



Bergvesenet

Postboks 3021, N-7441 Trondheim

Rapportarkivet

Innlegging av nye rapporter ved: Peter

Bergvesenet rapport nr 5902	Intern Journal nr Kasse nr. 61	Internt arkiv nr	Rapport lokalisering	Gradering
Kommer fra ..arkiv Folldal Verk AS	Ekstern rapport nr	Oversendt fra Folldal Verk a.s.	Fortrolig pga	Fortrolig fra dato:
Tittel SELVÅG, ANDØRJA-PROSJEKTET				
Forfatter Søyland, Johannes		Dato År 1988	Bedrift (oppdragsgiver og/eller oppdragstaker) Vesterålen Bergindustri A/S	
Kommune Ibestad	Fylke Troms	Bergdistrikt	1: 50 000 kartblad 13321	1: 250 000 kartblad Narvik
Fagområde Prøvedrift, Prosjektorientering		Dokument type	Forekomster (forekomst, gruvefelt, undersøkelsesfelt) Andørja	
Råstofgruppe Malm/metall		Råstofftype Fe		
Sammenheng, innholdsfortegnelse eller innholdsbeskrivelse Rapporten er en samling med dokumenter som har vært benyttet til presentasjon av Andørjaprojektet. Den inneholder skisser til oppredningsanlegg og forslag til brytningsplan for forekomsten på Andørja. Den inneholder videre en tidsplan for prosjektet.				

SELVÅG -

ANDØRJA

PROSJEKTET

Europas Første
Helt Nye

- Magnetitt Virksomhet
På Over 80 År



SELVÅGPROSJEKTET

GROVE-TREKK

Produksjon 180.000 Tonn Slig

● Marked Heavy Medea
Europa - USA

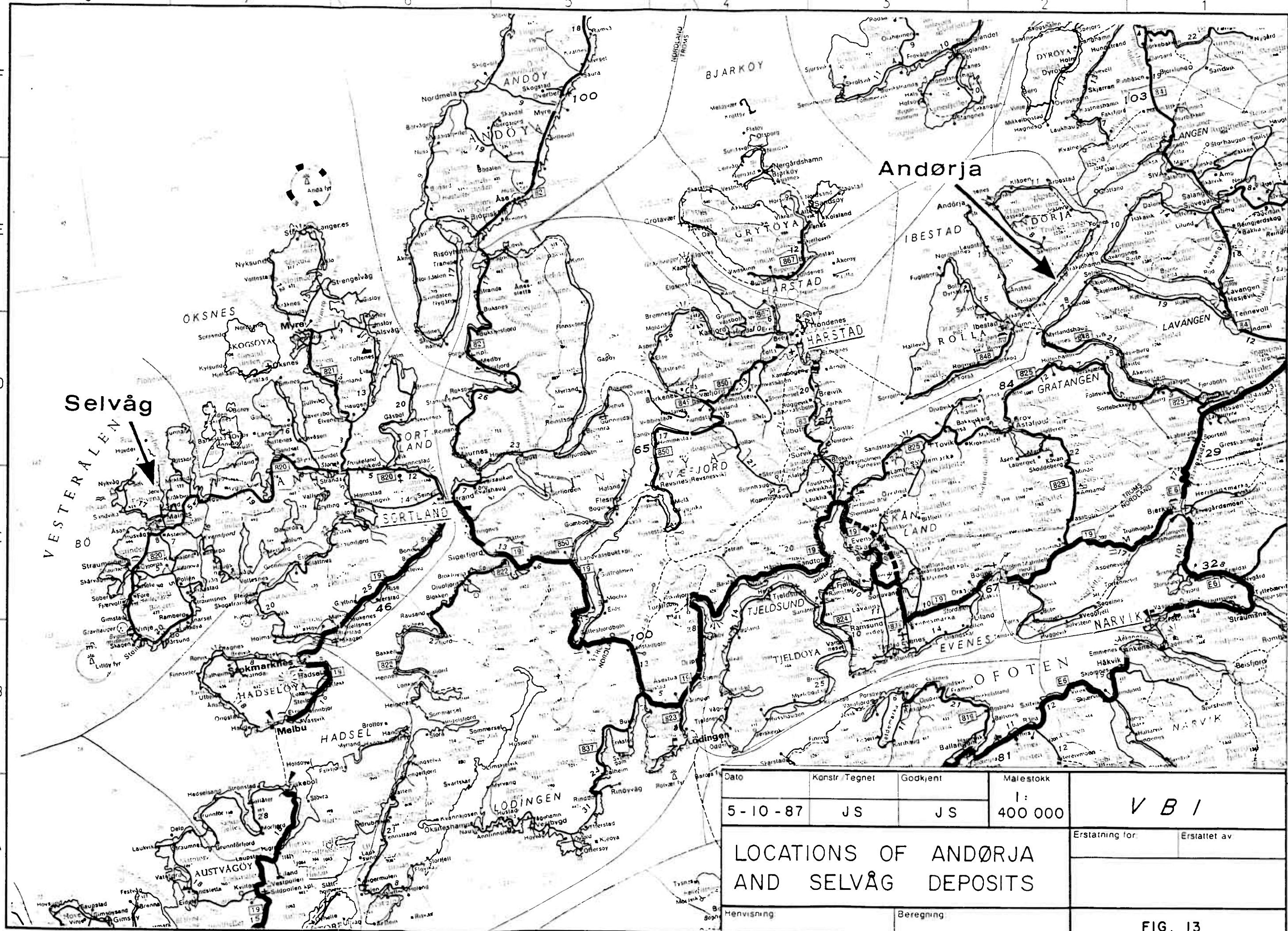
Nåværende Produksjon - SSAB
nedl. 1992

Investering 136 mill.

● Sysselsetting 35 - 50
Spinoff 100

Omsettnng 72 mill.
Spinoff 100 mill.

Malmreserver 200 mill. tonn
333 år



Dato	Konstr. Tegner	Godkjent	Målestokk	V B I	
5-10-87	JS	JS	1: 400 000		
LOCATIONS OF ANDØRJA AND SELVÅG DEPOSITS				Erstating for	Erstattet av
Henvisning		Beregning		FIG. 13	

FORDELER

Store Forekomst

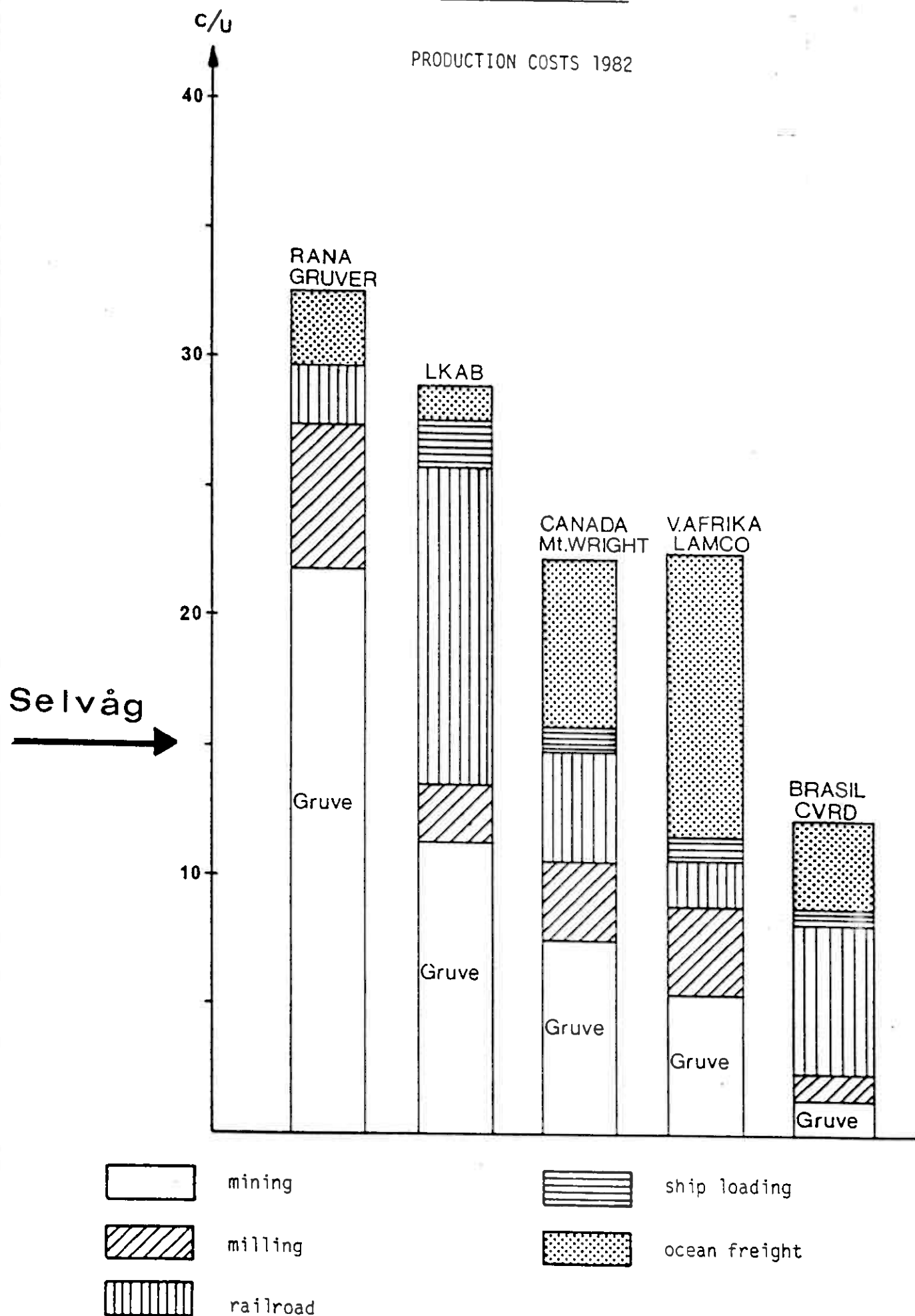
Gode Beligenet

Lave Driftskostnader

Lave Transportkostnader

Biprodukt Verdier

FIG. 2 COST COMPARISON OF IRON ORE PRODUCERS



VIKTIGSTE ELEMENTER

1. DETTE ER SNAKK OM MAGNETITT SOM INDUSTRIMINERAL, IKKE SOM JERNMALM: ANDRE JERNMÅLMER (HEMATITT) KAN IKKE BRUKES TIL DETTE FORMÅL.
2. DEN TOTALE MENGDE AV MAGNETITT PRODUSERT I VERDEN VIL SENKE RADIKALT INNEN DET NESTE FEM ÅR (SSAB NEDLEGGELSE 1992) DE STØRSTE JERNMALMPRODUSERENDE LAND (BRAZIL OG AUSTRALIA) HAR BARE HEMATITT.
3. ET BILLIG PRODUSENT MED STORE RESERVER VILLE ALTIDSFINNE ET MARKED. SELVÅG BLIR EN AV DE STØRSTE OG BILLIGSTE.
4. KOMBINERT DRIFT MED PRODUKSJON AV SUPERSLIG FRA ANDØRJA (OGSÅ BILLIG PRODUSENT MED STORE RESERVER), GJØR PROSJEKTET USLÅELIG:

PRODUKTER

MAGNETITT

EN JERNMALM (Fe_3O_4) MED MAGNETISKE EGENSKAPER
I DETTE TILFELLE SKAL IKKE MAGNETITTEN BRUKES SOM VANLIG JERNMALM

HEAVY-MEDIA Kr. 200 PER TONN

BRUKES TIL Å LAGE EN TUNGT VESKE (SP VEKT 2.0) SOM DA BRUKES TIL
Å SKILLE KULL FRA LEIR ELLER ANNET GRÅBERG

RBC (MAGNETITT GRUS) Kr. 400 PER TONN

STØPES I BRICQUETTER SOM BRUKES TIL VARME MAGASINERING

PCC (MAGNETITT GRUS) Kr. 400 PER TONN

BRUKES FOR Å LAGE TUNGT BETONG TIL DEKKING AV OLJE- OG GASSLEDNINGER
I SJØEN

SUPERSLIG (SUPERREN MAGNETITT) Kr. 600 PER TONN

BRUKES INNEN STØPERIINDUSTRIEN FOR DIREKT SMELTING FRA MALM
TIL STÅL

ALT TIL EKSPORT

PRODUKTER

MAGNETITT

90.000 tonn per år som Heavy Media Nkr. 200 per tonn

35.000 tonn til Koch Carbon Inc. på 10 års kontrakt

20.000 tonn til British Coal Ltd. på 3 års kontrakt

40.000 tonn på det åpne marked

90.000 tonn per år som Superslig - Nkr. 600 per tonn

På åpent marked til støperiindustriet

ILMENITT

10.000 tonn til fargestoff - Nkr. 350 per tonn

PUKK / SAND

200.000 tonn til kontinentet og USA - Nkr. 35 per tonn

ALT TIL EKSPORT

K KOCH

KOCH CARBON INC

June 20, 1988

John Soyland - President
YBI Vesteraleen Bergindustri A/S
Fagernesveien 1
Postboks 416
8501 Narvik
Norway

Dear John:

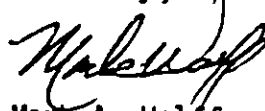
Per our recent conversations, Koch Carbon is interested in receiving a test cargo of magnetite from your new operations as soon as possible. Of course, any such purchase by Koch is subject to agreement on scheduling, price and quality. Should such shipment prove successful on our plants, Koch may be interested in negotiating a long term purchase arrangement for a minimum of 35,000 ton per year. We envision that an agreement of this sort would have the following terms, among others:

Purchase Quantity: Approximately 35,000 NT plus option
Price: To be negotiated but in all cases less than other available magnetite of similar specification delivered to Koch plants.
Duration: Up to 10 years with fall out provision if ore or shipping becomes noncompetitive.
Other: Koch to have exclusive rights to import ore to North America.

As we also discussed, with the proper guarantees and conditions, Koch may be in position to arrange for prepayment of initial shipment or shipments.

Please keep us up to date on the progress of your project, as we are anxious to evaluate and support new competitive sources of high quality magnetite ore.

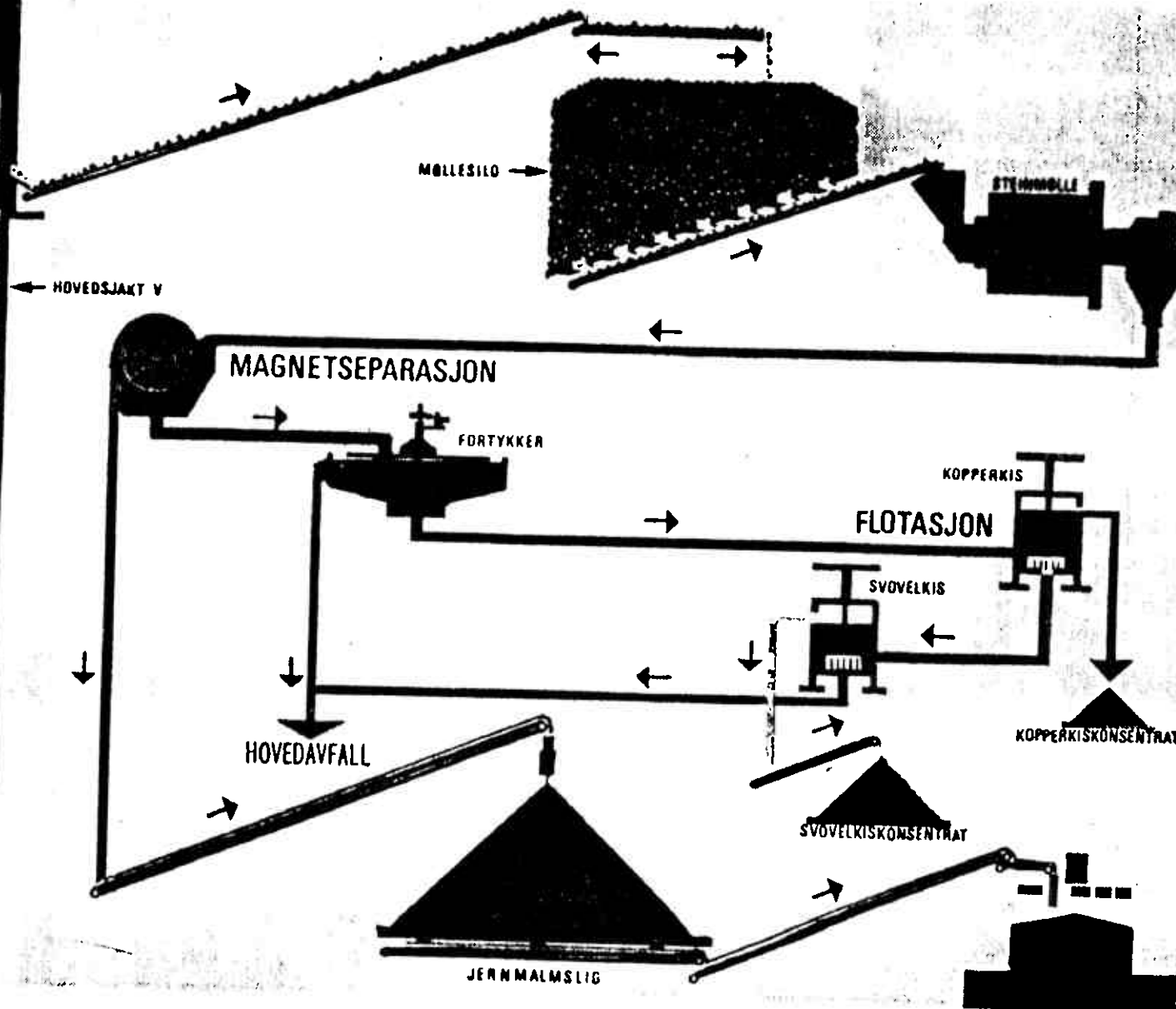
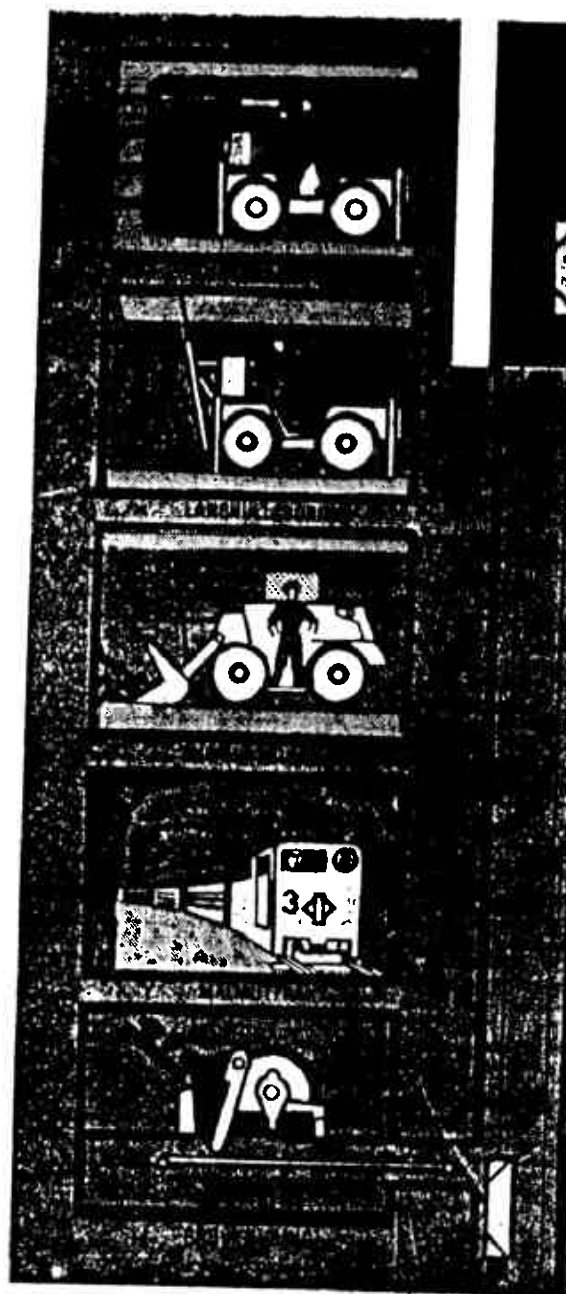
Sincerely,



Mark A. Wolff
Vice President - Coal Supply

MAW/jks

PRODUKSJONENS GANG



BRYTNING

SSAB

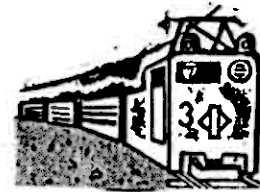
Rana

Sydvaranger

LKAB

AVDEKKING

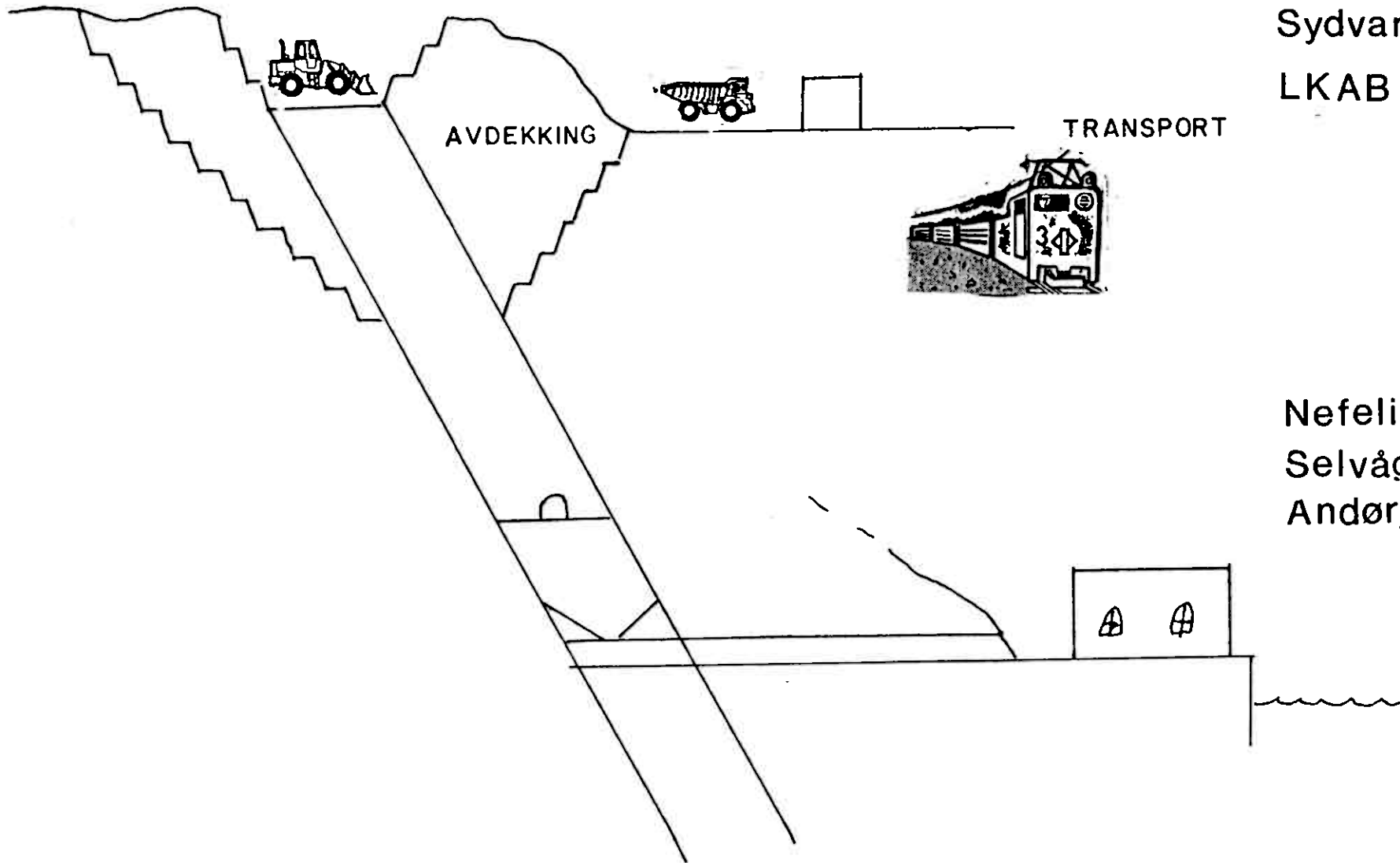
TRANSPORT

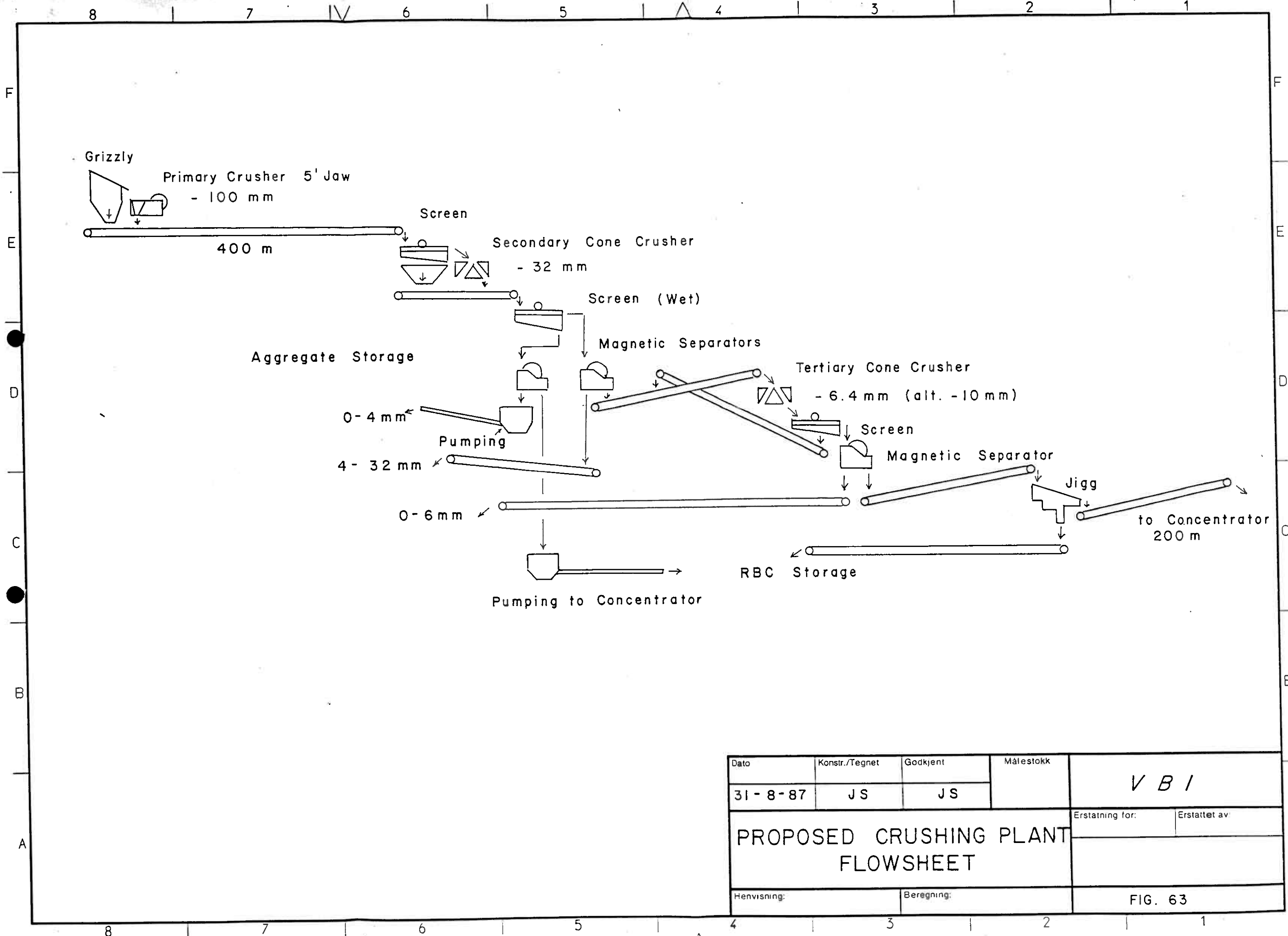


Nefelin

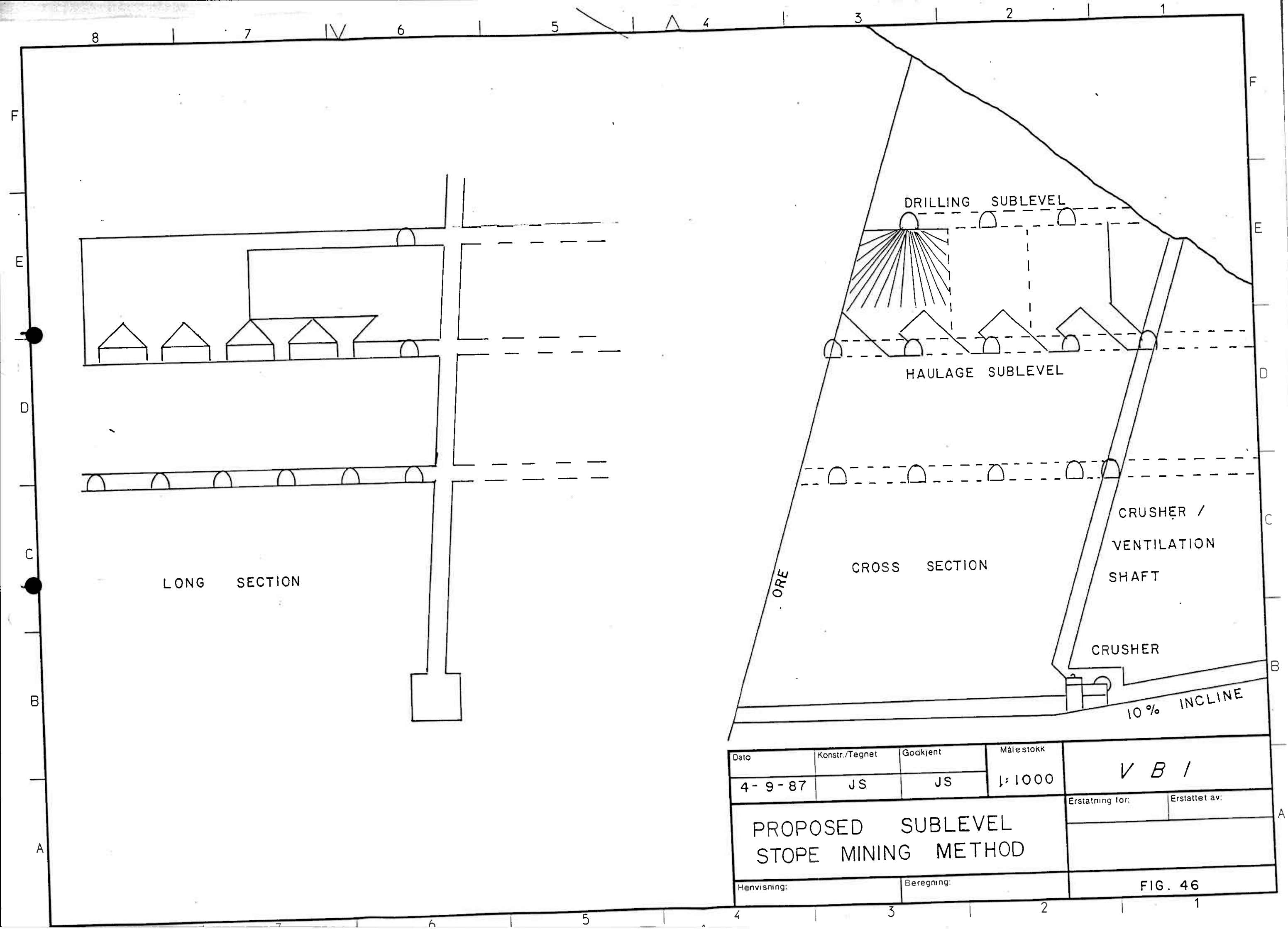
Selvåg

Andørja

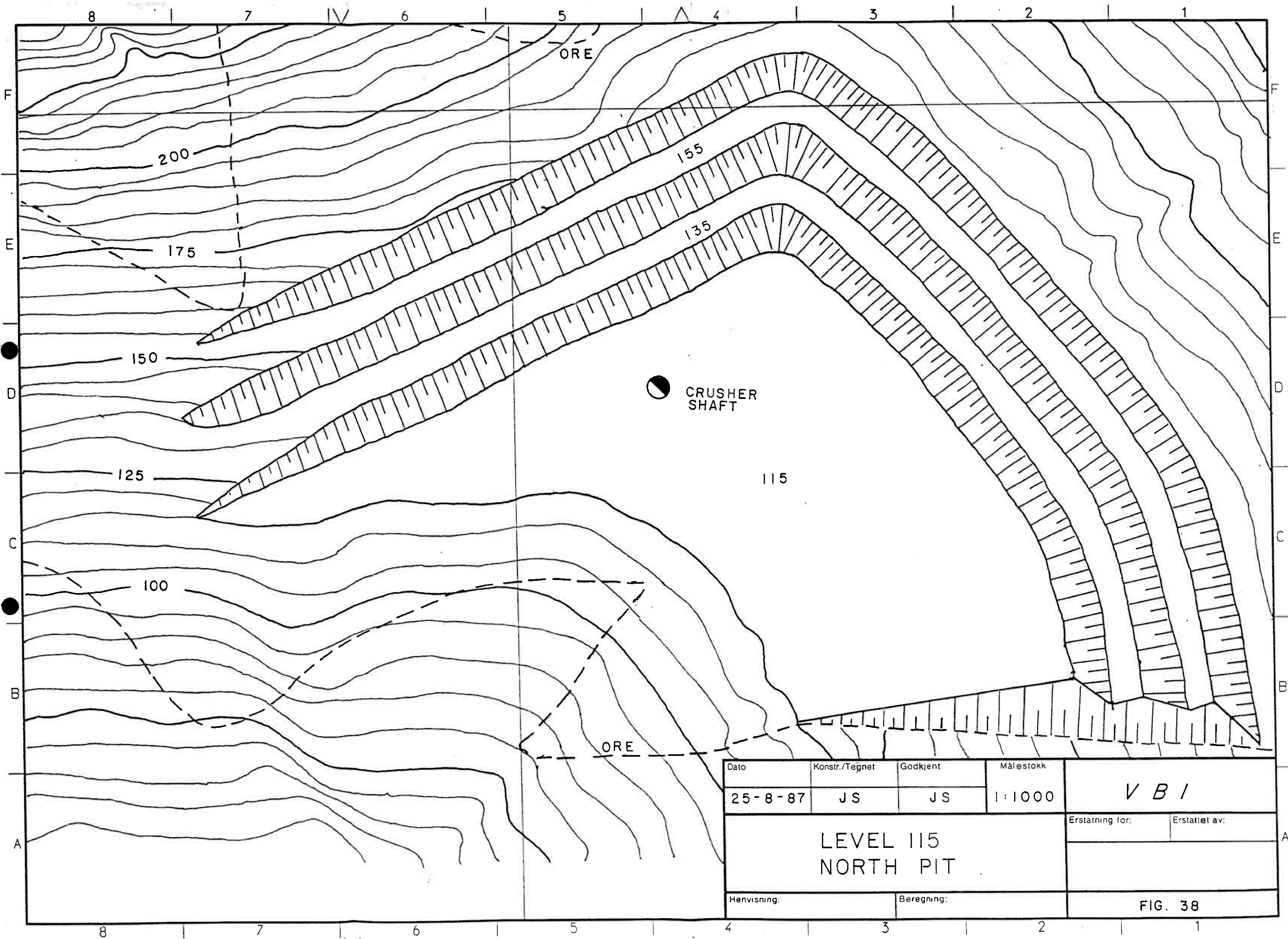


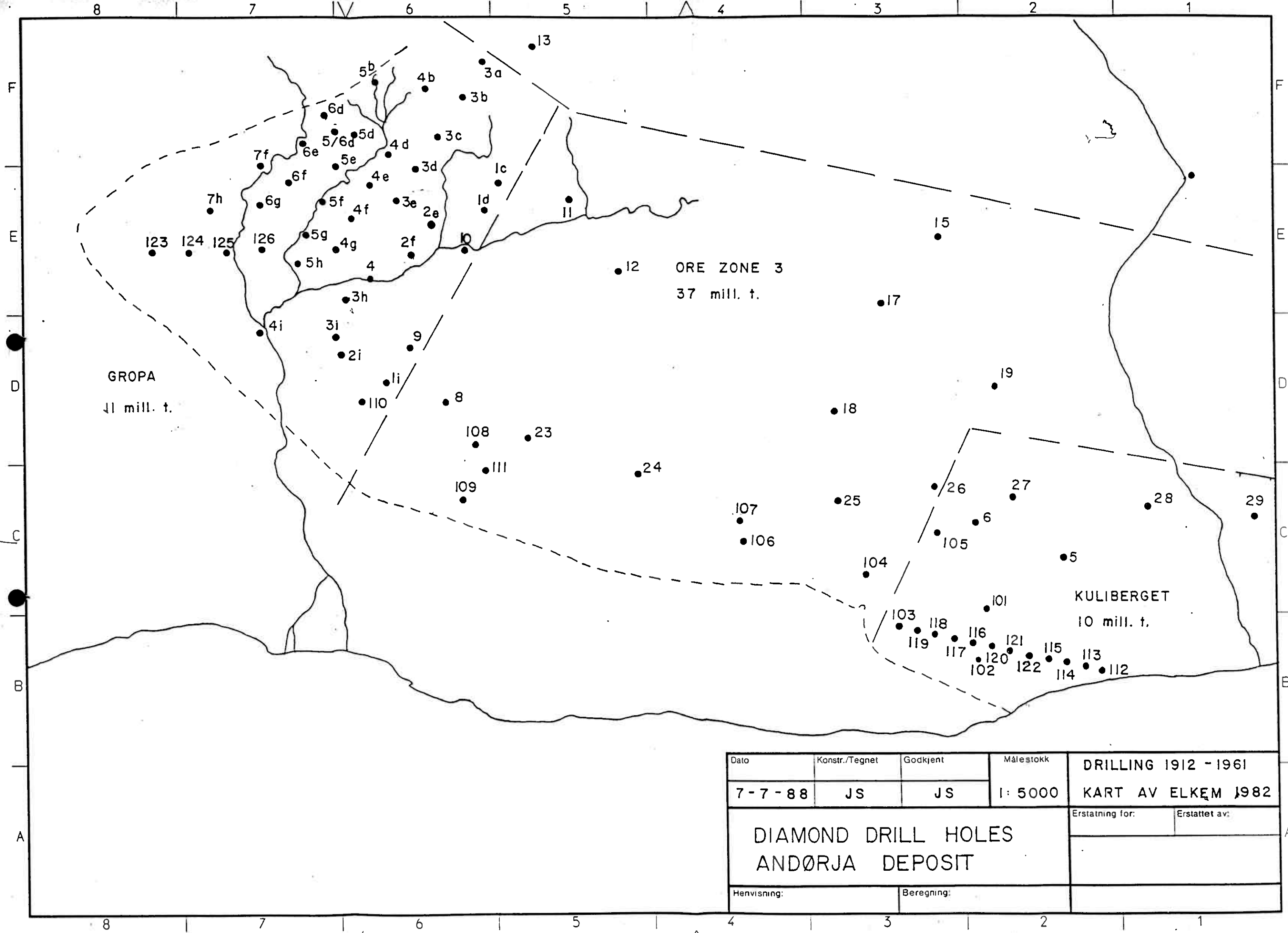


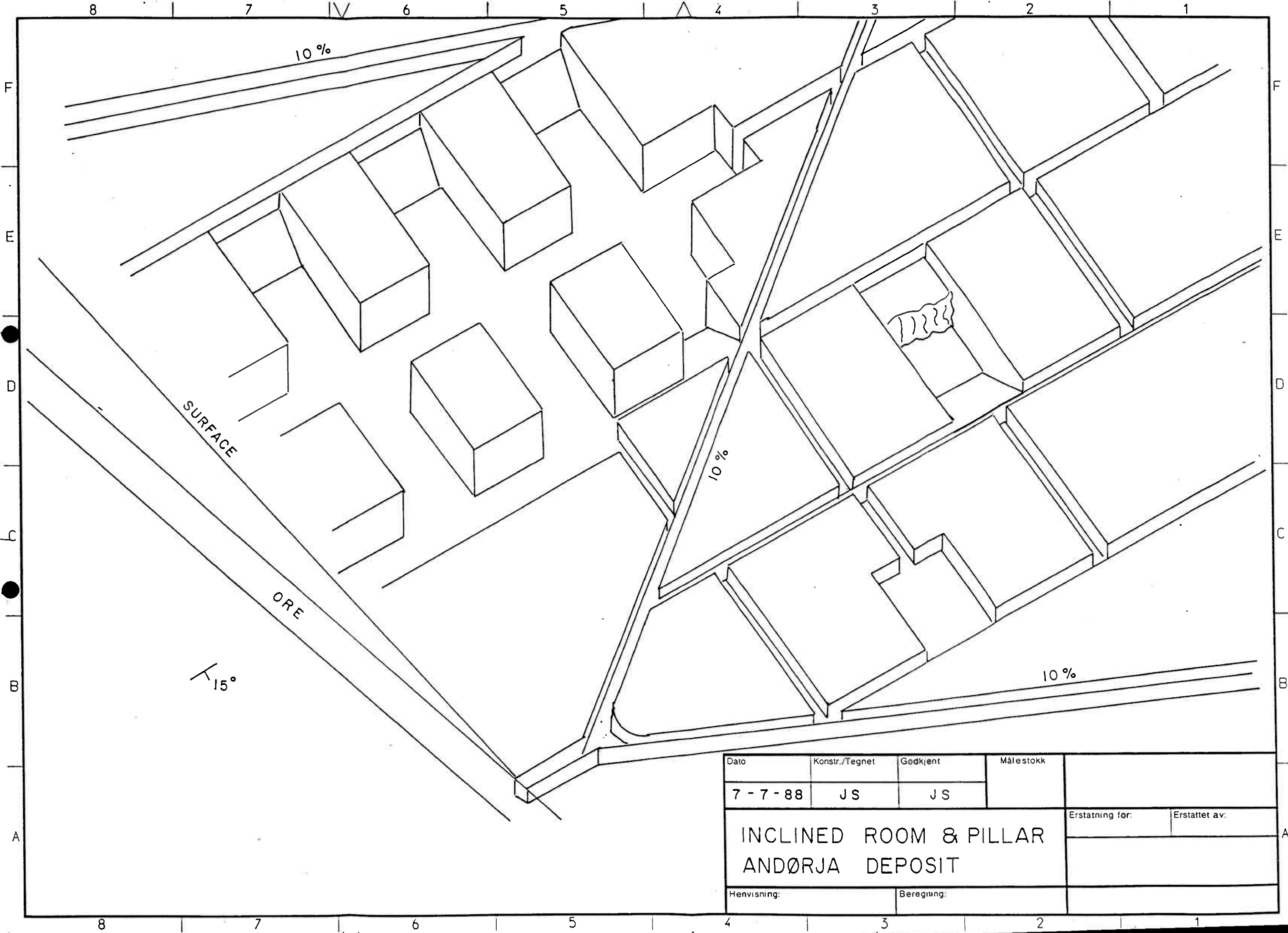
Dato	Konstr./Tegnet	Godkjent	Målestokk	V B I	
31 - 8 - 87	JS	JS			
PROPOSED CRUSHING PLANT FLOWSHEET				Erstatning for:	Erstattet av:
Henvisning:		Beregning:		FIG. 63	



Dato	Konstr./Tegnet	Godkjent	Målestokk	V B I	
4-9-87	JS	JS	1:1000		
PROPOSED SUBLEVEL STOPE MINING METHOD				Erstatning for:	Erstattet av:
Henvisning:		Beregning:		FIG. 46	







Dato	Konstr./Tegnet	Godkjent	Målestokk		
7 - 7 - 88	JS	JS		Erstatning for:	Erstattet av:
INCLINED ROOM & PILLAR ANDØRJA DEPOSIT					
Henvisning:		Beregning:			

FINANSIERING

Totalt 136 mill.

Seal Bay 34 mill.

DUF 34 mill.

Garanterte Lån 34 mill.

Bank 34 mill.

~~Nåverdi 75 mill.~~

~~Internrente 25 %~~

~~Tilbakebetalingstid 3 1/2 år~~

SEAL BAY - AKSJEKAPITAL

NÅVÆRENDE AKSJEKAPITAL 1-6-1988 Nkr. 50.000

Arctic Eagle Mining A/S 65% Nkr. 32.500

Ernst Jensen 35% Nkr. 17.500

KAPITALUTVIDELSE 1-7-1988 Nkr. 34.000.000

Arctic Eagle Mining A/S Nkr. 13.600.000

Ernst Jensen Nkr. 8.500.000

Uteignet Nkr. 11.900.000

Det ny aksjekapital skal innbetales i fire deler det første innen 6 måneder av byggestarten, det andre med 6 måneders mellomrom

Heather-Ridge
2588-F.S. Vaughn Way
Aurora, Colorado 80014
303/750-8461

Miller and Associates

CLINTON L. MILLER
President

17 June, 1988

Dr. Johannes Søyland
Seal Bay Minerals
c/o Bø Kommune
8475 Straumsgården, Norway

Dear Dr. Søyland,

The Directors and financial advisors of this organization have reviewed your report, of December, 1987, on the Selvag Magnetite Deposit.

We found the report technically sound and the financial presentation attractive — assuming the Government of Norway's assistance will develop as tentatively programmed.

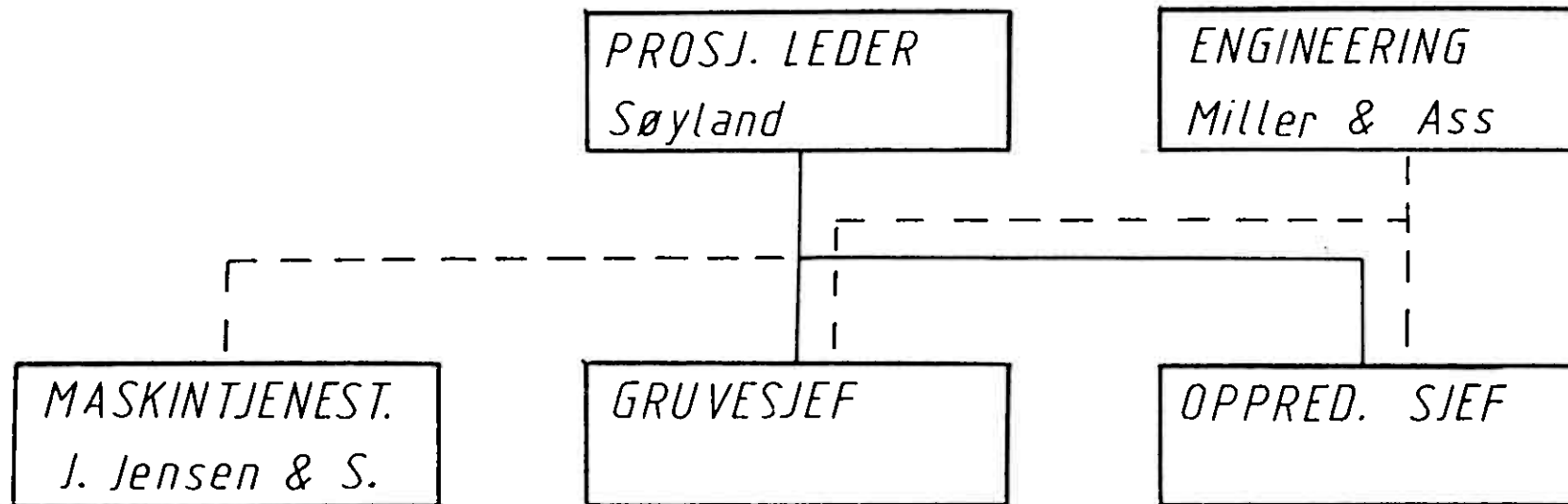
We are discussing your report with several potential investing organizations, with the approach of including an equity participation for this Organization. Please keep me advised as the specific requirements of your project develop.

Very truly yours,


Clinton L. Miller
President

cc: R.P. Miller
Director Finance

PROSJEKT ORGANISASJON



KOMPETANSER

PROSJEKTLEDER - JOHANNES SØYLAND

Siv. Ing. Berg

Siv. Øk.

Utdanning og erfaring i Bygg og anlegg ved Ing.Våpen
i US Army (Major)

Fagbrev som: Snekker
 Mekaniker
 Landsmåler

20 år innen bergverk

10 år som sjef/leder innen bergverk

6 år som sjef innen Norsk bergverk

2 år innen produksjon og markedsføring av heavy media

Prosjektleder ved: 2 damprosjekter

1 Oppredningsverk ombygningsprosjekt

7 bergverksprosjekter

15 malmreserve evalueringer

Driftsleder/sjef ved: 5 bergverksprosjekter

TEKNISK RÅDGIVER - CLINTON L. MILLER

Siv. Ing. Berg - Masters of Mining Engineering

40 år innen bergverk - nesten alle som prosjektleder,
driftssjef eller Adm. Dir.

Erfaring fra USA, Argentina, Peru og Australia

Har vært med på oppbygging eller ombygging av mangfoldig
opprednings- og bergverksprosjekter.

Miller and Associates is a consultant mining firm designed to provide analyses, evaluations, recommendations and assistance with problems relating to the mining industry.

The work of the firm is directed by Clinton L. Miller, President. He retains primary involvement in all requested studies. As required, independent outside consultants with specific expertise in a particular area are brought in for temporary assignments to form a team designed to assist in the resolution of identified problems.

The organization accepts no project participations. Recommendations, as developed, are designed to represent the opinion of objective, senior-level professionals, with related experience in the study underway.

The organization's activities involve international studies relating to strategic and precious metal areas, and economic-financial analyses and reviews including:

1. Exploration Project Direction and Reviews
2. Placer Mining Evaluations
3. Mining Approaches and Feasibility Studies -
Underground and Open Pit
4. Mining and Metallurgical Problems - Reviews
5. Financial Analyses and Investment Development -
Cost Studies and Estimates
6. Market Studies
7. Equipment Search and Evaluation

CLINTON L. MILLER

RESUME

mining engineering
project management

mine management
exploration management

EDUCATION

Montana School of Mines, Butte, Montana: B.S. Mining Engineering, 1947
Montana School of Mines, Butte, Montana: Engineer of Mines (M.S.), 1959

PROFESSIONAL HISTORY

Miller and Associates, Aurora, Colorado, President, 1983-Present.
Woodward-Clyde Consultants, Denver, Colorado, Associate and Vice President, Mining Division, 1978-1983.
Earth Resources Company, DeLamar Silver Mine, DeLamar, Idaho, Resident Manager, 1977.
Sunshine Mining Company, Kellogg, Idaho, Vice President and General Manager of Western Operations, 1974-1976.
Magma Copper Company, Superior, Arizona, General Manager, Superior Division, 1972-1974.
St. Joe Minerals Corp., Australia, Assistant to the President and Corporate Representative, 1971-1972.
St. Joe Minerals Corp., Peru, Vice President and Director of Cia. Minerales Santander, 1963-1970.
St. Joe Minerals Corp., Argentina, Manager, 1958-1963.
St. Joe Minerals Corp., Argentina, Assistant Manager, 1956-1958.
Vermont Copper Company, Vermont, Superintendent of Mining and Maintenance, 1952-1956.
Warren Foundry and Pipe, Dover, New Jersey, Mine Superintendent, 1950-1952.
Coeur D'Alene District, Idaho, Mining Engineer and Supervisor, 1947-1950.

REPRESENTATIVE EXPERIENCE

Mr. Miller is an Engineer of Mines with over 40 years of broad experience, in the United States and overseas, involving both underground and open pit mining operations. He speaks, reads and writes Spanish.

In his latest position he directs a small, senior-staffed international consulting firm designed to identify, evaluate and resolve mineral industry related problems.

His responsibilities as an Associate of Woodward-Clyde Consultants included the development of business contacts throughout the mining industry with particular emphasis on Latin America. Projects directed included coal, hard-rock and placer operations from design and direction of exploration projects through project evaluation and assistance with expansion planning. This included broad international experience.

CLINTON L. MILLER
Page Two

He has been responsible for the design of new projects, construction and post-construction refinement of projects, and the direction of statewide and overseas properties at all levels. He has directed the expansion of existing mining operations and their conversion from open pit to underground. He has modified, and directed the conversion of new extraction approaches with subsequent gains in safety and production. He has been responsible for reversing the finances of operations which were losing money. He has served as an expert witness on mining matters.

He has been involved, as a mining executive and consultant, in the direction of exploration and development activities related to operations in the United States, Argentina, Peru, Bolivia, Chile, Costa Rica, Mexico, Honduras, Guinea, South Africa and Australia. These projects have included underground, open pit and placer extraction responsibilities on four continents.

During his period of executive responsibility in Latin America, he was responsible for replacing foreign staff members with local professionals in all areas. This development approach heightened local morale and improved Corporate-National relations.

He has managed metallurgical plants and has been responsible for the sale of mineral concentrates and precious metal bullion to outlets in both the United States and overseas. This included the ocean shipment of important tonnages. He has worked with a senior research group on metallurgical problem studies.

AFFILIATIONS

Member, Society of Mining Engineers of AIME
Councillor, Mining and Metallurgical Society
Trustee, Northwest Mining Association
Member, Mining Club, New York City
Member, American Club, Buenos Aires, Argentina
Member, Club National, Lima, Peru
Member, The Australasian Institute of Mining and Metallurgy
Member, Export Council, U.S. Department of Commerce

ADVISORY BOARD

Australia	Dr. Peter Howard	Private
Chile	Ing. Sergio Chavez	Bechtel
Bolivia	Lic. Hugo Zenteno	Ambol
Argentina	Ing. M.J. Rossetti	Aguilar, St. Joe
Peru	Sr. Pedro Romero	Santander, St. Joe

DIRECTORS AND BANKING/FINANCIAL ADVISORS

Roger P. Miller	CITIBANK - NYC
Thomas P. Kane	Manufacturers Hanover - NYC

DIRECTOR - HUMAN RESOURCES/LABOR RELATIONS

Donald O. Miller	Cyprus Mines
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ADVISOR - MINE PLANT EQUIPMENT, CONSTRUCTION

Phillip R. Miller	Private
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OF COUNSEL

John Dickson	Saunders, Snyder, Ross and Dickson
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CLIENT ORGANIZATIONS

Research Technology Associates
Metallurgical Problem Studies

Boulder, Colorado

Sunshine Mining Co.
Property Evaluations - U.S. and South America
Silver, Gold

Boise, Idaho

AMAX - Rosario Resources
Engineering Operating Studies - Honduras

Greenwich, Connecticut

Kennecott
Mining Project Evaluations - U.S.

Salt Lake City, Utah

Coeur d'Alene Mines
Property Analyses - U.S.

Coeur d' Alene, Idaho

Day Mines
Organizational Analyses, Economic Studies -
U.S., Columbia, Bolivia

Wallace, Idaho

Various
Mining Project Evaluations - Bolivia, Argentina,
Peru, Chile

Spokane, Washington

Fouad Haji Abbis
Placer Gold, Diamond Studies - Guinea

Dubai, U.A.E.

JOHANNES SOYLAND

OPERATIONS MANAGER - MINING ENGINEER

QUALIFIED BY

A successful background in mine operations, management and engineering, both surface and underground, up to the general manager level, with significant experience in exploration, mineral resource evaluation and construction management.

MAJOR AREAS OF EXPERIENCE

MANAGEMENT

General Manager for a major Norwegian mining company.

Chief Engineer for an underground, sublevel stope, graphite mine in an arctic environment.

Mine Engineer (Assistant Mine Superintendant) for an open pit tungsten mine.

Conducted mineral resource evaluations and feasibility studies on numerous mining projects.

Managed military and civilian construction projects.

TECHNICAL
KNOWLEDGE

Thorough knowledge of mine design, both underground and surface, with a strong background in rock mechanics.

Thorough grasp of mineral resource evaluation techniques and feasibility studies.

ASSOCIATED AREAS
OF EXPERIENCE

Exploration management and drilling supervision.

Drilling and blasting operations.

Rock mechanics.

Maintenance of equipment.

Arctic mining operations.

Mill construction and operation.

Construction supervision.

Surveying.

Personnel management and training.

Gold exploration and cyanide heap-leach operations.

Capable of presenting oral and written reports to management groups at all levels.

PROFESSIONAL
REGISTRATION

Licensed Professional Engineer in Montana and Colorado

EDUCATION

BS Mining Engineering, Montana Tech, 1972
strong minor in geology, grade point 3.22

MBA (equiv.) through graduate study at Montana Tech.
1974, Univ. of Colo., 1980, and West. New Mex. Univ.,
1981.

PHD Mineral Economics, Norwegian Inst. of Tech., 1987

Armor Operations Management Course, U: S: Army, 1978.

Engineer Operations Management Course, U: S: Army, 1980.

Heavy Equipment Mechanics Course, U. S. Army, 1962.

LANGUAGES

English, Norwegian, Swedish, Danish, Spanish.

EMPLOYMENT HISTORY

1986

Operations Manager, LKAB, Narvik, Norway
Managed a 15 million ton per year iron ore shipping
port.

1983 - 1986

General Manager, Elkem A/S, Raudsand, Norway.
Managed a combined open-pit magnetite mine and mill
and asphalt plant which specialized in production of
heavy media. Managed to triple production. Also
managed the world's northernmost open pit.

1982 - 1983

Chief Engineer, Skaland Grafittverk (ARCO), Skaland,
Norway. Managed engineering and exploration operations
for an underground (sublevel stope) graphite mine in
an arctic environment.

1978 - 1982

Senior Mining Engineer, Woodward Clyde Consultants,
7600 E. Orchard Road, Englewood, Colorado 80111.
Supervised mine design projects, both underground and
open-pit. Conducted feasibility studies and mineral
resource evaluations on numerous projects, including
Wyoming and North Dakota coals. Worked on a tailings
dam design project and supervised tailings dam
construction and operation. Conducted a feasibility
study on the reopening of the Mayflower Gold Mine and
assisted in the setup and operation of a gold leaching
operation.

1976 - 1978

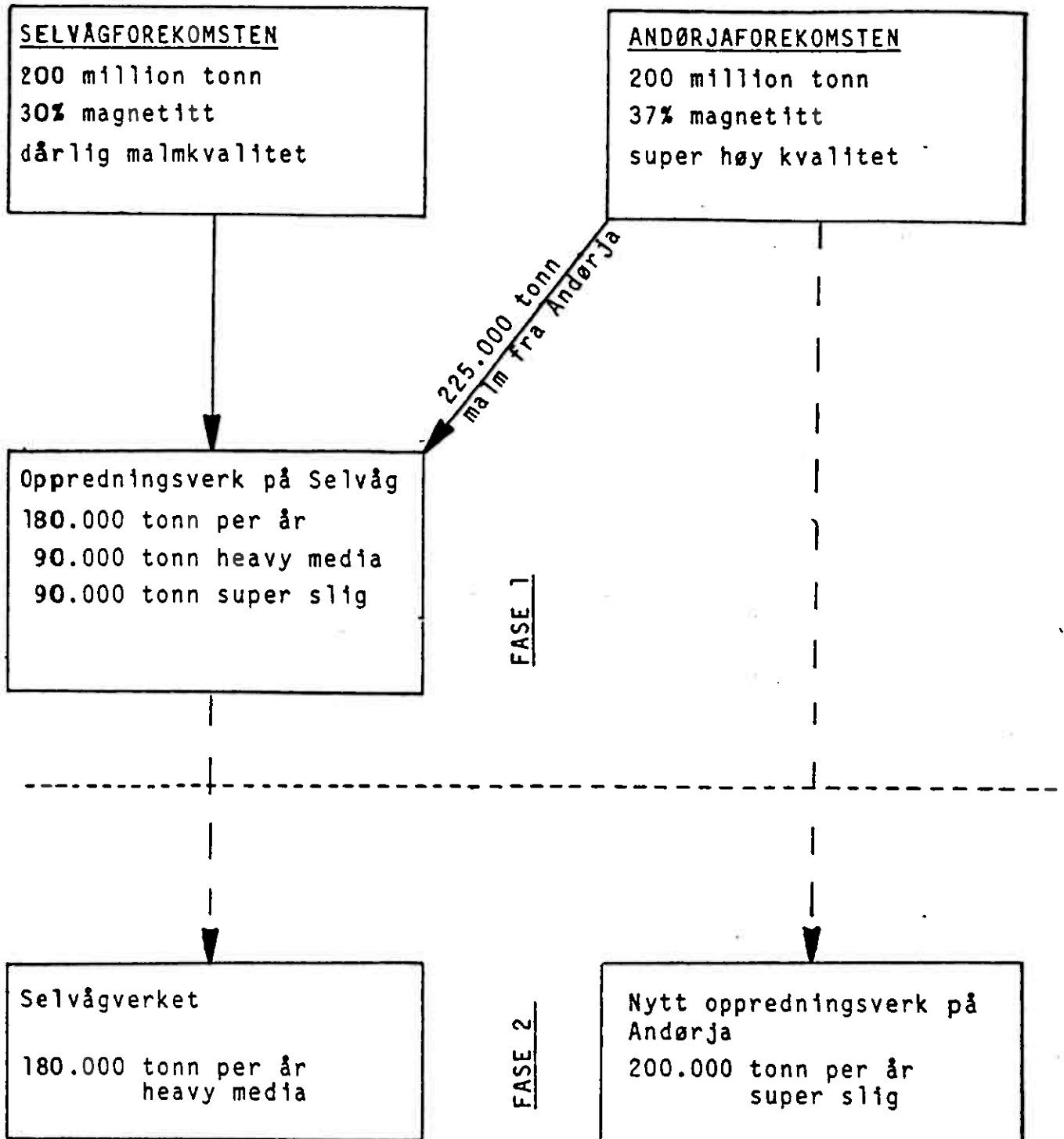
Project Engineer, North American Coal, 304 E. Rosser,
Bismarck, North Dakota. Supervised coal exploration
and conducted feasibility studies on lignite properties
in Texas.

1972 - 1976

Owner and Manager, J & B Construction, Butte, Montana
General Construction.

1971 - 1972	<u>Mine Engineer - Assistant Mine Supt.</u> , Minerals Engineering Co., Dillon, Mont. Mine design and supervision of operations for an open-pit tungsten mine. Supervision of tungsten exploration.
1968 - 1969	
1969 - 1971	<u>Rock Mechanics Engineer</u> , Montana Tech Research, Butte, Mont. Slope stability research for the Anaconda Company's Berkley Pit.
1965 - 1968	U. S. Army
1964 - 1965	<u>Surveyor</u> , U: S: Bureau of Land Management, Dillon, Mont.
MILITARY	
1962 - Present	U. S. Army, present rank Major, inactive reserves. Served with Green Berets and combat engineers - heavy construction.
AFFILIATIONS	Society of Mining Engineers of AIMR, Norwegian Assoc. of Eng. Norwegian Mining Eng. Assoc., Exploration Contact Committee - Nor. Min. Eng. Ass.
PERSONAL DATA	Divorced 4 children US Citizen excellent health, 5' 10" 155 lbs. Born 1944
REFERENCES	Clinton L. Miller, Pres. Miller and Assoc. Denver, Colorado, USA (303) 750-8461 John J. Womack, Retired Adjutant General Helena, Montana USA, (406) 442-9888 Ralph Anctil, Pres. Minerals Engineering, Denver, Colorado, USA (303) 758-1651 John G. Simos, Chief of Mining Geology, Woodward-Clyde Consultants, Denver, Colorado, USA, (303) 757-7513 Dir. Leif Kopperstad, Division Manager, Elkem A/S, Oslo, Norway (02) 466870

UTVIKLINGSPLAN



INVESTERINGSBUDSJETT

	Nkr. x 1000	
Gruveutstyr (nytt)	10.400	
Oppredningsutstyr (brukt)	2.000	
(nytt)	8.000	
Gruveåpninger		
Tunnel (1000m x 7000)	7.000	
Sjakt (200m x 10.000)	2.000	
Avdekking	600	
Ventilasjon	500	
Veger (intern)	<u>6.800</u>	37.300
Knuseverket (bygging & installasjon)	6.800	6.800
Oppredningsverket (Bygging & install)		
Bygging	4.000	
Stål	4.000	
Installasjon av utstyr	6.000	
Elektrisk	7.000	
Vann & Kloakk (intern)	1.000	
Fundament	<u>1.000</u>	23.000
Undersøkelser	2.400	
Kjøp av tomt med kai	10.000	
Lager (med transportband og utstyr)	20.000	
Reservedeler, verketøy, lab., Kontor	<u>3.100</u>	35.500
Renter i byggefasen	7.000	<u>7.000</u>
SUM		109.600
Engineering		10.960
Uforutsatt		<u>15.990</u>
TOTALT		136.750

DRIFTSBUDSJETT

PRODUKSJON / SALG FOB GRUVA

NKR: x 1000

Magnetitt

Heavy Media (90.000 x 200) 18.000

Superslig (90.000 x 600) 54.000

Ilmenitt

Fargestoff (10.000 x 350) 3.500

Pukk & Grus (200.000 x 35) 7.000

SUM 72.500

PRODUKSJONKOSTNADER

Materialer

Sprengestoff 1.200

Borestål 300

Møllekuler, Kjemikaler 3.600

Kraft 1.800

Reservedeler 1.000 7.900

Kaiutgifter 5.000

Transport (Andørja - Selvåg) 5.625

Lønn 6.900

Markedsføring 2.000

Administrasjon 3.000

Renter 2.500

PROD. KOST: 32.925

BRUTTO FORT. 39.575

AVSKRIVNINGER 13.675

NETTO OVERSKUDD 25.900

BEMANNINGSLISTE

STILLING	ANTALL	LØNN
Administrasjon		
Disponent	1	420.000
Kontorsjef	1	250.000
Kontordame	1	190.000
Gruve		
Gruvesjef	1	275.000
Geolog	1	250.000
Borer (2x2)	4	225.000
Maskinfører (2x2)	4	225.000
Oppredningsverk		
Oppredningssjef	1	275.000
Kjemiker	1	225.000
Vedlikeholdsformann	2	250.000
Formann	3	250.000
Knuseoperatør	6	190.000
Oppredningsoperatør	6	190.000
Mekaniker	2	225.000
Elektriker	1	225.000

SUM

35

TIDSPLAN					BUDSJETT			
PROSJEKT	88	89	90	91	88	89	90	91
	A 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 A M J J A S O N D				
GEOLOGISKE UNDERSØKELSER								
Kartl. Gehaltvarias	■				360	2,000		
Kartl. Sprekksoner	■							
Pukk & Sand Kvalitet	■							
Høykvalitets Slig	■							
Diamantboring (?)		■						
OPPREDNINGSFORSØK								
Sulfidkonsentrat	■ ■				600			
Ilmenittkonsentrat	■							
RBC	■							
Høykvalitets Slig	■ ■							
ENGINEERING					1,000	4,000	4,000	1,000
Daganlegget	■							
Kai	■							
Tunnel/Sjakt	■							
Endelig Stamtrel	■							
Knuse/Pukkverk		■						
Brytningsmetod		■ ■						
Skipslaster		■						
Lager		■						
Avgangsdamm		■						
Økonomiske Oppdatering		■						

TIDSPLAN					BUDSJETT			
PROSJEKT	88	89	90	91	88	89	90	91
	A S O N D	J E M A M J J A S O N D	J E M A M J J A S O N D	J F M A M J J A S P N D				
Go - No Go								
Detaljekonstr. Verket								
Hus								
Utstyr								
Vann								
Elektrisk								
Kjøp av Utstyr						Gruve 10,400 Oppred 2,000	Oppred 8,000	
<u>KONSESJON</u>								
Ervervs								
Drift								
Miljø								
<u>KONSTRUKSJONSFASEN</u>								
Veg					4,800	4.800	2,000	
Avdekking								600
Kai								
Tomt						10.000		
Fundament						1,000		
Vann						500		
Kloakk						500		
Kraft								
Tunnel						5,000		

TIDSPLAN					BUDSJETT			
PROSJEKT	88	89	90	91	88	89	90	91
	A S O N D	J F M A M J J 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				
Sjakt							2,000	
Feltort							2,000	
Ventilasjon						500		
Knusestasjon								
Knuse/Pukkverket							5,000	
Transportband							1,800	
Verksbyggingen							4,000	
Stål							2,000	2,000
Utstyr								6.000
Elektrisk								7.000
Vann								
Lagret							20.000	
Skipslaster								
STABB								
Prosjektleder								
Maskintjenester								
Gruvesjef								
Oppredningssjef								
Formenn 1								
2								
3								
Stiger 1								
2								

TIDSPLAN					BUDSJETT			
PROSJEKT	88	89	90	91	88	89	90	91
	A 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 A M J J A S O N D				
Borer 1								
2								
DRIFTSTILBEHØR								1,000
Reservedeler								
Driftskapital								1,000
Verketøy								1,000
Laboratorieutstyr								100
Kontor	X							
Opplæring								
Feilvarer							500	6.500
Renter i Byggefasen								
				SUM	1.960	41.200	52.800	26.200

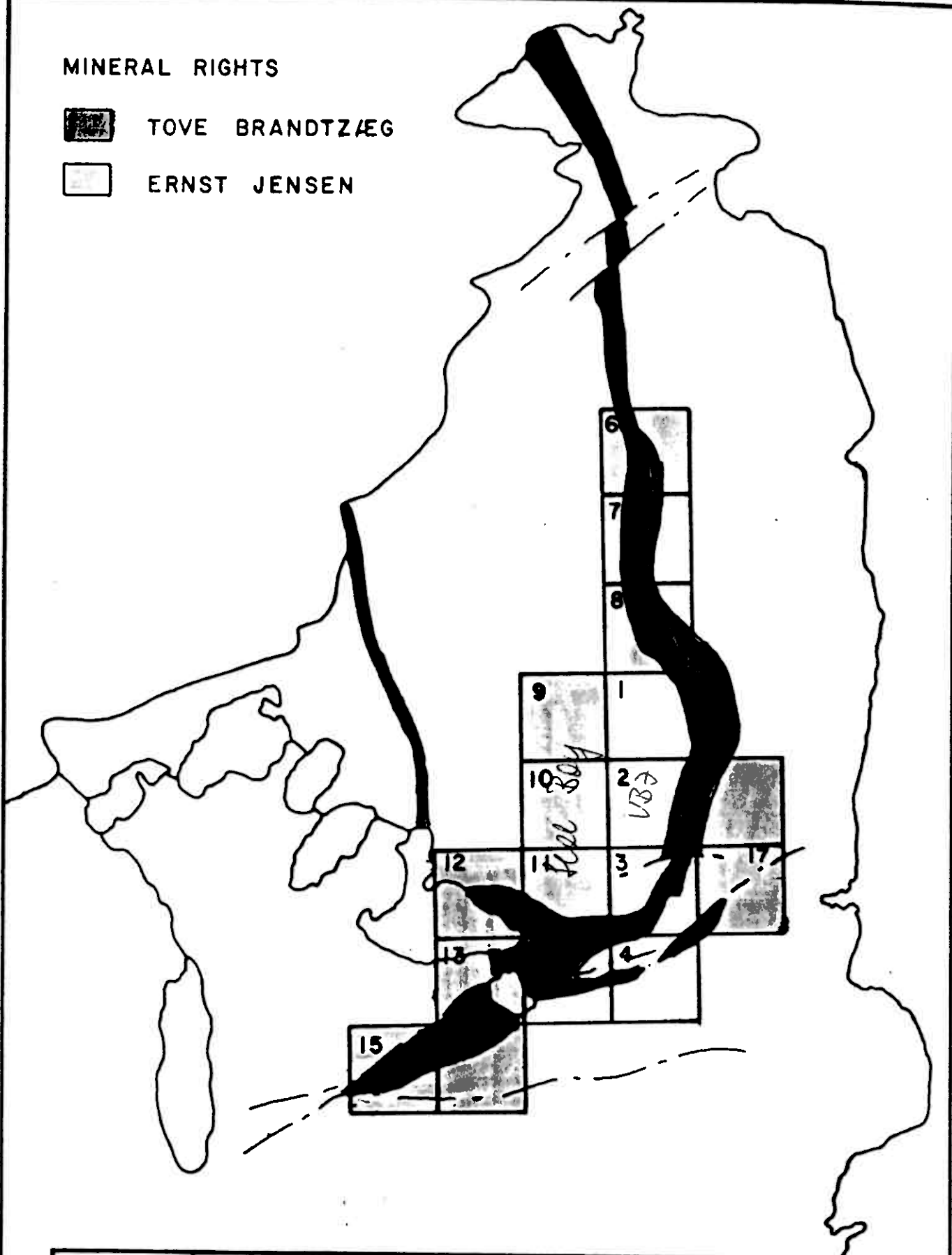
MINERAL RIGHTS



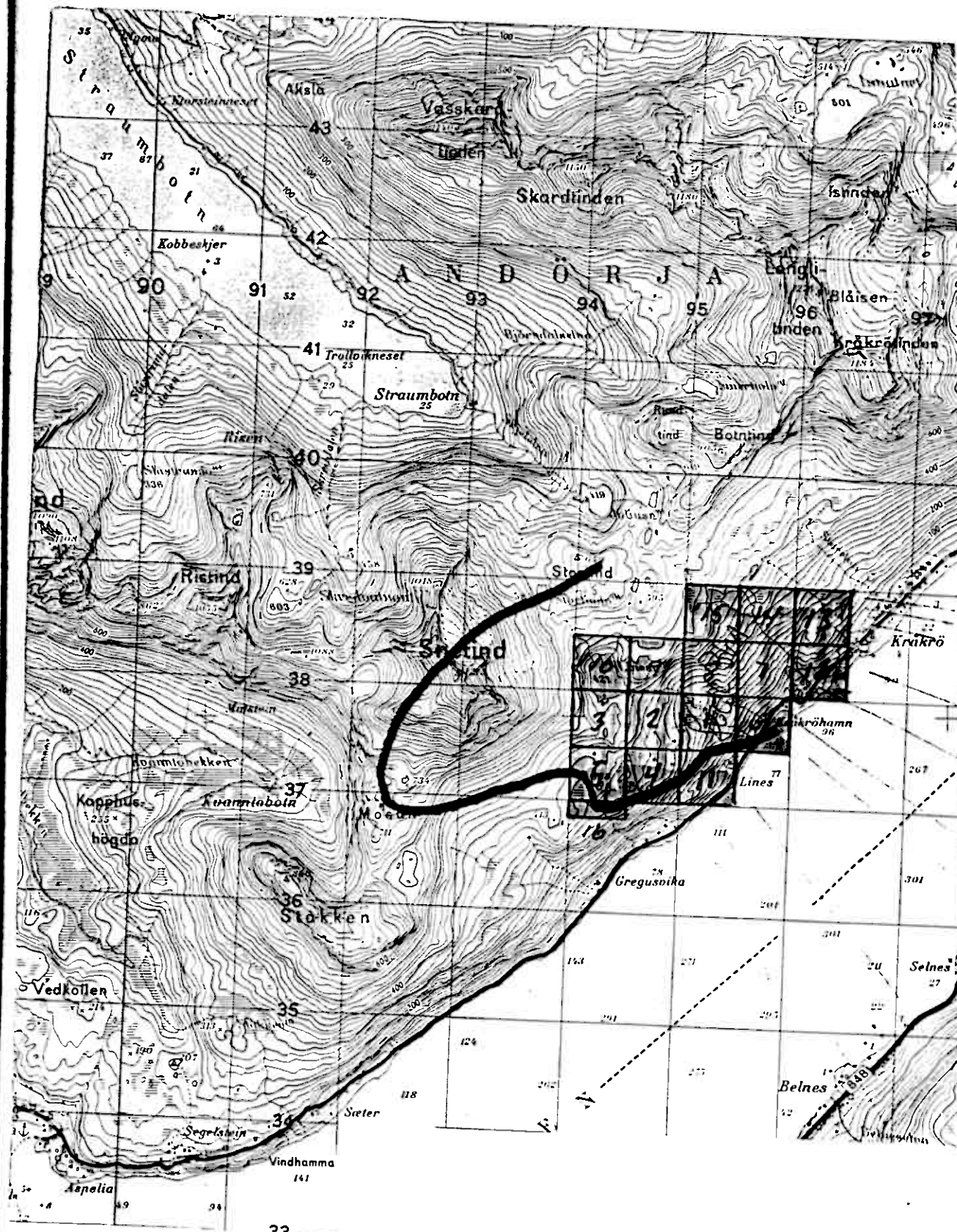
TOVE BRANDTZÆG



ERNST JENSEN



Dato	Konstr./Tegnet	Godkjent	Målestokk	VBI	
28-10-87	JS	JS			
CLAIM LOCATIONS SELVAG DEPOSIT				Erstatning for:	Erstattet av:
Henvisning:		Beregning:		FIG. 50	



Date 23-6-88	Konstr./Tegnet JS	Tracert	Målestokk		
Kontroll	Stand kontroll	Godkjent			
CLAIM LOCATIONS ANDØRJA DEPOSIT			Erstatning for		Erstattet av
Henvisning:		Beregning:			

OVERDRAGELSE

Undertegnede Tove Brandtzæg av Austrtana overdrar med dette mine mutingsrettigheter benevnt Andørja 1-10 til Arctic Eagle Mining A/S. Det forutsettes godkjenning av bergverksmyndighetene.

Tana, den 1 Juli 1988

Tac Brandtzæg
Tove Brandtzæg

Arild Jacobsen
For Arctic Eagle Mining A/S
Arild Jacobsen

Fanne Tessen
Vitne

LEIAVTALE

mellom

Vesterålen Bergindustri A/S

og

Seal Bay Minerals A/S

Undertegnede Johannes Søyland, Adm. Dir. og Ernst Jensen, Styreformann ved Vesterålen Bergindustri A/S bekrefter herved utlei av mutingsrettigheter benevnt Selvåg 1 - 5 i Bø kommune i Vesterålen til Seal Bay Minerals A/S fra og med 1 Mai 1988.

Seal Bay skal ha full rett til å drive bergverk på området etter egen ønske og skal ikke være forpliktet til hverken minimum eller maximum produksjon.

Avtalen skal vare i femti år. Dersom drift fortsetter skal avtalen forsette så lenge driften varer. Ved fullstendig nedleggelse tilfaller mutingsrettighetene tilbake til VBI.

Alle utgifter i forbindelse ved driften skal dekkes av Seal Bay.

Som godtgjørelse for avtalen skal det betales en tonnøre pris som tilsvarer 1 prosent av brutto salgsverdien av produksjonen fra virksomheten. Beløpet betales innen 1 Mars årlig.

Narvik den 23 Apr 1988


Johannes Søyland, Adm. Dir.


Ernst Jensen, Styreformann

for Vesterålen Bergindustri A/S


Johannes Søyland, Adm. Dir.


Ernst Jensen, Styremedlem

for Seal Bay Minerals A/S

AVTALE OM OPSJON TIL LEIE ELLER OVERDRAGELSE AV
MUTINGSRETTIGHETTER

Undertegnede Tove Brandtzæg git med dette til Johannes Søyland eller firma Vesterålen Bergindustri A/S en opsjon til leie eller overdragelse av mine mutingsrettigheter benevnt Heindalen 1-2, Geitskar 1-6, Botnskar 1-7, Selvåg 6-17, Trælen 1-2, Skaland 1-5 og Finnkona 1-6.

Opsjonen skal vare i fem år og det skal betales en minste leieavgift på Kr. 5000.

Hvis opsjonen til leie benyttes skal det betales et tonnøre beløp som tilsvare 3 % av netto driftsoverskuddet. Beløpet skal betales årlig innen 1 April. Leieavtalen skal vare så lenge drift på noen av forekomstene fortsetter.

Hvis opsjonen til overdragelse benyttes skal undertegnede Tove Brandtzæg få overlevert 5 % av aksjaner i selskapet.

Alt av utgifter i forbindelse med benyttelse av mutingsrettighetene skal betales av Johannes Søyland eller Vesterålen Bergindustri A/S.

Undertegnede forutsetter godkjenning av bergverksmyndighetene.

Tana, 13.07.87.


Johannes Søyland


Tove Brandtzæg


Vitne

ERKLÆRING

Undertegnede Tove Brandtzæg overdrar med dette mine mutingsrettigheter benevnt Selvåg nr. 6 - 17 i Bø kommune i Vesterålen, Heindalen 1 - 2 i Nesset kommune i Møre og Romsdal, Geitskar 1 - 6 og Botnskar 1 - 7 i Berg kommune i Troms til firma Arctic Eagle Mining A/S som betaling for ti aksjer i ovennemnt selskap.

Undertegnede forutsetter godkjenning av bergverksmyndighetene samt overdragelse av ti aksjer i Arctic Eagle Mining A/S.

Narvik, 23.04.88.


for selskapet


Tove Brandtzæg


Vitne

H. Rönne im Aufstich

NORMINERAL

20%

?

JIM ~~DE~~ STANLEY

BOLA

LARS RÖNNE

H. Rönne im Aufstich

OTOTEN - INVEST

J. Soyland / E. Jansen

45%

55%

UBI

Kombi?

Steel Bay

Soyland
Jansen

Angestrichen 300.000,- Mio eingeleitet! (90%)

28.8.88