STUDY NO. 1 0920/7E

820729

DRIFT INDICATED V.S. DRILL INDICATED RESERVES FROM 1944 EL TO SURFACE AS OF 30 SEPTEMBER 1981

N.B. Drill Indicated Reserves are based on Fire Assays

Drift Indicated Reserves are based on Blackdome Atomic Absorption Results without adjustments

As a matter of interest, fire assay returns on the first 306 assays result in the following factors being applicable to our Blackdome assays:

BLACKDOME ASSAY RANGE	0.0-1.99	2.0-2.49	2.5-2.99	3.0-3.99	4.0-4.99	5.0-7.99	8.0+
FACTOR TO EQUAL FIRE ASSAY	0.46	0.54	0.52	0.67	0.87	0.87	1.24

POLYGONS DEVELOPED BY DRIFTING TO 30 SEPTEMBER 1981 - ASSAY BASED ON D.D.H. RESULTS.

TRENCH No. or D.D.H. No.

ITEM	POLYGON NUMBER	WIDTH (Horiz)	AREA	TONNES	AU EQUIVALENT GRAMS TNE	GRAMS	REMARKS
	(37)				1.2		
20	1/2Tr 1	2.55	86.29	571.1	110.9	63,359	Keers' results based only on D.D.H. within polygon surrounding the Drift (see Nos. circled in red this table)
21	1/2Tr 1	1.75	269.36	1,227.0	71.9	88,233	
22	Tr 2	2.61	261.29	1,776.2	14.6	25,850	
23	12	2.15	779.03	4,349.4	12.2	52,887	2.33m Horiz. Width 41,850T of 0.462 oz/T. or 37,966 tonne of 15.84 gm/tonne
24	(13)	3.07	1130.64	9,027.1	47.8	431,674	
26	(38)	4.68	870.97	10,583.6	8.5	90,031	
27	(57)	2.82	811.29	5,957.0	3.3	19,621	
28	7	1.77	148.39	681.6	66.8	45,564	
29	(9)	1.73	561.29	2,527.7	23.7	59,826	
30	(39)	3.08	1109.67	8,887.0	4.4	38,806	
31	3/4Tr 4	4.28	205.64	2,290.5	5.1	11,779	
32	1/211 HW	1.67	526.61	2,285.0	11.5	26,343	
33	1/211 FW	1.67	526.61	2,285.0	5.1	11,644	
D.D.	"ORE"	2.769	7,287.08	52,454.2	18.41	965,617	
		9.08		57,820.3	0.537	31,045.8	English Units
		(Core)		LxH			
	3	1.90	820.00	41x20	4,050.8	1.53	6,217
	37	1.50	780.00	30x26	3,042.0	1.16	3,534
	1/6 10	1.50	95.30	52x22	247.9	0.66	164
				6x2			
D.D.	"WASTE"	1.67	1,695.30	7,340.7	1.35	9,915	
		5.46		8,091.7	0.035	318.8	English Units
D.D.	TOTAL	2.56	8,982,38	59,794.9	16.31	975,532	
		8.40		65,911.9	0.476	31,364.6	English Units

COMPARISON OF DRIFT INDICATED WITH DRILL INDICATED RESERVES - 30 SEPTEMBER 1981

	METRIC						ENGLISH				
	LONG.SECT. VERT. AREA	HOR. W M.	TONNES	Au Eq. @ Ag/45=Au GRAMS	Gm./Tne	REMARKS	HOR. W Ft.	TONS	Au Eq. @ Ag/45=Au TROY OUNCES	Oz./T.	REMARKS
ORE			see page 2	see page 3							
Uncut D.D.	7287.08	2.77	52,454.2	965,617	18.41		9.1	57,820.3	31,045.8	0.537	
Uncut Drift	5033.06	2.62	34,294.9	1,347,047	39.28		8.6	37,803.3	43,309.3	1.146	
Cut Drift	5033.06	2.62	34,294.9	947,311	27.62		8.6	37,803.3	30,457.2	0.806	
DIFF. FM D.D.											
Uncut Qty.	-2254.02	-0.15	-18,159.3	+ 381,430	+20.87		-0.5	-20,017.0	+12,263.5	+ 0.609	
%	- 30.9	-5.4	- 34.6	+ 39.5	+113.4		-5.4	- 34.6	+ 39.5	+113.4	
Cut Qty.	-2254.02	-0.15	-18,159.3	- 18,306	+ 9.2		-0.5	-20,017.0	- 588.6	+ 0.268	
%	- 30.9	-5.4	- 34.6	- 1.9	+ 50.0		-5.4	- 34.6	- 1.9	+ 50.0	
WASTE											
D.D.	1695.30	1.67	7,340.7	9,915	1.35		5.5	8,091.7	318.8	0.039	
Drift	3949.32	1.78	18,264.4	79,531	4.35		5.8	20,132.8	2,557.0	0.127	
DIFF. FM D.D.											
Qty.	+2254.02	+0.11	+10,923.7	+ 69,616	+ 3.00		+0.4	+12,041.1	+ 2,238.2	0.088	
%	+ 133.0	+6.6	+ 148.8	+ 702.1	+222.4		+6.6	+ 148.8	702.1	+222.4	
TOTAL											
Uncut D.D.	8982.38	2.56	59,794.9	975,532	16.31		8.4	65,912.0	31,364.6	0.476	
Uncut Drift	8982.38	2.25	52,559.3	1,426,578	27.14		7.4	57,936.1	45,866.3	0.792	
Cut Drift	8982.38	2.25	52,559.3	1,026,842	19.54		7.4	57,936.1	33,014.2	0.570	
DIFF. FM D.D.											
Uncut Qty.	-0-	-0.31	- 7,235.6	+ 451,046	10.83		-1.0	- 7,975.8	+14,501.7	+ 0.316	
%	-0-	-12.1	- 12.1	+ 46.2	+ 66.4		-12.1	- 12.1	+ 46.2	+ 66.4	
Cut Qty.	-0-	-0.31	- 7,235.6	+ 51,310	+ 3.23		-1.0	- 7,975.8	+ 1,649.6	+ 0.094	
%	-0-	-12.1	- 12.10	+ 5.26	+ 19.8		-12.1	- 12.10	+ 5.26	+ 19.8	

1.0256
1.056

STUDY NO. 2

ECONOMIC STUDY NO. 1

VALUE OF ORE 1960 LEVEL BACKS TO SURFACE
30 SEPTEMBER 1981
DRIFT INDICATED RESERVES

Red figures are Kerr's

Average Surface Elevation = 1993.0 M
Average Back Elevation = 1963.5 M
△ Elevation = 29.5 M = 96.78 Ft.

	L. FT.	HOR. AREA SQ.FT.	W. FT.	TONS VERT FOOT	GRADE OZ.AuEq TON	VERT FT.	TONS	EQUIVALENT TROY OUNCES
	(340.1')				(1.48 oz/t)		(18,587T)	27,509 oz
Uncut 30/09/81	338.2	2908.3	8.6	235.9	1.146	96.8	22,831	26,164.6
Cut 30/09/81	338.2	2908.3	8.6	235.9	0.806	96.8	22,831	18,402.0
Factors		Applied to Cut Reserve						
Dilution		1.245					1.245	
DILUTED RESERVE	338.2	3620.8	10.7	293.7	uncut (1.16) 0.647	96.8	(37,036T) 28,424	42,961.76 oz 18,402.0
Recovery								0.950
RECOVERABLE RESERVE	338.2	3620.8	10.7	293.7	0.615	96.8	28,424	17,481.9
				CAN$ VERT FT.	CAN$ TON			CAN$
Values per Troy Ounce								$465.00
GROSS VALUE RESERVE				83,978.1	285.99	96.8	28,424	$8,129,084
Operating Costs				41,109.1	140.00			$3,979,360
OPERATING PROFIT				42,869.0	145.99	96.8	28,424	$4,149,724

DISCUSSION:

1. The study makes no allowance for either the ore presently removed by drifting and remaining in stockpile, or the ore in the floor.

2. Reserve Life @ 200 TPD = 4.74 Months.

3. Operating Profit Rate = $875,940 per Month.

4. Dilution, Recovery, and Cost Estimates are unstudied in detail, but from knowledge to date are considered conservative.

It was assumed that upgrading by using Development results over Diamond Drill results would allow material grading 8.0 to 8.9 gm/Tne (0.23 - 0.26 oz./T) to be economic at $120.00/Ton Operating Costs with US$400.00 Gold.

Downgrading by assumed Dilution of 23% will obviate this possibility so that the study will restrict itself to Polygons grading $\geq$ 8.9 gm/Tne. The study will also consider only those reserves south of 1275 N Latitude, and will exclude Polygon 84 H.W.

COMPARE $\geq$ 8.9 gm/Tne. WITH TOTAL RESERVE

	TONNES	GRAMS/TONNE Au	Ag	AuEq	GRAMS Au	Ag	SQ.MT POLYGON	MT W
TOTAL RESERVE	328,839	10.43	103.6	12.8	3,428,414	34,075,004	54,879	2.30
RESERVE $\geq$ 8.9	119,871	20.66	195.7	25.0	2,476,274	23,460,850	20,090	2.29
% TOTAL RESERVE	36				72	69	37	
RESERVE < 8.9	208,968	4.56	50.8	5.7	952,140	10,614,154	34,789	2.31
% TOTAL RESERVE	64				28	31	63	
STUDIED RESERVE	100,936	21.36	195.9	25.71	2,155,828	19,777,690	16,511	2.35
%TOTAL RESERVE	31.				63	58	30	
UNSTUDIED RESERVE	227,903	5.58	62.7	6.98	1,272,586	14,297,314	38,368	2.28
% TOTAL RESERVE	69.				37	42	70	
	TONS	TROY OZ./TON Au	Ag	AuEq	TROY OUNCES Au	Ag	SQ.FT. POLYGON	FT. W
TOTAL RESERVE	362,483	0.304	3.02	0.371	110,227.75	1,095,553	590,698	7.56
RESERVE $\geq$ 8.9	132,135	0.603	5.71	0.729	79,615.28	754,295	216,242	7.53
% TOTAL RESERVE	36				72	69	37	
RESERVE < 8.9	230,348	0.133	1.48	0.167	30,612.47	341,257	374,456	7.58
% TOTAL RESERVE	64				28	31	63	
STUDIED RESERVE	111,263	0.623	5.72	0.750	69,312.54	635,877	177,719	7.72
% TOTAL RESERVE	31				63	58	30	
UNSTUDIED RESERVE	251,220	0.163	1.83	0.204	40,915.21	459,676	412,980	7.50
% TOTAL RESERVE	69				37	42	70	

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	TONS	TROY OZ./TON Au	Ag	AuEq	TROY OUNCES Au	Ag	SQ. FT. POLYGON	FT. W
STUDIED RESERVE (drill indicated)	111,263	0.623	5.72	0.750	69,313.54	635,877	177,719	7.72
DRIFT/ D.D.	0.879				1.0526	1.0526	1.00	-12.10
DRIFTED RESERVE	97,800	0.746	6.84	0.898	72,958	669,324	177,719	6.79
Dilution	1.245							
DILUTED RESERVE	121,761	0.599	5.50	0.721	72,958.38	669,324	177,719	8.45
Recoveries					0.97	0.85		
RECOVERED RESERVE	121,761	0.581	4.67	0.685	70,769.63	568,926	177,719	8.45

	TONS	CAN. $/TON Au	Ag	CANADIAN $ Au	Ag		
Values/Troy Oz.				465.00	9.12		
GROSS VALUE RESERVES	121,761	270.27	42.61	32,907,878	5,188,605	177,719	8.45
GROSS VALUE		312.88		38,096,483			
Operating Costs	121,761	140.00		17,046,540			
OPERATING PROFIT		172.88		21,049,943			
Additional Capital Costs		106.77		13,000,000			
NET VALUE		66.11		8,049,943			

STUDY NO. 5

FEASIBILITY STUDY NO. 2

AS FOR FEASIBILITY STUDY NO 1 BUT
APPLYING DRIFT/DRILL INDICATED FACTORS = 1.00

CATEGORY	TONS	TROY OZ./TON Au	Ag	AuEq	TROY OUNCES Au	Ag	SQ. FT. POLYGON	FT. W
STUDIED RESERVE	111,263	0.623	5.72	0.750	69,313.54	635,877	177,719	7.72
Dilution	1.245							
DILUTED RESERVE	138,522	0.500	4.59	0.602	69,313.54	635,877	177,719	9.61
Recoveries					0.97	0.85		
RECOVERED RESERVE	138,522	0.485	3.90	0.572	67,234.13	540,495	177,719	9.61

	TONS	CAN. $/TON Au	Ag	CANADIAN $ Au	Ag		
Values/Troy Oz.				465.00	9.12		
GROSS VALUE RESERVES	138,522	225.70	35.59	31,263,872	4,929,319	177,719	9.61
GROSS VALUE		261.28		36,193,191			
Operating Costs	138,522	140.00		19,393,080			
OPERATING PROFIT		121.28		16,800,111 ✓			
Additional Capital Costs		93.85		13,000,000 ✓			
NET VALUE		27.43		3,800,111 ✓			