

To R. McCallum

*Jla*

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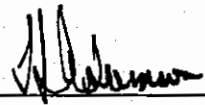
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RTolbert

From T. J. Adamson

Date December 7, 1982

Subject Grum Reserves

Enclosed are summaries of our most recent Grum reserve estimates. Back-up data and maps have been sent this date to John Purkis.



T. J. Adamson

TJA/ck  
Encl.

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To J. G. Simpson Copyto

From T. J. Adamson

Date December 6, 1982

Subject Grum Reserve Estimate - "01k Pit" Reserve

Note: Tonnage and grade are undiluted, with a 4% Pb+Zn mining cut-off grade.

	<u>Tonnes</u>	<u>Pb %</u>	<u>Zn %</u>	<u>Ag</u>
Calculated: Sec. 62-80	14,092,994	3.66	6.24	62
Estimated: Sec. 82-86 (pending S.G.'s)	2,961,581	2.31	4.23	42
	<hr/>			
	17,054,575	3.43	5.89	59
	$17 \times 10^6$	$\frac{3.4}{9.3 \text{ Pb+Zn}}$	$\frac{5.9}{9.3 \text{ Pb+Zn}}$	57

$$\text{Stripping Ratio: } \frac{\text{Total waste vol. m}^3}{\text{tonnes ore}} = \frac{49,655,652}{17,054,575}$$

$$= 2.91 \text{ Bm}^3/\text{tonne}$$

T. J. Adamson

TJA/ck

To J. G. Simpson

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From T. J. Adamson

Date December 1, 1982

Subject Grum Reserve Estimate - Underground Mining; Secs. 62W - 86W

*Minimum Mining Width?*

Note: - Tonnage and grade are undiluted, with an 8% combined Pb+Zn mining cut-off grade and with 100% mining extraction.

- Assay blocks in the underground mining reserve are shown on the attached, coloured, section by section assay block/grade/S.G. tabulations and also on the corresponding coloured assay block cross-section maps.
- S.G.'s are estimated from ore facies for Sections 82W - 86W. Actual values will be available by year end.
- "Underground Reserve" and "Open Pit Reserve (Olk Pit)" are not additive. Much of the calculated underground minable reserve falls within the plotted limits of the "Olk Pit" (i.e. 4,900,000 tonnes @ 4.72% Pb, 8.62% Zn, 81 gms/MT Ag within pit limits).

	<u>Tonnes</u>	<u>Pb %</u>	<u>Zn %</u>	<u>Ag</u>
A. Upper Panel, Sec. 70-82W (yellow)	1,915,139	5.09	9.26	88
Lower Panel, Sec. 70-86W (green)	<u>4,186,130</u>	4.22	7.19	74
Upper + Lower Panels	6,101,269	4.49	7.84	78
B. Sec. 62-68 East Extension to Upper/Lower Panel (orange)	956,046	5.35	10.03	89
C. Section 70-86W (orange)	2,480,851	4.10	7.60	72
D. Section 64-70W "Upright Panel" (orange stripe)	1,422,073	5.09	6.37	78
TOTAL	<u>10,960,239</u>	4.55	7.79	78
<i>Comparable K A reserves</i>	<i>15 x 10<sup>4</sup></i>	<i>5.2</i>	<i>8.4</i>	

If the highest grade "plums" (attached tabulation) are extracted first in the early mining years, as follows:

2,351,266 5.72 10.80 98

then the tonnage/grade of the remaining underground reserve is:

8,608,973 4.23 6.97 73

TJA/ck  
Attach.

**CYPRUS ANIL**

<u>Sec.</u>	<u>Pb %</u>	<u>Zn %</u>	<u>Ag</u>	<u>Tonnes</u>	<u>Pb %</u>	<u>Zn %</u>	<u>Ag</u>
<u>Section 70 - 82W Upper Panel (yellow) tonnage/grade</u>							
Sec. 70W	4.60	8.91	85	257,196			
72	4.52	7.90	75	293,218			
74	5.47	10.09	91	215,365			
76	6.23	10.93	110	423,073			
78	5.62	11.56	97	251,010			
80	4.20	7.12	72	386,705			
82	4.44	7.51	80	<u>88,572</u>			
				1,915,139	5.09	9.26	88
<u>Section 70 - 86W Lower Panel (green) tonnage/grade</u>							
Sec. 70W	6.91	13.13	111	93,234			
72	4.10	6.75	74	545,014			
74	3.94	6.69	70	770,459			
76	3.50	5.85	61	391,781			
78	4.33	7.09	78	577,880			
80	4.75	8.27	80	515,140			
82	4.56	7.64	79	738,650			
84	3.81	6.56	69	401,960			
86	3.43	7.48	75	<u>152,012</u>			
				4,186,130	4.22	7.19	74
<u>Section 70 - 86W Upper + Lower Panel</u>							
Upper (yel.)	5.09	9.26	89	1,915,139			
Lower (gr.)	4.22	7.19	74	<u>4,186,130</u>			
				6,101,269	4.49	7.84	78
<u>Section 62-68W East Extension to Upper/Lower Panel</u>							
Sec. 62W	6.36	13.29	103	99,894			
64	5.41	10.59	91	182,183			
66	5.46	9.07	89	297,643			
68	4.96	9.66	84	<u>376,326</u>			
				956,046	5.35	10.03	89
<u>Section 70-86W "Orange" Reserve tonnage/grade</u>							
Sec. 70W	6.61	13.15	111	142,449			
72	4.04	7.17	71	338,779			
74	3.55	6.92	63	417,874			
76	4.38	7.63	74	426,410			
78	3.89	7.58	69	289,264			
80	3.93	7.44	72	276,156			
82	3.94	7.92	74	207,339			
84	3.50	5.67	60	207,873			
86	4.37	7.57	72	<u>174,707</u>			
				2,480,851	4.10	7.60	72

Section 64 - 70W "Upright Panel" (orange stripe) tonnage/grade

Sec. 64W	5.31	6.51	80	293,198			
66	4.59	5.56	72	571,101			
68	5.92	8.50	91	254,485			
70	5.13	5.98	78	<u>303,289</u>			
				1,422,073	5.09	6.37	78

Initial Mining Years High Grade Reserve

<u>Section</u>	<u>Blocks</u>	<u>Pb %</u>	<u>Zn %</u>	<u>Ag</u>	<u>Tonnes</u>	<u>Pb %</u>	<u>Zn %</u>	<u>Ag</u>
62W (orange)	1	6.36	13.29	103	99,894			
64W (orange)	2, 3	6.09	11.67	103	143,272			
66W (orange)	4	5.73	9.71	94	250,051			
68W (orange)	7, 9, 11, 12	5.08	10.06	85	346,771			
70W (orange)	8	6.61	13.15	111	142,449			
70W (green)	17	6.91	13.13	111	93,234			
70W (yellow)	14	4.73	9.42	87	221,209			
72W (yellow)	10, 14	5.43	9.64	94	164,938			
74W (yellow)	9, 11, 13	5.47	10.09	91	215,365			
76W (yellow)	10	6.23	10.93	110	423,073			
78W (yellow)	26, 27A	5.62	11.56	97	<u>251,010</u>			
					2,351,266	5.72	10.80	98

Underground Reserve 8% Cut-of

Upper Panel

Lower Panel

East Extension to U/L Panels,  
Sec. 62-68 and Sec. 70-86 mis

Upright Panel

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SECTION 62W

Assay Block#	Area(m <sup>2</sup> )	Pb %	Zn %	Ag	Pb+Zn %	S.G.	Dominant Facies
1	445.0	6.36	13.29	103	19.65	3.68	4ED
2	70.0	0.63	1.24	14	1.87	3.22	4AD
3	540.0	3.39	5.38	86	8.77	4.10	4EG
4	32.5	1.88	3.10	39	4.98	3.15	4A4
5	127.5	1.07	1.09	28	2.16	3.70	4EL
6	325.0	3.24	5.44	64	8.68	4.11	4EA
7	95.0	1.06	2.20	22	3.26	2.83	4AO
8	25.0	2.93	4.25	38	7.18	2.84	4AK
9	42.5	5.30	7.00	83	12.30	3.72	4G4
10	200.0	2.64	4.00	30	6.64	3.82	4GE/5D
11	602.5	2.80	3.16	42	5.96	3.43	4EA
12	257.5	2.46	4.28	42	6.74	3.11	4AC
13	320.0	2.60	2.42	41	5.02	3.80	4GE

3053.5

$\Sigma A \times SG = 11,332.215$

$\overline{SG} = 3.7$

G R U M

SECTION 64W

Assay Block#	Area(m <sup>2</sup> )	Pb %	Zn %	Ag	Pb+Zn %	S.G.	Dominant Facies
1	1,087.5	1.95	2.72	28	4.67	3.16	4AO
2	515.0	6.05	12.43	104	18.48	3.81	4DE
3	117.5	6.29	7.80	95	14.09	3.29	4A4
4	585.0	1.61	2.23	32	3.84	3.65	4C8
5	137.5	2.93	6.64	51	9.57	3.03	4AL
6	75.0	2.81	6.59	45	9.40	2.95	5B9
7	272.5	5.39	8.73	92	14.12	4.28	4GE
8	205.0	3.12	3.79	53	6.91	3.87	4AGH
9	140.0	0.78	1.45	14	2.23	3.30	4A1
10	40.0	4.60	8.35	85	12.95	4.28	4E4
11	95.0	2.61	2.97	46	5.58	3.60	4HD
12	1,067.5	1.57	1.45	25	3.02	3.53	4EC
13	945.0	5.35	6.44	81	11.79	4.20	4GE
14	200.0	5.07	6.87	75	11.94	3.80	4GE
15	37.5	2.99	3.20	42	6.19	3.65	4GL
16	600.0	1.77	3.03	35	4.80	3.35	4A4
17	37.5	2.30	4.60	39	6.90	3.03	4A4
18	20.0	1.76	3.20	26	4.96	3.03	4A2
19	225.0	2.09	2.29	33	4.38	3.66	4CEG
20	27.5	3.22	4.42	56	7.64	3.34	4D4
21	425.0	2.10	1.73	35	3.83	3.94	4E*
	<u>6855.0</u>					<u>3.63</u>	
		Σ Ag + Sg = 2990.425					

GRUMSECTION 66W

Assay Block#	Area(m <sup>2</sup> )	Pb %	Zn %	Ag	Pb+Zn %	S.G.	Dominant Facies
1	410.0	10.55	9.52	173	20.07	4.00	4EGL
2	52.5	1.33	4.38	21	5.71	3.03	4A4
3	75.0	0.64	1.73	17	2.37	2.83	4A1
4	1,067.5	5.73	9.71	94	15.44	3.84	4GED
5	210.0	1.20	1.64	30	2.84	3.05	4AO
6	235.0	4.04	5.73	63	9.77	3.32	4A4
7	162.5	2.70	3.94	38	6.64	3.53	4AE
8	657.5	0.48	1.68	20	2.16	3.40	4CO
9	212.5	3.75	4.79	65	8.54	3.34	4CD
10	210.0	2.52	4.10	46	6.62	3.84	4EA
11	257.5	6.22	10.98	116	17.20	4.00	4EG
12	600.0	1.32	2.83	26	4.15	3.14	4A1
13	237.5	2.58	5.01	44	7.59	3.44	4EA
14	107.5	2.95	7.00	44	9.95	2.76	4L4
15	62.5	1.55	3.13	28	4.68	3.01	4A1
16	427.5	3.62	5.06	58	8.68	3.10	4A4
17	957.5	5.57	6.33	83	11.90	3.82	4GD
18	397.5	3.98	5.23	64	9.21	3.34	4D
19	707.5	4.07	4.97	67	9.04	4.10	4GE
20	275.0	0.98	1.64	27	2.62	2.95	4AO
21	372.5	0.97	1.16	22	2.13	4.10	4EO
22	310.0	2.50	3.83	46	6.33	3.79	4E8
23	805.0	2.69	2.36	34	5.05	3.36	4CE
24	32.5	1.52	1.41	40	2.93	3.60	4CE
25	95.0	4.60	6.08	87	10.68	3.99	4GE

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SECTION 68W

Assay Block#	Area(m <sup>2</sup> )	Pb %	Zn %	Ag	Pb+Zn %	S.G.	Dominant Facies
1	175.0	8.37	6.78	111	15.15	3.64	4E4
2	172.5	6.03	6.91	88	12.94	3.22	4GKA
3	430.0	5.27	9.93	85	15.20	3.48	4BD4
4	102.5	2.86	5.48	54	8.34	3.29	4A4
5	30.0	5.13	7.81	73	12.94	3.23	4A4
6	1,885.0	0.86	1.69	14	2.55	2.93	4A0
7	437.5	5.08	9.18	84	14.26	4.18	4E4
8	390.0	1.80	2.52	33	4.32	3.61	4E0
9	357.5	5.11	10.25	89	15.36	3.88	4ED
10	142.5	3.56	4.98	63	8.54	3.40	4D4
11	377.5	4.87	9.08	83	13.95	3.43	4A4
12	295.0	5.26	12.27	86	17.53	3.98	4DE
13	192.5	2.01	3.56	34	5.57	3.55	4EC
14	127.5	7.55	6.63	96	14.18	3.34	4D6
15	492.5	4.38	3.68	66	8.06	4.15	4EK
16	165.0	5.25	8.96	106	14.21	4.17	4G4
17	47.5	1.74	3.06	36	4.80	3.27	4EA
18	122.5	2.46	5.28	44	7.74	3.12	4A4
19	22.5	5.17	10.26	87	15.43	3.90	4G4
20	555.0	5.79	7.19	82	12.98	4.06	4GE
21	725.0	3.03	3.91	53	6.94	3.77	4E
22	305.0	2.35	2.89	35	5.24	3.22	4ADC
23	1,977.5	1.19	1.20	21	2.39	3.42	4CC
24	495.0	6.08	10.10	101	16.18	3.74	4E4
25	125.0	3.69	3.24	50	6.93	3.62	4E8
26	52.5	4.23	8.45	67	12.68	3.30	4A0

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SECTION 70W

Assay Block#	Area(m <sup>2</sup> )	Pb %	Zn %	Ag	Pb+Zn %	S.G.	Dominant Facies
1	57.5	7.39	8.53	123	15.92	4.06	4GK
2	62.5	6.22	7.14	96	13.36	4.00	4GD
3	482.5	2.41	5.88	44	8.29	3.03	4A4
4	1,087.5	2.18	4.30	38	6.48	3.32	4A4
4A	75.0	2.58	4.29	38	6.87	3.03	4L4
5	690.0	1.78	3.29	35	5.07	3.43	4AE
6	342.5	0.91	1.74	19	2.65	2.80	5B/4L
7	57.5	1.37	2.50	26	3.87	3.02	4L2
8	1,152.5	6.61	13.15	111	19.76	4.12	4ED
9	45.0	1.48	1.65	27	3.13	3.36	4AO
10	315.0	1.81	2.95	36	4.76	3.33	4AO
11	522.5	1.34	3.13	27	4.47	2.85	4L4
12	165.0	3.87	7.85	64	11.72	3.03	4A4
13	147.5	1.20	2.95	25	4.15	3.16	4AE
14	837.5	4.73	9.42	87	14.15	4.33	4EG
15	382.5	1.61	2.16	35	3.77	3.21	4AO
16	142.5	3.83	5.74	76	9.57	4.14	4EG
17	425.0	6.91	13.13	111	20.04	3.51	4DE
18	80.0	4.84	10.69	90	15.53	3.57	4D
19	237.5	5.30	10.70	96	16.00	4.04	4E4
20	57.5	0.25	0.91	17	1.16	3.03	4AE
21	222.5	1.94	2.92	37	4.86	3.52	4CA
22	710.0	5.63	5.98	88	11.61	4.27	4EG
23	437.5	1.36	1.13	25	2.49	3.42	4L
24	110.0	3.12	2.63	47	5.75	3.52	4LC
25	300.0	2.59	2.55	43	5.14	3.99	4AC
26	115.0	0.80	1.52	13	2.32	2.72	4A3
27	80.0	5.10	7.50	89	12.60	4.05	4G4
28	25.0	1.47	1.89	28	3.36	3.36	4CO
29	50.0	1.29	1.77	25	3.06	3.38	4AO
30	877.5	1.60	3.59	31	5.19	3.01	4AO
31	440.0	5.77	8.19	96	13.96	3.96	4GE
32	100.0	2.68	3.32	45	6.00	3.55	4DC
33	375.0	4.99	5.28	74	10.27	3.89	4GE
34	395.0	4.59	4.31	63	8.90	4.28	4GED
35	217.5	2.72	2.82	45	5.54	3.90	4E8
36	87.5	2.80	1.15	36	3.95	3.17	4AO
37	460.0	5.59	5.90	73	11.49	4.22	4GE
38	167.5	0.89	1.28	22	2.17	3.46	4C8

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SECTION 72W

Assay Block#	Area(m <sup>2</sup> )	Pb %	Zn %	Ag	Pb+Zn %	S.G.	Dominant Facies
1	230.0	4.55	8.06	74	12.61	3.30	4DLA
2	417.5	2.07	3.75	37	5.82	3.30	4AD
3	2,277.5	2.42	4.78	44	7.20	3.15	4A4
4	280.0	1.46	2.79	22	4.25	2.97	4LO
5	77.5	0.72	1.82	11	2.54	2.95	4BA
6	282.5	3.80	7.42	71	11.22	3.52	4AD
7	775.0	3.30	4.28	47	7.58	3.18	4A4
8	130.0	4.50	8.46	78	12.96	3.10	4E4
9	1,125.0	3.35	5.66	50	9.01	3.07	4A4
10	192.5	7.48	14.50	132	21.98	3.95	4ED
11	30.0	9.35	17.70	143	27.05	4.11	4E4
12	205.0	1.14	2.32	21	3.46	2.85	4LA
13	95.0	1.39	1.94	35	3.33	3.49	4A0
14	517.5	4.86	8.28	83	13.14	4.08	4EG
15	187.5	1.61	2.20	25	3.81	3.15	4A4
16	92.5	3.25	6.23	71	9.48	3.94	4E4
17	490.0	1.56	1.36	22	2.92	3.03	4AL
18	262.5	6.69	5.25	97	11.94	4.19	4EG
19	180.0	2.64	2.31	40	4.95	3.27	4CL/5B9
20	80.0	1.60	1.77	24	3.37	3.23	4CL
21	177.5	6.28	7.02	101	13.30	4.23	4GE
22	147.5	5.17	5.31	85	10.48	4.06	4GE
23	50.0	2.73	2.16	53	4.89	3.89	4EC
24	212.5	6.63	8.22	110	14.85	4.11	4EG
25	1,147.5	4.41	6.81	77	11.22	4.81	4DE
26	725.0	3.29	6.07	65	9.36	4.03	4EG
27	265.0	0.69	1.06	15	1.75	3.07	4A0
28	77.5	6.36	12.73	102	19.09	3.60	4A4
29	915.0	0.96	2.34	23	3.30	3.28	4CO
30	25.0	1.97	2.94	34	4.91	2.75	4L4
31	155.0	4.42	9.25	80	13.67	3.90	4EK
32	305.0	0.88	1.31	18	2.19	2.95	4A0
33	175.0	3.38	5.98	77	9.36	3.48	4DK
34	557.5	4.68	8.07	80	12.75	3.94	4EG
35	147.5	2.69	4.49	53	7.18	3.03	4A4
36	72.5	2.19	4.11	39	6.30	3.59	4ADE
37	245.0	3.47	4.16	68	7.63	3.75	4CD
38	107.5	1.70	1.90	29	3.60	3.37	4E1
39	107.5	3.60	3.32	43	6.92	3.88	4EG
40	410.0	1.96	1.36	36	3.32	3.62	4EG

## G R U M

## SECTION 74W

Assay Block#	Area(m <sup>2</sup> )	Pb %	Zn %	Ag	Pb+Zn %	S.G.	Dominant Facies
1	992.5	1.19	2.89	25	4.08	2.95	4AB
2	485.0	2.19	5.59	44	7.78	3.26	4AD
3	357.5	6.45	9.34	101	15.79	3.40	4DEA
4	665.0	4.02	6.91	65	10.93	3.10	4AC
5	617.5	3.10	5.32	50	8.42	3.18	4AD
6	195.0	2.16	3.66	37	5.82	2.87	4AL
7	1,127.5	2.20	3.91	35	6.11	3.06	4AC
8	570.0	1.31	2.47	21	3.78	2.92	4AC
9	305.0	7.37	14.35	125	21.72	3.94	4E4
10	225.0	2.91	4.67	46	7.58	3.19	4LC
11	420.0	3.16	5.38	49	8.54	3.06	4A4
12	645.0	1.20	1.54	18	2.74	2.83	4CA
13	357.5	6.12	10.97	103	17.09	3.83	4E
14	382.5	6.14	4.64	78	10.78	4.15	4EG
15	55.0	2.96	2.62	41	5.58	3.40	4EL
16	335.0	3.74	3.63	61	7.37	3.65	4EL
17	82.5	1.14	1.75	23	2.89	3.04	4AO
18	195.0	1.87	3.37	31	5.24	2.97	4LA
19	132.5	0.80	2.16	15	2.96	3.03	4A1
20	55.0	6.04	9.50	101	15.54	2.89	4A4
21	52.5	1.34	1.41	22	2.75	2.83	4A1
22	405.0	3.91	6.06	64	9.97	4.17	4EG
23	475.0	4.96	10.31	89	15.27	3.38	4D
24	222.5	2.65	4.03	42	6.68	3.39	4DA
25	545.0	3.29	5.02	49	8.31	2.97	4A4
26	452.5	1.13	1.26	18	2.39	2.76	4A1
27	365.0	1.52	3.25	29	4.77	2.80	4AL
28	1,132.5	2.75	5.80	51	8.55	3.14	4A4
29	165.0	3.79	3.91	63	7.70	3.03	4A4
30	192.5	5.10	9.50	88	14.60	4.14	4G4
31	100.0	3.40	5.85	48	9.25	3.50	4AG
32	45.0	3.80	5.00	67	8.80	2.75	4L4
33	87.5	4.37	4.90	74	9.27	3.80	4GC
34	75.0	4.20	4.04	58	8.24	3.84	4EL*
35	95.0	2.80	3.15	31	5.95	3.34	4D8
36	785.0	3.28	3.41	48	6.69	3.57	4EG
37	1,157.5	1.00	1.58	21	2.58	3.53	4EC
38	345.0	6.30	9.79	118	16.09	4.05	4GD
39	100.0	3.03	3.54	47	6.57	3.44	4EA
40	1,827.5	3.88	6.62	72	10.50	4.10	4EG
41	690.0	4.50	7.84	72	12.34	3.90	4ED
42	582.5	3.44	5.51	62	8.95	3.68	4ED
43	317.5	0.86	1.93	21	2.79	2.96	4AC
44	80.0	1.14	2.01	23	3.15	3.07	4LA
45	145.0	0.55	0.89	19	1.44	3.34	4CO
46	322.5	3.28	3.91	52	7.19	3.65	4DL

G R U M

SECTION 76W

Assay Block#	Area(m <sup>2</sup> )	Pb %	Zn %	Ag	Pb+Zn %	S.G.	Dominant Facies
1	1,640.0	2.21	4.06	39	6.27	3.01	4A4
2	255.0	4.16	6.88	69	11.04	3.12	4AE
3	107.5	1.07	2.43	24	3.50	2.81	5A9
4	1,127.5	3.10	5.83	50	8.93	3.04	4AD
5	112.5	0.71	1.41	18	2.12	2.78	5A9
6	1,112.5	2.42	4.27	39	6.69	2.95	4ADL
7	1,305.0	1.62	2.64	27	4.26	2.98	4AL
7A	525.0	3.68	7.15	68	10.83	3.10	4A4
8	172.5	3.53	6.78	59	10.31	2.97	4AB
9	82.5	1.17	2.50	26	3.67	2.80	4L4
10	1,687.5	6.23	10.93	110	17.16	4.11	4E4
11	117.5	0.52	0.98	22	1.50	3.03	4AE
12	125.0	2.52	6.24	43	8.76	2.95	5B9/4E4
13	37.5	7.17	17.31	108	24.48	4.37	4EG
14	30.0	4.21	8.64	84	12.85	3.48	4KL
15	1,085.0	2.55	4.20	43	6.75	2.97	4A4
16	685.0	1.56	1.61	24	3.17	2.83	4AL
17	867.5	4.07	7.19	69	11.26	3.31	4AD
18	207.5	1.19	1.05	17	2.24	2.79	4AL
19	430.0	4.80	7.38	74	12.18	3.23	4AD
20	220.0	2.22	3.28	48	5.50	3.27	4AD
21	95.0	2.25	3.34	41	5.59	2.99	4AL
22	250.0	5.66	9.78	93	15.44	4.41	4G
23	17.5	1.98	2.05	36	4.03	3.38	4L4
24	300.0	6.72	6.47	102	13.19	4.05	4EG
25	385.0	1.99	1.50	36	3.49	3.86	4E
26	185.0	4.59	7.43	95	12.02	4.15	4E4
27	20.0	2.23	3.84	60	6.07	4.85	4L4
28	20.0	6.20	9.60	121	15.80	4.18	4G4
29	27.5	4.65	6.73	73	11.38	4.19	4EG
30	407.5	1.26	2.32	29	3.58	3.04	4A1
31	92.5	0.86	1.57	15	2.43	3.03	4A1
32	490.0	1.21	2.23	20	3.44	3.08	4AE
33	1,812.5	3.50	5.85	61	9.35	3.98	4GE
34	205.0	1.82	2.29	34	4.11	3.67	4EA
35	5.0	4.60	6.60	82	11.20	3.94	4E4
36	125.0	3.95	4.00	49	7.95	3.91	4E*4
37	272.5	2.16	2.65	35	4.81	3.13	4GL
38	335.0	3.13	4.03	47	7.16	3.37	4GE
39	250.0	3.85	5.62	60	9.47	3.46	4GE

## SECTION 78W

Assay Block#	Area(m <sup>2</sup> )	Pb %	Zn %	Ag	Pb+Zn %	S.G.	Dominant Facies
1	1,362.5	1.91	3.52	32	5.43	2.90	4AO
2*	255.0	2.73	5.20	43	7.93	3.34	4D4
3	2,435.0	2.94	5.76	48	8.70	3.03	4A4
4	520.0	1.22	2.77	25	3.99	2.77	4AD
5	15.0	2.78	5.04	20	7.82	3.34	4D7
6	22.5	1.87	3.21	29	5.08	3.34	4D0
7	310.0	2.71	4.72	51	7.43	3.18	4DE
8	167.5	3.43	4.20	67	7.63	3.31	4A4
9	227.5	5.98	10.58	97	16.56	3.47	4ED
10	265.0	1.80	2.98	35	4.78	3.01	4CD
11	247.5	1.24	2.01	19	3.25	2.89	4L4
12	872.5	3.11	6.08	58	9.19	3.24	4AD
13	287.5	1.37	2.70	33	4.07	3.19	4AO
14	830.0	1.83	3.39	35	5.22	2.95	4ACD
15	312.5	1.15	1.61	21	2.76	2.76	4L4
16	517.5	2.24	4.60	47	6.84	3.04	4A4
17	375.0	4.37	9.02	81	13.39	3.41	4DAE
18	87.5	4.09	5.12	70	9.21	3.25	4A
19	185.0	1.01	2.12	22	3.13	2.81	4AL
20	67.5	2.02	3.00	37	5.02	3.07	4A4
21	182.5	2.51	4.51	43	7.02	3.00	4AE
22	100.0	8.31	16.38	113	24.69	3.52	4A4
23	545.0	1.12	2.10	21	3.22	3.05	4LA
24	190.0	2.10	4.22	35	6.32	2.87	4AL
25	287.5	1.26	2.00	23	3.26	2.85	4A1
26	1,042.5	5.68	11.73	98	17.41	3.81	4AE/4EG
27	1,047.5	2.78	4.27	43	7.05	3.15	4A4
27A	57.5	3.99	6.96	77	10.95	4.40	4E4
28	65.0	1.86	0.92	30	2.78	2.99	4AO
29	352.5	2.01	2.05	34	4.06	3.29	4AO
29A	250.0	0.94	1.16	13	2.10	2.87	4AL
30	890.0	4.17	6.92	84	11.09	4.18	4GE
31	335.0	1.17	1.78	24	2.95	2.93	4AO
32	102.5	2.16	3.74	39	5.90	3.32	4AE
33	932.5	3.65	5.19	63	8.84	3.56	4EA4
34	377.5	2.67	4.29	46	6.96	3.03	4A4
35	155.0	3.71	5.39	64	9.10	3.91	4EA
36	425.0	5.22	8.29	98	13.51	3.98	4E4/5B9
37	67.5	1.45	2.30	27	3.75	3.40	4EA
38	787.5	1.49	1.90	25	3.39	3.33	4EA
39	30.0	1.20	1.23	27	2.43	3.80	4E1
40	582.5	6.03	10.85	97	16.88	3.35	4DA
41	70.0	2.68	5.60	53	8.28	3.64	4AED
42	150.0	1.21	1.60	19	2.81	3.34	4C3
43	195.0	3.01	3.53	51	6.54	3.62	4EG
44	55.0	2.34	4.76	44	7.10	3.19	4AG
45	182.5	4.15	6.41	68	10.56	3.42	4AE
46	275.0	2.45	2.39	27	4.84	3.94	4E8
47	150.0	1.66	1.59	23	3.25	3.03	4AO
48*	530.0	1.86	3.27	30	5.13	3.03	4A
49*	455.0	2.72	4.09	42	6.81	3.30	4LG

G R U M

SECTION 80W

Assay Block#	Area(m <sup>2</sup> )	Pb %	Zn %	Ag	Pb+Zn %	S.G.	Dominant Facies
1	1,060.0*	2.09	3.80	34	5.89	3.03	4A1
2	1,325.0*	2.79	5.53	52	8.32	3.39	4AE
3	560.0	2.70	4.96	49	7.66	3.03	4A4
4	422.5	0.95	1.76	19	2.71	3.00	4AB
5	762.5	2.89	4.74	47	7.63	3.03	4A4
6	310.0	1.65	4.57	38	6.22	2.86	4A2
7	92.5	2.15	4.24	38	6.39	2.99	4D4
8	122.5	1.00	1.34	19	2.34	2.77	4C0
9	350.0	3.12	5.83	57	8.95	2.89	4A4
10	162.5	1.54	3.90	26	5.44	2.85	4AC
11	250.0	1.27	2.23	22	3.50	2.85	4AC
12	585.0	2.43	4.53	40	6.96	3.22	4ADCB
13	175.0	3.18	5.03	46	8.21	2.95	4AD
14	2,252.5	1.78	3.38	33	5.16	2.88	4A0
15	2,482.5	1.27	1.92	22	3.19	2.97	4ALC
16	712.5	2.38	4.25	44	6.63	3.08	4AE
17	880.0	3.35	6.16	57	9.51	3.11	4A4
18	487.5	4.18	7.82	69	12.00	3.33	4A4
19	125.0	0.45	0.76	17	1.21	3.79	4EA
20	507.5	5.40	7.86	96	13.26	3.90	4EG
21	477.5	2.81	4.77	54	7.58	3.41	4AEL
22	210.0	4.38	3.61	63	7.99	3.46	4E
23	245.0	7.25	6.33	112	13.58	4.47	4EG
24	242.5	3.00	4.00	46	7.00	3.94	4E4
25	365.0	2.40	2.80	35	5.20	2.80	4L4
26	1,102.5	3.75	7.24	68	10.99	3.44	4AD
27	1,357.5	1.14	1.65	19	2.79	2.71	4AL
28	175.0	5.87	9.44	116	15.31	3.35	4AD
29	70.0	1.86	3.55	36	5.41	3.10	4AD
30	17.5	2.40	6.20	52	8.60	3.03	4A4
31	22.5	8.80	14.10	138	22.90	3.50	4A4
32	227.5	1.86	3.12	30	4.98	3.03	4A4
33	866.0	1.58	1.85	27	3.43	2.97	4A4
34	250.0	4.63	7.90	82	12.53	4.19	4E4
35	87.5	3.07	5.90	60	8.97	4.36	4G0
36	765.0	2.61	3.65	46	6.26	3.83	4EG
37	867.5	4.25	6.77	73	11.02	3.98	4EG
38	302.5	1.83	3.08	36	4.91	3.18	4A1
39	865.0	5.45	10.12	89	15.57	3.99	4ED
40	190.0	2.45	2.40	33	4.85	3.35	4L4
41	572.5	0.99	1.84	18	2.83	3.08	4AE
42	160.0	4.04	6.45	72	10.49	3.73	4AE
43	330.0	3.17	3.27	42	6.44	3.93	4EG
44	327.5	2.70	2.28	32	4.98	3.99	4GE
45	610.0	5.25	6.21	68	11.46	4.28	4G4
46	207.5	4.86	8.48	92	13.34	3.54	4EDA

\* (Sheet 3)

G R U M

SECTION 82W

Assay Block#	Area(m <sup>2</sup> )	Pb %	Zn %	Ag	Pb+Zn %	S.G.	Dominant Facies
1	795.0	2.35	4.91	42	7.26		4AD
2		0.64	2.28	20	2.92		4CA
3	75.0	1.66	5.42	29	7.08		4EO
4	95.0	7.64	13.50	134	21.14		4E4
5	42.5	3.90	5.30	58	9.20		4D4
6	160.0	2.72	3.92	59	6.64		4A4
7	117.5	1.00	3.13	20	4.13		4AO
8	110.0	3.91	8.29	62	12.20		4AD
9	87.5	4.67	7.14	94	11.81		4DA
10		1.34	1.58	19	2.92		4AL
11	142.5	1.56	2.87	27	4.43		4AGD
12	627.5	2.31	4.69	45	7.00		4A4
13	542.5	1.61	3.05	29	4.66		4AC
14	1,110.0	1.81	3.38	31	5.19		4A4
15	52.5	3.26	7.11	57	10.37		4D4
16	327.5	2.19	3.84	38	6.03		4AD
17	222.5	1.41	2.74	24	4.15		4AC
18	50.0	2.86	4.86	55	7.72		4A4
19	242.5	1.67	2.94	31	4.61		4EC
20	325.0	1.40	2.16	23	3.56		4LA
21	237.5	3.65	4.76	55	8.41		4A4
22	177.5	4.50	6.81	70	11.31		4D4
23	170.0	6.20	6.42	107	12.62		4G4
24		1.78	1.83	27	3.61		4CO
25	410.0	1.51	2.75	27	4.26		4AO
26	440.0	4.44	7.51	80	11.95	3.30	4A4
27	547.5	2.88	4.88	48	7.76		4A4
28		1.18	1.12	19	2.30		4AC
29	20.0	1.48	2.73	32	4.21		4A3
30	24.2	4.98	8.50	92	13.48		4E4
31	47.5	5.90	4.77	63	10.67		4A4
32	1,077.5	4.78	8.05	84	12.83	4.15	4G4
33	220.0	1.69	2.95	29	4.64		4AE
34	62.5	6.96	11.87	120	18.83		4E4
35	897.5	1.86	2.40	31	4.26		4AO
36	207.5	4.09	9.83	85	13.92	3.30	4A4
37	560.0	3.74	7.43	71	11.17		4A4
38	512.5	1.95	3.10	35	5.05	3.30	4CO
39	262.5	4.25	7.45	73	11.70		4A4
40		0.58	1.54	14	2.12		4AO
41	365.0	2.16	2.65	32	4.81		4CD
42	387.5	1.68	2.88	27	4.56		4CA
43	457.5	1.82	2.47	30	4.29		4AO
44	1,580.0	4.50	7.49	77	11.99	3.98	4GE

SECTION 82W - (Cont'd)

Assay Block#	Area(m <sup>2</sup> )	Pb %	Zn %	Ag	Pb+Zn %	S.G.	Dominant Facies
45	75.0	2.43	3.01	54	5.44		4E4
46		1.14	1.58	22	2.72		4L4
47	237.5	1.75	2.66	30	4.41		4CO
48	355.0	4.13	6.99	72	11.12	3.80	4GAE
49	195.0	2.40	4.15	42	6.55		4GO
50	340.0	2.90	4.70	58	7.60		4DE
51	105.0	1.95	3.25	44	5.20		4AEC
52	120.0	2.29	3.23	40	5.52		4AE
53	582.5	2.03	2.42	30	4.45		4ECA
54		0.77	1.54	15	2.31		4CO
55	10.5	7.33	14.54	112	21.87		4E4
56	60.0	3.45	6.30	59	9.75		4A4
57		0.92	1.74	19	2.66		4C
58	302.5	2.99	5.38	53	8.37		4D
59	375.0	5.03	9.50	73	14.53		4D4

G R U M

SECTION 84W

Assay Block#	Area(m <sup>2</sup> )	Pb %	Zn %	Ag	Pb+Zn %	S.G.	Dominant Facies
1	45.0	4.79	13.65	83	18.44		4A4
2	310.0	2.29	5.17	38	7.46		4A4
3	307.5	3.34	5.30	55	8.64		4A4
4	302.5	4.33	6.37	72	10.70		4D4
5	37.5	2.98	7.66	59	10.64		4A4
6	35.0	7.20	12.10	133	19.30		4D4
7	70.0	4.78	7.27	108	12.05		4A4
8	77.5	1.95	4.37	38	6.32		4A0
9	57.5	2.23	6.51	47	8.74		4EA
10	2,550.0	2.44	4.62	40	7.06		4AD
11	815.0	1.81	3.54	34	5.35		4A0
12	1,625.0	1.50	2.77	25	4.27		4A4
13	702.5	1.79	2.72	28	4.51		4AC
14	477.5	3.56	5.73	62	9.29		4AD
15	425.0	3.23	5.11	53	8.34	3.30	4DA
16	250.0	4.37	7.60	78	11.97	3.50	4AK
17	342.5	3.15	4.88	55	8.03	3.30	4AK
18	345.0	2.61	4.32	41	6.93		4A4
19	231.5	2.86	5.21	54	8.07		4A4
20	75.0	5.43	6.07	84	11.50		4ED
21	112.5	4.45	1.39	77	5.84		4G0
22	135.0	4.56	6.70	76	11.26		4E4
23	375.0	3.28	6.24	62	9.52		4A4
24	352.5	5.45	9.76	96	15.21		4AGE
25	72.5	8.27	13.13	123	21.40		4E4/5A9
26	407.5	4.77	7.39	80	12.16		4AE
27	225.0	2.66	3.49	41	6.15		4GE
28	295.0	3.34	5.25	41	8.59		4GE
29	987.5	3.29	5.48	61	8.77		4EG
30	60.0	3.43	6.24	63	9.67		4A4
31	70.0	1.89	2.77	35	4.66		4A0
32	220.0	3.32	4.67	55	7.99		4EG
33	17.5	5.20	11.00	77	16.20		4E4
34	315.0	2.47	2.73	35	5.20		4E8

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SECTION 86W

Assay Block#	Area(m <sup>2</sup> )	Pb %	Zn %	Ag	Pb+Zn %	S.G.	Dominant Facies
1		1.71	1.71	23	3.42		4CD
2		1.24	2.60	26	3.84		4AO
3	965.0	2.26	6.82	49	9.08		4A4
4	85.0	2.05	4.32	40	6.37		4AE
5	1,805.0	1.68	3.85	33	5.53		4A4
6		1.01	2.57	20	3.58		4AO
7	3,870.0	2.31	4.49	40	6.80		4A4
8	850.0	2.56	4.64	40	7.20		4AD
9	1,357.5	1.77	3.47	36	5.24		4A4
10		1.56	1.47	24	3.03		4CE
11	177.5	2.74	2.94	60	5.68		4CG
12	102.5	6.40	18.60	117	25.00		4E4
13	362.5	3.03	6.94	78	9.97		4AE
14		1.36	1.98	24	3.34		4AO
15	357.5	3.35	6.32	66	9.67		4AE
16	57.5	2.11	4.04	33	6.15		4D5
17	47.5	1.87	3.36	27	5.23		4C0
18	857.5	4.37	7.57	72	11.94		4D4
19	770.0	2.40	3.60	30	6.00		4D4
20	435.0	2.41	3.68	38	6.09		4D0
21	272.5	2.17	2.93	33	5.10		4A4
22	380.0	2.20	3.92	38	6.12		4DL
23	797.5	4.10	5.26	65	9.36		4D0
24	550.0	6.61	12.68	102	19.29		4G4
25		1.09	1.26	24	2.35		4AO
26	45.0	2.82	4.94	45	7.76		4AE
27	37.5	3.02	5.05	40	8.07		4A4
28	230.0	6.00	10.11	98	16.11		4GA
29	200.0	2.21	3.33	31	5.54		4AG
30	447.5	4.03	5.36	58	9.39		4GL
31	242.5						
32	137.5	6.00	8.40	94	14.40		4E4
33		1.40	2.46	26	3.86		4AO
34	1,050.0	4.39	5.76	66	10.15		4EG
35	97.5	2.60	2.97	39	5.57		4A4
36		1.55	0.64	11	2.19		4L8