DIAMOND DRILLING & PHYSICAL REPORT

ON THE

DOROTHY, INDEPENDENCE, GOLDEN EAGLE, LOST CUP, GOLDFINCH, PHYLLIS & NINA CLAIMS

SITUATED IN THE

REVELSTOKE MINING DIVISION

NTS: 82-K-13/E

LAT. 50 49 N

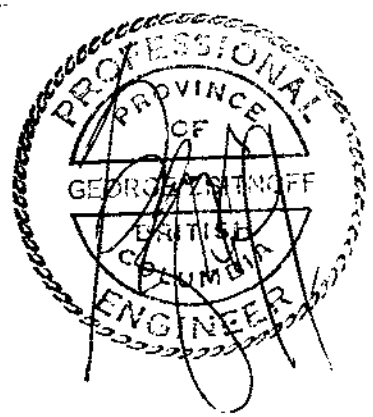
LONG. 117 39 W

HELD BY:

GRANGES EXPLORATION LTD.

23RD FLOOR
885 WEST GEORGIA STREET
VANCOUVER, BRITISH COLUMBIA
V6C 3E8

OCTOBER 20, 1988



G. W. ZBITNOFF
(A. L. LAITE)

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INTRODUCTION:

The Windflower project consists of the Goldfinch/Independence group of mineral claims which are currently held by Granges Exploration Ltd. under option agreement from Windflower Mining Ltd. The group is comprised of 14 crown granted claims, 3 reverted crown-granted claims and 6 located claims, as follows:

CROWN GRANTED MINERAL CLAIMS		OWNERSHIP
Golden Eagle	L12479	Academy Enterprise Ltd.
Independence	L12480	"
Dorothy	L12481	"
Golden Standard	L12482	"
Vimy Ridge	L12483	"
Walrus	L5653	Windflower Mining Ltd.
Goldfinch	L5654	"
Sea Lion	L5655	"
Red Fox	L5656	"
Ridge	L5657	"
Evening Star	L5658	"
Centre Star	L5659	"
Morning Star	L5660	"
Bonanza	L5661	"

REVERTED CROWN GRANTS		OWNERSHIP
Lost Cup	L1870	Granges Exploration Ltd.
Nina	L4239	"
Phyllis	L3755	"

LOCATED MINERAL CLAIMS		OWNERSHIP
Doc	2102	Windflower Mining Ltd.
Vik	2103	"
Academy 1	1350	Academy Enterprises Ltd.
Academy 2	1351	"
Academy 3	1352	"
Academy 4	1353	"

Granges Exploration Ltd. has a 60% interest in the Windflower property and Windflower Mining Ltd. retains a 40% interest.

LOCATION AND ACCESS

The claims are located in the Revelstoke Mining Division, British Columbia. The property lies about 4 air kilometers north of Camborne, B.C. and about 35 km southeast of Revelstoke at latitude 50 , 49.5 N and longitude 117 , 39.5 W, on mapsheet 82K/13E of the National Topographic System.

Elevations on the property range from 488 - 1981 m (1600 - 6500 ') above sea level, with the lowest point at the Incomappleaux (Fish) River on the east, to a high at the northwest boundary on the southeast slope on the Camaplix Mountain.

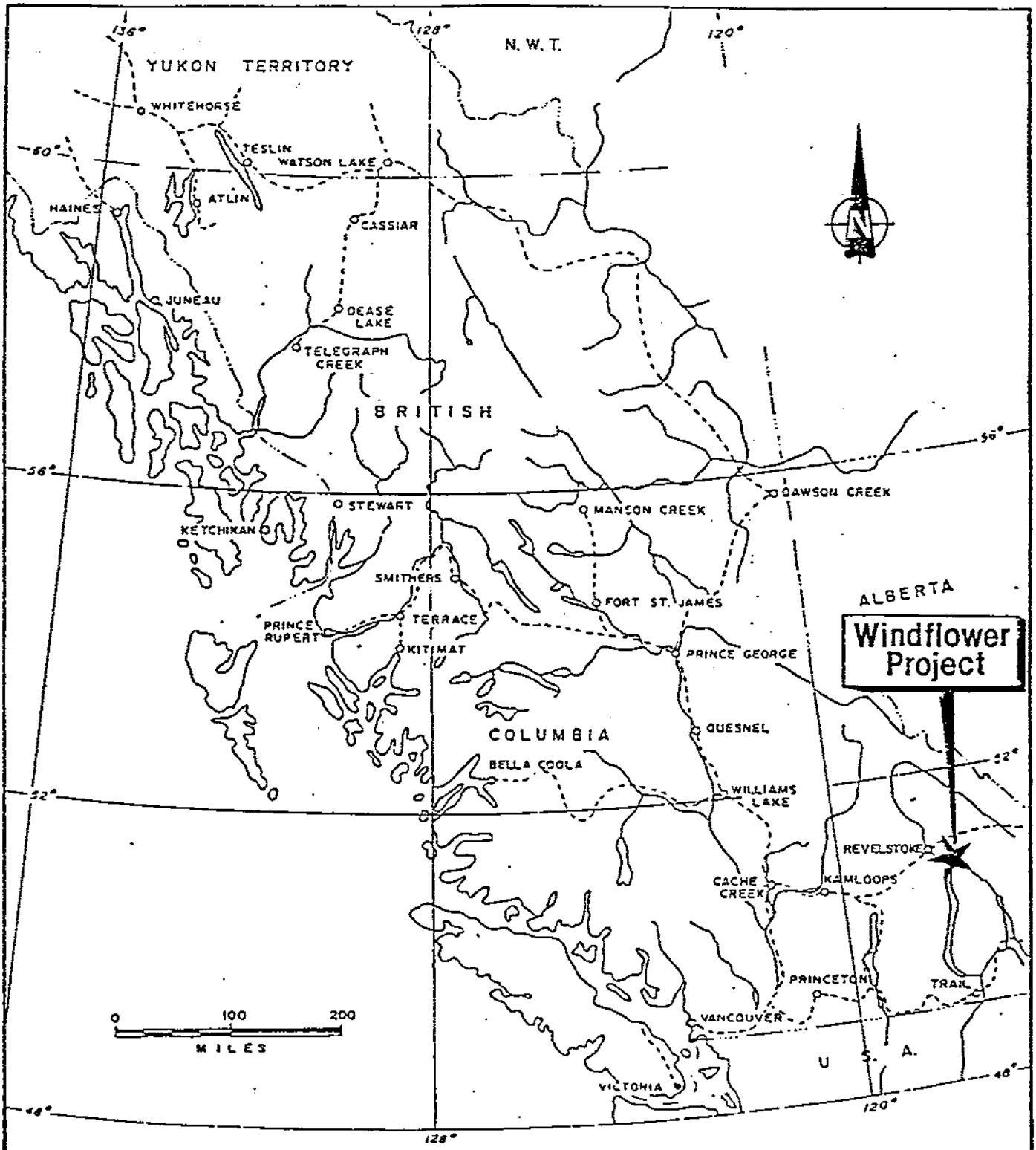
Road access to the property is very good as it is situated within an active logging area, with well-maintained haulage roads and branch roads throughout much of the property.

TOPOGRAPHY AND VEGETATION

The claims are located in the rugged Selkirk Mountain system. The main showings are located at about elevatin 1040 m on a bench with moderate slopes.

Much of the property consists of heavily timbered and logged-over slopes with some rock bluffs and with more open alpine areas at higher elevations. Most of the rock outcrop is covered by a heavy layer of moss, making prospecting and geological mapping a slow process.

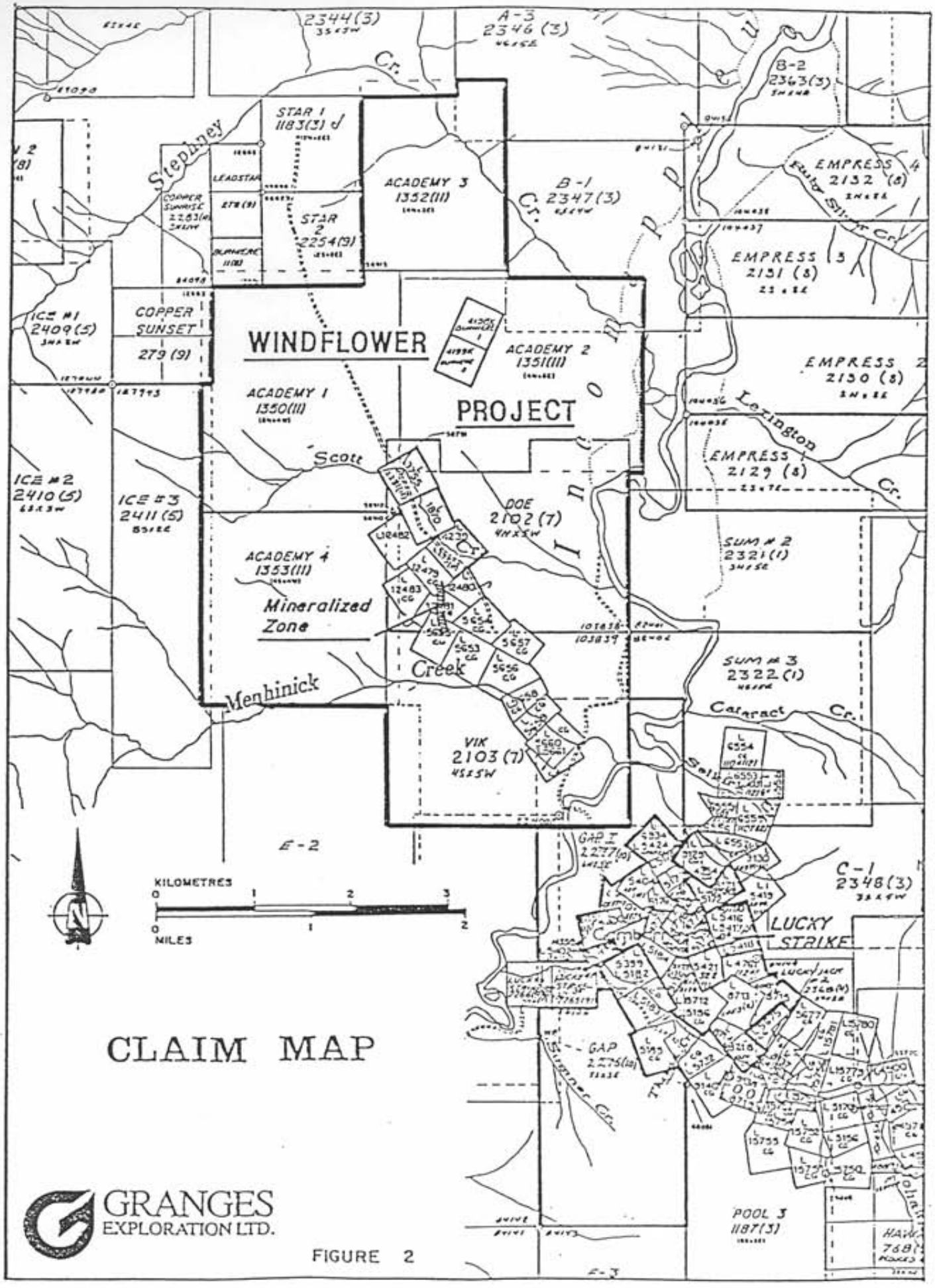
The area has a high snowfall, but due to a southeastern exposure and moderate elevation in the area of the main showings, is usually snowfree from about early May to late October.



LOCATION MAP

GRANGES EXPLORATION LTD.

FIGURE 1



CLAIM MAP

GRANGES EXPLORATION LTD.

FIGURE 2

HISTORY

Mining activity in the Incomappleux River area started in earnest in the late 1890's when prospecting activity, mostly by Americans, overflowed from the Slocan and Kootenay Lakes areas. An impressive gold discovery was made on the Eva property in 1900. This resulted in a small "stampede" into the area.

Most of the interest in the valley centered around the general area of the Eva property. The town of Camborne was founded in 1901. Prospecting activity reached its' peak in 1904. By 1910 underground development had revealed that the showings were not as spectacular as first indicated and mining began to wind down. By 1920 all major activity had stopped and Camborne had become a ghost town, although mining and milling did continue intermittently well into the 1920's. During the years from 1935 until 1941 activity consisted mainly of mill cleanup and salvage.

The area experienced a resurgence of activity in the 1950's. The Spider property, which had seen intermittent activity between 1911 and 1929, was brought into production in 1952. Production ceased in 1958.

In 1976, Eaton Mining drilled the Goldfinch claims with mixed results.

In 1979, a shipment of ore from the Goldfinch claims was sent to the Trail smelter. This shipment assayed .15 oz. gold per ton and .35 oz. silver per ton.

In 1980, another shipment was sent to Trail. This shipment assayed .316 oz. gold per ton.

The main properties of interest in the area are, from north west to south east:

Burniere Group - N.W. of Windflower on the upper slopes of Mount McKinnon; work consisted of pits and trenches.

Nelson Group - part of the Windflower property on the middle slopes of Mount McKinnon; work consisted of pits, trenches and a short adit.

Independence Group - part of the main Windflower property on the lower slopes of Mount Comaplix; work consisted of pits, trenches and a short adit.

Goldfinch Group - part of the main Windflower property on the lower slopes of Mount Comaplix; work consisted of pits, trenches, two adits (600 feet), a Riblet aerial tramway and a 10 stamp mill; production was recorded at 1,450 tons at .46 oz gold and .12 oz silver.

Eva Group - on the east side of the Incomappleux River valley on the lower slopes of Lexington Mountain; work consisted of pits, trenches, 9 adits (5,570 feet), a Riblet aerial tramway and a 10 stamp mill; production was recorded at 31,656 tons at .21 oz gold.

Oyster - Criterion Group - on the middle slopes of Lexington Mountain above the Eva Group; work consisted of pits, trenches, 3 adits (2,500 feet), a Riblet aerial tramway and a 10 stamp mill; production was recorded at 56,086 tons at .14 oz gold.

Spider Group - on the slopes of Lexington Mountain above the Oyster - Criterion; work consisted of pits, trenches and adits; production was recorded at 141,160 tons at .08 oz gold, 12.2 oz silver, 8.5 % Lead, 9.0 % Zinc and .06% copper.

Silver Dollar Group - at the head of Poole Creek above the Spider Group; work consisted of pits, trenches and 2 adits (1,450 feet).

Numerous other properties have been worked. Among these are the Choller, Lucky Jack, Red Horse, Multiplex, Eclipse, Exercise, Mohawk and Homestead.

GEOLOGY

The Windflower Joint Venture property is located in the northern end of the Kootenay Arc. The general area is part of the Selkirk Allocthon - a large east directed thrust slice between Upper Arrow Lake and the Rocky Mountain Trench. The Selkirk Allocthon contains rocks of ancient North American affinity in its east part and rocks of the suspect Kootenay Terrane of the old "Kootenay Arc" in its west part. The Menhinick Creek area is underlain by rocks of the Lardeau Group which are the oldest stratigraphic unit of the Kootenay Terrane.

The Lardeau group ranges in age from Lower Cambrian to Upper Devonian or even Lower Mississippian. It is subdivided into three main formations, the Index Formation - a black slate at the base, overlain by the Jowett Formation - a largely chloritic greenstone, metatuff and other pyroclastics, overlain by the Broadview Formation - a fine grained clastic unit composed mainly of phyllite and grit with minor dolomitic horizons.

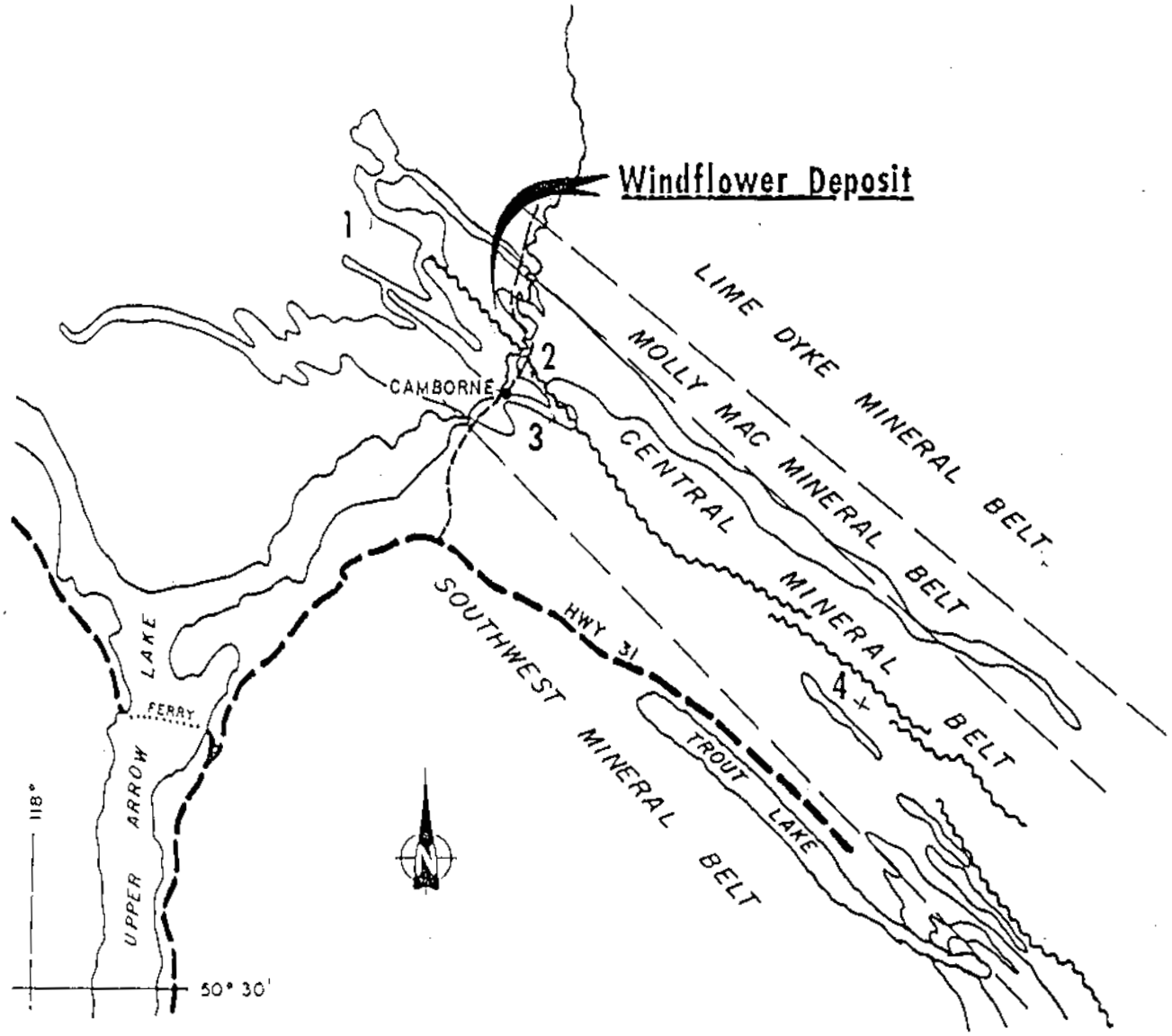
The Incomappleux River cuts through several regional NW - trending upright folds that appear to result from NE - SW compression by the Galena Bay and Kuskanax Plutons to the SW and the Battle Range Batholith to the NE. These plutons are mid - Jurassic in age and the bulk of first order folds visible in the area are interpreted to be of that age.

The rocks in this part of the Incomappleux River are in the west limb of the Silver Cup Antiform, an overturned, to the west, tight to isoclinal fold with a NE dipping axial surface.

The rocks on the property are grouped into two units:
1 - a series of silver to grey to dark grey gritty phyllites with local carbonaceous seams and layers of carbonate - sericite rock.
2 - medium green, non-bedded to streaky phyllitic greenstone with dark green clasts and local silicic pebbles of pyroclasts.

The major deformation appears to have been mid - Jurassic The mineralization appears to have accompanied the last phase of folding. The main ore zone appears to be in an axial plane shear.

The main ore zone is in the shape of a pod or lens. The vein terminates with abrupt pinch outs. The vein consists of quartz with minor disseminated siderite pods. The veins are mineralized with 5 to 30 % pyrite and minor chalcopyrite, galena and sphalerite. Gold is generally associated with the pyrite mineralization. Visible gold is rare but present throughout the vein.



MINERAL DEPOSITS

1 TEDDY GLACIER
2 EVA
3 SPIDER
4 SILVER CUP

LARDEAU GROUP

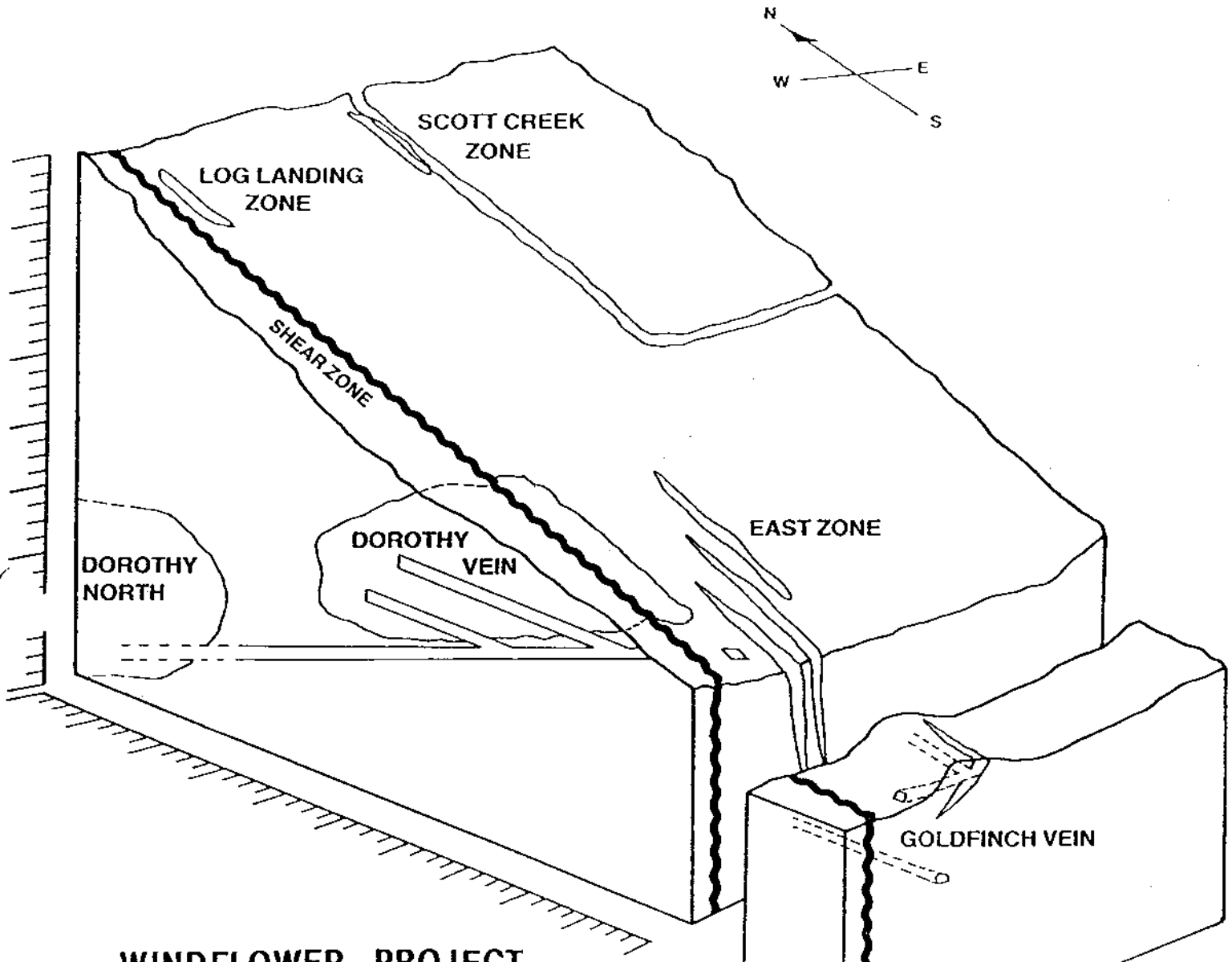
BROADVIEW FORMATION

JOWETT FORMATION

MILES
0 5 10
0 8 16
KILOMETRES

By L.B. Goldsmith, A.J. Sinclair, P.B. Read, 1986

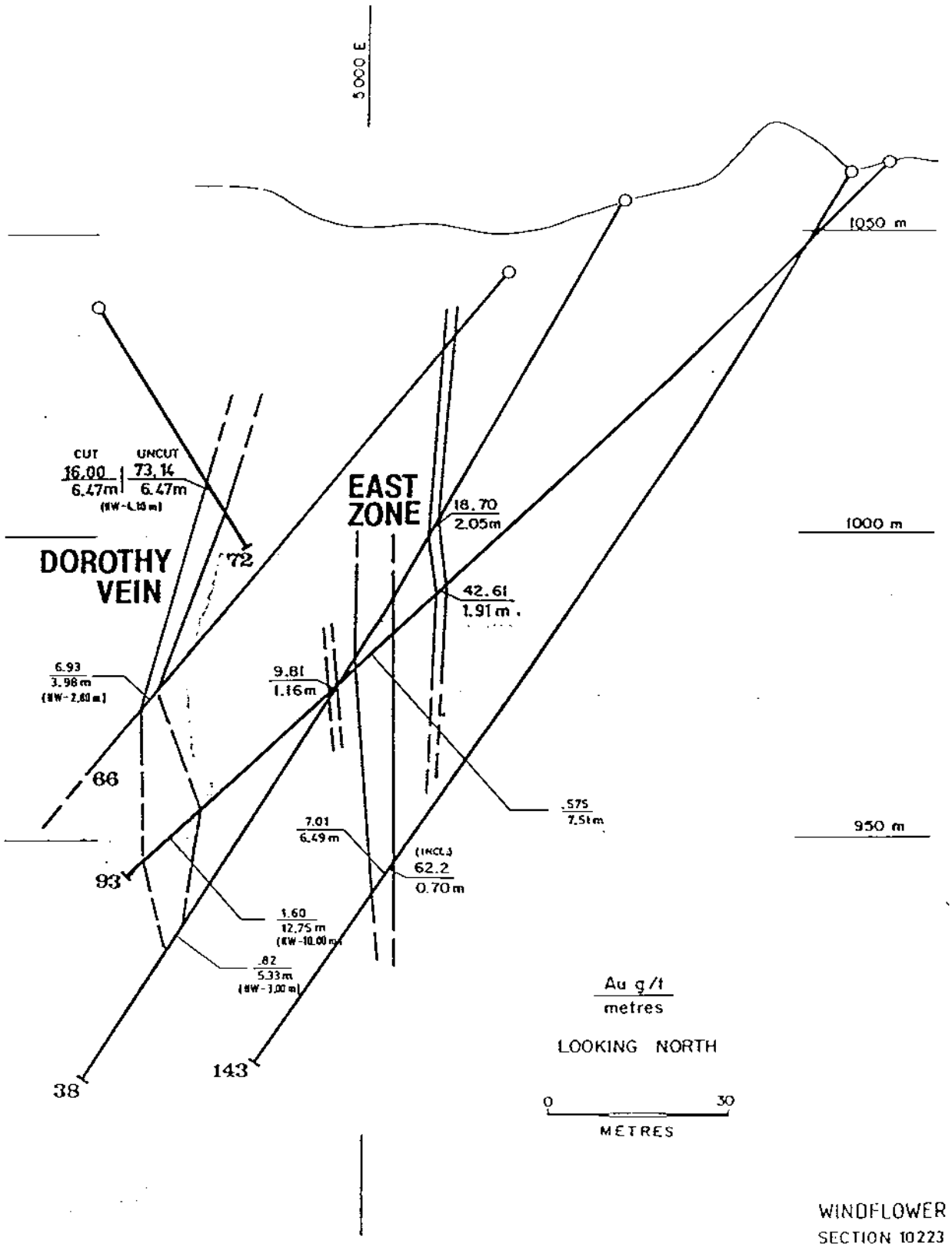
ZONE LOCATION DIAGRAM



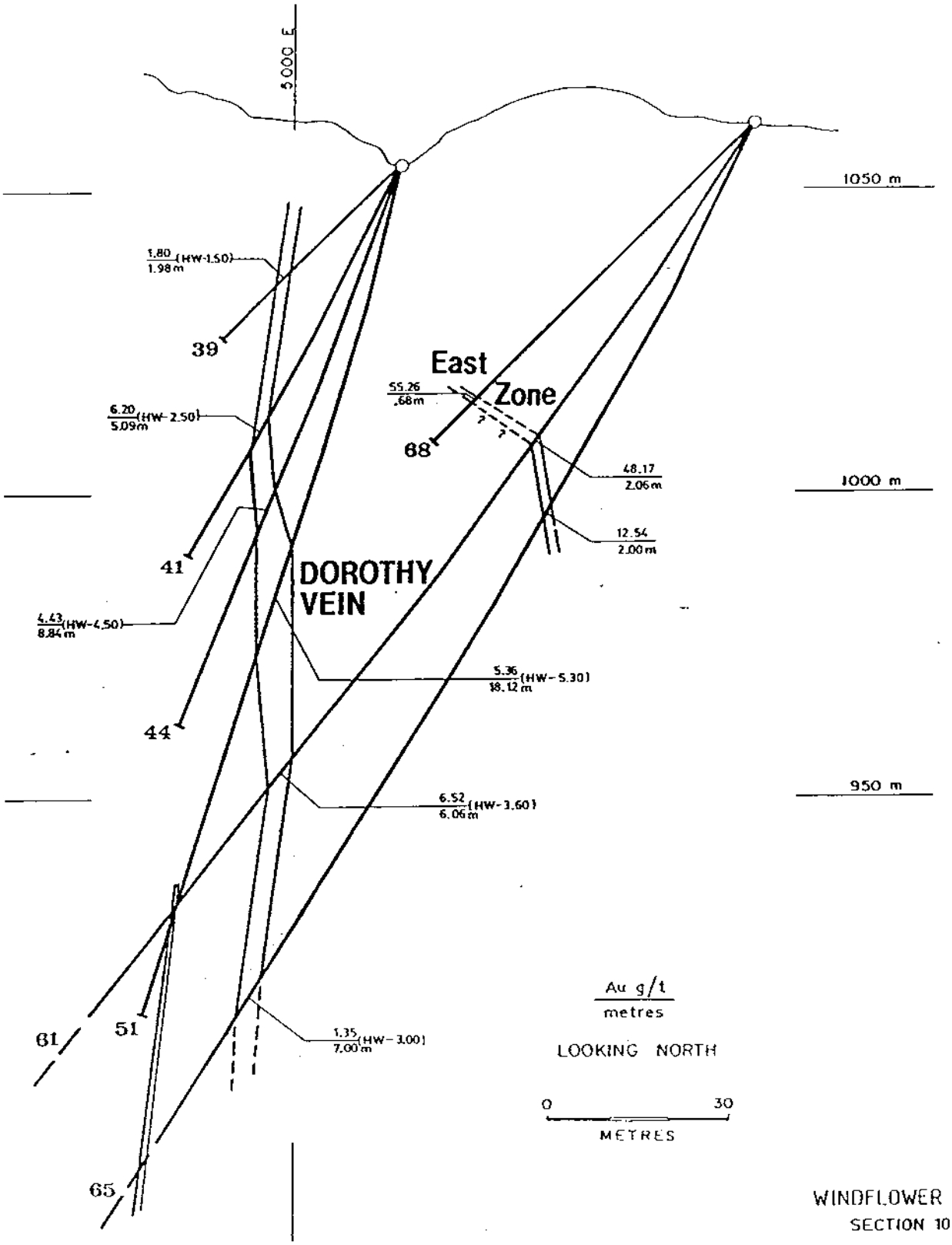
DIAGRAMMATIC
(Not to scale)

GRANGES EXPLORATION LTD.

FIGURE 4



WINDFLOWER PROJECT
SECTION 10223 TO 10250N



WINDFLOWER PROJECT
SECTION 10300-N

DIAMOND DRILLING & RESULTS:

During the 1986 field season, Granges Exploration Ltd. carried out a 61 hole diamond drill program on the Windflower project. The main zone structure was traced with diamond drilling over a strike length of 1300 ft. with widths between 6 and 30 feet. The zone had been tested to a vertical depth of 300 feet.

The focus of the 1987 field season was an extensive diamond drill program with the goal of expanding ore reserves and establishing the continuity of the zone below the 300 foot level.

From July 30, 1987 to November 17, 1987, a total of 63 diamond drill holes were drilled on the property for a total of 7,428.84 meters (24,372.83 feet). Diamond drilling was done by Quest Drilling of Vancouver, B.C., M & B Drilling of Powell River, B.C. and Kootney Exploration Drilling Ltd. of Rossland, B.C. Assays were done on 4,980 core samples for Au and Ag (g/t) by Echo-Tech Laboratories Ltd. of Kamloops, B.C.

Diamond drilling on the Windflower project collectively over the 1985, 1986 and 1987 seasons indicated a strong gold-bearing vein structure over a strike length of 400 metres. The mineralization is open to the north at depth.

Diamond drilling outlined a potential gold deposit containing a preliminary estimated ore reserve of 169,800 tonnes at a grade of 7.2 grams. During November 1987 the decision was made to conduct a program of underground exploration, to examine the drill intersections reported in surface diamond drilling and to substantiate the ore reserve potential.

CORE STORED ON SITE

PHYSICAL WORK & RESULTS:

Underground exploration commenced on January 5, 1988 and was completed on July 22, 1988. Ore reserves were updated to 166,800 tonnes at a grade of 6.8 grams (uncut, undiluted). This updated tonnage was essentially as reported the previous November. However, underground experience revealed that there would be some dilution and statistical analysis of development assays revealed that the cutting of high assays to 35.0 gm was justified - hence the drop in grade. Underground exploration also revealed that several ore blocks could not be economically recovered. The final mill recoverable ore reserve was estimated to be 111,375 tonnes at a grade of 5.6 grams (cut).

The underground exploration proram completed during 1988 consisted of 1,206.0 meters of development. This was broken down into:

Decline	653.0 m
Drifts	307.0 m
Crosscuts	122.5 m
Raises	84.0 m
Boxholes	39.5 m
	1,206.0 m

The intent of this program was to:

a. examine the ore,
b. verify the grade and tonnage by bulk sampling,
c. provide a base for underground diamond drilling,
d. determine the practicality of various mining methods,
e. determine the amount of mining dilution that could be expected,
f. locate and size all development so that it could be used for development.

All of the objectives were met:

a. 307.00 meteres of development were completed in ore,
b. a 9,675 tonne bulk sample was collected, 122 muck samples were assayed, 497 chip samples were assayed,
c. a total of 53 diamond drill holes with an aggregate length of 2197.0 meters were drilled from underground development,
d. drifting and raising indicated that shrinkage should be a viable mining method if due care is taken to maintain the integrity of the stope walls,
e. ground conditions contributed in the order of 10% dilution - stoping dilution should be somewhat less and
f. the decline was sized for the smallest underground truck available and located in suitable proximity to the ore to be best utilized for production.

The cost of the program was $5,093,265 and the majority of the work was done on the Dorothy (12481) claim. 25.4 m of raise, 14 m of undercut and 30 m of crosscutting was completed on the Independence (12480) claim, accounting for approximately 2% of the total underground work.

Sampling procedures used are outlined on the following pages.

SAMPLING PROCEDURES

Muck Samples:

Muck samples were not taken in the conventional form of grab samples from the underground muck piles. The following procedure was employed at the Windflower Joint Venture:

1 - Decline rounds were approximately 100 tonnes, drift rounds were 70 tonnes and raise rounds were 16 tonnes. The various types of rounds were stockpiled on surface. Decline and drift rounds were handled individually; raise rounds were grouped in pairs.

2 - The stockpiled rounds were crushed in a Cedar Rapids 544 crushing plant. This crusher consisted of a 12" x 30" jaw crusher, a 30" x 24" double rolls crusher and a 4' x 12' double deck screen. Both crushers were in closed circuit with the screen. The crusher was found to have a capacity of up to 50 tonnes per hour. The "ore" was crushed to 100 % minus 3/8" (9mm). Samples were collected on a continuous basis, at 2 minute intervals, from the 3/8" "scalping" screen. Sample size was a minimum of 500 gm per tonne of crusher run. The typical sample weighed 35 to 40 kg.

3 - These 35 kg samples were shipped to Acme Analytical, Vancouver for analysis. The sample was rolled and quartered. A 500 gm sample was cut from each quarter and fire assayed.

4 - Assay values assigned to each round were an average of the four assays.

Chip Samples:

Chip sampling techniques employed in development were typical of Canadian gold mine sampling practice. The following procedure was employed at the Windflower Joint Venture.

1 - Development faces were sampled whenever possible. Backs were sampled when faces could not be sampled.

2 - Samples intervals were determined by lithology. Any variation in the vein or rock type necessitated a new sample being cut.

3 - Generally the maximum sample length was 1.0 meter. Any longer samples that carried "significant" gold values were subdivided into smaller units and check sampled.

4 - The typical chip sample consisted of 1.0 to 1.5 kg of rock chips minus 3 cm in size.

5 - Analysis were prepared by Acme Analytical, Vancouver.

EXPENDITURES:

DOE GROUP

Nina, 4239

Diamond drilling, 259.08 m	$	259.08
Report preparation	$	75.00
Office overhead	$	33.40
Total	$	367.48

Phyllis, 3755

Diamond drilling, 372,98 m	$	46,921.94
Report preparation	$	75.00
Office overhead	$	4,699.69
Total	$	51,696.63

Golden Eagle, 12479

Diamond drilling, 1300.41 m	$	159,534.60
Report preparation	$	75.00
Office overhead	$	15,960.96
Total	$	175,570.56

Lost Cup, 1870

Diamond drilling, 1,022.12 m	$	121,997.05
Report preparation	$	75.00
Office overhead	$	12,207.20
Total	$	134,279.25

Goldfinch, 5654

Diamond drilling, 645.58 m	$	84,459.49
Report preparation	$	75.00
Office overhead	$	8,453.45
Total	$	92,987.94

Independence, 12480

Diamond drilling, 1,704.21 m	$	206,456.54
Physical work (see appendix for breakdown of costs)	$	96,772.03
Report preparation	$	75.00
Office overhead	$	30,330.36
Total	$	333,633.39

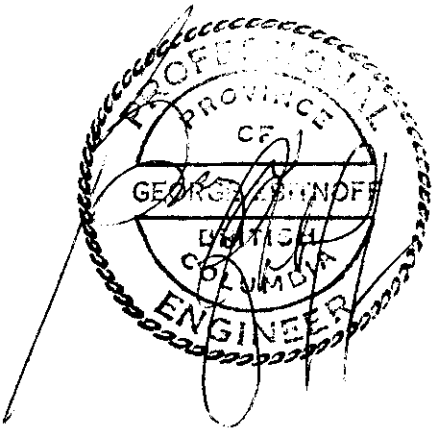
Grand Total	$	788,535.25

EXPENDITURES (CONT'D):

VIK GROUP

Dorothy, 12481

Diamond drilling, 2,412.15 m	$	290,916.04
Physical work (see appendix for breakdown of costs)	$	4,991,399.70
Report preparation	$	75.00
Total	$	5,282,390.70



STATEMENT OF QUALIFICATIONS
GEORGE W. ZBITNOFF
5160 CLIFF PLACE
DELTA, B.C.

Name: Zbitnoff, George William

Birth Date: August 15, 1938

Birthplace: Saskatoon, Saskatchewan

Graduated with Grade 12 matriculation from Blaine Lake High School in 1955.

Graduated from University of Saskatchewan with a B.A. (Geology and chemistry majors) in 1963.

Professional Associations:

- Member of the Association of Professional Engineers of the Province of Manitoba.
- Member of the Association of Professional Engineers of the Province of British Columbia since 1973.
- Member of the Canadian Institute of Mining and Metallurgy.

Experience:

- Pre-graduation experience in geology with the Department of Mineral Resources of Saskatchewan.
- May 1962 - Two and one half years, field geologist with Hudson Bay Exploration and Development, Flin Flon area.
- January 1965 - Six years, field and resident geologist with Noranda Exploration Ltd., Flin Flon area.
- February 1971 - Twelve and one half years, Assistant Manager, Granges Exploration Aktiebolag in Vancouver, B.C.
- November 1983 to present - Vice President Exploration, Granges Exploration Ltd. in Vancouver, B.C.
- Active geological experience in all provinces of Canada and parts of the United States and Mexico.
- Participated in the discovery of Trout Lake Mine.

UNDERGROUND EXPLORATION

The underground exploration program completed during 1988 consisted of 1,206.0 meters of development. This was broken down into:

Decline	653.0 m
Drifts	307.0 m
Crosscuts	122.5 m
Raises	84.0 m
Boxholes	39.5 m
	1,206.0 m

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E - ground conditions contributed in the order of 10% dilution - stoping dilution should be somewhat less and
F - the decline was sized for the smallest underground truck available and located in suitable proximity to the ore to be best utilized for production.

This program was initially budgeted at $4,511,404. The actual cost was $5,093,265. The budget overrun was $581,861. or 11%.

The overrun occurred because of very difficult ground conditions that were not anticipated, breakup of the mine access road and the buy out of the crushing plant.

WINDFLOWER JOINT VENTURE BUDGET

BUDGET RECONCILIATION TO JUNE 30, 1988.

	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE
MOBILIZATION	80,058.	41,242.					
COLLAR	24,376.	8,125.					
DECLINE	1,377.	273,563.	658,378.	267,775.	228,154.	238,300.	159,653.
CROSSCUTS			43,805.	27,793.	23,885.	66,156.	80,279.
UNDERCUTS				162,624.	57,000.	72,314.	111,844.
RAISES					64.	84,107.	23,420.
RAISE MANWAYS							2,880.
SLASH DECLINE		9,856.	22,618.	14,714.	255.	9,436.	1,336.
SLASH UNDERCUT				13,658.	2,438.	8,978.	7,795.
SLASH RAISE						3,560.	800.
ORE CRUSHING		11,974.	51,114.	32,373.	28,664.	17,097.	15,720.
WASTE CRUSHING			5,380.				
DEMOBILIZATION							
UNDERGROUND DIAMOND DRILLING				35,607.	79,690.	22,367.	57,717.
BULK SAMPLE							
ORE HAULAGE				11,644.	16,298.	10,004.	656.
PILOT PLANT OPERATION							
ROAD MAINTENANCE	17,305.	57,892.	54,723.	63,335.	123,553.	103,284.	118,807.
CAMP OPERATION	15,913.	34,338.	64,212.	35,620.	29,969.	26,148.	29,332.
OVERHEADS	2,550.	6,884.	10,562.	6,881.	5,870.	3,825.	32,036.
CRUSHER RENTAL		100,000.	20,000.	20,000.	20,000.	20,000.	20,000.
ASSAYING		261.	647.	3,631.	14,949.	1,989.	5,498.
COMMUNICATIONS	2,363.		489.	16,333.	6,063.	5,946.	6,620.
XEROX			2,827			1,410.	
VEHICLES		461.	851.	1,250.	3,593.	260.	4,840.
STAFF	6,216	2,340.	9,040.	18,071.	13,029.	4,265.	20,215.
	150,157.	546,935.	944,646.	731,109.	653,272.	699,455.	699,448.
CONTINGENCY 0%							
MANAGEMENT FEE 10%	15,016.	54,694.	94,465.	73,111.	65,327.	69,946.	69,945.
TOTALS	165,173.	601,629.	1,039,111.	804,220.	718,599.	769,401.	769,393.

NUMBERS TO THE END OF JUNE HAVE BEEN REVISED WITH ACTUAL VALUES.

WINDFLOWER JOINT VENTURE BUDGET

ESTIMATED COST TO COMPLETE PHASE I - FROM APRIL 1, 1988

	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE
MOBILIZATION	80,058.	41,242.					
COLLAR	24,375.	8,125.					
DECLINE		205,468.	619,489.	221,883.	246,500.		
CROSSCUTS			41,882.	32,004.	114,300.		
UNDERCUTS				137,825.	80,500.	34,500.	
RAISES					69,875.	155,875.	
RAISE MANWAYS						20,000.	13,600.
SLASH DECLINE		9,052.	20,774.	10,413.	10,000.		
SLASH UNDERCUT				13,858.			
SLASH RAISE							
ORE CRUSHING		11,973.	51,113.	33,250.	24,000.	12,000.	
WASTE CRUSHING			5,380.	4,000.	8,000.	4,000.	
DEMOBILIZATION							25,250.
UNDERGROUND DIAMOND DRILLING		197.		34,400.	31,700.	30,000.	30,000.
BULK SAMPLE							
ORE HAULAGE				12,000.	18,450.	6,150.	1,000.
PILOT PLANT OPERATION							
ROAD MAINTENANCE	30,250.	84,645.	79,750.	90,000.	95,000.	41,250.	19,250.
CAMP OPERATION	14,968.	36,154.	54,196.	30,700.	34,000.	27,000.	9,200.
OVERHEADS		7,785.	10,989.	10,000.	10,000.	10,000.	5,000.
CRUSHER RENTAL	20,000.	80,000.	20,000.	20,000.	20,000.	20,000.	20,000.
ASSAYING		500.	500.	16,200.	16,200.	16,200.	7,200.
COMMUNICATIONS	2,363.	7,860.	8,320.	6,500.	6,500.	6,500.	3,000.
XEROX			650.	650.	650.	650.	650.
VEHICLES		1,800.	1,800.	1,800.	1,800.	1,800.	1,000.
STAFF	5,000.	10,340.	10,340.	18,000.	18,000.	18,000.	11,000.
	177,014.	505,141.	925,183.	693,183.	805,475.	403,925.	146,150.
CONTINGENCY 0%							
MANAGEMENT FEE 10%	17,701.	50,514.	92,518.	69,318.	80,548.	40,393.	14,615.
TOTALS	194,715.	555,655.	1,017,701.	762,501.	886,023.	444,318.	160,765.

NUMBERS FOR DECEMBER, JANUARY AND FEBRUARY HAVE BEEN REVISED WITH ACTUAL VALUES.

WINDFLOWER JOINT VENTURE BUDGET

	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY
MOBILIZATION	60,650.	60,650.				
COLLAR	32,500.					
DECLINE		239,250.	304,500.	181,250.		
CROSSCUTS		127,000.	92,250.	31,750.		
UNDERCUTS		103,500.	207,000.	138,000.		
RAISES			107,500.	107,500.		
RAISE MANWAYS			16,000.	16,000.		
SLASH DECLINE		2,125.	4,250.	2,125.		
SLASH UNDERCUT			29,000.	29,000.		
SLASH RAISE			6,900.	6,900.		
ORE CRUSHING		24,000.	48,000.	32,000.	48,000.	40,000.
WASTE CRUSHING		8,000.	16,000.	8,000.	8,000.	
DEMOBILIZATION						25,250.
UNDERGROUND DIAMOND DRILLING			22,500.	22,500.		
BULK SAMPLE					210,500.	210,500.
ORE HAULAGE					26,650.	26,650.
PILOT PLANT OPERATION						
ROAD MAINTENANCE	38,500.	79,750.	79,750.	82,250.	82,250.	41,250.
CAMP OPERATION	3,450.	18,550.	33,200.	27,200.	22,450.	28,050.
OVERHEADS	8,500.	10,000.	10,000.	10,000.	10,000.	10,000.
CRUSHER RENTAL	9,000.	18,000.	18,000.	18,000.	18,000.	18,000.
ASSAYING		3,600.	16,200.	16,200.	7,200.	7,200.
COMMUNICATIONS		3,000.	4,000.	4,000.	4,000.	4,000.
XEROX		650.	650.	650.	650.	650.
VEHICLES		1,800.	1,800.	1,800.	1,800.	1,800.
STAFF		18,975.	22,350.	22,350.	22,350.	22,350.
	152,600.	718,850.	1,039,850.	737,475.	461,850.	435,700.
CONTINGENCY 15%	22,890.	107,828.	155,977.	113,621.	69,277.	65,355.
MANAGEMENT FEE 10%	17,549.	82,668.	119,583.	87,109.	53,113.	50,106.
TOTALS	193,039.	909,346.	1,315,410.	958,205.	584,240.	551,161.

PHASE I 3,376,000.
FLOW THROUGH PORTION

PHASE II 1,135,401.
AFTER FLOW THROUGH IS COMPLETED

TOTAL 4,511,404.

WINDFLOWER JOINT VENTURE

BUDGET ANALYSIS TO JUNE 30, 1988

	NOVEMBER BUDGET	MARCH UPDATE	VARIANCE	JULY UPDATE	VARIANCE
MOBILIZATION	121,300.	121,300.	NIL	121,300.	NIL
COLLAR	32,500.	32,500.	NIL	32,500	NIL
DECLINE	725,000.	1,293,340.	568,340.	1,827,200.	1,102,200.
CROSSCUTS	251,000.	188,186.	(62,814.)	241,928.	(9,072.)
UNDERCUTS	448,500.	252,825.	(195,675.)	403,782.	(44,718.)
RAISES	215,000.	225,750.	10,750.	107,691.	(107,409.)
RAISE MANWAYS	32,000.	33,600.	1,600.	2,880.	(29,120.)
SLASH DECLINE	8,500.	50,239.	41,739.	58,213.	49,713.
SLASH UNDERCUT	58,000.	13,558.	(44,442.)	32,767.	(25,233.)
SLASH RAISE	13,800.		(13,800.)	4,360.	(9,440.)
ORE CRUSHING	192,000.	132,336.	(59,664.)	156,842.	(35,158.)
WASTE CRUSHING	40,000.	21,380.	(18,620.)	5,380.	(34,620.)
DEMOBILIZATION	25,250.	25,250.	NIL	25,250.	NIL
UNDERGROUND DIAMOND DRILLING	45,000.	126,297.	81,297.	195,181.	150,181.
BULK SAMPLE	421,000.		(421,000.)		(421,000.)
ORE HAULAGE	53,300.	37,600.	(15,700.)	38,602.	(14,698.)
PILOT PLANT OPERATION			NIL		NIL
ROAD MAINTENANCE	403,750.	440,145.	36,395.	538,899.	135,149.
CAMP OPERATION	132,900.	206,218.	73,318.	235,532.	102,632.
OVERHEADS	58,500.	53,774.	(4,726.)	68,608.	10,108.
CRUSHER RENTAL	99,000.	200,000.	101,000.	200,000.	101,000.
ASSAYING	50,400.	56,800.	6,400.	26,975.	(23,425.)
COMMUNICATIONS	19,000.	41,043.	22,043.	37,814.	18,814.
XEROX	3,250.	3,250.	NIL	4,237.	987.
VEHICLES	9,000.	10,000.	1,000.	11,255.	2,255.
STAFF	108,375.	90,680.	(17,695.)	73,176.	(35,199.)
	3,566,325.	3,666,071.	89,746.	4,450,272.	883,947.
CONTINGENCY 15%	534,950.				
MANAGEMENT FEE 10%	410,128.	365,607.		445,027.	
	4,511,403.	4,021,678.	(489,725.)	4,895,299.	383,896.
			JULY ESTIMATE	300,000.	
				5,195,299.	683,896.

WINDFLOWER JOINT VENTURE

BUDGET ANALYSIS

1 - Mobilization:	no variance.		
2 - Collar:	no variance.		
3 - Decline:	1,102,200.	additional decline	285,372.
		ground control	
		grouting	53,157.
		rockbolting	263,893.
		shotcrete	165,622.
		steel sets	135,601.
		equipment rentals	198,555.
4 - Crosscuts:	(9,072.)	eliminated the 975 level.	
5 - Undercuts:	(44,718.)	eliminated the 975 level. developed the 175 S. Drift.	
6 - Raises:	(107,409.)	eliminated the 310 raise. shortened the 305 raise.	
7 - Raise Mnwy:	(29,120.)	eliminated the 310 raise. shortened the 305 raise.	
8 - Slash Decline:	49,713.	additional safety bays. enlarged switchbacks.	
9 - Slash Undercut:	(25,233.)	most slashing deemed unnecessary.	
10 - Slash Raise:	(9,440.)	eliminated the 310 raise. shortened the 305 raise.	
11 - Ore Crushing:	(35,158.)	better operating cost than anticipated.	
12 - Waste Crushing:	(34,620.)	quantity crushed reduced.	
13 - Demobilization:	no variance.		
14 - U.G. drilling:	150,181.	additional primary drilling and additional follow up drilling.	
15 - Bulk Sample:	(421,000.)	sample not taken - sufficient ore was recovered from development.	
16 - Ore Haulage:	(14,698.)	reduced tonnage trucked.	
17 - Road Maint.:	135,149.	equipment rentals	352,961.
		sumps and yards	21,716.
		waste rock haulage	69,925.
		access road repairs	94,297.
18 - Camp Operation:	102,632.	direct costs	47,682.
		equipment	15,754.
		maintenance	39,196.
19 - Overheads:	10,108.	additional 4 weeks operation.	
20 - Crusher Rental:	101,000.	buy out of crusher.	
21 - Assaying:	(23,425.)	reduced number of samples from drifts and raises.	
22 - Communications:	18,814.	excessive B.C. Tel charges.	
23 - Xerox:	987.	additional 4 weeks rental and supplies.	
24 - Vehicles:	2,255.	repairs to vehicles.	
25 - Staff:	(35,199.)	additional 4 weeks operation.	

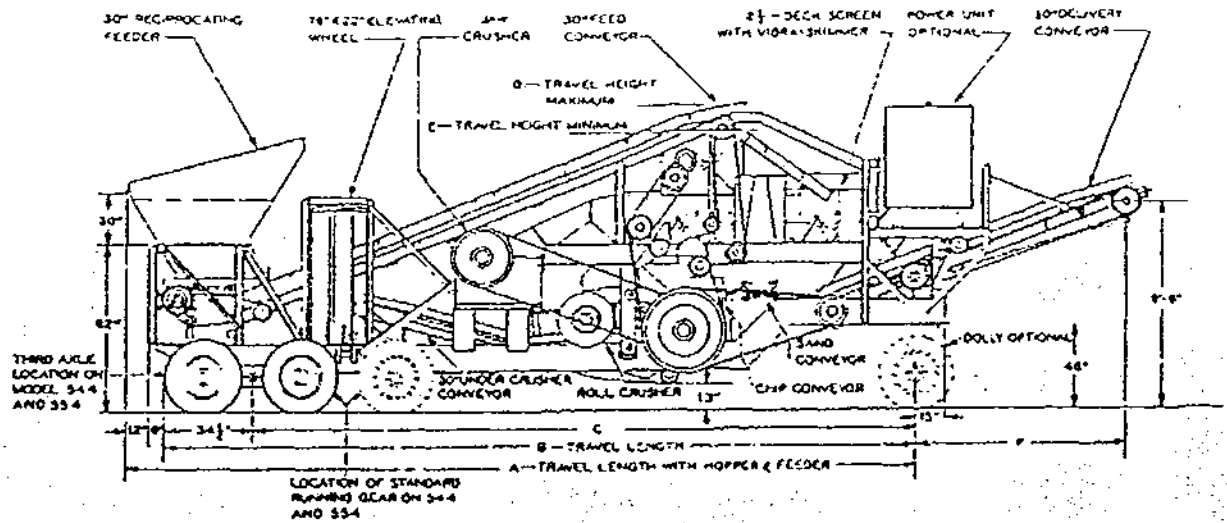
Cedarapids

MODELS 443, 543, 544, 554

Replaces Form 12077

SENIOR COMMANDER PORTABLE AGGREGATE PLANT

SPECIFICATIONS



DIMENSIONS

MODEL	A	B	C	D	E	F
443-543	34'-11"	33'- 2"	30'- 4"	14'-0"	12'-10"	9'-8"
544	39'- 7"	37'-10"	29'- 7"	14'-0"	13'- 0"	10'-1"
554	41'- 6"	39'- 9"	31'-11"	14'-4"	13'- 3"	9'-6"

Model	Jaw	Roll	Screen	Capacity TPH*	Approximate Weights** Total	Rear	King Pin
443	1036	3025	48"-10'	200-320	62,510	32,910	29,600
543	1236	3025	48"-10'	200-320	63,110	33,310	29,800
544	1236	3025	48"-12'	220-340	66,660	39,000	27,660
554	1236	3030	48"-12'	230-350	72,650	43,650	29,000

*Capacity approximate, based on 1" material, 25% oversize to be crushed, 100 lbs. per cu. ft. material, proper operating conditions.

**Weights do not include power, front dolly or third axle.

BASE UNIT POWER REQUIREMENTS

All Models	Mechanical Drives Combustion	Semi-Electric Combustion	Screen*	Feed Conveyor	Under-Crusher, Elev. Wheel	Delivery Conveyor*
Horse-Power	200-225 350-375 (554)	175-200 275-300 (554)	20	15	10	15

Combustion engine HP is continuous rating, not to exceed 1800 RPM when plant mounted or 900 RPM when side mounted.

*Requires high starting torque motor.

OPTIONAL EQUIPMENT ELECTRIC HP REQUIREMENTS

Sand Screw or Conveyor	Sand Delivery Conveyor	Chip Conveyor	34'-0" Delivery Conv. Ext.	Pre-Screener*	Pre-Screener Conv.	Hydraulic Grizzly	Feed Conveyor
5	5	5	10	15	5	5	10

*Requires high starting torque motor.

BASE UNIT: Includes jaw crusher, roll crusher with rubber tire drive, 48" x 10'-0" 2½-deck Cedarapids horizontal vibrating screen (48" x 12'-0" 2½-deck on 544 and 554), 78" x 22" return wheel, 30" plant feed conveyor, 30" undercrusher conveyor, 30" folding front delivery conveyor, 30" reciprocating feeder with hopper and grizzly. All mounted on unit frame with tandem rear axle and eight 9:00x20 12-ply pneumatic tires. Includes all chutes, hoppers, operator's platform, all plant drives, main V-belt drive with motor platform or propeller shaft drive for side mounting, less power.

JAW CRUSHER: Single jaw crusher with welded steel base; extra-large spherical self-aligning roller bearings with labyrinth seals to minimize dust infiltration; chromium-nickel-molybdenum steel eccentric shaft; reversible manganese jaws and cheek plates, hydraulic jaw opening adjustment.

ROLL CRUSHER: One-piece roll shells of manganese steel; eight tapered roller bearings on roll shafts with extra high load ratings to assure long trouble-free service; patented shear plates protect crusher from uncrushable material. Finger gear drive available.

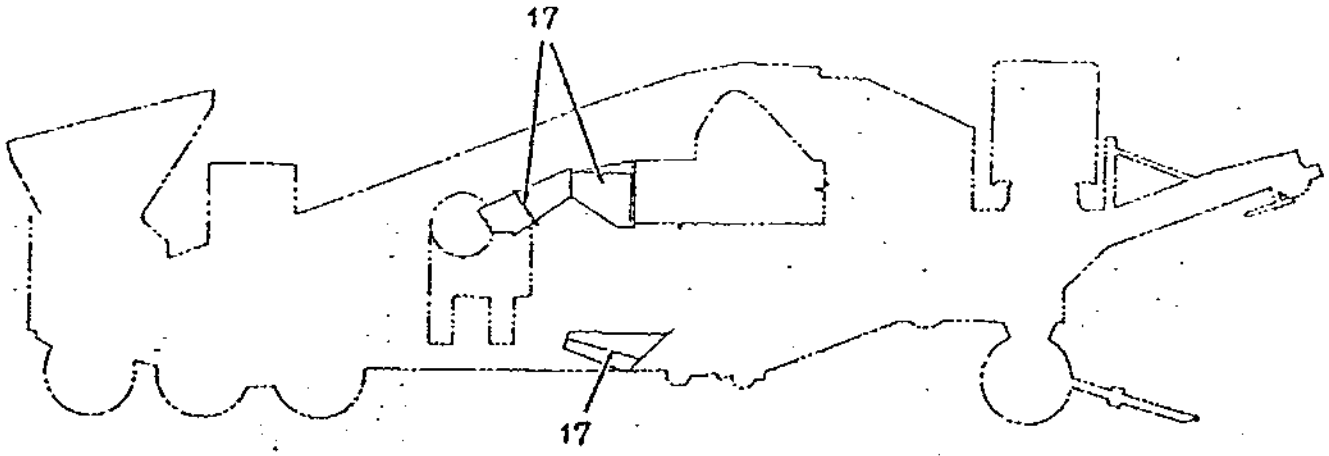
SCREEN: Screen box supported by laminated spring supports and coil springs; feed box takes initial load of material and spreads it across full width of cloth; top deck frames made in two sections for easy removal; two baffle plates and one blanking plate furnished for different screen wire arrangements.

RETURN WHEEL: Mono-type rail mounted on two steel trunnions with anti-friction bearings. Adjustable paddles to suit aggregate conditions.

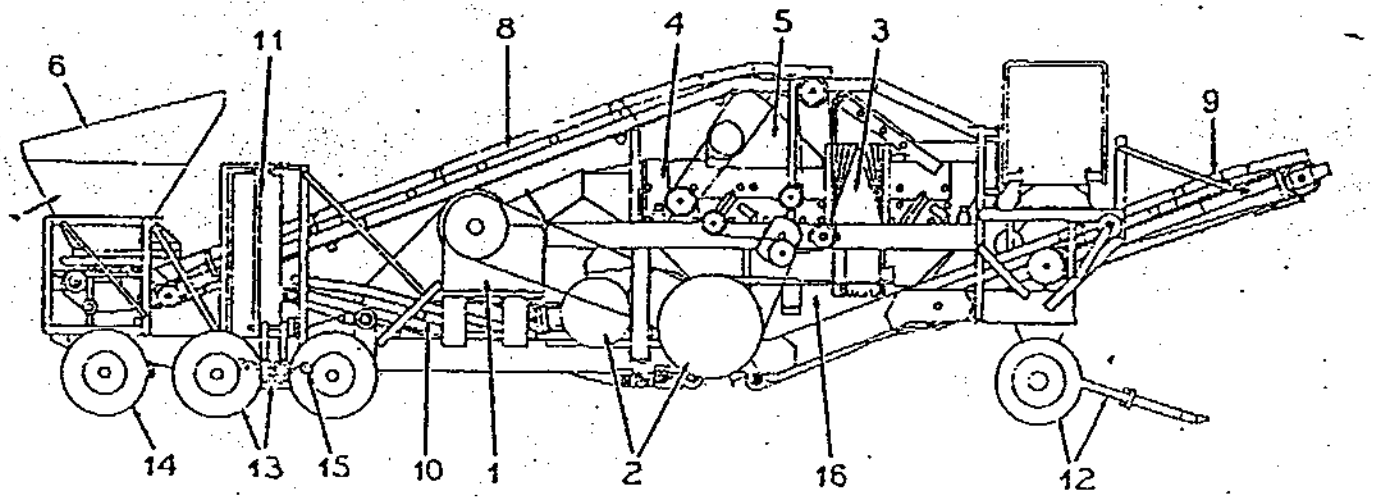
CONVEYORS: Channel frame conveyors equipped with 25° troughing rolls for greater carrying capacity on plant feed and delivery conveyors and on undercrusher conveyor when possible subject to clearance requirements. Troughing and return rolls have Lifeseal ball bearings that require no field lubrication. All equipped with self-cleaning tail pulleys and belt wipers. Front delivery conveyor has 9'-6" discharge height and folds for travel.

RECIPROCATING FEEDER: 7'-11" x 7'-8" hopper; grizzly rejects material over 8½" (with 1036 crusher) or 10" (with 1236 crusher); adjustable feed stroke; metering gate; clutch controlled; upper portion of hopper

COMPONENTS



See Section 14 for Drives and Idlers.
See Section 16 for Guard Details.



REF.NO.	DESCRIPTION	SECTION
1	Jaw Crusher	2
2	Roll Crusher	3
3	Vibra-Skimmer (Optional)	4
4	Screen Base and Box	4
5	Screen Vibrator	4
6	Feeder Charging Hopper and Grizzly (Optional)	5
7	Reciprocating Feeder (Optional)	5
8	Feed Conveyor	6
9	Delivery Conveyor	7
10	Undercrusher Conveyor	8
11	Elevating Wheel	9
12	Front Dolly and Wheels (Optional)	12
13	Rear Axle Equipment	12
14	Air Suspended Single Axle (Optional)	12
15	Air Brakes and Controls	13
16	Screen Hopper	16
17	Special Accessories	16

BALANCING PLANT FOR MAXIMUM PRODUCTION

General

Balancing the crushers and screen on a portable crushing and screening plant is very important to obtain the greatest efficiency and production. The plant is designed for big capacity and maximum versatility by changing crusher settings and screen wire openings. Also, adjusting feeder to maintain a constant even flow of material through the plant is necessary. Detailed recommendations to obtain and maintain this balance in the plant is described in the following paragraphs.

Reciprocating Plate Feeder

The reciprocating plate feeder can be adjusted to obtain different lengths of stroke on the reciprocating plate to control the amount of material fed to the plant. Also, the feeder discharge gate can be adjusted for feed control.

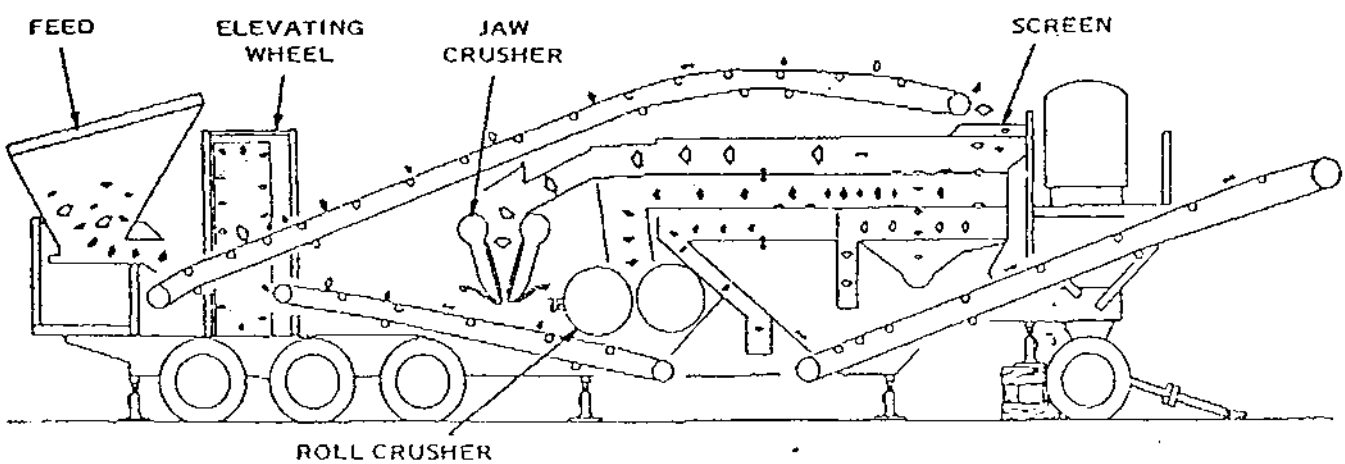
When the feeder gate and plate feeder stroke and crusher are all properly adjusted, the jaw crusher, in most cases, should be kept full to the top of crushing chamber. The roll crusher should have sufficient material to maintain a constant crushing action without overloading the area between the roll shells. Attempting to feed oversize material or exceed roll crusher capacity will be evident when the material in roll crusher hopper has a "bubbling action" between the shells, and possibly the movable shaft assembly will have excessive movement.

Roll Crusher

Opening between roll crusher shells should be, in general (based on the type of material being crushed), ⅛" to ¼" less than the largest size finished product clear opening screen wire. In other words, if finished product screens are 1-inch Square Clear Opening, the distance between roll shell should be ⅞" or ¾" respectively.

EXAMPLE: A typical installation for making ¾" minus material for main product and removing the sand would be: Roll crusher set at ⅞" opening; jaw crusher set at 1½" opening; and the top deck discharge end screen wire S.C.O. of 1¾", which determines the size of material going to the roll crusher. See Figure 5.

If the roll crusher discharge opening is too large in relation to screen wire opening for larger size finished product, the material will not be reduced enough to pass the finished product screen wire. A large amount of stone will then recirculate through the plant, continually increasing in volume and reducing the output of the plant, sometimes as much as 50 to 60%.



Flow of Material Through Plant
Super Commander
Figure 4

Always be sure that the roll crusher is operating at the recommended speed by checking roll crusher countershaft speed. If plant is operated at some other speed, the screen action will be affected and inefficient screening action will result, since the plant is all driven from one power unit. Excessive speed will reduce the life expectancy of the screen bearings, gears, V-belts, etc. Correct speed is one of the basic requirements to obtain maximum capacities with minimum of wear.

Single and Twin Jaw Crushers

The jaw crusher opening in the bottom of the jaws on the closed portion of the stroke (when the jaws are closest together at the bottom) should be adjusted to allow material which eventually passes into the roll crusher, to be "nipped" or held between the roll crushers for further reduction. Too large a discharge opening in jaw crusher will permit excess or oversize material to go to the roll crusher causing "bubbling action" and excessive wear on the roll crusher shells. Too small a discharge opening in jaw crusher will decrease the amount of material going to the roll crusher and, therefore, the roll crusher will not be doing its share of the work and consequently the plant capacity will be reduced. To operate plant at its maximum efficiency, a balance must be maintained between the discharge opening in the roll crusher and the discharge opening in the jaw crusher.

> CAUTION: Do not close jaw opening to less than recommended. Refer to "Jaw Crusher Instructions" for minimum discharge opening.

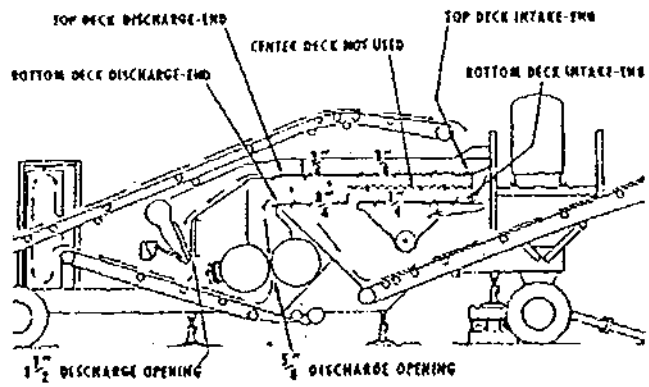
Screen

The screen will accurately separate aggregates at a high capacity if properly adjusted and operated.

The speed of screen in the plant is pre-determined and will be correct if plant is operated at correct speed.

Adjustable coil springs on each side of screen box must be adjusted properly for maximum screening efficiency, and alignment gauge on side of screen box provides a ready check to determine screen box position underload during operation. Coil spring adjustment is very important.

Screen wire selection (diameter and square clear opening) will considerably affect the total capacity of the screen. Always use small diameter wire and as large clear opening as permissible and still maintain product within specifications. Correct arrangement of wire in screen box is important to utilize the full area of screen wire, but yet separate and discharge the graded material as soon as possible into the hoppers and chutes. See Figure 5.



Screen Wire Arrangements and Crusher Settings
Senior Commander
Figure 5

Screen wire properly centered and evenly tightened when installed will extend the life of the screen wire considerably.

Loose screen wire will cause unsatisfactory screening action. The last sections of the top deck splits and determines the size of feed to the roll crusher and the jaw crusher. The S.C.O. of the last half of the top deck under average conditions should not exceed the recommended maximum size feed for roll crusher.

The flop gate under the first half of the bottom deck can be adjusted to divert all or part of the material passing through this deck onto the side-discharge sand conveyor or onto the end-discharge finished product conveyor.

The sand deck (first half of bottom deck) will ordinarily have a capacity of from 25 to 45 cubic yards per hour, passing ¼" S.C.O. When the material being handled contains an excess of this quantity per hour, the excess will be carried over into the next product. If this carry over is objectionable, the feed in yards per hour must be reduced to the quantity that contains the amount of sand that can be screened out.

If the plant is equipped to use a chip screen and spout, they can be installed following the first section of the bottom deck. Chips passing the first half of the top deck, the chip screen, and retained on the first half of the bottom deck will be delivered outside on the chip conveyor.

PLANT ARRANGEMENT

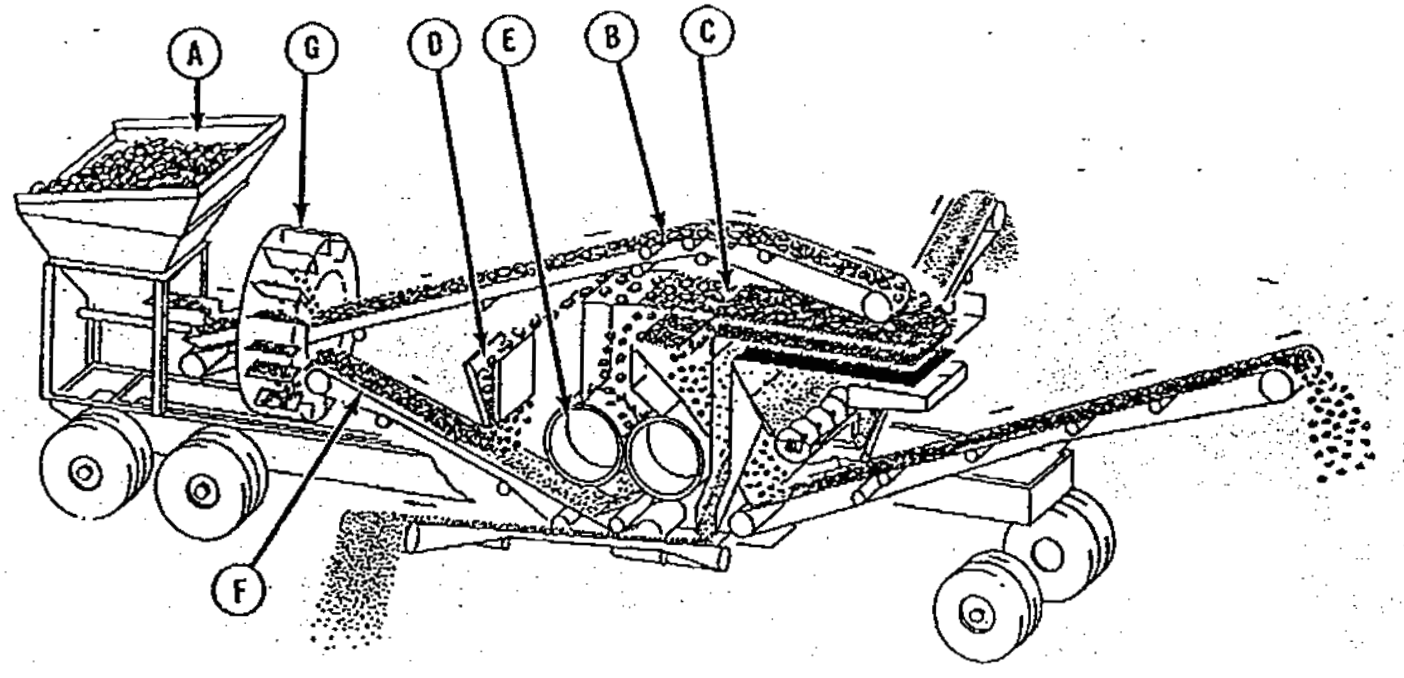
The Commander Plants are self-contained units used to produce crushed stone or gravel.

These plants may be purchased and used with various feeding arrangements to plant as listed:

(1) Feeder on Plant. The usual feeding method is with feeder mounted on plant for direct loading with dragline or shovel.

(2) Swivel Feed Conveyor with Feeder. The swivel feed conveyor is used to turn the conveyor and work the gravel pit, etc. in 180° half circle and therefore eliminate moving the plant as often.

(3) Another feeding method is with grizzly and top section of feeder hopper removed and feeding directly into feeder from the conveyor of a primary or scalping plant.



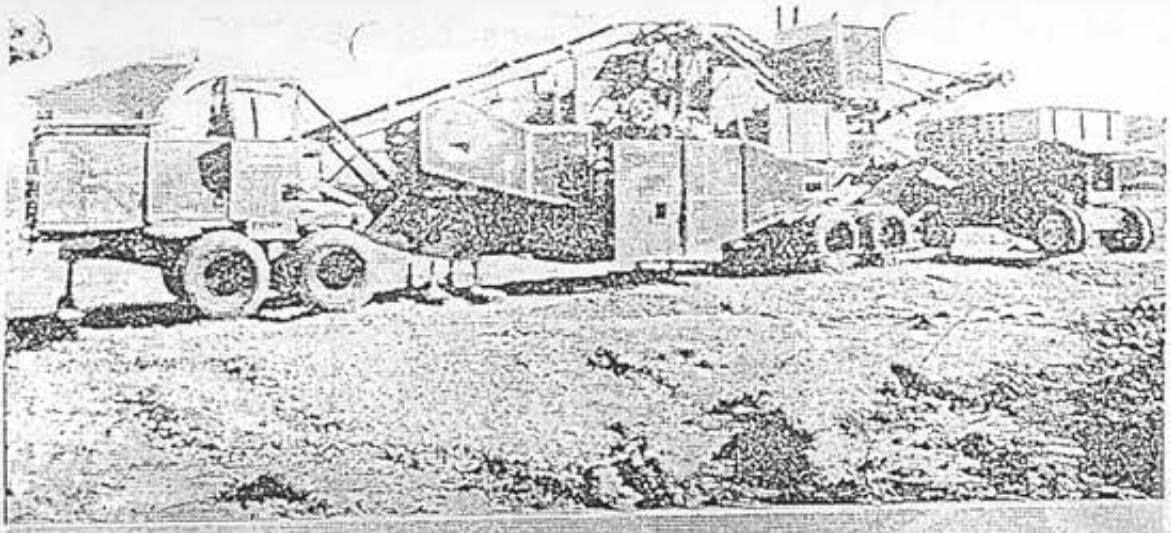
Flow of Material Through Plant
Senior Commander Shown
Figure 3

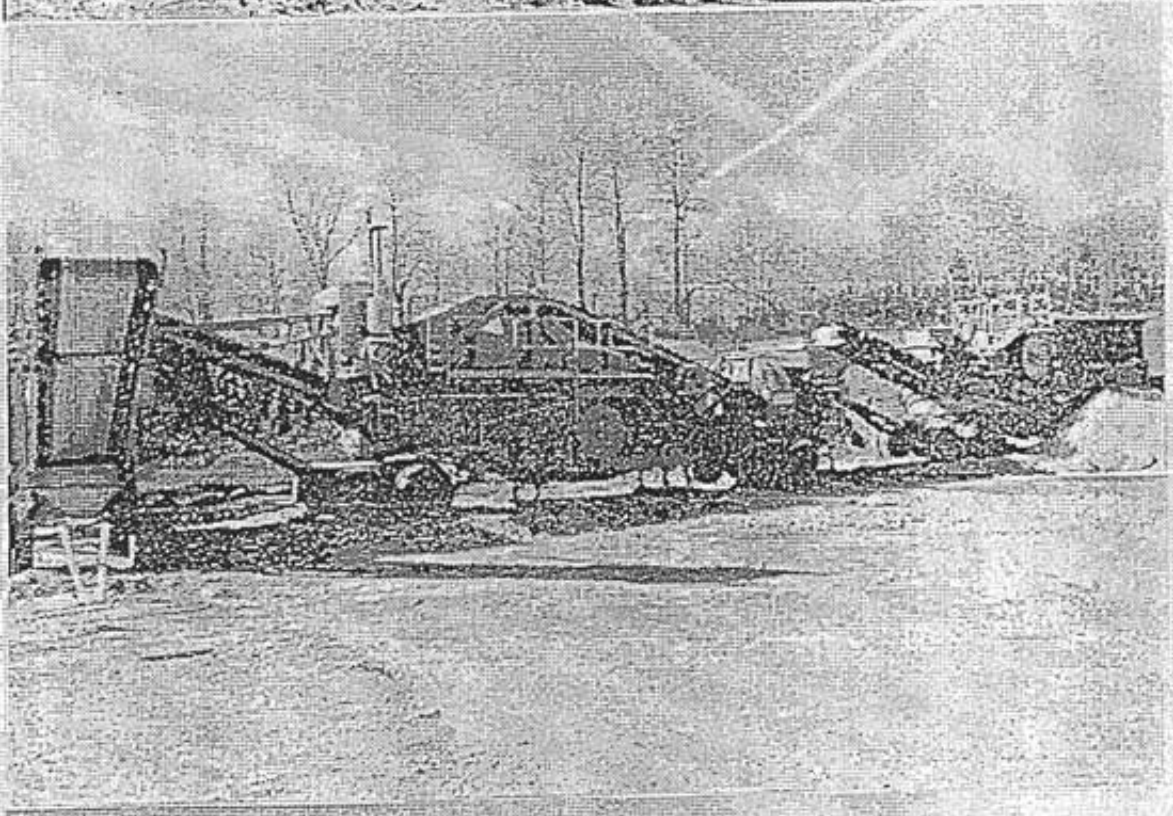
FLOW OF MATERIAL (Refer to Figure 3)

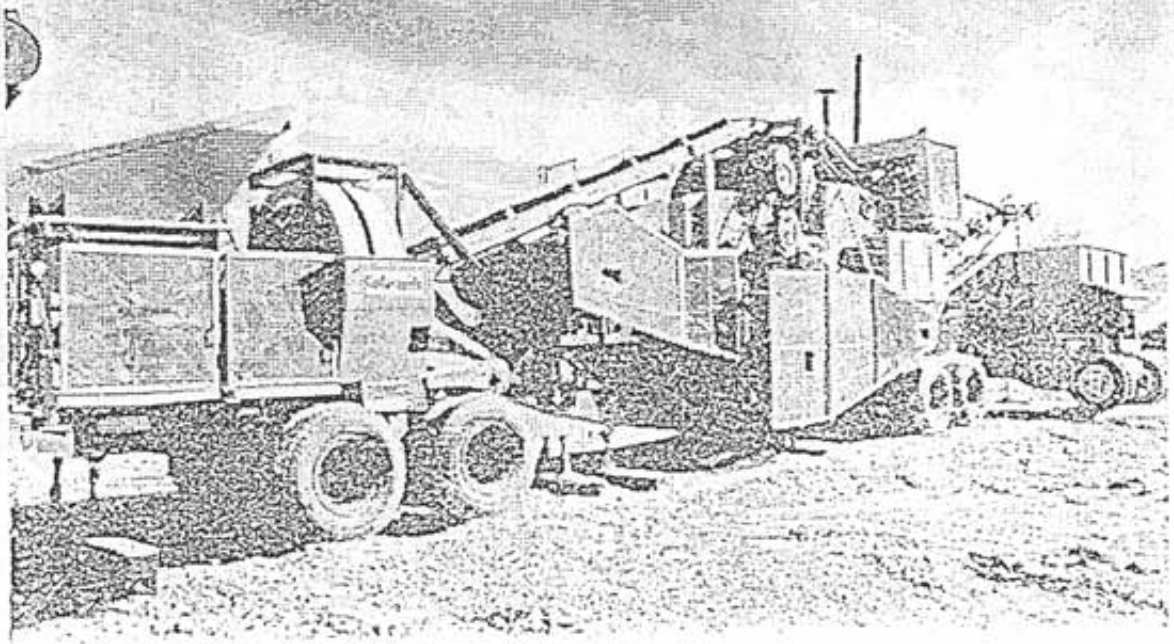
The flow of material through the plant is as follows: The raw material is dumped into the feeder (A), which feeds a constant flow of material to the overhead feed conveyor (B). The overhead feed conveyor delivers the material to the horizontal vibrating screen (C), which accurately grades the material into as many as three or four sizes (depending on model), plus oversize that is carried over into the jaw and roll crusher for further reduction. The jaw crusher (D) receives material retained on the top deck, and the roll crusher (E) receives material retained on the center or bottom deck, or both decks depending on the number of different size products required. These crushers reduce the material to the required size and discharge it on the undercrusher conveyor (F). From the undercrusher conveyor belt, the material is dropped into the elevating wheel (G), which carries the material up to the plant overhead feed conveyor. The crushed material is returned to the vibrating screen, along with the incoming raw material to be graded. The graded material from the screen is kept separated in hoppers and chutes and conveyed from the plant by conveyors to waiting trucks or stockpiles.

RIGHT AND LEFT SIDE DESIGNATION

The right or left side of the plant is determined when standing at the rear of the plant, facing the direction of forward travel. However, left and right side for the crushers, screen, and conveyors mounted on the plant are determined separatley, as specific units. (See appropriate manual.)







GRANGES
EXPLORATION LTD.
885 WEST GEORGIA STREET,
23RD FLOOR
VANCOUVER, BC CANADA V6C 3E8
TELEPHONE: (604) 687-2831
TELEX: 04-53409
TELECOPIER: (604) 687-8699

July 28, 1988

WINDFLOWER JOINT VENTURE

MUCK SAMPLE SUMMARY

SAMPLE TAG	LOCATION	ASSAY
155 BOX HOLE		
155 B.H. 1,2,3,4	155 B.H. ROUNDS 1, 2, 3, 4	3.36
155 B.H. 5 + 6	155 B.H. ROUNDS 5 + 6	2.99
165 BOX HOLE		
165 B.H.	165 B.H. ROUNDS 1,2,3	6.46
165 B.H. 4 + 5	165 B.H. ROUNDS 4 + 5	49.24
165 B.H. 6 + 7	165 B.H. ROUNDS 6 + 7	5.33
165 B.H. 8 + 9	165 B.H. ROUNDS 8 + 9	4.83
175 BOX HOLE		
175 B.H. 1 + 2	175 B.H. ROUNDS 1 + 2	3.79
175 B.H. 3 + 4	175 B.H. ROUNDS 3 + 4	39.00
175 B.H. 5 + 6	175 B.H. ROUNDS 5 + 6	8.86
175 SOUTH UNDERCUT DRIFT		
175 X CUT SL	175 SOUTH U. CUT SLASH	1.31
175 X CUT	175 SOUTH U. CUT SLASH	8.86
175 X CUT 1	175 SOUTH U. CUT ROUND 1	7.91
175 X CUT 2	175 SOUTH U. CUT ROUND 2	10.81
NO SAMPLE	175 SOUTH U. CUT ROUND 3	
NO SAMPLE	175 SOUTH U. CUT ROUND 4	
NO SAMPLE	175 SOUTH U. CUT ROUND 5	
NO SAMPLE	175 SOUTH U. CUT ROUND 6	

MUCK SAMPLE SUMMARY

NO SAMPLE	175 SOUTH U. CUT ROUND 7	
NO SAMPLE	175 SOUTH U. CUT ROUND 8	
NO SAMPLE	175 SOUTH U. CUT ROUND 9	
NO SAMPLE	175 SOUTH U. CUT ROUND 10	
175 X CUT 3	175 SOUTH U. CUT ROUND 11	.99
175 X CUT 4	175 SOUTH U. CUT ROUND 12	1.65
175 X CUT 6	175 SOUTH U. CUT ROUND 13	1.57
175 X CUT	175 SOUTH U. CUT ROUND 14	1.47
175 X CUT SL	175 SOUTH U. CUT SLASH	1.31
175 CLEAN UP	175 SOUTH U. CUT CLEAN UP	1.93

210 NORTH UNDERCUT DRIFT

NORTH RD.	210 NORTH U. CUT ROUND 1	12.60
NORTH RD. 2	210 NORTH U. CUT ROUND 2	10.02
NORTH RD. 3	210 NORTH U. CUT ROUND 3	7.06
NORTH RD. 5	210 NORTH U. CUT ROUND 4	2.80
NORTH RD. 6	210 NORTH U. CUT ROUND 5	3.19
NORTH RD. 7	210 NORTH U. CUT ROUND 6	7.41
NORTH RD. 8	210 NORTH U. CUT ROUND 7	5.23
NORTH SLASH "A"	210 NORTH U. CUT SLASH "A"	2.95
NORTH SLASH "B"	210 NORTH U. CUT SLASH "B"	5.17
NORTH RD. 10	210 NORTH U. CUT ROUND 10	6.89
NORTH RD. 11	210 NORTH U. CUT ROUND 11	6.34
NORTH RD. 12	210 NORTH U. CUT ROUND 12	8.00
NORTH RD. 13	210 NORTH U. CUT ROUND 13	5.44
NORTH RD. 14	210 NORTH U. CUT ROUND 14	5.74
NORTH RD. 15	210 NORTH U. CUT ROUND 15	5.88
NORTH RD. 16	210 NORTH U. CUT ROUND 16	6.15
NORTH RD. 17	210 NORTH U. CUT ROUND 17	4.60
NORTH RD. 18	210 NORTH U. CUT ROUND 18	4.50
NORTH RD. 19	210 NORTH U. CUT ROUND 19	2.77
NORTH SLASH "C"	DR. CLEAN UP TO ROUND 19	13.08
NORTH RD. 20	210 NORTH U. CUT ROUND 20	3.83
NORTH RD. 21	210 NORTH U. CUT ROUND 21	5.83
NORTH RD. 22	210 NORTH U. CUT ROUND 22	7.81
NORTH RD. 23	210 NORTH U. CUT ROUND 23	6.01
NORTH RD. 24	210 NORTH U. CUT ROUND 24	5.00
NORTH RD. 25	210 NORTH U. CUT ROUND 25	5.94
NORTH RD. 26	210 NORTH U. CUT ROUND 26	4.56
NORTH RD. 27	210 NORTH U. CUT ROUND 27	2.79
NORTH RD. 28	210 NORTH U. CUT ROUND 28	1.45
NORTH RD. 29	210 NORTH U. CUT ROUND 29	2.70
NORTH RD. 30	210 NORTH U. CUT ROUND 30	1.42
NORTH RD. 31	210 NORTH U. CUT ROUND 31	.90

MUCK SAMPLE SUMMARY

210 SOUTH UNDERCUT DRIFT

SOUTH RD		210 SOUTH U. CUT SLASH B	7.00
SOUTH RD. 2		210 SOUTH U. CUT ROUND 1	4.31
SOUTH RD. 3		210 SOUTH U. CUT ROUND 2	4.15
NORTH RD. 4		210 SOUTH U. CUT ROUND 3	8.95
SOUTH RD. 5		210 SOUTH U. CUT ROUND 4	4.43
SOUTH RD. 6		210 SOUTH U. CUT ROUND 5	12.47
SOUTH RD. 7	"A"	210 SOUTH U. CUT ROUND 6	11.38
SOUTH RD. 7	"B"	210 SOUTH U. CUT ROUND 7	5.36
SOUTH RD. 8		210 SOUTH U. CUT ROUND 8	8.77
SOUTH RD. 9		210 SOUTH U. CUT ROUND 9	6.70
SOUTH RD. 10		210 SOUTH U. CUT ROUND 10	4.51
SOUTH RD. 11		210 SOUTH U. CUT ROUND 11	16.33
SOUTH RD. 12		210 SOUTH U. CUT ROUND 12	26.39
SOUTH RD. 13		210 SOUTH U. CUT ROUND 13	15.69
SOUTH RD. 14		210 SOUTH U. CUT ROUND 14	14.14

210 WEST CROSS CUT

BIN 1		210 X. CUT NORTH SLASH	8.88
BIN 2		210 X. CUT SOUTH SLASH "A"	10.47
BIN 3		210 X. CUT ROUND 1	9.85
BIN 4		210 X. CUT ROUND 2	11.01

275 RAISE

RAISE 1 + 2		275 RAISE RDS. 1 + 2	13.11
RAISE 3 + 4		275 RAISE RDS. 3 + 4	10.81
RAISE 5 + 6		275 RAISE RDS. 5 + 6	8.77
RAISE 7 + 8		275 RAISE RDS. 7 + 8	20.90
RAISE 9 + 10		275 RAISE RDS. 9 + 10	9.01
RAISE 11 + 12		275 RAISE RDS. 11 + 12	12.83
RAISE 13 + 14		275 RAISE RDS. 13 + 14	10.22
RAISE 15 + 16		275 RAISE RDS. 15 + 16	6.43
RAISE 17 + 18		275 RAISE RDS. 17 + 18	4.69
RAISE 19 + 20		275 RAISE RDS. 19 + 20	3.45
RAISE 21, 22, 23		275 RAISE RDS. 21, 22, 23	5.45
RAISE 24 + 25		275 RAISE RDS. 24 + 25	2.44
RAISE 26 + 27		275 RAISE RDS. 26 + 27	3.51
RAISE CLEAN UP		275 RAISE CLEAN UP	4.94

MUCK SAMPLE SUMMARY

280 EAST CROSS CUT

280 X CUT 1	280 X. CUT ROUND 1	2.90
280 X CUT 2	280 X. CUT ROUND 2	.35

280 NORTH UNDERCUT DRIFT

280 X CUT SL	280 NORTH U. CUT SLASH A	.86
280 X CUT SL	280 NORTH U. CUT SLASH B	2.03
280 X CUT N SL	280 NORTH U. CUT ROUND 1	2.21
280 X CUT N 1	280 NORTH U. CUT ROUND 2	1.80
280 X CUT N 2	280 NORTH U. CUT ROUND 3	2.06
280 X CUT N 3	280 NORTH U. CUT ROUND 4	1.04
280 X CUT N 5	280 NORTH U. CUT ROUND 5	1.51
280 X CUT N 6	280 NORTH U. CUT ROUND 6	1.66
280 X CUT N 7	280 NORTH U. CUT ROUND 7	1.11
280 X CUT N 8	280 NORTH U. CUT ROUND 8	1.39
280 X CUT N 9	280 NORTH U. CUT ROUND 9	6.54
280 X CUT N 10	280 NORTH U. CUT ROUND 10	6.67
280 X CUT N 11	280 NORTH U. CUT ROUND 11	6.67
280 X CUT N 11,12	280 NORTH U. CUT RDS 11 + 12	5.79
280 X CUT N 13	280 NORTH U. CUT ROUND 13	4.10
280 X CUT N 14	280 NORTH U. CUT ROUND 14	6.34

280 SOUTH UNDERCUT DRIFT

280 X CUT S 1	280 SOUTH U. CUT ROUND 1	2.38
280 X CUT S 2	280 SOUTH U. CUT ROUND 2	3.56
280 X CUT S 3	280 SOUTH U. CUT ROUND 3	4.23
280 X CUT S 4	280 SOUTH U. CUT ROUND 4	2.79
280 X CUT S 5	280 SOUTH U. CUT ROUND 5	2.55
280 X CUT S 6	280 SOUTH U. CUT ROUND 6	1.27
280 X CUT N 9	280 SOUTH U. CUT ROUND 7	1.04
280 X CUT N 10	280 SOUTH U. CUT ROUND 8	.45

MUCK SAMPLE SUMMARY

PAGE 5

300 EAST CROSS CUT - MAIN ZONE

300 X CUT 1	300 E. X CUT ROUND 1	2.04
300 X CUT 2	300 E. X CUT ROUND 2	5.17
300 X CUT 3	300 E. X CUT ROUND 3	.88

300 EAST CROSS CUT - EAST ZONE

300 X CUT 4	300 NORTH U. CUT ROUND 4	1.34
300 X CUT 5	300 NORTH U. CUT ROUND 5	.11

300 NORTH UNDERCUT DRIFT

300 X CUT E 1	300 NORTH U. CUT ROUND 1	.38
300 X CUT E 2	300 NORTH U. CUT ROUND 2	.22
300 X CUT E 3	300 NORTH U. CUT ROUND 3	6.53

305 RAISE

305 RAISE	305 RAISE RDS 1, 2 & SLASH	5.64

310 RAISE

300 X CUT R 1	310 RAISE ROUND 1	1.18
300 X CUT R 2	310 RAISE ROUND 2	.26
300 X CUT R 3	310 RAISE ROUND 3	.59

GRANGES
EXPLORATION LTD.
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Aug. 16, 1988

WINDFLOWER JOINT VENTURE

CHIP SAMPLE SUMMARY

ALL SAMPLES TAKEN FACING THE DRIFT FACE AND FROM LEFT TO RIGHT EXCEPT AS ANNOTATED

SAMPLE TAG	LOCATION	LENGTH	ASSAY
155 BOX HOLE			
60480	12.5 m + D.B. E. WALL LS	.55 m	.45
60481	12.5 m + D.B. E. WALL RS	.55 m	.27
60478	12.5 m + D.B. N. WALL LS	.60 m	5.27
60479	12.5 m + D.B. N. WALL RS	.70 m	.74
60482	12.5 m + D.B. S. WALL LS	1.00 m	.51
60483	12.5 m + D.B. S. WALL RS	.30 m	24.67
60484	12.5 m + D.B. S. WALL LS	.30 m	10.87
60485	12.5 m + D.B. S. WALL RS	.80 m	.21
60488	10.5 m + D.B. E. WALL	1.30 m	.21
60486	10.5 m + D.B. N. WALL LS	.70 m	59.10
60487	10.5 m + D.B. N. WALL RS	.70 m	3.35
60489	10.5 m + D.B. S. WALL LS	.70 m	.68
60490	10.5 m + D.B. S. WALL RS	.80 m	.85
60491	10.5 m + D.B. W. WALL	1.10 m	25.21
60494	8.5 m + D.B. E. WALL	1.00 m	3.28
60492	8.5 m + D.B. N. WALL LS	.70 m	1.08
60493	8.5 m + D.B. N. WALL RS	.65 m	.71

CHIP SAMPLE SUMMARY

60495	8.5 m + D.B. S. WALL	LS	.60 m	.47
60496	8.5 m + D.B. S. WALL	RS	.85 m	1.03
60497	8.5 m + D.B. W. WALL		1.00 m	7.26
60499	6.5 m + D.B. E. WALL		1.15 m	.32
60498	6.5 m + D.B. N. WALL		1.00 m	.61
61900	6.5 m + D.B. S. WALL	LS	.60 m	.28
61901	6.5 m + D.B. S. WALL	RS	.70 m	.34
61902	6.5 m + D.B. W. WALL		1.00 m	.45
61904	4.5 m + D.B. E. WALL	LS	.70 m	.36
61905	4.5 m + D.B. E. WALL	RS	.70 m	3.41
61903	4.5 m + D.B. N. WALL		1.00 m	2.11
61906	4.5 m + D.B. S. WALL	LS	.60 m	.71
61907	4.5 m + D.B. S. WALL	RS	.70 m	1.07
61908	4.5 m + D.B. W. WALL	LS	.60 m	.81
61908	4.5 m + D.B. W. WALL	RS	.60 m	1.32

165 BOX HOLE

61912	15.9 m + D.B. E. WALL	LS	.60 m	.07
61913	15.9 m + D.B. E. WALL	RS	.50 m	1.58
61910	15.9 m + D.B. N. WALL	LS	.60 m	.55
61911	15.9 m + D.B. N. WALL	RS	.50 m	.29
61914	15.9 m + D.B. S. WALL	LS	.60 m	.14
61915	15.9 m + D.B. S. WALL	RS	.60 m	3.67
61916	15.9 m + D.B. W. WALL	LS	.70 m	7.01
61917	15.9 m + D.B. W. WALL	RS	.50 m	.67
61920	13.9 m + D.B. E. WALL	LS	.60 m	.09
61921	13.9 m + D.B. E. WALL	RS	.65 m	.09
61918	13.9 m + D.B. N. WALL	LS	.55 m	.11
61919	13.9 m + D.B. N. WALL	RS	.60 m	.09
61922	13.9 m + D.B. S. WALL	LS	.60 m	.02
61923	13.9 m + D.B. S. WALL	RS	.65 m	.02
61924	13.9 m + D.B. W. WALL	LS	.60 m	.08
61925	13.9 m + D.B. W. WALL	RS	.70 m	.02

CHIP SAMPLE SUMMARY

61928	12.4 m + D.B. E. WALL LS	.70 m	.02
61929	12.4 m + D.B. E. WALL RS	.70 m	.06
61926	12.4 m + D.B. N. WALL LS	.60 m	.02
61927	12.4 m + D.B. N. WALL RS	.65 m	.02
61930	12.4 m + D.B. S. WALL LS	.75 m	.15
61931	12.4 m + D.B. S. WALL RS	.75 m	.10
61932	12.4 m + D.B. W. WALL LS	.70 m	.09
61933	12.4 m + D.B. W. WALL RS	.65 m	.02
61936	10.5 m + D.B. E. WALL LS	.70 m	.02
61937	10.5 m + D.B. E. WALL RS	.80 m	.05
61934	10.5 m + D.B. N. WALL LS	.70 m	.12
61935	10.5 m + D.B. N. WALL RS	.75 m	.02
61938	10.5 m + D.B. S. WALL LS	.70 m	.11
61939	10.5 m + D.B. S. WALL RS	.70 m	.06
61940	10.5 m + D.B. W. WALL LS	.60 m	.09
61941	10.5 m + D.B. W. WALL RS	.60 m	.12
61944	8.2 m + D.B. E. WALL LS	.70 m	.08
61945	8.2 m + D.B. E. WALL RS	.90 m	.66
61942	8.2 m + D.B. N. WALL LS	.75 m	.06
61943	8.2 m + D.B. N. WALL RS	.80 m	.07
61946	8.2 m + D.B. S. WALL LS	.70 m	5.97
61947	8.2 m + D.B. S. WALL RS	.80 m	186.50
61948	8.2 m + D.B. W. WALL LS	.60 m	1.11
61949	8.2 m + D.B. W. WALL RS	.80 m	.12
61592	6.7 m + D.B. E. WALL LS	.60 m	.94
61593	6.7 m + D.B. E. WALL RS	.70 m	1.33
61950	6.7 m + D.B. N. WALL LS	.60 m	1.71
61951	6.7 m + D.B. N. WALL RS	.65 m	1.02
61954	6.7 m + D.B. S. WALL LS	.80 m	1.11
61955	6.7 m + D.B. S. WALL RS	.80 m	17.42
61956	6.7 m + D.B. W. WALL LS	1.00 m	10.53
61957	6.7 m + D.B. W. WALL RS	.30 m	.92
60295	5.5 m + D.B. FACE LS	.90 m	3.76
60296	5.5 m + D.B. FACE RS	.70 m	.28

CHIP SAMPLE SUMMARY

60302	4.2 m + D.B. E. WALL	LS	1.00 m	17.50
60303	4.2 m + D.B. E. WALL	RS	.80 m	.54
60300	4.2 m + D.B. N. WALL	LS	.70 m	.12
60301	4.2 m + D.B. N. WALL	RS	.70 m	.54
60297	4.2 m + D.B. S. WALL	LS	.70 m	.03
60298	4.2 m + D.B. S. WALL	RS	.60 m	1.49
60299	4.2 m + D.B. W. WALL		1.40 m	.30

175 BOX HOLE

61994	8.3 m + D.B. E. WALL	LS	.95 m	.72
61995	8.3 m + D.B. E. WALL	RS	.25 m	1.49
61992	8.3 m + D.B. N. WALL	LS	.60 m	1.64
61993	8.3 m + D.B. N. WALL	RS	.60 m	2.71
61996	8.3 m + D.B. S. WALL	LS	.50 m	.21
61997	8.3 m + D.B. S. WALL	RS	.60 m	.19
61998	8.3 m + D.B. W. WALL	LS	.60 m	2.95
61999	8.3 m + D.B. W. WALL	RS	.65 m	3.48
62052	6.3 m + D.B. E. WALL	LS	.80 m	.02
62053	6.3 m + D.B. E. WALL	RS	.45 m	.73
62050	6.3 m + D.B. N. WALL	LS	.60 m	.74
62051	6.3 m + D.B. N. WALL	RS	.50 m	.09
62054	6.3 m + D.B. S. WALL	LS	.55 m	.05
62055	6.3 m + D.B. S. WALL	RS	.55 m	.26
62056	6.3 m + D.B. W. WALL	LS	.40 m	.03
62057	6.3 m + D.B. W. WALL	RS	.80 m	.03
62060	4.0 m + D.B. E. WALL	LS	.60 m	2.06
62061	4.0 m + D.B. E. WALL	RS	.60 m	.25
62058	4.0 m + D.B. N. WALL	LS	.60 m	.59
62059	4.0 m + D.B. N. WALL	RS	.55 m	.76
62062	4.0 m + D.B. S. WALL		.90 m	.34
62063	4.0 m + D.B. W. WALL	LS	.60 m	10.92
62064	4.0 m + D.B. W. WALL	RS	.60 m	.87
62067	2.0 m + D.B. E. WALL	LS	.55 m	201.40
62068	2.0 m + D.B. E. WALL	RS	.55 m	20.22

CHIP SAMPLE SUMMARY

62065	2.0 m + D.B. N. WALL	LS	.60 m	3.05
62066	2.0 m + D.B. N. WALL	RS	.60 m	56.36
62069	2.0 m + D.B. S. WALL		.90 m	100.50
62070	2.0 m + D.B. W. WALL	LS	.60 m	.33
62071	2.0 m + D.B. W. WALL	RS	.60 m	.67

175 SOUTH UNDERCUT DRIFT

60283	12.7 m S. of Stn. 49		3.50 m	58.80
61962	25.0 m S. of Stn. 49	LS	1.00 m	1.03
61963	25.0 m S. of Stn. 49	RS	1.00 m	.09
61960	28.0 m S. of Stn. 49	LS	.80 m	.05
61961	28.0 m S. of Stn. 49	RS	.90 m	.48
61958	31.0 m S. of Stn. 49	LS	1.00 m	.04
61959	31.0 m S. of Stn. 49	RS	1.00 m	.16
60284	34.2 m S. of Stn. 49	LS	2.30 m	.09
60285	34.2 m S. of Stn. 49	RS	1.00 m	.08
60286	39.4 m S. of Stn. 49	LS	1.80 m	.13
60287	39.4 m S. of Stn. 49	RS	1.70 m	.07
60311	40.4 m S. of Stn. 49	LS	.80 m	.62
60312	40.4 m S. of Stn. 49	RS	1.20 m	.09
60313	43.6 m S. of Stn. 49	LS	1.40 m	2.88
60314	43.6 m S. of Stn. 49	RS	1.30 m	1.19
60288	45.4 m S. of Stn. 49	LS	.70 m	.04
60289	45.4 m S. of Stn. 49	C	2.00 m	2.93
60290	45.4 m S. of Stn. 49	RS	1.10 m	.83
60315	46.1 m S. of Stn. 49	LS	1.30 m	5.44
60316	46.1 m S. of Stn. 49	RS	1.70 m	.61
60309	54.7 m S. of Stn. 49	LS	1.40 m	.22
60310	54.7 m s. of Stn. 49	RS	2.30 m	.39

CHIP SAMPLE SUMMARY

210 NORTH UNDERCUT DRIFT

60304	53.5 m N. of Stn. 36	LS	1.80 m	.02
60305	53.5 m N. of Stn. 36	RS	2.10 m	.06
60267	53.4 m N. of Stn. 36	C	4.10 m	.02
60306	50.0 m N. of Stn. 36	LS	1.20 m	.38
60307	50.0 m N. of Stn. 36	C	.70 m	.08
60308	50.0 m N. of Stn. 36	RS	1.20 m	.02
60268	49.8 m N. of Stn. 36	C	4.20 m	.54
60265	46.7 m N. of Stn. 36	LS	.80 m	.71
60266	46.7 m N. of Stn. 36	RS	3.10 m	1.04
60262	42.6 m N. of Stn. 36	LS	1.00 m	.10
60263	42.6 m N. of Stn. 36	C	1.70 m	.13
60264	42.6 m N. of Stn. 36	RS	1.80 m	.02
60258	40.0 m N. of Stn. 36	LS	.90 m	.02
60259	40.0 m N. of Stn. 36	LC	.80 m	.17
60260	40.0 m N. of Stn. 36	RC	.80 m	2.44
60261	40.0 m N. of Stn. 36	RS	1.60 m	8.70
60254	36.3 m N. of Stn. 36	LS	1.60 m	.15
60255	36.3 m N. of Stn. 36	LC	.90 m	.70
60256	36.3 m N. of Stn. 36	RC	.70 m	.04
60257	36.3 m N. of Stn. 36	RS	1.00 m	.64
60251	32.9 m N. of Stn. 36	LS	1.30 m	.89
60252	32.9 m N. of Stn. 36	C	1.60 m	2.50
60253	32.9 m N. of Stn. 36	RS	1.00 m	1.42
60246	29.4 m N. of Stn. 36	LS 1	1.50 m	1.39
60247	29.4 m N. of Stn. 36	LS 2	.50 m	.07
60248	29.4 m N. of Stn. 36	LC	.60 m	.31
60249	29.4 m N. of Stn. 36	RC	.80 m	2.81
60250	29.4 m N. of Stn. 36	RS	.90 m	1.28
60242	25.4 m N. of Stn. 36	LS	1.60 m	.21
60243	25.4 m N. of Stn. 36	LC	1.10 m	5.10
60244	25.4 m N. of Stn. 36	RC	.80 m	3.93
60245	25.4 m N. of Stn. 36	RS	1.10 m	3.04
60239	22.8 m N. of Stn. 36	LS	2.20 m	.23
60240	22.8 m N. of Stn. 36	C	1.00 m	.06
60241	22.8 m N. of Stn. 36	RS	1.50 m	11.35

CHIP SAMPLE SUMMARY

60236	19.5 m N. of Stn. 36	LS	1.50 m	1.07
60237	19.5 m N. of Stn. 36	C	1.20 m	.12
60238	19.5 m N. of Stn. 36	RS	1.30 m	16.36
60233	16.5 m N. of Stn. 36	LS	1.40 m	.23
60234	16.5 m N. of Stn. 36	C	1.00 m	4.59
60235	16.5 m N. of Stn. 36	RS	2.00 m	4.87
60232	13.0 m N. of Stn. 36	LS	1.90 m	1.45
60231	13.0 m N. of Stn. 36	C	1.30 m	5.46
60230	13.0 m N. of Stn. 36	RS	1.20 m	33.37
60269	10.0 m N. of Stn. 36	LS 1	.30 m	.90
60270	10.0 m N. of Stn. 36	LS 2	.80 m	.29
60271	10.0 m N. of Stn. 36	LC	.90 m	.94
60272	10.0 m N. of Stn. 36	RC	.90 m	8.65
60273	10.0 m N. of Stn. 36	RS	.50 m	.29
4567	6.4 m N. of Stn. 36	LS	1.80 m	.58
4568	6.4 m N. of Stn. 36	LC	1.20 m	.02
4569	6.4 m N. of Stn. 36	RC	.55 m	16.29
4570	6.4 m N. of Stn. 36	RS	.60 m	.15
4571	3.5 m N. of Stn. 36	LS	1.30 m	1.09
4572	3.5 m N. of Stn. 36	LC	.60 m	.06
4573	3.5 m N. of Stn. 36	RC	.50 m	4.35
4574	3.5 m N. of Stn. 36	RS	.90 m	.51
4601	Taken at Stn. 36	LS	.80 m	4.77
4602	Taken at Stn. 36	LC	.70 m	5.22
4603	Taken at Stn. 36	RC	.65 m	6.32
4604	Taken at Stn. 36	RS	.80 m	.11
4605	3.5 m S. of Stn. 36	LS	.90 m	.24
4606	3.5 m S. of Stn. 36	LC	.90 m	.48
4607	3.5 m S. of Stn. 36	RC	.70 m	5.44
4608	3.5 m S. of Stn. 36	RS	1.00 m	2.65
4609	6.0 m S. of Stn. 36	LS	1.00 m	.25
4610	6.0 m S. of Stn. 36	LC	1.20 m	.59
4611	6.0 m S. of Stn. 36	RC	.90 m	21.80
4612	6.0 m S. of Stn. 36	RS	1.50 m	1.67
4613	9.0 m S. of Stn. 36	LS	1.70 m	.55
4614	9.0 m S. of Stn. 36	LC	.60 m	4.64
4615	9.0 m S. of Stn. 36	RC	.80 m	26.80
4616	9.0 m S. of Stn. 36	RS	.70 m	1.25

CHIP SAMPLE SUMMARY

Page 8

4617	11.5 m S. of Stn. 36	LS	2.40 m	.12	
4618	11.5 m S. of Stn. 36	C	.80 m	6.47	
4619	11.5 m S. of Stn. 36	RS	1.00 m	22.10	
4620	14.0 m S. of Stn. 36	LS	1.70 m	.07	
4621	14.0 m S. of Stn. 36	C	.90 m	1.78	
4622	14.0 m S. of Stn. 36	RS	1.70 m	9.53	
4623	Taken at Stn. 34	LS	1.40 m	74.60	
4624	Taken at Stn. 34	LC	1.20 m	31.70	
4625	Taken at Stn. 34	RC	1.10 m	2.37	
4576	Taken at Stn. 34	RS	.80 m	.53	
4577	3.0 m S. of Stn. 34	LS 1	1.00 m	.47	
4578	3.0 m S. of Stn. 34	LS 2	.90 m	24.25	
4579	3.0 m S. of Stn. 34	LC	.80 m	5.75	
4580	3.0 m S. of Stn. 34	RC	.90 m	3.40	
4581	3.0 m S. of Stn. 34	RS	.80 m	.80	
4582	6.2 m S. of Stn. 34	LS	1.20 m	.65	
4583	6.2 m S. of Stn. 34	LC	1.40 m	11.64	
4584	6.2 m S. of Stn. 34	RC	1.20 m	4.76	
4585	6.2 m S. of Stn. 34	RS	.60 m	.18	
4586	9.0 m S. of Stn. 34	LS	2.10 m	.61	
4587	9.0 m S. of Stn. 34	LC	1.10 m	10.19	
4588	9.0 m S. of Stn. 34	RC	.80 m	.87	
4589	9.0 m S. of Stn. 34	RS	1.20 m	.28	
4590	12.5 m S. of Stn. 34	LS 1	1.30 m	.82	
4591	12.5 m S. of Stn. 34	LS 2	2.10 m	2.91	
4592	12.5 m S. of Stn. 34	LC	.70 m	56.62	
4593	12.5 m S. of Stn. 34	RC	.40 m	34.05	
4594	12.5 m S. of Stn. 34	RS	1.30 m	.33	
4595	15.0 m S. of Stn. 34	LS	2.00 m	.78	
4596	15.0 m S. of Stn. 34	LC	.60 m	62.32	
4597	15.0 m S. of Stn. 34	RC	.70 m	2.80	
4598	15.0 m S. of Stn. 34	RS	1.00 m	.83	
4676	16.5 m S. of Stn. 34	LS	1.00 m	2.39	) samples taker
4677	16.5 m S. of Stn. 34	LC	1.60 m	19.40	) facing south
4678	16.5 m S. of Stn. 34	RC	1.40 m	.41	) and along
4679	16.5 m S. of Stn. 34	RS	2.00 m	1.25	) east wall
4599	18.0 m S. of Stn. 34	LS	2.30 m	.57	
4600	18.0 m S. of Stn. 34	RS	.60 m	5.22	

CHIP SAMPLE SUMMARY

4686	13.8 m N. of Stn. 20	LS	1.00 m	.56
4685	13.8 m N. of Stn. 20	LS 1	1.60 m	.60
4684	13.8 m N. of Stn. 20	LS 2	.50 m	5.05
4683	13.8 m N. of Stn. 20	LC	.40 m	5.84
4682	13.8 m N. of Stn. 20	RC	1.40 m	.48
4681	13.8 m N. of Stn. 20	RS 2	1.00 m	1.71
4680	13.8 m N. of Stn. 20	RS 1	.90 m	4.65
60274	11.5 m N. of Stn. 20	LS	1.30 m	.47
60275	11.5 m N. of Stn. 20	LC	.80 m	17.67
60276	11.5 m N. of Stn. 20	RC	.50 m	.77
60277	11.5 m N. of Stn. 20	RS	1.40 m	10.82
4687	9.4 m N. of Stn. 20	LS	1.70 m	.38
4688	9.4 m N. of Stn. 20	LC	.90 m	15.50
4689	9.4 m N. of Stn. 20	RC	.20 m	6.75
4690	9.4 m N. of Stn. 20	RS	1.50 m	36.54
4691	5.9 m N. of Stn. 20	LS	1.70 m	.23
4692	5.9 m N. of Stn. 20	C	.90 m	10.83
4693	5.9 m N. of Stn. 20	RS	3.10 m	37.18

210 SOUTH UNDERCUT DRIFT

4629	3.7 m S. of Stn. 20	LS	.90 m	.25
4630	3.7 m S. of Stn. 20	LC	1.60 m	5.93
4631	3.7 m S. of Stn. 20	RC	.80 m	11.20
4632	3.7 m S. of Stn. 20	RS	.50 m	2.56
4633	6.6 m S. of Stn. 20	LS 1	.70 m	.13
4634	6.6 m S. of Stn. 20	LS 2	1.00 m	1.38
4635	6.6 m S. of Stn. 20	LC	1.00 m	9.79
4636	6.6 m S. of Stn. 20	RC	.60 m	23.37
4637	6.6 m S. of Stn. 20	RS	.40 m	1.22
4638	10.2 m S. of Stn. 20	LS 1	1.50 m	1.08
4639	10.2 m S. of Stn. 20	LS 2	.70 m	.43
4640	10.2 m S. of Stn. 20	LC	.70 m	1.17
4641	10.2 m S. of Stn. 20	RC	.60 m	15.97
4642	10.2 m S. of Stn. 20	RS	.50 m	3.97
4643	13.5 m S. of Stn. 20	LS	1.60 m	.34
4644	13.5 m S. of Stn. 20	C	1.30 m	12.20
4645	13.5 m S. of Stn. 20	RS	.50 m	2.14

CHIP SAMPLE SUMMARY

4646	16.9 m S. of Stn. 20	LS	.80 m	4.60
4647	16.9 m S. of Stn. 20	C	2.20 m	8.53
4648	16.9 m S. of Stn. 20	RS	.70 m	6.10
4649	Taken at Stn. 33	LS 1	.70 m	.91
4650	Taken at Stn. 33	LS 2	.80 m	1.84
4651	Taken at Stn. 33	LC	.70 m	1.75
4652	Taken at Stn. 33	RC	.70 m	.80
4653	Taken at Stn. 33	RS	.90 m	3.44
60278	2.5 m S. of Stn. 33	LS	.60 m	2.23
60279	2.5 m S. of Stn. 33	LC	2.20 m	5.42
60280	2.5 m S. of Stn. 33	RC	.70 m	14.60
60281	2.5 m S. of Stn. 33	RS	.50 m	.29
4654	4.5 m S. of Stn. 33	LS	1.30 m	56.75
4655	4.5 m S. of Stn. 33	LC	.80 m	4.16
4656	4.5 m S. of Stn. 33	RC	.70 m	.21
4657	4.5 m S. of Stn. 33	RS	.80 m	6.97
4658	8.0 m S. of Stn. 33	LS	.50 m	.74
4659	8.0 m S. of Stn. 33	LC	1.20 m	9.74
4660	8.0 m S. of Stn. 33	RC	.50 m	11.96
4661	8.0 m S. of Stn. 33	RS	.80 m	8.20
4662	Taken at Stn. 39	LS	1.70 m	2.31
4663	Taken at Stn. 39	C	.70 m	37.39
4664	Taken at Stn. 39	RS	.70 m	.37
4665	4.0 m S. of Stn. 39	LS	1.30 m	.27
4666	4.0 m S. of Stn. 39	LC	1.50 m	2.71
4667	4.0 m S. of Stn. 39	RC	.60 m	11.94
4668	4.0 m S. of Stn. 39	RS	.80 m	.33
4669	8.0 m S. of Stn. 39	LS	1.40 m	.04
4670	8.0 m S. of Stn. 39	LC	1.20 m	3.47
4671	8.0 m S. of Stn. 39	RC	.50 m	3.55
4672	8.0 m S. of Stn. 39	RS	1.00 m	7.52
4673	11.0 m S. of Stn. 39	LS	1.30 m	8.12
4674	11.0 m S. of Stn. 39	LC	1.00 m	16.49
4675	11.0 m S. of Stn. 39	RC	.80 m	.65
60200	11.0 m S. of Stn. 39	RS	.80 m	.47
60201	14.5 m S. of Stn. 39	LS	.80 m	10.58
60202	14.5 m S. of Stn. 39	C	.40 m	11.72
60203	14.5 m S. of Stn. 39	RS	1.60 m	.66

CHIP SAMPLE SUMMARY

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60204	18.0 m S. of Stn. 39	LS	1.20 m	8.53
60205	18.0 m S. of Stn. 39	LC	.60 m	23.37
60206	18.0 m S. of Stn. 39	RC	.60 m	1.30
60207	18.0 m S. of Stn. 39	RS	1.00 m	.43
60208	21.0 m S. of Stn. 39	LS	1.70 m	.03
60209	21.0 m S. of Stn. 39	C	.80 m	3.55
60210	21.0 m S. of Stn. 39	RS	.90 m	.24
60211	23.5 m S. of Stn. 39	LS	.90 m	.02
60212	23.5 m S. of Stn. 39	C	1.40 m	.02
60213	23.5 m S. of Stn. 39	RS	1.40 m	1.76
60214	26.5 m S. of Stn. 39	LS	.30 m	.02
60215	26.5 m S. of Stn. 39	LC	.30 m	.02
60216	26.5 m S. of Stn. 39	RC	1.10 m	.02
60217	26.5 m S. of Stn. 39	RS	1.90 m	.02

210 WEST CROSS CUT

60282	1.0 m N. of Stn. 20	E.	2.80 m	.28
4628	1.0 m N. of Stn. 20		1.40 m	29.20
4698	1.0 m N. of Stn. 20		.70 m	1.14
4697	1.0 m N. of Stn. 20		1.00 m	8.94
4696	1.0 m N. of Stn. 20		1.60 m	.47
4695	1.0 m N. of Stn. 20	W.	1.40 m	3.64
4555	2.0 m S. of Stn. 20	E.	.70 m	.81
4554	2.0 m S. of Stn. 20		.70 m	5.81
4553	2.0 m S. of Stn. 20		1.00 m	5.41
4552	2.0 m S. of Stn. 20		1.70 m	1.07
4551	2.0 m S. of Stn. 20		2.00 m	21.88
4550	2.0 m S. of Stn. 20		1.80 m	11.96
4549	2.0 m S. of Stn. 20		1.00 m	.48
4548	2.0 m S. of Stn. 20		1.70 m	.36
4547	2.0 m S. of Stn. 20	W.	2.00 m	2.04

275 RAISE (samples taken facing the H.W., i.e. looking N.)

60317	Taken at Surface	LS	.80 m	.56
60318	Taken at Surface	C	.80 m	.45
60319	Taken at Surface	RS	.70 m	1.99
60320	4.0 m from Surface	LS	.60 m	.65
60321	4.0 m from Surface	C	.70 m	.32
60322	4.0 m from Surface	RS	.50 m	.06

CHIP SAMPLE SUMMARY

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60331	6.4 m from Surface	LS	.80 m	1.08
60332	6.4 m from Surface	RS	.85 m	.66
60333	9.0 m from Surface	LS	.75 m	1.65
60334	9.0 m from Surface	RS	.90 m	.64
60338	12.0 m from Surface	LS	.50 m	.83
60339	12.0 m from Surface	C	.65 m	13.01
60340	12.0 m from Surface	RS	.65 m	1.09
60365	15.0 m from Surface	LS	.50 m	.14
60366	15.0 m from Surface	C	.50 m	5.88
60367	15.0 m from Surface	RS	.80 m	1.89
60638	18.0 m from Surface	LS	.50 m	1.04
60369	18.0 m from Surface	C	.50 m	6.14
60370	18.0 m from Surface	RS	.90 m	1.57
60371	21.0 m from Surface	LS	.80 m	4.14
60372	21.0 m from Surface	C	.60 m	3.17
60373	21.0 m from Surface	RS	.90 m	.82
60374	24.0 m from Surface	LS	.70 m	1.74
60375	24.0 m from Surface	C	.70 m	4.40
60376	24.0 m from Surface	RS	.70 m	6.96
60377	27.0 m from Surface	LS	.40 m	2.09
60378	27.0 m from Surface	C	.60 m	14.44
60379	27.0 m from Surface	RS	.60 m	.22
60380	30.0 m from Surface	LS	.60 m	.76
60381	30.0 m from Surface	C	.50 m	7.84
60382	30.0 m from Surface	RS	.35 m	2.04
60383	33.0 m from Surface	LS 1	.30 m	8.78
60384	33.0 m from Surface	LS 2	.40 m	8.01
60385	33.0 m from Surface	C	.50 m	23.73
60386	33.0 m from Surface	RS	.40 m	.54
60387	36.0 m from Surface	LS 1	.65 m	13.78
60388	36.0 m from Surface	LS 2	.50 m	15.80
60389	36.0 m from Surface	C	.80 m	3.15
60390	36.0 m from Surface	RS	.30 m	.65
60391	39.0 m from Surface	LS 1	.30 m	6.49
60392	39.0 m from Surface	LS 2	.70 m	.59
60393	39.0 m from Surface	C	1.00 m	2.62
60394	39.0 m from Surface	RS	.60 m	.40

60395	42.0 m from Surface	LS 1	.50 m	2.45
60396	42.0 m from Surface	LS 2	.60 m	26.18
60397	42.0 m from Surface	C	.90 m	2.56
60398	42.0 m from Surface	RS 2	.70 m	2.97
60399	42.0 m from Surface	RS 1	.60 m	1.79
60400	45.0 m from Surface	LS 1	.80 m	.90
60401	45.0 m from Surface	LS 2	.40 m	.37
60402	45.0 m from Surface	C	.50 m	14.03
60403	45.0 m from Surface	RS 2	.60 m	8.10
60404	45.0 m from Surface	RS 1	.90 m	1.91
60405	48.0 m from Surface	LS 1	.50 m	.47
60406	48.0 m from Surface	LS 2	.70 m	1.21
60407	48.0 m from Surface	C	.50 m	10.23
60408	48.0 m from Surface	RS	1.00 m	3.40
60409	51.0 m from Surface	LS	.80 m	1.96
60410	51.0 m from Surface	C	1.00 m	48.40
60411	51.0 m from Surface	RS	.90 m	6.80

280 EAST CROSS CUT

60335	21.1 m E. of Stn. 62	LS	.30 m	3.69
60336	21.1 m E. of Stn. 62	C	1.50 m	2.54
60337	21.1 m E. of Stn. 62	RS	2.00 m	.03
60341	25.6 m E. of Stn. 62	LS	2.40 m	1.29
60342	25.6 m E. of Stn. 62	RS	1.50 m	.03
60350	5.8 m S. of Stn. 67	LS 1	.50 m	.17
60351	5.8 m S. of Stn. 67	LS 2	.50 m	.13
60352	5.8 m S. of Stn. 67	LS 3	.50 m	.49
60353	5.8 m S. of Stn. 67	LS 4	.50 m	.45
60354	5.8 m S. of Stn. 67	LS 5	.50 m	1.06
60355	5.8 m S. of Stn. 67	LC 1	.50 m	.34
60356	5.8 m S. of Stn. 67	LC 2	.50 m	.74
60357	5.8 m S. of Stn. 67	C	.50 m	.08
60358	5.8 m S. of Stn. 67	RC 2	.50 m	1.25
60359	5.8 m S. of Stn. 67	RC 1	.50 m	1.03
60360	5.8 m S. of Stn. 67	RS 5	.50 m	.15
60361	5.8 m S. of Stn. 67	RS 4	.50 m	9.49
60362	5.8 m S. of Stn. 67	RS 3	.50 m	10.21
60363	5.8 m S. of Stn. 67	RS 2	.50 m	2.68
60364	5.8 m S. of Stn. 67	RS 1	.50 m	.39

CHIP SAMPLE SUMMARY

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280 NORTH UNDERCUT DRIFT

60343	6.0 m N. of Stn. 67	LS 1	.90 m	.73
60344	6.0 m N. of Stn. 67	LS 2	1.00 m	2.35
60345	6.0 m N. of Stn. 67	C	.80 m	.19
60346	6.0 m N. of Stn. 67	RS	2.50 m	.11
60347	9.0 m N. of Stn. 67	LS	1.00 m	.93
60348	9.0 m N. of Stn. 67	C	.80 m	.81
60349	9.0 m N. of Stn. 67	RS	2.00 m	.12
60434	14.0 m N. of Stn. 67	LS	1.00 m	.22
60435	14.0 m N. of Stn. 67	C	1.20 m	1.94
60436	14.0 m N. of Stn. 67	RS	1.10 m	.08
60323	31.5 m N. of Stn. 67	LS	1.50 m	.11
60324	31.5 m N. of Stn. 67	C	1.00 m	.46
60325	31.5 m N. of Stn. 67	RS	2.00 m	.26
60326	44.5 m N. of Stn. 67	LS 1	1.00 m	.02
60327	44.5 m N. of Stn. 67	LS 2	.20 m	.02
60328	44.5 m N. of Stn. 67	C	1.30 m	.04
60329	44.5 m N. of Stn. 67	RS 2	.60 m	1.03
60330	44.5 m N. of Stn. 67	RS 1	1.00 m	.05

280 SOUTH UNDERCUT DRIFT

60412	9.3 m S. of Stn. 67	LS 1	.60 m	.08
60413	9.3 m S. of Stn. 67	LS 2	1.00 m	1.57
60414	9.3 m S. of Stn. 67	C	.90 m	6.07
60415	9.3 m S. of Stn. 67	RS	.20 m	.71
60416	12.3 m S. of Stn. 67	LS	1.50 m	2.91
60417	12.3 m S. of Stn. 67	C	1.00 m	17.66
60418	12.3 m S. of Stn. 67	RS	.30 m	.44
60419	16.0 m S. of Stn. 67	LS	1.30 m	.04
60420	16.0 m S. of Stn. 67	C	1.00 m	10.92
60421	16.0 m S. of Stn. 67	RS	.40 m	.61
60422	19.0 m S. of Stn. 67	LS 1	1.00 m	.42
60423	19.0 m S. of Stn. 67	LS 2	1.00 m	.94
60424	19.0 m S. of Stn. 67	C	.70 m	5.88
60425	19.0 m S. of Stn. 67	RS	.60 m	.87

60426	22.0 m S. of Stn. 67	LS	1.00 m	.08	
60427	22.0 m S. of Stn. 67	C	1.30 m	5.34	
60428	22.0 m S. of Stn. 67	RS	.60 m	.30	
60429	25.6 m S. of Stn. 67	LS 1	.80 m	.54	
60430	25.6 m S. of Stn. 67	LS 2	.60 m	.14	
60431	25.6 m S. of Stn. 67	C	.60 m	.92	
60432	25.6 m S. of Stn. 67	RS 2	1.20 m	.84	
60433	25.6 m S. of Stn. 67	RS 1	.60 m	1.22	

300 EAST CROSS CUT - MAIN ZONE

60222	18.2 m N. of Stn. 30	RS	3.30 m	.35	RIGHT WALL
60221	20.0 m N. of Stn. 30	RC	1.80 m	.26	
60220	22.6 m N. of Stn. 30	LC	2.60 m	4.46	
60219	23.6 m N. of Stn. 30	LS 2	.90 m	4.29	
60218	24.7 m N. of Stn. 30	LS 1	1.00 m	.09	
60223	14.3 m N. of Stn. 30	LS 1	4.70 m	.45	LEFT WALL
60224	19.0 m N. of Stn. 30	LS 2	.40 m	1.56	
60225	19.4 m N. of Stn. 30	LS 3	2.00 m	.67	
60226	21.5 m N. of Stn. 30	LC	3.20 m	6.41	
60227	24.7 m N. of Stn. 30	RC	1.40 m	.02	
60228	26.1 m N. of Stn. 30	RS 2	.30 m	7.94	
60229	26.4 m N. of Stn. 30	RS 1	.90 m	.02	

300 EAST CROSS CUT - EAST ZONE

NO SAMPLES

300 NORTH UNDERCUT DRIFT

NO SAMPLES

305 RAISE

60457	8.2 m above Stn. R 2	LS	.50 m	1.84	right wall -
60458	8.2 m above Stn. R 2	C	.70 m	1.64	facing south
60459	8.2 m above Stn. R 2	RS	.50 m	.91	
60453	9.4 m above Stn. R 2	LS	.60 m	.64	H.W. facing
60454	9.4 m above Stn. R 2	LC	.50 m	1.16	west
60455	9.4 m above Stn. R 2	RC	.70 m	1.18	
60456	9.4 m above Stn. R 2	RS	.45 m	2.79	

CHIP SAMPLE SUMMARY

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60450	9.5 m above Stn. R 2	LS	.70 m	.71	left wall -
60451	9.5 m above Stn. R 2	C	.45 m	15.74	facing north
60452	9.5 m above Stn. R 2	RS	.60 m	.33	