.099	1996.07	2.198	.713	1.484	10.524	.137
.010	99999.000	7617750.00	.075	574954.10	.000	.000	.000	.000	.000
TOTAL		7738880.00	.076	587103.70	.113	.040	.073	.4	.003

IN-SITU ORE RESERVE EVALUATION

DESCRIPTION : Geological Reserves - Outside of Underground

TOTAL FOR ALL BENCHES

TOP ELEVATION : 4270.00 [ft]
BOTTOM ELEVATION : 3190.00 [ft]

SURFACE GRID RECORD : 14 June 1990 Month End Cut Surface (CORRECTED MINESURVEY)
RESERVE OUTSIDE POLYGON RECORD : 0 Faro Underground Limits - Kilborn Eng.
BENCHES USED :
BENCH 1 TO 45
BLOCKS USED :
COLUMNS 1 TO 128 ROWS 1 TO 128

CUMULATIVE RESULTS

CUT-OFF GRADES FROM [%Pb+Zn]	TO [%Pb+Zn]	VOLUME [bcf x1000]	DENSITY [tn/bcf]	TONNAGE [TONS x1000]	AVERAGE GRADES [%Pb+Zn]	[%Pb]	[%Zn]	[Ag g/m]	[Au g/m]
6.000	50.000	39965.64	.106	4234.13	8.328	3.005	5.323	27.782	.126
5.000	6.000	58217.59	.104	6027.48	7.474	2.684	4.790	25.805	.137
4.000	5.000	80370.63	.102	8172.96	6.691	2.399	4.291	24.175	.142
3.000	4.000	101023.50	.101	10153.57	6.077	2.171	3.906	22.638	.144
.010	3.000	121130.10	.100	12149.64	5.439	1.931	3.508	20.648	.143
.010	99999.000	7738880.00	.076	587103.70	.113	.040	.073	.427	.003
TOTAL		7738880.00	.076	587103.70	.113	.040	.073	.4	.003

SOURCE 90 - 02b (OCTOBER 1, 1990)

FARO DEPOSIT - GEOLOGICAL RESERVES AS OF OCT. 1, 1990

F9005 CALCULATION (EXCLUDING UNDERGROUND)

90-026

IN-SITU ORE RESERVE EVALUATION

DESCRIPTION : Remaining Geological Reserves - Oct 1, 1990

TOTAL FOR ALL BENCHES

TOP ELEVATION : 4270.00 [ft]
BOTTOM ELEVATION : 3090.00 [ft]

SURFACE GRID RECORD : 22 Sept 1990 Corrected Month End Surface(Merged to Aug.)
RESERVE OUTSIDE POLYGON RECORD : 0 Faro Underground Limits - Kilborn Eng.
BENCHES USED :
BENCH 1 TO 50
BLOCKS USED :
COLUMNS 1 TO 128 ROWS 1 TO 128

CUMULATIVE RESULTS

CUT-OFF GRADES FROM [%Pb+Zn]	TO [%Pb+Zn]	VOLUME [bcf x1000]	DENSITY [tn/bcf]	TONNAGE [TONS x1000]	AVERAGE GRADES [%Pb+Zn]	[%Pb]	[%Zn]	[Ag g/m]	[Au g/m]
6.000	50.000	32132.52	.104	3352.32	8.370	2.995	5.375	27.773	.117
5.000	6.000	47155.21	.102	4832.97	7.474	2.666	4.808	25.641	.127
4.000	5.000	67095.60	.101	6760.25	6.622	2.360	4.262	23.910	.134
3.000	4.000	86373.88	.100	8611.46	5.959	2.116	3.843	22.266	.138
.010	3.000	105958.00	.100	10559.78	5.264	1.857	3.408	20.091	.137
.000	.010	10042150.00	.076	761548.60	.073	.026	.047	.279	.002
.000	99999.000	10042150.00	.076	761548.60	.073	.026	.047	.279	.002
TOTAL		10042150.00	.076	761548.60	.073	.026	.047	.3	.002

PC-MINE VERSION 1.20
SERIAL NO : 20000
22/11/1990

GEMCOM SERVICES INC.
Faro Deposit - F9005 Model

SOFTWARE BY GEMCOM SERVICES INC
MODULE 3.11

IN-SITU ORE RESERVE EVALUATION

DESCRIPTION : Remaining Geological Reserves - Oct 1, 1990

TOTAL FOR ALL BENCHES

TOP ELEVATION : 4270.00 [ft]
BOTTOM ELEVATION : 3090.00 [ft]

SURFACE GRID RECORD : 22 Sept 1990 Corrected Month End Surface(Merged to Aug.)
RESERVE OUTSIDE POLYGON RECORD : 0 Faro Underground Limits - Kilborn Eng.
BENCHES USED :
BENCH 1 TO 50
BLOCKS USED :
COLUMNS 1 TO 128 ROWS 1 TO 128

INCREMENTAL RESULTS

CUT-OFF GRADES FROM [%Pb+Zn]	TO [%Pb+Zn]	VOLUME [bcf x1000]	DENSITY [tn/bcf]	TONNAGE [TONS x1000]	A V E R A G E G R A D E S [%Pb+Zn]	[%Pb]	[%Zn]	[Ag g/m]	[Au g/m]
6.000	50.000	32132.52	.104	3352.32	8.370	2.995	5.375	27.773	.117
5.000	6.000	15022.70	.099	1480.65	5.446	1.921	3.525	20.814	.152
4.000	5.000	19940.39	.097	1927.28	4.483	1.592	2.891	19.570	.151
3.000	4.000	19278.27	.096	1851.21	3.539	1.226	2.312	16.260	.150
.010	3.000	19584.14	.099	1948.32	2.195	.710	1.485	10.479	.137
.000	.010	9936186.00	.076	750988.80	.000	.000	.000	.000	.000
TOTAL		10042150.00	.076	761548.60	.073	.026	.047	.3	.002

SOURCE 90 - 03 (JULY 1990)

FARO DEPOSIT - PIT MINING RESERVES AS OF JULY 1, 1990

F9005 CALCULATION

90-03 90-03

MINING RESERVE EVALUATION

DESCRIPTION : Mining Reserves

TOTAL FOR ALL BENCHES

TOP ELEVATION : 4270.00 [ft]
BOTTOM ELEVATION : 3290.00 [ft]

TOP SURFACE GRID RECORD : 14 June 1990 Month End Cut Surface (CORRECTED MINESURVEY)
BOTTOM SURFACE GRID RECORD : 15 FIV Ultimate Pit (Cut Surface) merged to June 1990 cut surface

BENCHES USED :
BENCH 1 TO 40
BLOCKS USED :
COLUMNS 1 TO 128 ROWS 1 TO 128
INCREMENTAL RESULTS

* NOTE : NO MINING LOSS

CUT-OFF GRADES FROM [%Pb+Zn]	TO [%Pb+Zn]	VOLUME [bcf x1000]	DENSITY [tn/bcf]	TONNAGE [TONS x1000]	AVERAGE GRADES [%Pb+Zn]	[%Pb]	[%Zn]	[Ag g/m]	[Au g/m]	ECONOMIC FACTOR [$Cdn x1000]
6.000	50.000	30262.86	.108	3274.73	8.233	2.935	5.298	24.7	.134	.00
5.000	6.000	13513.71	.101	1361.07	5.448	1.936	3.512	20.4	.177	.00
4.000	5.000	14757.50	.101	1488.82	4.501	1.622	2.879	17.7	.179	.00
3.000	4.000	13290.06	.101	1343.00	3.546	1.229	2.317	14.2	.164	.00
.010	3.000	14340.25	.104	1497.39	2.171	.693	1.478	9.3	.139	.00
.000	.010	53087.73	.076	4020.83	.000	.000	.000	.0	.000	.00
TOTAL		139252.10	.093	12985.85	3.780	1.336	2.444	13.0	.106	.00

MINING RESERVE EVALUATION

DESCRIPTION : Mining Reserves

TOTAL FOR ALL BENCHES

TOP ELEVATION : 4270.00 [ft]
BOTTOM ELEVATION : 3290.00 [ft]

TOP SURFACE GRID RECORD : 14 June 1990 Month End Cut Surface (CORRECTED MINESURVEY)
BOTTOM SURFACE GRID RECORD : 15 FIV Ultimate Pit (Cut Surface) merged to June 1990 cut surface

BENCHES USED :
BENCH 1 TO 40
BLOCKS USED :
COLUMNS 1 TO 128 ROWS 1 TO 128
CUMULATIVE RESULTS

* NOTE: NO ADJUSTMENTS

CUT-OFF GRADES FROM [%Pb+Zn]	TO [%Pb+Zn]	VOLUME [bcf x1000]	DENSITY [tn/bcf]	TONNAGE [TONS x1000]	AVERAGE GRADES [%Pb+Zn]	[%Pb]	[%Zn]	[Ag g/m]	[Au g/m]	ECONOMIC FACTOR [$Cdn x1000]
6.000	50.000	30262.86	.108	3274.73	8.233	2.935	5.298	24.7	.134	.00
5.000	6.000	43776.56	.106	4635.81	7.415	2.642	4.773	23.5	.147	.00
4.000	5.000	58534.06	.105	6124.63	6.707	2.394	4.313	22.1	.155	.00
3.000	4.000	71824.11	.104	7467.63	6.138	2.184	3.954	20.6	.156	.00
.010	3.000	86164.36	.104	8965.02	5.476	1.935	3.540	18.8	.154	.00
.000	.010	139252.10	.093	12985.85	3.780	1.336	2.444	13.0	.106	.00
.000	99999.000	139252.10	.093	12985.85	3.780	1.336	2.444	13.0	.106	.00
TOTAL		139252.10	.093	12985.85	3.780	1.336	2.444	13.0	.106	.00

SOURCE 90 - 04

FARO DEPOSIT - PIT MINING RESERVES AS OF OCTOBER 1, 1990

F9009 CALCULATION

90 04

PC-MINE VERSION 1.20
SERIAL NO : 20000
22/11/1990

GEMCOM SERVICES INC.
Faro Deposit - F9009 Model

SOFTWARE BY GEMCOM SERVICES INC
MODULE 4.11

MINING RESERVE EVALUATION

DESCRIPTION : Remaining reerves Oct 1, 1990

TOTAL FOR ALL BENCHES

TOP ELEVATION : 3710.00 [ft]
BOTTOM ELEVATION : 3290.00 [ft]

TOP SURFACE GRID RECORD : 22 Sept 1990 Corrected Month End Surface(Merged to Aug.)
BOTTOM SURFACE GRID RECORD : 23 Sept. 1990 Corrected Monthend Surface Merged To FIV Ultimate Pit

BENCHES USED :
BENCH 20 TO 40
BLOCKS USED :
COLUMNS 1 TO 128 ROWS 1 TO 128
CUMULATIVE RESULTS

NOTE : NO MINING LOSS

CUT-OFF GRADES FROM [%Pb+Zn]	TO [%Pb+Zn]	VOLUME [bcf x1000]	DENSITY [tn/bcf]	TONNAGE [TONS x1000]	AVERAGE GRADES [%Pb+Zn]	[%Pb]	[%Zn]	[Ag g/m]	[Au g/m]	ECONOMIC FACTOR [$Cdn x1000]
6.000	50.000	21725.18	.106	2305.38	8.121	2.811	5.309	22.5	.120	.00
5.000	6.000	31520.79	.105	3299.89	7.314	2.536	4.778	21.4	.134	.00
4.000	5.000	42929.69	.104	4458.54	6.586	2.293	4.293	20.3	.144	.00
3.000	4.000	53054.14	.104	5499.63	6.009	2.089	3.919	18.9	.147	.00
.010	3.000	65771.37	.104	6843.79	5.265	1.817	3.448	17.0	.145	.00
.000	.010	99050.43	.092	9152.79	3.937	1.359	2.578	12.7	.108	.00
.000	99999.000	99050.43	.092	9152.79	3.937	1.359	2.578	12.7	.108	.00
TOTAL		99050.43	.092	9152.79	3.937	1.359	2.578	12.7	.108	.00

MINING RESERVE EVALUATION

DESCRIPTION : Remaining reserves Oct 1, 1990

TOTAL FOR ALL BENCHES

TOP ELEVATION : 3710.00 [ft]
BOTTOM ELEVATION : 3290.00 [ft]

TOP SURFACE GRID RECORD : 22 Sept 1990 Corrected Month End Surface(Merged to Aug.)
BOTTOM SURFACE GRID RECORD : 23 Sept. 1990 Corrected Monthend Surface Merged To FIV Ultimate Pit

BENCHES USED :
BENCH 20 TO 40
BLOCKS USED :
COLUMNS 1 TO 128 ROWS 1 TO 128
INCREMENTAL RESULTS

NOTE: NO MINING LOSS

CUT-OFF GRADES FROM [%Pb+Zn]	TO [%Pb+Zn]	VOLUME [bcf x1000]	DENSITY [tn/bcf]	TONNAGE [TONS x1000]	AVERAGE GRADES [%Pb+Zn]	[%Pb]	[%Zn]	[Ag g/m]	[Au g/m]	ECONOMIC FACTOR [$Cdn x1000]
6.000	50.000	21725.18	.106	2305.38	8.121	2.811	5.309	22.5	.120	.00
5.000	6.000	9795.60	.102	994.51	5.443	1.896	3.547	18.8	.164	.00
4.000	5.000	11408.90	.102	1158.64	4.514	1.603	2.911	17.0	.172	.00
3.000	4.000	10124.45	.103	1041.10	3.536	1.216	2.320	13.3	.160	.00
.010	3.000	12717.22	.106	1344.16	2.223	.702	1.521	9.1	.137	.00
.000	.010	33279.06	.069	2309.00	.000	.000	.000	.0	.000	.00
TOTAL		99050.43	.092	9152.79	3.937	1.359	2.578	12.7	.108	.00

SOURCE 90 - 05 (JUNE 1990)

CURRAGH RESOURCES INC.

GENERAL MANAGER'S REPORT, MONTH END JUNE 1990

90-5

CURRAGH RESOURCESINC.

GENERAL MANAGER'S MONTH END REPORT

MONTH OF: JUNE, 1990

MINING	FARO Waste MT	FARO Ore MT	GRUM Waste MT	GRUM Ore MT	VANGORDA Waste MT	VANGORDA Ore MT	ALL PITS Waste MT	ALL PITS Ore MT	ALL PITS Total MT	FARO REHANDLE Ore MT	FARO UNDERGROUND Waste MT	FARO UNDERGROUND ORE MT	FARO UNDERGROUND ORE Pb%	FARO UNDERGROUND ORE Zn%
Month - Actual	729,164	549,118	9,180	0	a)1,081,214	0	1,819,558	549,118	2,368,676	318,861	2,420	48,662	4.44	7.56
Month - Budget	729,349	895,064	723,000	0	0	0	1,452,349	895,064	2,347,412	388,800	0	50,540	4.18	6.23
Y.T.D.- Actual	5,202,792	2,916,825	2,496,289	0	b)1,146,369	0	8,845,450	2,916,825	11,762,275	2,238,716	22,909	156,286	4.34	6.86
Y.T.D.- Budget	4,808,463	3,675,851	3,921,000	31,000	0	0	8,729,463	3,706,851	12,436,314	2,345,760	0	177,790	4.19	6.05

FARO ORE INVENTORY BALANCE	ORE STOCKPILE OPENING INVENTORY MT	% Pb	% Zn	+ HAULED TO STOCKPILE MT	% Pb	% Zn	- HAULED FROM STOCKPILE MT	% Pb	% Zn	+/- ADJUSTMENTS MT	% Pb	% Zn	= ORE STOCKPILE CLOSING INVENTORY MT	% Pb	% Zn
Low Grade Prim. Cr.	1,568,417	1.85	2.69	33,909	1.48	2.52	960	1.96	2.70	0			1,601,366	1.84	2.69
Medium Grade P.C.	278,281	2.41	3.20	45,687	2.04	3.37	36,915	2.66	4.04	+ 2,773	4.52	11.58	289,826	2.34	3.20
High Grade P.C.	191,330	3.54	5.93	473,499	3.33	5.71	303,585	3.24	5.49	-64,909	3.55	6.25	296,335	3.51	5.96
Coarse Ore 2nd. Cr.	72,470	3.17	5.06	7,200	3.03	5.36	0			+25,509	3.04	5.10	105,179	3.13	5.09
H.G. U/G Stockpile	21,571	4.42	6.72	48,662	4.44	7.56	17,310	4.44	7.56				c) 52,923	4.43	7.22

a) 395,010 moved by contractor.
b) 435,010 moved by contractor.

c) Underground ore is located at portal, mixed with crusher and stockpiled separately at "M" stockpile.

MILLING	Millfeed DMT	Feed Grades % Pb	Feed Grades % Zn	Feed Grades Ag(gm/DMT)	Recoveries % Pb	Recoveries % Zn	Recoveries % Ag	Concentrate Tonnes Saleable Production Pb DMT	Zn DMT	TOTAL DMT	Concentrate Grades % Pb	Concentrate Grades % Zn
Month - Actual	351,570	3.03	5.28	37.28	78.30	76.12	48.19	14,322	27,680	42,002	58.24	51.05
Month - Budget	388,800	3.35	5.23	39.00	79.81	80.45		17,292	31,477	48,769	60.09	52.00
Y.T.D.- Actual	2,303,320	3.00	4.77	40.68	79.34	75.66	48.45	94,139	165,758	259,897	58.38	50.20
Y.T.D.- Budget	2,345,760	3.21	4.83	39.23	79.45	80.17		99,577	173,667	273,244	60.01	52.00

FARO CONCENTRATE INVENTORY BALANCE	Faro Opening Inventory DMT	Month Saleable Prod. DMT	- Hauled From Faro DMT	(1) +/- Faro Adjst. DMT	(1) +/- Skagway Adjt. DMT	Faro Closing Inventory	(1) YTD Faro Adjst. DMT	(1) YTD Skagway Adj. DMT
Pb Concentrate	4,075	14,322	14,410	0	(1)	3,986	0	(107)
Zn Concentrate	4,128	27,680	29,766	0	(1)	2,041	0	(34)
Total Concentrate	8,203	42,002	44,176	0	(2)	6,027	0	(141)

SKAGWAY CONCENTRATE INVENTORY BALANCE	Skagway Open Inventory DMT	+ Hauled From Faro DMT	+ In Transit Prev. Month DMT	- In Transit End of Month DMT	+/- Adjustments DMT	- Loaded on Ship DMT	= Skagway Clos. Invent. DMT
Pb Concentrate	26,327	14,410	128	86	0.00	33,728	7,052
Zn Concentrate	35,027	29,766	883	723	0.00	37,757	27,197
Total Concentrate	61,354	44,176	1,011	809	0.00	71,484	34,248

(1) The adjustments are the amounts which when added back to saleable production will give actual mill production.

SOURCE 90 - 06 (SEPTEMBER 1990)

CURRAGH RESOURCES INC.

GENERAL MANAGER'S REPORT, MONTH END SEPTEMBER 1990

90-06

CURRAGH RESOURCES INC.

GENERAL MANAGER'S MONTH END REPORT

MONTH OF: SEPTEMBER, 1990

MINING	FARO Waste MT	FARO Ore MT	GRUM Waste MT	GRUM Ore MT	VANGORDA Waste MT	VANGORDA Ore MT	ALL PITS Waste MT	ALL PITS Ore MT	ALL PITS Total MT	FARO REHANDLE Ore MT	FARO UNDERGROUND Waste MT	FARO UNDERGROUND ORE MT	FARO UNDERGROUND ORE Pb%	FARO UNDERGROUND ORE Zn%
Month - Actual	413,503	304,414	915,546	0	a) 572,263	93,294	a) 1,901,312	397,708	a) 2,299,020	304,540	2,690	75,112	4.67	6.88
Month - Budget	379,956	503,689	1,335,000	0	667,728	0	2,382,684	503,689	2,886,373	388,800	0	48,840	4.18	6.23
Y.T.D.- Actual	7,380,807	4,310,967	3,437,890	0	b)13,905,526	185,304	b)14,724,223	4,496,271	b)19,220,494	3,260,345	30,146	364,176	4.67	7.12
Y.T.D.- Budget	6,135,483	5,117,791	6,572,012	31,000	1,112,140	142,604	13,819,635	5,291,395	19,111,030	3,538,080	0	327,570	4.19	6.12

FARO ORE INVENTORY BALANCE	ORE STOCKPILE OPENING INVENTORY MT	% Pb	% Zn	+ HAULED TO STOCKPILE MT	% Pb	% Zn	- HAULED FROM STOCKPILE MT	% Pb	% Zn	+/- ADJUSTMENTS (a) MT	% Pb	% Zn	= ORE STOCKPILE CLOSING INVENTORY MT	% Pb	% Zn
Low Grade Prim. Cr.	1,752,754	1.81	2.70	47,756	1.40	2.93	0			0			1,800,510	1.80	2.71
Medium Grade P.C.	516,491	2.23	3.39	133,683	2.06	4.01	11,460	2.42	3.80	+ 66,223	2.20	3.50	704,947	2.19	3.50
High Grade P.C.	418,934	3.38	5.66	122,386	2.64	5.49	291,600	2.98	5.50	- 68,153	5.01	7.56	181,567	2.91	5.09
Coarse Ore 2nd. Cr.	3,450	3.44	5.50	21,070	2.90	5.09	7,940	2.98	5.15	+ 9,284	2.98	5.15	25,864	2.98	5.15
(c) U/G H.G. Stple	22,028	4.45	7.93	59,185	4.56	6.79	69,199	4.53	7.10	- 11,014	4.53	7.10	0		
Vangorda Transfer	91,248	3.61	3.74	72,891	4.48	4.51	0			+ 820			164,959	4.11	4.08

a) Includes 174,619 t. hauled by contractor.
b) includes 1,198,514 t. hauled by contractor.
c) H.G. stockpile is corrected to 8.00%.

MONTHLY CONCENTRATOR RECONCILIATION	Metallurg. Balance DMT	FARO INVENTORIES Opening DMT	FARO INVENTORIES Closing DMT	FARO SHIPMENTS Theoretical DMT	FARO SHIPMENTS Actual DMT	FARO UNACCOUNTABLE DIFFERENCES +/- (DMT)
Pb Concentrate	15,241	4,361	3,022	16,580	15,574	-1,006
Zn Concentrate	31,095	4,711	4,264	31,542	33,239	1,696
Total Concentrate	46,336	9,072	7,286	48,122	48,812	690

MILLING METALLURGICAL BALANCE	Millfeed DMT	Mill Feed Grades % Pb	Mill Feed Grades % Zn	Mill Feed Grades Ag (g/t)	Concentrate Tonnage DMT Pb Conc.	Concentrate Tonnage DMT Zn Conc.	Concentrate Tonnage DMT Total	Conc. Grades %Pb	Conc. Grades %Zn	Recoveries %Pb	Recoveries %Zn	Recoveries %Ag	Concentrate Actual Production (Mat.Bal. +/- Conc. Recon.Diff) Pb DMT	Zn DMT	Total DMT
Month - Actual	385,389	2.97	5.15	38.94	15,241	31,095	46,336	57.57	49.71	76.58	77.74	50.31	14,235	32,792	47,026
Month - Budget	388,800	3.33	5.26	37.00	16,640	31,694	48,334	62.00	52.00	79.71	80.61		16,640	31,694	48,334
Y.T.D.- Actual	3,530,981	2.97	4.87	39.87	138,858	262,206	401,064	59.36	50.34	78.56	76.68	48.22	142,605	263,568	406,172
Y.T.D.- Budget	3,538,080	3.24	4.98	38.36	151,345	271,226	·422,571	60.29	52.00	79.51	80.04		151,345	271,226	422,571

SKAGWAY CONCENTRATE INVENTORY BALANCE	Skagway Open Inventory DMT	+ Hauled From Faro DMT	+ In Transit Prev. Month DMT	- In Transit End of Month DMT	+/- Adjustments DMT	- Loaded on Ship DMT	= Skagway Clos. Invent. DMT
Pb Concentrate	13,995	15,574	266	176	0	14,928	14,732
Zn Concentrate	498	33,239	653	672	0	14,799	18,919
Total Concentrate	14,493	48,812	920	848	0	29,726	33,651

* Unaccountable gain of 1,237 tonnes ex-Skagway from June 1990 reported in inventory balance section and YTD metallurgical balance only.

SOURCE 90 - 09 (DECEMBER 1989)

CURRAGH RESOURCES INC.

GENERAL MANAGER'S REPORT, DECEMBER 1989

C U R R A G H   R E S O U R C E S   I N C .

GENERAL MANAGER'S MONTH END REPORT

MONTH OF: DECEMBER, 1989

MINING	FARO Waste DMT	FARO Ore DMT	GRUM Waste DMT	GRUM Ore DMT	VANGORDA Waste DMT	VANGORDA Ore DMT	ALL PITS Waste DMT	ALL PITS Ore DMT	ALL PITS Total DMT	FARO REHANDLE Ore DMT
Month - Actual	1,295,188	487,748	401,736	0	0	0	1,696,924	487,748	2,184,672	375,859
Month - Budget	816,342	749,059	1,357,558	2	407,257	48,420	2,581,157	797,481	3,378,638	414,898
Y.T.D.- Actual	15,995,985	5,116,508	2,977,986	0	0	0	18,973,971	5,116,508	24,090,479	4,282,669
Y.T.D.- Budget	11,062,170	5,266,185	10,354,843	2	2,887,561	100,885	24,304,574	5,367,072	29,671,646	4,888,503

FARO ORE INVENTORY BALANCE	ORE STOCKPILE OPENING INVENTORY DMT	% Pb	% Zn	+ HAULED TO STOCKPILE DMT	% Pb	% Zn	- HAULED FROM STOCKPILE DMT	% Pb	% Zn	+/- ADJUSTMENTS DMT	% Pb	% Zn	= ORE STOCKPILE CLOSING INVENTORY DMT	% Pb	% Zn
Low Grade Prim. Cr.	1,379,862	1.86	2.60	57,188	1.59	2.28	0			- 2,196			1,434,854	1.85	2.73
Medium Grade P.C.	78,771	2.29	3.48	90,909	2.34	3.06	59,300	2.30	3.20				110,380	2.32	3.30
High Grade P.C.	24,116	3.04	5.01	339,651	3.05	5.03	318,172	3.07	5.01				45,595	2.69	5.37
Coarse Ore 2nd. Cr.	42,368	3.16	4.90				24,378	3.16	4.90	- 13,459			4,531	3.16	4.90
In-Pit Broken	92,084	2.83	4.86										76,784	3.17	4.22

MILLING	Millfeed DMT	Feed Grades % Pb	Feed Grades % Zn	Feed Grades Ag(gm/DMT)	Recoveries % Pb	Recoveries % Zn	Recoveries % Ag	Concentrate Tonnes Pb DMT	Concentrate Tonnes Zn DMT	Concentrate Grades % Pb	Concentrate Grades % Zn
Month - Actual	401,850	2.80	4.53	37.63	76.96	71.72	46.89	15,059	25,977	57.51	50.26
Month - Budget	414,898	3.43	4.88	45.00	83.69	77.48	49.60	19,509	31,638	59.40	50.46
Y.T.D.- Actual	4,379,084	2.93	4.69	34.90	76.98	77.11	49.04	168,730	318,380	58.51	49.76
Y.T.D.- Budget	4,888,503	3.23	4.91	36.00	80.05	78.10	49.60	207,624	378,200	60.77	49.67

FARO CONCENTRATE INVENTORY BALANCE	Faro Opening Inventory DMT	+ Month Production DMT	- Hauled From Faro DMT	+/- Adjustments DMT	= Faro Clos. Inventory DMT
Pb Concentrate	1,001	15,059	13,946	0	2,114
Zn Concentrate	2,930	25,977	25,423	0	3,484
Total Concentrate	3,931	41,036	39,369	0	5,598

SKAGWAY CONCENTRATE INVENTORY BALANCE	Skagway Open Inventory DMT	+ Hauled From Faro DMT	+ In Transit Prev. Month DMT	- In Transit End of Month DMT	+/- Adjustments DMT	- Loaded on Ship DMT	= Skagway Clos. Invent. DMT
Pb Concentrate	16,635	13,946	216.80	340.39	(1,438.41)	21,535	7,484
Zn Concentrate	24,050	25,423	658.79	442.29	425.50	34,241	15,874
Total Concentrate	40,685	39,369	875.59	782.68	(1,012.91)	55,776	23,358

Note: December production excludes 713 tonnes of bulk concentrate.
Total concentrate production for December is 41,749 dmt.
Total bulk concentrate production 1989 is 1,823 dmt.
Total concentrate production for 1989 is 488,933 dmt.

SOURCE 90 - 13 (SEPTEMBER 1990)

CURRAGH RESOURCES INC.

GRUM MINING RESERVES AS OF OCTOBER 1, 1990

G9009 CALCULATION

90-13

PC-MINE VERSION 1.20
SERIAL NO : 20320
23/11/1990

CURRAGH RESOURCES
Grum G9009 - (Simpson/Adamson interp.) 6 metre bench

SOFTWARE BY GEMCOM SERVICES INC
MODULE 4.11
PAGE 2

MINING RESERVE EVALUATION

DESCRIPTION : Mining Reserves - Start-up of mining

TOTAL FOR ALL BENCHES

TOP ELEVATION : 1335.00 [m]
BOTTOM ELEVATION : 975.00 [m]

TOP SURFACE GRID RECORD : 2 SURFACE TOPOGRAPHY (GEOMODEL - R and C)
BOTTOM SURFACE GRID RECORD : 6 Ion Vintila STAGE 3 PIT (POLYSECT merge TOPOGRAPHY)

BENCHES USED :
BENCH 1 TO 60
BLOCKS USED :
COLUMNS 1 TO 127 ROWS 1 TO 109
CUMULATIVE RESULTS

* NOTE: NO ADJUSTMENTS

CUT-OFF GRADES FROM [%Pb+Zn]	TO [%Pb+Zn]	VOLUME [bcm x1000]	DENSITY [tn/bcm]	TONNAGE [TONS x1000]	AVERAGE GRADES [%Pb+Zn]	[%Pb]	[%Zn]	[Ag g/t]	[Au g/t]	ECONOMIC FACTOR [$Cdn x1000]
6.000	50.000	4386.13	3.483	15275.90	9.498	3.561	5.937	57.13	.912	.00
5.000	6.000	5588.07	3.379	18882.50	8.736	3.257	5.479	52.53	.847	.00
4.000	5.000	6756.82	3.310	22364.02	8.078	3.008	5.070	48.74	.801	.00
3.000	4.000	7422.45	3.287	24397.22	7.703	2.874	4.829	46.65	.785	.00
.010	3.000	7732.98	3.279	25357.06	7.496	2.797	4.698	45.46	.777	.00
.000	.010	75208.10	2.663	200294.00	.949	.354	.595	5.76	.098	.00
.000	99999.000	75208.10	2.663	200294.00	.949	.354	.595	5.76	.098	.00
TOTAL		75208.10	2.663	200294.00	.949	.354	.595	5.76	.098	.00

MINING RESERVE EVALUATION

DESCRIPTION : Mining Reserves - Start-up of mining

TOTAL FOR ALL BENCHES

TOP ELEVATION : 1335.00 [m]
BOTTOM ELEVATION : 975.00 [m]

TOP SURFACE GRID RECORD : 2 SURFACE TOPOGRAPHY (GEOMODEL - R and C)
BOTTOM SURFACE GRID RECORD : 6 Ion Vintila STAGE 3 PIT (POLYSECT merge TOPOGRAPHY)

BENCHES USED :
BENCH 1 TO 60
BLOCKS USED :
COLUMNS 1 TO 127 ROWS 1 TO 109
INCREMENTAL RESULTS

CUT-OFF GRADES FROM [%Pb+Zn]	TO [%Pb+Zn]	VOLUME [bcm x1000]	DENSITY [tn/bcm]	TONNAGE [TONS x1000]	AVERAGE GRADES [%Pb+Zn]	[%Pb]	[%Zn]	[Ag g/t]	[Au g/t]	ECONOMIC FACTOR [$Cdn x1000]
6.000	50.000	4386.13	3.483	15275.90	9.498	3.561	5.937	57.13	.912	.00
5.000	6.000	1201.94	3.001	3606.60	5.509	1.968	3.541	33.09	.570	.00
4.000	5.000	1168.75	2.979	3481.52	4.511	1.661	2.850	28.15	.556	.00
3.000	4.000	665.63	3.055	2033.20	3.572	1.396	2.176	23.68	.603	.00
.010	3.000	310.52	3.091	959.84	2.229	.848	1.381	15.23	.567	.00
.000	.010	67475.13	2.593	174936.90	.000	.000	.000	.00	.000	.00
TOTAL		75208.10	2.663	200294.00	.949	.354	.595	5.76	.098	.00

SOURCE 90 - 14 (DECEMBER 1989)

CURRAGH RESOURCES INC.

VANGORDA GEOLOGICAL RESERVES AS OF JULY 1, 1990

V8912 CALCULATION

IN-SITU ORE RESERVE EVALUATION

DESCRIPTION : Geological Reserves (START-UP OF MINING)

TOTAL FOR ALL BENCHES

TOP ELEVATION : 1230.00 [m]
BOTTOM ELEVATION : 990.00 [m]

SURFACE GRID RECORD : 2 V1 - Surface Topography Start-up of Mining (POLYSECT)
BENCHES USED :
BENCH 1 TO 40
BLOCKS USED :
COLUMNS 1 TO 100 ROWS 1 TO 90

CUMULATIVE RESULTS

CUT-OFF GRADES FROM [%Pb+Zn]	TO [%Pb+Zn]	VOLUME [bcm x1000]	DENSITY [tn/bcm]	TONNAGE [TONS x1000]	AVERAGE GRADES [%Pb+Zn]	[%Pb]	[%Zn]	[Ag g/m]	[Au g/m]
6.000	50.000	1599.42	3.891	6223.47	9.332	4.121	5.211	59.300	.835
5.000	6.000	1863.18	3.798	7076.98	8.867	3.900	4.968	56.466	.809
4.000	5.000	2295.64	3.690	8470.68	8.149	3.575	4.574	52.136	.772
3.000	4.000	2767.20	3.622	10022.92	7.423	3.257	4.166	47.834	.761
.010	3.000	5146.37	3.500	18011.28	4.903	2.159	2.744	34.034	.748
.010	99999.000	103296.00	2.229	230293.90	.383	.169	.215	2.662	.058
TOTAL		103296.00	2.229	230293.90	.383	.169	.215	2.66	.058

IN-SITU ORE RESERVE EVALUATION

DESCRIPTION : Geological Reserves

TOTAL FOR ALL BENCHES

TOP ELEVATION : 1230.00 [m]
BOTTOM ELEVATION : 990.00 [m]

SURFACE GRID RECORD : 2 V1 - Surface Topography Start-up of Mining (POLYSECT)
BENCHES USED :
BENCH 1 TO 40
BLOCKS USED :
COLUMNS 1 TO 100 ROWS 1 TO 90

INCREMENTAL RESULTS

CUT-OFF GRADES FROM [%Pb+Zn]	TO [%Pb+Zn]	VOLUME [bcm x1000]	DENSITY [tn/bcm]	TONNAGE [TONS x1000]	AVERAGE GRADES [%Pb+Zn]	[%Pb]	[%Zn]	[Ag g/m]	[Au g/m]
6.000	50.000	1599.42	3.891	6223.47	9.332	4.121	5.211	59.300	.835
5.000	6.000	263.76	3.236	853.51	5.477	2.288	3.189	35.802	.617
4.000	5.000	432.47	3.223	1393.70	4.502	1.926	2.576	30.152	.584
3.000	4.000	471.56	3.292	1552.24	3.461	1.519	1.942	24.358	.705
.010	3.000	2379.17	3.358	7988.37	1.741	.783	.958	16.710	.731
.010	99999.000	98149.59	2.163	212282.60	.000	.000	.000	.000	.000
TOTAL		103296.00	2.229	230293.90	.383	.169	.215	2.66	.058

SOURCE 90 - 15 (SEPTEMBER 1990)

CURRAGH RESOURCES INC.

VANGORDA GEOLOGICAL RESERVES AS OF OCT. 1, 1990

V9009 CALCULATION

90-15

IN-SITU ORE RESERVE EVALUATION

DESCRIPTION : Geological Reserves - As of Oct 1, 1990

TOTAL FOR ALL BENCHES

TOP ELEVATION : 1230.00 [m]
BOTTOM ELEVATION : 990.00 [m]

SURFACE GRID RECORD : 7 September 1990 Monthend Surface MERGED with corrected Aug. Surface
BENCHES USED :
BENCH 1 TO 80
BLOCKS USED :
COLUMNS 1 TO 100 ROWS 1 TO 128

CUMULATIVE RESULTS

CUT-OFF GRADES FROM [%Pb+Zn]	TO [%Pb+Zn]	VOLUME [bcm x1000]	DENSITY [tn/bcm]	TONNAGE [TONS x1000]	AVERAGE GRADES [%Pb+Zn]	[%Pb]	[%Zn]	[Ag g/t]	[Au g/t]
6.000	50.000	1503.58	3.943	5927.91	9.818	4.364	5.453	54.449	.830
5.000	6.000	1702.53	3.852	6557.81	9.402	4.169	5.233	52.155	.810
4.000	5.000	1922.52	3.768	7244.61	8.936	3.950	4.986	49.601	.784
3.000	4.000	2190.07	3.706	8115.62	8.345	3.683	4.663	46.465	.771
.010	3.000	4171.32	3.559	14844.54	5.278	2.336	2.943	31.594	.745
.000	.010	96000.28	2.114	202991.10	.386	.171	.215	2.311	.054
.000	99999.000	96000.28	2.114	202991.10	.386	.171	.215	2.311	.054
TOTAL		96000.28	2.114	202991.10	.386	.171	.215	2.31	.054

IN-SITU ORE RESERVE EVALUATION

DESCRIPTION : Geological Reserves - As of Oct 1, 1990

TOTAL FOR ALL BENCHES

TOP ELEVATION : 1230.00 [m]
BOTTOM ELEVATION : 990.00 [m]

SURFACE GRID RECORD : 7 September 1990 Monthend Surface MERGED with corrected Aug. Surfa
BENCHES USED :
BENCH 1 TO 80
BLOCKS USED :
COLUMNS 1 TO 100 ROWS 1 TO 128

INCREMENTAL RESULTS

CUT-OFF GRADES FROM [%Pb+Zn]	TO [%Pb+Zn]	VOLUME [bcm x1000]	DENSITY [tn/bcm]	TONNAGE [TONS x1000]	AVERAGE GRADES [%Pb+Zn]	[%Pb]	[%Zn]	[Ag g/t]	[Au g/t]
6.000	50.000	1503.58	3.943	5927.91	9.818	4.364	5.453	54.449	.830
5.000	6.000	198.95	3.166	629.90	5.487	2.328	3.159	30.568	.623
4.000	5.000	219.99	3.122	686.79	4.488	1.858	2.630	25.209	.534
3.000	4.000	267.55	3.256	871.01	3.433	1.462	1.971	20.383	.664
.010	3.000	1981.25	3.396	6728.91	1.579	.711	.868	13.658	.713
.000	.010	91828.96	2.049	188146.60	.000	.000	.000	.000	.000
TOTAL		96000.28	2.114	202991.10	.386	.171	.215	2.31	.054

SOURCE 90 - 16 (SEPTEMBER 1990)

CURRAGH RESOURCES INC.

VANGORDA MINING RESERVES AS OF JULY 1, 1990

V8912 CALCULATION

C U R R A G H   R E S O U R C E S   I N C.

V A N G O R D A   D E P O S I T - M I N I N G   R E S E R V E S

V B 9 1 2   I N T E R P R E T A T I O N

CUTOFF = 3% Pb+Zn
MINING RECOVERY = 95%

FEBRUARY 2/90

Crest m	Toe m	Vol cu m.	Dens mt/cu m	Tonnes	%Pb+Zn	%Pb	%Zn	Ag g/mt	Au g/mt
1158	1152	0	0.00						
1152	1146	16,454	3.97	65,246	7.96	3.77	4.19	55.2	1.37
1146	1140	77,321	3.85	297,417	7.78	3.36	4.43	50.1	0.98
1140	1134	142,500	3.84	546,697	8.19	3.60	4.59	52.0	0.84
1134	1128	128,640	3.79	487,436	8.05	3.58	4.47	51.7	0.79
1128	1122	107,749	3.69	398,003	8.11	3.51	4.60	52.8	0.76
1122	1116	106,191	3.71	394,060	8.16	3.45	4.70	51.9	0.77
1116	1110	136,154	3.59	489,279	8.29	3.56	4.73	50.4	0.74
1110	1104	166,687	3.42	570,599	7.53	3.17	4.36	45.8	0.74
1104	1098	146,129	3.45	503,605	7.53	3.23	4.30	46.2	0.76
1098	1092	125,628	3.74	469,424	8.97	4.01	4.96	57.6	0.73
1092	1086	98,572	4.01	395,191	9.63	4.28	5.35	59.1	0.78
1086	1080	104,101	3.88	403,978	8.91	3.94	4.98	55.3	0.76
1080	1074	105,621	3.97	419,482	9.25	4.13	5.12	58.9	0.81
1074	1068	84,626	4.01	338,960	9.07	4.11	4.97	59.1	0.84
1068	1062	67,982	4.03	273,952	9.00	4.13	4.87	58.6	0.72
1062	1056	61,589	3.99	245,879	8.48	3.91	4.57	55.8	0.75
1056	1050	57	4.00	228	5.02	2.33	2.69	35.2	1.34
1050	1044	0	0.00						
		1,676,001	3.76	6,299,436	8.41	3.70	4.71	53.2	0.79

CUTOFF = 4% Pb+Zn
MINING RECOVERY = 95%

FEBRUARY 2/90

Crest m	Toe m	Vol cu m.	Dens mt/cu m	Tonnes	%Pb+Zn	%Pb	%Zn	Ag g/mt	Au g/mt
1158	1152	0	0.00						
1152	1146	13,329	4.04	53,780	8.91	4.24	4.66	61.9	1.45
1146	1140	58,330	3.89	227,060	9.13	3.89	5.24	57.9	0.99
1140	1134	129,808	3.85	500,004	8.63	3.78	4.85	54.5	0.83
1134	1128	116,347	3.82	444,163	8.51	3.78	4.72	54.1	0.79
1128	1122	93,547	3.73	349,163	8.77	3.80	4.97	56.6	0.76
1122	1116	91,618	3.73	342,048	8.88	3.76	5.12	55.6	0.76
1116	1110	122,028	3.65	445,541	8.76	3.77	4.99	53.1	0.75
1110	1104	140,268	3.50	491,122	8.19	3.47	4.72	49.7	0.76
1104	1098	123,681	3.53	437,010	8.15	3.51	4.63	50.0	0.79
1098	1092	110,780	3.84	424,821	9.55	4.28	5.27	61.4	0.75
1092	1086	93,727	4.05	379,953	9.88	4.39	5.49	60.6	0.79
1086	1080	92,369	3.94	363,575	9.52	4.18	5.34	58.8	0.74
1080	1074	97,622	4.01	391,163	9.67	4.29	5.37	61.4	0.81
1074	1068	79,192	4.05	320,426	9.40	4.25	5.14	61.1	0.85
1068	1062	65,959	4.03	266,057	9.18	4.20	4.97	59.5	0.71
1062	1056	58,302	4.00	233,292	8.75	4.03	4.72	57.3	0.74
1056	1050	29	3.67	105	7.39	3.54	3.85	45.6	1.81
1050	1044	0	0.00						
		1,486,936	3.81	5,669,283	8.95	3.94	5.02	56.4	0.79

C U R R A G H   R E S O U R C E S   I N C.

V A N G O R D A   D E P O S I T - M I N I N G   R E S E R V E S

V 8 9 1 2   I N T E R P R E T A T I O N

CUTOFF = 3% Pb+Zn
MINING RECOVERY = 95%

FEBRUARY 2/90

Crest m	Toe m	Vol cu m.	Dens mt/cu m	Tonnes	%Pb+Zn	%Pb	%Zn	Ag g/mt	Au g/mt
1158	1152	0	0.00						
1152	1146	16,454	3.97	65,246	7.96	3.77	4.19	55.2	1.37
1146	1140	77,321	3.85	297,417	7.78	3.36	4.43	50.1	0.98
1140	1134	142,500	3.84	546,697	8.19	3.60	4.59	52.0	0.84
1134	1128	128,640	3.79	487,436	8.05	3.58	4.47	51.7	0.79
1128	1122	107,749	3.69	398,003	8.11	3.51	4.60	52.8	0.76
1122	1116	106,191	3.71	394,060	8.16	3.45	4.70	51.9	0.77
1116	1110	136,154	3.59	489,279	8.29	3.56	4.73	50.4	0.74
1110	1104	166,687	3.42	570,599	7.53	3.17	4.36	45.8	0.74
1104	1098	146,129	3.45	503,605	7.53	3.23	4.30	46.2	0.76
1098	1092	125,628	3.74	469,424	8.97	4.01	4.96	57.6	0.73
1092	1086	98,572	4.01	395,191	9.63	4.28	5.35	59.1	0.78
1086	1080	104,101	3.88	403,978	8.91	3.94	4.98	55.3	0.76
1080	1074	105,621	3.97	419,482	9.25	4.13	5.12	58.9	0.81
1074	1068	84,626	4.01	338,960	9.07	4.11	4.97	59.1	0.84
1068	1062	67,982	4.03	273,952	9.00	4.13	4.87	58.6	0.72
1062	1056	61,589	3.99	245,879	8.48	3.91	4.57	55.8	0.75
1056	1050	57	4.00	228	5.02	2.33	2.69	35.2	1.34
1050	1044	0	0.00						
		1,676,001	3.76	6,299,436	8.41	3.70	4.71	53.2	0.79

CUTOFF = 4% Pb+Zn
MINING RECOVERY = 95%

FEBRUARY 2/90

1158	1152	0	0.00						
1152	1146	13,329	4.04	53,780	8.91	4.24	4.66	61.9	1.45
1146	1140	58,330	3.89	227,060	9.13	3.89	5.24	57.9	0.99
1140	1134	129,808	3.85	500,004	8.63	3.78	4.85	54.5	0.83
1134	1128	116,347	3.82	444,163	8.51	3.78	4.72	54.1	0.79
1128	1122	93,547	3.73	349,163	8.77	3.80	4.97	56.6	0.76
1122	1116	91,618	3.73	342,048	8.88	3.76	5.12	55.6	0.76
1116	1110	122,028	3.65	445,541	8.76	3.77	4.99	53.1	0.75
1110	1104	140,268	3.50	491,122	8.19	3.47	4.72	49.7	0.76
1104	1098	123,681	3.53	437,010	8.15	3.51	4.63	50.0	0.79
1098	1092	110,780	3.84	424,821	9.55	4.28	5.27	61.4	0.75
1092	1086	93,727	4.05	379,953	9.88	4.39	5.49	60.6	0.79
1086	1080	92,369	3.94	363,575	9.52	4.18	5.34	58.8	0.74
1080	1074	97,622	4.01	391,163	9.67	4.29	5.37	61.4	0.81
1074	1068	79,192	4.05	320,426	9.40	4.25	5.14	61.1	0.85
1068	1062	65,959	4.03	266,057	9.18	4.20	4.97	59.5	0.71
1062	1056	58,302	4.00	233,292	8.75	4.03	4.72	57.3	0.74
1056	1050	29	3.67	105	7.39	3.54	3.85	45.6	1.81
1050	1044	0	0.00						
		1,486,936	3.81	5,669,283	8.95	3.94	5.02	56.4	0.79

SOURCE 90 - 17 (SEPTEMBER 1990)

CURRAGH RESOURCES INC.

VANGORDA MINING RESERVES AS OF OCTOBER 1, 1990

V9009 CALCULATION

90-17

MINING RESERVE EVALUATION

DESCRIPTION : Remaining Reserves - Oct 1, 1990

TOTAL FOR ALL BENCHES

TOP ELEVATION : 1230.00 [m]
BOTTOM ELEVATION : 990.00 [m]

TOP SURFACE GRID RECORD : 7 September 1990 Monthend Surface MERGED with corrected Aug. Surfa
BOTTOM SURFACE GRID RECORD : 9 Sept 1990 monthend Pit MERGED with VIV Ultimate Pit

BENCHES USED :
BENCH 1 TO 80
BLOCKS USED :
COLUMNS 1 TO 100 ROWS 1 TO 128
CUMULATIVE RESULTS

*NOTE: NO ADJUSTMENTS

CUT-OFF GRADES FROM [%Pb+Zn]	TO [%Pb+Zn]	VOLUME [bcm x1000]	DENSITY [tn/bcm]	TONNAGE [TONS x1000]	AVERAGE GRADES [%Pb+Zn]	[%Pb]	[%Zn]	[Ag g/t]	[Au g/t]	ECONOMIC FACTOR [$Cdn x1000]
6.000	50.000	1281.57	3.964	5080.74	9.976	4.446	5.530	55.39	.806	.00
5.000	6.000	1407.45	3.887	5471.31	9.657	4.293	5.364	53.56	.793	.00
4.000	5.000	1539.56	3.813	5869.90	9.307	4.125	5.181	51.60	.775	.00
3.000	4.000	1666.91	3.766	6277.65	8.926	3.952	4.974	49.57	.770	.00
.010	3.000	2193.41	3.706	8127.94	7.307	3.244	4.063	41.95	.786	.00
.000	.010	7077.85	2.827	20012.24	2.968	1.318	1.650	17.04	.319	.00
.000	99999.000	7077.85	2.827	20012.24	2.968	1.318	1.650	17.04	.319	.00
TOTAL		7077.85	2.827	20012.24	2.968	1.318	1.650	17.04	.319	.00

PC-MINE VERSION 1.20
SERIAL NO : 20000
22/11/1990

GEMCOM SERVICES INC.
Vangorda Deposit - V9009 Interpretation

SOFTWARE BY GEMCOM SERVICES INC
MODULE 4.11

MINING RESERVE EVALUATION

DESCRIPTION : Remaining Reserves - Oct 1, 1990

TOTAL FOR ALL BENCHES

TOP ELEVATION : 1230.00 [m]
BOTTOM ELEVATION : 990.00 [m]

TOP SURFACE GRID RECORD : 7 September 1990 Monthend Surface MERGED with corrected Aug. Surfa
BOTTOM SURFACE GRID RECORD : 9 Sept 1990 monthend Pit MERGED with VIV Ultimate Pit

BENCHES USED :
BENCH 1 TO 80
BLOCKS USED :
COLUMNS 1 TO 100 ROWS 1 TO 128
INCREMENTAL RESULTS

CUT-OFF GRADES FROM [%Pb+Zn]	TO [%Pb+Zn]	VOLUME [bcm x1000]	DENSITY [tn/bcm]	TONNAGE [TONS x1000]	AVERAGE GRADES [%Pb+Zn]	[%Pb]	[%Zn]	[Ag g/t]	[Au g/t]	ECONOMIC FACTOR [$Cdn x1000]
6.000	50.000	1281.57	3.964	5080.74	9.976	4.446	5.530	55.39	.806	.00
5.000	6.000	125.87	3.103	390.58	5.503	2.299	3.204	29.73	.627	.00
4.000	5.000	132.12	3.017	398.58	4.497	1.818	2.679	24.74	.534	.00
3.000	4.000	127.34	3.202	407.76	3.441	1.453	1.988	20.37	.692	.00
.010	3.000	526.51	3.514	1850.29	1.816	.845	.971	16.10	.841	.00
.000	.010	4884.43	2.433	11884.30	.000	.000	.000	.00	.000	.00
TOTAL		7077.85	2.827	20012.24	2.968	1.318	1.650	17.04	.319	.00

APPENDIX B

APPENDIX B: ONTARIO PROFESSIONAL ENGINEERS RESERVE DEFINITIONS

earlier programmes should be included. When data are available in sufficient detail the results of previous drilling programmes(s) should be tabulated and appropriate plans, sections and profiles also should be provided in this section or in subsequent sections.

If mining had previously taken place on the property, a brief description of the workings should be given and the most reliable past production data should be summarized. Comments regarding the reason(s) for closure should also be given. Any other unusual positive or negative features of past production should be noted as well as significant production data and other pertinent features from nearby properties.

2.5 Geology, Geophysics and Geochemistry

2.5.1 Geology

A general description of the regional and property geology including the stratigraphy, lithology and structure should, in so far as possible, be provided along with an appropriate map or maps.

2.5.2 Geophysics and/or Geochemistry

A description of the instrumentation, techniques employed and the results of the geophysical and/or geochemical surveys completed must be included along with maps at an appropriate scale. All techniques, including remote sensing, used to assist in the interpretation of the stratigraphy and structure and to locate mineralization also should be included and adequately described.

2.6 Mineralization and/or Mineral Deposits

2.6.1 The type of mineralization, the mode of occurrence, the size as indicated by measured or estimated length, width and depth, quantity of mineral(s) of economic interest and relationship of the mineralization to the geology (i.e. gangue, alteration, structure, etc.), geophysics and geochemistry should be clearly stated. Appropriate maps of any deposits outlined on the property should be included in the report.

2.6.2 The sampling methods and types of samples should be described and illustrated on sampling plans and drill profiles. The description should state when and how the samples were collected, under whose direction, the analytical methods and the laboratory used. A description of the procedures for sample preparation and for 'check' analyses should be included.

The description of the sampling must include a discussion of the type of sample, sample spacing, sample lengths and/or size or, for larger sampling programmes, the maximum, minimum and average length of the samples or their size.

Sample analyses should always be expressed in terms of industry standards or practice. In general, precious metal content is expressed in grams per tonne. Non-ferrous metals are expressed in percentage by dry weight, kilograms per tonne or in terms of the marketable compound (e.g. MoS_2 vs. Mo; ferrous deposits are expressed in percentage soluble or magnetic iron content per long ton, etc.). Metal equivalent, i.e. Cu+Mo as Cu equivalent should not be used unless a detailed conversion table with a description of the conversion basis is provided.

The grade, quality or specifications of industrial minerals such as coal, lignite, peat, potash, dolomite, magnesite, salt, gypsum, clay, silica, sand and gravel, etc., also should be expressed in terms of normal industry standards. Characteristics of the mineral or concentrate that are critical to the potential development and/or marketing should be stated.

2.7 Definition and Classification of Reserves

2.7.1 'Ore' is a natural aggregate of one or more minerals which under current conditions, may be produced and sold at a profit.

It is recommended that this term should be used with discretion and prudence: generally only with feasibility studies or in conjunction with discussions of reserves of operating mines. Where it may not be used properly, the terms 'mineralization', mineralized bodies', or 'concentrations', etc., should be used.

2.7.2 'Proven Reserves' or 'Measured Reserves' are those materials for which tonnage is computed from dimensions revealed in outcrops or mine workings and/or drill holes and for which the grade is computed from the results of adequate sampling. The sites for inspection, sampling and measurement are so spaced and the geological character so well defined that the size, shape and mineral content are established. The computed tonnage and grade are judged to be accurate. It should be stated whether tonnage and grade of 'Proven' or 'Measured' reserves are in situ or extractible. Dilution factors and cut-off grades, if used, should be clearly explained and the vertical and horizontal projections from intersections or sample points should be given.

2.7.3 'Probable Reserves' or 'Indicated Reserves' are those materials for which tonnage and grade are computed partly from specific measurements, samples, or production data, and partly from projections for a reasonable distance on geological evidence. The sites available for inspection, measurement and sampling are too widely or otherwise inappropriately spaced to outline the material completely or to establish its grade throughout. It should be stated whether the tonnage and grade of 'Probable' or 'Indicated' reserves are in situ or extractible. Dilution factors and cut-off grades, if used, should be clearly explained and the vertical and horizontal projections from intersections or sample points should be given.

2.7.4 'Possible Reserves' or 'Inferred Reserves' are those materials for which quantitative estimates are based largely on broad knowledge of the geological character of the deposit and for which there are few samples or measurements. The estimates are based on inferred continuity or repetition for which there are reasonable geological indications. Bodies that are completely concealed may be included if there is specific evidence of their presence.

2.7.5 Summation of Reserves

The tonnes and grades of the two classes of reserves as defined in subsections 2.7.2 and 2.7.3 may be combined into one total tonnage and average grade provided these two categories are disclosed separately in the report but the Possible or Inferred reserves must not be included in a combined total summation of all three categories and should not be used in feasibility studies.

2.8 Conclusions and Recommendations

Recommendations must be based upon, and justified by the author's conclusions which, in turn, must be supported by data presented in the report.

If the recommendations involve an expenditure of money, cost estimates must be given.

3.0 DEVELOPMENT OR PRELIMINARY FEASIBILITY REPORTS AND FEASIBILITY STUDIES

3.1 Development or Preliminary Feasibility Reports

These studies on mineral deposits present preliminary estimates of the preproduction capital, ongoing capital, operating costs and operating profit for a specific deposit to justify further development. At a minimum, the pertinent information included in these reports would include the available data and assumptions on the following aspects as applicable:

1) Reserves
2) Annual mining rate and grade and the mine life
3) Mining methods
4) Mineralogy and mineral processing or benefication and recovery
5) Infrastructure and utilities
6) Preproduction capital costs
7) Annual capital additions
8) Operating costs
   —labour
   —materials
   —supplies and services
9) Environmental aspects and licensing
10) Development schedule
11) Sales and smelter contracts, tolls and transportation
12) Operating cash flow
13) Appropriate plans and preliminary engineering drawings and layouts.

3.2 Feasibility Studies

A feasibility study is a more detailed and comprehensive report prepared by groups of specialists in the numerous and varied aspects of mine development. All of the engineering aspects are planned and costed in detail. They are accompanied by engineering plans, diagrams and maps for the mine, plant, equipment and infra-structure. The capital and operating costs should be estimated to within an overall confidence level of -5% to +15%. The underlying basis of the feasibility study is the reserves which should be calculated according to section 2.7.

After-tax cash flow forecasts, including descriptions of the financial assumptions, must also be included as a basis for estimating the economic potential of the deposit. A final decision to either proceed or not to proceed to production is based primarily on estimates of the after-tax measures of profitability.

4.0 ADDITIONAL COMMENTS

4.1 Reserves

4.1.1 The estimation and categorizing of reserves for engineering purposes depends, to a significant degree, on the experience and judgement of the estimator.

4.1.2 The term 'ore' should be used with discretion and prudence.

4.1.3 Where erratic assays or analyses occur, the method treating these data and the reason(s) therefor should be described in the narrative of the report.

4.1.4 The effect on the reserve estimate of problems or variations in such factors as sampling and assaying, density, geological continuity, sample spacing, weighting, cut-off grades, etc., should be clearly described.

4.1.5 The reserve calculations should be accompanied by appropriate plans and sections illustrating the calculations.

4.1.6 Although other terms have been used to describe reserve categories, it is strongly recommended that the terms used in this guideline and the definition of these categories should be followed.

4.1.7 Insofar as practical, it is recommended that proven or measured reserves should include sufficient exposure of the deposit to determine the geological characteristics and continuity of the mineralization.

4.1.8 Net recoverable monetary values at the mine or quarry may be estimated for the purpose of explaining the potential of the deposit to justify a development program or in a feasibility study. Gross monetary values should never be used.

4.1.9 Geostatistical Estimation of Reserves

A report on reserves calculated by geostatistical methods should have the same general format and descriptive information on the deposit that would be presented in a reserve report calculated by traditional methods. Such a report, although not restricted to the following, should include:

a) a description of all relevant geological, mineralogical and structural characteristics of the deposit.

b) a description of the sampling and assaying procedures used, and of the sample and assay distributions identified.

c) a description of the geostatistcal methodology and of the geological constraints applied to the reserve estimation.

d) plans and sections of the geology and reserves, and,

e) classification of the reserves into categories consistent with APEO definitions.

The APEO member responsible for the report on reserves incorporating geostatistical calculations should have satisfied himself or herself that the program used is both adequate and correctly applied in accordance with the Association's 'Guidelines to Standards of Practice for the Use of Computer Programs in Engineering' (1977) or subsequent revisions.

4.2 Report Signing

The author(s) of the report should keep the original copy, with a Certificate of Qualification attached, for his records and from which additional authorized copies can be made as required.

It is recommended that, at a minimum, the first two copies of the report forwarded to the person who gave authority for its preparation must be stamped, signed and dated (day, month and year) by the Professional Engineer(s) or Engineering Firm responsible and a Certificate of Qualification should be attached.

These signed reports can be reproduced as required.

All maps and diagrams in the two signed copies of the report delivered to the person under whose authority they were prepared should be signed and dated by the responsible engineer. Where information from other sources, either government or private, is used in preparing these maps or diagrams, acknowledgement must be given.

4.3 Qualifications

For either a private or public report the qualifications and branch or specialization of the responsible engineer(s) should be attached to the report or study. The responsiblity of the engineer is defined by the Professional Engineers Act, 1984 and the Regulation thereunder including, specifically, 'Code of Ethics and Professional Misconduct'.

APPENDIX C

APPENDIX C: ONTARIO SECURITIES COMMISSION RESERVE DEFINITIONS

the interest or ownership shall be disclosed in the prospectus.

(5) Where a person or company referred to in subsection (1) is or is expected to be elected, appointed or employed as a director, officer or employee of the issuer or any associate or affiliate of the issuer, the fact or expectation shall be disclosed in the prospectus. O. Reg. 602/79, s. 2, *part*.

24. Where any change is proposed to be made in a preliminary prospectus or prospectus that in the opinion of the Director materially affects any consent required by section 23 the Director may require that a further consent be filed before an amendment to the preliminary prospectus or prospectus is accepted. O. Reg. 478/79, s. 22.

25. There shall be filed at the time of the filing of a preliminary prospectus for a natural resource company or at the time of the filing of a prospectus for a natural resource company under section 61 of the Act, as the case may be, a full and up-to-date report on the property of the natural resource company referred to in paragraph (b) or (c) of item 9 in Form 14 and the development thereof, made by an individual who is a mining engineer, geologist or other qualified individual acceptable to the Director accompanied by a certificate on the report which certificate shall state,

(*a*) the address and occupation of the individual;

(*b*) the qualifications of the individual;

(*c*) whether or not the report is based on personal examination;

(*d*) the date of any such examination;

(*e*) where the report is not based on personal examination, the source of the information contained in the report; and

(*f*) whether or not the individual has, directly or indirectly, received or expects to receive any interest, direct or indirect, in the property of the person or company or any associate or affiliate of the person or company, or beneficially owns, directly or indirectly, any securities of the person or company or any associate or affiliate of the person or company and, if so, the particulars of the interest or beneficial ownership. O. Reg. 478/79, s. 23.

CONTENT OF PROSPECTUSES – NON-FINANCIAL MATTERS

INTERPRETATION

26.—(1) In sections 27 and 28,

(*a*) "trustee" means any person or company named as trustee under the terms of a trust indenture, whether or not the person or company is a trust company authorized to carry on business in Ontario;

(*b*) "trust indenture" means any deed, indenture or document, including any supplement or amendment to any deed, indenture or document by the terms of which a person or company issues securities and in which a trustee is named as trustee for the holders of the securities issued thereunder;

(*c*) "underwriter" means an underwriter that has signed a certificate included in a prospectus under section 58 of the Act.

(2) For the purposes of the reports required under section 25 and for references to the property of an issuer contained in Form 14, where the report or reference relates to the property of a natural resource company,

(*a*) "commercial production" means output from a well of such quantity of crude oil, liquid hydrocarbons, natural gas and natural gas liquids as, having regard to the cost of drilling and production and the price, kind and quality of such production, would justify from a commercial and economic standpoint the drilling of a similar well in the immediate surroundings;

(*b*) "crude oil" means a mixture that consists mainly of pentanes and heavier hydrocarbons, that may contain sulphur compounds and that is recoverable at a well from an underground reservoir and that is liquid at the conditions under which its volume is measured or estimated and includes all other liquid hydrocarbons so recoverable except natural gas liquids;

(*c*) "indicated ore" has the same meaning as "probable ore";

(*d*) "inferred ore" has the same meaning as "possible ore";

(*e*) "measured ore" has the same meaning as "proven ore";

(*f*) "natural gas" means a mixture, consisting principally of hydrocarbons that may contain non-hydrocarbon gases such as carbon dioxide, hydrogen sulphide, nitrogen or other elements, which mixture is recoverable from an underground reservoir and is in the gaseous phase or in solution with crude oil in the reservoir;

(*g*) "natural gas liquids" means the hydrocarbon components, propane, butanes, and pentanes plus, or a combination of them, which hydrocarbon components are subject to recovery from raw gas as liquids by the processes of condensation or absorption, which recovery takes place in field separators, scrubbers, gas processing and reprocessing plants or cycling plants;

(h) "ore" means a natural aggregate of one or more minerals that, at a specified time and place, may be mined and sold at a profit or from which some part may be profitably separated;

(i) "possible ore" means that material for which quantitative estimates are based largely on broad knowledge of the geologic character of the deposit and for which there are few, if any, samples or measurements and for which the estimates are based on an assumed continuity or repetition for which there are reasonable geological indications, which indications may include comparison with deposits of similar type and bodies that are completely concealed may be included if there is specific evidence of their presence, and

(i) estimates of possible ore shall include a statement of conditions within which the possible material occurs, and

(ii) since the arithmetical average of any amount of sampling is not necessarily representative, unless the distribution of values and number of samples are properly taken into account, a statement of how samples were taken shall be given and where mineralization is erratic, the method of treating erratic values shall be given in the narrative of the report;

(j) "probable additional reserves" of crude oil, natural gas and natural gas liquids means an estimate of reserves not included in an estimate of the proven reserves that may be recovered from the known reservoir or from that portion underlying the properties, provided,

(i) the estimates of probable additional reserves are as realistic as can be determined on the basis of the information available,

(ii) the reserve considered probable additional shall be the estimated ultimate recoverable content of the reservoir less the proven reserve, or of that portion underlying the properties, and shall be based on a realistic interpretation of the geological, geophysical and well test data available at the time the estimate is made,

(iii) probable additional reserves to be obtained by the application of enhanced recovery processes will be the increased recovery over and above that recognized in the proven category that can be realistically estimated to be ultimately economically recovered from the pool or such portions as underly properties;

(k) "probable ore" means that material for which tonnage and grade are computed partly from specific measurements partly from either or both sample data or production data and partly from projection for a reasonable distance on geologic evidence and for which the sites available for inspection, measurement and sampling are too widely or otherwise inappropriately spaced to outline the material completely or to establish its grade throughout;

(l) "proven developed reserves" means those proven reserves that will be produced from existing wells or facilities;

(m) "proven ore" means that material for which tonnage is computed from dimensions revealed in outcrops or trenches or underground workings or drill holes and for which the grade is computed from the results of adequate sampling and for which the sites for inspection, sampling and measurement are so spaced and the geological character so well defined that the size, shape and mineral content are established and for which the computed tonnage and grade are judged to be accurate within limits that shall be stated and for which it shall be stated whether the tonnage and grade of proven ore or measured ore are *in situ* or extractable, with dilution factors shown and reasons for the use of these dilution factors clearly explained;

(n) "proven reserves underlying a property" means the estimated economically recoverable quantities of crude oil, natural gas and natural gas liquids, including the reserves to be obtained by enhanced recovery processes demonstrated to be successful, from that portion of an area delineated by gas-oil or oil-water or gas-water contacts in drilled wells or that can be reasonably evaluated as economically productive, on the basis of drilling, geological, geophysical and engineering data, but reserves in undrilled prospects cannot be classed as proven reserves;

(o) "proven undeveloped reserves" means proven reserves that are not recoverable from existing wells or facilities or from those zones in existing wells that have been cased off, but which can be recovered through the drilling of additional wells. O. Reg. 478/79, s. 26.

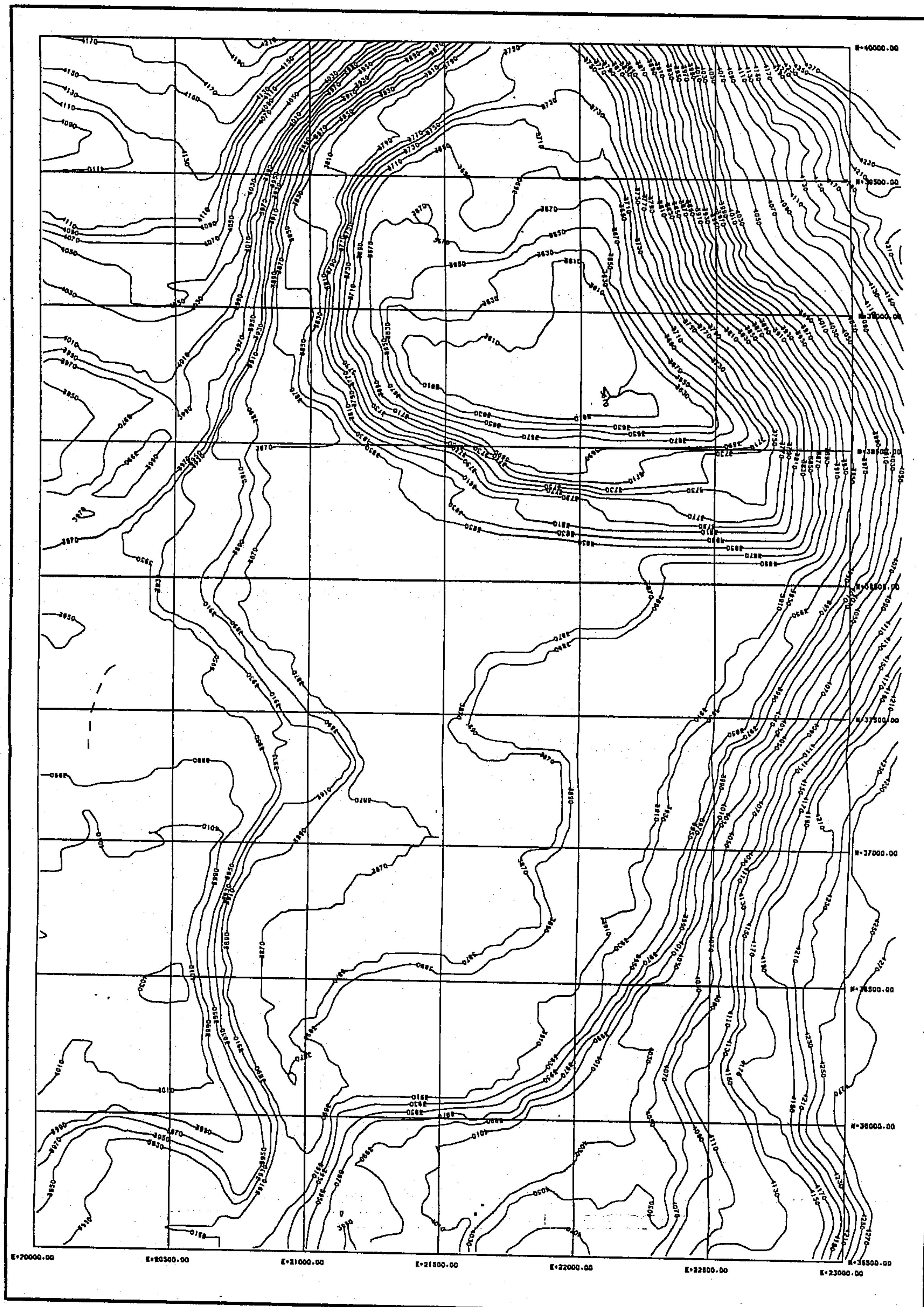
27.—(1) Subject to subsection (2), the following general rules apply:

1. A receipt for a prospectus will not be issued if the Director is aware that the issuer is in default in filing any document required to be filed by it under the Act or this Regulation or under the statute under which it is incorporated or organized.

APPENDIX D

APPENDIX D: PIT SURFACE CONTOURS

(1) FARO; START UP OF MINING, JAN. 1986
(2) FARO; DEC. 31, 1987
(3) FARO; DEC. 31, 1988
(4) FARO; DEC. 31, 1989
(5) FARO; JUNE 30, 1990
(6) FARO; SEPT. 31, 1990
(7) FARO; FIV ULTIMATE PIT
(8) VANGORDA; START UP OF MINING, JULY 1, 1990
(9) VANGORDA; SEPT. 31, 1990
(10) VANGORDA; VIV89 ULTIMATE PIT
(11) GRUM; START UP OF MINING, JAN. 1988
(12) GRUM; SEPT. 30, 1990
(13) GRUM; GIV88 ULTIMATE PIT



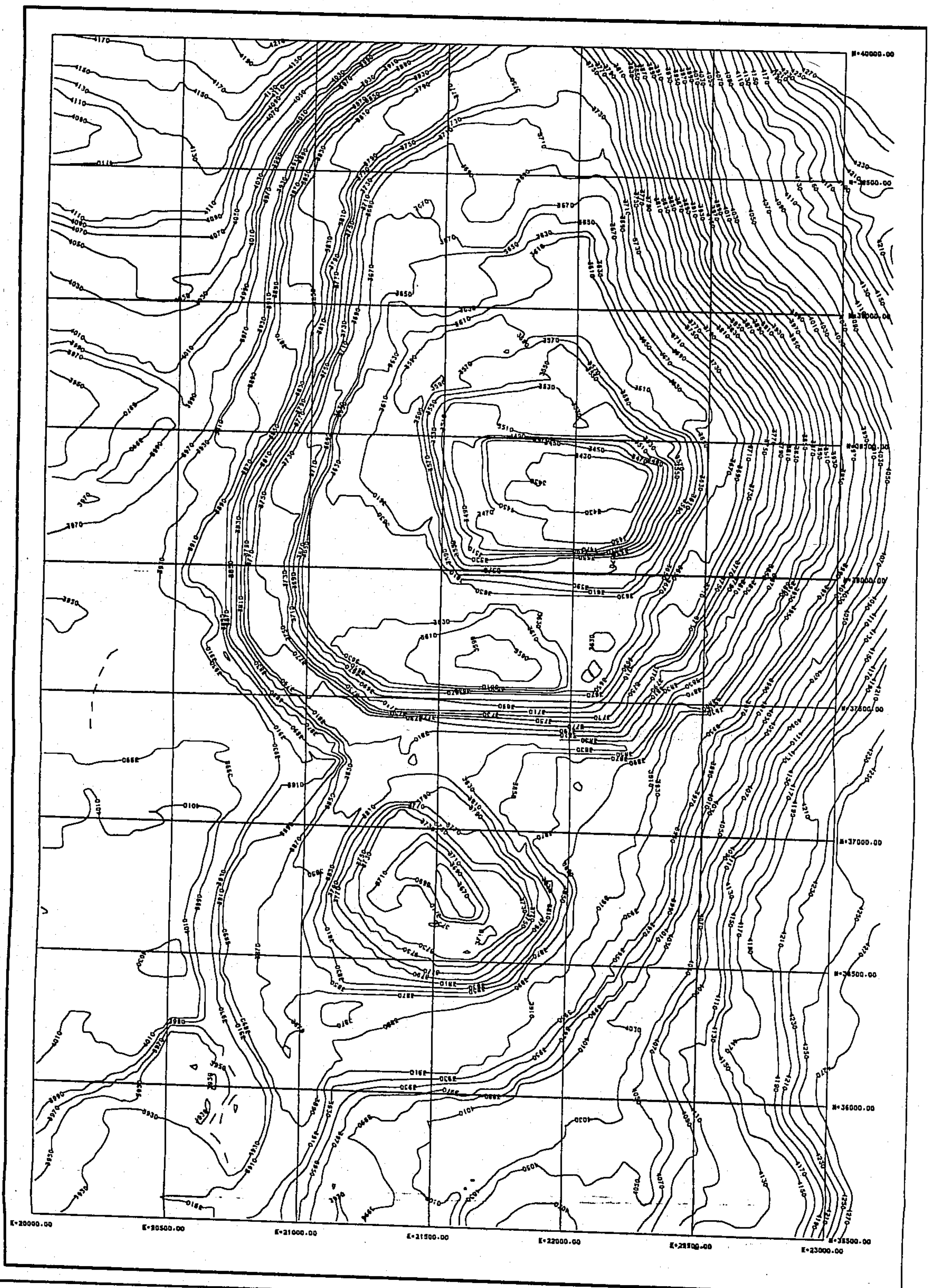
PLOTTED BY PC-MINE VERSION 1.10

FARO DEPOSIT - FB805 MODEL

DATE : 12/ 2/1989 SCALE 1: 4800

CURRAGH RESOURCES

SURFACE F-01
JANUARY 1986
START-UP OF MINING
PIT SURFACE



PLOTTED BY PC-MINE VERSION 1.10

FARO DEPOSIT - F8805 MODEL

DATE : 12/ 2/1989 SCALE 1: 4800

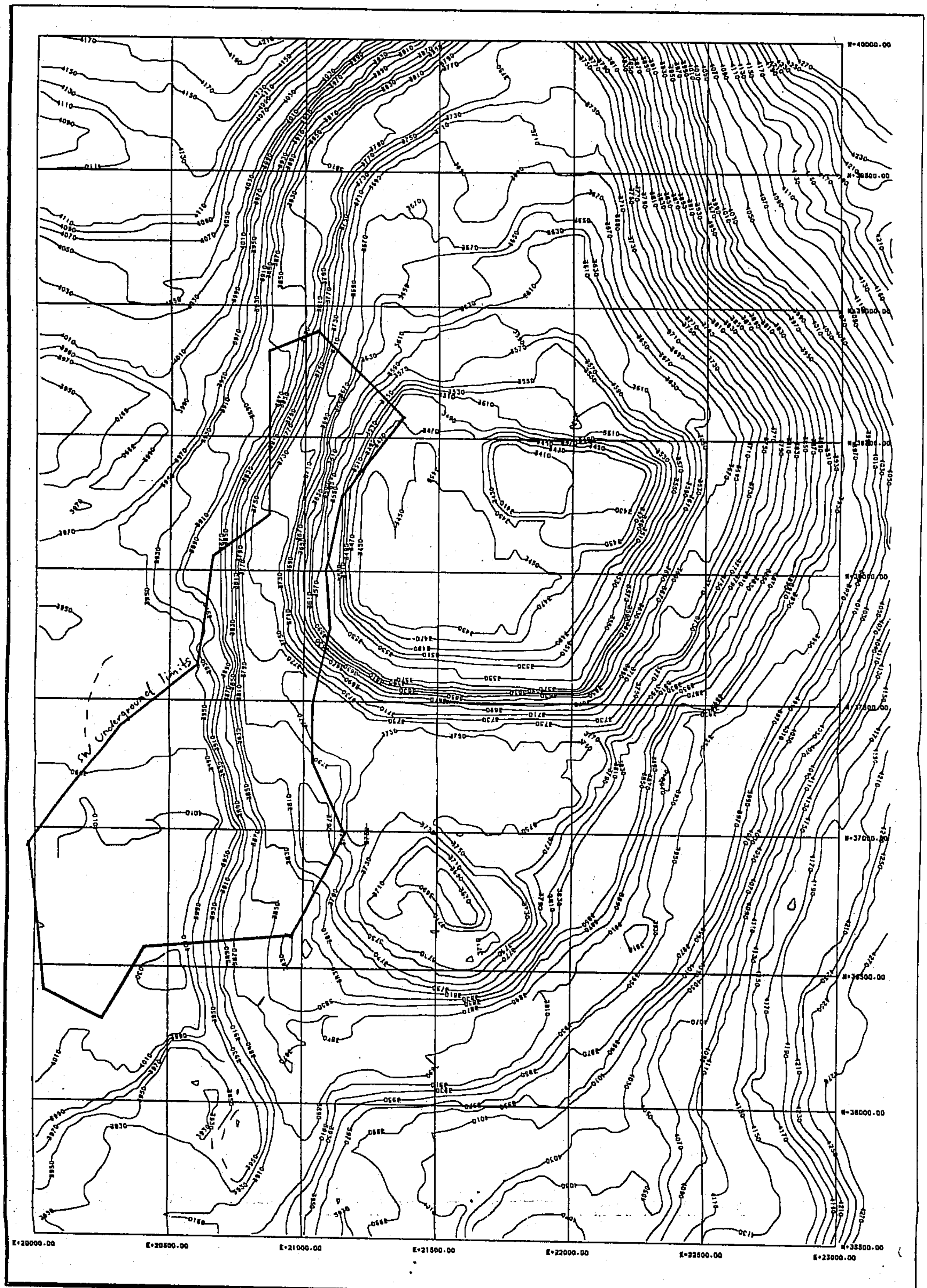
CURRAGH RESOURCES

SURFACE F-08

DECEMBER 31 1987

CUT SURFACE

FARO PIT



PLOTTED BY PC-MINE VERSION 1.10

FARO DEPOSIT - F8805 MODEL

——— FARO SW UNDERGROUND PERIMETER

DATE : 12/ 2/1989 SCALE 1: 4800

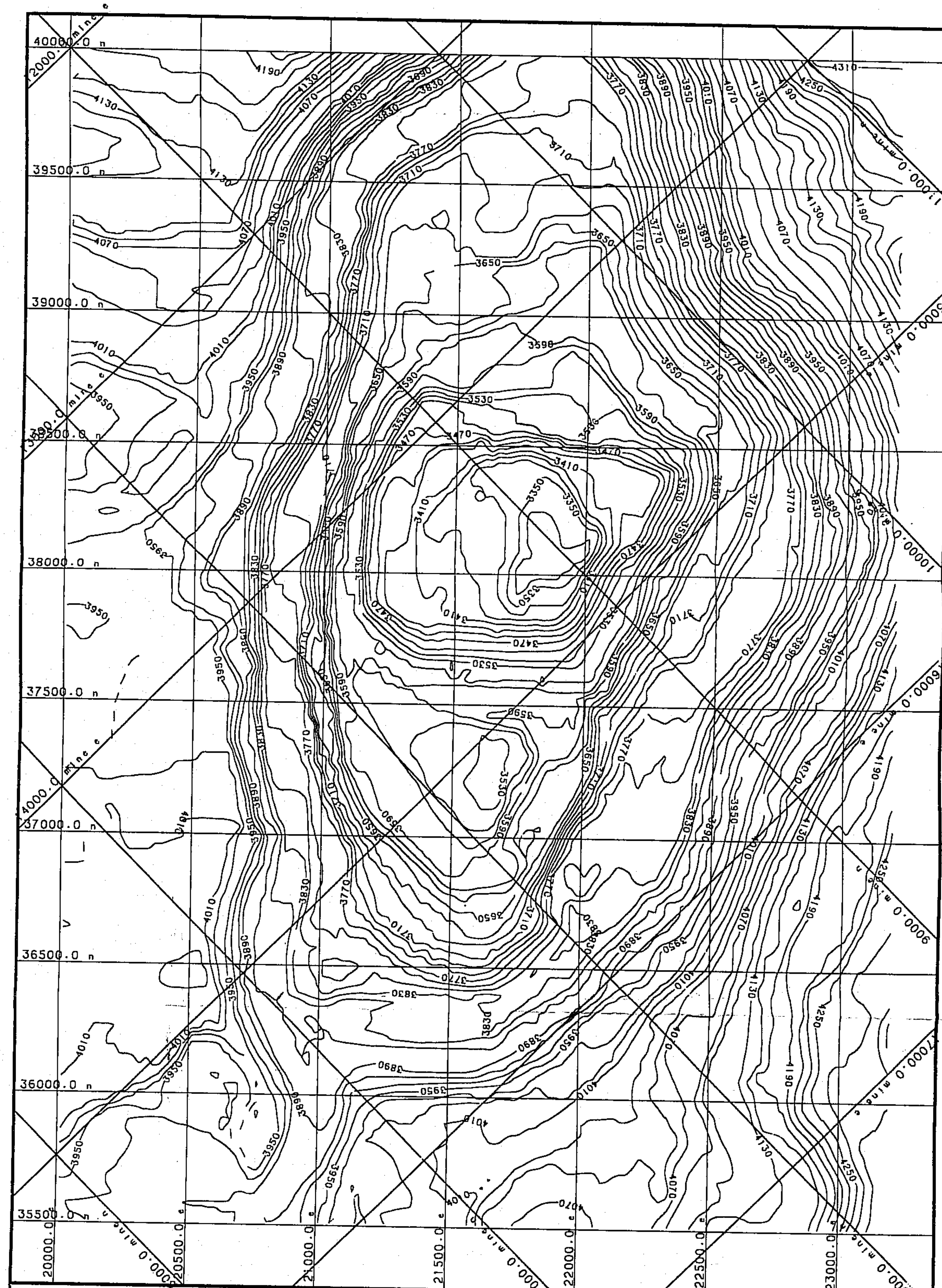
CURRAGH RESOURCES

SURFACE F-09

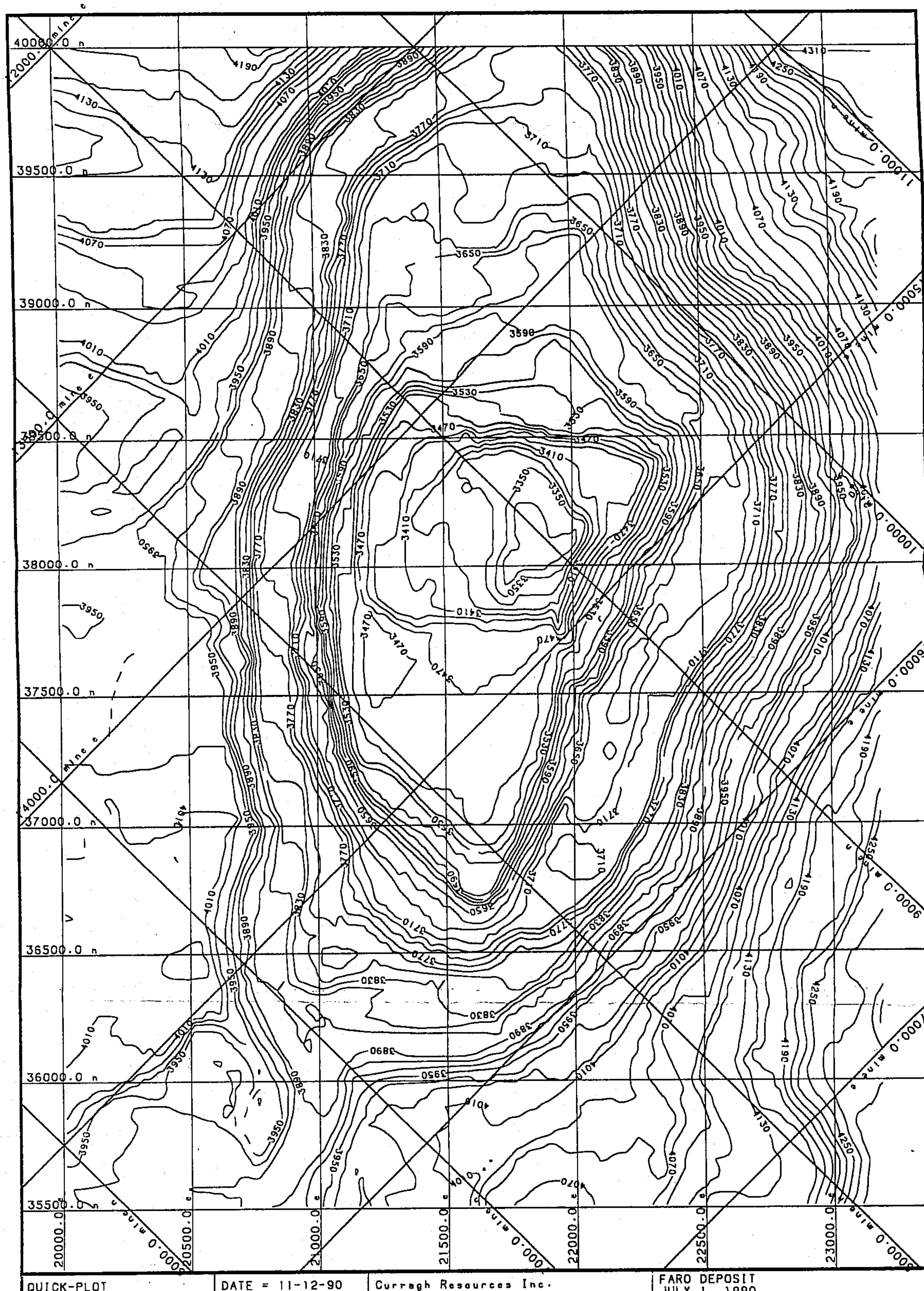
DECEMBER 31 1988

CUT SURFACE

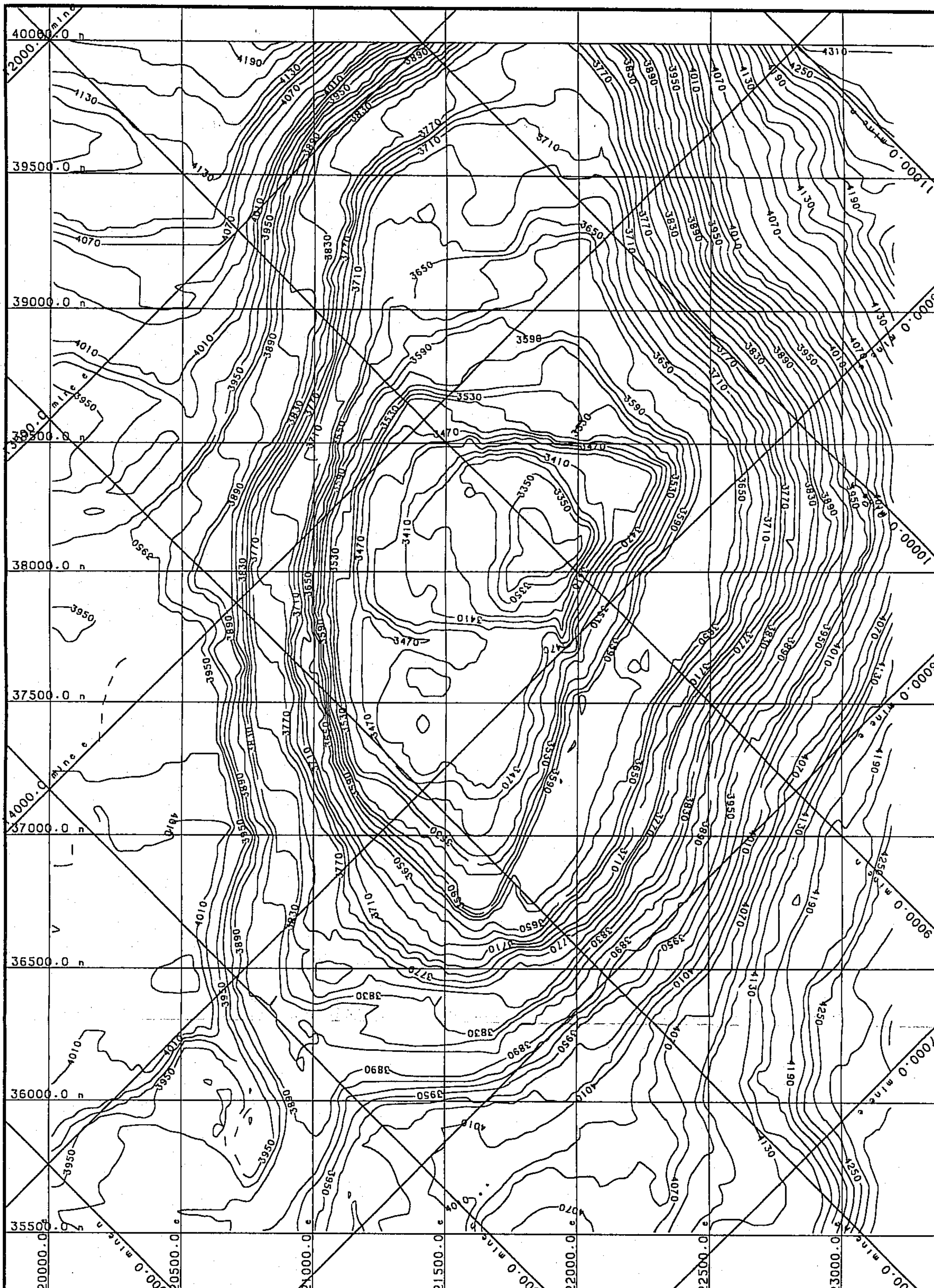
FARO PIT



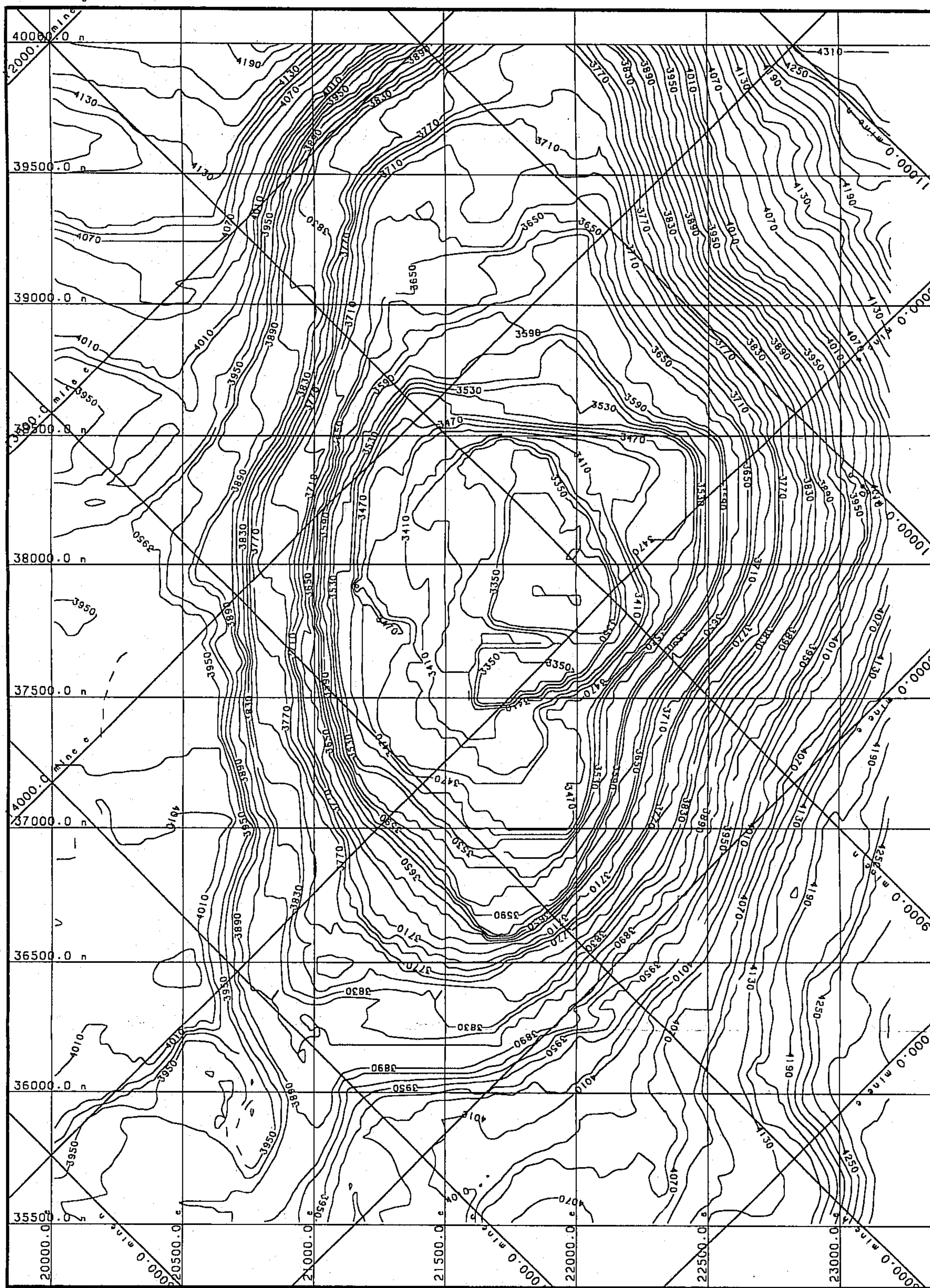
QUICK-PLOT GEMCOM Services Inc.	DATE = 11-12-90 TIME = 14:10:20	Curragh Resources Inc. Whitehorse Office	FARO DEPOSIT DECEMBER 1989 YEAR END CUT PIT SURFACE
HORIZONTAL SCALE = 1 : 4800		VERTICAL SCALE = 1 : 4800	



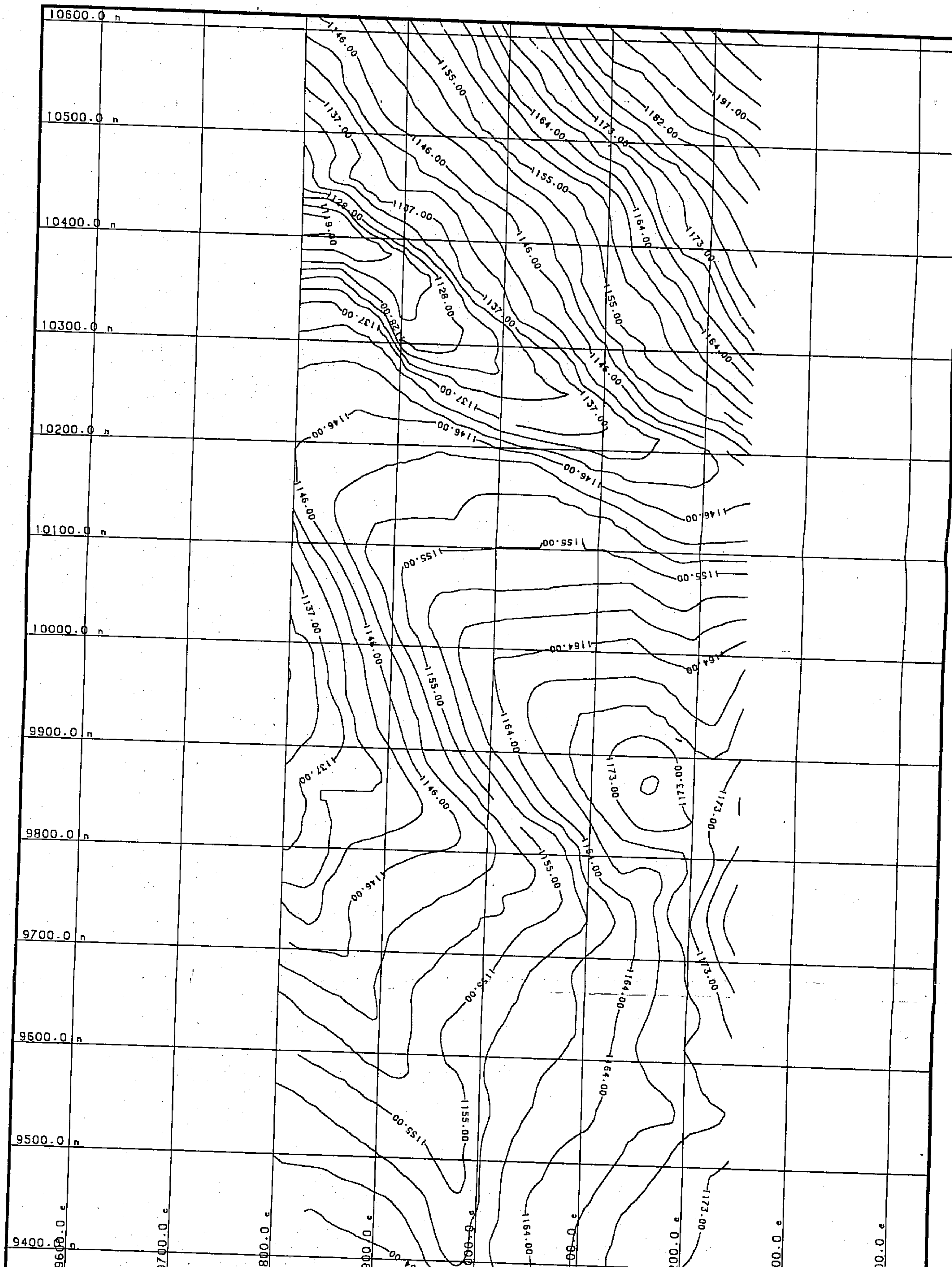
QUICK-PLOT GEMCOM Services Inc.	DATE = 11-12-90 TIME = 14:44:35	Curragh Resources Inc. Whitehorse Office	FARO DEPOSIT JULY 1, 1990 CUT PIT SURFACE
HORIZONTAL SCALE = 1 : 4800		VERTICAL SCALE = 1 : 4800	



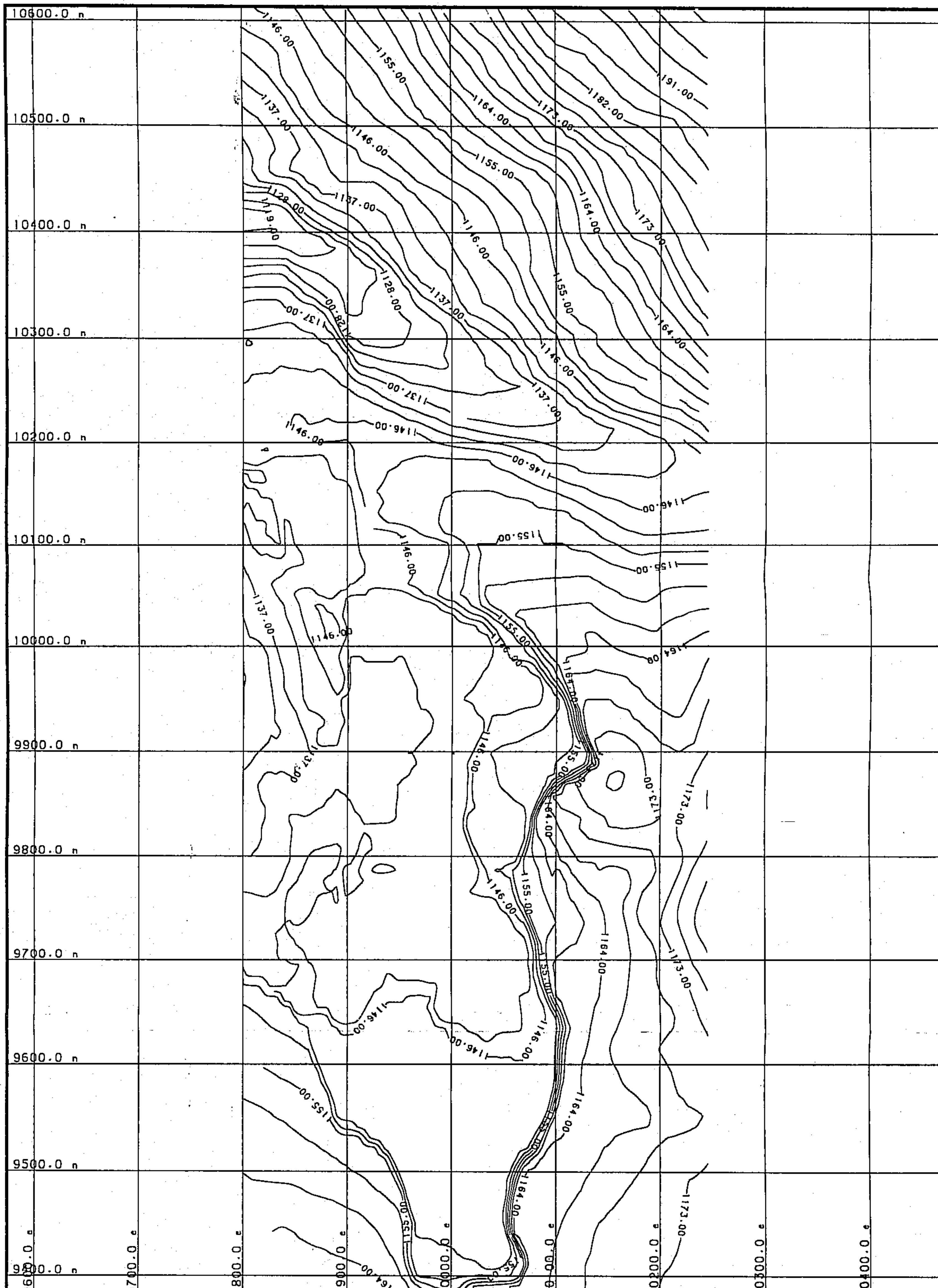
QUICK-PLOT CEMCOM Services Inc.	DATE = 11-12-90 TIME = 16:29:31	Curragh Resources Inc. Whitehorse Office	FARO DEPOSIT OCTOBER 1, 1990 CUT PIT SURFACE
HORIZONTAL SCALE = 1 : 4800		VERTICAL SCALE = 1 : 4800	



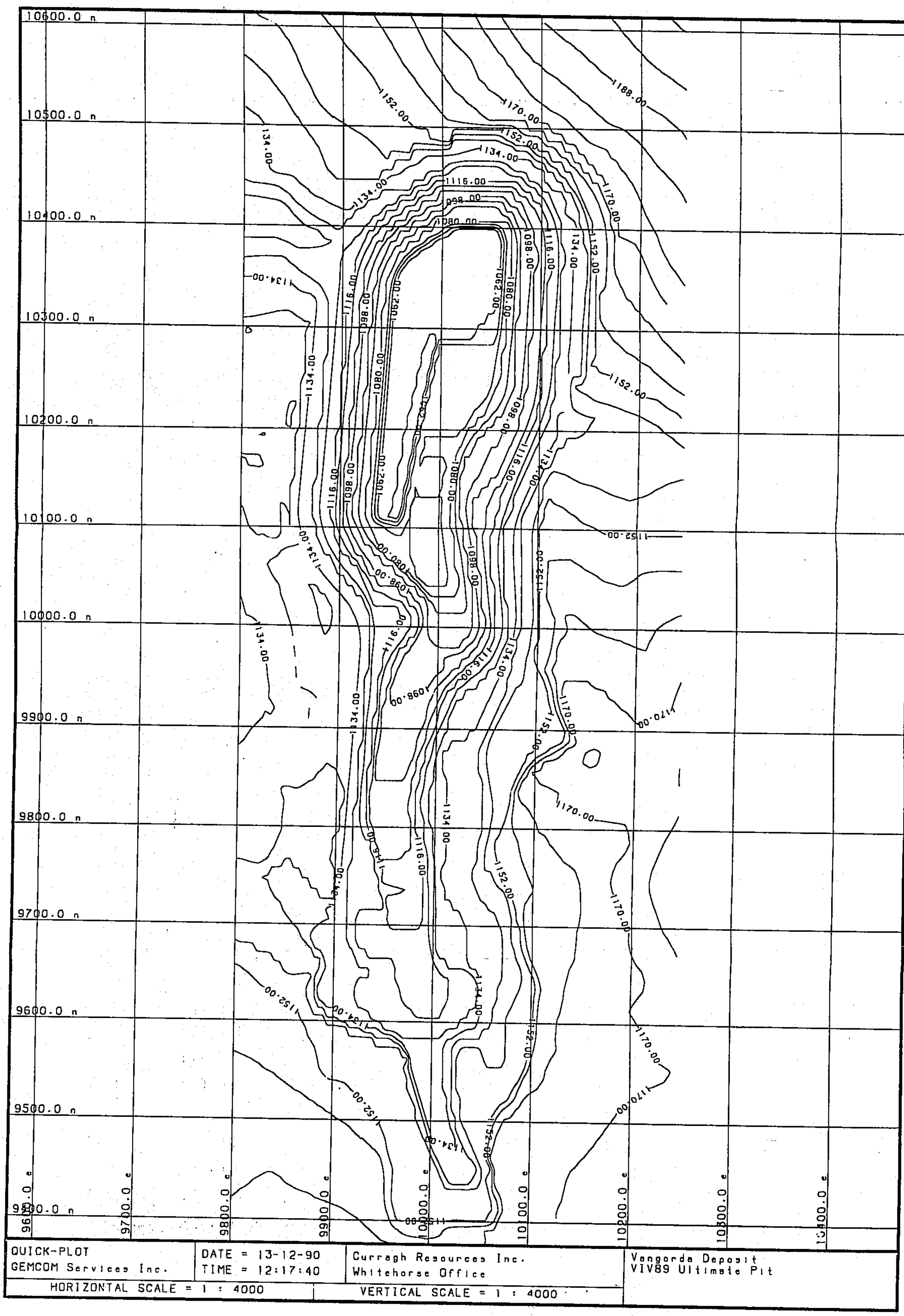
QUICK-PLOT GEMCOM Services Inc.	DATE = 11-12-90 TIME = 16:56:56	Curragh Resources Inc. Whitehorse Office	FARO DEPOSIT FIV 89 ULTIMATE PIT
HORIZONTAL SCALE = 1 : 4800		VERTICAL SCALE = 1 : 4800	



QUICK-PLOT GEMCOM Services Inc.	DATE = 11-12-90 TIME = 17:49:51	Curragh Resources Inc. Whitehorse Office	Vangorda Deposit Topography - Start-up of Mining , July 1, 1990
HORIZONTAL SCALE = 1 : 4000		VERTICAL SCALE = 1 : 4000	

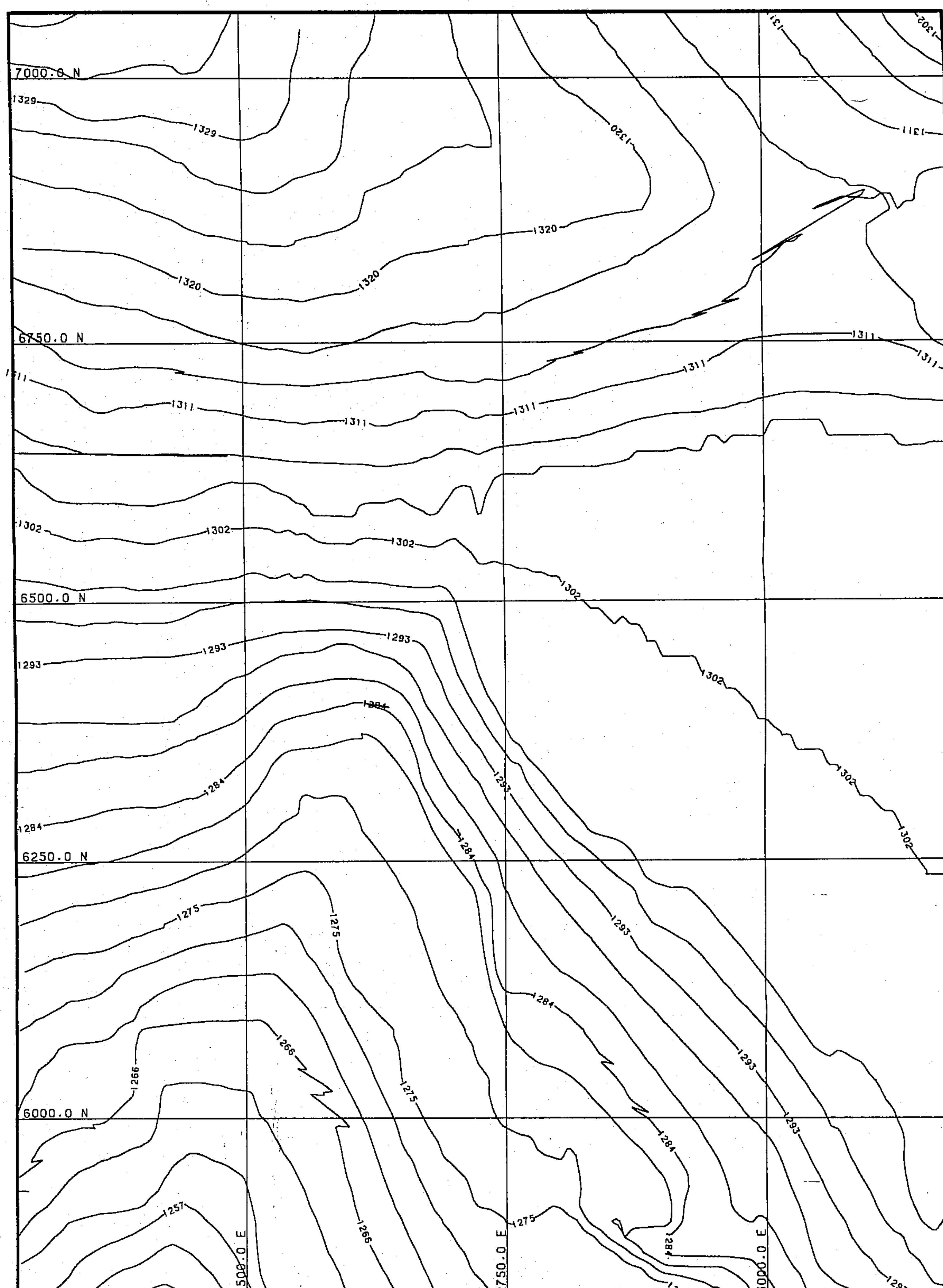


QUICK-PLOT GEMCOM Services Inc.	DATE = 13-12-90 TIME = 11:56:12	Curragh Resources Inc. Whitehorse Office	Vangorda Deposit Pit Status as of Sept 31, 1990
HORIZONTAL SCALE = 1 : 4000		VERTICAL SCALE = 1 : 4000	

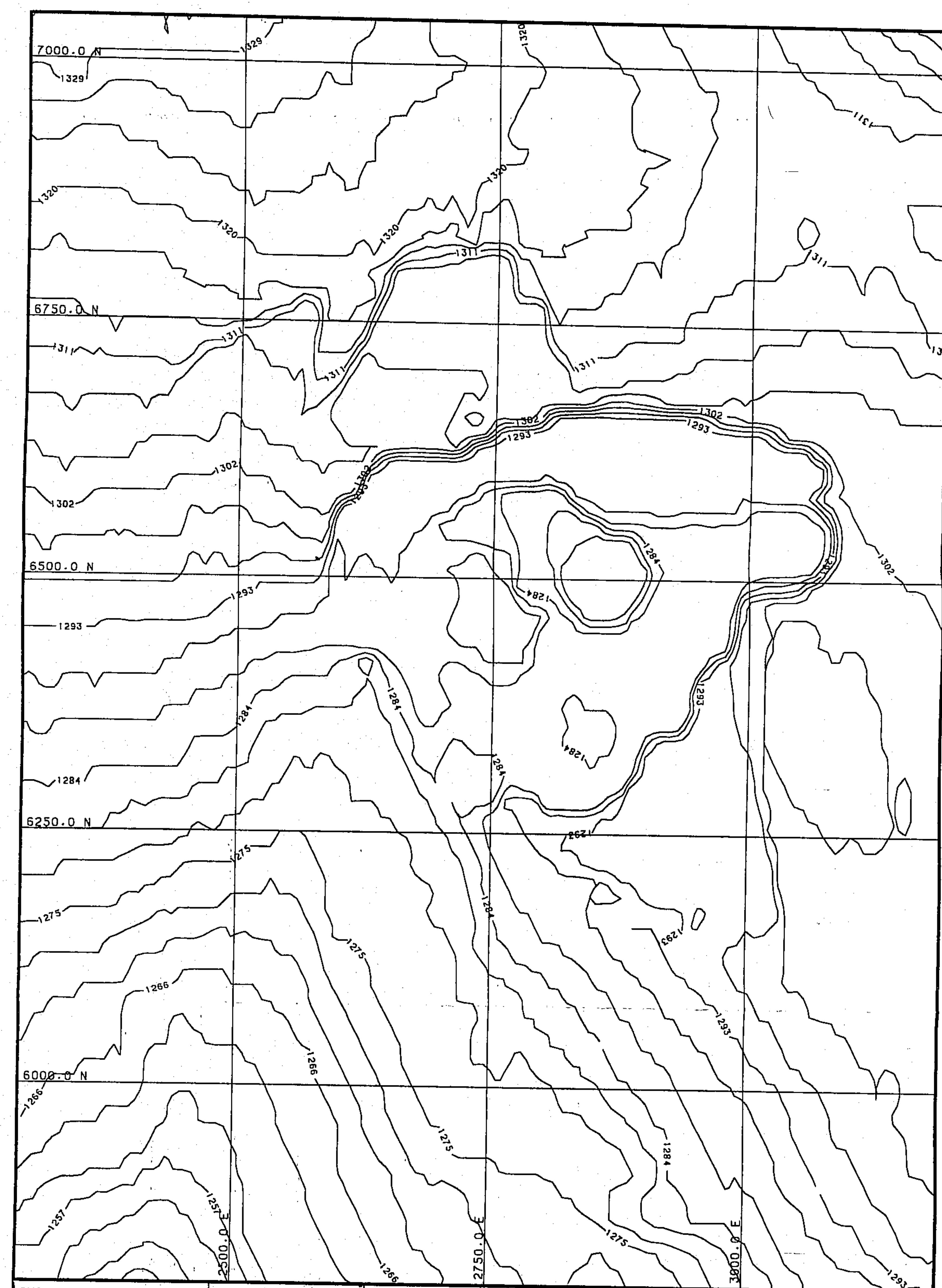


QUICK-PLOT GEMCOM Services Inc.	DATE = 13-12-90 TIME = 12:17:40	Curragh Resources Inc. Whitehorse Office	Vangorda Deposit VIV89 Ultimate Pit

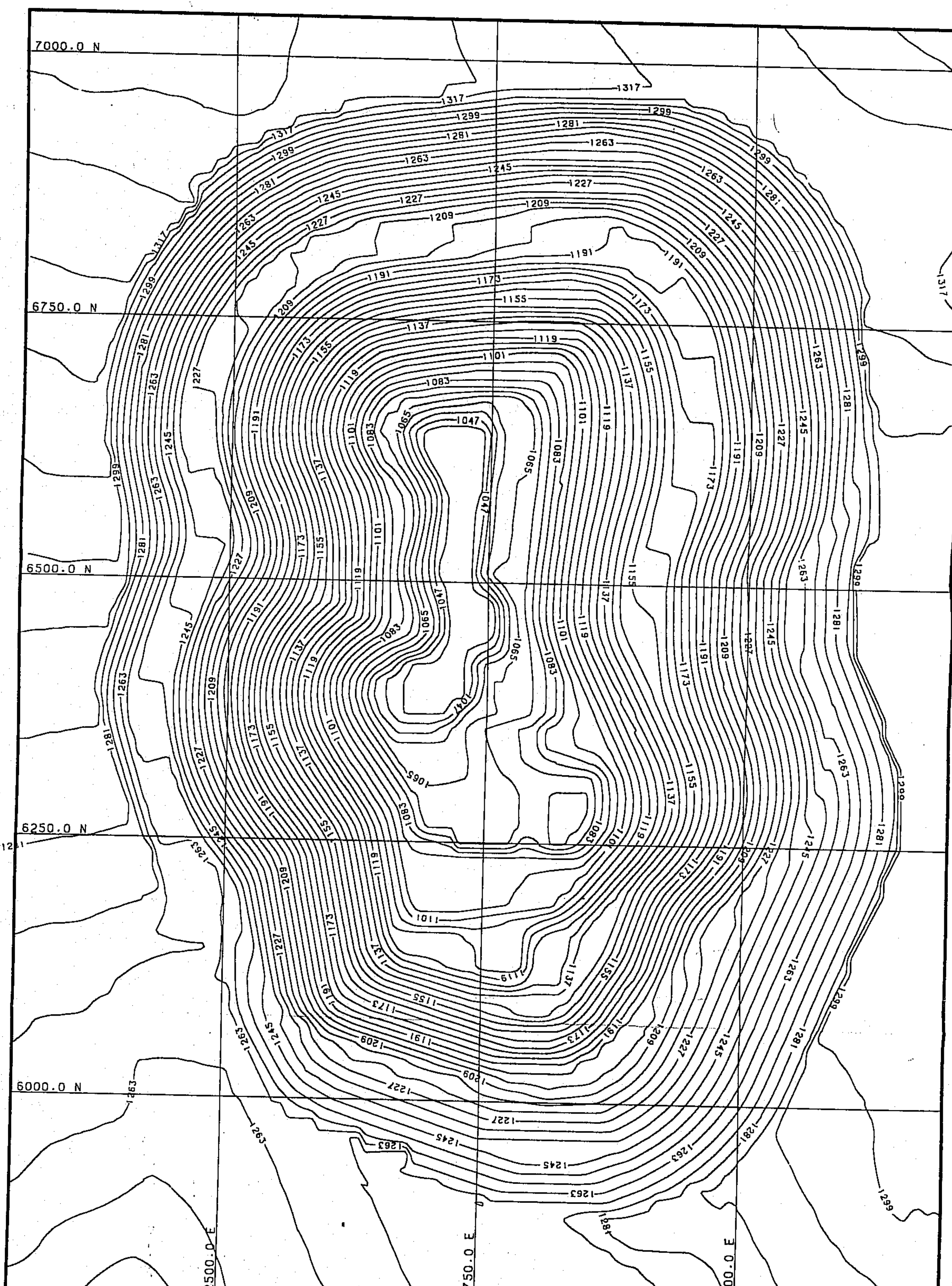
HORIZONTAL SCALE = 1 : 4000 VERTICAL SCALE = 1 : 4000



QUICK-PLOT GEMCOM Services Inc.	DATE = 13-12-90 TIME = 17:36:47	Curragh Resources Inc. Whitehorse Office	GRUM DEPOSIT - ORIGINAL TOPO START - UP OF MINING JANUARY 1988
HORIZONTAL SCALE = 1 : 4000		VERTICAL SCALE = 1 : 4000	



QUICK-PLOT GEMCOM Services Inc.	DATE = 13-12-90 TIME = 17:08:55	Curragh Resources Inc. Whitehorse Office	GRUM DEPOSIT SEPTEMBER 30, 1990 PIT SURVEY STATUS
HORIZONTAL SCALE = 1 : 4000		VERTICAL SCALE = 1 : 4000	



QUICK-PLOT GEMCOM Services Inc.	DATE = 13-12-90 TIME = 17:57:41	Curragh Resources Inc. Whitehorse Office	GRUM DEPOSIT - **GIV 88** **STAGE 3 ULTIMATE PIT**
HORIZONTAL SCALE = 1 : 4000		VERTICAL SCALE = 1 : 4000	

Table 5. Elevation Correction for Model Rows		
Row	Distance to section	Elevation Correction
Row 4 (most NW)	22.759875	-4.42
Row 3	7.586625	-1.47
Even Cross Section	0.0	0.0
Row 2	-7.586625	1.47
Row 1 (most SE)	-22.759875	4.42

This elevation change for each row was completed to reduce the "choppiness" in long section and plan by following the structural grain of the Grum deposit. Cross-cutting faults are obviously not adequately modelled using this procedure. A more detailed geologic interpretation is required to properly include both fault and fold geologic information.

All waste phyllites were assigned to rock type 160 (calcareous phyllite of the Vangorda formation). No attempt was made to differentiate greenstones, altered phyllites, carbonaceous phyllites, or noncalcareous phyllites.

Overburden was digitized as a polygon using the triconed portions of the drill holes on each section. This crude overburden surface was then entered into the model for each row as rock type 310.

Overburden as rock type 300 was also entered into the model as a surface grid using GEO-MODEL. The overburden surface grid was prepared by hand contouring the triconed elevations in plan at five metre intervals. This surface was digitized into GEO-MODEL and converted to a surface grid using the average from both rows and columns. The program RKSURF (Pigage 1987) was then used to convert all blocks whose centres occur at a higher elevation than this surface to an overburden rock code (300).

This approach guaranteed that blocks above the triconed surface but below the contoured surface would be entered into the rock model as overburden (rock type 310) and not as unverified ore or waste blocks.

APPENDIX E

APPENDIX E: KEY CHANGES TO RESERVE CALCULATION PARAMETERS

(1) FARO DEPOSIT
(2) GRUM DEPOSIT
(3) VANGORDA DEPOSIT

APPENDIX E: FARO DEPOSIT - KEY CHANGES TO RESERVE CALCULATION PARAMETERS

Geological Interpretation

F8805 – Cross section interpretation completed by Steve Cheeseman, May 1988
F8908 – Same as F8805
F9005 – Modified Steve Cheeseman interpretation. Rock codes in model edited to respect additional drilling completed between 1988 and 1990.
F9009 – Cross section and plan interpretation completed by Mitch Wasel, August 1990. Geological Interpretation complete for remaining mining reserve as of August 1,1990.

Grade Composites and Mining Dilution

The F8805 calculation utilized geological grade composites. Geological grade composite lengths are constrained by the width of the ore zone and have a maximum length near 20 feet. Internal phyllite waste intervals greater than 10 feet thick are generally excluded from the composite. External phyllite waste near the ore hangingwall or footwall is also excluded. It is unrealistic to assume that this material may be separated effectively in the mining process. Therefore, reserves predicted using the geology composite method must be adjusted to account for mining dilution. Mining dilution of the F8805 reserves is arbitrarily set at 10% at 0% Pb+Zn for all reserves. Mining recovery is assumed to be 95%.

F8908, F9005 and F9009 grade composite intervals correspond to actual planned mining intervals (bench composites) regardless of whether the material is ore or waste. The grade of all material (ore or waste) is length and SG weight averaged across the entire width of the mining bench. The bench composite method assumes that there is no mining selectivity between ore and waste. Mining reserves predicted using bench composites do not require further adjustments to compensate for mining dilution. Mining recovery is assumed to be 95%.

Individual composited assays in all calculations were weighted by the length and pulp SG of the assay interval.

Geological reserves are in-situ, undiluted, and unadjusted estimates. Mining reserves are a subset of the total geological reserve.

Assay clipping

Assays are not clipped in F8805 and F8908 reserve calculation.

F9005 and F9009 assays were clipped to the 95th percentile. This was done to limit overestimation of grade caused by nearby erratically high assays.

Composite Distance Weighting

The F8805 and F8908 reserve calculations weighted composites by 1 divided by the square of the distance between the block center and the center of the composite. The distance weighting power was reduced to 1 in the later F9005 and F9009 calculations. Variogram studies at Faro have shown that drillcore sample nugget effects range from 35 to 50 percent of the total variance. 1/distance weighting is a more appropriate weighting method when estimating block grades with high nugget effects because a lower weighting power will lessen the influence of nearby grade composites. Thus local grade predictions are statistically more reliable. The overall effect of reducing the distance weighting power from 2 to 1 is a slight reduction in ore grades and a slight increase in ore tonnes (above 3% cutoff grade). Total metal content does not change significantly.

Porosity and Specific Gravity

F9005 and F9009 specific gravity assays were reduced by 2% to compensate for rock porosity. There was no specific gravity reduction in the F8805 and F8908 calculations..

Rock Code Matching

F8805 grade interpolations respected 6 different ore types in three different stratigraphic horizons.

The F8908, F9005 and F9009 grade interpolations are less restrictive than the F8805 interpolations. All massive sulphide rock types (40, 50, 60, 70, 80) were considered equivalent, and all disseminated sulphides (rock codes 20,30) were considered equivalent. Massive sulphide, disseminated sulphide, and phyllite waste are the only geological boundaries respected in the less restrictive grade interpolation process.

The simplification was carried out to more accurately reflect the mixing and averaging of rock types likely to occur during the mining process. The disseminated – massive sulphide contact was maintained because the average grade of the quartzite ore types is significantly lower than the massive sulphide rock types. Mixing the two rock types in the grade interpolation process would result in oversmoothing of local grade estimates.

Search Volume Ellipsoid

As drilling density increased for each subsequent reserve calculation, the maximum allowable distance between a grade composite and a model block was tightened. In the case of the bench composite calculations, the initial grade interpolation pass is restricted to composites on the same bench as the model block. The search volume of the geological composite calculation (F8805) is much larger than the bench composite ellipsoid volumes. (see summaries of modelling parameters for search ellipsoid geometries)

As the search ellipsoid volumes become smaller, the amount of local grade averaging will decrease proportionately. It also is more likely that a model block located in the more poorly drilled parts of the orebody would not be interpolated because the block is not able to "find" grade composites within the more restrictive search volumes.

KEY MODELLING PARAMETERS
FARO F8805, F8908, F8910,F9003, F9005 AND F9009
PCMINE COMPUTER RESERVE ESTIMATES

(ALL MODELS)

MODEL TYPE: PCMINE 3 Dimensional Block Model

MODEL LIMITS: (Local Co-ordinates)

TOP NORTHING:	40,017.68	TOP ELEVATION:	4,270 ft.
BOTTOM NORTHING:	35,492.20	BOTTOM ELEVATION:	3,090 ft.
LEFT EASTING:	20,000	NUMBER OF BENCHES:	50
RIGHT EASTING:	23,200	BENCH HEIGHT:	20 ft.

BLOCK MODEL DIMENSIONS:

WIDTH OF COLUMN: 25.0 ft.
WIDTH OF ROW: 35.35 ft.
HEIGHT OF BLOCK: 20.0 ft.

Rows of the blocks are parallel to the geological cross-sections and normal to the structural grain of the deposit.

DIAMOND DRILLING:

F8805, F8908, F8910:
Most extensive drilling on 141. ft x 141 ft. grid. Additional selected fill-in drilling on +070 ft X-sections was completed in 1986. Total number of diamond drillholes = 284.

F9003:
June 1987 to March 1990; additional drilling of 76 drillholes. Selective infill drilling on 70 ft. x 70 ft. spacing in "S" and "E" phases. Also, additional surface drilling in SW underground reserves. Total number of diamond drillholes = 360.

F9005, F9009:
March 1990 to May 1990; additional drilling of 41 diamond drillholes. Selective infill drilling on 70x70 feet grid in remaining reserves as of May 1990. Total number of diamond drillholes = 401.

ROCK MODEL

F8805, F8908, F8910:
Steve Cheeseman interpretation completed in April, 1988

F9003:
Steve Cheeseman interpretation, rock model edited to respect additional diamond drilling of 76 diamond drillholes completed between June, 1987 to March, 1990. Editing completed on remaining reserves (March, 1990) southeast of Section 120+00 (3510 bench and below).

F9005:
Modified Steve Cheeseman interpretation. Rock model edited to respect additional diamond drilling completed to the end of May, 1990, for entire deposit.

F9009:
Cross section and plan interpretation completed by Mitch Wasel, August 1990. Geology interpretation limited to the remaining mining volume as of August 1, 1990.

ASSAYS, GRADE MODELING AND ROCK DENSITIES

F8805, F8908:	As assayed, no clipping or S.G. reduction
F8910:	Pb, Zn, Ag, Au, S.G. clipped to 95th percentile for massive and disseminated ore types before compositing. No additional S.G. reduction.
F9003, F9005, F9009	Pb, Zn, Ag, Au, S.G. clipped to 95th percentile for massive and disseminated ore types before compositing. Additional 2% reduction of S.G. for all ore types before compositing.

FARO ASSAY CLIPPING

Massive Sulphide (rock types 40-70)	%Pb	%Zn	Ag (g/mt)	Au (g/mt)	S.G.
Number of Samples	2305	2308	2284	1177	2297
Mean Value	4.06	5.98	46.8	0.159	4.41
95th Percentile	7.94	12.05	108.0	0.590	5.22
Quartzose Sulphide (rock types 20-30)					
Number of Samples	1900	1902	1864	999	1881
Mean Value	2.51	5.00	35.2	0.238	3.29
95th Percentile	5.87	10.27	84.9	0.832	4.17

GRADE COMPOSITES, MINING DILUTION, AND MINING RECOVERY.

F8805:
Geological Composites, 10% mining dilution at 0% Pb+Zn, 95% mining recovery.

Geological grade composites are constrained by the width of the ore type and have a maximum length near 20 feet. Internal phyllite waste intervals greater than 10 feet thick are generally excluded from a geology composite. External phyllite waste near the ore hangingwall or footwall is also excluded. It is unrealistic to assume that this material may be separated effectively in the mining process. Therefore, reserves predicted using the geology composite method must be adjusted to account for mining dilution. Mining dilution of the F8805 reserves is arbitrarily set at 10% at 0% Pb+Zn for all reserves. Mining recovery is assumed to be 95%.

F8908, F8910, F9003, F9005, F9009:
Bench composites, no adjustment for dilution, 95% mining recovery.

Bench composite intervals correspond to actual planned mining intervals. At Faro, mining benches are 20 feet. The grade of all material (ore and waste) is length and SG weight averaged across the mining bench. The bench composite method assumes that there is no mining selectivity between ore and waste. Mining reserves predicted by bench composite calculations do not require futher adjustments to compensate for mining dilution. Mining recovery is assumed to be 95%.

SEARCH ELLIPSOID GEOMETRY:

In cross-section, the Faro Zone 3 deposit can be divided into five separate structural sectors with consistent deposit dips. The geometry of the search ellipsoid is defined to approximate the trends of the orebody in these five sectors. Each of the five sectors were interpolated in totally independent computer runs. The following table indicates model blocks interpolated for each of the five sectors.

MODEL INTERPOLATION - F8805, F8908, F8910

	Row Start	Row End	Col. Start	Col. End	Bench Start	Bench End	Deposit Dip
NE SECTOR	39	73	78	128	1	50	12° SW
NC SECTOR	39	73	49	77	1	50	0°(flat)
NW SECTOR	39	76	1	48	1	50	12° SW
SW SECTOR	77	113	1	48	1	50	20° SW
SC SECTOR	74	113	49	128	1	50	0°(flat)

MODEL INTERPOLATION - F9003, F9005, F9009

	Row Start	Row End	Col. Start	Col. End	Bench Start	Bench End	Deposit Dip
NE SECTOR	39	64	78	128	1	50	12°(SW)
NC SECTOR	39	64	50	77	1	50	0°(flat)
NW SECTOR	39	76	1	49	1	50	12° SW
SW SECTOR	77	113	1	49	1	50	20° SW
SC SECTOR	65	113	50	128	1	50	0°(flat)

GRADE INTERPOLATION PASSES:

Parameters interpolated into each block were density tnns/bcf., % Pb, % Zn, Ag g/mt, and Au g/mt. Interpolation may be completed in one or more passes with the search volume for suitable composites being increased with each pass. In each succeeding pass only those blocks still containing 00 grade values were interpolated.

F8805, F8908, F8910 SEARCH VOLUME ELLIPSOID

	NW-SE	NE-SW	VERTICAL
Pass 1	225	150	14
Pass 2	225	150	37.5
Pass 3	300	200	37.5

F9003 SEARCH VOLUME ELLIPSOID

Pass 1	120	70	19
Pass 2	240	140	19

F9005, F9009; SEARCH VOLUME ELLIPSOID

Pass 1	120	70	19
Pass 2	240	140	19
Pass 3	415	240	19

F8805, F8908, F8910
PCMINE SEARCH VOLUME PARAMETERS

	HORIZONTAL FACTOR	VERTICAL FACTOR	MAXIMUM DISTANCE
Pass 1	0.6667	10.7	150
Pass 2	0.6667	4.0	150
Pass 3	0.6667	5.3	200

F9003 PCMINE SEARCH VOLUME PARAMETERS

Pass 1	0.58	6.32	120
Pass 2	0.58	12.63	240

F9005, F9009
PCMINE SEARCH VOLUME PARAMETERS

Pass 1	0.58	3.68	70
Pass 2	0.58	7.37	140
Pass 3	0.58	12.63	240

COMPOSITE SELECTION CRITERIA IN THE PCMINE GRADE INTERPOLATION PROCESS

In the grade interpolation process, PCMINE allows the optional matching of the interpreted block geology against the rock type of the assay composite. For example, matching massive sulphide assay composites would ensure that only massive sulphide assays are used to interpolate grade into a massive sulphide ore block. The geology matching criteria for each of the models is as follows:

F8805: Strict matching of geology. Matching of the detailed rock types of all interpreted lithologies and stratigraphic (or structural) horizons.

F8908, F8910, F9003, F9005, F9009:

Loose matching of geology. All interpreted disseminated ore types (rock codes 20-30) grouped together as one lithology (rock code 10 in simplified lithology model). All massive sulphide ore types grouped together as one lithology (rock code 11 in simplified lithology model). Composite selection is carried out based on matching the simplified lithologies.

COMPOSITE WEIGHTING

Composites are weighted by a factor which is inversely proportional to the distance from the block centre to the centre of the composite. Weighting factors for each of the models are as follows:

F8805, F8908, F8910: $1/D^2$
F9003, F9005, F9009: $1/D$

A second F9003 model was constructed using $1/D^2$ weighting.

MINIMUM AND MAXIMUM NUMBER OF COMPOSITES

The minimum and maximum number of composites required to interpolate a grade block allows for the indirect control of the amount of averaging and the relative weighting of nearby composites. The lower the minimum number of composites, the more likely a block would be interpolated in the more restrictive first pass, particularly in the lesser drilled margins of the orebody. This minimizes the possibility of over estimating ore at the deposit margin because it is less likely that a more distant higher grade composite near the centre of the orebody be used to interpolate lower grade ore at the deposit margin.

Specifying the maximum number of composites has a similar effect. The higher the maximum, the more distant a composite may be from the grade block. The interpolated grade of the block, as a result, is more highly averaged.

	MINIMUM	MAXIMUM
F8805, F8908	3	20
F8910	2	20
F9003	2	6
F9005	2	5
F9009	2	5

SUMMARY OF PCMINE GRADE INTERPOLATION PROCESS

1. Grade compositing is completed in the Faro PCXPLOR database. Extraction files for each element to be modelled are created. The extraction file contains the northing, easting and elevation of the centre of the composite, the assay composite value, and the integer rock code of the composite.

2. Each element is modelled separately into its own block model. For example, if lead is currently being modelled, the lead extraction file created in Step 1 is copied over to the PCMINE extraction file, (PCMINE.MEX). The modelling parameters for that element are defined and the modelling program is executed. The modelling parameters for all Faro models are the same for each element.

3. The search ellipsoid is centred on the block to be interpolated. The ellipsoid geometry for each model is defined on page 2 "Search Ellipsoid Geometry". All composites within the ellipsoid volume are sorted according to increasing distance from the block centre. Composites which do not meet the geology selection criteria are discarded. The selection criteria for each model is defined on page 4.

   If the number of selected composites is less than the required maximum number, the block remains uninterpolated in the current pass. The ellipsoid will move to the next block and the process is repeated.

   If the number of selected composites is greater than the specified maximum, the closest composites up to the maximum number are selected and used in the grade interpolation. The assays are weighted by the inverse of the distance from the block centre raised to a power. Weighting powers for each model are detailed on page 4, "Composite Weighting".

4. The process described above is repeated for each element in all five defined sectors (page 3) for every pass (page 4).

5. All ore density blocks which remain uninterpolated at the end of the final pass are assigned average values for that ore type. All waste types are assigned a density of .076 mt/bcf.

6. PCMINE block model manipulater was run to add the lead and zinc model to create a separate lead + zinc block model (PCMINE.BL1)

GRUM DEPOSIT - KEY CHANGES TO RESERVE CALCULATION PARAMETERS

Geological Interpretation

G8606 – Cross section interpretation by Simpson, Adamson, Cyprus Anvil Mining Corporation. (1982)
G8705 – Same as G8606.
G9009 – Simpsom, Adamson interpretation edited to respect additional drilling completed 1987 to 1990.

Grade Composites, Mining Dilution, and Mining Loss

G8606 – 4.5m bench composites for vertical holes (composites are slightly longer for angle holes). 4.5m equal length composites for low angle underground holes. Each composite is assigned the dominate rock type within the interval. External waste outside of the ore zones are excluded from the composite interval. Mining dilution is applied outside of the modelling process. Mining dilution is arbitrarily set at 15% at 0% Pb+Zn for all reserves. Mining recovery is assumed to be 95%.

G8705 – Same as G8606

G9009 – 6.0m bench composites for vertical holes (composites are slightly longer for angle holes). 6.0m equal length composites for low angle underground holes. Each composite is assigned the dominate rock type within the interval. External waste near the ore zone contact is included in the grade composite. Therefore mineable grade is not diluted. Mining recovery is assumed to be 95%.

Individual assays are weighted by the length and pulp SG of the interval during the compositing process.

Geological reserves are in-situ, undiluted, and unadjusted estimates. Mining reserves are a subset of the total geological reserve and are adjusted for mining loss.

Assay Clipping

Assays are clipped to the 95th percentile by major ore types for all Grum models.

Assay clipping is carried out to limit local overestimation of grade caused by nearby erratically high assays.

Composite Distance Weighting

G8606 and G8705 weighted composites by 1 over the distance squared.
V9009 – weighted by 1 over the distance.

The G8606 and G8705 reserve calculation weighted composites by 1 divided by the square of the distance between the block center and the center of the composite. The distance weighting power is reduced to 1 in the G9009 calculations. Variogram studies at Faro have shown that drillcore sample nugget effects range from 35 to 50 percent of the total variance. It is likely that this nugget effect also exists at ~~-~~ Grum. Distance weighting is a more appropriate weighting method when estimating block grades with high nugget effects because a lower weighting power will lessen the influence of nearby grade composites. Local grade predictions, as a result, are statistically more reliable.

Porosity and Specific Gravity

G8606 and G8705 – pulp SG's reduced by 5%. SG reduction removed in January 1988. G9007 Pulp Sg's reduced by 2%

Rock Code Matching

G8606 – Grade Interpolation respected the 6 major ore types (High grade 2[illegible], Low grade 2[illegible],3[illegible],5[illegible],6[illegible],7[illegible]). Grade is not interpolated into phyllite rock types.
G8705 – Same as G8606
G9009 – Loose matching used during grade interpolation. All massive sulphides (rock codes 4[illegible],5[illegible],6[illegible],7[illegible]) are considered equivalent, and all disseminated sulphides (rock codes 2[illegible],3[illegible]) are considered equivalent.

Search Volume Ellipsoid

G8606 and G8705 utilized the same search volume ellipsoid. The maximum allowable distance between a grade composite and a model block was tightened in the G9009 interpolation, especially in the vertical direction. As the search ellipsoid volumes become smaller, the amount of local grade averaging will decrease proportionately. It also is more likely that a model block located in the more poorly drilled parts of the orebody would not be interpolated because the block is not able to "find" grade composites within the more restrictive search volumes.

Detailed descriptions of the search ellipsoid volumes are included in the model documentation.

G9009 DOCUMENTATION

COORDINATE SYSTEM

The Grum 9009 geological interpretation uses the same coordinate system as the earlier G8705 model. The grid system is tied to survey control station 1404 (earlier named VG4) located on the Blind Creek road between the Grum and Vangorda areas. Table 1 lists the UTM and Grum local coordinates for this survey station.

Table 1. Coordinates for 1404 (VG4)		
UTM	Northing	6,904,623.172
	Easting	593,847.979
	elevation	1,300.062
GRUM LOCAL	Northing	5,000.000
	Easting	3,500.000
	elevation	1,300.062

The local Grum coordinate grid is an orthogonal grid oriented parallel to the exploration cross and long sections. It is also parallel to the current PC-MINE model blocks. Local north (for this grid) is rotated 47.7741667 degrees (0.833816 radians) counterclockwise from UTM north.

Horizontal and vertical units for the local grid are metres. UTM coordinates for Station 1404 were established as part of the 1979 Anvil District orthophoto survey completed by Northwest Surveys. Elevations in both the local and UTM coordinate grids correspond exactly to the elevation datum established in this 1979 Anvil District orthophoto survey.

Conversion between Grum Local and Anvil District UTM coordinate systems can be completed using the following equations:

$$Nutm = No + Sh * (Nlocal * \cos(x) + Elocal * \sin(x))$$
$$Eutm = Eo + Sh * (Elocal * \cos(x) - Nlocal * \sin(x))$$

where N_o = 6,898,674.069
E_o = 595,197.633
S_h = 0.99959853
x = 47.7741667 degrees (0.833816 radians).

These equations have been incorporated into the spreadsheet GRIDS. The Sh scaling factor is averaged for the elevations typically encountered on the Vangorda Plateau.

GRUM MODEL PROPERTY DEFINITION

The plan size, plan location, and block size of the Grum G9009 model have been slightly modified from the earlier G8705 model. These changes were made to allow the G9009 rows and columns to correlate exactly with the exploration drill grid pattern. Table 2 lists the new overall coordinate information for the G9009 location.

Table 2. GRUM G9009 Model Coordinates

Lower Left Corner	UTM	Northing	6,903,971.02
		Easting	592,684.25
	LOCAL	Northing	5,423.67
		Easting	2,234.37
Lower Right Corner	UTM	Northing	6,904,687.28
		Easting	593,334.31
	LOCAL	Northing	5,423.67
		Easting	3,202.11
Upper Left Corner	UTM	Northing	6,905,081.97
		Easting	591,460.15
	LOCAL	Northing	7,077.55
		Easting	2,234.37

Upper Right Corner	UTM	Northing	6,905,798.23
		Easting	592,110.21
	LOCAL	Northing	7,077.55
		Easting	3,202.11

Row Length = 15.17325 m (109 rows total)
Column Length = 7.62 m (127 columns total)

Column centres for the G9009 model correspond exactly to the long section lines. The cross section lines pass along the margins between two rows. The correspondence between the model blocks and the cross and long sections is listed in Tables 4 and 3 respectively.

Table 3. Location of Grum Long Sections

Section	Local Easting	Model Column
12 S	2,245.8	2
10 S	2,306.8	10
08 S	2,367.8	18
06 S	2,428.7	26
04 S	2,489.7	34
02 S	2,550.6	42
00 B/L	2,611.6	50
02 N	2,672.6	58
04 N	2,733.5	66
06 N	2,794.5	74
08 N	2,855.4	82
10 N	2,916.4	90
12 N	2,977.3	98
14 N	3,038.3	106
16 N	3,099.3	114

18 N	3,160.2	122

Even long sections are spaced every 60.96 metres (200 feet)

Table 4. Location of Grum Cross Sections		
Section	Local Northing	Model Rows
42 W	5,423.7	109/Model Edge
44 W	5,484.3	105/106
46 W	5,545.0	101/102
48 W	5,605.7	97/98
50 W	5,666.4	93/94
52 W	5,727.1	89/90
54 W	5,787.8	85/86
56 W	5,848.5	81/82
58 W	5,910.0	77/78
60 W	5,969.9	73/74
62 W	6,030.6	69/70
64 W	6,091.3	65/66
66 W	6,152.0	61/62
68 W	6,212.7	57/58
70 W	6,273.4	53/54
72 W	6,334.1	49/50
74 W	6,394.7	45/46
76 W	6,455.4	41/42
78 W	6,516.1	37/38
80 W	6,576.8	33/34
82 W	6,637.5	29/30
84 W	6,698.2	25/26

86 W	6,758.9	21/22
88 W	6,819.6	17/18
90 W	6,880.3	13/14
92 W	6,941.0	9/10
94 W	7,001.7	5/6
96 W	7,062.4	1/2

Even cross sections are spaced every 60.693 metres (199.1 feet).

ROCK TYPE MODEL

Geology for the rock type model was derived from the earlier Simpson-Adamson Grum cross section interpretation (Simpson and Adamson, 1982). The Simpson-Adamson model interpreted the geology for the even cross sections (spaced every 60.693 metres). The G9009 model extends from cross sections 61W through 87W. This corresponds to rows 20-71 in the model.

Simpson-Adamson ore outlines for the even cross sections (spaced every 199.1 feet) were modified slightly to take into account the results from the 1987-1989 drilling programs in the Grum area. The resulting ore outlines were then digitized using PC-MINE software. The rock type assigned to each polygon was based on the earlier Simpson-Adamson rock type.

Ore rock types are exactly the same as those used for the Vangorda and Faro deposits.

Each of the even cross sections corresponds to four rows in the G9009 model. Therefore the polygons digitized on an even section were loaded into two rows on each side of the cross section. Elevations for the ore polygons were adjusted when loading them into the rock type model to account for the overall 11 degree plunge of the deposit towards model north. The amount of plunge correction for each row was calculated using simple trigonometry. Table 5 lists the corrections for each of the four rows adjacent to an even section.

Table 5. Elevation Correction for Model Rows		
Row	Distance to section	Elevation Correction
Row 4 (most NW)	22.759875	-4.42
Row 3	7.586625	-1.47
Even Cross Section	0.0	0.0
Row 2	-7.586625	1.47
Row 1 (most SE)	-22.759875	4.42

This elevation change for each row was completed to reduce the "choppiness" in long section and plan by following the structural grain of the Grum deposit. Cross-cutting faults are obviously not adequately modelled using this procedure. A more detailed geologic interpretation is required to properly include both fault and fold geologic information.

All waste phyllites were assigned to rock type 160 (calcareous phyllite of the Vangorda formation). No attempt was made to differentiate greenstones, altered phyllites, carbonaceous phyllites, or noncalcareous phyllites.

Overburden was digitized as a polygon using the triconed portions of the drill holes on each section. This crude overburden surface was then entered into the model for each row as rock type 310.

Overburden as rock type 300 was also entered into the model as a surface grid using GEO-MODEL. The overburden surface grid was prepared by hand contouring the triconed elevations in plan at five metre intervals. This surface was digitized into GEO-MODEL and converted to a surface grid using the average from both rows and columns. The program RKSURF (Pigage 1987) was then used to convert all blocks whose centres occur at a higher elevation than this surface to an overburden rock code (300).

This approach guaranteed that blocks above the triconed surface but below the contoured surface would be entered into the rock model as overburden (rock type 310) and not as unverified ore or waste blocks.

Air (rock type 500) was also entered into the rock type model using the RKSURF program with the surface topography grid. The topography grid was created in GEO-MODEL by digitizing the 1:2,000 topography and exporting it to a PC-MINE grid using the averages of the rows and columns. In this instance only those blocks whose toes occur at elevations higher than the surface grid are converted to the air rock code.

COMPOSITES

Drill holes are entered into a PC-XPLOR database (database B). The database contains header information in table 1, downhole deviations in table 2, lithologies in table 3, assays in table 4, and different kinds of composites in tables 5 through 8.

The Anvil District alphanumeric rock codes in Tables 3 and 4 were converted to numeric values using the Fortran program LITHCOMP (Pigage 1990). This program substituted an integer rock code for the alphanumeric rock name of the dominant unit for a particular assay interval (table 4) or lithology interval (table 3). Rock code 40 (4EC) was not incorporated into this conversion because it has such a limited occurrence in the Grum drill holes.

Assays for the quartzose ores (rock codes 20, 30) and massive sulphide ores (50, 60, 70) were grouped and analyzed using univariate histograms (Zbeetnoff 1990). Pb, Zn, Ag, Au, and pulp SG assays for each of these two groups were then cut to the 95th percentile. Table 6 contains the 95th percentile values used to cut the assays.

ROCK CODE	Table 6. 95th PERCENTILE CUT OFF VALUES				
	Pb %	Zn %	Ag g/t	Au g/t	SG
20-30	6.44	11.34	106.68	1.848	3.86
50-70	9.68	16.85	160.44	2.36	4.85
210	3.48	5.66	56.44	1.26	3.5

Two different schemes were used to create composites of roughly equal length. Both schemes created 6 metre bench composites for the steep drill holes (inclined at an angle of greater than 45^{o}). They differed in the manner that the shallowly inclined drill hole composites were created. In scenario one the shallow holes were composited using 6 metre equal length intervals starting at the drill hole collar. In scenario two the shallow holes were composited using parallel vertical planes spaced 6 metres apart along both the cross and long section azimuths.

For each of these scenarios two sets of composites were created. For the first set the composites were length weighted. In the second set the composites were weighted by length and SG. Table 7 summarizes the compositing algorithms for the different PC-XPLOR composite tables in database B.

Table 7. Composite Tables in PC-XPLOR Database B

PCXPLOR TABLE	STEEP DDH	SHALLOW DDH	WEIGHTING
5	Bench	Equal length	Length
6	Bench	Equal length	Length * SG
7	Bench	Parallel planes	Length
8	Bench	Parallel planes	Length * SG

PC-XPLOR assigns a rock code to the composited interval based on the lithology at the centre of the interval. It does not take into account whether that particular rock type is the dominant lithology in the interval. To overcome this problem, the Fortran program RKCOMP (Pigage 1990) was written to incorporate a weighting factor when assigning the rock code to a particular composite interval. The rock type could be assigned to the composites using either a length weighting or length*SG weighting algorithm. The weighted length of each different rock code in the composite interval was calculated separately. Waste rock types therefore, were not lumped into a single rock type. The rock code assigned to the composite was the dominant rock type based on the weighted lengths.

Comparison of the univariate statistics for each ore type in Tables 6 and 8 indicate that the means and frequency distributions are statistically identical.

For the G9009 model, Table 6 was used for Pb, Zn, Ag, and Au composite values. Table 5 was used for the composite SG values. All composite SG values were reduced from the measured pulp SG values by 2 percent to account for porosity.

GRADE INTERPOLATION

Several interpolation tests were completed for bench 34 in the G8911 model using different search parameters. With these test runs I looked at varying the search distance in the model north direction, east direction, and elevation, using different powers with inverse distance weighting, and tilting the search ellipsoid to account for the structural grain. The parameters selected based on these tests are middle-of-the-road in their effect upon the grades of the block grades.

Models for SG, Pb, Zn, Ag, and Au were then interpolated. The Pb+Zn model was calculated by adding the interpolated values for Pb and Zn for each block.

The models were interpolated in four passes. Table 8 contains the pertinent search parameters for each of the passes. Model files were saved for passes three and four.

Table 8. Interpolation parameters for G9009

	Pass 1	Pass 2	Pass 3	Pass 4
North search	50 m	75 m	75 m	75 m
East search	50 m	50 m	50 m	50 m
Elev search	13 m	13 m	20 m	50 m
Tilt	-11	-11	-11	-11
Weighting	inverse distance	inverse distance	inverse distance	inverse distance
Power	1	1	1	1
Minimum #	2	2	2	2
Maximum #	10	10	10	10

Loose rock matching was used during the interpolation. All massive sulphides (rock codes 40, 50, 60, 70) were considered equivalent, and all quartzites with disseminated sulphides were considered equivalent (rock codes 20, 30).

After the interpolation was completed the specific gravity model was edited using program RKDENS (Pigage 1987) to put in the missing SG values. All waste phyllite blocks were assigned an SG of 2.7. All overburden blocks were assigned an SG value of 2.2. The uninterpolated ore blocks were assigned the average SG values (reduced by 2 %) for that particular ore type (as determined from the univariate statistics of the assays.

GEOLOGICAL AND MINING RESERVES

The pass 4 interpolation compares closely to the G8606 and G8705 models in terms of search parameters used for the block interpolation. The following tables contain incremental and cumulative mining reserves for the G8705, G8911, and G9009 models. All of the reserves use the Ion Vintila 6-metre ultimated Grum open pit (stage 3 pit). All tables are reporting reserves with no dilution and no mining loss.

For a 4% (Pb+Zn) cutoff, the tonnages for the 6 metre (G9009) and 7 metre (G8911) models are essentially identical. In contrast the tonnage for the 4.5 metre model (G8705) is significantly reduced. The 6 metre (G9009) and 7 metre (G8911) model also give similar total Pb+Zn grades at a 4% cutoff. The 4.5 metre model (G8705) has a substantially higher deposit Pb+Zn value for the same cutoff grade.

DISCUSSION

The loss in grade for the more recent models (G8911, G9009) probably is related to the strict rock type matching used for grade interpolation of the G8705 model and the looser rock type matching used for the G8911 and G9009 models. The more recent models, for example, did not differentiate between a high grade and low grade 4A ore type during the interpolation.

SUMMARY

Recent 6 metre (G9009) and 7 metre (G8911) bench composite grade interpolations for the Grum deposit have similar reported mining reserves using a 4% (Pb+Zn) cutoff. These reserves contain significantly less metal than the 1989 Curragh official G8606 (=G8705) reserves for the Grum deposit.

At least part of this difference is related to the looser rock type matching incorporated into the G9009 and G8911 grade interpolations. These two models used a rock type matching which did not distinguish between low and high grade composites for the same ore type during the interpolation. This approach contrasts with the more stringent rock type matching during the grade interpolation in the G8606 model (especially for rock types 4A and 4A4).

Long term planning and budgeting must consider the differences in total metal implied with the G9009 and G8911 grade interpolations compared to the G8606 grade interpolation. Part of the consideration should encompass the assumptions used in the grade interpolations for the different models. The lower grade results from the newer models is based on what appears to be more reasonable rock type matching constraints. Possible further testing of these assumptions could be conducted and the results compared to the existing models.

CURRAGH RESOURCES INC. GRUM DEPOSIT
G8705 INTERPRETATION - 4.5 METRE BENCHES
MINING RESERVES - GIV STAGE 3 PIT
OCTOBER 4, 1990

LIST OF ROCK TYPES

~~20~~	1+2	4ACD	Carbonaceous pyritic quartzite
~~30~~	3+4	4CD	Noncarbonaceous pyritic quartzite
~~40~~		4EC	Semi-massive, quartzose, pyritic sulphides
~~50~~	5+6	4E	Pyritic massive sulphides
~~60~~	=	4EG	Pyritic/Baritic massive sulphides
~~70~~	8	4EH	Pyrrhotitic massive sulphides
~~300~~	11	11	Unconsolidated overburden/till
~~310~~	11	11B	Unconsolidated overburden/till actually cored
~~160~~	10+9	5ABC	Phyllite waste

INCREMENTAL RESERVES BY ROCK TYPE AND % Pb + Zn CUTOFF

CUT-OFF GRADES FROM [% Pb +]	TO [% Pb +]	ROCK-TYPE CODE	VOLUME [bcm x1000]	DENSITY [tn/bcm]	TONNAGE [TONS x1000]	AVERAGE GRADES [% Pb +]	[%Pb]	[%Zn]	[Ag g/t]	[Au g/t]	ECONOMIC FACTOR [$ Cdnx1000]
6.000	50.000	1	442.87	3.174	1405.57	8.114	2.890	5.224	48.440	.983	29897.73
6.000	50.000	2	1873.14	3.094	5795.37	8.132	2.914	5.218	49.483	.848	118786.20
6.000	50.000	3	22.01	3.341	73.53	8.367	3.018	5.349	50.591	.625	1495.13
6.000	50.000	4	713.24	3.246	2315.45	10.670	3.822	6.848	63.051	.914	72778.77
6.000	50.000	5	273.84	3.663	1002.99	10.613	4.044	6.570	65.526	1.019	30819.32
6.000	50.000	6	822.08	4.029	3312.16	14.687	5.510	9.177	92.299	1.305	163436.30
6.000	50.000	7	547.78	4.079	2234.22	12.274	5.047	7.227	84.416	1.012	79847.54
6.000	50.000	8	8.63	3.763	32.47	15.213	5.193	10.020	106.449	1.322	1741.21
5.000	6.000	1	416.34	3.049	1269.44	5.493	1.945	3.549	34.572	.795	12848.13
5.000	6.000	2	223.49	3.017	674.17	5.641	2.155	3.486	34.428	.783	6698.37
5.000	6.000	3	29.21	3.103	90.62	5.476	1.885	3.591	34.649	.446	770.06
5.000	6.000	4	34.80	3.059	106.46	5.636	2.132	3.504	35.630	.667	1000.55
5.000	6.000	5	45.91	3.813	175.08	5.404	2.147	3.258	38.713	1.109	1914.29
5.000	6.000	6	1.62	3.605	5.84	5.677	2.169	3.508	42.783	1.005	67.26
4.000	5.000	1	571.45	3.029	1730.98	4.484	1.647	2.836	30.223	.732	10219.93
4.000	5.000	2	26.21	2.984	78.20	4.804	1.952	2.852	30.377	.861	535.97
4.000	5.000	3	145.21	2.997	435.16	4.417	1.564	2.853	28.224	.545	2145.02
4.000	5.000	4	9.74	2.950	28.74	4.704	1.734	2.970	32.292	.512	159.21
4.000	5.000	5	35.99	3.765	135.49	4.593	1.794	2.799	36.781	1.088	1108.25
3.000	4.000	1	392.34	2.981	1169.75	3.567	1.377	2.189	25.131	.715	2677.93
3.000	4.000	2	.54	3.129	1.69	3.848	1.379	2.469	33.000	.846	7.91
3.000	4.000	3	83.83	3.208	268.97	3.505	1.445	2.060	25.163	.580	335.41
3.000	4.000	4	13.94	3.218	44.87	3.309	1.674	1.636	30.242	.667	14.27
3.000	4.000	5	9.46	3.918	37.05	3.475	1.430	2.045	28.961	.027	-58.78
3.000	4.000	6	.54	2.962	1.60	3.248	1.112	2.136	20.000	.436	.09
.010	3.000	1	116.22	2.971	345.24	2.605	.979	1.625	19.905	.687	-251.52
.010	3.000	3	87.78	3.318	291.21	2.551	.847	1.704	21.233	.741	-13.97
.010	3.000	4	.54	3.593	1.94	2.855	.944	1.911	25.000	1.096	5.50
.010	3.000	3	87.78	3.318	291.21	2.551	.847	1.704	21.233	.741	-13.97
.010	3.000	4	.54	3.593	1.94	2.855	.944	1.911	25.000	1.096	5.50
.000	.010	1	2.70	2.850	7.70	.000	.000	.000	.000	.000	-14.85
.000	.010	2	12.43	2.850	35.43	.000	.000	.000	.000	.000	-75.46
.000	.010	3	6.01	2.917	17.54	.000	.000	.000	.000	.000	-36.50
.000	.010	4	24.30	2.850	69.25	.000	.000	.000	.000	.000	-144.05
.000	.010	5	16.81	2.855	48.00	.000	.000	.000	.000	.000	-99.16
.000	.010	6	15.71	2.850	44.77	.000	.000	.000	.000	.000	-90.30
.000	.010	7	17.28	2.850	49.25	.000	.000	.000	.000	.000	-96.37
.000	.010	8	4.32	2.850	12.31	.000	.000	.000	.000	.000	-24.54
.000	9999.000	9	490.57	2.945	1444.77	4.997	1.899	3.098	31.612	.586	10621.31
.000	9999.000	10	54328.21	2.700	146686.20	.000	.000	.000	.000	.000	-161318.90
.000	9999.000	11	13263.35	2.099	27839.99	.000	.000	.000	.000	.000	-29381.33
TOTAL			75130.45	2.653	199319.40	1.049	.391	.658	6.620	.110	358326.10

CURRAGH RESOURCES INC. GRUM DEPOSIT
G8705 INTERPRETATION - 4.5 METRE BENCHES
MINING RESERVES - GIV STAGE 3 PIT
OCTOBER 4, 1990

LIST OF ROCK TYPES

~~20~~	1 + 2	4ACD	Carbonaceous pyritic quartzite
~~30~~	3 + 4	4CD	Noncarbonaceous pyritic quartzite
~~40~~		~~4EC~~	Semi-massive, quartzose, pyritic sulphides
~~50~~	5 + 6	4E	Pyritic massive sulphides
~~60~~	7	4EG	Pyritic/Baritic massive sulphides
~~70~~	8	4EH	Pyrrhotitic massive sulphides
300	11	11	Unconsolidated overburden/till
310	11	11B	Unconsolidated overburden/till actually cored
~~160~~	10 + 9	5ABC	Phyllite waste

CUMULATIVE RESERVES BY ROCK TYPE AND % Pb + Zn CUTOFF

CUT-OFF GRADES FROM [% Pb +]	TO [% Pb +]	ROCK-TYPE CODE	VOLUME [bcm x1000]	DENSITY [tn/bcm]	TONNAGE [TONS x1000]	AVERAGE GRADES [% Pb +]	[%Pb]	[%Zn]	[Ag g/t]	[Au g/t]	ECONOMIC FACTOR [$ Cdnx1000]
6.000	50.000	1	442.87	3.174	1405.57	8.114	2.890	5.224	48.440	.983	29897.73
6.000	50.000	2	2316.01	3.109	7200.93	8.129	2.909	5.219	49.280	.875	148683.90
6.000	50.000	3	2338.02	3.111	7274.46	8.131	2.910	5.221	49.293	.872	150179.00
6.000	50.000	4	3051.26	3.143	9589.91	8.744	3.131	5.613	52.615	.882	222957.80
6.000	50.000	5	3325.10	3.186	10592.90	8.921	3.217	5.704	53.837	.895	253777.20
6.000	50.000	6	4147.19	3.353	13905.06	10.295	3.763	6.531	62.999	.993	417213.50
6.000	50.000	7	4694.96	3.438	16139.28	10.569	3.941	6.628	65.964	.996	497061.10
6.000	50.000	8	4703.59	3.438	16171.75	10.578	3.944	6.634	66.045	.996	498802.30
5.000	6.000	1	5119.93	3.407	17441.19	10.208	3.798	6.410	63.754	.982	511650.40
5.000	6.000	2	5343.42	3.390	18115.36	10.038	3.737	6.301	62.663	.974	518348.80
5.000	6.000	3	5372.63	3.389	18205.98	10.015	3.728	6.288	62.523	.972	519118.80
5.000	6.000	4	5407.43	3.387	18312.43	9.990	3.718	6.271	62.367	.970	520119.40
5.000	6.000	5	5453.34	3.390	18487.51	9.946	3.703	6.243	62.143	.971	522033.70
5.000	6.000	6	5454.96	3.390	18493.35	9.945	3.703	6.242	62.137	.971	522100.90
5.000	6.000	7	5454.96	3.390	18493.35	9.945	3.703	6.242	62.137	.971	522100.90
5.000	6.000	8	5454.96	3.390	18493.35	9.945	3.703	6.242	62.137	.971	522100.90
4.000	5.000	1	6026.41	3.356	20224.33	9.478	3.527	5.950	59.405	.951	532320.90
4.000	5.000	2	6052.62	3.354	20302.53	9.460	3.521	5.939	59.294	.950	532856.80
4.000	5.000	3	6197.83	3.346	20737.70	9.354	3.480	5.874	58.642	.942	535001.90
4.000	5.000	4	6207.58	3.345	20766.44	9.347	3.478	5.870	58.605	.941	535161.10
4.000	5.000	5	6243.56	3.348	20901.93	9.316	3.467	5.850	58.464	.942	536269.30
4.000	5.000	6	6243.56	3.348	20901.93	9.316	3.467	5.850	58.464	.942	536269.30
4.000	5.000	7	6243.56	3.348	20901.93	9.316	3.467	5.850	58.464	.942	536269.30
4.000	5.000	8	6243.56	3.348	20901.93	9.316	3.467	5.850	58.464	.942	536269.30
3.000	4.000	1	6635.90	3.326	22071.67	9.012	3.356	5.656	56.697	.930	538947.30
3.000	4.000	2	6636.44	3.326	22073.36	9.011	3.356	5.656	56.695	.930	538955.20
3.000	4.000	3	6720.28	3.325	22342.34	8.945	3.333	5.612	56.316	.926	539290.60
3.000	4.000	4	6734.22	3.324	22387.21	8.934	3.329	5.604	56.263	.925	539304.90
3.000	4.000	5	6743.68	3.325	22424.25	8.925	3.326	5.598	56.218	.924	539246.10
3.000	4.000	6	6744.22	3.325	22425.85	8.924	3.326	5.598	56.216	.924	539246.10
3.000	4.000	7	6744.22	3.325	22425.85	8.924	3.326	5.598	56.216	.924	539246.10
3.000	4.000	8	6744.22	3.325	22425.85	8.924	3.326	5.598	56.216	.924	539246.10
.010	3.000	1	6860.44	3.319	22771.09	8.829	3.291	5.538	55.665	.920	538994.60
.010	3.000	2	6860.44	3.319	22771.09	8.829	3.291	5.538	55.665	.920	538994.60
.010	3.000	3	6948.22	3.319	23062.30	8.749	3.260	5.490	55.230	.918	538980.70
.010	3.000	4	6948.76	3.319	23064.24	8.749	3.259	5.489	55.228	.918	538986.20
.010	3.000	5	6948.76	3.319	23064.24	8.749	3.259	5.489	55.228	.918	538986.20
.010	3.000	6	6948.76	3.319	23064.24	8.749	3.259	5.489	55.228	.918	538986.20
.010	3.000	7	6948.76	3.319	23064.24	8.749	3.259	5.489	55.228	.918	538986.20
.010	3.000	8	6948.76	3.319	23064.24	8.749	3.259	5.489	55.228	.918	538986.20
.000	.010	1	6951.46	3.319	23071.94	8.746	3.258	5.487	55.209	.918	538971.30
.000	.010	2	6963.89	3.318	23107.37	8.732	3.253	5.479	55.125	.916	538895.90
.000	.010	3	6969.90	3.318	23124.91	8.726	3.251	5.475	55.083	.916	538859.40
.000	.010	4	6994.20	3.316	23194.16	8.700	3.241	5.459	54.919	.913	538715.30
.000	.010	5	7011.01	3.315	23242.16	8.682	3.235	5.447	54.805	.911	538616.20
.000	.010	6	7026.72	3.314	23286.93	8.665	3.228	5.437	54.700	.909	538525.90
.000	.010	7	7044.00	3.313	23336.18	8.647	3.221	5.425	54.584	.907	538429.50
.000	.010	8	7048.32	3.313	23348.49	8.642	3.220	5.422	54.556	.907	538405.00
.000	9999.000	9	7538.89	3.289	24793.26	8.430	3.143	5.287	53.219	.888	549026.30
.000	9999.000	10	61867.11	2.772	171479.40	1.219	.454	.764	7.695	.128	387707.40
.000	9999.000	11	75130.45	2.653	199319.40	1.049	.391	.658	6.620	.110	358326.10
.000	9999.000	****	75130.45	2.653	199319.40	1.049	.391	.658	6.620	.110	358326.10
TOTAL			75130.45	2.653	199319.40	1.049	.391	.658	6.620	.110	358326.10

CURRAGH RESOURCES INC. GRUM DEPOSIT
G8911 INTERPRETATION - 7 METRE BENCHES
MINING RESERVES - GIV STAGE 3 PIT
OCTOBER 4, 1990

LIST OF ROCK TYPES

20	4ACD	Carbonaceous pyritic quartzite
30	4CD	Noncarbonaceous pyritic quartzite
40	4EC	Semi-massive, quartzose, pyritic sulphides
50	4E	Pyritic massive sulphides
60	4EG	Pyritic/Baritic massive sulphides
70	4EH	Pyrrhotitic massive sulphides
300	11	Unconsolidated overburden/till
310	11B	Unconsolidated overburden/till actually cored
160	5ABC	Phyllite waste

INCREMENTAL RESERVES BY ROCK TYPE AND % Pb + Zn CUTOFF

CUT-OFF GRADES FROM [Pb+Zn]	TO [Pb+Zn]	ROCK-TYPE CODE	VOLUME [bcm x1000]	DENSITY [tn/bcm]	TONNAGE [TONS x1000]	A V E R A G E G R A D E S [Pb+Zn]	[Pb %]	[Zn %]	[Ag g/t]	[Au g/t
6.000	50.000	20	2221.98	3.124	6942.01	7.737	2.750	4.987	46.293	.749
6.000	50.000	30	169.92	3.145	534.39	7.423	2.670	4.753	44.695	.711
6.000	50.000	40	297.50	3.948	1174.44	12.106	4.338	7.768	74.655	1.204
6.000	50.000	50	407.06	3.969	1615.53	10.974	4.260	6.714	69.915	1.114
6.000	50.000	60	1191.55	4.041	4814.88	11.167	4.364	6.803	73.000	1.028
6.000	50.000	70	3.24	3.623	11.73	6.944	2.687	4.257	49.375	.618
5.000	6.000	20	1122.63	2.966	3329.39	5.475	1.943	3.532	33.612	.560
5.000	6.000	30	93.73	3.084	289.10	5.516	2.041	3.475	34.616	.605
5.000	6.000	40	9.01	3.575	32.20	5.423	1.993	3.429	34.681	1.020
5.000	6.000	50	35.01	3.852	134.85	5.497	2.464	3.033	40.703	.756
5.000	6.000	60	30.87	3.831	118.26	5.652	2.832	2.820	42.068	.663
5.000	6.000	70	1.62	2.901	4.70	5.576	2.181	3.394	39.116	.536
4.000	5.000	20	992.32	2.955	2931.94	4.534	1.621	2.913	28.282	.520
4.000	5.000	30	104.21	3.097	322.69	4.492	1.800	2.692	30.550	.568
4.000	5.000	40	10.64	3.569	37.96	4.365	1.595	2.771	28.621	.951
4.000	5.000	50	26.65	3.805	101.39	4.640	1.969	2.671	32.100	.691
4.000	5.000	60	7.17	3.532	25.32	4.603	2.413	2.191	34.757	.703
4.000	5.000	70	.81	2.881	2.33	4.927	2.010	2.917	34.220	.375
3.000	4.000	20	567.17	3.050	1729.77	3.616	1.392	2.225	24.277	.578
3.000	4.000	30	94.09	3.133	294.82	3.520	1.462	2.058	24.291	.606
3.000	4.000	40	8.90	3.543	31.54	3.521	1.220	2.301	25.273	.764
3.000	4.000	50	12.78	3.644	46.56	3.694	1.926	1.768	34.205	.885
3.000	4.000	60	6.47	3.549	22.98	3.369	1.442	1.927	23.584	.697
.010	3.000	20	217.53	3.084	670.77	2.319	.867	1.452	17.349	.593
.010	3.000	30	100.51	3.199	321.51	2.367	.893	1.474	17.318	.557
.010	3.000	40	7.58	3.993	30.28	2.491	.982	1.509	23.296	1.036
.010	3.000	50	1.02	3.404	3.46	2.947	1.754	1.194	34.471	1.004
.010	3.000	60	1.62	3.553	5.75	2.705	1.328	1.376	23.848	.558
.000	.010	20	11.98	3.099	37.12	.000	.000	.000	.000	.000
.000	.010	30	14.57	3.349	48.79	.000	.000	.000	.000	.000
.000	.010	40	70.42	3.750	264.09	.000	.000	.000	.000	.000
.000	.010	50	11.33	4.139	46.90	.000	.000	.000	.000	.000
.000	.010	60	4.86	4.320	20.98	.000	.000	.000	.000	.000
.000	9999.000	160	53147.87	2.700	143497.60	.000	.000	.000	.000	.000
.000	9999.000	300	13490.25	2.200	29678.27	.000	.000	.000	.000	.000
.000	9999.000	310	729.15	2.200	1604.12	.000	.000	.000	.000	.000
TOTAL			75224.01	2.669	200778.40	.949	.353	.596	5.977	.09

CURRAGH RESOURCES INC. GRUM DEPOSIT
G8911 INTERPRETATION - 7 METRE BENCHES
MINING RESERVES - GIV STAGE 3 PIT
OCTOBER 4, 1990

LIST OF ROCK TYPES

20	4ACD	Carbonaceous pyritic quartzite
30	4CD	Noncarbonaceous pyritic quartzite
40	4EC	Semi-massive, quartzose, pyritic sulphides
50	4E	Pyritic massive sulphides
60	4EG	Pyritic/Baritic massive sulphides
70	4EH	Pyrrhotitic massive sulphides
300	11	Unconsolidated overburden/till
310	11B	Unconsolidated overburden/till actually cored
160	5ABC	Phyllite waste

CUMULATIVE RESERVES BY ROCK TYPE AND % Pb + Zn CUTOFF

CUT-OFF GRADES FROM [Pb+Zn]	TO [Pb+Zn]	ROCK-TYPE CODE	VOLUME [bcm x1000]	DENSITY [tn/bcm]	TONNAGE [TONS x1000]	AVERAGE GRADES [Pb+Zn]	[Pb %]	[Zn %]	[Ag g/t]	[Au g/t]
6.000	50.000	20	2221.98	3.124	6942.01	7.737	2.750	4.987	46.293	.749
6.000	50.000	30	2391.89	3.126	7476.40	7.714	2.744	4.970	46.179	.746
6.000	50.000	40	2689.40	3.217	8650.84	8.310	2.960	5.350	50.045	.809
6.000	50.000	50	3096.46	3.316	10266.36	8.730	3.165	5.565	53.172	.857
6.000	50.000	60	4288.01	3.517	15081.24	9.508	3.548	5.960	59.502	.911
6.000	50.000	70	4291.24	3.517	15092.97	9.506	3.547	5.959	59.494	.911
5.000	6.000	20	5413.87	3.403	18422.36	8.777	3.257	5.520	54.817	.848
5.000	6.000	30	5507.60	3.397	18711.46	8.727	3.238	5.489	54.505	.844
5.000	6.000	40	5516.61	3.398	18743.66	8.721	3.236	5.485	54.470	.844
5.000	6.000	50	5551.62	3.401	18878.51	8.698	3.231	5.468	54.372	.844
5.000	6.000	60	5582.49	3.403	18996.77	8.679	3.228	5.451	54.296	.842
5.000	6.000	70	5584.11	3.403	19001.46	8.679	3.228	5.451	54.292	.842
4.000	5.000	20	6576.43	3.335	21933.40	8.125	3.013	5.111	50.815	.799
4.000	5.000	30	6680.64	3.331	22256.09	8.072	2.996	5.076	50.521	.796
4.000	5.000	40	6691.28	3.332	22294.05	8.066	2.993	5.072	50.484	.796
4.000	5.000	50	6717.93	3.334	22395.44	8.050	2.989	5.062	50.401	.796
4.000	5.000	60	6725.09	3.334	22420.76	8.046	2.988	5.058	50.383	.796
4.000	5.000	70	6725.90	3.334	22423.10	8.046	2.988	5.058	50.381	.796
3.000	4.000	20	7293.08	3.312	24152.86	7.729	2.874	4.855	48.512	.780
3.000	4.000	30	7387.17	3.309	24447.69	7.678	2.856	4.821	48.220	.778
3.000	4.000	40	7396.07	3.310	24479.23	7.673	2.854	4.818	48.190	.778
3.000	4.000	50	7408.85	3.310	24525.79	7.665	2.853	4.812	48.164	.778
3.000	4.000	60	7415.32	3.311	24548.77	7.661	2.851	4.810	48.141	.778
3.000	4.000	70	7415.32	3.311	24548.77	7.661	2.851	4.810	48.141	.778
.010	3.000	20	7632.85	3.304	25219.54	7.519	2.799	4.720	47.322	.773
.010	3.000	30	7733.36	3.303	25541.05	7.454	2.775	4.679	46.944	.770
.010	3.000	40	7740.94	3.303	25571.34	7.448	2.772	4.676	46.916	.771
.010	3.000	50	7741.96	3.303	25574.80	7.448	2.772	4.675	46.914	.771
.010	3.000	60	7743.58	3.303	25580.55	7.446	2.772	4.675	46.909	.771
.010	3.000	70	7743.58	3.303	25580.55	7.446	2.772	4.675	46.909	.771
.000	.010	20	7755.56	3.303	25617.67	7.436	2.768	4.668	46.841	.770
.000	.010	30	7770.13	3.303	25666.46	7.422	2.763	4.659	46.752	.768
.000	.010	40	7840.55	3.307	25930.55	7.346	2.735	4.611	46.276	.760
.000	.010	50	7851.88	3.308	25977.45	7.333	2.730	4.603	46.192	.759
.000	.010	60	7856.74	3.309	25998.43	7.327	2.727	4.599	46.155	.758
.000	.010	70	7856.74	3.309	25998.43	7.327	2.727	4.599	46.155	.758
.000	9999.000	160	61004.61	2.778	169496.00	1.124	.418	.705	7.080	.116
.000	9999.000	300	74494.87	2.674	199174.30	.956	.356	.600	6.025	.099
.000	9999.000	310	75224.01	2.669	200778.40	.949	.353	.596	5.977	.098
.000	9999.000	####	75224.01	2.669	200778.40	.949	.353	.596	5.977	.098
TOTAL			75224.01	2.669	200778.40	.949	.353	.596	5.977	.098

CURRAGH RESOURCES INC. GRUM DEPOSIT
G9009 INTERPRETATION - 6 METRE BENCHES
MINING RESERVES - GIV STAGE 3 PIT
OCTOBER 4, 1990

LIST OF ROCK TYPES

20	4ACD	Carbonaceous pyritic quartzite
30	4CD	Noncarbonaceous pyritic quartzite
40	4EC	Semi-massive, quartzose, pyritic sulphides
50	4E	Pyritic massive sulphides
60	4EG	Pyritic/Baritic massive sulphides
70	4EH	Pyrrhotitic massive sulphides
300	11	Unconsolidated overburden/till
310	11B	Unconsolidated overburden/till actually cored
160	5ABC	Phyllite waste

INCREMENTAL RESERVES BY ROCK TYPE AND % Pb + Zn CUTOFF

CUT-OFF GRADES FROM [%Pb+Zn]	TO [%Pb+Zn]	ROCK-TYPE CODE	VOLUME [bcm x1000]	DENSITY [tn/bcm]	TONNAGE [TONS x1000]	AVERAGE GRADES [%Pb+Zn]	[%Pb]	[%Zn]	[Ag g/t]	[Au g/
6.000	50.000	20	2269.00	3.111	7057.77	7.664	2.731	4.932	45.847	.753
6.000	50.000	30	167.79	3.129	525.05	7.588	2.712	4.876	42.582	.714
6.000	50.000	40	300.04	3.893	1168.02	12.197	4.381	7.816	68.919	1.162
6.000	50.000	50	439.42	3.924	1724.11	11.088	4.384	6.703	64.728	1.119
6.000	50.000	60	1206.41	3.970	4789.59	11.181	4.380	6.801	69.815	1.034
6.000	50.000	70	3.47	3.276	11.36	9.273	3.550	5.723	20.509	.279
5.000	6.000	20	1086.75	2.969	3226.68	5.505	1.946	3.559	33.252	.561
5.000	6.000	30	77.77	3.097	240.83	5.494	2.076	3.418	34.818	.635
5.000	6.000	40	16.32	3.535	57.70	5.522	1.972	3.549	10.460	.228
5.000	6.000	50	16.82	3.946	66.38	5.684	2.428	3.256	36.013	1.050
5.000	6.000	60	4.28	3.510	15.01	5.723	2.805	2.918	44.090	.615
4.000	5.000	20	1025.59	2.946	3021.35	4.516	1.637	2.879	28.062	.541
4.000	5.000	30	111.26	3.121	347.21	4.483	1.738	2.745	29.253	.646
4.000	5.000	40	6.94	3.505	24.31	4.489	1.646	2.843	19.403	.649
4.000	5.000	50	18.03	3.610	65.10	4.393	2.194	2.198	30.733	.674
4.000	5.000	60	6.94	3.395	23.55	4.508	2.104	2.404	25.175	.722
3.000	4.000	20	555.05	3.013	1672.14	3.588	1.377	2.211	24.031	.591
3.000	4.000	30	91.63	3.215	294.57	3.499	1.439	2.061	21.706	.620
3.000	4.000	40	8.32	3.549	29.53	3.223	1.197	2.026	20.196	.831
3.000	4.000	50	9.93	3.480	34.55	3.715	2.110	1.605	26.531	.853
3.000	4.000	60	.69	3.458	2.40	3.237	1.603	1.634	27.080	.543
.010	3.000	20	209.22	3.034	634.85	2.223	.819	1.403	15.605	.554
.010	3.000	30	77.50	3.093	239.69	2.265	.929	1.336	13.224	.438
.010	3.000	40	23.70	3.582	84.89	2.172	.831	1.342	17.999	1.032
.010	3.000	60	.12	3.634	.42	2.988	1.814	1.174	26.340	.929
.000	.010	20	8.28	3.099	25.65	.000	.000	.000	.000	.000
.000	.010	30	15.95	3.349	53.42	.000	.000	.000	.000	.000
.000	.010	40	54.79	3.742	205.03	.000	.000	.000	.000	.000
.000	.010	50	4.84	4.139	20.05	.000	.000	.000	.000	.000
.000	.010	60	4.16	4.320	17.98	.000	.000	.000	.000	.000
.000	.010	70	2.08	4.320	8.99	.000	.000	.000	.000	.000
.000	9999.000	300	14000.34	2.200	30800.52	.000	.000	.000	.000	.000
.000	9999.000	310	619.35	2.200	1362.57	.000	.000	.000	.000	.000
.000	9999.000	160	52756.43	2.700	142440.60	.000	.000	.000	.000	.000
TOTAL			75199.20	2.663	200291.80	.949	.354	.595	5.755	.

CURRAGH RESOURCES INC. GRUM DEPOSIT
G9009 INTERPRETATION - 6 METRE BENCHES
MINING RESERVES - GIV STAGE 3 PIT
OCTOBER 4, 1990

LIST OF ROCK TYPES

20	4ACD	Carbonaceous pyritic quartzite
30	4CD	Noncarbonaceous pyritic quartzite
40	4EC	Semi-massive, quartzose, pyritic sulphides
50	4E	Pyritic massive sulphides
60	4EG	Pyritic/Baritic massive sulphides
70	4EH	Pyrrhotitic massive sulphides
300	11	Unconsolidated overburden/till
310	11B	Unconsolidated overburden/till actually cored
160	5ABC	Phyllite waste

CUMULATIVE RESERVES BY ROCK TYPE AND % Pb + Zn CUTOFF

CUT-OFF GRADES FROM [%Pb+Zn]	TO [%Pb+Zn]	ROCK-TYPE CODE	VOLUME [bcm x1000]	DENSITY [tn/bcm]	TONNAGE [TONS x1000]	AVERAGE GRADES [%Pb+Zn]	[%Pb]	[%Zn]	[Ag g/t]	[Au g/t
6.000	50.000	20	2269.00	3.111	7057.77	7.664	2.731	4.932	45.847	.753
6.000	50.000	30	2436.79	3.112	7582.82	7.658	2.730	4.928	45.621	.750
6.000	50.000	40	2736.83	3.197	8750.84	8.264	2.951	5.314	48.731	.805
6.000	50.000	50	3176.25	3.298	10474.95	8.729	3.187	5.542	51.364	.857
6.000	50.000	60	4382.66	3.483	15264.54	9.498	3.561	5.937	57.153	.913
6.000	50.000	70	4386.13	3.483	15275.90	9.498	3.561	5.937	57.126	.912
5.000	6.000	20	5472.88	3.381	18502.58	8.802	3.279	5.522	52.963	.851
5.000	6.000	30	5550.65	3.377	18743.41	8.759	3.264	5.495	52.730	.848
5.000	6.000	40	5566.97	3.377	18801.11	8.749	3.260	5.489	52.600	.846
5.000	6.000	50	5583.79	3.379	18867.49	8.739	3.257	5.481	52.541	.847
5.000	6.000	60	5588.07	3.379	18882.50	8.736	3.257	5.479	52.535	.847
5.000	6.000	70	5588.07	3.379	18882.50	8.736	3.257	5.479	52.535	.847
4.000	5.000	20	6613.65	3.312	21903.85	8.154	3.033	5.121	49.159	.805
4.000	5.000	30	6724.91	3.309	22251.06	8.097	3.013	5.084	48.848	.802
4.000	5.000	40	6731.85	3.309	22275.37	8.093	3.012	5.081	48.816	.802
4.000	5.000	50	6749.88	3.310	22340.47	8.082	3.009	5.073	48.764	.802
4.000	5.000	60	6756.82	3.310	22364.02	8.078	3.008	5.070	48.739	.801
4.000	5.000	70	6756.82	3.310	22364.02	8.078	3.008	5.070	48.739	.801
3.000	4.000	20	7311.87	3.287	24036.16	7.766	2.895	4.871	47.020	.787
3.000	4.000	30	7403.51	3.286	24330.73	7.714	2.877	4.837	46.713	.785
3.000	4.000	40	7411.83	3.287	24360.26	7.709	2.875	4.834	46.681	.785
3.000	4.000	50	7421.76	3.287	24394.82	7.703	2.874	4.829	46.653	.785
3.000	4.000	60	7422.45	3.287	24397.21	7.703	2.874	4.829	46.651	.785
3.000	4.000	70	7422.45	3.287	24397.21	7.703	2.874	4.829	46.651	.785
.010	3.000	20	7631.67	3.280	25032.07	7.564	2.822	4.742	45.863	.779
.010	3.000	30	7709.16	3.278	25271.75	7.514	2.804	4.710	45.554	.776
.010	3.000	40	7732.86	3.279	25356.64	7.496	2.797	4.698	45.462	.777
.010	3.000	50	7732.86	3.279	25356.64	7.496	2.797	4.698	45.462	.777
.010	3.000	60	7732.98	3.279	25357.06	7.496	2.797	4.698	45.461	.777
.010	3.000	70	7732.98	3.279	25357.06	7.496	2.797	4.698	45.461	.777
.000	.010	20	7741.25	3.279	25382.71	7.488	2.794	4.694	45.415	.776
.000	.010	30	7757.20	3.279	25436.13	7.472	2.789	4.684	45.320	.774
.000	.010	40	7812.00	3.282	25641.16	7.413	2.766	4.646	44.958	.768
.000	.010	50	7816.84	3.283	25661.21	7.407	2.764	4.643	44.922	.767
.000	.010	60	7821.00	3.283	25679.18	7.402	2.762	4.639	44.891	.767
.000	.010	70	7823.08	3.284	25688.17	7.399	2.761	4.638	44.875	.767
.000	9999.000	300	21823.42	2.588	56488.69	3.365	1.256	2.109	20.407	.349
.000	9999.000	310	22442.77	2.578	57851.26	3.285	1.226	2.059	19.926	.340
.000	9999.000	160	75199.20	2.663	200291.80	.949	.354	.595	5.755	.098
.000	9999.000	####	75199.20	2.663	200291.80	.949	.354	.595	5.755	.098
TOTAL			75199.20	2.663	200291.80	.949	.354	.595	5.755	.0

VANGORDA DEPOSIT - KEY CHANGES TO RESERVE CALCULATION PARAMETERS

Geological Interpretation

V8803 – Cross section interpretation by Lee Pigage, March 1988.
V8912 – Cross section interpretation by Cam Reed, March 1989
V9009 – Cross section, long section, and plan interpretation by C.Reed, M. Wasel, and D. Brown. Rock model constructed from bench plans.

Grade Composites, Mining Dilution, and Mining Loss

V8803 – Geological composites. 15% mining dilution, 95% mining recovery.
V8912 – Bench composites. 95% mining Recovery.
V9009 – Geological composites. 20% mining dilution, 90% mining recovery.

Geological grade composite lengths are constrained by the width of the ore zone. Internal phyllite waste intervals greater than 3 metres thick are generally excluded from the composite. During mining, external waste near the ore contact may not be separated because of mining limitations. A mining reserve calculation completed using geological composites does not take mining dilution into consideration. External dilution must be applied outside of the modelling process. V8803 mining reserves are diluted 15% at 0% Pb+Zn for all mining reserves. Mining recovery is assumed to be 95%.

Bench grade composite intervals correspond to actual planned mining intervals regardless of whether the material is ore or waste. The grade of all material (ore or waste) is averaged across the width of the mining bench. The bench composite method assumes no selectivity between ore and waste and as a result, predicted minable grades do not require additional adjustments to compensate for mining dilution. Mining recovery is assumed to be 95%.

Individual composited assays in all calculations are weighted by the length and pulp SG of the assay interval.

Geological reserves are in–situ, undiluted, and unadjusted estimates. Mining reserves are a subset of the total geological reserve and are adjusted for mining loss. Dilution is applied if the calculation was completed using geological composites.

Assay Clipping

V8803 and V8912 – Assays are unadjusted. V9009 – Assays are clipped to the 95th percentile by major ore types.

Assay clipping is carried out to limit local overestimation of grade caused by nearby erratically high assays.

Composite Distance Weighting

V8803 and V8912 - weighted by 1 over the distance squared.
V9009 - weighted by 1 over the distance.

The V8803 and V8912 reserve calculation weighted composites by 1 divided by the square of the distance between the block center and the center of the composite. The distance weighting power is reduced to 1 in the V9009 calculations. Variogram studies at Faro have shown that drillcore sample nugget effects range from 35 to 50 percent of the total variance. It is likely that this nugget effect also exists at Vangorda. Distance weighting is a more appropriate weighting method when estimating block grades with high nugget effects because a lower weighting power will lessen the influence of nearby grade composites. Local grade predictions, as a result, are statistically more reliable.

Porosity and Specific Gravity

V8803 and V8912 – No reduction of pulp SG's
V9009 – Pulp Sg's reduced by 2%

Rock Code Matching

V8803 – Grade Interpolation respected 6 different ore types in two separate stratigraphic horizons. Grade is not interpolated into phyllite rock types.

V8912 – Rock types are grouped into four categories; (1) Massive sulphide, (2) disseminated high pyrite, low grade, footwall quartzite. (3) disseminated low pyrite, low grade, footwall quartzite, (4) carbonaceous disseminated pyritic quartzite. Grade for each rock type was independently interpolated. The simplification was carried out to more accurately reflect the mixing and averaging of rock types expected during the mining process.

V9009 – Rock types are grouped into three categories; (1) Massive sulphide, (2) disseminated footwall quartzite, (3) carbonaceous disseminated pyritic quartzite. Grade for each rock type was independently interpolated.

Search Volume Ellipsoid

As drilling density increased for each subsequent reserve calculation, the maximum allowable distance between a grade composite and a model block was tightened. In the case of the bench composite calculations, the initial grade interpolation pass is restricted to composites on the same bench as the model block. The search volume of the geological composite calculation (V8803) is much larger than the bench composite ellipsoid volumes. (see summaries of modelling parameters for search ellipsoid geometries)

As the search ellipsoid volumes become smaller, the amount of local grade averaging will decrease proportionately. It also is more likely that a model block located in the more poorly drilled parts of the orebody would not be interpolated because the block is not able to "find" grade composites within the more restrictive search volumes.

VANGORDA V9009
SUMMARY OF MODELLING PARAMETERS

GEOLOGICAL INTERPRETATION
by Reed, Wasel & Brown,
Long & X-sections completed September 1990

Geology bench plans completed in October 1990

MODEL TYPE

PCMINE 3 Dimensional Block Model

MODEL LIMITS (LOCAL CO-ORDINATES)

Top Northing	10 665.48	Top Elevation	1 230
Bottom Northing	9 365.00	Bottom Elevation	990
Left Easting	9 797.50	Number of Benches	80
Right Easting	10 247.50	Bench Height	3.0 M

BLOCK MODEL DIMENSIONS

Width of column	4.50 m
Width of row	10.16 m
Height of block	3.00 m
Volume of block	137.16 BCM

Block rows are parallel to geological x-sections and normal to the structural grain of the deposit. Geological x-sections are 30.48 meters apart with DDH spacing approximately 15.24 meters along the section. The center of every third row corresponds to a geological x-section. Table 1 details section co-ordinates with corresponding row numbers.

ASSAYS

The Vangorda deposit is defined by 445 diamond drill holes and 35 rotary drill holes. From this dataset, a total of 319 diamond drill holes with approximately 6700 assay intervals were selected for grade compositing. All rotary holes and selected early (1951-1955) diamond drill holes with questionable recoveries and assay data were not used. All assays were clipped to the 95th percentile for all ore types before compositing.

COMPOSITES

Composite intervals were constrained between lithologic contacts with a maximum width of approximately three meters (1/2 bench height). Composite lengths generally vary from 2.5 meters to 3.0 meters with a mean thickness of 2.7 meters. Geological composites less than one meter in length were not used in the grade interpolation.

ROCK MODEL

Interpreted cross and longitudinal sections were digitized at 1:500 scale. Cross sections are 30.48 meters (100 feet) apart, longitudinal sections are 15.24 meters (50 feet) apart. Bench plans were interpolated at three metre intervals with lithology contacts plotted on section traces using GEOMODEL. A geological interpretation was completed at mid bench level on three meter intervals. Inconsistencies between long and cross sections were smoothed and corrected. Bench plans were subsequently digitized and lithology polygons were imported into PCMINE for block model construction.

MODEL INTERPOLATION

The Vangorda deposit can be divided into two distinct sectors with characteristically different ore zone geometries. The SE sector (sections 12e to 32e) is characterized by a 23^0 SW dipping main ore zone. This ore zone is gently NW plunging to flat. The NW sector (X-sections 4w to 12e) is complexly folded with fold axes plunging 11^0 to the NW. The ore zone is truncated to the NW by the Northwest fault; a steep, normal extensional fault. The following table describes Model row and column limits of each sector and the average deposit dip and plunge within both sectors.

V9009 INTERPOLATION SECTORS

Sector	Row Start	Row End	Col. Start	Col. End	Bench Start	Bench End	Deposit Dip	Deposit Plunge
SE	67	128	1	100	1	80	23^0 SW	flat
NW	1	66	1	100	1	80	complexly folded	11^0 NW

Grade interpolation was completed for density, %Pb, %Zn, AG g/mt, and Au g/mt. The block interpolation involved two passes. The search ellipsoid volume was increased approximately 30% in the second pass to interpolate ore blocks containing 00 values after the first pass.

ROCK CODE MATCHING

Geologic matching of three different ore types was carried out between model blocks and composites during the V9009 interpolation.

The carbonaceous quartzites (rock code 20) were interpolated separately from the footwall semi-massive quartzites (rock codes 30 & 40) and the massive sulfide rock types (rock codes 50 to 80).

SEARCH ELLIPSOID GEOMETRY

In the southeast part of the deposit, the search ellipsoid has been tilted 23^0 to the southwest to follow the layering of the deposit. The northwest sector has the primary axis of the search ellipsoid plunging 11^0 to the northwest following the plunge of the major fold axis.

The following tables describe the geometries of the Search Ellipsoid for each pass and sector.

SEARCH ELLIPSOID VOLUME

SE and NW Sector

	NW-SE	SW-NE	Vertical
Pass 1	50 meters	20 meters	4.5 meters
Pass 2	70 meters	35 meters	5.0 meters

PCMINE SEARCH ELLIPSOID PARAMETERS

	Horizontal Factor	Vertical Factor	Maximum Distance
SE Sector			
Pass 1	0.40	4.44	50 meters
Pass 2	0.50	5.83	70 meters
NW Sector			
Pass 1	2.50	11.11	50 meters
Pass 2	2.00	11.67	70 meters

A minimum of two composites were required to interpolate grade into a block. The maximum allowable number of composites is eight. Composite values were weighted by the inverse distance between the center of the block and the center of the composite.