

**ALTERNATE PROPOSAL FOR  
ANVIL RANGE MINING CORPORATION**

**GRIZZLY PROJECT • PHASE I**

*Faro, Yukon*

004923

**August 23, 1996**

*Prepared By:*

***PROCON MINING AND TUNNELLING LTD.***

***#205 - 3920 Norland Avenue***

***Burnaby, British Columbia V5G 4K7***

***PMTL FILE #: P96/08-127-96-23B***



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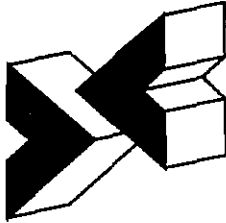
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COVERING LETTER



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**Procon Mining and  
Tunnelling Ltd.**

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August 23, 1996

**ANVIL RANGE MINING CORPORATION**  
117 Industrial Road  
**WHITEHORSE**, Yukon  
Y1A 2T8

**ATTENTION:**        **Mr. Fritz F. Prugger, P.Eng.**  
                             **Project Manager**

Dear Sir:

Enclosed please find our 'Alternate Proposal' for Phase I of the Grizzly Project near Faro.

This proposal which we call Option III, is a follow up to our August 15, 1996 submission which included Options I and II. Option III is a double ramp access with conveyor haulage. All other aspects of the work would be the same as outlined in our August 15th proposal.

We trust you will find Option III of particular interest when considering the next phase of development, and look forward to discussing this further with you.

If there are any questions, please do not hesitate to call.

Yours very truly,

**PROCON MINING AND TUNNELLING LTD.**

---

E.A. (Ed) Yurkowski, P.Eng.  
President

EAY:tld

3.0 OPTION III



**ALTERNATE PROPOSAL FOR ANVIL RANGE MINING CORPORATION  
GRIZZLY PROJECT • PHASE I • FARO, YUKON**

**3.1 DESCRIPTION OF WORK AND METHODOLOGY • OPTION III**

Option III consists of driving a 3.4m high x 3.5m wide fully arched access decline, and a 3.0m high x 2.5m wide conveyor decline (refer to sketches). The conveyor decline would be parallel to the access decline, separated by a 7m pillar.

**1. Labour and Work Schedule:**

2 - 11 hour shifts per day, 7 days a week

Crew Size:

	<u>Dayshift</u>	<u>Nightshift</u>
Project Superintendent	1	
Night Captain		1
Surveyor	1	
Labourer/Expeditor	1	
Surface Equipment Operator	1	
Lead Mechanic	1	
Mechanic	1	2
Electrician	1	
Development Miners	<u>4 - 6</u>	<u>4 - 6</u>
Total	11-13	7 - 9
Average 18 to 22 Men		

**2. Equipment:**

Access Decline:

- Drilling - 2 boom electric/hydraulic jumbo
- Muck Back to Conveyor Loadout - 3½ cu.yard scooptram
- Muck to Surface - 36" conveyor belt

Conveyor Decline:

- Drilling - 2 boom MJM20B air jumbo
- Muck Back to Conveyor Loadout - 2 cu.yard scooptram
- Muck to Surface - 36" conveyor belt

Exploration Headings:

- Drilling - 2 boom electric/hydraulic jumbo or 2 boom air jumbo
- Muck Back to Decline Remuck - 3½ cu.yard scooptrams

F/W Access Drift:

- JDT415 - 15 ton truck will muck back to conveyor loadout

### **3.1 DESCRIPTION OF WORK AND METHODOLOGY • OPTION III (Cont'd)**

#### **3. Services:**

##### Access and Conveyor Declines:

- 6" air line, 4" discharge line, 2" water line in access decline, and 4" air, 3" discharge, and 2" water line in conveyor decline
- 12 gauge firing line for initiating blast
- a 100 hp electric fan mounted in a bulkhead at the top of the conveyor decline will exhaust 60,000 cfm; a similar amount of heated fresh air will downcast the access decline to feed the secondary ventilation systems
- 30" dia. ventilation duct and 1 - 10 hp electric fan will deliver 10,000 cfm to the face of the access decline and 1 - 10 hp electric fan using 24" duct will deliver 7,500 cfm to the face of the conveyor decline
- wall sumps will be established at 800' intervals with 13 hp Flygt pumps for handling water to surface while driving - air operated face pump will pump back to nearest wall sump as face advances
- 4160 volt electrical system will be carried down the access ramp with transformers and substations established as required

##### Exploration Headings:

- ventilation will be by 36" bag line in the exploration headings and 48" bag line in the footwall access drift
- other services will be similar to the main ramp with the exception that the compressed air line will be reduced to 4" dia. in the two exploration drives

#### **4. Surface Support Plant:**

- layout will be as per sketch provided
- shop will be 40' x 60' foldaway, fully equipped
- compressors - 3 - 800 cfm Gardner Denver diesel units to allow spare for backup and shotcreting
- generators - 2 - 545 kw Cat diesel units c/w synchronizing gear to allow parallel operation
- 5 million BTU/HR propane fueled direct fired mine air heater will heat the downcast air in winter as required
- Cat D5H dozer for road maintenance and pushing dump
- Cat 966 front end loader with forks for loading / offloading and general surface servicing
- boom truck c/w tank for servicing and hauling water
- 20 ton tandem rock truck for hauling waste as required to pit
- vaporizers and tanner gas delivery system will be in place for cold weather operation of propane and compressed air systems

**5. Benefits of Option III:**

- Elimination of the need for a ventilation / escapeway raise for the next phase of preproduction development. The conveyor decline, when sealed off by bulkheads from the access ramp, will serve as an exhaust airway and second means of egress (estimate \$1.5 million saving).
- Twin declines allow smaller heading development in both cases, thereby minimizing ground control problems.
- Lower cost per ton of material moved to surface from all future development work. Estimate \$3 to \$4 per tonne saving over hoisting and ± \$10 per tonne saving over trucking.
- Access decline will allow movement of all production equipment between surface and underground work areas without dismantling and will serve to move men and materials on an unrestricted basis. Conveyor is isolated and protected in its own heading.
- A shaft at a later date could be sized and equipped for hoisting ore only, much quicker and cheaper than a multi-purpose production shaft.

3.2

**ALTERNATE PROPOSAL FOR ANVIL RANGE MINING CORPORATION  
GRIZZLY PROJECT • PHASE I • FARO, YUKON**

**3.2 SUMMARY OF TARGET PRICES • OPTION III**

<b>1. Mob / Demob &amp; Surface Setup</b>	<b>\$ 807,008</b>
<b>2. Access Decline</b>	
(i) Excavation	2,667,775
(ii) Ground Support	779,225
<b>Conveyor Decline</b>	
(iii) Excavation	1,764,623
(iv) Ground Support	463,205
<b>3. Exploration Development</b>	
(i) H/W Exploration Drift	794,448
(ii) F/W Access Drift	882,903
(iii) Ore Access Drift	236,996
(iv) F/W Exploration Drift	775,901
(v) Ground Support	560,794
<b>4. Support Items</b>	<b>4,590,400</b>
<b>5. Diamond Drilling</b>	<u><b>607,500</b></u>
<b>Total Estimated Target Price</b>	<b>\$14,930,778</b>
<b>Fee for Profit</b>	<u><b>967,736</b></u>
<b>Total Price</b>	<u><b>\$15,898,514</b></u>

**ALTERNATE PROPOSAL FOR ANVIL RANGE MINING CORPORATION  
GRIZZLY PROJECT • PHASE I • FARO, YUKON**

**3.2 TARGET PRICES • OPTION III**

<b>ITEM</b>	<b>QUANTITY</b>	<b>UNIT</b>	<b>TARGET PRICE</b>	<b>TOTAL</b>
<b>1. Mob / Demob &amp; Surface Setup</b>				
Mobilization	1	Lump Sum	\$ 211,400.00	\$ 211,400
Setup & Establish Services	1	Lump Sum	374,900.00	374,900
Surface Slashing for Extra Portal	672	Cu.Metre	76.50	51,408
Establish Portal - Access Decline	1 (10 metres)	Lump Sum	32,400.00	32,400
Establish Portal - Conveyor Decline	1 (10 metres)	Lump Sum	26,900.00	26,900
Demobilize	1	Lump Sum	110,000.00	110,000
			<b>Sub Total 1</b>	<b>\$ 807,008</b>
<b>2(i)Access Decline</b>				
Decline 3.4 x 3.5m @ -18%	1,600	Lin.Metre	\$ 1,371.00	\$ 2,193,600
Explosives Magazines (2)	90	Cu.Metre	110.00	9,900
Transformer Cutouts (3)	135	Cu.Metre	114.00	15,390
Remuck Bays (10)	1,060	Cu.Metre	114.00	120,840
X-Cuts to Conveyor Decline	160	Lin.Metre	1,221.00	195,360
Sumps (7)	945	Cu.Metre	114.00	107,730
Safety Stations (35)	35	Each	713.00	24,955
			<b>Sub Total 2(i)</b>	<b>\$ 2,667,775</b>

**3.2 TARGET PRICES • OPTION III (Cont'd)**

ITEM	QUANTITY	UNIT	TARGET PRICE	TOTAL
<b>2(ii) Access Decline Ground Support</b>				
No Delay to Heading				
2.1m Resin grouted rebar	1,086	Each	\$ 85.00	\$ 92,310
Straps	321	Each	22.70	7,287
Screen	--	Sq.Metre	19.95	--
Heading Delay				
2.1m Resin grouted rebar	3,634	Each	101.60	369,214
Straps	2,029	Each	31.25	63,406
Screen	1,872	Sq.Metre	26.50	49,608
Other				
Shotcrete (thru the pot)	150	Cu.Metre	1,316.00	197,400
			<b>Sub Total 2(ii)</b>	<b>\$ 779,225</b>
<b>2(iii) Conveyor Decline</b>				
Decline 3.0 x 2.5m @ -18%	1,600	Lin.Metre	\$ 1,070.00	\$ 1,712,000
Sumps	80	Cu.Metre	138.50	11,080
Safety Stations (35)	35	Each	645.00	22,575
Conveyor Loading Stations	135	Cu.Metre	140.50	18,968
			<b>Sub Total 2(iii)</b>	<b>\$ 1,764,623</b>
<b>2(iv) Conveyor Decline Ground Support</b>				
No Delay to Heading				
2.1m Resin grouted rebar	1,840	Each	\$ 76.00	\$ 139,840
Straps	--	Each	22.70	--
Screen	--	Sq.Metre	19.95	--
Heading Delay				
2.1m Resin grouted rebar	1,840	Each	97.25	178,940
Straps	--	Each	31.25	--
Screen	--	Sq.Metre	26.50	--
Other				
Shotcrete (thru the pot)	109	Cu.Metre	1,325.00	144,425
			<b>Sub Total 2(iv)</b>	<b>\$ 463,205</b>

**3.2 TARGET PRICES • OPTION III (Cont'd)**

<b>ITEM</b>	<b>QUANTITY</b>	<b>UNIT</b>	<b>TARGET PRICE</b>	<b>TOTAL</b>
<b>3. Exploration Development</b>				
<b>(i) H/W Exploration Drift</b>	470	Lin.Metre	\$ 1,533.00	\$ 720,510
Remuck Bays (2)	212	Cu.Metre	127.00	26,924
Sumps (1)	81	Cu.Metre	130.00	10,530
Safety Bays (7)	7	Each	712.00	4,984
Diamond Drill Cutouts (7)	252	Cu.Metre	125.00	31,500
			<b>Sub Total 3(i)</b>	<b>\$ 794,448</b>
<b>(ii) F/W Access Drift</b>	485	Lin.Metre	\$ 1,604.00	\$ 777,940
Sumps (2)	162	Cu.Metre	101.50	16,443
Remuck Bays (3)	382	Cu.Metre	103.00	39,346
Truck Turnarounds (3)	311	Cu.Metre	102.00	31,722
Safety Bays (8)	8	Each	764.00	6,112
Diamond Drill Cutouts (3)	108	Cu.Metre	105.00	11,340
			<b>Sub Total 3(ii)</b>	<b>\$ 882,903</b>
<b>(iii) Ore Access Drift</b>	152	Lin.Metre	\$ 1,466.00	\$ 222,832
Remuck Bays (1)	106	Cu.Metre	127.00	13,462
Safety Bays (1)	1	Each	702.00	702
			<b>Sub Total 3(iii)</b>	<b>\$ 236,996</b>
<b>(iv) F/W Exploration Drift</b>	417	Lin.Metre	\$ 1,676.00	\$ 698,892
Remuck Bays (2)	212	Cu.Metre	140.00	29,680
Sumps (1)	81	Cu.Metre	147.00	11,907
Safety Bays (7)	7	Each	802.00	5,614
Diamond Drill Cutouts (6)	216	Cu.Metre	138.00	29,808
			<b>Sub Total 3(iv)</b>	<b>\$ 775,901</b>

**3.2 TARGET PRICES • OPTION III (Cont'd)**

<b>ITEM</b>	<b>QUANTITY</b>	<b>UNIT</b>	<b>TARGET PRICE</b>	<b>TOTAL</b>
<b>(v) Ground Support</b>				
No Delay to Heading 1.8m Splitset bolts	2,764	Each	\$ 46.90	\$ 129,632
Straps	1,331	Each	24.95	33,208
Screen	--	Sq.Metre	19.95	--
Heading Delayed 1.8m Splitset bolts	3,785	Each	53.70	203,255
Straps	1,447	Each	30.30	43,844
Screen	--	Sq.Metre	26.50	--
Other Shotcrete (thru the pot)	113	Cu.Metre	1,335.00	150,855
<b>Sub Total 3(v)</b>				<b>\$ 560,794</b>
<b>4. Support Items</b>				
Muck Disposal - surface	16	Months	\$ 21,400.00	\$ 342,400
Servicing & Road Maintenance	16	Months	18,600.00	297,600
Indirect Labour and Support Plant	480	Days	8,230.00	3,950,400
<b>Sub Total 4</b>				<b>\$ 4,590,400</b>
<b>5. Diamond Drilling</b>				
Drilling BQTK Core	13,000	Metre	\$ 45.90	\$ 596,700
Mob / Demob	1	Each	10,800.00	10,800
<b>Sub Total 5</b>				<b>\$ 607,500</b>
<b>Total Estimated Target Price</b>				<b>\$ 14,930,778</b>
<b>Fee for Profit</b>				<b>967,736</b>
<b>Total Price</b>				<b>\$ 15,898,514</b>

**3.2 TARGET PRICES • OPTION III (Cont'd)**

<b>ITEM</b>	<b>UNIT</b>	<b>TARGET PRICE</b>
<b>Miscellaneous Prices (if required)</b>		
Supply & Install Portal Culvert	Lin.Metre	\$ 3,000.00
Extra Explosives Cost (if anfo cannot be used)	Lin.Metre	105.00
Miscellaneous Slashing	Cu.Metre	85% of applicable heading equivalent
Extra Shotcrete Cost (if fiber required)	Cu.Metre	78.00

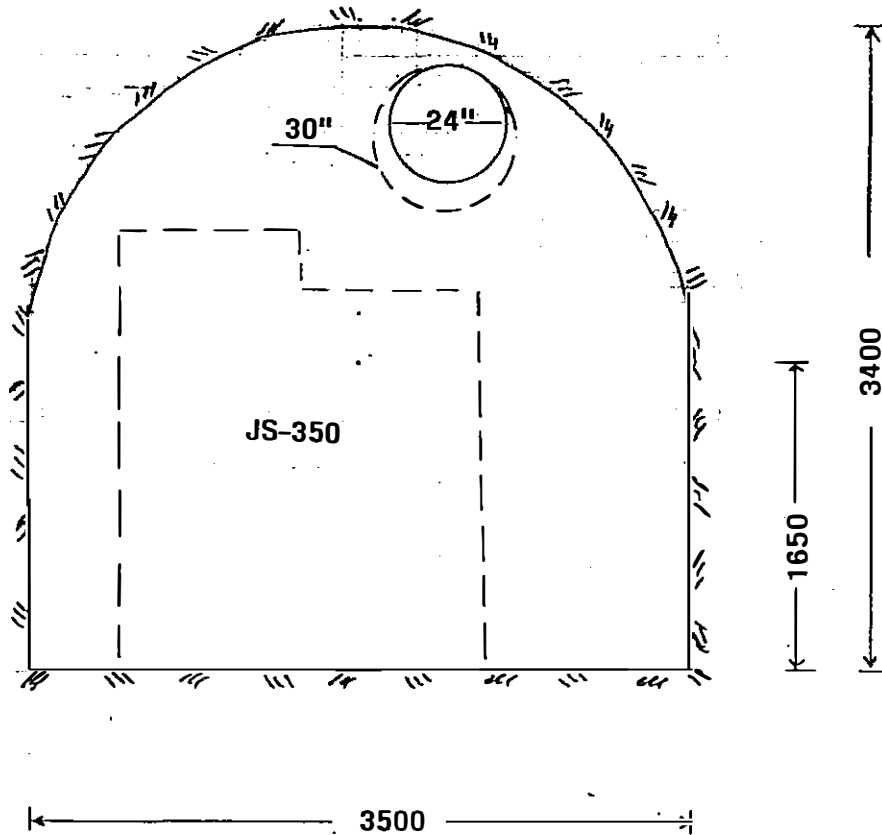
**Note: Target Prices all include 8% General and Administrative Cost (G & A)  
G.S.T. is extra and added to each invoice as applicable**

3.3





3.4



**The Procon Group**

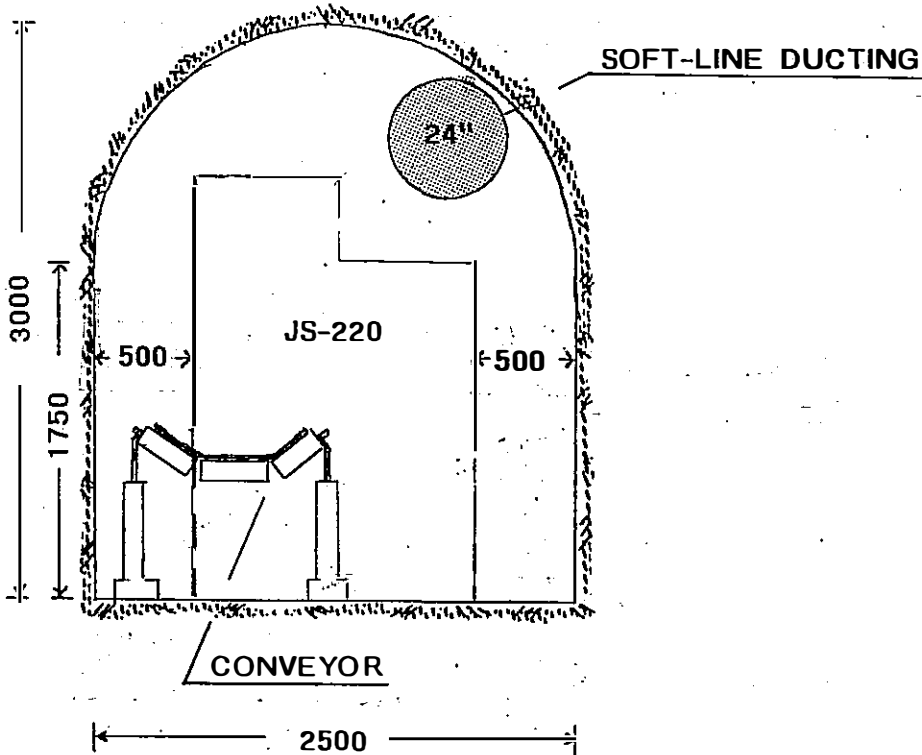
ANVIL RANGE MINING CORP.  
GRIZZLY PROJECT

DECLINE ACCESS PARALLEL TO COV. RAMP

SCALE: 1:40  
DATE: \_\_\_\_\_

DRAWN BY: E. B.  
APP'D BY: \_\_\_\_\_

DWG NO: AR-GR-21



AREA 6.8 SQ.M.



**The Procon Group**

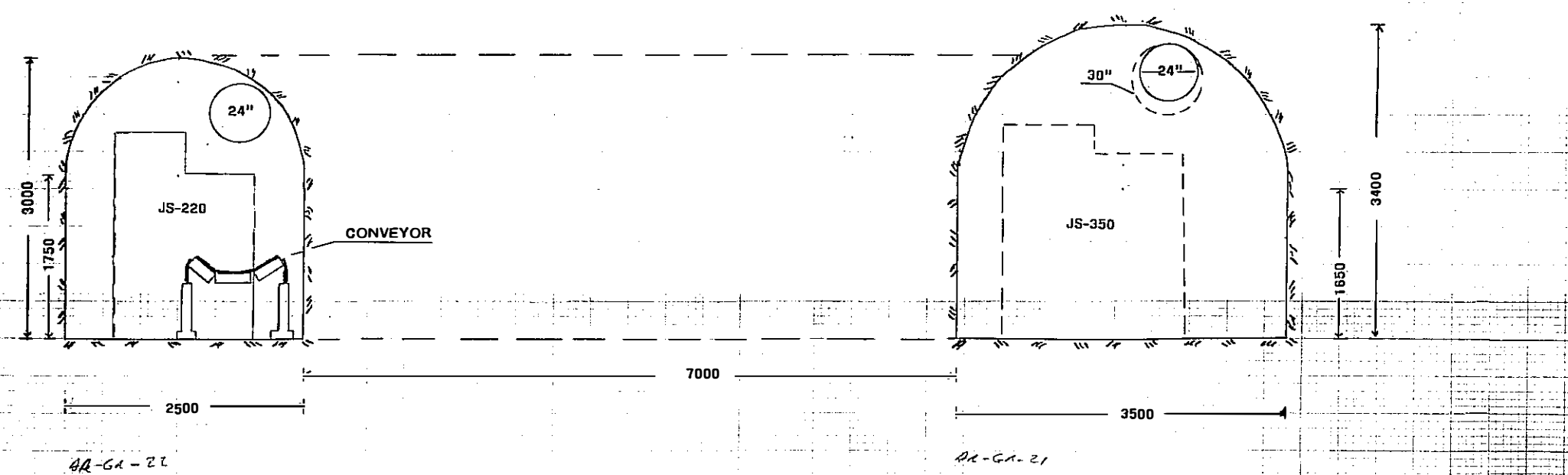
ANVIL RANGE MINING CORP.  
GRIZZLY PROJECT


CONVEYOR DECLINE

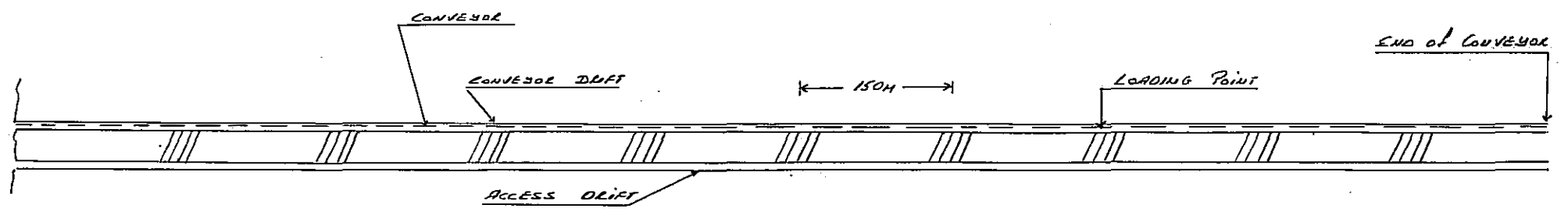
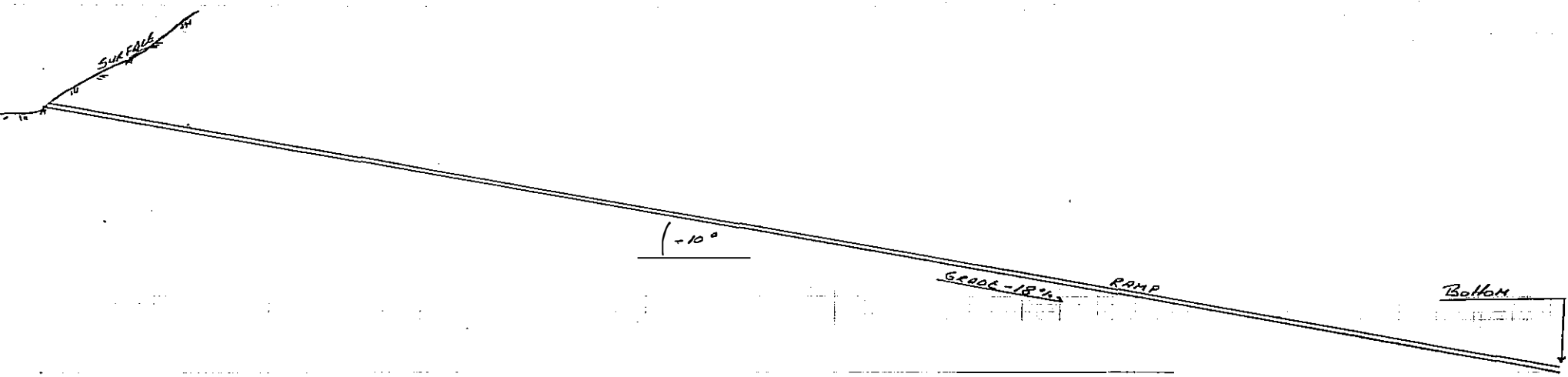
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DATE: \_\_\_\_\_

DRAWN BY: E. B.  
APP'D BY: \_\_\_\_\_

DWG. NO: AR-GR-22




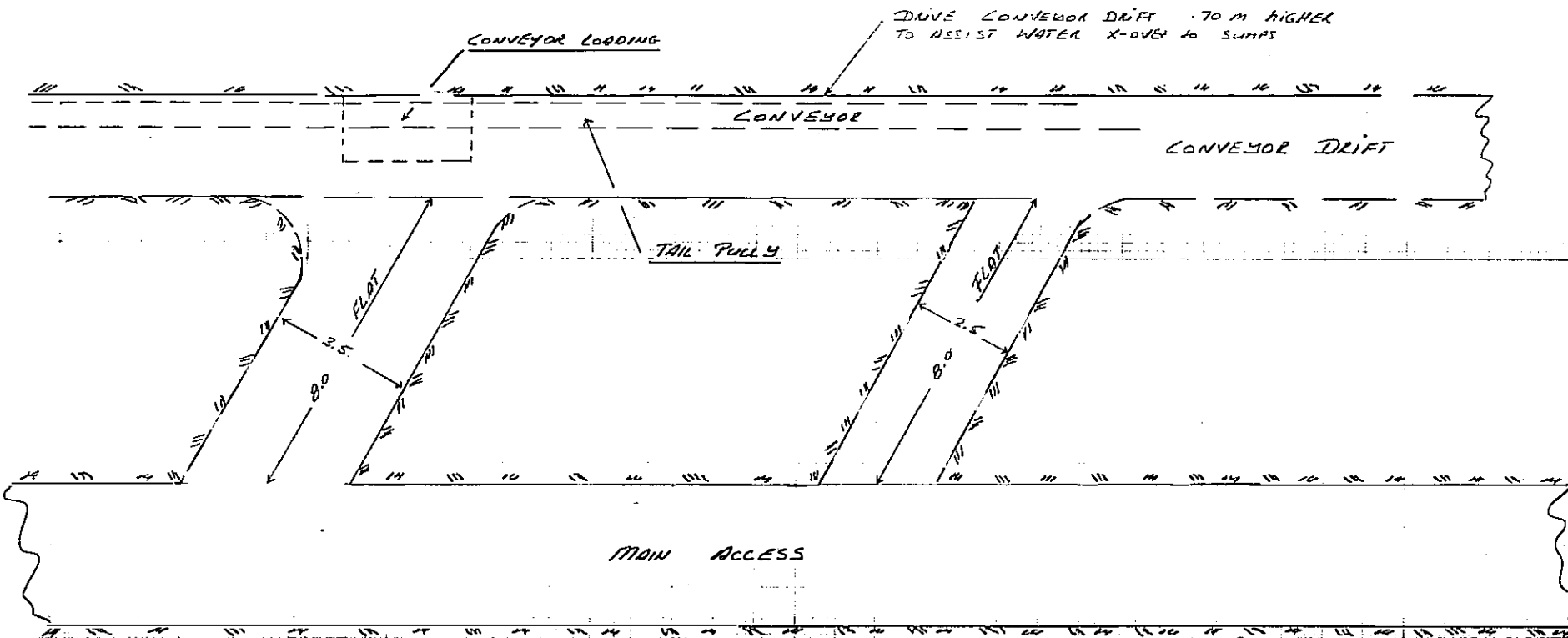
 <b>The Procon Group</b>		
ANVIL RANGE MINING CORP. GRIZZLY PROJECT DUEL DRIFTING		
SCALE: <i>1:40</i>	DRAWN BY: <i>C. B.</i>	DWG. NO. <b>AR-GR-20</b>
DATE: _____	APP'D BY: _____	NO: _____




NOTE: CONVEYOR WOULD BE EXTENDED  
IN 150M SECTION (INTERVALS)

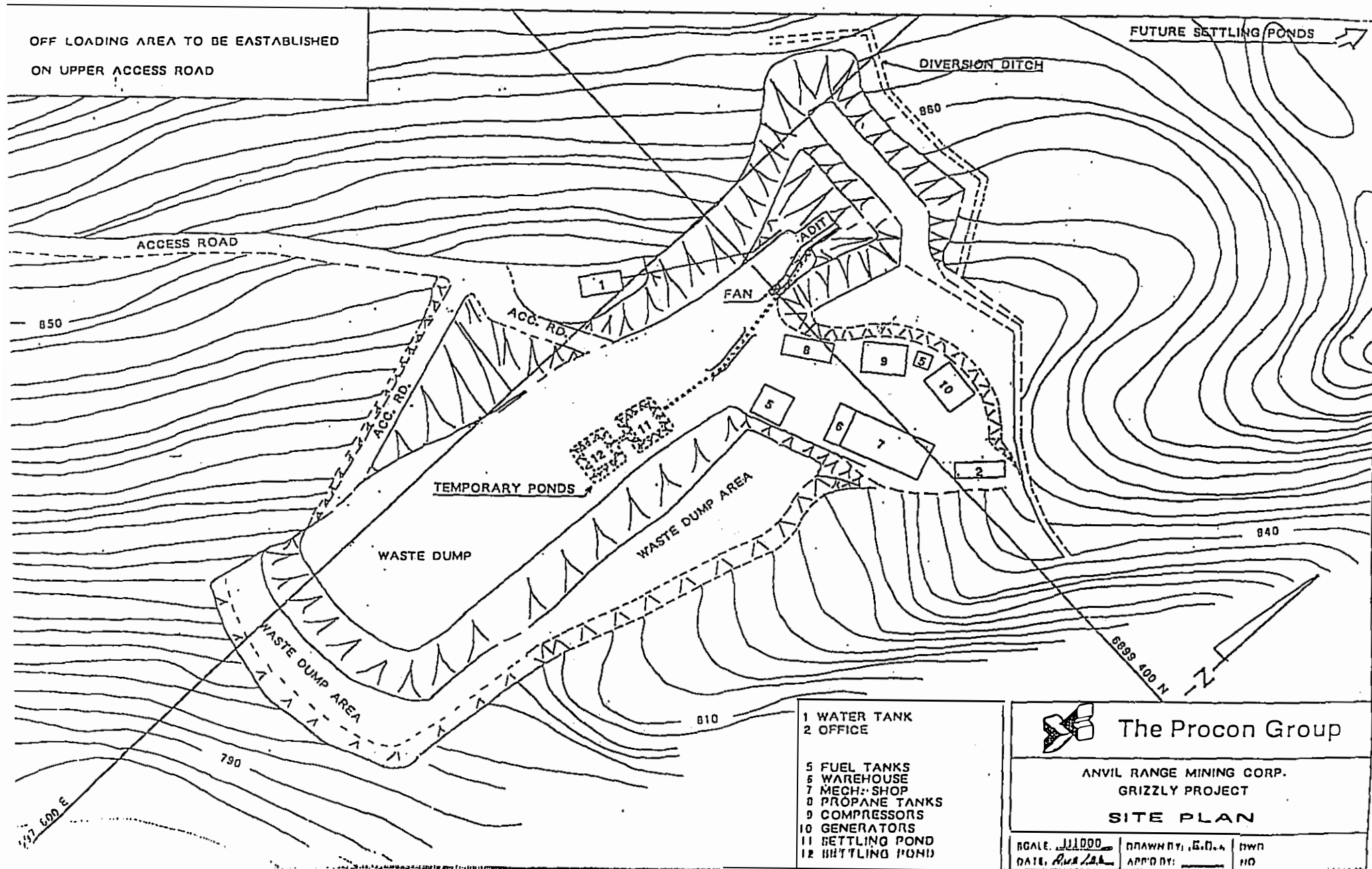
TOTAL DISTANCE 1600 M  
VERTICAL LIFT 281 M

 <b>The Procon Group</b>		
ANVIL RANGE MINING CORP. GRIZZLY PROJECT <i>GENERAL ARRANGEMENT</i>		
SCALE: <u>1:1000</u>	DRAWN BY: <u>E.P.</u>	DWG. NO:
DATE: _____	APPD BY: _____	NO: _____



 <b>The Procon Group</b>		
CONVEYOR ACCESS X-CUTS		
SCALE: 1:100	DRAWN BY: E.D.	DWG. NO:
DATE:	APP'D BY:	

NOTE: PLAN REDUCED TO 64%



OFF LOADING AREA TO BE ESTABLISHED  
ON UPPER ACCESS ROAD

FUTURE SETTLING PONDS

DIVERSION DITCH

ACCESS ROAD

850

ACC. RD.

FAN

860

TEMPORARY PONDS

WASTE DUMP

WASTE DUMP AREA

840

790

810

6899 400 N

1000 E

- 1 WATER TANK
- 2 OFFICE
- 5 FUEL TANKS
- 6 WAREHOUSE
- 7 MECH. SHOP
- 8 PROPANE TANKS
- 9 COMPRESSORS
- 10 GENERATORS
- 11 SETTLING POND
- 12 SETTLING POND



The Procon Group

ANVIL RANGE MINING CORP.  
GRIZZLY PROJECT

SITE PLAN

SCALE: 1:1000  
DATE: *Aug 1964*

DRAWN BY: *E.O.A.*  
APP'D BY: \_\_\_\_\_

HWB  
110

3.5

**ALTERNATE PROPOSAL FOR ANVIL RANGE MINING CORPORATION  
GRIZZLY PROJECT • PHASE I • FARO, YUKON**

**3.5 SUMMARY - GROUND SUPPORT QUANTITIES**

ACCESS DECLINE		NO DELAY		DELAY		NO DELAY		DELAY		DELAY		DELAY			
DIST. FROM COLLAR	GROUND SUPPORT	REBAR		REBAR		STRAPS		STRAPS		SCREEN/ MESH		SHOTCRETE 50 MM		SHOTCRETE 25 MM	
0 - 200	Bolt, Strap, Mesh, Shotcrete			586	12.5%			86	3.7%	960m <sup>2</sup>	51.3%	44.1m <sup>3</sup>	51.3%	32.8m <sup>3</sup>	51.3%
200 - 300	Bolt	302	6.3%												
300 - 910	Bolt, Strap, Shotcrete and Screen as req'd	302	6.3%	1,465	31.3%	214	9.1%	937	39.9%	432m <sup>2</sup>	23.1%	22.0m <sup>3</sup>	25.6%	13.2m <sup>3</sup>	20.6%
910 - 960	Bolt	151	3.0%												
960 - 1280	Bolt, Strap, Shotcrete and Screen as req'd	60	1.2%	879	18.8%	43	1.8%	556	23.6%	240m <sup>2</sup>	12.8%	11.0m <sup>3</sup>	12.7%	8.2m <sup>3</sup>	12.9%
1280 - 1340	Bolt	181	3.7%												
1340 - 1610	Bolt, Strap, Shotcrete and Screen as req'd	90	1.9%	704	15.0%	64	2.7%	450	19.2%	240m <sup>2</sup>	12.8%	8.9m <sup>3</sup>	10.4%	9.8m <sup>3</sup>	15.2%
<b>TOTAL</b>		1,086	22.4%	3,634	77.6%	321	13.6%	2,029	86.4%	1,872m <sup>2</sup>	100%	86m <sup>3</sup>	100%	64m <sup>3</sup>	100%

**3.5 SUMMARY - GROUND SUPPORT QUANTITIES (Cont'd)**

CONVEYOR DECLINE		NO DELAY		DELAY		DELAY		DELAY	
DIST. FROM COLLAR	GROUND SUPPORT	REBAR		REBAR		SHOTCRETE 50 MM		SHOTCRETE 25 MM	
0 - 200	Bolt, Shotcrete			298	8.1%	32.0m <sup>3</sup>	51.3%	24.0m <sup>3</sup>	51.3%
200 - 300	Bolt	518	14.1%						
300 - 910	Bolt, Shotcrete	518	14.1%	743	20.2%	16.0m <sup>3</sup>	25.6%	10.0m <sup>3</sup>	20.6%
910 - 960	Bolt	246	6.7%						
960 - 1280	Bolt, Shotcrete	100	2.7%	445	12.1%	8.0m <sup>3</sup>	12.7%	6.0m <sup>3</sup>	12.9%
1280 - 1340	Bolt	306	8.3%						
1340 - 1610	Bolt, Shotcrete	152	4.1%	354	9.6%	6.0m <sup>3</sup>	10.4%	7.0m <sup>3</sup>	15.2%
<b>TOTAL</b>		1,840	50.0%	1,840	50.0%	62m <sup>3</sup>	100%	47m <sup>3</sup>	100%

### 3.5 SUMMARY - GROUND SUPPORT QUANTITIES (Cont'd)

H.W. EXPL.DRIFT		NO DELAY	NO DELAY	DELAY	NO DELAY	DELAY
DIST. FROM COLLAR	GROUND SUPPORT	REBAR	SPLIT SETS	SPLIT SETS	STRAPS	STRAPS
0 - 300	Bolt and Strap			1,290	63%	
300 - 470	Bolt and Strap		731	37%		642
						63%
<b>TOTAL</b>			731	37%	1,290	63%
					364	37%
						642
						63%

F.W. ACCESS		NO DELAY	DELAY	NO DELAY	DELAY	DELAY	DELAY
DIST. FROM COLLAR	GROUND SUPPORT	SPLIT SETS	SPLIT SETS	STRAPS	STRAPS	SHOTCRETE 50 MM	SHOTCRETE 25 MM
0 - 200	Bolt, Strap, Shotcrete as required		860	41.1%		257	32.9%
200 - 350	Bolt and Strap	645	30.9%		321	41.1%	
350 - 440	Bolt, Strap, Shotcrete as required		387	18.5%		105	13.5%
440 - 485	Bolt and Strap	198	9.5%		98	12.5%	
						11.8 m <sup>3</sup>	32.8%
						27 m <sup>3</sup>	100.0%
<b>TOTAL</b>		843	40.4%	1,247	59.6%	419	53.6%
						362	46.4%
						36 m <sup>3</sup>	100.0%
						27 m <sup>3</sup>	100.0%

**3.5 SUMMARY - GROUND SUPPORT QUANTITIES (Cont'd)**

ORE ACCESS DRIFT		NO DELAY	NO DELAY	DELAY	NO DELAY	DELAY				
DIST. FROM COLLAR	GROUND SUPPORT	REBAR	SPLIT SETS	SPLIT SETS	STRAPS	STRAPS				
0 - 90	Bolt and Strap		287	44.5%	100	15.5%	142	44.2%	51	15.9%
90 - 150	Bolt and Strap		258	40.0%			128	39.9%		
<b>TOTAL</b>			545	84.5%	100	15.5%	270	84.1%	51	15.9

F.W. EXPL. DRIFT		NO DELAY	DELAY	NO DELAY	DELAY	DELAY	DELAY				
DIST. FROM COLLAR	GROUND SUPPORT	SPLIT SETS	SPLIT SETS	STRAPS	STRAPS	SHOTCRETE 50 MM	SHOTCRETE 25 MM				
0 - 50	Bolt and Strap	215	12.0%		107	16.0%					
50 - 150	Bolt, Strap, Shotcrete as required	430	24.0%		171	25.5%	11.1 m <sup>3</sup> 38.3%				
150 - 417	Bolt, Strap, Shotcrete as required			1,148	64.0%	392	58.5%	17.9 m <sup>3</sup> 61.7%	21 m <sup>3</sup> 100.0%		
<b>TOTAL</b>		645	36.0%	1,148	64.0%	278	41.5%	392	58.5%	29 m <sup>3</sup> 100.0%	21 m <sup>3</sup> 100.0%