MAP NO.: 95D 6

ASSESSMENT REPORT
PROSPECTUS
CONFIDENTIAL
OPEN FILE X

DOCUMENT NO: 093113
MINING DISTRICT: WATSON LAKE
TYPE OF WORK: PREFEASIBILITY STUDY

REPORT FILED UNDER: BARYTEX RESOURCES CORP.

DATE PERFORMED: 1989 **DATE FILED:** 1993

LOCATION: **LAT.:** 60°21'N **AREA:** WATSON LAKE

LONG.: 127°24'W **VALUE $:** **EIP89-061**

CLAIM NAME & NO.:
MEL

WORK DONE BY: SANDWELL SWAN WOOSTER INC

WORK DONE FOR: BARYTEX RESOURCES CORP

DATE TO GOOD STANDING:	

REMARKS:

EXPLORATION INCENTIVE PROGRAM - YTG

BARYTEX RESOURCES CORP.

Prefeasibility Study for a Lead, Zinc & Barite Mine on MEL Property - Yukon

Project #112220

October 1989

SANDWELL SWAN WOOSTER INC.

SANDWELL SWAN WOOSTER INC.

700-1190 Hornby Street, Vancouver, B.C., Canada V6Z 2H6 • Tel: (604) 684-9311 • Telex: 04-51275 • Telefax: (604) 688-5913

31 October 1989

093113

Barytex Resources Corp.
305 - 535 Thurlow Street
Vancouver, B.C.
V6E 3C2

Attention: Mr. H.S. Aikins

Subject: MEL Property Prefeasibility Report

Dear Sir:

The following document represents an interim prefeasibility study for the above property aimed at supporting short-term financing. Such financing is intended to extend the exploration drilling program into further delineation of ore reserves and grade.

The document is based on preliminary drill results, metallurgical test results, discussions with Barytex and various associates and site observations by the SSW team. The data review, conceptual design, schedule and budget are cursory in nature and represent the results of good practice and experience as opposed to "hard" data. Where possible, given time constraints, "good" dollar figures have been used resulting from consultation with vendors, suppliers, contractors and consultants. Selection of the most efficient and cost effective method of electrical generation proved very difficult and may be subject to conceptual change with further study. For the purposes of this study diesel fired generation was used.

The concept of wood burning/diesel co-generation was investigated but found to be too capital cost intensive without some form of government participation which may be investigated.

The barite market may present a problem in the short-term. Although there is hope for the long-term as outlined in section 10.0, Marketing.

SSW recommend the marketing area be extensively researched in the feasibility study.

Ore crushing, grinding, flotation and recovery testing to-date indicates no untoward difficulties and lower than normal operating costs due to the "softer" nature of the run-of-mine material. The question of contained mercury will have to be addressed.

Having weighed all factors with the potential for presenting a "fatal flaw" in further property preproduction development, the SSW team unequivocally recommend that further ore body delineative drilling be carried out.

N 60° 21'
W 127° 24'

SANDWELL SWAN WOOSTER INC.

112220, Mr. H.S. Aikins, 31 October 1989

SSW are grateful to Barytex Resources for the opportunity to participate in this exciting development and look forward to a continued good working relationship.

Yours truly,

SANDWELL SWAN WOOSTER INC.

G.W. Morris, P. Eng.
Director, General Engineering

GWM/df

PROJECT 112220
PREFEASIBILITY STUDY
LEAD, ZINC, BARITE MINE

BARYTEX RESOURCES CORP.
WATSON LAKE, YUKON
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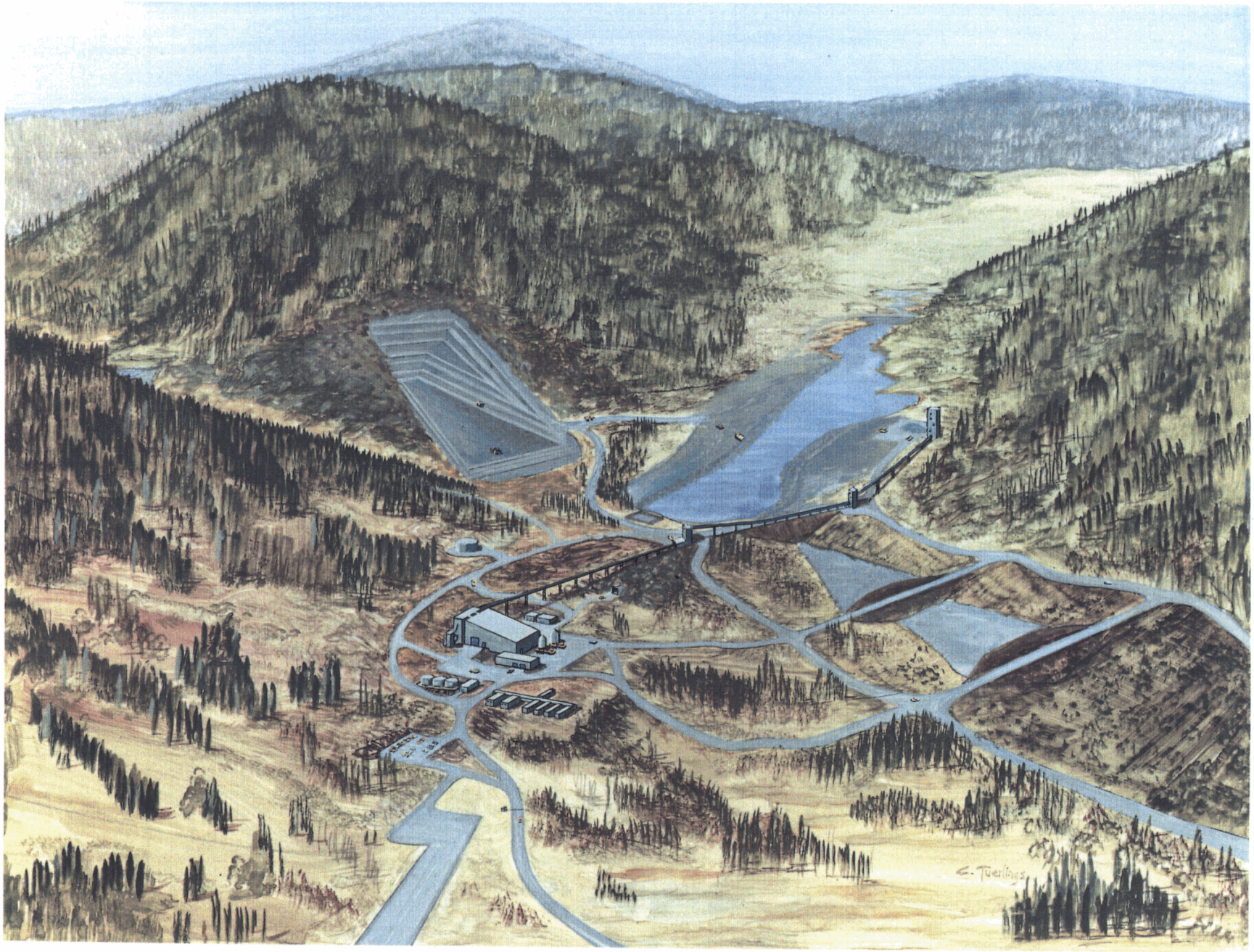


BARYTEX RESOURCES CORP.

Proposed Lead, Zinc & Barite Mine - Yukon

PROJECT 112220 OCTOBER 1989

SANDWELL SWAN WOOSTER INC.

PROJECT 112220
PREFEASIBILITY STUDY
LEAD, ZINC, BARITE MINE

BARYTEX RESOURCES CORP.
WATSON LAKE, YUKON
DATE 31 OCTOBER 1989

EXECUTIVE SUMMARY

The MEL Property is a potential zinc, lead, barite mine located north east of Watson Lake in Canada's Yukon Territory and within 50 km of the Alaska Highway.

Development to-date has been exploration drilling into ore body delineation, basic metallurgical testing, mining/milling concepts and preliminary market analysis.

The potential ROI before tax is approximately 43%. The preliminary cash flow is based on mining high grade ore early in the project life and later mining from ore zones that have a higher grade than currently indicated - both appear achievable. At full production the mill would ship almost 100,000 tonnes per year of lead-zinc concentrate.

The prefeasibility study indicates pre-production capital requirements:

Mine Facility Costs:		
General	$	3,700,000
Ore handling, crushing and screening		4,500,000
Process plant		12,700,000
Ancillary facilities		7,100,000
Indirects		7,600,000
Sub-total Mine Facilities	$	35,600,000
Pre-production Costs:		
Owner's costs	$	1,500,000
Headframe/hoist/underground equipment		4,100,000
Pre-production underground		5,400,000
Sub-total Pre-production	$	11,000,000
Working Capital		3,200,000
TOTAL PRE-PRODUCTION	$	49,800,000

The deposit was tested with 29 drill holes with depths to 490 m. Mineralization is largely confined to the cryptograined limestone, but also extends into the overlying slate-shale unit. This work has indicated a stratiform, folded, bin shaped deposit up to 21.7 m thick at its centre, which gradually thins towards both ends over a strike length of 800 m.

The estimated mineable reserves are approximately 5 million tonnes of ore grading 6.16% zinc, 1.75% lead and 46.5% barite. Production at 1,500 tonnes/day is contemplated from initially an open pit mine and subsequent underground mine using Vertical Crater Retreat (VCR) stoping and Alimak narrow vein stoping methods. The underground mine is accessed by a 565 m vertical shaft developed in two stages in order to reduce front end capital costs and improve underground operating costs. Initial mining would be from ore grading 9.78% zinc, 2.27% lead and 32.4% barite. Remaining reserves must be improved to this quality to achieve the potential ROI.

Lead and zinc concentrates could be shipped to a smelter such as Trail, B.C. (Cominco) and the barite initially sold to markets through Edmonton, Calgary, and Medicine Hat. The client's objective will be to produce some 90,000 tons per year of 62% zinc concentrates, 15,000 tpy of 78% lead concentrates and 20,000 tonnes per year of bagged barite.
Currently all significant production of zinc concentrates is shipped to overseas markets through the ice free part of Skagway.

The projected construction period is of nineteen months duration and is seen to present no insurmountable problems neither in a technical nor permitting sense.

PROJECT 112220
PREFEASIBILITY STUDY
LEAD, ZINC, BARITE MINE

BARYTEX RESOURCES CORP.
WATSON LAKE, YUKON
DATE 31 OCTOBER 1989

1.0 INTRODUCTION

Barytex Resources Corp. (BRC) are in the process of preproduction development of a proposed 1,500 tonnes per day lead, zinc and barite mine on their MEL Property near Watson Lake, Yukon.

The property is located to the north east of Watson Lake. Access to the property is by a 50 km. haul road leaving the Alaska Highway approximately 82 km. east of Watson Lake (refer to location map).

Sandwell Swan Wooster Inc. (SSW) has been retained by Barytex Resources Corp. to review all reports and information available to-date, provide a three man field investigation team and produce an interim prefeasibility report.

This prefeasibility report has been prepared in conjunction with:

Mr. G.W. Hawthorn,
West Coast Mineral Testing Inc.

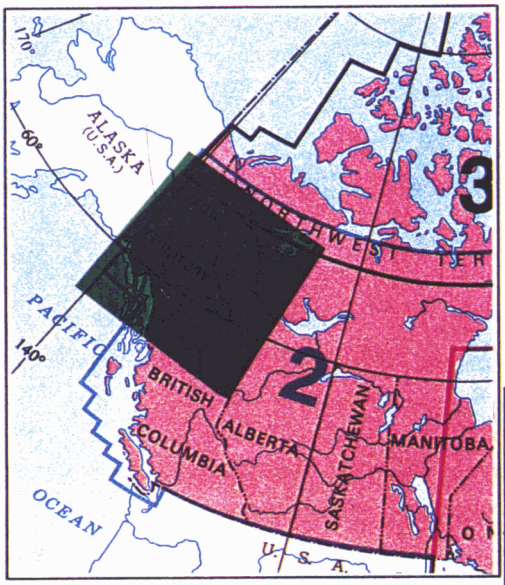
Mr. B. Millar,
Industrial Mineral Consultants Ltd.

Mr. N. Krpan,
Norswego Ltd.

LOCATION MAP

Watson Lake Mining District, Yukon

INDEX MAP



Area Covered

Yukon and Northern B.C.

Distances from Mel Property

Watson Lake	80 km (Air)
Alaska Hwy	50 km (Winter Rd.)
Fort Nelson	507 km - Railhead
Skagway	666 km - Tidewater

BARYTEX RESOURCES CORP.

MEL PROPERTY
LOCATION & ACCESS

DRAWN BY	NTS	FIGURE
DCM	95D/6	1
REPORT DATE	PROJECT NO.	
	8955	

D.C. MILLER GEOLOGICAL SERVICES

2.0 SCOPE OF WORK

The scope of work included in the prefeasibility study is generally as follows:

Gather all existing field data and review. Review client's planning to-date regarding plant layouts, access, infrastructure, survey monuments, drill hole locations, aggregate/fill sources, and mine planning.

On site a three man team, with client and Pamicon participation, will review the access route, examine the various power generation schemes, aggregate/fill sources, timber sources, logging questions, mine surface facilities, mine adit location(s), glory hole option configuration(s), mine waste dump locations, mill layout, ancillary facilities layout, water source tailings handling and disposal scheme(s), further fill in drilling, bulk sampling locations, further exploration drilling, explosives magazine location, construction camp location, servicing, reticulation, sewage disposal and communication support facilities.

During the field visit, general aspects of permitting will be reviewed including monitoring through to operations. Permitting procedures to be reviewed but not necessarily limited to, will be; environmental permits for water usage, emissions to atmosphere, site drainage, fisheries, effluent disposal, sewage disposal, leachate control and monitoring, stripping of soils, meet with Yukon Parks Department and decide on parameters for an environmental impact statement.

3.0 DATA BASE AND BASES OF CONCEPTUAL ESTIMATE

Data used in developing the prefeasibility report was sourced from the following:

- Geologist's report entitled "Report on the MEL Property" by D.C. Miller, P. Eng., dated 19 September 1989.

- Report Entitled "Rock River Coal Basin" author unknown.

- Geological maps, (surface maps 10m contours) drill hole listings and mineral grades provided by Barytex Resources Corporation.

- Field visit 10 - 13 October provided opportunity for site inspection, discussion with geologist and inspecting drill core.

- Environmental report for the MEL Property access road by Gartner Lee Associates Ltd.
- Lakefield Research Metallurgical Testing Report.

Capital cost estimates are based on budget quotes from equipment suppliers and development contractors as well as in-house SSW expertise. Consultant's experience from previous mining studies and operations was used to develop operating cost estimates to a prefeasibility level of accuracy. Used mine equipment prices were considered and used to minimize capital expenditures.

4.0 GEOLOGY

Details concerning property geology and ongoing exploration strategy were discussed with D.C. Miller, Consulting Geologist for Barytex Resources Corp., during the 10 to 13 October site visit. Key geological descriptions in this section were reproduced from the "Report on the MEL Property" by D.C. Miller, P. Eng., June, 1989.

Mineralization is largely confined to the cryptograined limestone, but also locally extends into the overlying slate-shale unit. The deposit is essentially stratiform with good continuity and is lens shaped and up to 21.7 m thick at its centre. The deposit tapers gradually towards both ends over a strike-length of 800 m. To-date, drilling has intersected mineralization to a vertical depth of 490 m and the deposit is open at depth. Mineralization strikes nearly north-south and dips about 55 degrees westward at surface. The deposit steepens to vertical at a depth of 100 m and then reverses dip to the east averaging 35 degrees over a 50 m vertical interval. The dip then steepens to 60 to 80 degrees eastward.

Drilling to a depth of 490 m has indicated a geological reserve of 5,687,493 tonnes (6,269,324 short tonnes) grading 6.77% zinc, 1.92% lead and 51.1% barite. The mineralization is zoned and the best zinc grades occur outward from the centre of the deposit near surface. At depth, zinc grades are strong in two of the deepest holes (26 and 27) which average 14.69% zinc, 0.92% lead and 33.3% barite over an average true width of 5.92 m.

Economic minerals include sphalerite, galena and barite with trace amounts of chalcopyrite, covellite and tetrahedrite. Gangue minerals include pyrite, quartz, calcite, and sericite. The sericite forms from the alteration of brown mudstone clasts which occur in the cryptograined limestone.

Sphalerite is nearly iron free and ranges in color from brown to honey-colored. It is associated with barite, quartz and mudstone clasts. It occurs as relatively course grained blebs ranging in size from less than 1 mm up to 2 cm.

Galena occurs mainly as veinlets cutting quartz, barite and sphalerite and is interstitial to these minerals. The grain size of galena is variable, but it is generally finer than that of sphalerite.

Barite is mainly coarse grained and relatively pure. It also occurs to a minor extent in late veinlets associated with quartz and calcite.

The pyrite content is about 2% and it is mainly fine grained. It occurs as disseminations in mudstone casts and cherty quartz and as veinlets cutting other sulphides, along grain boundaries and in wall rocks.

Mineral zoning is evident and the distribution of the highest grade combined zinc and lead (Drawing 4-1). Barite is thickest and purest in the central part of the deposit. With respect to stratigraphic level within the deposit, sphalerite content is generally highest in the lower to middle parts of the deposit. Galena is more erratically distributed and favours the mid to upper stratigraphic levels.

To-date the deposit has been tested with 29 holes. With consideration to grade and thickness, the best hole is No. 27 which intersected 19.72% zinc and 2.08% lead over a true width of 5.16 m at a vertical depth of 370 m below surface.

5.0 MINING

5.1 Introduction

The proposed mining sequence allows for commencing production by low cost open pit mining methods and deferring capital investment for underground development. This is accomplished by scheduling mine development and production in three phases and utilizing contractors. The three phases are briefly described below.

Phase	Mining Method	Work Force	Ore Tonnage
1	Open pit	Contractor	812,000
2	Underground (above 660 m elev):		2,504,000
	Vertical Crater Retreat	Owner	
	Alimak Horizontal Drilling	Contractor	
3	Underground (360 m to 660 m elev):		1,690,000
	Vertical Crater Retreat	Owner	
	Alimak Horizontal Drilling	Contractor	

The use of contractors for surface mining eliminates the need for purchase of open pit equipment. Underground development in two phases defers some capital expenditure as shaft completion can be delayed until year 6 of the project.

5.2 Mineable Reserves

The mineable reserves are based on previous studies and calculations as per the D.C. Miller June, 1989 report on the MEL Property. This report states that drilling to a depth of 490 metres has indicated a geological reserve of 5,687,493 tonnes grading 6.77% zinc, 1.92% lead and 51.1% barite.

The average grade of high grade ore zones (weighted average from holes 5, 7, 10, 15, 19, and 21 in the upper half of the mine indicates potential ore (at 10% dilution), grading 9.78% zinc, 2.27% lead and 32.36% barite. Further drilling and mine planning is required

to confirm the mineable tonnage and grade of these ore blocks. For purposes of preliminary study it is assumed that about 1.3 m tonnes could be produced at this grade during the first three (3) years.

The remaining tonnage is approximately 3.7 million tonnes at grades 4.53% zinc, 1.56% lead and 51.5% barite. Further drilling is required to encompass higher grade zones so that remaining tonnage grade can be improved to an overall average of 9.78% zinc and 2.27% lead.

For purposes of preliminary mining evaluation the following assumptions were made to convert indicated reserves to indicated mineable reserves:

Geological Reserves	5,687,000 tonnes	
Losses 20%	1,137,000 tonnes	
Dilution 10%	455,000 tonnes	
Mineable reserves	5,006,000 tonnes	
	grade 6.16% zinc	*(9.78% zinc)
	1.75% lead	(2.27% lead)
	46.5% barite	(32.4% barite)

*Assumed grade improvement after detailed drilling completed.

5.3 Open Pit

The open pit located as shown in Drawing 5-1 is expected to produce 812,000 tonnes of ore and requires stripping of 1,600,000 cubic metres of waste rock. Overall stripping ratio is about two (2) cubic metres waste per tonne of ore. Near surface ore as identified by No. 1 drill hole, will allow early production and stockpiling of from the pit. Haulage distances are extremely short, 300 metres from pit exit to the waste dump and a similar distance to the ore stockpile location.

Preliminary pit plans assume 7.5 metre benches, 50 degree wall slopes and pit floor elevation at 830 metres. More detailed geotechnical and hydrogeological studies are required to confirm this planning criteria. The pit highwall will vary from 45 metres at 9900N to approximately 85 metres at 10250N.

The contractor will mine the pit and deliver crushed ore (4" minus) to the secondary crushing feed conveyor using small scale quarrying-construction type equipment.

5.4 Underground Development

Access for underground mining consists of a 20' by 9' vertical 4 compartment timbered shaft (for preliminary assessment located at 9950N, 10150E) initially developed 270 metres for production from the 660 m elevation and subsequently (year 6) deepened 295 metres for production from levels between 660 m and 360 m elevation. Further studies are required to optimize the shaft location e.g. a shaft situated south of the proposed location in the F.W. could eliminate the first leg of the overland conveyor, however, this would result in somewhat higher underground haulage costs as the shaft moves further from the ore body's centre of gravity.

A 300 metre ramp is also proposed to access high grade ore in the pit highwall at 10250N. The north ramp driven from a pit bench at 900 m elevation will provide early access to supplement pit ore with high grade ore from Alimak horizontal drill stopes. Main x-cuts, stope access and draw point drifts 4.3 m wide by 3.7 m high driven by scooptram provide access from the shaft to the ore zones. Ore passes 3 m diameter and vent raises 4.3 m diameter are developed by raise borer by Alimak. Crushing and pump stations are developed for the 660 m and 360 m elevations. It is assumed that contractors will be involved in most of the rock work development.

Drawing 5-2 and Drawing 5-3 illustrate schematically a cross section of the shaft and a typical level plan. The schedule for underground rock development is shown in Table 5-1.

5.5 Underground Mine

Vertical Crater Retreat (VCR) mining is proposed for wide (greater than 7 metres) and steep sections (greater than 65 degrees) of the ore body and raise stoping (Alimak) with horizontal drilling for the narrower ore sections. Ore located on folds flatter than 50 degrees will require other development and production techniques e.g. ramp access and short up-hole drilling. Delayed stope filling, using mill tailings and/or pit rock is planned for the project. Future detailed studies incorporating rock mechanic principals will establish stoping parameters and fill procedures.

The height of stopes for VCR and raise stoping will be a maximum of 100 metres but will vary down to 50 metres or less depending upon ore body configuration.

A typical level plan is shown in Drawing 5-3. Footwall drifts and short cross-cuts provide access to the ore zone which is slashed out at the production level. Draw points are established from the footwall drift and also at each end of the stope. A sill level for drilling is established at the top of the stope by ramping down from the upper level. Raise stopes using Alimak raises and horizontal blast hole drilling are established at the north and south ore extremities where ore sections narrows to less than 7 metre.

It is assumed that more than 75% of the underground ore can be mined by VCR methods. Average productivity for the underground mine, including labour, supervision and technical services is estimated at 15 tonnes per man shift.

5.6 Mine Equipment

The following is a list of expected mine equipment required for underground mining:

Hoist and Facilities:

Shaft	20' x 9' 4 compartments
Hoist	cage-skip combination

Headframe	steel construction with ore bin
Skip-cage	7 tonne skip 15 man cage
Loading Station	double compartment
Compressors	2 - 5,000 CFM
<u>Underground Equipment</u>:	
Crusher	1 - 30" x 42" jaw crusher (year 2)
Pumps	2 - 500 USGPM @ 1,000 ft. head pumps at each main pump level (i.e. at 660 m level and 360 m level)
Fans	1 - fresh air fan, 84", 250HP, 200,000 CFM 2 - booster fans, 48", 50 HP, 50,000 CFM 8 - auxiliary fans various sizes
Air Heater	2 air heaters 15,000,000 BTU/hr capability
Mining Equipment	1 scooptram (8 c.y.) 5 scooptrams (5 c.y.) 1 teletram (10 c.y.) 1 3 boom jumbo 2 service-bolting trucks 2 VCR 6" drills

6.0 MILLING

The Coarse Ore (CO) Feed is presently foreseen as four (4) inch minus both from the open pit and underground operations. The CO will be suitably loaded onto fabric belt conveyors housed in nominally heated tube galleries. The eventual feed to a 24 hour surge storage bin will have magnetic tramp iron contamination protection. The CO will pass over a two deck scalping undersize vibrating screen into a four (4) foot shorthead cone crusher. The crusher underflow will circulate via scissor conveyors back over a single deck vibrating screen with its underflow going directly to the Fine Ore (FO) storage bin. The screen overflow is crushed again in the four foot cone. The FO storage will also be 24 hour (1,500 tonne) and feeds a sixteen (16) foot by twelve (12) foot diameter ball mill.

The ball mill discharge is pumped to a cyclone cluster where the oversize is recirculated via gravity to ball mill feed.

The underflow is fed by gravity to the first line of floatation roughers and cleaners where the lead is depressed and sends some 27 tpd to a thickener and then a disc drum filter. The floatation overflow goes to the zinc flotation line where some 94 tpd of zinc concentrate is sent for thickening and filtering. Both Zn and Pb concentrates will receive nominal drying through waste heat into rotary dryers to achieve moisture contents of ideally 7.5% The remaining overflow is transferred to the barite floatation line of roughers and cleaners and subsequently to a thickener and drum filter for dewatering. The unfiltered portion of the barite will be stored in a separate, "clean" tailings area or contribute to mine backfill. The amount stored will be dictated by market conditions. The plant tailings will receive one stage of dewatering - thickener - and be transported via gravity to a tailings pond which will have water reclaim capability. The reclaimed water will be returned to a reclaim water head tank in the mill building.

The nominally dried lead and zinc filter cake concentrates will be, weighed, and loaded into containers for shipping.

The utilized barite portion will be filtered and the resulting filter cake kiln dried. The kiln will receive hot air from diesel generator waste heat regenerated by diesel fired combustion as required. The dryer discharge would then be fed to a seventy-three (73) inch Raymond mill which can produce thirty (30) tph of -325 mesh barite. The feed to the mill would be less than 4% moisture and ground in a waste warm air environment. The Raymond mill will be equipped with a double whizzer. The dried barite will be cooled, weighed, bagged, and palletized for shipping.

The system requires satisfactory dust collection.

6.1 Metallurgical Testing

Information obtained from the D.C. Miller June, 1989 report on the MEL Property represents the extent of testing to-date.

Preliminary metallurgical testing was carried out by Lakefield Research on sections of mineralized drill core. The average calculated head grade was 2.30% lead, 4.80% zinc and 51.6% barite. After grinding to -100 mesh, the mineralization responded well to floatation and yielded concentrates ranging from 60.9 to 64.7% zinc, 78.0 to 79.6% lead and 90.8 to 94.4% barite with recoveries of 90.3 to 96.2% for zinc, 97.7 to 98.0% for lead and 88 to 90.9% for barite. A later large scale test was done to produce barite concentrate for market evaluation. Concentrate grading 95.1% barite with a recovery of 92.6% was produced from 12 kg of feed grading 53.5% of barite.

6.2 Preliminary Flowsheet

A simplified flow sheet for recovery of zinc, lead and barite is shown in Drawing 6-1. Further study based on pilot scale test work will result in a more accurate assessment of process and equipment requirements. Optimization of the crushing arrangement and barite recovery circuit could improve overall capital and operating costs. There is also good potential for acquisition of a used plant for considerably lower cost than a new one.

The process shown on the flow sheet shown is expected to achieve concentrate quality as good or better than that obtained during the metallurgical test work.

6.3 Tailings Disposal

The plant tailings will emanate from the barite cleaners underflow and plant wash down. The slurry will receive one stage of thickening and will report via gravity pipeline to the tailings area. Initially the tailings dam(s) will be of nominal construction (starter dams) and will be raised as operations proceed with the tailings itself. Although there will be

sulphides in the tailings, the lime content of the ore will more than neutralize any possibility for generated acid. This combined with a relatively impermeable sub-base and the normal sealing action of the finely ground fraction of the tailings is seen to obviate the necessity for further artificial methods of sealing the dam or cutting off leachate ingress to the existing sub-surface water regime. To comply with good environmental protection practice however, a curtain of underground water monitoring wells will be installed to ensure leachate egress from the tailings area is within acceptable parameters. The well curtain will be so designed that they could serve as ground water intercept wells returning any contaminated ground water to the tailings impoundment area.

A water reclaim pump barge will be commissioned in the impoundment area. Reclaimed water as noted earlier will be pumped to a devoted tank in the concentrating complex where it will be mixed with filter(s) precipitate(s), raw water and reagents in a mill water regeneration sub-process.

As underground operations proceed, a good portion of the settled out tailings will be mechanically retrieved, suitably batched and pumped as backfill into the mine.

7.0 INFRASTRUCTURE

7.1 Road Access

Road access to the MEL Property is by a 50 km. haul road leaving the Alaska Highway heading north at approximately 82 kms east of Watson Lake.

The road traverses five creeks or drainage systems prior to reaching the Coal River where a major crossing will be required. At three crossings timber trestles are in place and at two other crossings no structures were in place but were traversed by fording. All crossings were inspected. Existing structures are in extremely poor condition and must be removed and replaced with new timber trestles conforming to and constructed in accordance with environmental guidelines. Waterway passages either side of the crossings must be cleared of detritus to ensure free flow of water. It is recommended that water courses at present traversed by fording are bridged by timber trestles to eliminate the possibility of blockage and consequent "glaciering" during winter.

The Coal River crossing is expected to be a single lane, steel bridge with approximately a 40 m single span. It is anticipated that the rock bluff to the south side will be the abutment and that a concrete abutment to the north will be constructed during the low water season. If this alignment proves viable then realignment of the south approach will be necessary and instead of the road descending to the flats, it will remain at the same elevation as the bridge.

Re-alignment to the north joining the existing road will be necessary but is not considered a problem. In general, the road alignment cannot be faulted although in a few instances re-alignment may be beneficial to either straighten or reduce some steeper grades.

The road is generally in good granular material and drains well except in one area between 8 km. and 10 km. This crossing should be either trestled or culverted and cleaned out on both sides of the crossing to ensure a proper flow of water. The above is a minimum

requirement for a construction road except for any minor re-alignment which can be carried out prior to production hauling.

For production hauling we recommend truck passes be constructed every 5 kms so that product haulage will not be compromised with other traffic when the construction road is upgraded to an all weather production road.

7.2 Power Supply

Several power supply options were briefly reviewed and none of the options for power generation were conclusive for various reasons but further investigation and study is recommended.

a) Mouth-of-Mine Coal Fired Generation
Capital cost transmission distance, emissions to atmosphere, permitting.

During the formal feasibility study the coal ore body will be re-investigated as the potential for such as installation is very real.

b) Run-of-River hydro power generation (3 locations)
Dam would be required, capital cost transmission distance, permitting.

This option will also be reconsidered as there is ample water flow in either of two rivers.

c) Wood Burning/Diesel Co-generation
Capital cost, emissions to atmosphere, permitting.

This option is capital intensive but the vast amount of scorched trees makes the concept attractive.

The preferred option at this stage in lieu of government participation is diesel fired power generation. The waste heat from the generator(s) would be used for facilities heating, process heat requirements and preheating of mine ventilation air.

7.3 Mine Facilities

Mine facilities required for open pit operations will generally be provided by the open pit contractor and included in the contract mining cost estimate. Water, fuels and major shop repairs will be available from OWNER provided facilities.

Facilities for underground mining include the following:

Hoist and Headframe:

- Hoist and compressor building.
- Headframe.

Mine Facilities:

- Office, dry, mine engineering complex (to accommodate 100 underground and 31 mill employees).
- Fan and air heater building.
- Electrical substation.
- Pump discharge line.
- Fresh water supply.
- Fire protection system.

7.4 Housing

As the MEL Property is in a remote location, it is planned to initially provide a 320 man camp, including commissary and recreational facilities, for construction workers, mine development workers and mine operating personnel.

On completion of construction the camp size will be reduced to a 150 - 160 man camp for use by mine development and operating personnel. Mining personnel on single status will be provided accommodation at the mine site, married personnel will be accommodated

in Watson Lake. Watson Lake is a community of approximately 1,500 persons with excellent recreational and educational facilities. The town has a number of serviced lots available and should the mine go ahead, it is suggested that Barytex consider taking options on some 20 - 30 of these lots and make an interest free loan to qualified personnel so as to encourage construction of their own homes.

The attraction will be that the operating company provides interest free loans to prospective home owners which are intended to support;

a) House purchase, or

b) House building, or

c) Mobile home purchase, or

d) Mobile home relocation, and

e) Lot purchase.

This concept is the most capital effective and provides the least amount of administrative headaches to operating staff.

7.5 Transportation

During construction, it is expected that a number of varying sizes of contractors will be working on site at the same time. Local contractual personnel will most probably travel by pickup truck or mini bus to and from the site. Non-local construction contractors are expected to fly personnel to Watson Lake and provide a bus service to and from the site camp to the airport on a daily basis.

The housing philosophy determined for permanent mine personnel is that married personnel with family will be located in Watson Lake and single personnel located at the mine camp. The expected shifts will be ten days on site and four days off. Two transportation options are available, one by bus from Watson Lake to the mine site, the other by plane. In discussion with charter aircraft operators they are confident a regular schedule flying from

Watson Lake to the mine could be achieved throughout the year. The month of October however is the worst flying month and a regular schedule could be compromised. Nevertheless, the preferred transportation method for shift changes would be by plane on a regularly scheduled basis with a bus backup for emergencies or non-flyable weather.

Present concepts relating to capital and operating costs are that all haulage will be by highway trucks.

7.6 Water Supply and Treatment

Potable Water

Potable water will be provided for the camp and other buildings by means of an insulated and heat traced storage tank supplied by water wells. Well locations are as yet to be determined and the number required will not be established until the first well flow and recovery is measured and water demand established. It is proposed that a test well and other production wells, if necessary, are drilled prior to construction and establishment of the mine camp. The type of water treatment will be recommended after water samples have been taken and tested from the test well.

Mine and Process Water

For mine and process water, it is proposed to construct a dam across the creek upstream from where it enters the property to the west of the open pit. This will control water in the pit and provide a controlled water source for process water requirements in the mill and other areas. Water will be pumped from the creek reservoir to a 100,000 gallon insulated and heat traced water tank located on the mountain side above the mill. Supply from the water storage tank it will be a gravity feed to the mill and other buildings. The type of water treatment necessary will be established after samples have been tested.

Fire Water

For fire protection it is proposed that 33% of the process water tank will be dedicated to fire protection and supported by a dedicated system from the raw water storage dam.

General

All water reticulation will be via surface run, heated "utilidors".

7.7 Survey

Site survey location work to-date is to exploration geological standards linked with existing contour maps. Prior to the onset of design work, site survey control must be established and eventually linked to territorial geodetic, Forestry, Department of Mines and Department of Highway control grids. Surface control will be established by SSW. The mine engineering survey control and day-to-day mine surveying will be done by the OWNER. Day-to-day construction level surveying will be carried out by CONTRACTORS as part of their contractual quality control obligations. SSW will provide accurate survey control such as conveyor centre lines and will check the CONTRACTORS' surveying as part of their quality assurance obligations. As per industry practice, SSW's checking will not relieve the CONTRACTORS of their contractual responsibility in that regard.

7.8 Sewage Disposal

Sewage disposal will be by septic tank and distribution field located to the south east of the mill and camp. The septic tank and distribution field will be constructed in accordance with applicable building and health code regulations and will be sized initially to accommodate a 320 man camp and ancillary facilities. This will be adequate for the permanent mill and camp operations as the camp size will be reduced from 320 to 160 for the permanent mine employees. Modification to the disposal system will not be required for the permanent facility except to connect pipes from the mill and equipment shops when operational.

7.9 Permits

The following activities will be performed in developing the MEL Property for which some form of permitting or involvement with a governmental agency will be required.

- Upgrade haul road, creek, drainage and river crossings.
- Logging for plant site and miscellaneous road re-alignments.
- Plant site building, construction camp, sewage treatment and solid wastes disposal.
- Temporary and permanent fuel storage and dispensing.
- Dams for mine process water.
- Filling of swamps and lake with excavated mine materials.
- Tailing dams.
- Open pit and underground mine dewatering.
- Explosives magazines.
- Radio telephone and surface VHF radio network.
- Emissions to atmosphere for power generation.
- Water storage and treatment.
- Process plant liquid effluent(s) disposal and handling.
- Site drainage including leachate monitoring.
- Yukon Parks Department (road).

7.10 Land Claims

Indian and Northern Affairs Canada, Watson Lake District, provided the field investigation team with reference maps showing registered Indian Land Claims to-date. On review of the information provided there are no Indian land claims on the MEL Property or the

access road. The present haul road leaves the Alaska Highway approximately .6 km. inside the British Columbia border. If the road were to start in the Yukon, rerouting would be necessary joining the Alaska Highway approximately 4 km. to the west of the present access. Although this would be possible, another creek crossing would be required and the road relocated through a wet and marshy area. Further, there is a site specific Indian land claim on Scobie Creek, the area of which is not known at present and which the relocated road would most probably have to cross. From a location point of view, it is not recommended to pursue this rerouting.

7.11 Fuels Storage and Dispensing

A fuel oil storage and dispensing area will be constructed to the south west of the mill. The storage area will be encompassed by a containment berm in case of spillage. The storage area will contain the following fuels:

- Diesel oil for mine generators.
- Diesel oil for mine equipment.
- Diesel oil for temporary generators.
- Gasoline for surface transport.
- Heating fuel oil for construction and mine camp, kitchens, trailers, and refrigeration facilities.
- Possibly propane for miscellaneous heating purposes.

A dispensing facility will be located adjacent to the storage area.

In order to minimize capital expenditure the various bulk fuel suppliers will be requested to tender on the following basis:

a) Tank farm supply and installation free of charge to OWNER.

b) Fuel dispensing equipment supply and installation free of charge to OWNER.

c) Supply of construction and pre-production fuels.

d) Supply of production fuels for five (5) years.

e) Barytex ownership of all tankage at the end of the mine life or twelve (12) years, whichever occurs first.

7.12 Explosives Storage and Dispensing

It is proposed that the open pit mining contractor is responsible for providing explosives storage and dispensing facilities as required for open pit mining. The cost for these facilities is included in the contract mining cost estimate.

Explosives storage and dispensing facilities for servicing the underground mining operation are included as the owner's responsibility and accounted for in the underground mining cost estimates. The magazine constructed in accordance with the Miners' Act will be situated approximately 3,000 feet north of the mine.

7.13 Site Drainage

The site will be ringed wherever possible with drainage ditches intended to catch normal run-off water and lead it to existing water courses. Internal site drainage that has the potential for contamination including mine dewatering effluents will be fed or pumped to the tailings area. As noted elsewhere in this document, leachate contamination of ground water will not be a factor. There will be no untreated tailings area overflow.

7.14 Communications

The site will be equipped with a microwave link for telephone, telex and telefax communication. A VHF emergency radio link with the RCMP and Forestry should also be provided. In addition, SSW recommend that due to distances and variety of activities

on-site, especially during the first six years, a five (5) channel UHF radio system be utilized for on-site communications. The five (5) channels will cover:

a) Construction

b) Open pit

c) Access road

d) Underground

e) Safety, security, first aid, medevacs.

A hard wire underground communications network for the facility has also been provided.

8.0 CONSTRUCTION

8.1 Preliminary Development Schedule

The preliminary development schedule (Exhibit "8.0") shows a construction period of 19 months for the mill and infrastructure and a further 10 months for continuing mine development and mining infrastructure. The durations do not include engineering time for permitting and infrastructure requirements which we anticipate to be in the region of 4 - 6 months prior to month one as shown in the schedule.

In planning the schedule, we have taken into consideration restrictions in making numerous crossings of the Coal River without a permanent bridge. We plan to replace all road, creek crossing with bridges or culverts and upgrade the road to construction haul road standards, prepare permanent bridge buttresses, improve airstrip, drill water wells on site and prepare the site for a construction camp in the fall. During the month of January crews will create an ice bridge over the Coal River and haul in a construction camp and enough supplies and equipment to proceed with construction until the permanent bridge is constructed and operational.

Spring and summer months will see site and services development and buildings closed prior to onset of the following winter months. Process and equipment installation will proceed unhindered from weather conditions during the winter months until pre-commissioning. On final plant commissioning, part of the construction camp will be dismantled and removed leaving a minimum camp of 160 for mine workers.

8.2 Construction Philosophy

In keeping with the spirit of involving local industry to the maximum extent possible, it is proposed to contract out portions of the work in packages so as to attract local contractors and suppliers. Smaller contractors local to the Watson Lake area will, for the most part, have non-union labour. Practical considerations may dictate that the process plant contractors will have British Columbia Trades Council; i.e. union labour.

Such considerations address sufficient numbers of skilled tradesmen, harmony on site, and so on. SSW will manage the construction work, budget and schedule as well as quality and quantity control.

It is expected that the engineer will provide process quality control and assurance in co-ordinating the selected vendor and client operations staff participation in the work leading up to mechanical completion and precommissioning.

The schedule allows for the client providing final commissioning and start-up leadership with the engineer and selected subcontractors assisting as required.

9.0 CAPITAL AND OPERATING COSTS

9.1 Mining

Capital Cost

The capital costs for mining are based on budget quotes received from mining contractors and equipment suppliers. Shaft and primary rock development is completed by contractors. The following are unit rates used for rock development:

Shaft - 6.7 m x 2.8 m x 270 m deep	$ 2,330,000
290 m extension	$ 2,513,000
Scooptram headings - 4.3 m x 3.7 m	$ 1,910/m
Raise bore holes, ore pass 3.0 m diameter	$ 875/m
Raise bore holes, ventilation 4.5 m diameter	$ 1,400/m
Rock work, slashing, station excavation	$ 120/m^3

The underground rock work development requirements are listed as follows:

ROCK DEVELOPMENT REQUIREMENTS

Phase 2:

North ramp (pit)	300 metres
Shaft to 640 elevation	270
Vent rises	480
Ore pass	150
CR/Pump Stn.	-
760 Elevation:	
Main X-C	185
FW Dr.	450 Typical level development
Draw Pts.	90 Typical level development
Sill ramp	100 Typical level development

710 Elevation:	
Main X-C	135
Level development	640
660 Elevation:	
Main X-C	75 metres
Level development	640

Phase 3:

Shaft to 340 elevation	295
Vent Rises	580
Ore pass	205
CR/Pump Stn.	-
560 Elevation:	
Main X-C	35 Typical for each level
FW Dr.	300 Typical for each level
Draw pts.	60 Typical for each level
Sill ramp	100 Typical for each level
460 Elevation	495
360 Elevation	495

This rock work development is scheduled to bring phase 2 and 3 of the project into production to maintain a production rate of 1,500 tonnes per day on a 350 days/year basis for the 10 year project duration.

Production and development schedule and associated costs are illustrated in Tables 9-1 and 9-2.

TABLE 9-1
PRODUCTION AND DEVELOPMENT SCHEDULE

YEAR	-1	1	2	3	4	5	6	7	8	9	10
PROJECT PRODUCTION SCHEDULE (K TONNES)											
Ph.1 Open Pit		262	262	262	26						
Ph.2 U.G. - Upper			262	262	499	525	525	431			
Ph.2 U.G. - Lower								94	525	525	525
UNDERGROUND DEVELOPMENT SCHEDULE (METRES)											
Phase 2:											
Shaft 6.1m x 2.8m		270									
Vent Rises. 4.5 m diam.			480								
Ore Pass 3m diam.			150								
CR/Pump Stn. 1440m³			-								
North Ramp 4.3m x 3.7m			300								
760 Elev. 4.3m x 3.7m		200	625								
710 Elev. 4.3m x 3.7m				500	275						
660 Elev. 4.3m x 3.7m						715					
Phase 3:											
Shaft 6.1m x 2.8m							295				
Vent Rises 4.5m diam.							580				
Ore Pass 3m diam.							205				
CR/Pump Stn. 1440m³							-				
560 Elev. 4.3m x 3.7m								495			
460 Elev. 4.3m x 3.7m									495		
360 Elev. 4.3m x 3.7m										495	

TABLE 9-2
UNDERGROUND DEVELOPMENT COSTS $K

YEAR	-1	1	2	3	4	5	6	7	8	9	10
Heading											
Vent Rises			672								
Ore Pass			131								
CR/Pump Stn.			173								
North Ramp			573								
760 Elev.		382	1194								
710 Elev.				955	525						
660 Elev.						1366					
Vent Rises							812				
Ore Pass							179				
CR/Pump Stn.							173				
560 Elev.								945			
460 Elev.									945		
360 Elev.										945	
TOTAL		382	2743	955	525	1366	1164	945	945	945	

Prices were received from various suppliers of used mining equipment. After applying factors for reconditioning, delivery and installation, the estimated cost is summarized as follows:

Hoist and Facilities:	$ 1,928,000
Including: Hoist, headframe, skip-cage, loading station, compressors	
Underground Equipment	$ 1,600,000
Including: Pumps, fans, air heater, mobile equipment crushing N.B. underground crushing capital expenditure is scheduled in year two (2).	

Operating Cost

Operating costs for mining are based on contractors quotations for open pit mining and on consultant experience for underground mining. It is assumed the mine would operate on the basis of 2 - 10 hour shifts per day, 350 days per year.

Contractors quotation for open pit mining is $ 8.00 per cubic metre of rock. Cost per tonne of ore produced at the open pit operation is:

Total material mined	1,803K m^3
Cost @ $ 8.00/m^3	$ 14,424K
Tonnes of ore produced	812K tonnes
Cost per tonne	$ 17.76/tonne

The performance for underground mining by VCR and raise stoping methods is expected to be 15 tonnes per man shift (including all labour and staff associated with the mine). Average labour rate is estimated at $ 19 per hour. Mining cost is calculated as follows:

Base labour	$ 19.00
Fringe benefits 23.6%	4.48
Overtime allowance 8%	1.51
Bonus 20%	3.80
Labour Cost	$ 28.80/hour

Labour cost per shift
10 hrs. @ $ 28.80 = $ 288
Labour is 60% of total cost
Total cost $ 288/0.60 = $ 480/shift
Productivity is 15 tonnes/man shift
Mining cost per tonne $ 480/15 = $ 32.00

9.2 Milling

Capital Cost

Capital cost for a mill capable of 1,500 tonnes per day production rate with three (3) stages of floatation producing zinc, lead and barite concentrate was based on considering the costs associated with recently constructed base metal mills producing a similar tonnage. Costs ranged from $ 12 million for a previously operated mill in good condition to $ 42 million for a new mill. It is estimated that $ 35 million of capital would be adequate for construction of the concentrator, infrastructure and facilities as described by the flowsheet illustrated in Drawing 6-1.

Operating Cost

Further detailed study and pilot scale testing is required before an accurate operating cost can be estimated. Mill operating costs, depending upon ore characteristics and mill circuitry can vary from $ 10.00/tonne to $ 15/tonne. The ore from the MEL deposit is expected to be relatively easy to mill and operating costs have therefore assumed to be at a lower level of $ 11.50/tonne.

The mill operating costs are based on the following manpower:

Labour Category:

Supervision	4
Operators	22
Maintenance	7
Miscellaneous	-
	31

Probable distribution of costs prorated from 1,100 tpd operating plant are as follows:

Crushing	$	1.33/tonne
Grinding and classification		3.07
Floatation		1.22
Concentrate handling		1.22
Thickening		0.97
Filter		0.32
Tailings		1.87
Stockpiling barite		1.50
	$	11.50

9.3 Infrastructure

Due to the location of the property, the development will be wholly self-sufficient in terms of temporary (construction and earlier pre-production) and permanent infrastructure. Wherever possible temporary infrastructure will be melded to permanent facilities in order that capital expenditure is kept to a minimum. The description(s) and pricing of the above are shown elsewhere in this document but the various elements and cost centres are listed as follows:

Diesel electrical power generation
Electrical power distribution
Fuel storage and dispensing
Site accommodation
Site offices, shops and warehouse
Water storage, treatment and distribution
Sewage disposal and treatment
Access and site roads
Airstrip
Communications
Explosives storage
Transportation

9.4 Engineering and Construction Management

SSW recommend the project management philosophy be the classical Engineering, Procurement and Construction Management (EPCM) concept. The concept in SSW terms is actually an OWNER/ENGINEER integrated team with the OWNER providing guidance (checks and balances) during the conceptual and basic engineering programs, regulatory bodies liaison efforts, operation parameters development and for commissioning/start-up procedures. SSW will provide all detailed design, full procurement, site supervisory, construction contract writing and administration, permitting and documentation services.

As noted elsewhere, the construction philosophy will be to utilize local contractors, expertise, services and materials to the greatest extent possible without sacrificing quality of product. All site construction and mine pre-production personnel will be housed in a camp (ATCO type) administered by the EPCM team. Each contractor will be responsible for transport of his employees. Construction contracts will be packaged into firm price units in keeping with engineering and procurement schedules, local expertise and capital cost considerations.

Open pit pre-production and operation, shaft sinking and underground development will be by contractors. The work itself will be supervised and administered by the OWNER.

SSW recommend that the EPCM work through feasibility be administered by OWNER on a reimbursable, target estimate basis. For the capital expenditure, design-construction phase SSW recommend a fixed fee with incentives based on the capital budget estimate. A firm price, turnkey approach is not recommended due to the risk monies required which will also artificially unbalance the capital estimate.

9.5 Capital Cost Summary

Mine Facilities	CDN.
General	$,000
Access road	2,200
Site grading, dams, air strip, site ground water monitoring	1,500
Sub-total	3,700
Ore Handling, Crushing and Screening	
Ore handling, crushing and screening	4,500
Sub-total	4,500
Process Plant	
Grinding	1,200
Floatation	1,900
Solid liquid separation	900
Concentrate drying, regrind, bagging	2,600
Product storage and loadout and building	6,100
Sub-total	12,700
Ancillary Facilities	
Equipment maintenance shops	800
Mill shops	300
Explosives magazines	100
Mine dry and engineering office	900
First aid, security, safety buildings	100
Tank farm and dispensing	100
Water storage and treatment	300
Camp and recreational facilities, sewage	1,200
Main sub-station and distribution	600
Communications	100
Generating Station and Reticulation	2,600
Sub-total	7,100

Indirects		
Off-site housing	400	
Engineering and project management	4,400	
Catering	1,600	
Insurances	100	
Transportation	300	
Temporary construction facilities	200	
Capital spares	600	
Sub-total	7,600	
Total Mine Facilities		$ 35,600
Mine Development and Owner Costs		
Owner's costs	1,500	
Hoist headframe		
Underground equipment	4,100	
Pre-production underground development	5,400	
Total Mine Development and Owner's Costs		$ 11,000
Total Pre-production Cost	46,600	
Working Capital	3,200	
GRAND TOTAL - PRE-PRODUCTION COST		$ 49,800

10.0 MARKETING

From discussions and enquiries it appears that the barite market in North America is faced with a significant amount of over-capacity. A number of consolidations within the barite industry in the last several years has been made. In 1987, there were 29 barite producing locations in North America. One of these plants, the barite plant of M-I Drilling Fluids Canada, Inc. at Watson Lake, was not operating but two plants in Alberta had a capacity of 165,000 tpy.

The total Canadian barite market in 1987 and 1988 was about 40,000 tons per year. The total U.S. market in 1988 was about 2 million tons, of which 400,000 tons was produced in the U.S. The six leading companies supplied over 90% of this barite. The major companies are in the drilling mud business and normally 90% of barite goes into drilling mud. Smaller producers selling their barite to major producers often need to do so at a discount. The delivered price into the U.S. for a ground drilling mud grade barite is around $ 70 per ton (U.S.).

World production of barite is 1988 was approximately 4.6 million tons. This is significantly below the estimated world production of 8.8 million tons in 1980. China is the major supplier of crude barite to the U.S. As drilling activity around the world increases, there will be ample capacity to meet the future supply, provided that the plants have been properly mothballed to enable their efficient operation.

In the short-term, the barite market does not look good. In the longer term, drilling for oil and gas in the Beaufort Sea is expected to increase which would increase the demand for barite. Any plant constructed in the Yukon would have a natural advantage for any work done in the Arctic or Alaska itself.

For purposes of this prefeasibility assessment, it is assumed that 20,000 tonnes/year @ $ 100 (Canadian) can be marketed. The expected increase in gas and oil drilling activity (Beaufort and N.E. British Columbia) during the mid to late 1990's will result in a considerable increase in barite demand. It is assumed that Western Canadian demand will increase and Barytex's market share will also increase to provide good 'upside' potential for project economics.

11.0 ECONOMICS

11.1 Summary

Before tax Internal Rate of Return = 43% based on the following:

Ore provides a net smelter return of $ 80.00 per tonne at the mine based on the following grades and metal prices:

Grades		Metal prices
Lead	2.27%	lead $ .51/lb.
Zinc	9.78%	zinc $ .90/lb.
Barite	32.36%	barite $ 100/tonne

Financing options, for example, a $ 20 m loan repaid over a five (5) year period would result in improved project economics up to a potential before tax IRR of 53%.

PRELIMINARY PROJECT ECONOMICS

DATE: 31ST OCTOBER 1989

MINE MILL

Reported in @000

YEAR	-1	1	2	3	4	5	6	7	8	9	10	TOTAL
REVENUE		20960	42000	42000	42000	42000	42000	42000	42000	42000	42000	398960
CAPITAL COST	31650	11332	5755	2079	525	3879	1164	945	945	945		59219
OPERATING COST		7273	18287	18287	21680	22050	22050	22050	22050	22050	22050	197827
TOTAL COST	31650	18605	24042	20366	22205	25929	23214	22995	22995	22995	22050	257046
NET CASH FLOW	-31650	2355	17958	21634	19795	16071	18786	19005	19005	19005	19950	141914

IRR 42.71%

CAPITAL & OPERATING COST PROFILE DATE: 31ST OCTOBER 1989

MINE MILL Reported in @000

DESCRIPTION	-1	1	2	3	4	5	6	7	8	9	10	TOTAL
PRODUCTION												
Tonnes	0	262	525	525	525	525	525	525	525	525	525	4987
TOTAL PRODUCTION	0	262	525	525	525	525	525	525	525	525	525	4987
CAPITAL COST												
Shaft	0	2300	0	0	0	2513	0	0	0	0	0	4813
U G Development	0	382	2743	995	525	1366	1164	945	945	945	0	10010
Sub Total	0	2682	2743	995	525	3879	1164	945	945	945	0	14823
U G Equipment	0	0	1084	1084	0	0	0	0	0	0	0	2168
Hoist / HF	0	0	1928	0	0	0	0	0	0	0	0	1928
Sub Total	0	0	3012	1084	0	0	0	0	0	0	0	4096
Mine Facilities												
Mill & Infrastructure	29000	6600	0	0	0	0	0	0	0	0	0	35600
Owners Costs	750	750	0	0	0	0	0	0	0	0	0	1500
Working Capital	1600	1600	0	0	0	0	0	0	0	0	0	3200
TOTAL CAPITAL COST	31350	11632	5755	2079	525	3879	1164	945	945	945	0	59219
OPERATING COST												
Pit Tonnes	0	262	262	262	26	0	0	0	0	0	0	812
@ c/t $17.76	0	4653	4653	4653	462	0	0	0	0	0	0	14421
Sub Total	0	4653	4653	4653	462	0	0	0	0	0	0	14421
U G Tonnes	0	0	262	262	499	525	525	525	525	525	525	4173
@ c/t $32.00	0	0	8384	8384	15968	16800	16800	16800	16800	16800	16800	133536
Sub Total	0	0	8384	8384	15968	16800	16800	16800	16800	16800	16800	133536
Mill Tonnes	0	262	525	525	525	525	525	525	525	525	525	4987
@ c/t $10.00	0	2620	5250	5250	5250	5250	5250	5250	5250	5250	5250	49870
Sub Total	0	2620	5250	5250	5250	5250	5250	5250	5250	5250	5250	49870
TOTAL OPERATING COST	0	7273	18287	18287	21680	22050	22050	22050	22050	22050	22050	197827
GRAND TOTAL	31350	18905	24042	20366	22205	25929	23214	22995	22995	22995	22050	257046

12.0 RECOMMENDATIONS

- Conduct an in-depth marketing study considering international smelters and combining shipments with other companies.

- Conduct metallurgical testing and chemical analysis of both concentrates to address mercury content, and other potential deleterious elements which may contribute to a potentially fatal flaw.

- Further drilling to delineate reserves and higher ore grades.

- Investigate federal and provincial (Yukon, B.C.) agencies for mining tax benefits and/or other forms of assistance; e.g. power generation.

- Refine the prefeasibility study in keeping with the foregoing recommendations.

- Undertake further metallurgical testing with samples taken from forthcoming drill program.

- Undertake a soils drilling and sampling program at feasibility study level for environmental purposes; e.g. ground water regime.

- Investigate to determine if the access road and infrastructure costs can be shared with other multi use areas in the region.

- Eventually commission a rock mechanics study to refine blasting pattern, examine shaft, VCR, and tunnelling stability.

13.0 EXHIBITS

1.0 Preliminary General Layout

2.0 Longitudinal Section
Drill Hole Intersections

3.0 Open Pit and Waste Dump

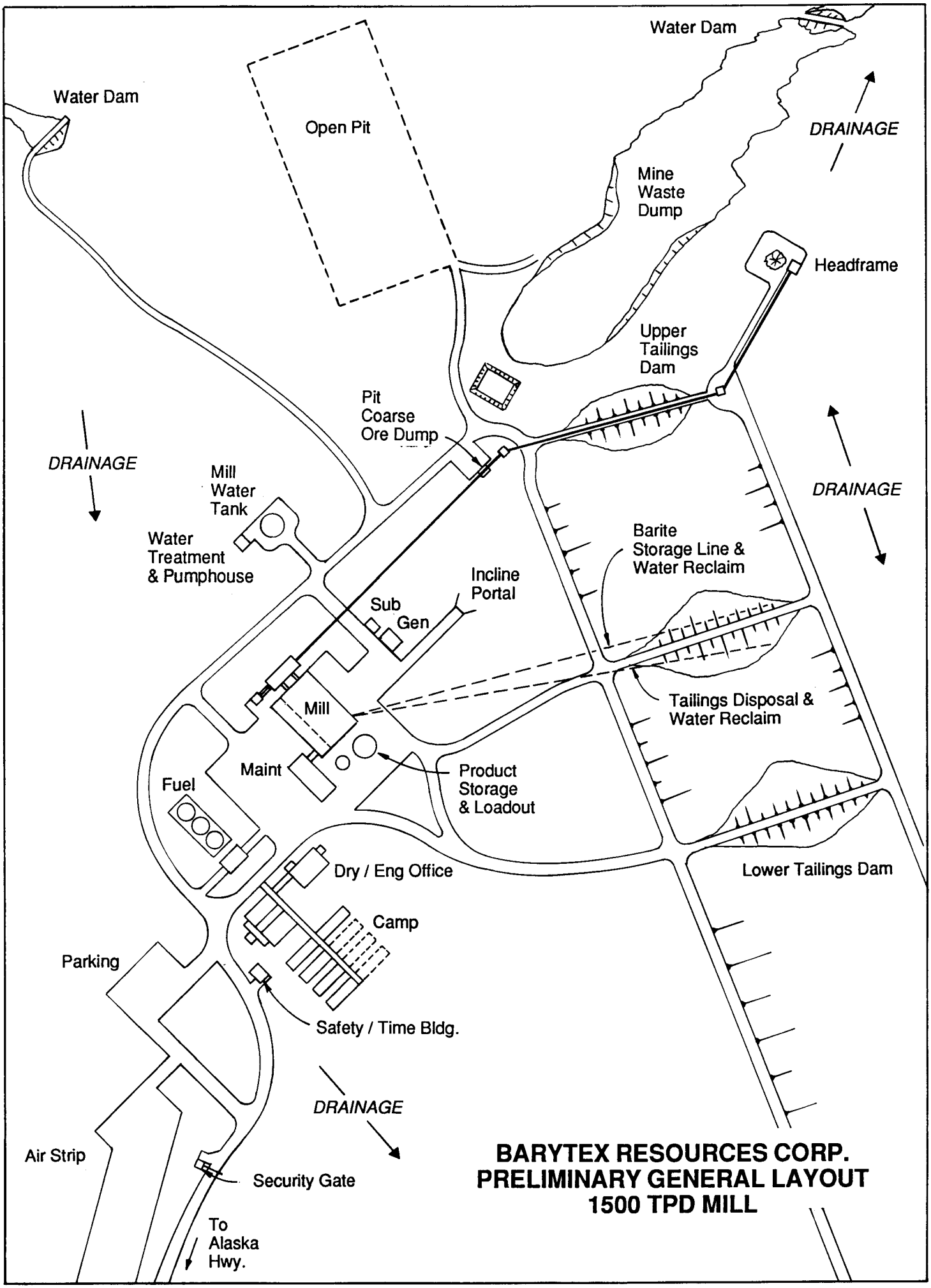
4.0 Schematic Shaft Section

5.0 Schematic Level Plan/Stoping Method

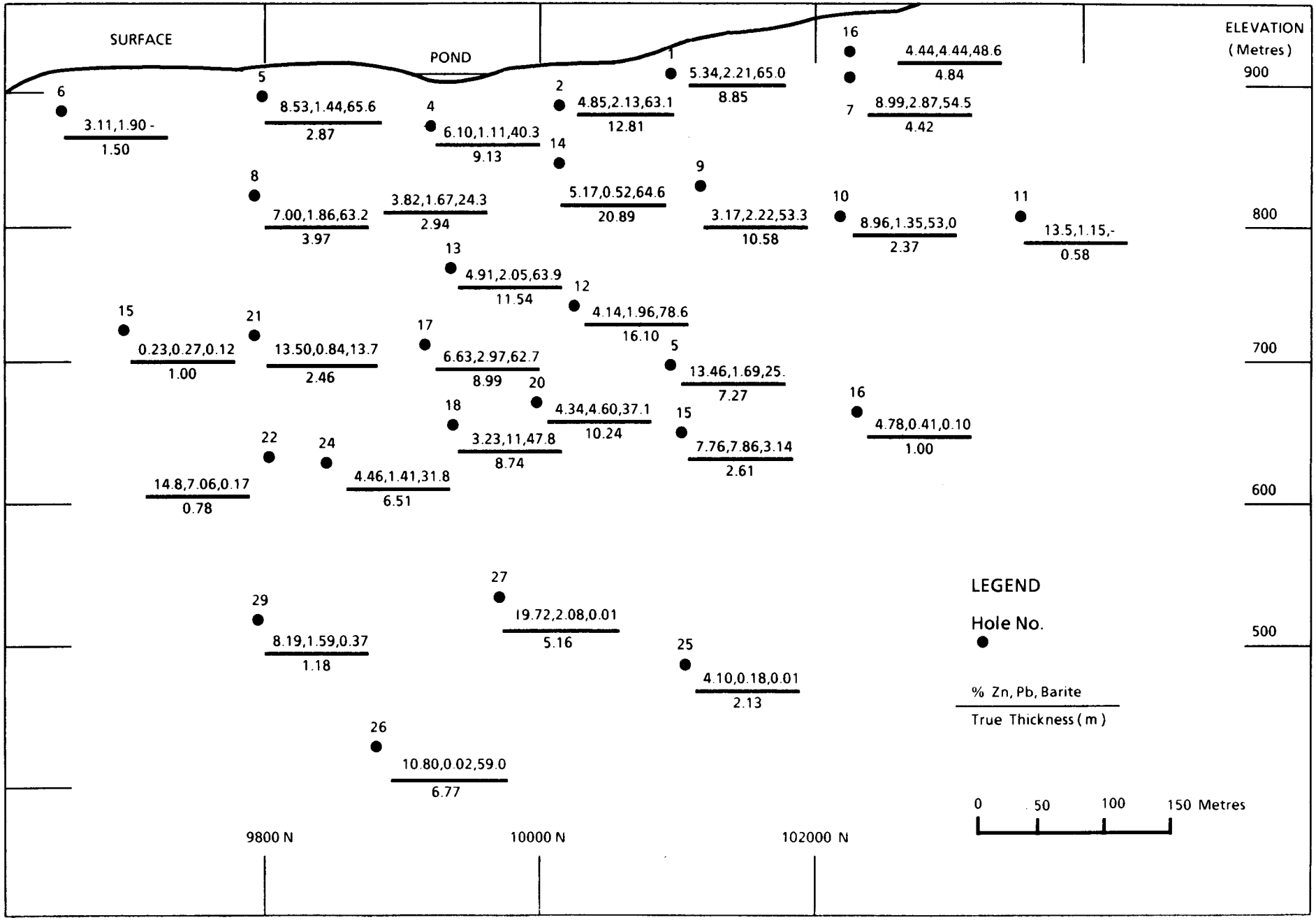
6.0 Proposed Mill Flow Sheet

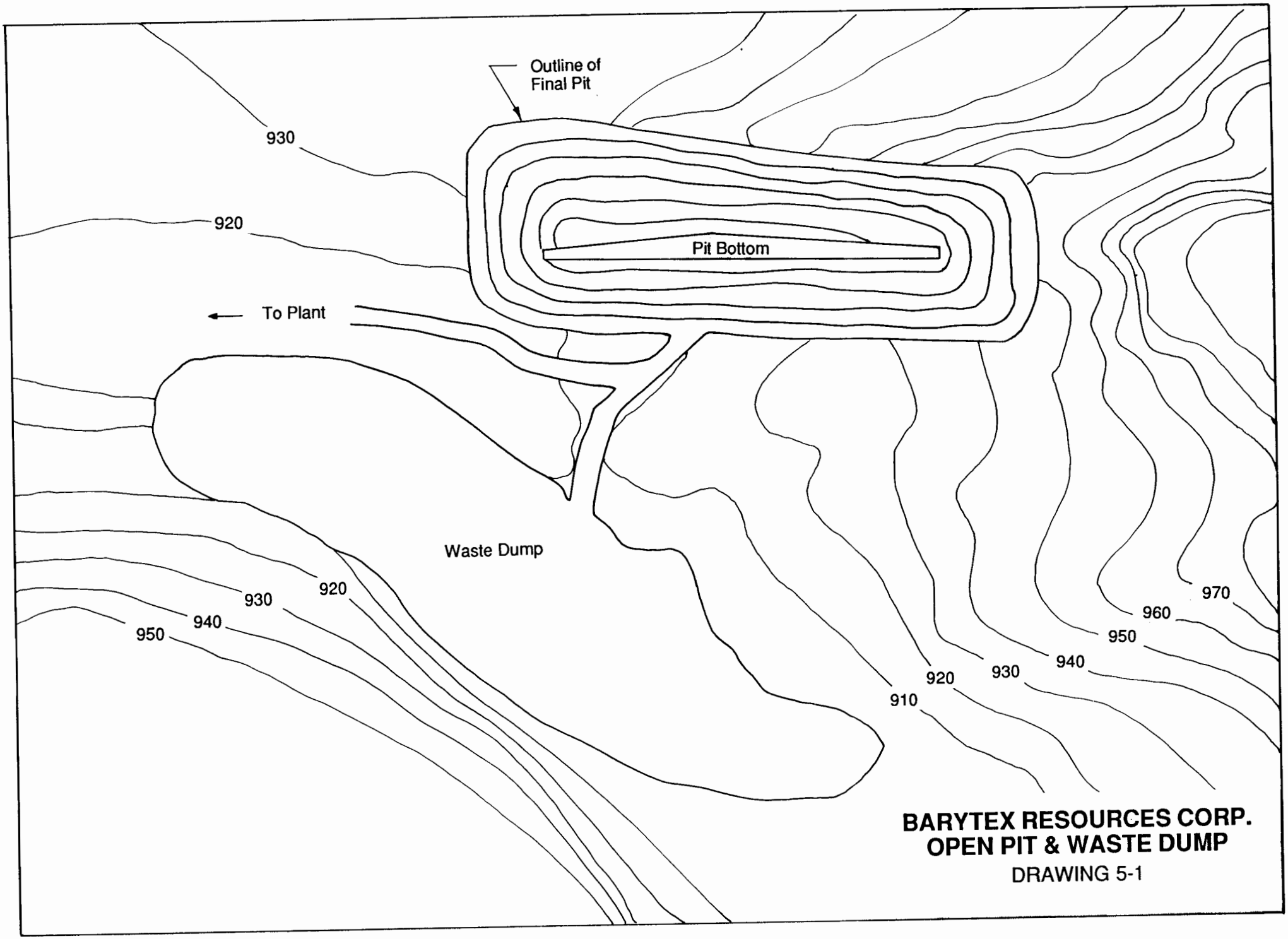
7.0 Barite Flow Sheet

8.0 Preliminary Development Schedule


Water Dam
Water Dam
Open Pit
DRAINAGE
Mine
Waste
Dump
Headframe
Upper
Tailings
Dam
Pit
Coarse
Ore Dump
DRAINAGE
DRAINAGE
Mill
Water
Tank
Water
Treatment
& Pumphouse
Barite
Storage Line &
Water Reclaim
Incline
Portal
Sub
Gen
Mill
Tailings Disposal &
Water Reclaim
Maint
Product
Storage
& Loadout
Fuel
Dry / Eng Office
Lower Tailings Dam
Camp
Parking
Safety / Time Bldg.
DRAINAGE
Air Strip
Security Gate
To
Alaska
Hwy.
BARYTEX RESOURCES CORP.
PRELIMINARY GENERAL LAYOUT
1500 TPD MILL

DWG. 4-1
LONGITUDINAL SECTION DRILL HOLE INTERSECTIONS




Outline of
Final Pit
930
920
Pit Bottom
To Plant
Waste Dump
920
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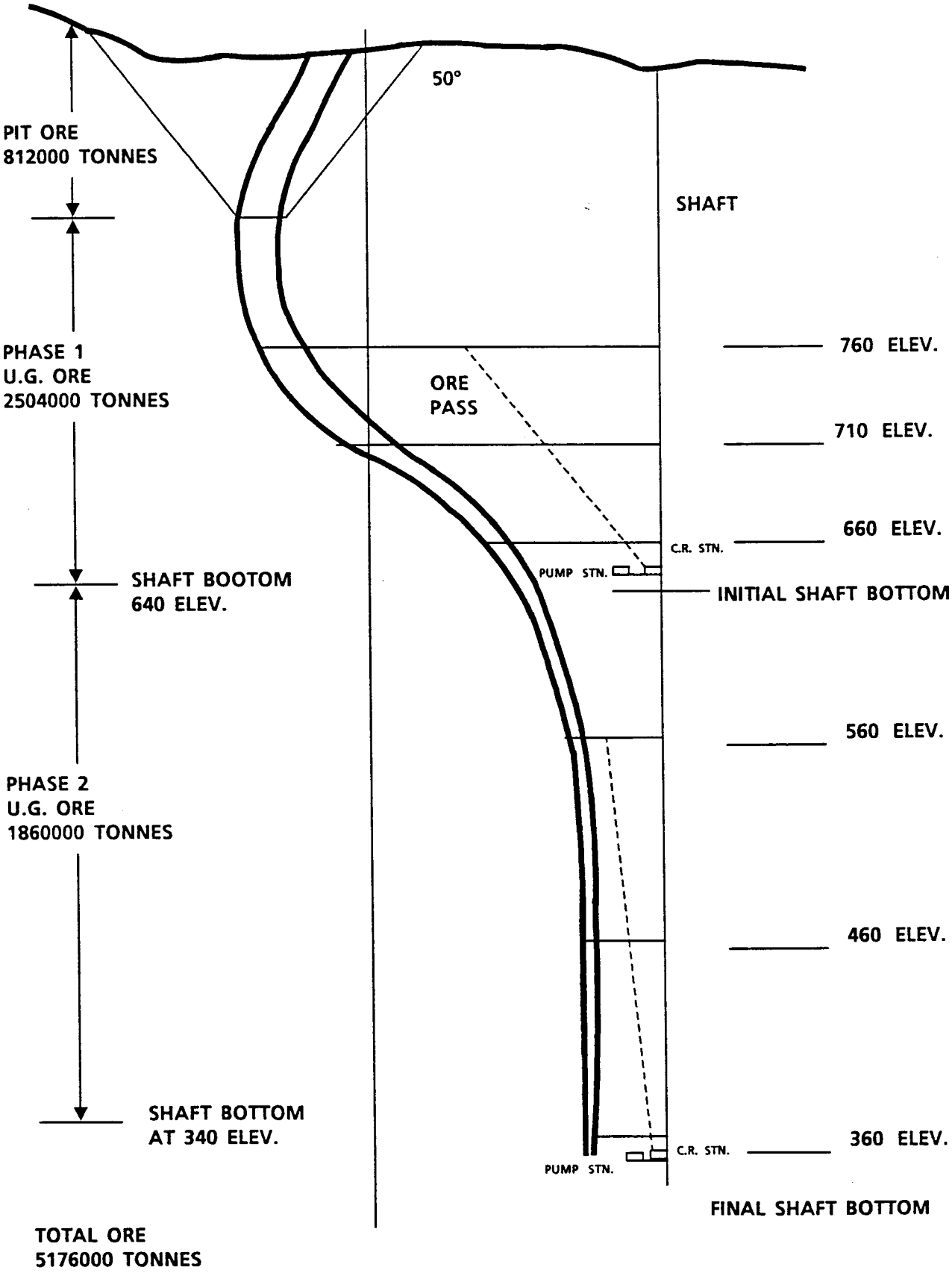
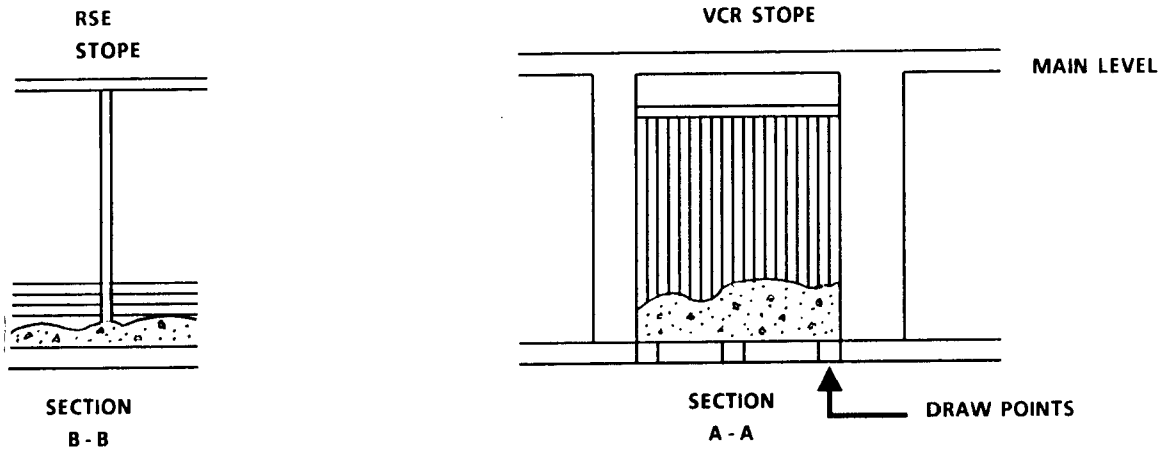
960
970
BARYTEX RESOURCES CORP.
OPEN PIT & WASTE DUMP
DRAWING 5-1

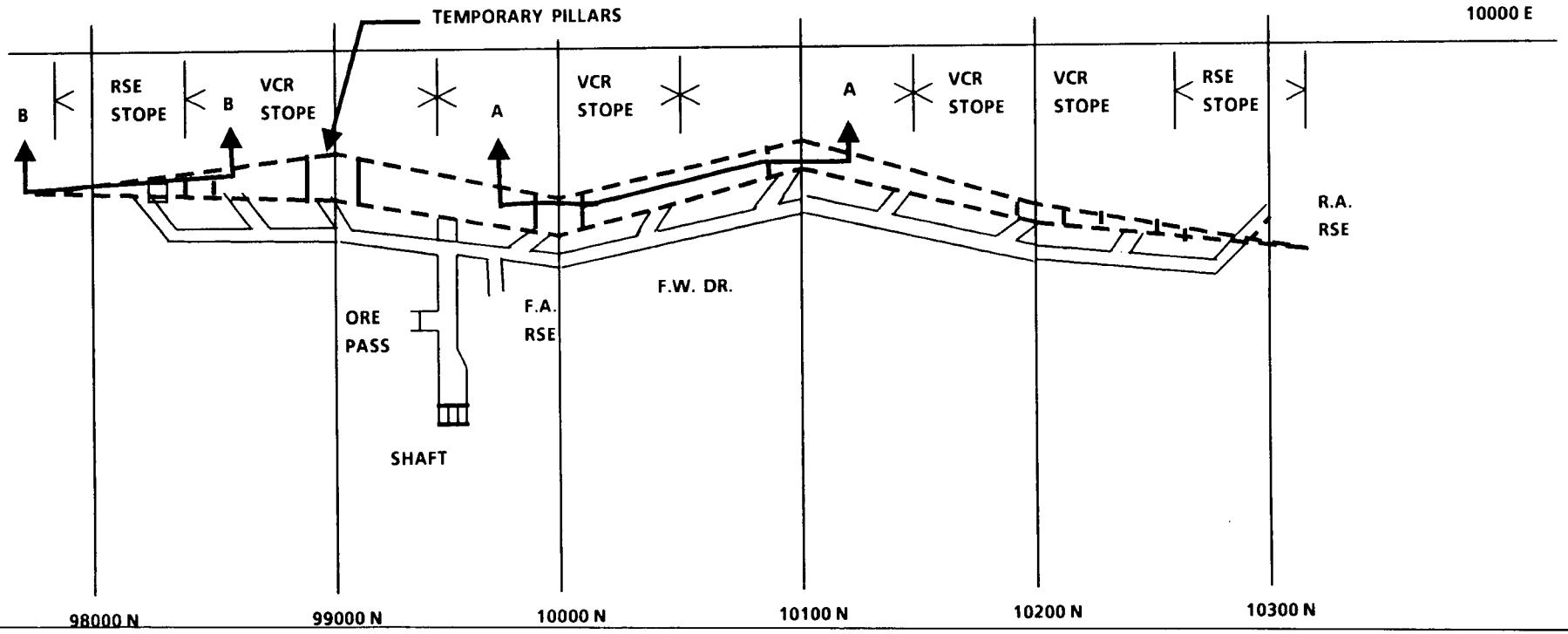
DWG. 5-2
SCHEMATIC SHAFT SECTION 9950 N



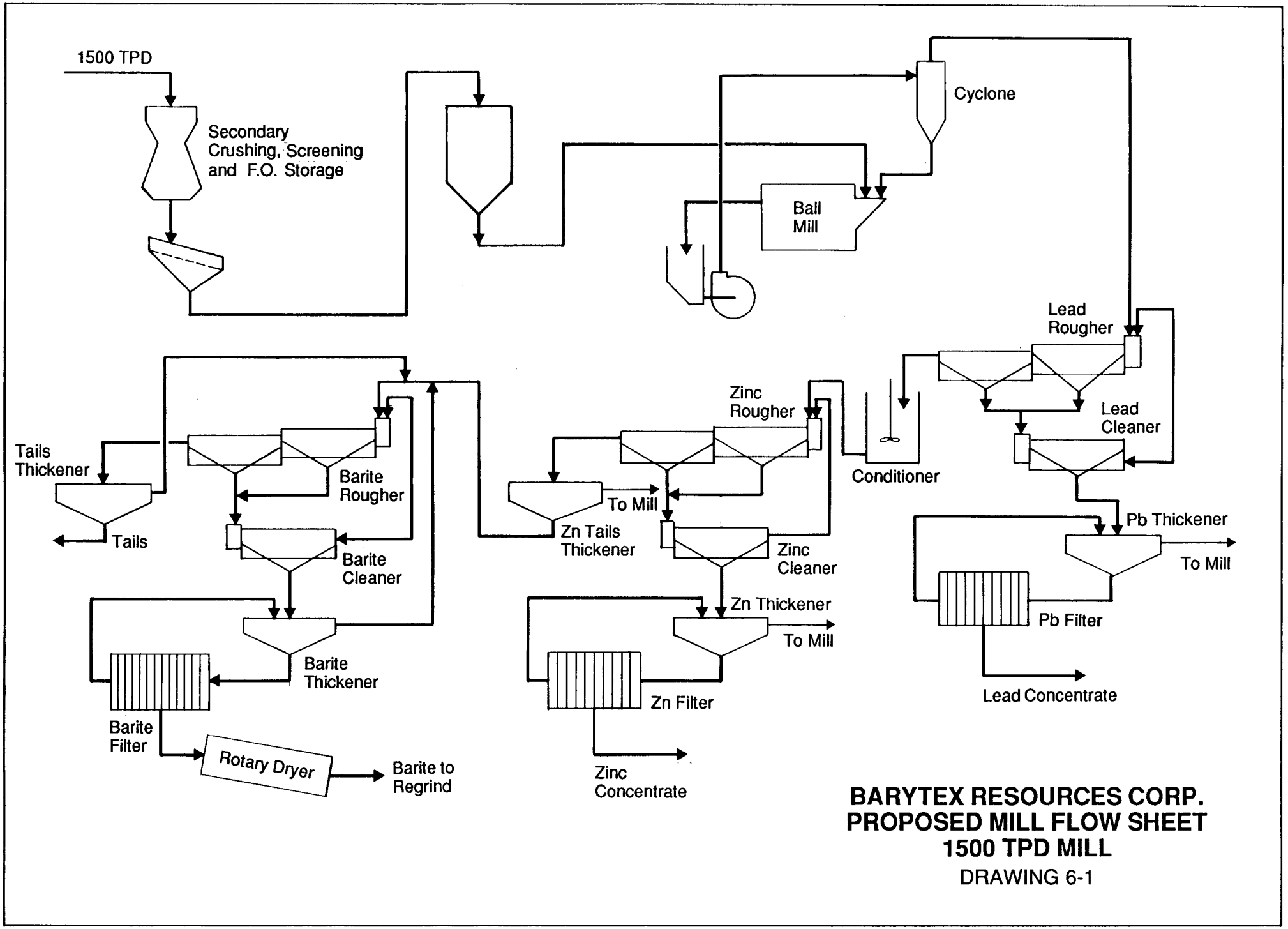
DWG 5-3

SCHEMATIC LEVEL PLAN / STOPING METHOD ELEVATION 660 2ND. LEVEL

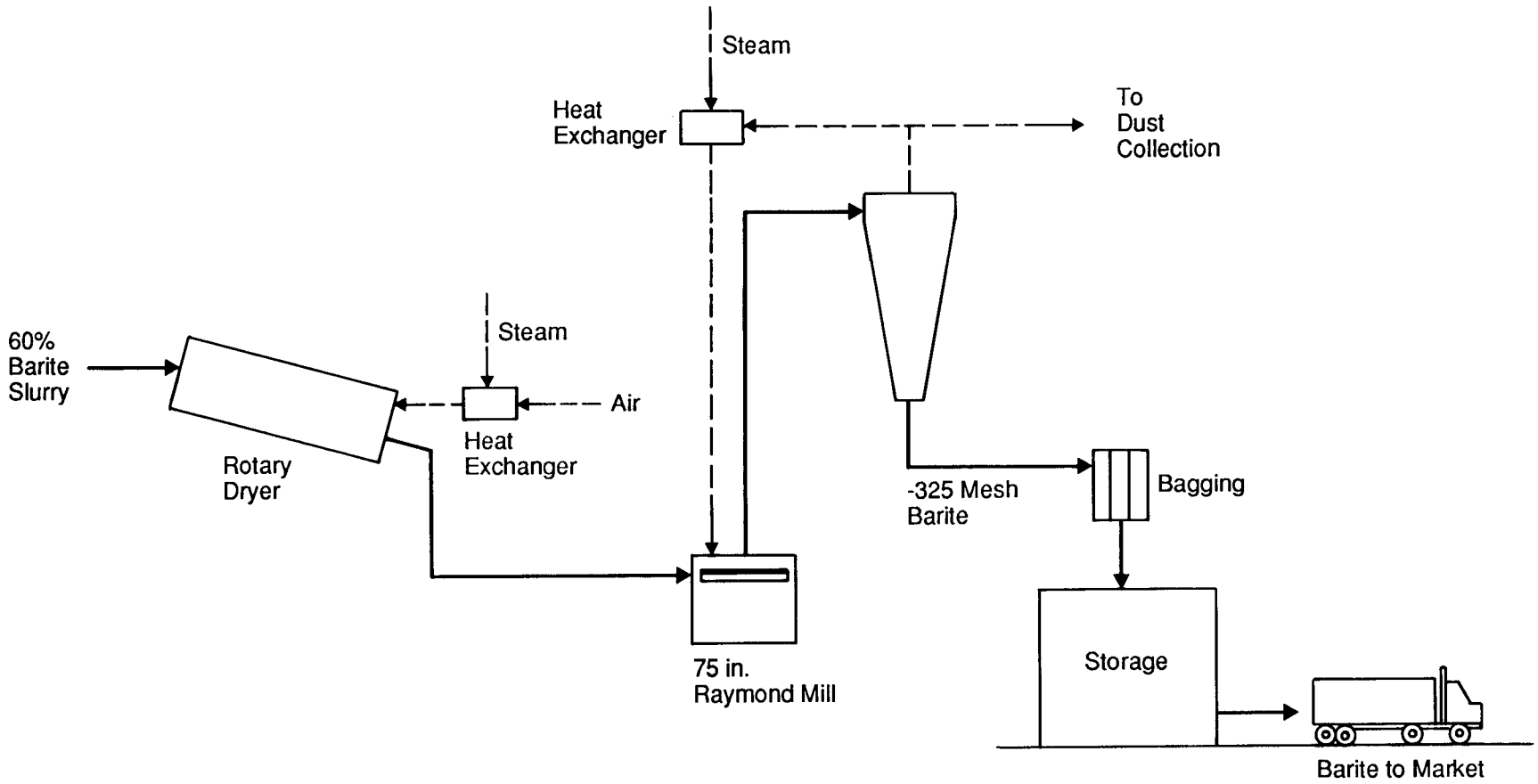




SANDWELL SWAN WOOSTER



BARYTEX RESOURCES CORP.
PROPOSED MILL FLOW SHEET
1500 TPD MILL
DRAWING 6-1



BARYTEX RESOURCES CORP.
BARITE FLOW SHEET

ITEM \ TIME	MONTH																														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M
ROAD BRIDGES & UPGRADE TO CONSTRUCTION STANDARD																															
UPGRADE & REALIGN TO PRODUCTION STANDARD																															
ICE BRIDGE																															
HAUL CONSTRUCTION EQUIPMENT & SUPPLIES																															
CLEAR & SETUP CAMP																															
DRILL PORTABLE WATER WELLS																															
SEWAGE DISPOSAL & WATER TREATMENT																															
COAL RIVER BRIDGE FOUNDATIONS																															
COAL RIVER BRIDGE STRUCTURAL																															
ROAD APPROACH REALIGNMENT																															
AGGREGATE PRODUCTION																															
HAUL CEMENT & CONSTRUCTION MTHS.																															
LOG & CLEAN UP AREA																															
CONSTRUCTION ACCESS AROUND SITE																															
CLEAR & STRIP MILL SITE																															
SITE GRADING & DRAINAGE																															
STRUCTURAL EXC. & CONC. PROCESS FACILITY																															
STR. STEEL, CLADDING & PLATEWORK PROCESS FACILITY																															
PROCESS MECHANICAL INCL. CONVEYORS																															
PROCESS PIPING & VESSELS																															
PROCESS ELECTRICAL & INSTRUMENTATION																															
TAILS DISPOSAL & WATER RECLAIM																															
PRODUCT WEIGHING & LOADOUT																															
MISC. BUILDINGS, ARCHITECTURAL																															
WATER DAM																															
UPPER TAILINGS DAM																															
TAILING DISPOSAL & WATER RECLAIM DAM																															
LOWER TAILINGS DAM																															
UPGRADE AIRSTRIP																															
WATER DAM - OTTER (OPTIONAL)																															
FUEL TANK FARM																															
DIESEL GENERATOR SETS																															
CIVIL FOR GENERATION PLANT																															
ERECT BUILDING & INSTALL GENERATORS																															
ELECTRICAL & CONTROLS																															
MAIN SUBSTATION																															
SITE ELECTRICAL DISTRIBUTION																															
SITE LIQUIDS RETICULATION																															
SITE COMMUNICATIONS																															
PERMITTING																															
SURFACE PLANT COMMISSIONING & START-UP																															

REV.	BY	DATE	REVISION	APP'D.

BY	DATE	PRELIMINARY ISSUE

SSW CAD FILE NO. 2220-001

APPROVED

DATE

B.

SCALE		YR.	MO.	DAY
DRAWN	T.B.	89	10	18
CHECK				
DESIGN				
DES. CHK.				

SANDWELL SWAN WOOSTER

BARYTEX RESOURCES CORPORATION
MEL PROPERTY
PRELIMINARY DEVELOPMENT SCHEDULE
SHEET 1 OF 2

093113

DWG. 112200-001 REV

ITEM \ TIME	MONTH																													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M
COLLAR SHAFT & SINKING HOIST																															
SINK & EQUIPMENT SHAFT																															
INCLINE PORTAL																															
PREPRODUCTION DEVELOPMENT PIT																															
PREPRODUCTION DEVELOPMENT UNDERGROUND																															
MISC. SURFACE BUILDINGS AT SHAFT																															
ERECT HEADFRAME & CLAD																															
MECHANICAL HEADFRAME																															
INSTALL HOIST AND ROPE																															
HEADFRAME & UNDERGROUND ELECTRICAL																															
EXPLOSIVE MAGAZINES																															
COMMISSION & STAFF PERMANENT OFFICES																															
U/G CRUSHING EXCAVATION & CONCRETE																															
U/G CRUSH/CONV/CHUITES MECHANICAL — DEFERRED TO																															
U/G CRUSH ELECTRICAL/CONTROLS — AFTER MONTH 24																															
U/G CRUSH COMMISIONNING																															
PIT PRODUCTION																															
UNDERGROUND MINE PRODUCTION																															
SURFACE & UNDERGROUND VHF																															
OFF-SITE HOUSING																															

REV.	BY	DATE	REVISION	APP'D.

BY	DATE	PRELIMINARY ISSUE

SSW CAD FILE NO. 2220-002

APPROVED

DATE

B.

SCALE		YR.	MO.	DAY
DRAWN	T.B.	89	10	18
CHECK				
DESIGN				
DES. CHK.				

SANDWELL SWAN WOOSTER

BARYTEX RESOURCES CORPORATION
MEL PROPERTY
PRELIMINARY DEVELOPMENT SCHEDULE
SHEET 2 OF 2

093113

DWG. 112200-002 REV