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82M/4
Adams
Lake &
Samatosum

SAMATOSUM DIVISION
FACT SHEET

PROPERTY: Samatosum Joint Venture
LOCATION: 40 Km East of Barriere, B.C.
OWNERS: Minnova Inc. 70%; Rea Gold Corporation 30
ECONOMIC MINERALS: Silver, Gold, Copper, Lead, Zinc
DATE OF DISCOVERY: July, 1986
FEASIBILITY STUDY STARTED: January 1988
CONSTRUCTION BEGAN: October 3, 1988
PRODUCTION 100% ACHIEVED: July 1, 1989
OFFICIAL OPENING: October 25, 1989

INFRASTRUCTURE & FACILITIES \$23.7 MILLION
PRE-PRODUCTION DEVELOPMENT 7.2
TOTAL CAPITAL COST \$30.9 MILLION -excluding pre-production
revenues.

MANPOWER: 67 Persons on Site

NOMINAL PRODUCTION RATE: 422.5 Tonnes per Day

1990 PRODUCTION FORECAST: 6500 Tonnes Copper Concentrate
6000 Tonnes Zinc Concentrate
4500 Tonnes Lead Concentrate

These Concentrates Will Contain:
6,250,000 Troy Oz. Silver
10,500 Troy Oz. Gold

ore avg: 1.2-1.4 g/t Au
at present.

GEOLOGICAL DESCRIPTION OF OREBODY:

The Samatsum Deposit is located in the Adams Plateau District of British Columbia, an area roughly bounded by the North and South Thompson Rivers to the south, west, and north; and, Adams Lake to the east. The Deposit area is underlain by rocks of the Paleozoic Eagle Bay Assemblage, which generally strike northwesterly and dip 20 to 45 degrees to the northeast. The Deposit is located in the central portion of this package in association with mafic pyroclastics, sericitic tuffs, cherts, muddy tuffs (a mixture of tuffs, cherts, wackes, argillites, and debris flows), and sediments (argillites, mudstones, and greywackes). The ore zone consists of both a quartz vein and massive component. Both ore types contain the following economical minerals: tetrahedrite (a copper, silver mineral), sphalerite (zinc sulphide), galena (lead sulphide), chalcopyrite (copper sulphide), and electrum (gold, silver). Gangue minerals are pyrite (11%), quartz (32%), and dolomite (19%). Both components of the ore zone display intense disharmonic deformation on a local scale, in the upper limits of the Phase 1, which straighten out down-dip to a flat plunging, tabular orebody averaging 6.0 meters thick (ranges from less than 1.0m to 15m) by 500 meters long by 80 meters high, and nearly always occurring at or near the interface of the sericite tuffs and cherts in the structural hangingwall and the muddy tuff in the structural footwall.

MINING ORE RESERVES:

As of July 31, 1989 - Diluted Mine Reserves:

	Tonnes	Ag		Au		Cu	Pb	Zn
		g/t	oz/SDT	g/t	oz/SDT	%	%	%
Open Pit	493,496	993	29.0	1.8	.05	1.2	1.6	3.6
Underground	273,186	544	15.9	1.1	.03	0.8	1.0	1.8
Total	766,682	833	24.3	1.6	.05	1.1	1.4	3.0

MINE DEVELOPMENT:

The Mine is scheduled to supply 773,500 tonnes of silver ore over a 5 year life. The initial 500,300 tonnes of ore are produced from the open pit while the last 273,200 tonnes are to be produced from underground.

The open pit involves moving 3,471,000 m³ of waste for a 18.4:1 tonnes waste to tonnes ore strip ratio.

As of August 1990 the open pit has moved 3,092,048 m³ of waste and 65,509 m³ of ore for a strip ratio of 47:1.

The open pit mining was contracted out to Ledcor Industries Ltd. of Vancouver, B.C. in late February, 1989. The mine-mill haulroad was built in March and open pit mining began in April. By the end of May, ore had been developed to ensure the mill feed supply.

	<u>Initial Mining Equipment</u>	<u>Current Equipment</u>
Loading:	1 - Cat 992C - 12m ³ Loader 1 - Cat 245 - 2m ³ Backhoe 1 - Cat 988 - 7m ³ Loader	1 - Cat 245 - 2m ³ Loader 1 - Cat 988 - 7m ³ Loader
Haulage:	3 - Cat 773 B - 50 tonne Truck 2 - Cat 769 C - 35 tonne Truck	2 - Cat 773B - 50 t Truck
Drill:	1 - Drilltech D40K-17cm blastholes 1 - Gardner Denver HydraTrac 10cm blastholes 1 - Airtrac - 8 cm blastholes	1 - Gardner Denver HydraTrac 10 cm blastholes 1 - Airtrac - 8 cm blastholes
Tractors:	1 - D9L 1 - D8L 1 - D6 (wide pads)	1 - D8K
Misc.	1 - ANFO Loading Truck-9,000 kg 1 - Watertruck 1 - Grader (G-14) 1 - Lube Truck	1 - ANFO Loading Truck 9000 kg 1 - Watertruck 1 - Grader (G-14) 1 - Lube Truck

Mining currently involves 15 people, working 4 days per week on one - ten hour shift per day to move 1,500 m³ per day.

MILL PROCESS:

The Mill is designed to average 422.5 tonnes per day. A Mill design rate of 21 tonnes per hour was used for equipment sizing.

Ore is fed to the crushing circuit through a 46 cm (18") square grizzly.

It is crushed with a 91cm x 122 cm (36" x 48") Traylor jaw crusher to 76mm (3") size. This material is screened and product oversize is carried to a 5 1/2' shorthead crusher which reduces the ore size to 13mm (1/2"). The crushed product is then stored in a 1500 tonne fine ore bin.

Ore is drawn out of the fine ore bin by two variable speed conveyors to feed a 2.4m x 3.0m (8' x 10') ball mill. The ball mill is charged with 76mm and 51mm (3" and 2") steel balls to grind the ore down to a separation size of 60% - 200 mesh.

This slurry reports to the Cu-Ag, Pb roughers at 38% solids. SO₂ is added to depress the Zn.

Collectors and frothers are added to float the Cu-Ag/Pb concentrate which goes through one cleaning stage. The Cu-Ag/Pb float from the cleaner stage goes to reverse flotation where the Pb is depressed and the Cu-Ag is removed by flotation. The Zinc is activated by copper sulphate and cleaned in a separate zinc flotation circuit.

The concentrates are fed to three thickeners as Cu-Ag concentrate, Pb concentrate and Zn concentrate.

As the concentrates thicken they are transferred to stock tanks from where they are individually fed to a Larox filter press for moisture reduction to 7% level.

The Pb and Zn concentrates are trucked in bulk to Asarco, East Helena, Montana and Cominco, Trail, B.C. respectively. The Cu-Ag is bagged in 2-ton bags and shipped to SGM, Belgium and DOWA, Japan.

EMPLOYMENT:

Minnova's current staffing needs have been met with an on-roll figure of 52 employees. No further staffing requirements are anticipated at this time.

Forty percent of the initial staff positions were filled by local applicants. The remaining positions, because of the expertise and qualifications required to perform the jobs, were filled from external applicants and inter-company transfers.

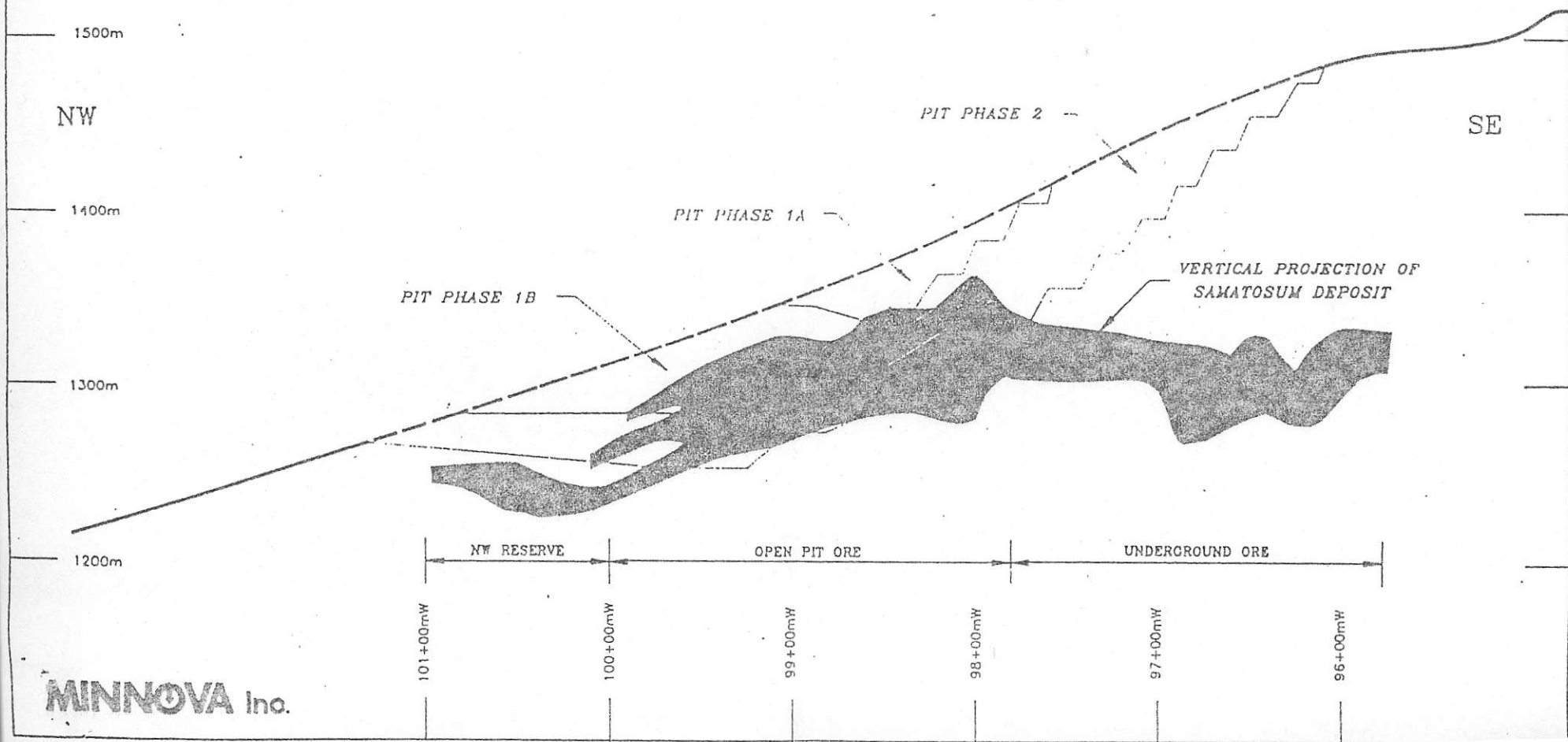
PROJECT MANPOWER:

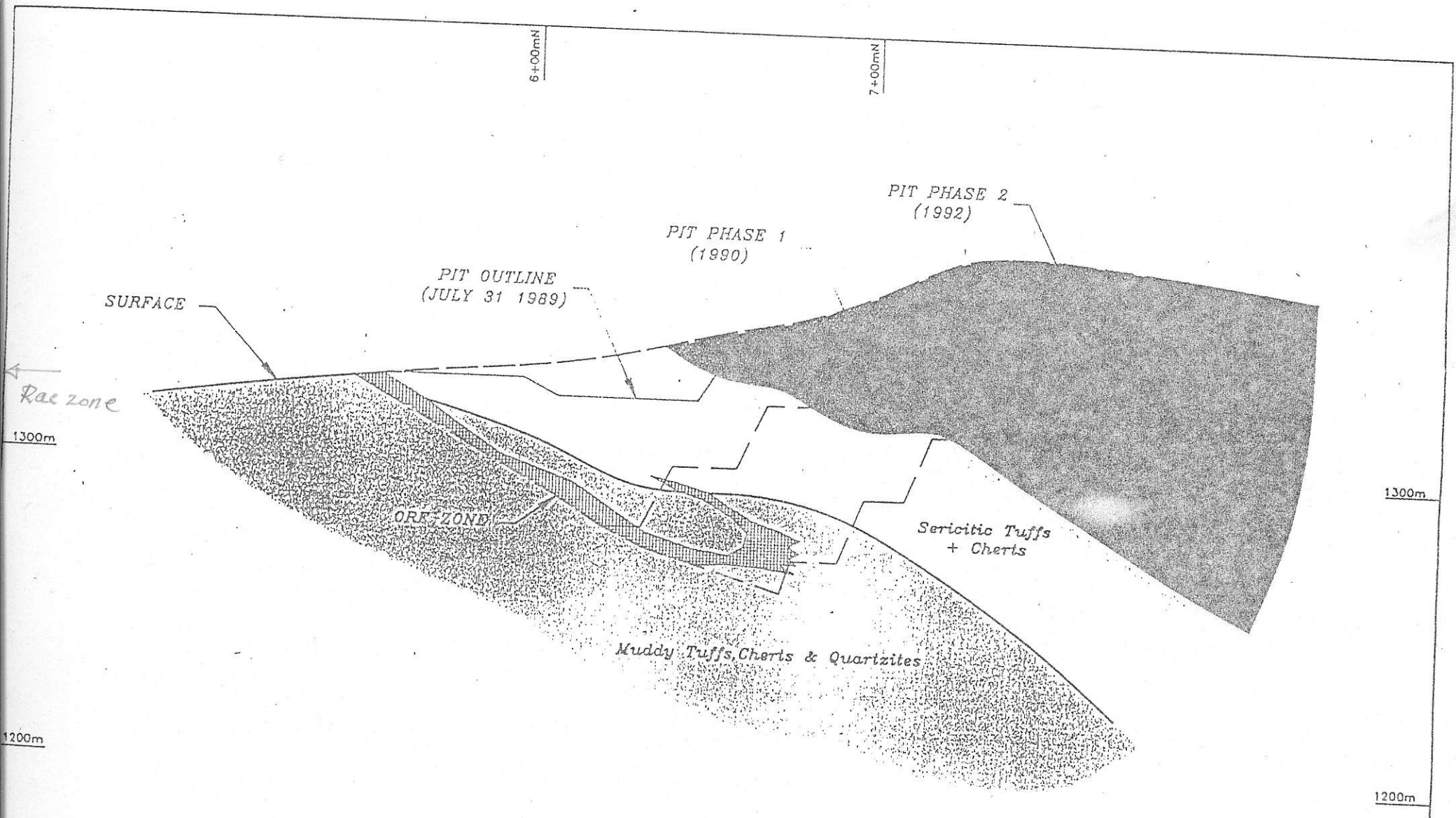
Mining Contractor	15
Engineering/Geology	8
Mill Operations, Assay, and Metallurgy	29
Mill Maintenance	7
Administration	8
TOTAL	<u>67</u>

SAMATOSUM JOINT VENTURE
VERTICAL LONGITUDINAL PROJECTION OF OREBODY
SUPERIMPOSED ON LINE 6+50mN THROUGH OPEN PIT
(LOOKING NORTH EAST)

BF/sg

JANUARY 1989





SAMATOSUM JOINT VENTURE

CROSS SECTION

LOOKING NORTH WEST ALONG LINE 99+00mW

BF/sg

AUGUST 1989

SAMATOSUM PROJECT - FLOW SHEET

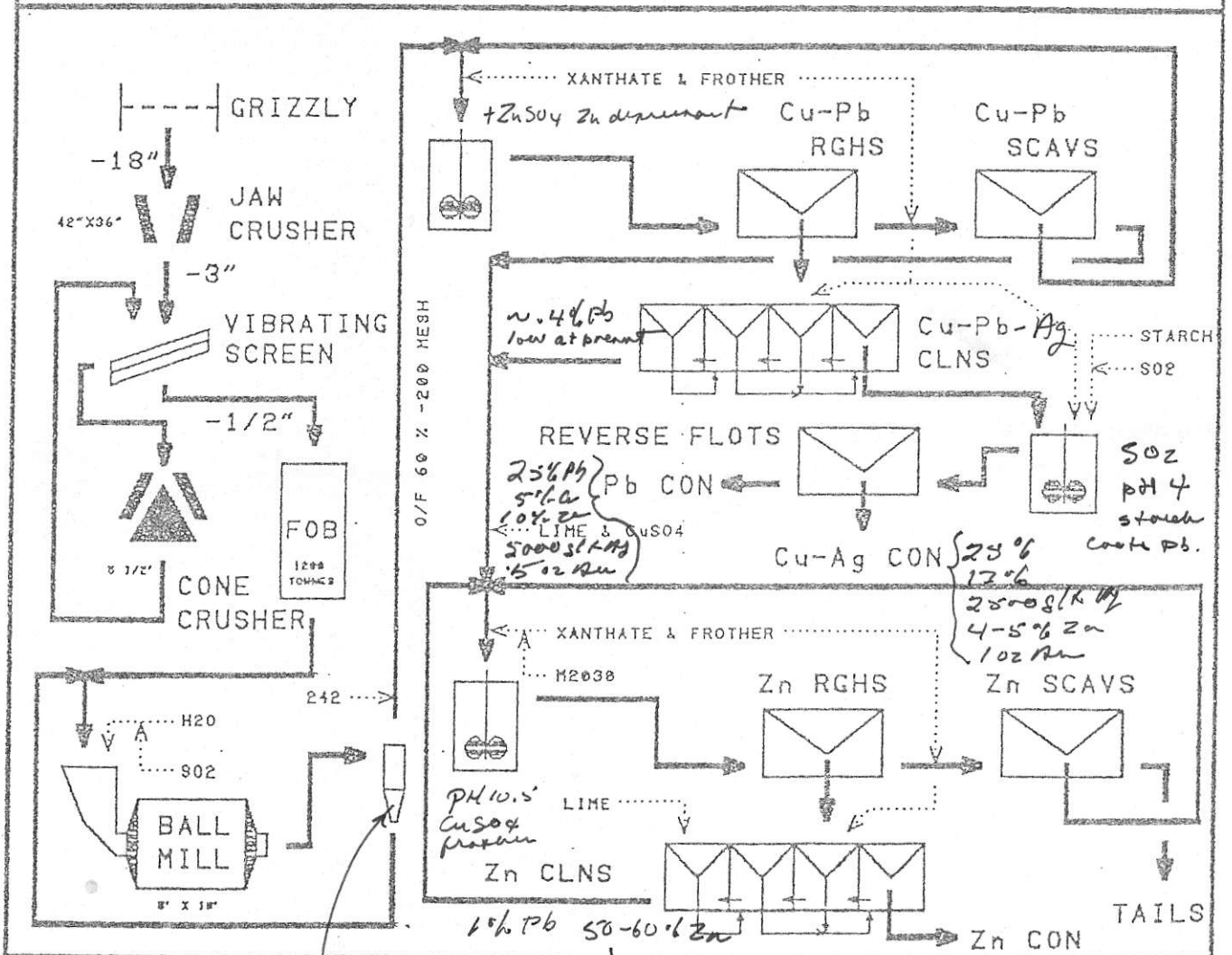


FIGURE 3

55% - 200 mesh
 mill costs ~ \$35/t
 problem wanting high Zn if low Zn in head.

one filter does 3 cons - washed between runs
of Cu, Pb & Zn

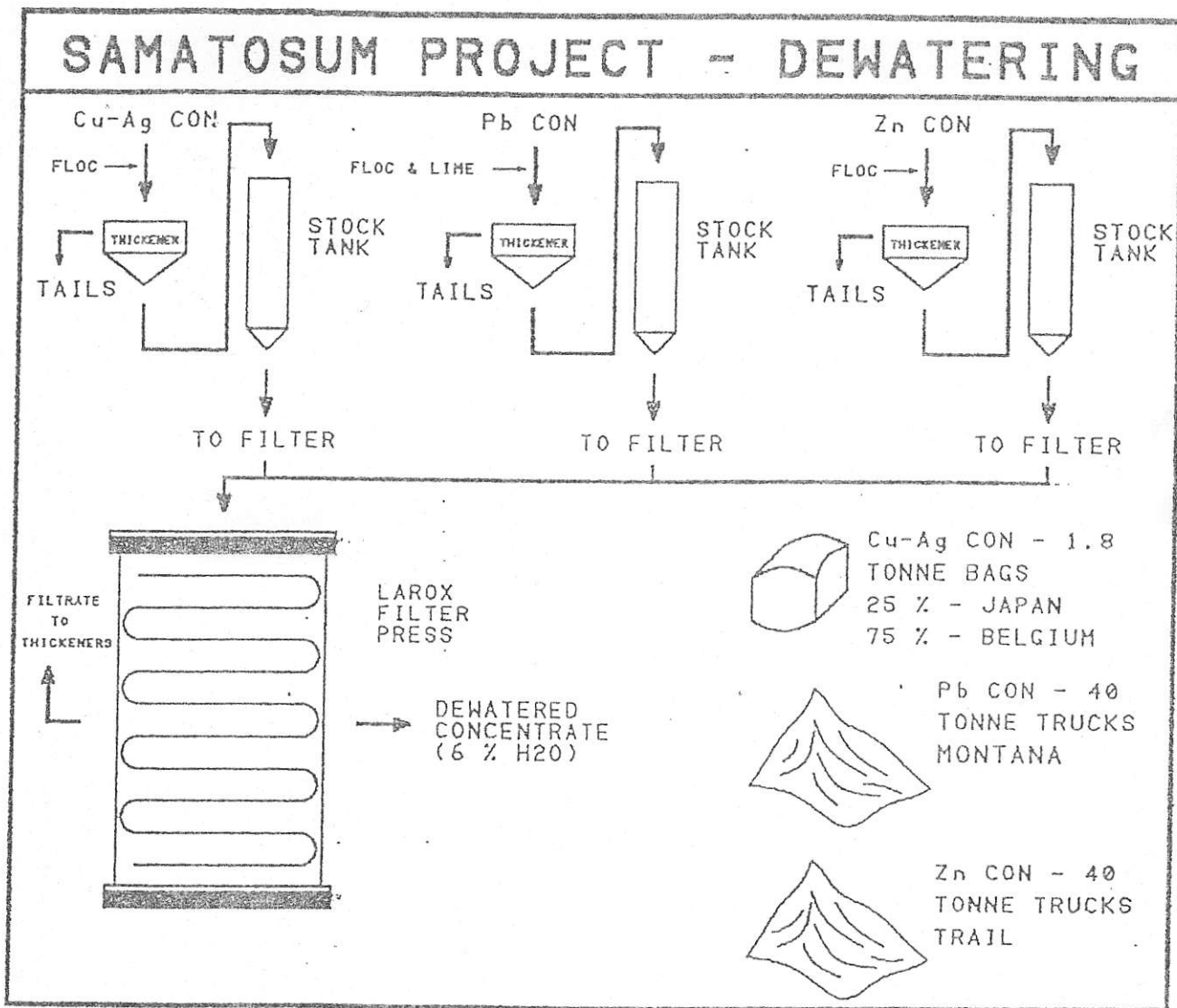


FIGURE 4

70% of profit in Ag
next is Zn.

SAMATOSUM PROJECT - EFFLUENT TREATMENT

