

019815

GRUM — ORE Reserves — Drill indicated. Dec 10/74  
 (Calculated by parallelogram method.) See N 64W-92W.

Grade > 8% Pb+Zn.					Grade 4-6% Pb+Zn cont				
Zone.	Tons	Pb%	Zn%	Ag <sub>03</sub>	Zone	Tons	Pb%	Zn%	Ag <sub>03</sub>
A	11,251,625	4.33	7.73	1.993	B	623,500	2.51	2.74	1.170
B	3,731,250	4.48	7.05	1.699	D	435,000	2.26	2.53	0.966
C	549,500	5.26	4.61	2.238		1,231,750	2.34	2.79	1.031
D	2,253,187	4.18	6.29	1.959					
E	507,750	4.08	7.12	2.090	Total ORE Reserves > 4% Pb+Zn.				
F	240,000	4.60	3.78	1.929		26,323,561	3.83	6.41	1.76
Total	18,533,312	4.37%	7.26	1.993					

Grade 6% - 8%				
Zone	Tons	Pb%	Zn%	Ag <sub>03</sub>
A	1,776,812	2.53	4.30	1.34
B	2,214,812	2.73	4.39	1.331
E	2,566,875	2.45	5.18	1.125
Total	6,558,499	2.57	4.67	1.253

Thickesses.	Arith. Ave.
Zone.	Thickness
A	45.4' ft
B	38.32 ft
C	28.0 ft.
D	25.44 ft
E	60.5' ft.
F	32.0 ft.

Grade 4-6% Pb+Zn.

Grum. - ORE Reserve Calc.

Section	Zone	Length	Width	Thick-ness	Area	Volume	Tonnage	Grade			Grade x Tons	Zn	Ag
								Pb	Zn	Ag			
Grade > 8% Pb+zn	A						11,251,625	4.33	7.73	1.993	48,801,615	86,965,200	22,433,048
	B						3,731,250	4.48	7.05	1.699	16,716,000	26,342,625	7,350,562
	C						549,500	5.26	4.61	2.235	2,891,469	2,533,195	1,229,781
	D						2,253,187	4.15	6.29	1.959	9,418,321	14,172,546	4,416,246
	E						507,750	4.08	7.12	2.090	2,071,626	3,617,211	1,061,197
	F						240,000	4.60	3.78	1.929	1,104,000	907,200	463,200
							18,533,312	4.37	7.76	1.993	81,003,025	134,537,977	36,954,034
Grade 6% - 8% Pb+zn	A						1,776,812	2.53	4.30	1.34	4,496,392	7,642,262	2,375,948
	B						2,214,812	2.73	4.39	1.331	6,046,436	9,700,876	2,945,699
	E						2,566,875	2.45	5.18	1.125	6,288,843	13,293,845	2,900,568
							6,558,499	2.566	4.671	1.253	16,831,674	30,636,983	8,222,215
Grade 4% - 6% Pb+zn	A						173,250	1.96	3.16	0.70	339,570	574,470	121,275
	B						623,500	2.51	2.74	1.170	1,564,985	1,708,390	729,495
	D						435,000	2.26	2.53	0.966	983,100	1,100,985	420,210
	-						1,231,750	2.434	2.787	1.031	2,887,655	3,383,845	1,270,980

ORE calculations using parallelograms.  
 $> 8\%$  Pb+Zn

Section	Zone	Length	Width	Thick-ness	Area	Volume	Tonnage	Grade			Grade x Tons Pb	Zn	Ag
								Pb	Zn	Ag			
64+00W	A <sub>1</sub>	400	210	20'		1,680,000	210,000	4.08	6.92	2.32	856,800	1,453,200	487,200
	A <sub>2</sub>	400	215	125'		10,750,000	1,343,750	5.47	10.7	2.73	7,350,312	14,378,125	3,668,437
68+00W	A <sub>1</sub>	400	215	195'		16,770,000	2,960,250	3.92	7.64	1.80	11,604,180	22,616,310	5,328,450
	A <sub>2</sub>	400	210	65'		5,460,000	682,500	4.09	7.06	1.58	2,791,425	4,818,450	1,078,350
	A <sub>3</sub>	400	215	43'		3,698,000	462,250	5.16	10.11	2.10	2,385,210	4,673,347	970,725
	A <sub>4</sub>	400	160	6'		384,000	48,000	3.23	4.74	1.98	155,040	227,520	95,040
72+00W	A <sub>1</sub>	400	215	43'		3,698,000	462,250	4.74	7.75	2.02	2,191,665	3,582,437	933,745
	A <sub>2</sub>	400	210	34'		2,856,000	357,000	3.72	5.79	1.28	1,328,040	2,067,030	456,960
	A <sub>3</sub>	400	215	50'		4,300,000	537,500	3.56	6.23	1.95	1,913,500	3,348,625	1,048,125
	A <sub>4</sub>	400	210	31'		2,604,000	325,500	4.75	5.35	2.12	1,546,125	1,741,425	690,060
76+00W	A <sub>1</sub>	300	165	56'		2,772,000	346,500	5.29	11.42	2.70	1,832,985	3,957,030	935,550
	A <sub>2</sub>	300	145	28'		1,218,000	152,250	6.33	13.53	3.01	963,742	2,059,942	458,272
	A <sub>3</sub>	300	160	11'		528,000	66,000	3.16	6.66	1.58	208,560	439,560	104,280
	A <sub>4</sub>	300	330	22'		2,178,000	272,250	5.51	9.82	3.31	1,509,097	2,673,495	901,147
	A <sub>5</sub>	300	220	8'		528,000	66,000	6.53	6.96	2.67	430,980	459,360	176,220
78+00W	A	200	230	90'		4,140,000	517,500	4.39	6.75	1.95	2,271,825	3,493,125	1,009,125
80+00W	A <sub>1</sub>	300	215	78'		5,031,000	628,875	4.08	6.63	1.77	2,565,810	4,169,441	1,113,108
84+00W	A <sub>1</sub>	400	230	80'		7,360,000	920,000	3.04	5.30	1.49	2,796,800	4,876,000	1,370,800
	A <sub>2</sub>	400	215	7'		602,000	75,250	2.33	7.80	1.26	1,75,332	586,950	94,815
	A <sub>3</sub>	400	210	8'		672,000	84,000	4.08	6.07	1.82	342,720	509,880	152,880
	A <sub>4</sub>	400	210	28'		2,352,000	294,000	3.36	6.87	1.81	987,840	2,019,780	532,140
92+00	A	400	220	40'		3,520,000	440,000	3.87	6.54	2.04	1,702,800	2,877,600	897,600
Average		Thick-ness	=	48.55 ft.		10,926,125		4.7255663	49.801758		47,255,663	85,757,707	21,812,969

ORE calculations using Parallelogram  $> 8\% \text{ Pb} + \text{Zn}$

Section	Zone	Length	Width	Thick-ness	Area	Volume	Tonnage	Grade			Grade x Tons Pb	Zn	Ag
								Pb	Zn	Ag			
68+00W	B <sub>1</sub>	400	205'	21'		1,722,000	215,250	2.89	5.30	1.50	622,072	1,140,825	322,875
	B <sub>2</sub>	400	215'	26'		2,236,000	279,500	3.58	4.76	1.46	1,000,610	1,330,420	408,070
	B'	400	210	10.0'		540,000	105,000	3.45	5.50	1.37	362,250	577,500	143,850
64+00W	B <sub>1</sub>	400'	220	33'		2,904,000	363,000	5.47	6.00	2.13	1,985,610	2,178,000	773,190
72+00W	B	400	210	60'		5,040,000	630,000	4.06	7.56	1.90	2,557,800	4,762,800	1,197,000
76+00W	B <sub>1</sub>	300	240	34'		2,448,000	306,000	5.87	10.06	2.66	1,796,220	3,078,360	813,960
	B <sub>2</sub>	300	200	65'		3,900,000	487,500	3.62	5.76	1.49	1,764,750	2,808,000	726,375
78+00W	B <sub>1</sub>	200	225	42'		1,890,000	236,250	3.49	5.84	1.84	824,512	1,379,700	434,700
	B <sub>2</sub>	200	225	12'		540,000	67,500	4.50	6.27	2.24	303,750	423,225	151,200
80+00W	B <sub>1</sub>	300	220'	9'		594,000	74,250	3.01	5.60	2.08	223,492	415,800	154,440
	B <sub>2</sub>	300	160'	4.5'		216,000	27,000	4.05	10.20	1.94	109,350	275,400	52,380
84+00W	B	400	225'	12'		1,080,000	135,000	5.40	10.37	2.82	729,000	1,399,950	380,700
88+00W	B	400	460	35'		6,440,000	805,000	5.52	8.19	2.25	4,443,600	6,592,950	1,811,250
Average Thickness =					27.96ft								
68+00	C	400	185	35'		2,590,000	323,750	5.78	4.96	2.23	1,871,275	1,605,800	721,962
	C <sub>1</sub>	400	215	21'		1,806,000	225,750	4.52	4.11	2.25	1,020,390	927,832	507,937
Average Thickness =					28.0ft								
											2,871,665	2,533,632	1,229,899



ORE Calculations using parallelograms.

6-8% Pb + Zn

Section	Zone	Length	Width	Thick-ness	Area	Volume	Tonnage	Grade			Grade x Tons	Zn	Ag	Grade for Zone
								Pb	Zn	Ag				
72+00w	A	400	210	18'		1,512,000	189,000	4.04	3.51	1.98	763,560	663,390	374,220	Pb = 2.53 Zn = 4.30 Ag = 1.34
80+00w	A	300	225	27'		1,822,500	227,812	2.66	4.99	1.54	605,979	1,136,781	350,830	
88+00w	A	400	460	40		7,360,000	920,000	2.14	4.06	0.99	1,968,800	3,735,200	910,800	
92+00w	A <sub>1</sub>	400'	220	40'		3,520,000	440,000	2.64	4.79	1.69	1,161,600	2,107,600	743,600	
	Average Thickness =				31.25ft		1,776,812				4,499,939	7,642,971	2,379,450	
72+00w	B	400	220	75'		6,600,000	825,000	2.64	4.32	1.38	2,178,000	3,564,000	1,138,500	
76+00w	B <sub>3</sub>	300	195	37'		2,164,500	270,562	2.70	5.07	1.15	730,517	1,371,749	311,146	
80+00w	B <sub>1</sub>	300	220	65'		4,290,000	536,250	3.31	4.05	1.45	1,774,987	2,171,812	777,562	
	Average thickness =				56ft						4,683,504	7,107,561	2,227,208	
72+00w	E	400	310	135'		16,740,000	2,092,500	2.28	4.76	1.04	4,770,900	9,960,300	2,176,200	
76+00w	E <sub>3</sub>	300	230	55'		3,795,000	474,375	3.21	7.03	1.50	1,522,743	3,334,856	711,562	
	Average thickness =				95ft						6,001,894			
92+00w	B(?)	400'	220'	53'		4,664,000	583,000	2.33	4.48	1.24	1,358,390	2,611,840	722,920	

ORE CALCULATIONS using Parallelograms.

4-6% Pb+Zn.

Section	Zone	Length	Width	Thick-ness	Area	Volume	Tonnage	Grade			Grade x Tons					
								Pb	Zn	Ag						
76+00W	A <sub>2</sub>	300'	140'	<u>33'</u>		1,386,000	173,250	1.96	3.16	0.70	339,570	547,470	121,275			
64+00W	B	400	215'	<u>58'</u>		4,088,000	623,500	2.51	2.74	1.17	1,564,985	1,708,390	729,495			
64+00W	D	400	215'	20'		1,720,000	215,000	2.26	2.86	0.87	485,900	614,900	187,050			
68+00W	D <sub>1</sub>	400	220'	<u>20'</u>		1,760,000	220,000	2.26	2.21	1.06	497,200	486,200	233,200			