improvement of current operation (Case 1), the FIRR of Case 2 is ostensibly low.

The result of the analyses shows that the project is viable at the economic coal value of 6,086.0 Tg/t under the current taxation regimes. In Case 3, fixed assets revaluation brings about little impact on the project, however, under the current inflation, fixed assets revaluation is desirable for mine management and also consumers to lower a coal sale price.

(4) Leverage

In order to assess the effects of leverage (borrowed money), FIRRs on equity for Case 3 at 6,086.0 Tg/t have been calculated as illustrated in Table 8.9 for reference. Around a 95% debt, FIRRs on equity for every foreign loan interest rate become an infinite, while the amount of loan unrepaid at the end of the project life will unfavourably increase.

8.3.5 Financial sensitive analysis

(1) Coal sale prices and financial soundness

Relationships between coal sale prices and financial soundness of the project examined on Case 3 by the amount of loan unrepaid at the end of the project life are illustrated in Table 8.10 (fixed assets revaluation basis).

Comparisons made on an after corporate tax basis are as follows;

- debt/equity 0.001/0.999, 0.8/0.2, 0.999/0.001
- Coal sale prices (a) price at no loan unrepaid on a 99.9% debt
 - (b) price at the economic value of 6,086.0 Tg/t
 - (c) price at a 10% FIRR on equity on a 80% debt
 - (d) price at no loan unrepaid on a 80% debt
 - (e) price at a 8% FIRR on equity on a 80% debt
- foreign loan interest rates 1%, 2%, 3%, 5%, 8%, 10%

The findings are as follows:

1) on a 0.1% debt case

FIRR on equity at 6,086.0 Tg/t is 10.5% and loan repayment is always fulfilled for every price level. FIRRs, however, are low due to almost no leverage.

2) on a 80% debt case

A reasonable sale price in a 80% debt case will be at the price of no loan unrepaid, which is 5,139.8, 5,181.7, 5,223.6, 5,307.5, 5,433.4, 5,517.3 (Tg/t) for a interest rate of 1%, 2%, 3%, 5%, 8%, 10% respectively.

3) on a 99.9% debt

The amount of loan unrepaid at the end of the project life is prohibitive at the price of a 10% FIRR on equity on a 80% debt for all the foreign interest rates. Even in a 1% interest case, the amount of coal equivalent to the amount of loan unrepaid is 6.7 million tons by the current price of 2,200 Tg/t. This cannot be called a healthy operation.

(2) Financial sensitivity analyses for other factors

Financial sensitivity analyses have been conducted to evaluate the impact of changes in the base case assumptions in which two cases on a fixed assets revaluation basis are included, one for sensitivity on an FIRR on the total project for Case 1, Case 2 and Case 3 and the other for sensitivity on an FIRR on equity for Case 3 on a 80% debt with a 2% foreign loan interest rate. The changes evaluated are as follows:

- foreign exchange rate;
- capital costs;
- operating costs; and
- total excavation with no changes in coal production.

The range of changes is $\pm 20\%$ every 5% step for all the items.

1) FIRR on the total project

The results of the sensitivity analyses at the economic coal value of 6,086.0 Tg/t are presented on Table 8.11 in terms of after tax FIRR on the total project.

FIRR on the total project for Case 3 is 10.5%. A 15% change in operating costs and total excavation cannot keep a 8% FIRR on the total project. A 15% change in capital costs can keep a 8% FIRR on the total project. A change in foreign exchange rate brings about little impact on the project. The project can stand 10% changes in all independent items studied

here.

2) FIRR on equity

The results of the sensitivity analyses on a 80% debt with a 2% foreign loan interest rate at the economic value of 6,086.0 Tg/t in Case 3 are presented on Table 8.12 in terms of FIRR on equity. Resulting from leverage, FIRR on equity is 23.6% with no loan unrepaid, shifted from an original 10.5% FIRR. No case for every change show loan unrepaid at the end of the project life.

The results of the sensitivity analyses on a 80% debt with a 2% foreign loan interest rate in Case 3 at 5,181.7 Tg/t, which is a critical price of loan repaid at the end of the project life, are presented on Table 8.13 in terms of FIRR on equity. The amounts of loan unrepaid for a 5% change in operating costs, total excavation and capital costs are 1,116.2, 1,044.8, 319.0 (106 Tg) respectively. This level of loan unrepaid can be manageable; however, the amount of loan unrepaid at a 10% change in operating costs, which is 3,526.9 × 106 Tg equivalent to 1.6 million tons by the current sale price of 2,200 Tg/t, will create difficulty in financial terms.

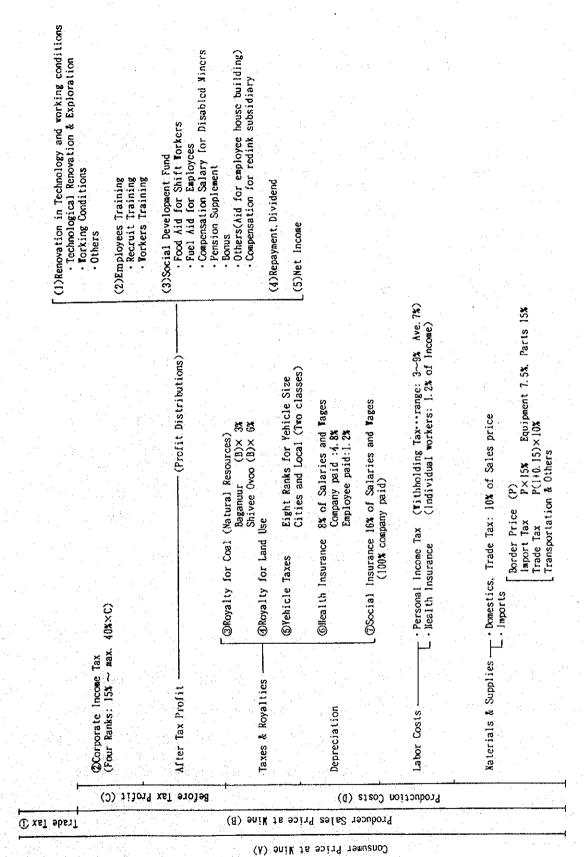


Figure 8.1 Tax System and Coal Price Structure

Table 8.1 Datong Coal (thermal) Exported to Japan

		· · · · · · · · · · · · · · · · · · ·	
Year	Quantity (1,000ton)	FOB price (US\$)	Heating Value (kcal/kg)
1985	2, 285	40.44 **(39.85)	6, 900
1986	2, 308	36. 51	6, 800
1987	2, 421	29. 51	6, 800
1988	2, 405	35. 10	6, 800
1989	2, 484	38. 90	6, 800
1990	2, 546	40. 45	6, 800
1991	* 2, 700	39. 45	6, 800
1992	2, 641	38. 59	6, 800
1993	* 2, 540	35. 90	6, 800
1994	* 2, 660	32. 60	6, 800
Average		36. 627	6, 800
			(AD)

** 6,800kcal/kg equivalent

Datong Coal Specification

Total Moisture	(%)	≦ 8
Inherent Moisture	(%)	≤ 4
Volatile Matter	(%)	≥ 26
Ash	(%)	≤ 12
Sulphur	(%)	≦ 1.0
Size	(mm)	≤ 50

Calculation Example

Unit price on a dry-ash free basis.

$$6,800 \div \{1-(0.04+0.12)\} = 8,095$$

3, 662. $7 \neq \div 8$, 095 = 0. 4525 \notin /kcal

^{*} Contract Basis

Table 8.2 Russian Coal (thermal) Exported to Japan

Quantity

;	Year	1984	1985	1986	1987	1988	1989	1990	1991	1992
•	1,0001	774	963	892	954	1, 788	2, 469	2, 729	2, 278	1, 522

FOB Prices (US\$)

Brand	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
Neryungri-SS	30/ 31.5	30. 25	24. 5	25. 0	30. 5	33/ 33. 5	33. 2/ 33. 5	32. 2	30. 2	28. 0
Kuznetskey-SS							33. 75	33. 25/ 33. 5	30. 75/ 31. 0	28. 5
Kuznetskey-G6		38. 5	35. 5	37. 0	42.5	43. 0	41.6	41.5	39/ 39. 5	36. 0
Kuznetskey-GK	39. 0	37. 5	34. 25	35. 0	40.5	43/ 43.5	43/ 43. 5	42/ 42. 5	40/ 40. 5	37. 5
Tugnui									28. 5/ 29	27.5

Specification

Brand	Neryungri-SS	Kuznetskey-SS	Kuznetskey-G6	Kuznetskey-GK	Tugnui
Heating Value (Basis) kcal	6,500 /kg (AR)	8,050 (DAF)	7, 200 (AD)	8, 150/8, 200 (DAF)	6, 100/6, 200 (AD)
Total Moisture (As received:AR)	(%)	8~13	10.0	9. 0	11.0
Inherent Moisture (Air Dry:AD)	(%)		2. 3	<u> </u>	
Ash (AD)	(%) 16.0	15. 0	10. 1	9. 0	16. 0
Volatile Matter	(X) 20.0 (DAF)	20~30 (DAF)	36.2 (AD)	37~41 (DAF)	45 (DAP)
Fixed Carbon (AD)	(%)		51. 4		
Total Sulphur (AD)	(%) 0.30	0.30	0.40	0.60	0.60
H. G. I. (AD)	60		61	65	· · · · · · · · · · · · · · · · · · ·
A. F. T. (Flow) (°C) 1,450		1. 450	1, 350	
llenating Value (DAF) (kcal	8, 553 /kg)	8, 050	8, 219	8, 175	?

Table 8.3 FOB Unit Price (Dry-Ash-Free Basis)

	1985	1986	1987 1988	1988	1989	1990	1991	1992	1993	1994	Total	Average
[CHINA] Datong	49. 23	45.10	36. 45	43.36	48.05	49.97	47.50	47.67	44.35	40.27	451.95	45. 20
[RUSSIA] Neryungri-ss	35.95	35. 37	28.64	29. 23	35. 66	38.88	38, 99	37.65	35.31	32. 74	348. 42	34.84
Kuznetsky-ss							41.93	41.46	38. 35	35. 40	157. 14	39. 28
Kuznetsky-G6		46.84	43.19	45.02	51.71	52. 32	59.61	50.49	47.76	43.80	431.74	47.97
Kuznetsky-GK	47.71	45.87	41.90	42.81	49. 54	52.91	52.91	51.68	49. 24	45.87	480.44	48.04
Russian Average					11							42, 53
Overall Average												43.86

Table 8.4 DCF Cash Flow and Foreign & Local Currency Requirement of Case 3

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Table 8.4 Cont.(1) DCF Cash Flow and Foreign & Local Currency Requirement of Case 3

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23.1 M.	Delinion Delinion	Ézā	11		gaç	i de				_	e e e	i i i i	ğã		244	3,4	ğ	ijā i	1	Ž,	ļ	44	ig si	i i	4 4
11. 25. 20. 20. 20. 20. 20. 20. 20. 20. 20. 20	Lieux Cente Salerras I. Tagas Sepai Tenvanes	ğâ	44	Ħ a	52	21	45	125	33		25	22	31	23	32	28	38	33	22	44.	34	24	1	Šã	17
443 414 414 414 414 414 414 414 414 414	Mariant S Darges	À	ž.	Ē.	4	1	4	4	4	2	ź	3	å.	₫.	2	i	â	₫.	3	1	3	4	ą.	ã,	Ĭ,
	After he Espesies	1,142	45		22.5	661	21	100		95	181	196	1	- 3	1	100	4	4 E	E 5	55	66		25	12	7 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5

Table 8.5 Economic Sensitivity Analyses

1	*.,	-	.		1			.	1	[1	
EIRR %		(S/R)	(4.4)	(4.2)	(3.9)	(3.7)	(3.5)	(3.3)	(3.1)	(2.9)	(2.6)	
Unit: E	ion coal)	Case 3	48.9	52.6	8.8	61.5	67.1	73.9	83.0	97.9	NA	086. 1. Tg
,	Total Excavation (No changes in coal	Case 2	22.8	23.6	24.4	25.2	25.9	26. 7	27.5	28.2	29.0	lue of 6,
	Total (No cha	Case 1	NA	NA	NA	NA	ž	NA	NA	NA	NA	c coal va
	ý	Case 3	48.3	52. 1	56. 4	61.3	67. I	74.3	84.1	101.4	NA	Base Case is at the economic coal value of 6,086.1 Tg/t
	Operating Costs	Case 2 C	22.7	23.5	24.3	25.1	ණ 1 ද්	26.7	27.5	28.3	29. 1	is at th
	Opera	Case 1 C	NA	NA	NA	NA	\$	NA	NA	NA	NA	base Case
		Case 3 C	43.8	47.8	52.7	58.8	1119	79.7	135.4	NA	NA	
	Capital Costs	Case 2 Ca	21.2	22.3	23.4	24.6	25.9	27.4	28.9 It	30.6	32.5	;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;
	Cap I ta	Cass 1 ය	NA 2	NA 2	NA 2	NA S	3	NA 2	NA	¥	NA ,	ā
			∞	2	ıо	6		8	4.	4.	59.3	enst price
	ate g/US\$)	Case 3	73	72.	70.	88	19	18	83	61		e shows s
	Exchange Rate (1.00: 400Tg/US\$)	Case 2	26.5	26.4	26.3	26.1	52 0	25.7	25.5	25.3	25.0	10,
	" = :	Case —	NA	NA.	NA	Æ	2	N	NA	N	NA	10
	Tg/t)	Case 3	NA *3	NA	NA	91.5	19	23.8	44.1	36.3	29.7	ratio
	Price 6, 057. 1	Case 2	2. <u>14.</u> 8.	32.3	30.2	28.1	6 100	23.7	21.5	19.1	16.7	Stripping ratio
	Price (1.00: 6,057.1	Case 1 Case 2	(7, 303. 2) *2 34. 3	(6, 998, 9)	(6.694.6)	(6, 390, 3)	(8, 686, 0)	(5, 781, 7)	(5, 477. 4)	(5, 173, 1)	(4, 868. 8)	S/R : St
	Variation Factor		1.20 (7	1.15 (6	1.10 (6	1.05 (6	1.00 (F	0.95 (E	0.90	0.85	0.80	*1.5
	1					10 (1) (1)						

) shows a coal price. : Stripping ratio
): BIRRs are all not avilable. (

: Not available

Case 1: Existing Operation Case 2: Expansion Case 3: Combination

Table 8.6 General Inflation

Consumer Price Index

Year-Month-Date	1991-1-16	1994-5	Monthly (%)
Food, beverages and tobacco	100	2, 853. 27	8. 5
Clothing and footwear	100	1, 620. 96	7.0
Rent and utilities	100	1, 182, 83	6. 2
Household goods	100	2, 741. 50	8. 4
Medical care	100	1, 933. 93	7.5
Transport and communication	100	1, 683. 07	7.1
Education and recreation	100	2, 827. 33	8.5
Other goods and services	100	2, 141. 17	7.8
Overall indexes	100	2, 291. 47	7.9

Table 8.7 Economic Indices

Various Prices and Indices Related to Coal Mining

Year		1990	1991	1992	1993	1994	Remarks
Consumer Price Index		100	153	650	1, 839	2, 293 (20)	
Exchange Rate	(Tg/US\$)	5, 48	25.51	40.00	299. 3	400.0	
Coal Price	(Tg/t)	31.87	83	180	1,723	2, 396	<u>. 1</u> 26
Coal Production Cost	(Tg/t)	27. 30	38. 4	150	779	1, 545	
Explosives	(1,000Tg/t)	2, 26	6. 52	20.8	108.7	210.0	
Detonator	(Tg/each)	0. 57	4.05	4.05	4. 87	150.0	
Dragline 10/70 Bit	(1,000Tg/each)	0.81	0. 81	13.5	18. 25	81.25	(168)
Dragline 20/90 Bit	(1,000Tg/each)	0.52	0. 52	13.5	76.0	131. 25	· · · · · · · · · · · · · · · · · · ·
Wire Rope	(1,000Tg/t)	19. 20	33. 2	33. 2	132.3	200.0	(480)
Cable	(1,000Tg/km)	85.0	460. 0	600. 0	2, 625.0	6, 700. 0	
Sleeper	(Tg/each)	245.0	245. 0	500. 0	957.0	1, 500. 0	
Diesel Oil	(1,000Tg/t)	1. 13	2.14	11.8	50.0	144.0	
Gasoline	(1,000Tg/t)	1. 1	2.2	18.0	42.0	130.0	
Lubricant	(1,000Tg/t)	37.5	37. 5	62.0	240.0	375.6	
Blectricity	(Tg/kwh)	0.18	0.35	0.35	4.4	13. 2	
Heat	(Tg/Gcal)	37. 0	55. 0	110.0	1, 971. 0	3, 862. 0	
Water (Potable)	(Tg/m²)	1. 40	4, 50	9. 40	38.90	54.0	
Water (Industrial)	(Tg/m²)	1. 40	4. 50	9. 40	41.25	54.0	
Mine Average Salary (1,	000Tg/man·yr)	8.8	29. 5	N. A.	253, 30	533. 10	
Parts							
Truck Tires	(1,000Tg/each)	11.0	11.0	45. 0	235.0	535. 5	· · · · · · · · · · · · · · · · · · ·
Mining Equipment					·.		
Shovel 5A	(1,000Tg/unit)		1, 944. 7		1, 944. 7	126, 000	
Diesel Loco T3M-2	(1,000Tg/unit)	1, 840	·		<u> </u>	160, 000	(480, 000)
Drill CbP-160	(1,000Tg/unit)	1, 425. 0		-		37, 600	
Haul Truck Belaz 40t	(1,000Tg/unit)	829. 2	829. 2	829. 2	<u> </u>	21, 200	(46, 312)
Dozer Det-250	(1,000Tg/unit)	700	700	696. 1		60, 000	
Dragline 20/90	(1,000Tg/unit)	22, 900	<u></u>		_	2, 400, 000	(Quotation)
Rail Tariff (B.N-U.B)	(Tg/t)	12. 43	31. 14	106.87	376.71	376.71	<u> </u>

) shows the offer price.

Table 8.8 Economic Indices

Escalation

					and the second second	A CONTRACTOR OF THE PROPERTY O
Year	1990	1991	1992	1993	1994	Remarks
Consumer Price Index	1.00	1.53	6. 50	18. 39	22, 93	
Exchange Rate	1.00	4. 66	7. 30	54. 62	72. 99	
Coal Price	1.00	2, 60	5. 65	54.06	75. 18	
Coal Production Cost	1. 00	1.41	5. 49	28. 53	56. 59	
Explosives	1.00	2. 88	9. 20	48. 10	92. 92	
Detonator	1.00	7. 10	7.10	8. 54	263. 16	
Dragline 10/70 Bit	1.00	1.00	16. 67	22. 53	100. 31	
Dragline 20/90 Bit	1.00	1.00	25. 96	146. 15	252. 40	
Wire Rope	1.00	1. 73	1.73	6. 89	10. 42	
Cable	1.00	5. 41	7.06	29. 71	78. 82	
Sleeper	1.00	1.00	2.04	3. 91	6.12	
Diesel Oil	1.00	1.89	10. 44	44. 25	127. 43	
Gasoline	1.00	2.00	16. 36	38. 18	118. 18	
Lubricant	1.00	1.00	1.65	6. 40	10.02	
Electricity	1.00	1. 94	1.94	24. 44	73, 33	
Heat	1.00	1.49	2. 97	53. 27	104. 38	
Water (Potable)	1.00	3. 21	6.71	27. 79	38. 57	
Water (Industrial)	1.00	3. 21	6.71	29. 46	38. 57	
Mine Average Salary	1.00	3. 35	N. A.	28. 78	60. 58	
Parts				-		
Truck Tires	1.00	1.00	4.09	21. 36	48. 68	
Mining Equipment	•					
Shovel 5A	*****	1.00		1.00	64. 79	
Diesel Loco T3M-2	1.00	_			86. 96	
Drill CbP-160	1.00	<u></u>		-	26. 39	
Haul Truck Belaz 40t	1.00	1.00	1.00		25. 57	
Dozer Det-250	1.00	1.00	1.00		85. 71	
Dragline 20/90	1.00				(104. 80)	(Quotation)
Rail Tariff (B.N-U.B)	1.00	2. 51	2. 51	30. 31	30. 31	
						

Table 8.9 FIRR on Equity at 6,086 Tg/t for Case 3

 <u>‡</u>	Equity					4	Foreign Loan Interest Rate	Interest R	ate	- 3 A			
8	8			2	ស		3%		24		%		10%
		75 THE	Uhrepaid*2	표표	Uhrepaid	표 종	Uhrepaid	FI 88	Uhrepaid	FIR	Uhrepaid	FIR	Uhrepaid
800	00 00		0.0	10.5	0.0	10.5	0.0	10.5	0.0	10.5	0.0	10.5	0.0
8	02 S	10.8	0.0	10.8	0.0	10.7	0.0	10.7	0.0	10.7	0.0	10.6	0.0
00 01	80 06	11.1	0.0	11.0	0.0	11.0	0.0	10.9	0.0	10.8	0.0	10.7	0.0
15.00	85.00	11.4	0.0	11.3	0.0	11.3	0.0	11.1	0.0	11.0	0.0	10.9	0.0
20 02	800	11.7	0.0	11.6	0.0	11.5	0.0	11.4	0.0	11.1	0.0	11.0	0.0
12 12 13 13 13 13 13 13 13 13 13 13 13 13 13	75.00	12.1	0.0	12.0	0.0	11.9	0.0	11.6	0.0	11.3	0.0	11.1	0.0
90 08	70.00	12.5	0.0	12.3	0.0	12.2	0.0	11.9	0.0	11.5	0.0	11.3	0.0
8,8	65.00	12.9	0.0	12.8	0.0	12.6	0.0	12.3	0.0	11.8	0.0	11.5	0.0
40.00	80	13.4	0.0	13.2	0.0	13.0	0.0	12.6	0.0	12.0	0.0	11.6	0.0
45.00	85.00	14.0	0.0	13.7	0.0	13.5	0.0	13.0	0.0	12.3	0.0	11.8	0.0
80.03	20.00	14.6	0.0	14.3	0.0	14.0	0.0	13.4	0.0	12.6	0.0	12.1	0.0
8	45.00	15.3	0.0	15.0	0.0	14.6	0.0	13.9	0.0	12.9	0.0	12.3	0.0
88	40.00	16.2	0.0	15.8	0.0	15.4	0.0	14.5	0.0	13.4	0.0	12.7	0.0
88	35.00	17.4	0.0	16.8	0.0	16.3	0.0	15.3	0.0	13.9	0.0	13.1	0.0
70.00	30.00	18.9	0.0	18.2	0.0	17.6	0.0	16.3	0.0	14. 7	0.0	13.7	0.0
50	25.00	21.1	0.0	20.2	0.0	19.4	0.0	17.8	0.0	15.8	0.0	14.7	0.0
80	20.00	24.9	0.0	23.6	0.0	22.3	0.0	20.1	0.0	17.5	0.0	16.0	0.0
88	15.00	30.2	0.0	28.1	0.0	26.3	0.0	23.3	0.0	19.7	0.0	17.7	0.0
8	10.00	NA *3	0.0	M	0.0	WA	0.0	0.06	0.0	27.2	0.0	23.1	0.0
8	5.00	¥N	0.0	NA.	0.0	NA.	0.0	NA	0.0	NA	3.0	N.	32.0
88	0.01	NA	0.0	NA A	0.0	₩.	15.6	NA.	49.6	NA	636.0	NA	1,559.1
	AT PERM	2 10:000	tor of not.	100 00	ity (fived	1	sesets regaligation hasis	eis) (unit	Se				

*! FIRR : Financial rate of return on equity (fixed assets revaluation basis) (unit: %) *2 Unrepaid: Loan unrepaid at the end of the project life (unit: 10°Tg) *3 NA : Not Available

Table 8.10 Relationship between Coal Prices and Operations Soundness in Case 3

L. I. R. '	'' Price		0.00	t/Eguity 178.999	Del 0.	86678.208	Deb 1	6584 by
% ·	Tg/t	Note	FIRR*2	Unrepaid*3	FIRR	Unrepaid	FIRR	Unrepaid
	6, 086. 0	a	10.5	0.0	24. 9	0.0	NA *4	0.0
	6. 027. 0	ь	10. 2	0.0	23.7	0.0	NA -	(CR) 0.0
1.0	5, 261. 1	С	5.6	0.0	10.0	0.0	NA	14, 731, 9
	5, 139. 8	d	4. 9	0.0	8 - 8.1	*5 (CR) 0.0	NA	19, 115, 7
	5, 134. 3	е	4.9	0.0	8. 0	1.2	NA	19, 326, 9
	6, 086. 0	a	10.5	0.0	23. 6	0. 0	NA	0.0
	6, 076. 5	b	10.5	0.0	23. 4	0. 0	NA	(CR) 0.0
2.0	5. 304. 5	С	5. 9	0.0	10.0	0.0	NA	14, 686. 6
	5, 181. 7	d	5. 2	0.0	8.1	(CR) 0.0	NA	19, 110, 3
	5. 175. 4	е	5. 1	0.0	8.0	1.4	NA	19, 366, 7
	6. 126. 0	a	10.7	0.0	23. 2	0.0	NA	(CR) 0.0
	6, 088. 0	b	10.5	0. 0	22. 3	0.0	NA	13.7
3.0	5, 347. 9	С	6.2	0.0	10.0	0.0	NA	14, 657. 8
	5, 223. 6	d	5. 4	0.0	8. 1	(CR) 0.0	NA	19, 191. 7
	5, 216. 6	е	5. 4	0.0	8. 0	1.5	NA	19, 476. 6
	6, 225, 2	a:	11.3	0.0	22.7	0.0	NA	(CR) 0.0
1 .	6, 086. 0	b	10.5	0.0	20. 1	0.0	NA	47.6
5.0	5, 434. 7	С	6. 7	0.0	10.0	0.0	NA .	14, 641. 9
	5, 307. 5	d	5.9	0.0	· 8.1	(CR) 0.0	NA	19, 365, 6
	5, 298. 9	е	5. 9	0.0	8. 0	1.8	NA	19, 706. 6
	6, 374. 0	a	12. 1	0.0	22. 2	0.0	NA	(CR) 0.0
	6, 086. 0	b	10.5	0.0	17.5	0.0	NA	583. 2
8.0	5, 565. 0	С	7.5	0.0	10.0	0.0	NA	14, 865. 0
	5, 433, 4	d	6. 7	0.0	8.2	(CR) 0.0	NA	20, 049, 4
	5, 422. 5	е	6.6	0.0	8. 0	2. 3	NA	20. 489. 6
	6, 473. 3	a	12.7	0.0	21.8	0.0	NA	(CR) 0.0
	6, 086. 0	b	10.5	0.0	16.0	0.0	NA	1, 505. 9
10.0	5, 652. 0	С	8.0	0.0	10.0	0.0	NA	15, 231. 4
	5, 517, 3	d	7.2	0.0	• 8.2	(CR) 0.0	NA	20, 576. 5
	5, 505. 0	е	7.1	0.0	8. 0	2.6	NA	21, 070. 7

Foreign loan interest rate FIRR on equity on a fixed assets revaluation basis (unit: %) Loan unrepaid at the end of the project life (unit: 10° Tg) Not available Crical point of no loan unrepaid Reasonable Price Level

Coal price presented on the table are including a 10% trade tax.

Note: a: price at no loan unrepaid on a 99,9% debt
b: price at the economic value of 6,057. I Tg/t
c: price at no loan unrepaid on a 80% debt
d: price at a 10% FIRR on equity on a 80% debt
e: price at a 8% FIRR on equity on a 80% debt

Table 8.11 Financial Sensitivity Analyses at 6.086.0 Tg/t (ROI)

Variation Factor	(T. 0 EX	Exchange Rate 1.00: 400Tg/US\$	% %	Cap	Capital Costs	ន្ទ	Oper	Operating Costs	ts	Total (No ci	Total Excavation (No changes in coal)	n oal)	
	Case 1	Case 2	Case 3	Case 1	Case 2	Case 3	Case 1	Case 2	Case 3	Case 1	Case 2	Case 3	*2(S/R)
1.20	23. 2		11.3	14.5	5.9	7.7	6.6	5.4	6.5	10.3	5.5	9.9	(4.4)
1.15	22.6	8.4	11.1	15.8	6.4	8.3	12.2	6.1	7.5	12.5	6.1	9.2	(4.1)
1.10	21.9	က	10.9	17.2	6.9	9.0	14.7	6.8	8.5	14.9	6.8	8.6	(3.9)
1.05	21.2	8.2	10.7	18.8	7.5	9.7	17.4	7.4	9.5	17.5	7.4	9.5	(3.7)
00]	202	8.1	10.5	50,5	;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;	9.01	20,5	8.1	ŢĢ.52	:c 8	188	10.5	(8
0.95	19. 7	7.9	10, 3	22. 4	8.7	11.4	24.1	8.7	11.5	23.9	8.7	11.5	(3.3)
0.90	18.8	7.8	10.0	24. 6	9.5	12.3	28.3	9.4	12.5	27.9	9.3	12.5	(3.1)
0.85	17.8	7.6	9.7	27.1	10.2	13.3	33.6	10.0	13.6	32.8	10.0	13.5	(2.9)
0.80	16.6	7.4	6.9	29. 9	11.1	14.5	39. 4	10.7	14.6	38.3	10, 6	14.5	(2.6)
				Ċ		,							

*1 FIRR: FIRR on the total project on a fiexed assets revaluation basis. *2 S/R: Stripping Ratio

ase Case at the economic value of 6,086.0 Tg/t

Table 8.12 Financial Sensitivity Analyses on Case 3 at 6.086.0 Tg/t (ROE) (80% debt with 2% foreign loan interest rate)

Variation

TKK	œ	(S/R)*3	(4.4)	(4.1)	(3.9)	(3.7)	(3.5)	(3.3)	(3.1)	(2.9)	(2.6)	
UDIT: FIKK	Total Exeavation	FIRR	11.1	13.8	16.6	19.8	23.6	27.8	32. 7	38.3	44. 4	
	Total	Unrepaid	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
							* * *					
	osts	FIRR	10.8	13.5	16.4	19.7	23.6	28.0	33.1	39.0	45.4	
	Operating Costs	Unrepaid	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	osts	FIRR	15.0	16.7	18.6	20.8	23.6	27.0	31.3	36.4	42.6	
	Capital Costs	Unrepaid	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	ate g/US\$)	FIRR *2	26.5	25.9	25. 2	24.5	23.6	22. 6	21.4	20.1	18.9	
	Exchange Rate (1.00: 400Tg/US\$)	Unrepaid*1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	[٠.			I				<u> </u>			

*1 Unrepaid: Loan unrepaid at the end of the project life (unit: 10° Tg)

0.80

O. 85

FIRR on equity at the economic coal price of 6,086 Tg/t on a fixed assets revaluation basis (unit: %) *2 FIRR

*3 (S/R) : Stripping ratio

1.00

0.95

0.30

1.05

Table 8.13 Financial Sensitivity Analyses on Case 3 at 5.181.7 Tg/t (ROE) (80% debt with 2% foreign loan interest rate)

							UNIT: FIER	JEGE .
Variation	Exchange Rate (1 00: 400Tg/US\$	Rate g/US\$)	Capital Costs	Operating Costs	Costs	Total	Total Exeavation	
	Unrepaid*1	FIRR *2	Unrepaid FIRR	Unrepaid	FIRR	Unrepaid	FIRR	(S/R)*3
1.20	0.0	10.4	4, 404, 8 2.8	9, 217. 3	(-5.8)	8, 841, 2	(-2.0)	(4.4)
	0.0	6.6	2, 826. 8 4.1	6, 258. 8	(-0.8)	5, 996. 2	(-0.4)	(4.1)
1.10	0.0	9.3	1, 509. 2 5. 4	3, 526.9	2.6	3, 352, 2	2.8	(3.9)
1.05	0.0	8.7	319.0 6.7	1, 116.2	5.4	1,044.8	5.5	(3.7)
1 00	0.0	8, 1	0.0 8.1	0.0	8.1	0.0	8.1	(3.5)
0.95	8.4	7.4	0.0 9.6	0.0	10.9	0.0	10.8	(3.3)
0.90	223. 4	6.6	0.0 11.3	0.0	13.8	0.0	13.6	(3.1)
0.85	638. 5	5.8	0.0 13.2	0.0	16.9	0.0	16.6	(2.9)
0.80	1, 213.7	4.8	0.0 15.4	0.0	20.3	0.0	19.8	(2.6)

*1 Unrepaid: Loan unrepaid at the end of the project life (unit: 10° Tg)

FIRR on equity at the critical coal price for loan unpaid of 5,181.7 Tg/t on a fixed assets revaluation basis (unit:%) *2 FIRR :

*3 (S/R) : Stripping ratio

9 Conclusions and Recommendation

1) Issues of present Shivee Ovoo coal mine

The biggest issue of Shivee Ovoo coal mine is low quality in terms of high moisture content, low calorific value, and contamination of rock and metals.

- Moisture content is too high due to delay of dewatering work and lacks of moisture management system and equipment
- Calorific value is too low due to mining of the oxidized coal near the outcrop and high moisture content in coal

Another issue is low efficiency of dump trucks due to lack of spare parts and maintenance specialist together with no workshop in the coal mine.

2) Recommended mining system for renovation

Overall mining system was reviewed and the followings were selected for renovation, taking flexibility for overburden removal into account:

Overburden removal

: One medium-size dragline

Interburden removal

: Existing shovel and truck

Coal excavation

: Existing shovel and truck

Necessary surface facilities such as workshop, dewatering system, coal quality control system, crushing plant, etc. are also planned.

3) Environmental impact

Environmental impact of renovation was studied in all environmental aspects, however, any limitation on renovation for 2 million t/y was not recognized. To preserve the environment, installation of a water treatment system of groundwater is required and included in the renovation cost.

4) Major equipment and facilities

Major equipment is as follows:

Equipment	Existing	Expansion	Major services
Dragline	0	1	Overburden removal
Shovel	4	0	Excavation (overburden & coal)
Truck	15	0	Transportation (")
Bulldozer	4	1	Supporting & multi-services
Grader	0	. 1	Road maintenance

Most of the surface facilities such as workshop for maintenance, sizing and loading system for size control and coal analyzing system for quality control are not yet installed at present and therefore urgent installation is required.

5) Quality Control System

At present, there is no coal quality management section in Shivee Ovoo coal mine and whole Shivee Ovoo coal is sent to the users without quality inspection. Issues of coal quality are low calorific value, high moisture content and contamination of rock, metal and large coal block.

To improve coal quality, the concept of "management for coal quality control" must be introduced into whole managers, staffs, and labors as well as installation of quality control equipment.

- Note 1: Installation of coal drying system at Shivee Ovoo coal mine is desirable; however, dried lignite may cause spontaneous combustion during storage and transportation.

 Therefore, installation of the coal drying system at the coal user site is recommended.
 - 2: Washability test was carried out to investigate the effect of ash removal from raw coal. The results show that Seam I is relatively easy while Seam II is rather difficult. In conclusion, selective coal mining is recommended to decrease ash content rather than installation of a coal washing plant.

6) Capital and Operating Costs

Capital and operating costs for 23 years (1996-2018) of the project life, which consist of initial cost and replacement cost, are as follows:

	Capital cost	Operating cost	Total
Existing improvement	43	97	140
Expansion	82	139	221
Total for renovation	125	236	361
		(Unit : r	nillion US \$)

Foreign currency portion of capital and operating costs for the first three years (1996-1998) is as follows:

	Capital cost	Operating cost	Total
Existing improvement	6.4	6.3	12.7
Expansion	35.9	0	35.9
Total for renovation	42.3	6.3	48.6
		(Unit : 1	nillion US\$)

7) Results of economic evaluation

Economic evaluation proves that the renovation project of Shivee Ovoo coal mine is advantageous in terms of Mongolian economy and has the sufficient economic feasibility.

Economic value of Shivee Ovoo coal with 3,580 kcal/kg is evaluated to be 6,086 Tg/t as a calorific parity border price of the import substitute from Russia.

EIRR on the total project is as high as 67.1% at the economic coal value of 6,086 Tg/t. The coal price to gain 10% EIRR is 3,729 Tg/t and is cheaper than 4,743 Tg/t of Baganuur coal.

**************************************	Economic price at 10%	EIRR(Tg/t)	EIRR at 6,086 Tg/t(%)
Case 1	3,290		
Case 2 *1	4,082		25.9
Case 3	3,728		67.1

Note *1: All capital cost of the surface facilities is included in Case 2.

The economic sensitivity analysis illustrates that $\pm 20\%$ changes in base case assumptions do not give a serious impact on the economic feasibility.

8) Results of financial analysis

Under heavy Mongolian taxation system, the renovation project of Shivee Ovoo coal mine is critical in the financial feasibility.

FIRR on the total project (debt/equity = 0/100), which represents the investor's point of view, is a critical level of 10.5% at the economic coal value of 6,086 Tg/t.

Average S	Financial price at 10% FIRR(Tg/t)	FIRR at 6,086 Tg/t(%)
Case 1	5,265	20.5
Case 2 *1	6,546	8.1
Case 3	5,998	10.5

Note *1: All capital cost of the surface facilities is include in Case 2.

The sale price (financial coal price) to gain 10% FIRR on the total project is 6,000 Tg/t and as high as 160% of the economic coal price of 3,728 Tg/t, which illustrates the heavy taxation regimes.

Results of the above-mentioned analyses show that the project is critically viable at the sale price of economic value of 6,086 Tg/t under the current taxation regimes.

To improve the financial feasibility of Shivee Ovoo coal mine as well as to decrease the coal sale price from the level of the economic value of 6,086 Tg/t, introduction of low cost loan and/or amendment of Mongolian taxation rates will be necessary.

Relation between FIRR, debt/equity ratio and interest rate illustrates that introduction of low cost loan can improve FIRR on equity by the effect of leverage, while debt/equity ratio must be lower than 95% to avoid loan unrepaid.

Debt Equity		oreign lo	an intere	est rate (%)	
(%) (%)	1	2	5	8	10	
0 100	10.5	10.5	10.5	10.5	10.5	.: .
50 50	14.6	14.3	13.4	12.6	12.1	
80 20	24.9	23.6	20.1	17.5	16.0	
95*1 5	∞	∞	∞	(unrepaid) (unrepa	iid)

Note *1: FIRR on equity is higher than 100, while, in the range of more than 95 % debt/equity

ratio, financial unsoundness is unfavorably increased by the amount of loan unrepaid.

For reference, the effect of tax exemption in the case of renovation of Baganuur coal mine is shown on Table 8.12 of Chapter I.

9) Financial sensitivity analysis

Impact of changes in coal sale price was evaluated by the amount of loan unrepaid.

The reasonable lowest sale price of Shivee Ovoo coal under assumed financial conditions (debt/equity = 80/20) is differed by foreign loan interest rate from 5,180 Tg/t at 2% to 5,430 Tg/t at 8%.

In the case of 80% debt at 6,086 Tg/t, which FIRR on equity of 23.6% is shifted from an original 10.5% resulting from leverage, $\pm 20\%$ of changes in assumed conditions will not give a serious impact on the financial feasibility.

Above-mentioned examinations indicate that the desired financial conditions for renovation project of Shivee Ovoo coal mine are as follows:

- -Project financing of 80% debt and 20% equity
- -Foreign loan of low interest rate
- -Fixed assets revaluation
- -Tax deductible of accumulated operation loss
- -Tax reduction:
 - · Import tax for equipment and spare parts
 - Trade tax for equipment and spare parts

If the Mongolian government plans to promote the privatization, it is recommended to crete similar conditions in effect described above.

10) Improvement of management system

Improvement of management system in the following sections is recommended:

- Maintenance section:

The section takes responsibilities for the maintenance of equipment including stock of spare parts.

Development of maintenance capability is the top urgent subject of the new maintenance section.

- Coal quality control section:

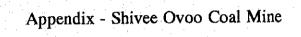
The section takes actions in resolving coal quality troubles and hold good communication with the coal users on coal quality issues.

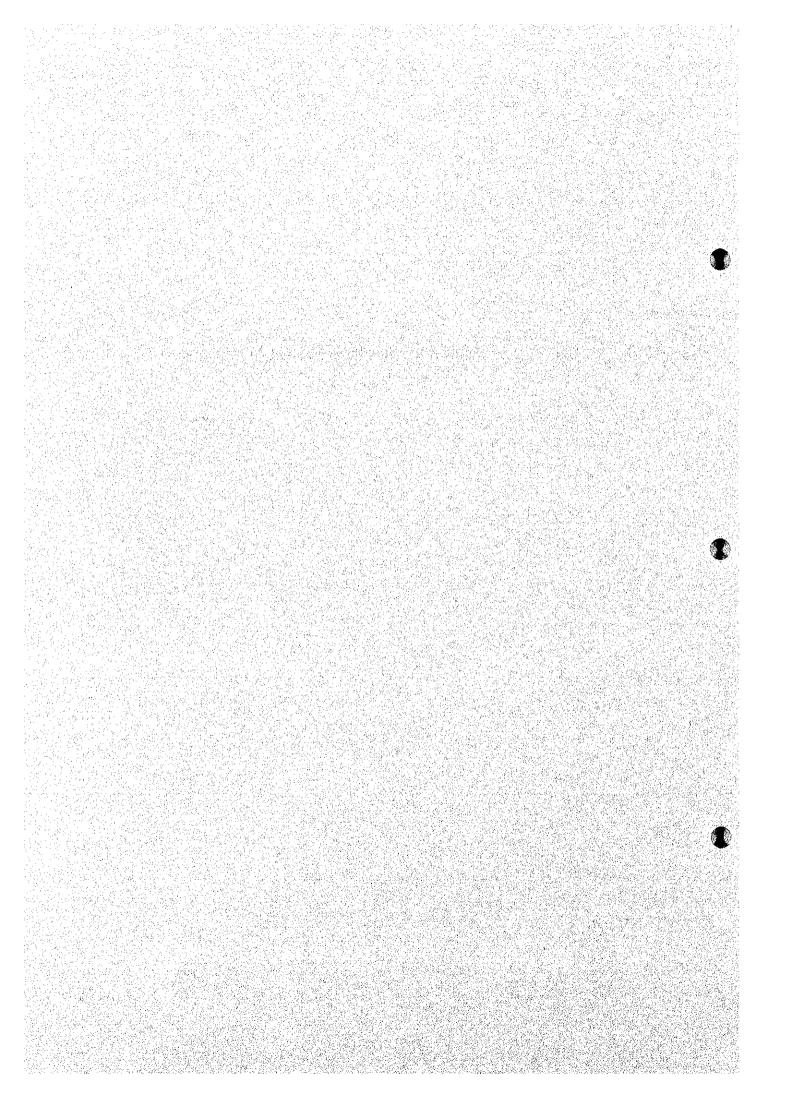
- Environmental section:

The section preserves the environment through implementation of the monitoring plan and the proposed countermeasures.

- Coal sales section:

The section sale the product, to negotiate the price, manage the claims from users and prepare the sales plan in short and long terms.





Appendix 1 Time Study

Time study was carried out on 29th November, 1993 to find cycle time of loading and hauling of overburden and coal. Purpose of time study was to get real operating data which are required to project real production capacity of Shivee Ovoo coal mine. Collected data are summarized as follow;

1.1 Overburden - Shovel (loading)

- Shovel: EKG 5A

- Rear Dump Truck: Belaz 548 (40 t)

Table 1.1 Cycle Time of Overburden Loading by Shovel

min:sec

1.0	in the contract of the contrac		
Activities	1	2	Average
1st path	0:30	0:30	0:30
2nd Path	0:27	0:25	0:26
3rd Path	0:25	0:24	0:24
4th Path	0:26	0:25	0:26
5th Path	0:27	0:27	0:27
Total Cycle Time	2 min 15 sec	2 min 11 sec	2 min 13 sec

1.2 Overburden - Truck (hauling)

- Hauling distance: 1.2 - 1.4 km

- Rear Dump Truck: Belaz 548 (40 t)

Table 1.2 Cycle Time of Overburden Hauling by Truck

min:sec 2 Average 1 **Activities** 1:47 1:50 1:52 Loading 3:07 3:09 3:06 Travel (loaded) 0:12 0:13 Maneuvering 0:10 0:49 0:52 0:46 **Dumping** 2:27 2:30 2:25 Travel (empty) 1:05 0:20 Waiting to load 1:50 0:17 0:15 0:20 Maneuvering 9:48 10:29 9:06 Total Cycle Time

1.3 Coal - Shovel (loading)

- Shovel: EKG 5A

- Rear Dump Truck: Belaz 548 (40 t)

Table 1.3 Cycle Time of Coal Loading by Shovel

					min:sec
Activities	1	2	3	4	Average
1st Path	0:25	0:19	0:25	0:26	0:24
2nd Path	0:35	0:29	0:28	0:25	0:29
3rd Path	0:23	0:25	0:54	0:39	0:35
4th Path	1:01	0:28	0:40	0:26	0:39
5th Path	0:42	0:32	0:57	0:36	0:42
Total Cycle Time	3:06	2:13	3:24	2:32	2:49

1.4 Coal - Truck (hauling)

- Hauling distance: 2 - 2.4 km

- Rear Dump truck: Belaz 548 (40 t)

Table 1.4 Cycle Time of Coal Hauling by Shovel

			and the state of		min:sec
Activities	1	2	3	4	Average
Loading	2:47	2:25	2:37	2:15	2:31
Travel (loaded)	4:45	4:50	4:50	4:40	4:46
Maneuvering	0:20	0:15	0:15	0:20	0:18
Dumping	0:45	0:45	0:50	0:47	0:47
Travel (empty)	4:05	4:15	4:50	4:20	0:22
Waiting to load	0:00	0:25	3:35	0:00	1:20
Maneuvering	0:00	0:15	0:15	0:00	0:15
Total Cycle Time	12:42	13:10	17:12	12:22	14:19

Appendix 2 Estimation of Production Cost

2 Estimation of Production Cost

This appendix describes details of calculation method utilized for estimation of production cost in Cases 1, 2 and 3.

2.1 Required numbers of mining equipment

In addition to the present mining equipment utilized at Shivee Ovoo coal mine at present, the following numbers of additional and new equipment by each option are required to increase production capacity to 2 million tons per year.

Table 2.1 Required Number of Mining Equipment

Case 1	Unit	Case 2	Unit	Case 3	Unit	Case 4	Unit
EKG - 5A	4	FEL (10 m ³)	2	D/L (29 m ³)	1	D/L (20n	¹³) 2
Belaz 548	22	D/T (80 t)	8	Dozer	1	Dozer	2
Wheel Doser	2	Wheel Doser	1	Grader	1	Grader	1
Grader	2	Grader	1			<u> </u>	

EKG 5A	- Electric Rope Shovel (5 m ³)
Belaz 548	- Rear Dump Truck (40 t)
FEL (10 m ³)	- Front End Loader (10 m ³)
D/Γ (80 t)	- Rear Dump Truck (80 t)
Wheel Dozer	- Wheel Dozer (230 kW)
D/L(29)	- Walking Dragline with bucket capacity of 29 m ³
D/L(20)	- Walking Dragline with bucket capacity of 20 m ³
Dozer	- Bulldozer (388 kW)
Grader	- Motor Grader (205 kW)

2.2 Price of mining equipment and capital cost

Price of mining equipment on CIF Ulaanbaatar, which was provided by suppliers of mining equipment, is utilized for estimation of capital cost for each option.

	Table 2.2	Price of Mining Equi	pment and Capital	Cost	
Case 1					US\$
Item	Unit Price	Duty & Tax	Capital Cost	Units	Total Costs
EKG - 5A	876,000	175,200	1,051,200	4	4,204,800
Belaz 548	80,000	16,000	96,000	22	2,112,000
W Dozer	357,000	71,400	428,400	2	856,800
Grader	426,000	85,200	511,200	2	1,022,400
Case 2					US\$
Item	Unit Price	Duty & Tax	Capital Cost	Units	Total Costs
FEL	1,200,000	204,000	1,224,000	2	2,448,000
D/T	633,000	126,600	759,600	8	6,076,800
W Doser	357,000	71,400	428,400	1	428,400
Grader	426,000	85,200	511,200	1	511,200
Case 3					US\$
Item	Unit price	Duty & Tax	Capital Cost	Unit	Total Costs
D/L(29)	16,615,000	3,323,000	19,938,000	1	19,938,000
Dozer	616,000	123,200	739,200	1	739,200
Grader	426,000	85,200	511,200	1	511,200
Case 4					US\$
Item	Unit price	Duty & Tax	Capital Cost	Unit	Total Costs
D/L(20)	12,171,000	2,434,200	14,605,200	2	29,210,400
Dozer	616,000	123,200	739,200	2	1,478,400

511,200

1

511,200

85,200

426,000

Grader

2.3 Operating life of mining equipment

Operating life of mining equipment is based on operating life expected in the western world, excepting EKG 5A and Belaz 548.

Table 2.3 Operating Life of Mining Equipment

	Asia Caranta						
Case 1	Life	Case 2	Life	Case 3	Life	Case 4	Life
EKG - 5A	6	FEL (10 m ³)	6	D/L (29 m ³)	30	D/L $(20m^3)$	30
Belaz 548	3	D/Γ (80 t)	6	Dozer	6	Dozer	6
Wheel Doser	6	Wheel Doser	6	Grader	6	Grader	. 6
Grader	6	Grader	6		·.		

2.4 Depreciation

Straight Line Method for depreciation is adopted with no residual values at the end of operating life of each mining equipment and interests on capital cost were not considered.

Table 2.4 Depreciation of Mining Equipment

Case 1			US\$
Item	Capital Cost	Life	Depreciation
EKG - 5A	1,051,200	6	175,200
Belaz 548	96,000	3	632,000
Wheel Dozer	428,400	6	71,400
Grader	511,200	6	85,200

Case 2			US\$
Item	Capital Cost	Life	Depreciation
FEL (10 m ³)	1,224,000	6	204,000
D/T (80 t)	759,600	6	126,600
Wheel Dozer	428,400	6	71,400
Grader	511,200	6	85,200

Item	Capital Cost	Life	Depreciation
D/L (29 m ³)	19,938,000	30	664,600
Dozer	739,200	6	123,200
Grader	511,200	6	85,200

Case 4

US\$

Item	Capital Cost	Life	Depreciation
D/L (20 m ³)	14,605,200	30	486,840
Dozer	739,200	 6	123,200
Grader	511,200	6	85,200

2.5 Capital cost

(1) Capital cost

Annual capital cost for each option is shown in Table 2.5.

Table 2.5 Capital Cost of Mining Equipment

_	
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US

			0.04
Item	Depreciation	Unit	Fixed Cost
EKG - 5A	175,200	4	700,800
Belaz 548	32,000	22	700,400
Wheel Doser	71,400	2	142,800
Grader	85,200	2	170,400
Total			1,718,000

Case 2

US\$

Item	Depreciation	Unit	Fixed Cost
FEL (10 m ³)	204,000	2	408,000
D/Γ (80 t)	126,600	8	1,012,800
Wheel Dozer	71,400	1	71,400
Grader	85,200		85,200
Total			1,577,400

Item	Depreciation	Unit	 Fixed Cost
D/L (29 m ³)	664,600	1	664,600
Dozer	123,200	1	 123,200
Grader	85,200	1	85,200
Total			873,000

Case 4 US\$

	Item	Depreciation	Unit	Fixed Cost
	D/L (20 m ³)	486,8400	2	973,680
	Dozer	123,200	2	246,400
. :	Grader	85,200	1	85,200
	Total			1,305,280

(2) Capital cost/tone

As a result of calculation on real production capacity in the Chapter 3.4.2, production capacity of coal at Shivee Ovoo coal mine is estimated to be 800,000 t/y. Therefore, the required amount of production expansion is 1,200,000 tons per year to establish 2 million tons per year. Annual depreciation cost divided by the required amount of production expansion is capital cost per tone of coal.

Table 2.6 Capital Cost/tone

Option	Fixed Cost (US\$)	Capital cost/tone
Case 1	1,718,000	1.43
Case 2	1,577,400	1.31
Case 3	873,000	0.73
Case 4	1,305,280	1.09

2.6 Operating cost

(1) Labor cost

1) Additional labor to be employed

Numbers of additional operators and maintenance personnel required to be employed at Shivee Ovoo coal mine for expansion of production capacity to 2 million tons per year on each option are shown in Table 2.7.

Table 2.7 Additional Employment of Operator and Maintenance Personnel

Case 1	Men	Case 2	Men	Case 3	Men	Case 4	Men
EKG - 5A	16	FEL (10 m ³)	. 4	D/L (29 m ³)	6	D/L (20m ³)	12
Belaz 548	44	D/Γ (80 t)	16	Doser	2	Dozer	4
Wheel Doser	4	Wheel Dozer	2	Grader	2	Grader	2
Grader	4	Grader	2				
Operator	68		24		10	arte Alteria e de la composition de la La composition de la	18
Maintenance	28		12		6		12
Subtotal	96		36		16		30
Attendance	0.83		0.83		0.83		0.83
Total	116		43		19		36

2) Labor cost

Labor cost is calculated on the basis of 70,000 Tg/month earned by operator of shovel which was given to us during the last site investigation in December, 1993. Exchange rate is 400 Tg/US\$.

Table 2.8 Labor Cost of Additional Employment

Option	Labor cost (tg)	Labor cost (US\$) US\$/tone
Case 1	97,440,000	243,600 0.20
Case 2	36,120,000	90,300 0.08
Case 3	15,960,000	39,900 0.03
Case 4	30,240,000	75,600 0.06

(2) Maintenance cost

1) Repair parts

The required annual cost of repair parts, consumable and overhaul is estimated by applying simple method which is well utilized on feasibility study in the western world.

Repair parts = Capital Cost x 0.05%

Consumable = Unit Capital cost x 0.00001 x Operating hours/year

Operating hour = Scheduled Hours x Utilization

Overhaul = Capital cost x 0.15%

Once every 8 years for Dragline

Once every 2 years for other mining equipment

Table 2.9 Repair Cost of Mining Equipment

Case 1			US\$
Item	Repair Parts	Consumable	Overhauls
EKG - 5A	175,200	148,429	262,800
Belaz 548	88,000	74,554	132,000
Wheel Dozer	35,700	30,245	53,550
Grader	42,600	36,091	63,900
Subtotal	341,500	289,319	512,250
Duty & Tax	119,525	101,262	179,288
Total			1,943,217

Case 2			US\$
Item	Repair Parts	Consumable	Overhauls
FEL (10 m ³)	102,000	86,414	153,000
D/T (80 t)	253,200	214,511	379,800
Wheel Dozer	17,850	15,123	26,775
Grader	21,300	180,045	31,950
Subtotal	394,350	334,093	591,525
Duty & Tax	138,023	116,933	207,034
Total			1,605,058

Item	Repair Parts	Consumable	Overhauls
D/L (29 m ³)	830,750	703,811	311,531
Dozer	30,800	260,094	46,200
Grader	21,300	18,045	31,950
Subtotal	882,850	747,951	389,681
Duty & Tax	308,998	261,783	136,388
Total			2,727,650

Case 4

US\$

Item	Repair Parts	Consumable	Overhauls
D/L (20 m ³)	1,217,100	1,031,126	456,412
Dozer	61,600	26,095	92,400
Grader	21,300	18,045	31,950
Subtotal	1,300,000	1,075,266	580,762
Duty & Tax	455,000	376,343	203,267
Total			3,990,638

Please note that overhaul of Rear Dump Truck Belaz 548 is not carried out due to operating life of 3 years in accordance with information obtained during the last site investigation in Mongolia.

2) Repair cost/tone

Table 2.10 Repair Cost/tone

Option	Maintenance Cost	US\$/tone
Case 1	1,943,217	1.62
Case 2	1,605,058	1.34
Case 3	2,727,650	2.27
Case 4	3,990,638	3.33

(3) Energy and other cost (running cost)

1) Output of mining equipment

Usage of energy cost is calculated on the basis of output of mining equipment. Output of mining equipment described in specifications is as follows;

Table 2.11 Output of Mining Equipment

Item	Diesel Engine (kW)	Electric Motor (kW)
EKG - 5A		250
Belaz 548	373	
Wheel Dozer	231	
Grader	205	
FEL (10 m ³)	515	
D/T (80 t)	649	
D/L (29 m ³)	en de la companya de La companya de la co	2,611
D/L (20 m ³)		2,500
Dozer	388	

2) Usage of energy and other costs

A simple method utilized for feasibility study in the western world is applied for estimating usage of electricity, diesel, lubricant and tire as follows;

Electricity (KWH) = Peak Power (KW) x 0.6 x Operating hour

Diesel (Litter) = Engine (KW) x k x Operating hours

D/T k = 0.055FEL k = 0.105Wheel Doser k = 0.14Doser k = 0.14Grader k = 0.14

Lubricant = Diesel (Litter) x .15

Tire = No. of tires per unit x cost of tire x operating hour/life of tire

Unit cost = Diesel : 77.7 c/l

= Petroleum : 6.78 c/kWh

= Electricity: 13 Tg/kwh

Tire: Belaz 548

= Price : US\$3,500

= No. of tires: 6

= Operating life: 4,000 hours

: Front End Loader

= Price: US\$24,000

= No. of Tire: 4

= Operating life: 4,000 hours

: Rear Dump Truck

= Price: US\$12,000

= No. of Tire: 6

= Operating life: 4,000 hours

: Wheel Doser

= Price : US\$5,000

= No. of Tire : 4

= Operating life: 4,000 hours

Total of import duty and tax is 35 % for spare parts and tires imported from overseas.

Table 2.12 Tire Cost

				X	1000 US\$
Item	Unit cost	Duty &Tax	Tire cost	No of Tire	Total
Belaz 548	3,500	1,225	4,725	6	28,350
FEL	24,000	8,400	32,400	4	129,600
D/T	12,000	4,200	16,200	6	97,200
W Dozer	5,000	1,750	6,750	4	27,000
Grader	5,000	1,750	6,750	6	40,500
			and the second second		

Table 2.13 Usages of Electricity, Diesel, Lubricant and Tire

Case 1				x 1000 US\$
Item	Electricity	Diesel	Lubricant	Tire
EKG - 5A	2,542			
Belaz 548		1,912		132
Wheel Dozer		205		8
Grader		182		12
Case 2				x 1000 US\$
Item	Electricity	Diesel	Lubricant	Tire
FEL (10 m ³)		611		8
D/T (80 t)		1,210		48
Wheel Dozer		103		4
Grader		91		6
Case 3				x 1000 US\$
Item	Electricity	Diesel	Lubricant	Тіге
D/L (29 m ³)	6,636			
Dozer		230		
Grader		91		6
Case 4			· · · · · · · · · · · · · · · · · · ·	x 1000 US\$
Item	Electricity	Diesel	Lubricant	Тіге
D/L (29 m ³)	12,708			
Dozer		460		
Grader		91		6

3) Cost of energy and others

Table 2.14 Energy and Other Costs of Mining Equipment

Case 1				x 1000 US\$
Item	Electricity	Diesel	Lubricant	Tire
EKG - 5A	172			
Belaz 548		1,485	223	624
Wheel Doser	en e	160	24	54
Grader		142	21	81
Subtotal	172	1,787	268	759
Total				2,987
Case 2				x 1000 US\$
Item	Electricity	Diesel	Lubricant	Tire
FEL (10 m ³)		475	71	259
D/T (80 t)		940	141	778
Wheel Doser		80	12	27
Grader		71	11	41
Subtotal	•	1,565		1,104
Total				2,904
Case 3				x 1000 US\$
Item	Electricity	Diesel	Lubricant	Tire
D/L (29 m ³)	450			
Dozer		179	27	
Grader		71	11	41
Subtotal	450	250	37	41
Total				778
Case 4				
Item	Electricity	Diesel	Lubricant	Tire
D/L (20 m ³)	862			
Dozer		356	54	
Grader		71	11	41
Subtotal	862	427	65	41
Total				1,395

4) Energy and other cost per tone

Table 2.15 Energy and Other Cost per Tone of Mining Equipment

Option	Energy Cost, etc (US\$)	US\$/tone
Case 1	2,985,901	2.49
Case 2	2,904,256	2.42
Case 3	777,508	0.65
Case 4	1,395,000	1.16

2.7 Production cost

For each option, production cost to increase production capacity to 2 million tons per year is estimated as follows;

(1) Production cost

Table 2.16 Production Cost

Same and the same of the				022
Item	Case 1	Case 2	Case 3	Case 4
Capital Cost				
Depreciation	1,718,000	1,577,400	873,000	1,305,280
Operating Cost				
Labor Cost	243,600	90,300	39,900	75,600
Material Cost	1,943,217	1,605,058	2,727,650	3,990,638
Energy, etc	2,985,901	2,904,256	777,508	1,395,000
Total	6,890,718	6,177,014	4,418,058	6,766,518

(2) Production cost per tone

Table 2.17 Production Cost per Tone

<u> </u>		and the same of th		US\$/ton
Option	Case 1	Case 2	Case 3	Case 4
Capital Cost				
Depreciation	1.43	1.31	0.73	1.09
Operating Cost				
Labor	0.23	0.08	0.03	0.06
Materials	1.62	1.34	2.27	3.33
Energy, etc	2.49	2.42	0.65	1.16
Total	5.74	5.15	3.68	5.64

2.8 Selection of option

On this interim report at present, Case 3 has the lowest production cost per tone. Diesel and tire cost in Cases 1 and 2 are substantially higher than Cases 3 and 4. Diesel and tire have to be imported by spending hard currency. Additional mining equipment to be introduced in Case 1 is made in Russia. It is the fact that availability of these Russian equipment are lower than these made in the western countries. Electricity required in Cases 3 and 4 is domestically produced in Mongolia. Considering these factors, it is tentatively recommended that Case 3 should be selected as the best option for Mongolia. Case 3 is an option of introduction of a new medium dragline.

Production cost of the present mining equipment utilized at Shivee Ovoo coal mine and replacement costs are common cost in all options. Similarly, capital cost required for construction of Crushing and Screening plant, Stockyard, Train Loading Facilities, etc in establishing the capacity of production to 2 million tons per year and operating costs of these mine infrastructures are common cost in all options.

Production cost was estimated for each option. The following issues should be carefully considered on selection of option which is the most advantageous for the national interest of Mongolia. Mongolia has to make a decision on selection of the source of energy for mining equipment whether the electrical energy generated in Mongolia should be consumed, or diesel

which was purchased by the hard currency should be utilized as an energy. For example, case 2 (introduction of new medium truck and front end loader) requires diesel as a source of energy while case 3 (introduction of a new medium dragline) requires the electricity which is generated in Mongolia. Use of electrical energy produced in Mongolia is recommended.

Appendix 3 Alternative Proposal for Control of Coal Quality

For the purpose of solving problems on quality control of coal at Shivee Ovoo coal mine, the crushing and screening plant, stacker and reclaimer, coal stockyard and train loading facilities are proposed as the alternative methods of control of coal quality. The attached flow chart is a result of a preliminary investigation and further detailed feasibility study is required. Proposed flow chart on crushing, screening, coal stockyard and train loading is shown in Figure 3.1. Conceptual drawing of stacker and reclaimer is shown in Figure 3.2.

1 Basic Parameters

1.1 Location of installation

Present area of train loading.

1.2 Characteristics of coal

Density : $1.21 \text{ tone/m}^3 \text{ (loose density} = 0.7 - 0.8 \text{ tone/m}^3\text{)}$

Total moisture : Max 40% (frozen coal in the winter season)

Size distribution : It is assumed to be under 500 mm

1.3 Annual coal production

0 - 200 mm : 400,000 ton (transportation by truck)
0 - 50 mm : 1,600,000 ton (loading out by train)

Annual coal production : 2,000,000 ton

1.4 Working conditions

Working days : 300 day/year

Working hours : 24 hours/day (3 shifts per day)

1.5 Train loading

Unit train : 29 wagons

Capacity of wagon : 74 m³/wagon (65 ton/wagon)

2 Examination of The Capacity

- 2.1 Capacity of primary crushing (truck dump station primary vibrating screen)
 - (1) Annual handling volume $2,000,000 \text{ ton} : 2,860,000 \text{ m}^3 \text{ (loose density} = 0.7 \text{ ton/m}^3\text{)}$
 - (2) Daily handling volume $2.860,000 \text{ m}^3/300 \text{ days} = 9530 \text{ m}^3/\text{day} = 9,600 \text{ m}^3/\text{day}$
 - (3) Work efficiency 0.8
 - (4) Processing capacity $9,600 \text{ m}^3/\text{day}/(0.8 \text{ x } 24 \text{ hours}) = 500 \text{ m}^3/\text{hour}$ $Q = 500 \text{ m}^3/\text{hour x } 0.8 \text{ tone/m}^3 = 400 \text{ ton/hour(nominal capacity)}$
- 2.2 Capacity of secondary crushing (primary vibrating screen stockyard)
 - (1) 0 200 mm line

 $500 \text{ m}^3/\text{hour x } 20\% = 100 \text{ m}^3/\text{hour}$

 $Q = 100 \text{ m}^3/\text{hour x } 0.8 \text{ ton/m}^3 = 80 \text{ ton/hour (nominal capacity)}$

Please note;

As belt conveyor underneath of the primary vibrating screen has possibility to exceed 80 ton/hour, the capacity of belt conveyor is decided to be 160 ton/hour. (2 x 80 ton/hour)

(2) 0 - 50 mm line

 $500 \text{ m}^3/\text{hour} \times 80\% = 400 \text{ m}^3/\text{hour}$

 $Q = 400 \text{ m}^3/\text{hour} \times 0.8 \text{ ton/m}^3 = 320 \text{ ton/hour} \text{ (nominal capacity)}$

Please note;

With considering over size (25 %) of the secondary vibrating screen, the capacity of over size return line is decided to be 80 ton/hour (320 ton/hour x 0.25) and the capacity of the secondary roll crusher and the secondary vibrating screen is decided to be 400 ton/hour

(320 tone/hour + 80 ton/hour).

- (3) Stockyard
 - 1) 0 200 mm Clean Coal

Size of the stockyard is to hold clean coal for daily loading out.

$$2,860,000 \text{ m}^3 \text{ x } 20\% \text{ x } 1/300 = 1,910 \text{ m}^3/\text{day}$$

= $2,000 \text{ m}^3 \text{ (Stockyard)}$

2) 0 - 50 mm clean coal

Size of the stockyard is to hold clean coal for daily loading out.

$$2,860,000 \text{ m}^3 \times 80\% \times 1/300 = 7630 \text{ m}^3/\text{day}$$

= $8,000 \text{ m}^3 \text{ (stockyard)}$

(Please note that size of stockyard must be discussed with MFE)

- (4) Capacity of train loading facilities
 - 1) Transportation Capacity of a Unit Train

74 m³/wagon x 2 wagons =
$$2,146 \text{ m}^3$$

= $2,200 \text{ m}^3$ (say)

- Capacity of daily loading out 8,000 m³
- 3) Required number of unit trains

$$8,000 \text{ m}^3/2,200 \text{ m}^3 = 3.64$$

= 4 (say)

- 4) Loading time of unit train
 24 hours x 1/4 2 hours (allowance, etc) = 4 hours
- 5) Capacity of train loading
 2,200 m³/4 hours = 550 m³/hour

 $Q = 550 \text{ m}^3/\text{hour x } 0.8 \text{ ton/m}^3 = 440 \text{ ton/hour (nominal capacity)}$

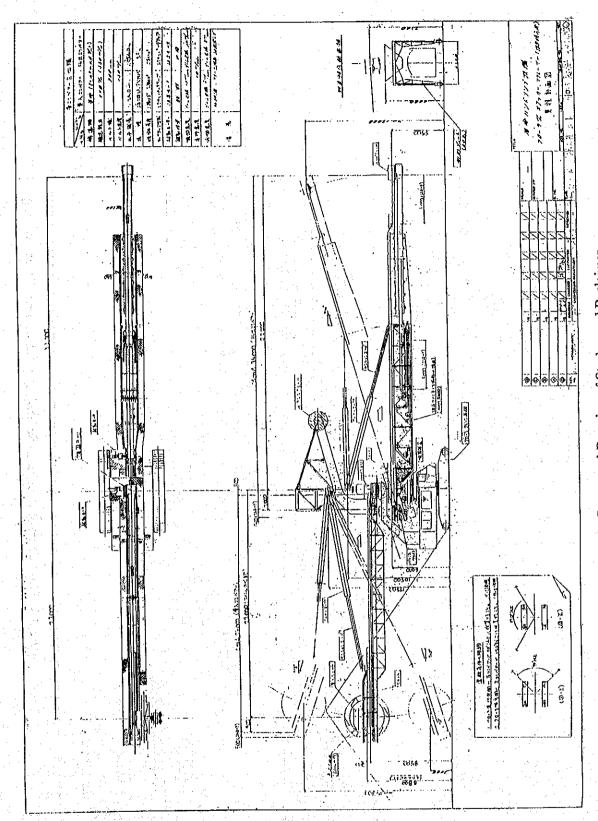


Figure 3.2 Conceptual Drawing of Stacker and Reclaimer

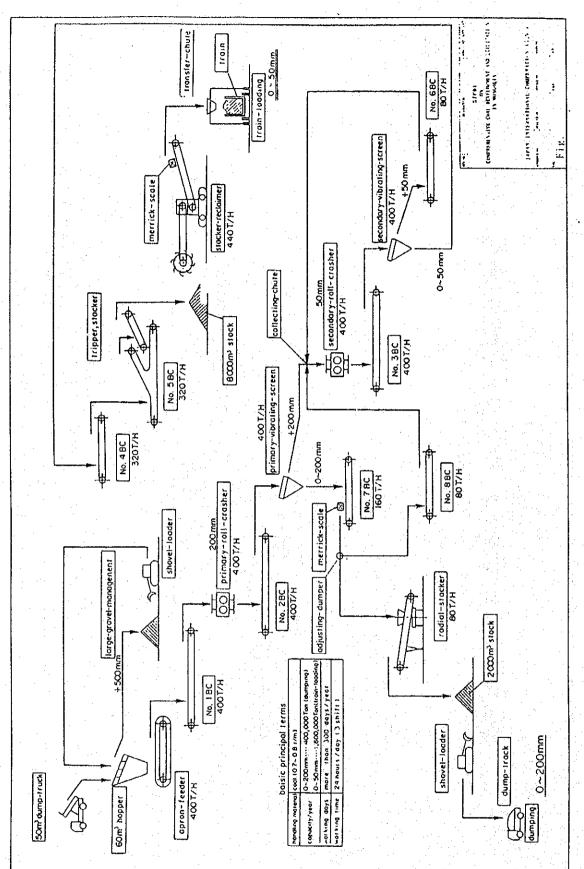


Figure 3.1 Flow Chart of Crushing, Screening, Stockyard and Train Loading

Appendix 4 Salary and Wage Variance

Salary and Wage Variance

		·
Case	I	in the state of th
	Existing Equipment	Additional Equipment
TBCM Standard Norm (10 ³ BCM)	3, 200	5, 500
Standard Number of Workers		en de la
Engineers Adm. clerks skilled Unskilled	14 14 222 17	32 11 227 16
Total	267	200
TBCM Performance (10°BCM)	X	X
Variance Factor Engineers Adm. clerks skilled Unskilled	$A = \frac{X-3,200}{3,200}$ $(1+0.17A)$ $(1+0.06A)$ $(1+0.11A)$ $(1+0.20A)$	() × (1+0.29A) () × (1+0.49A)

Note: Variance factors here are taken from those in Baganuur coal mine.

Appendix 5 Economic and Financial Evaluation

1. Conceptual Methodology and Terminology of DCF Analysis.

See Appendix 8 of Chapter I.

2. Tables for Economic Evaluation

2.1 Economic cash flow analyses

An economic coal price at a 10% EIRR for every scenario is evaluated. The results, DCF cash flows and foreign & local currency requirements, are presented as follows:

	Case 1	Case 2	Case 3
Cash Flow	Table 5.1(1)	Table 5.2(1)	Table 5.3(1)
Foreign Currency Requirements	Table 5.1(2)	Table 5.2(2)	Table 5.3(2)

EIRRs on the total project examined at the economic coal value of 6,086.0 Tg/t are as follows:

		Case 1	Case 2		Case 3
Cash Flow		Table 5.4	Table 5.5	·	Table 5.6

2.2 Economic sensitivity analyses

Since the project, of which EIRR is 67.1% in Case 3 at 6,086 Tg/t, is highly advantageous in terms of national economy, only the severest changes are presented as follows:

Price	(-20%)	Table 5.7 (DCF Cash Flow)
Exchange Rate	(-20%)	Table 5.8 (DCF Cash Flow)
Capital Costs	(+20%)	Table 5.9 (DCF Cash Flow)
Operating Costs	(+20%)	Table 5.10(DCF Cash Flow)
Total Exaction	(+20%)	Table 5.11(DCF Cash Flow)

2.3 Coal price VS EIRR

A coal price VS EIRR is presented on Table 5.12.

2.4 Discount rate vs net present value

A discount rate vs net present value at 6,086.0 Tg/t is presented on Table 5.13.

3. Tables for Financial Analyses

3.1 Financial cash flow analyses

A financial coal price at a 10% FIRR for every scenario is evaluated. The results, DCF cash flows and foreign & local currency requirements, are presented as follows:

ng tripili		DCF C.F.*1	F.C.F.*2	F&L*3Requiremts
Case 1	No Fixed Assets Revalued	Table 5.14(1)	Table 5.14(2)	Table 5.14(3)
Case 2		Table 5.15(1)	Table 5.15(2)	Table 5.15(3)
Case 3	No Fixed Assets Revalued	Table 5.16(1)	Table 5.16(2)	Table 5.16(3)
	*1 DCF C.F.	: DCF Cas	h Flow	
	*2 F.C.F.	: Financial	Cash Flow	
	*3 F&L Require	ments : Foreign a	and Local Curre	ncy Requirements

FIRRs on the total project examined at the economic coal value of 6,086.0 Tg/t are as follows:

		DCF C.F.*1	F.C.F	.*2
Case 1	No Fixed Assets Revalued	Table 5.17(1)	Table 5.1	7(2)
Case 2		Table 5.18(1)	Table 5.1	8(2)
Case 3	No Fixed Assets Revalued	Table 5.19(1)	Table 5.1	9(2)
	*1 DCF C.F.	: DCF cash Flow		
	*2 F.C.F.	: Financial Cash Flo	ow 🤼	

3.2 Leverage

After tax FIRRs on equity at 6,086.0 Tg/t for Case 3 with fixed assets revalued have been evaluated and part of the results are presented as follows:

Debt	Equity		Foreign	Loan Interest Rate	e kadini alika kanj
			3%	5%	8%
0.10	0.90	DCF Cash Flow	Table 5.20(1)	Table 5.21(1)	Table 5.22(1)
		Financial Cash Flow	Table 5.20(2)	Table 5.21(2)	Table 5.22(2)
0.80	0.20	DCF Cash Flow	Table 5.23(1)	Table 5.24(1)	Table 5.25(1)
		Financial Cash Flow	Table 5.23(2)	Table 5.24(2)	Table 5.25(2)
0.90	0.10	DCF Cash Flow	Table 5.26(1)	Table 5.27(1)	Table 5.28(1)
		Financial Cash Flow	Table 5.26(2)	Table 5.27(2)	Table 5.28(2)
0.9999	0.001	DCF Cash Flow	Table 5.29(1)	Table 5.30(1)	Table 5.31(1)
		Financial Cash Flow	Table 5.29(2)	Table 5.30(2)	Table 5.31(2)

3.3 Coal sale price and operation soundness

DCF and financial cash flows at 2% foreign loan interest for Case 3 with fixed assets revalued are presented as follows:

Price (Tg/t)	Debt(0.001)	Debt(0.800)	Debt(0.999)
(1) 6,086.0	DCF C.F. *1	Table 5.32(1)	Table 5.33(1)	Table 5.34(1)
	F.C.F. *2	Table 5.32(2)	Table 5.33(2)	Table 5.34(2)
(2) 6,076.5	DCF C.F.	Table 5.35(1)	Table 5.36(1)	Table 5.37(1)
	F.C.F.	Table 5.35(2)	Table 5.36(2)	Table 5.37(2)
(3) 5,304.5	DCF C.F.	Table 5.38(1)	Table 5.39(1)	Table 5.40(1)
	F.C.F.	Table 5.38(2)	Table 5.39(2)	Table 5.40(2)
(4) 5,181.7	DCF C.F.	Table 5.41(1)	Table 5.42(1)	Table 5.43(1)
	F.C.F.	Table 5.41(2)	Table 5.42(2)	Table 5.43(2)
(5) 5,175.4	DCF C.F.	Table 5.44(1)	Table 5.45(1)	Table 5.46(1)
	F.C.F.	Table 5.44(2)	Table 5.45(2)	Table 5.46(2)
(6) 5,189.6	DCF C.F.	Table 5.47(1)	Table 5.48(1)	Table 5.49(1)
	F.C.F.	Table 5.47(2)	Table 5.48(2)	Table 5.49(2)

^{*1} DCF C.F.: DCF Cash Flow

^{*2} F.C.F.: Financial Cash Flow

- (1) Economic coal value
 - (2) Critical price of loan repaid on a 99.9% debt
 - (3) 10% FIRR on equity on a 80% debt
 - (4) Critical price of loan repaid on a 80% debt
 - (5) 8% FIRR on equity on a 80% debt
 - (6) Critical price of loan repaid on a 80% debt (without fixed assets revalued)

Table 5.1 (1)
common Adarsis
censing improvements
serve one wire removation project

EQUIPMENT: NOW REVALUATION OF ASSETS

							Ş	호 호 호 :	at a co
Tota1	17, 011. 7 59, 594. 8 3, 5, 594. 8 73, 664. 0 6, 6 17, 911. 7 59, 546. 8 73, 596. 8	55, 573.4	15.681.3 4.355.7 5.280.0 1.774.2	3,247.8 558.8 2,124.2 9,0	35, 624.5	20, 948.9 20, 948.9 3, 968.9 17, 639.7	16.749.7 6.9 9.8 16.748.7	17,639.7	2.5
8102	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	3.290.3	281.8 242.7 245.7 24.5 46.5	141.2 24.3 85.6	5.5	902.9 902.9 170.5 732.1	¥ = ¥	222.3	187 6 NPV
2017	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	3, 296, 3 6, 0 2, 433, 6	88. 88. 7.55. 7.5. 7.5. 7.5. 7.5. 7.5. 7	2.22 2.22 3.03 3.03	6.0 0.0 1,538.7	902.8 176.5 732.1	358. 2 2. 2 358. 2 358. 2	6 % 6 6 6 % 6 6	375.9 C10-6 Tg
\$102	2 2 338 5 5 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	2, 290.3 6.0 2, 433.6	23.5 23.7 24.2 24.2 25.5 25.5 25.5 25.5 25.5 25.5	2.22	#.4 #.6 1,530.7	902.5 1.9 174.5 732.1	821.1 4.0 6.0 821.1	732.] 4. 0 821.] 6. 0	0 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4
2015	2 2 33.5 5 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	3. 290. 3 0. 0 2. 433. 6	881.8 25.52 25.23 25.23 25.53	2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2	4.6 0.6 0.6 1.530.7	902.8 902.8 179.8 732.1	1, 773.8 9.9 0.6 1, 773.8	732.1	1. Ost 8
2014	2, 2, 28.89.6 5.88.99.5 5.00.99.99.7 5.00.99.99.99.99.99.99.99.99.99.99.99.99.	3, 290.3	23.5.5.5.5.5.5.5.5.5.5.5.5.5.5.5.5.5.5.5	22. 22. 23. 25. 25. 25. 25. 25. 25. 25. 25. 25. 25	0.0 0.0 0.0 1.530.7	302.3 0.6 302.3 170.8 732.1	950.8 0.6 950.0	732.1	-218.† Discount Rz
2013	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	3, 296. 3 0. 0 2, 433. 6	681. 188. 24.5. 74.5. 45.5.	24.1.2 24.2 3.3 3.0 4.0	9.6 9.0 1,530.7	902.8 902.3 170.5 732.1	959.0 6.6 9.6 950.0		-218.0 D
2012	3 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	3, 290.3 0.0 2, 433.5	583. 284.2. 286.2. 28.5. 28.5. 28.5. 28.5. 28.5. 28.5.	2.2 2.2 3.0 3.0	5.30.7	562.5 0.0 502.5 170.8	ရှိ လိုရရာလို စေမာ	7357 24 24 24 24 24 24 24 24 24 24 24 24 24 2	213.5
2011	2 739.5 589.7 589.7 589.7 560.0 60.0 60.0 60.0 60.0 60.0 60.0 60.	3, 290. 3 0. 0 2, 433. 6	681.8 242.7 245.7 46.5 6.5	24.2 24.3 33.6 0.0	1, 530.7	902. 9 170. 9 170. 9	6000 6006		132.1
2010	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	3.290.3 0.0 2.433.6	881 1.884 4.84 8 8 6 8 4 8 8 8 6 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	24. 28. 3 46. 3 5 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	0.0 0.0 0.0 1.5%6.7	562.9 562.9 176.9 732.1	2.00 c.	28. 20. 20. 20. 20. 20. 20. 20. 20. 20. 20	286
2009	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	3, 250.3 8.0 2, 433.8	88.4.5.4.6. 8.8.4.6.4.6.4.6.4.6.4.4.4.4.4.4.4.4.4.4.	241.2 24.3 93.6	0.0 0.0 0.530.7	962.9 962.9 170.9	1, 454.2 0.0 1, 454.2	732. 1 4 454. 2 4 4 6	-722.1
3008	2, 2, 23 2, 20 2,	3,250.3	881.8 2.25.2 2.5.2 2.5.2 2.5.2 2.5.2	141.2 24.3 83.6 9.0	0.0 0.0 1.530.7	\$62.9 0.0 170.9 732.1	272. 2 0. 0 0. 0 272. 2	732. 1 272. 2 272. 2 5. 0	459.9
2002	20 20 20 20 20 20 20 20 20 20 20 20 20 2	3,299.3 6.0 2,433.6	581.8 128.74 2.74.74 2.75.74 3.65.75	241.2 24.3 24.3 93.6	0.0 0.0 0.0 1,536.7	902.9 0.0 962.9 170.9	272.2	732. 1 272. 2 272. 2 -F. 0	455.9
2016	20 20 20 20 20 20 20 20 20 20 20 20 20 2	3.298.3 8.0 2.433.6	88.18 128.18 14.24	24.1.2 24.3 93.6	0.0	982.8 0.0 176.8 1782.1	2 2 2 2 2 3 3 4 3 4 3 4 3 4 4 3 4 4 4 4	25 24 24 25 25 25 25 25 25 25 25 25 25 25 25 25	187.6
2005	28 25 25 25 25 25 25 25 25 25 25 25 25 25	3, 290.3 0.0 2, 433.6	681.8 189.8 27.7 286.7 46.5	141. 2 24. 3 6. 6	6.0 4.0 1.530.7	902.9 902.8 170.8 732.1	0000	732.1	737.1
2004	2 3 3 2 2 3 3 3 4 4 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5	3, 290.3 p. 0 2, 433.6	881.8 189.8 7.44.7 236.2 26.5	141.2 24.3 33.6	0.0 9.0 0.0 1,530.7	902.9 0.0 902.5 174.5 732.1	00 44 45 45 45 45 45 45 45 45 45 45 45 45	% - X	187. 6
2003	28 28 28 28 28 28 28 28 28 28 28 28 28 2	3, 290. 3 b. 6 2, 433. 6	681.8 188.8 24.25.4 44.44 6.00	24.1 24.3 33.6 9.0	0.0 0.0 0.0 1.530.7	902.8 902.8 170.8 732.1	1, 036.0 9.0 1, 036.0	732.1	-363.9
2002	2,588.7 3,200.0 3,200.0 0.0 0.0 0.0 739.6 2,588.7 3,350.0	3.286.3 9.0 2.433.6	581.8 185.6 22.2 24.5 24.5 24.5	241 24.3 29.6 9.0	0.000	992.9 992.9 170.5	2.22	20 20 00 00 00 00 00 00 00 00 00 00 00 0	459.9
1002	2.388.7 2.882.7 2.882.7 2.866.8 5.0 5.0 6.0 7.35.6 2.35.6 2.35.6 3.39.6 3.39.6 3.39.6	3, 296.3 0, 0 2, 433.5	881 1881 1881 1874 1875 1875 1875 1875 1875 1875 1875 1875	24.2 24.2 29.6	1,530.7	902.9 0.0 0.0 170.9 732.1	1,308.2 9.0 6.0 1,308.2	732 1, 348.2 4, 9	-576.1
2040	2.588.7 3.288.7 3.288.7 9.00 0.0 0.0 2.588.7 3.588.7 3.588.7 3.588.7	3, 230. 3	88.54 8.54 8.54 8.54 8.54 8.54 8.54 8.54	14.22 th	6.0 6.0 6.0 1,530.7	902.9 0.0 965.9 176.9	1, 222. 2 0.0 0.0 0.0 1, 222. 2	732.1	-451.2
1995	2 739 3 205.5 3 205.6 5 0 0 5 0 0 739.5 2 588.7 2 588.7 2 588.7	3, 298. 3 0. 4 2, 433. 8	681.8 188.8 27.7 74.5 44.5	141. 27.3 93.6 0.0	0.0 0.0 0.0 1.536.7	98 98 75 75 75 75 75 75 75 75 75 75 75 75 75	677.8 0.0 9.0 877.8	732 677.8 16.1	1
1998	739.6 2.588.7 3.200.4 4.0 4.0 4.0 739.6 2.588.7 2.588.7 3.200.4	3.296.3 9.0 2.433.6	88:88 189:8 20:77 24:57 44:55	142 24.2 88 10.5 10.5	6.0 9.0 1,498.1	935.6 935.6 167.2	821. 1 6.0 6.0 821. 1	768.4 6.0 821.1 9.1	-61.8
1997	739 6 2, 588.7 3, 296.7 5, 6 6, 6 739.6 2, 588.7 3, 296.0	3, 290, 3 4, 0 2, 433, 6	881.8 89.8 7.45.7 6.45.6 6.5.6	24.2 83.8 8.0 8.0 8.0 8.0	1, 489.0	954.6 954.6 163.9	960 T	80 1 9 9 9 1 1 2 3 4 1	-301.4
1996	44 44	3, 290.3 0.0 2, 433.8	681.8 189.8 42.7 74.5	79.4 24.3 79.4	1,443.1	390.5 990.5 181.9 829.5	£ - 5.	829.5 0.73.4 447.3	-241. 2
	0,000 000 000 000 000 000 000 000 000 0	(12/t) (12/t) (14/t)	(1 (1 th f) (1 th f)	Į.	ats t	(1995 12) (1003) Tax (00) Loss)	(1996 7g) accept ment ment treent	[1] [1] [1] [1] [1] [1] [1] [1] [1] [1]	
	Patrio Patrio Patrio	enefit	8	abor Costs Salacies & Fages Social Josurance Uthers Foralties & Charges Payable Interest	opreciation Past Depreciation Replacement Additional luvestment plan Operation Costs	OPIT] (Lipsé Tax Profit (Loss) Afornate lucone Tax (MV) Afornate Profit (Loss) After Tax Expenses Retained Exeming (Loss)	l Replaces	SF FLOW) (1998 Partition Earthing(Loss) Peprescription LESS: Total Copital Cost LESS: Total Capital Payable Interest	
	PRODUCTION) A Cort. A Cort. A Cort. Cort. B Co	[Revence] Sale Price Trade Tax Economic B	[OPERATING COSTS] Material & Ear Parts Diesel Oil Cas & Lub. Electricity Explosives N & E Others	Labor Costs Salaries & Social Jos Others Poyalties Payable In	Depreciation Past Depreciation Replacement Additional Total Operati	PROFIT] Before Cornera After Ta	(INVESTMENT) Existing I Additional Additional	Retained Earl Depreciation LESS: Tocking Payable Inte	Cast Flo

Table 5.1 (2)

THE PRO COLL NIVE REPORTISH PREJECT

SHIVEE DVOD COAL MINE RENOVATION PROJECT

EQUIPMENT: NOW REVALUATION OF ASSETS

						-			Salvage clamation -65.7		8.605.8
Total		25, 425, 0 88, 987, 0 116, 000, 0 116, 000, 0 116, 000, 0 116, 000, 0	0.0 103,795.1	28 835.0 5.857.1 1,317.4 2,527.4 2,562.0 3,000.0	3,140.1	2,679.3 5.0	25 25 25 25 25 25 25 25 25 25 25 25 25 2	51, 536, 5 0.0 51, 536, 5 3, 390, 2 48, 236, 2	0.0 14.616.8 17.250.2 31.857.0 80c	48. 236. 3 6.0 Nor 31. 867. 9 6.0	15.544.2
9618	02.00	24.24.22.44.22.22.24.24.22.22.22.22.24.24	4, 082, 4 6, 8	282.9 282.9 65.9 176.4 176.4 126.1	27.0	3.6.	4444 4444 4444 4444 4444 4444 4444 4444 4444	2.575.8 2.576.6 165.6 2.411.8	0.0 0.0 1, 249.5 1, 249.5	2,411.8 1,249.5 0.6	1.162.3 SIRR = NPV
2417	7.67	14 01.4 02.4 02.4 02.4 02.4 02.4 02.4 02.4 02	1,082.4 6,0 5,189.8	292. 8 292. 8 65. 9 176. 4 128. 1	157.0		9 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	2,576.8 0.0 2,576.8 165.4 2,411.8	0.0 0.0 2.587.3	2,411.8	(%) (%) (18*6 Tg)
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2000	6113	*************	1, 082.4 0.6 5, 189.8	282.28 55.28 55.38 176.4 178.1 150.1	157.1	94. 4.	00000	2.576.8 0.6 1.576.8 1.65.0	0000	7,413.8 0.00 0.00	2.411.8
7(00	41.00	4 4 2 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	4,082.4 0.8 5,189.8	292.9 292.9 65.9 65.9 176.4 128.1	157.4	184. 4	6 6 6 6 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	2,576.8 2,576.8 165.0 2,411.8	0.8 0.8 3,211.7 3,211.7	7,411.8 3,211.7 0.0 0.0 0.0 0.0	-799 9 scount Pat
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9419	2116	2, 500.00	4, 982, 4 0, 6 5, 189, 8	292.8 292.8 65.9 176.4 128.1	157.0	0.0	2 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	2.576.8 2.576.8 155.0	0.0 0.0 1.872.2 1.872.2	2 4 4 1.1 2 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	3 883
1140	COLI.	2, 4, 4, 4, 4, 4, 4, 4, 4, 4, 4, 4, 4, 4,	4, 1882.4 0.8 5, 189.8	292. 9 592. 9 65. 9 176. 4 128. 1	157.0	184.0 0.0	2 6 6 7 8 1 8 1 8 1 8 1 8 1 8 1 8 1 8 1 8 1 8	2.576.8 2.576.8 165.0 2.411.8	. ಅಂಥಾಣ - ಪರವರ.	24 25 25 25 25 25 25 25 25 25 25 25 25 25	2,411.8
91.00	0.00	14 m.4 m.	4, 082.4 9.0 5, 189.8	292. 9 55. 9 176. 4 128. 1 150. 0	157.0	184.0	2 0	2.575.8 0.0 2.576.8 165.0 2,411.8	0 4 50 103.8 103.8 8.53	2,411.8 p.p. 103.8 p.0	2,308.0
.0000	2002	7.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1	4, 082, 4 0, 0 5, 189, 8	1,431.8 292.9 65.9 176.4 128.1	27.0	9.0	2 2 2 2 2 3 2 3 3 3 3 4 3 3 3 3 3 3 3 3	2, 575.8 2, 575.8 2, 155.0 2, 411.8	0000	% 	2.411.8
200	2008	5.500.0	4, 082, 4 0, 0 5, 189, 8	232.9 232.9 65.9 176.4 128.1	27.0	184.0	5.0 6.0 6.0 2.612.9	2,576.8 0.0 2,576.8 165.0 2,411.8	0.0 0.0 1.069.2 1.069.2	24 1, 96 1,	342.6
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	2005	5.500.8	4, 062. 4 0. 0 5, 189. 8	1,431,8 292,9 552,9 176,4 128,1 158,0	157.0	9.0	0.0 0.0 0.0 2.612.9	2,576.8 2,576.8 165.4 2,411.8	6000 6006	8 0 0 0 0 	2,411.8
	2004	5, 50 2. 8	4, 082, 4 0, 0 5, 189, 8	1, 431. 8 292. 9 65. 9 176. 4 126. 1 150. 0	157.0	184.	2.612.9	2.576.8 2.576.8 165.# 2.411.8	0.0 103.8 103.8	103.8	2,308.0
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		Trimin(T)10) A Coal. South Example of the Coal.	Revenuel Sale Price (Tg/t) Trade Tax (Tg/t) Economic Benefit (1985 Tg)	Material & Exercit Material & Exercit Material 511 Gas & Lab Electricity Explosives	Labor Costs Salaries & Mages Social Insurance	Others Royalties & Charges Payable Interest	Pepreciation Fast Depreciation Festacement Additional Investment Total Operating Costs	(RMPII) (1846 Tg.) Refore Tax Frofit(Loss) Corporate Income Tax (MV) After Tax Profit(Loss) After Tax Expenses Retained Earning(Loss)	[INVESTMENT] O 000 T Existing So. Replacement Additional Inventment Additional Replacement Total Capital Cost	[CASH FLOW] (1885 The State of Large Logical Logical Control LESS: Fourth Control LESS: Fourth Control Payable Interest	Qsh Flor

Table 5.2 (2)

ECONOMIC ANALYSIS
PROCION & LECAL CURRENCY
(EXPANSION)

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Table 5.3 (1) rowning manages (resolution consists)

SHIVEE OVOS COAL HINE REMOVATION PROJECT

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Table 5.3 (2)

EDMONIC ANALYSIS
FOREIGN & LOCAL CHREDOTY
(MEMORATICAL CONTAINED)

SHIPEE OF COAL MINE SENETATION PROJECT

444 H 2022 1.337.6 1.076.9 ATT ALL 1862 SELA SOCIETA DES EL TIPRE LE ALGORALI A 1863 SELA DEL 11. A 200 IL 1. S.553 DE FRANCE LA LITTA. 3,21 A SEC. 3. 2012 8. 2012 8. 478 1. 2 2012 8. 2012 8. 2013 8. 550. 0. 550. 0. 2 421. 3. E. KTB. Line . 1 424.2 2017.4 381.0 1. 6 40 60 25.0 8.207.0 3. 10 40 25.0 8.207.0 3. 1,2 4,364.3 4,374.0 4. 축Q립를 녹출 1 4 100 1 4 100 1 5 4 100 2 4 100 5 5 4 104 1 4 101 3 211 24.1 24.1 24.1 24.0 26.0 28.0 174.4 1176.7 176.1 4 12: 5 4 13: 5 4 13: 5 4 13: 5 5 13: 6 4 183 5 \$0.44 \$0.44 135.0 140.1 결권학원으로 =0 H 4 200 \$95224£ 2222 7 2 8 2 2 E ⁵도속축각품 4944 5 4 125 5 4 125 5 4 150 5 2 4 030 6 4 103 3 4 103 5 1854 5 Hogg 1, 102.1 2, 170.1 전투스로로 축 학교절류 HEIN CHINGEST (1100 183) A 1243 A 1813 A 1813 A 1814 A 1814 A 1814 A 1812 A 1812 A 1813 A 1813 A 1813 A 1813 A 22, 27, 20, 10, 27, 25, 2, 14, 950, 5, 14, 245, 0, 14, 450, 6, 15, 930, 3, 12, 10, 8, 11, 190, 4, 25, 550, 4 4444 6 0000 845 1 3.50 25 2000 축합합성 참 합 3 748B a . 5 3 5 124 | PERSONAL | PROPERTY a #554 a de 전 10년 전 보 10년 전 1 2.193.7. 2.103.1. 2.103.1. 6.154.5. 3.154.1.20.711.0.24.959.8.7.829.3 F. Britis 1007 306 Ę. × 1 × 3 712 Ξz 15.08 김목도국 시속 The December of the Control of the C List Davide List of the List o ting E. Replacement. House levelbees. House Replacement

Table 5.4 conorio analysis (existing inprovement)

SEIVEE OVDO COAL MINE RENOVATION PROJECT

							Secial Seci	Louin By Forking Equipme	Ì
Tot21	17.001.17 58.567.8 72.69.8 72.69.8 72.69.8 72.69.8 73.69.8 74.8 74.8 74.8 74.8 74.8 74.8 74.8 74	183, 532.9	15, 681.2 4, 355.7 4, 355.7 182.0 5, 286.0 1, 714.2 1, 070.6	2, 247.8 3, 358.8 3, 30.8 8.0	1.0 1.0 1.0 36.231.1	67, 301. 8 67, 301. 8 4, 126. 4 63, 175. 4	16, 740, 7	62.175.4 16.748.7	45, 932, 9 16, 226, 5
2018	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	6,086.0	1881 1882 1882 1883 1883 1883 1883 1883	14 2	0.9 9.0 0.0 1.587.1	2,914.3 0.6 2,914.3 181.0 2,733.3	44. 44. 44. 44. 44.	2.733. 2.0.24. 4.0.4.	2 188 9 X) EIRR
2017	2 233.6 2 588.7 2 588.7 2 588.7 2 588.7 3 588.7 3 500.0	6, 086. 0 0. 0 4, 501. 4	88.88 2.47 2.6.2 2.47 2.5.34	141.2 24.3 150.0 0.0	6.9 6.0 0.0 1, 587. 1	2 414.3 6.9 7.814.3 181.3	358 359 359 359 359 359 359 359 359 359 359	5. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5	2.375.2 (3)
9[92	25 25 25 25 25 25 25 25 25 25 25 25 25 2	5, 086. 0 0. 0 4, 501. 4	681.8 189.8 742.7 74.5 46.5	15.0 2.0 2.0 2.0 2.0	0.0 0.0 0.0 1,587.1	2 514.3 2 514.3 2 733.3	821. 1 9 0 9.0 821. 1	2,733.3 6,0 821.1 0.0	1.912.2
2015	733 6 2, 588.7 3, 280.7 0.0 0.0 0.0 739.6 2, 588.7 3, 200.6	6,686.0	881 889 74,24 74,45 74,54 74,54	24.3 24.3 50.0	9.0 9.0 1.587.1	2,914.3 0.0 2,914.3 181.6 2,733.3	1, 773.8	2,733.3	Reto (S) =
2014	2 23 28 28 28 28 28 28 28 28 28 28 28 28 28	6, 086. 0 0. 0 4, 501. 4	881.8 189.8 24.2.7 24.5.2 46.5.5	2.14. 2. 4. 2. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5.	0.0 6.0 0.0 1,587.1	2,914.3 0.0 2,914.3 181.0 2,733.3	950.0 9.0 9.0 9.0 9.0	2,733.3 9,0 9,0 0,0	1.783.3 hiscount Re
2013	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	5, 086. 0 0. 0 4, 541. 4	189. 181. 182. 183. 183. 184. 185. 185.	141.2 24.3 150.0	0.0 0.0 1,587.1	2 2 2 2 2 2 2 2 2 2 2 2 2 2 3 2 2 3 3 3 3	95.0 9.0 9.0 9.0 9.0 9.0	2,733.3 p.0 950.6 p.0	1.763.3
2012	2 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	6, 936. 8 9. 9 4, 591. 4	24.5 24.5 24.5 24.5 24.5 24.5 24.5 24.5	4. 4. 5. 6. 6. 6. 6. 6. 6. 6. 6. 6. 6. 6. 6. 6.	. 587.1	2 2 2 2 9 14.3 2 7 2 3 14.3 3 3 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	9.55 9.5 9.5 9.5 8.55	27.23.25.29.20.20.20.20.20.20.20.20.20.20.20.20.20.	1.787.6
2011	20 20 20 20 20 20 20 20 20 20 20 20 20 2	6,086.0 5.0 4,501.4	881.88.88.74.74.74.74.74.74.74.74.74.74.74.74.74.	141.2 24.3 150.6	6.0 6.0 1,587.1	2 914.3 7 914.3 181.0 2 733.3	****	7. 7. 9. 9. 9. 9. 9. 9. 9. 9. 9. 9. 9. 9. 9. 9	2.733.3
2010	2.588.57 2.500.55.77 2.500.55.77 2.568.77 3.200.50 3.200.50 3.200.50	6.086.0 0.0 4.501.4	88.45.45.45.45.45.45.45.45.45.45.45.45.45.	24.3 24.3 5.0 6.0	L 587.1	2 914.3 1.0 2 914.3 181.0 2 733.3	24 24 25 25 25 25 25 25 25 25 25 25 25 25 25	27.24 24.44	2,598.1
2009	2, 588.73 2, 588.74 2, 588.74 2, 588.74 2, 588.74 3, 588.74 3, 588.74	8, 036, 0 0, 0 4, 501, 4	88. 8.65. 7.7.4. 7.4. 3.4. 3.4. 3.4.	2. 2. 3. 6. 6. 6. 6. 6. 6. 6. 6. 6. 6. 6. 6. 6.	9.6 6.6 1,587.1	2 914.3 2 914.3 181.6 2 733.3	1. 454. 2	2,733.3 1,454.2 9.0	1, 279, 2
2008	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	8, 086. 9 0. 0 4, 501. 4	88.183.4 7.24.2 7.24.5 7.16.5 8.6.5	15. 2 2. 3 2. 3 2. 3 3. 3	0.0 0.0 0.0 1.587.1	2,914.3 0.0 2,914.3 191.0 2,733.3	272.2 9.0 0.0 272.2	2,733.3	2,461.1
2007	2.39.6 2.39.6 2.39.6 2.39.6 2.39.6 2.39.6 3.29.6 3.29.6 3.59.6 3.59.6 3.59.6 3.59.6 3.59.6	6, 086. 0 0. 0 4, 591. 4	881.8 189.8 74.236.2 46.5	1.42 33. 2.62 3.43	0.0	2 834.3 9.6 2 914.3 181.0 8.0 8.0 8.0 8.0 8.0 8.0 8.0 8.0 8.0 8	272.2	2.733.3	2,451.1
2006	2.588.7 2.888.7 3.289.0 0.0 0.0 0.0 2.588.7 3.288.7 3.288.7 3.288.7	6, 686, 0 0.0 4, 501, 4	8 8 24 82 52 84 8 8 6 7 7 8 7 7 7 7 7 7 7 7 7 7 7 7 7 7	15. 28. 38. 38. 39. 39. 39. 39. 39. 39. 39. 39. 39. 39	9.6 9.6 1, 587.1	2.914.3 2.914.3 1.81.4 2.733.3	2004 4004	55 55 55 55 55 55 55 55 55 55 55 55 55	2, 188.5
2005	2. 588.7 2. 588.7 2. 588.7 2. 588.7 2. 588.7 2. 588.7 3. 566.0	5.086.0 0.0 4.501.4	681.8 189.8 24.7 74.5 46.5	2.12 2.43 6.03 6.00	0.0 0.0 0.0 1,587.1	2, 914.3 4.0 2, 914.3 181.0 2, 733.3	0000	27 20 20 20 20 20 20 20 20 20 20 20 20 20	2,733.3
2004	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	6, 486, 0 2: 0 4, 541, 4	581.8 185.8 175.7 77.7 17.5 17.5 17.5 17.5 17.5 17.	2.24 2.00 0.00	4.0 6.0 6.0 1.587.1	2.914.3 2.914.3 2.914.3 2.733.3	4.004	2 88 84 84 84 84 84 84 84 84 84 84 84 84	2,188.9
2003	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	5, 096, 6 0.0 4, 501, 4	25.5 24.5 24.5 24.5 24.5 24.5	7.2 % 2.2 %	0.0 0.0 0.0 1.587.1	2 914.3 2 914.3 2 914.3 2 183.0	1. 456.0 0.0 0.0 0.0 0.0	20 00 00 00 00 00 00 00 00 00 00 00 00 0	1,637.3
2003	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	5, 986. 9 0. 0 4, 501. 4	236.2 74.5 46.5	25. 25. 3. 3. 3. 3. 3. 3. 3. 3. 3. 3. 3. 3. 3.	9.0 0.0 1,587.1	2 2 314. 2 914. 2 181. 2 181. 2 181.	27.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.	27.25.25.25.25.25.25.25.25.25.25.25.25.25.	240.1
2003	2 7.33.6 20.05.6 20.05.6 20.05.6 20.05.6 20.05.6 3.20.05	6, 086. 0 8, 9 4, 501. 4	581. 8 1884. 8 42. 7 23.6. 2 44. 5	44 45 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	#.0 #.0 1,587.1	2 2 314 2 2 314 2 3 1 4 2 3 1 4 2 3 1 4 3	1, 308.2 6.0 1, 305.2	2 733 3 6 6 1, 368 2 6 0	1,425.1
2406	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	6, 086. a 0.0 4, 551. 4	581. 8 189. 8 22. 7 74. 5 45. 5	42 % 2.5.00	0.0 9.0 9.0 1,587.1	2,914.3 9,6 2,914.3 181.0 2,733.3	1, 222, 2 0, 0 1, 222, 2	2,733.3	1.511.1
1000	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	6. 086. n 9. e 4, 501. 4	831.8 188.8 188.8 7.7.7 7.4.5 7.4.5 8.5.5 8.5.5 8.5.5	42 85 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	0.6 0.6 1.587.1	2.914.3 2.914.3 2.181.4 2.733.3	677.8 0.0 0.0	27.733 6.77.8 18.9 18.9	2,936.6
1948		6, 086.0 0.0 4, 501.4	681.8 188.8 188.8 72.7 74.5 46.5	141.2 24.3 127.4 0.9	0.0 0.0 0.0 1,537.0	2, 964.5 2, 984.5 174.2 2, 735.2	821. 1 6. 0 0. 0 821: 1	2,780. 2,080. 3,00. 821. 1	1.953.2
1007	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	6. 086. 9 0. 0 4. 563. 4	88.188.188.188.188.188.188.188.188.188.	2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2	1,494.2	3 667.2 3 607.2 168.5 2 838 7	1, 096. 5	2 838.7 1.036.0 13.4	1.728.3
150.6	2 23.5 2 23.5 2 23.5 2 23.5 2 23.5 2 23.5 2 23.5 2 23.5 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	6.086.0	88. 88. 88. 88. 88. 88. 88. 88. 88. 88.	141.2 24.3 32.9 9.0	0.0	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	673.4 673.4 673.4	2.884-1 5.0 5.0 5.4.8 5.4.8	1,752.2
	(1945 to (19	(12/t) (12/t) (13/t)	(18% Tg/	8	8 2 8 15 33	(10% 12) (Loss) Tax (6%) Loss) s koss)	(10% 7g) Noceent Deept Coment	(10st 1g) (Loss) Li Cost (tal	
	PREDUCTION Constitution Constitu	Sale Price Sale Price Trade Tax Economic Benefit Economic	Natural & Ebergy Parts Parts Parts Dissel 011 Gas & Lub Explosives Natural & Ebergy Explosives Natural & Ebergy	Salaries & Pages Social Insurance Others Royalties & Charges Payable interest	Peprecialion Past Depreciation Replacement Additional Investment Total Operating Costs	(1967 Ta Before Tax Profit(Loss) Corporate Income Tax (M) After Tax Profit(Loss) After Tax Expenses Retained Earchog(Loss)	INVESTMENT) (18-57 Existing Eq. Reglacement Additional Investment Additional Replacement Total Capital Cost	CASH FLOW) (1986 Retained Earning(Loss) Bepreciation LESS: Fort Capital Cost LESS: Refaired Capital Rayable Interest	Chash Flow
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| AD | e 5.5 ECONOMIC LANANSIS (ETPANSION) SHIVES OFFO COLL NINE REPOYATION PROJECT

																									٠											~ ·	.51	, a	: :		*		
														٠	:																			200	Reclamation	65 Joen Herenaid	0.0	10170 April 120	Equipment	7.840 TOTAL	S. 540.		
Total		ä	2	2	ي خد	1 2	roj.	3	27.50	5	110, 690, 0			154, 736. T			28, 635-0	1,317.4	3,527.4	2,562.6		2, 146.	5	5,068.6 9.9		3 6	52 629 0		191, 988. 7	o ;	3, 439.2	2	0.0	616.8	31, 867.0		97, 649.6	93. 867.0		d	64, 922 8	14, 348.3	
2616	-	-	9	-	-	7 67	ري وم	2.00	2 77 7	25	5.504.4	-	6.086.6	7 735 8		-	. 431.8	5 55 50 50 50 50 50 50 50 50 50 50 50 50 5	176.4	128.1) }	157.0		4.53.4		3 4	0.0	, , ,	5, 654, 4	2	5, 354, 4	4, 882. 5	-	3 9	2.2		4, 382. 5	249 5	-	2	3,633.0	E SE	
7102		-	0. 0.	<u>ح</u>	-	2.172.1		. 500.	271.3	52	5, 540. 4		0.080.0	7, 736, 8			1,433.8	25. 25. 26. 26.	176.4	128.1	2.00	157.0		253.4		3 -	0.463	4 0064 4 0064	5.054.4	3	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	4, 882. 5	0.0	- 5	2,587.3		4.682.5	0.0	, e		2,295.1	GP4 75	
\$102		=	-	2	٠.	449.4		200		i es	500.0			736.8	٠.		. 63. 8. 18.	2 2 2 3 3 4 3 4 3 4 3 4 3 4 3 4 3 4 3 4	176.4	Z 5	9.00	157.0	7	253.4		 -		4 1997 4			2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2	4, 882, 5	9	-	2 2		4, 882. \$	6	9		4,778.7	10.6	
2015		ø	e c	e e	2	1, 271.3		_			5, 500.0	-	988.0	7, 738.8			1,431.8	25 25 25 25 25 25 25 25 25 25 25 25 25 2	176.4	88	150.0	157.0	* 172	253.4				4 534 4	5 954.4	2	5, 454.4	4,882.5	4	3	e e		4, 882.5	3 6	e ea	a a	4.882.5	Rate (30) =	
2014		-	-	-	=	1, 271, 3	3.5	5, 500.0	2, 271.3	t us di ed	5, 500. 6	11	6.086.0	7, 736.8		. •	1, 431.8	282. 8.7.9 9.7.9	176.4	37	150.0	157.0	7. IZ	253.4		= = = =	- Ca - C	2, 852.4	5.054.4		2,054.4	4, 882. \$	ó		3,211.7		4, 882, 5	9		3	1.679.8	Discount Ra	
2013			-	-3	9	1, 271; 3		5, 500.0	1, 271.3	4,444.4	5,510.0			7, 735, 8			1, 43). 8	87 S	1.00	ន	Ś	75	, , , , , , , , , , , , , , , , , , ,	253.4		 	9 6	2, 182-4	. Z	9	5, 054.4	4, 882.5	d	3	ĒĒ		4, 882. 5	e :	2 O	9.0	4,719.5		
2012	27.2	-	-	2	3	1, 271, 3		5, 540.0	1 271 3	4.65.4	5.504.9			7756 8	:		1, 431.8	202	. 4.	22	120.0	157.0	27.	253.4		0 0 0 0	9	2, 682. 4	. P. P. Y	-	5, 054.4	4.882.5			1.872.2		4, 882. 5	6 6	0.0	6	3,610.2		
201	1		: :	2	=	1, 271.3		5, 506.0	271.3	4.64	5 501.0		6. 986. 0	7,736.8			1, 431.8	57 K	4	132	150.0	157.0	27.	253.4		- -	-	2,682.4	S. ACA. A	-	5, 054. 4	4, 882. 5			e e		4,882.5		5 G	6	4,882.5		
2010	414			2	4	1, 271.3		5,546.0	1, 27). 3	4.4	5, 596.0		5, 586. 0	0.0 7.736.8			1, 431.8	292.9	78.4	25	150.0	157.0	27.0	253.4	i		a	2, 682, 4	2		5. 15. 4	4, 882.5			8 E			eó :	× 0		4, 778.7		
2009	***		- o	-	-	1, 271, 3	ż	Š	1, 271.3	ą.	5,586.4		6, 086, 0	9,735.8			1, 431.8	8	136.1	128.	150.0	157	27.	253.4	:	- 4 - 6		2, 682. 4	7 72 0	jo	5, 054.4	4,882.5		3 3	a e a a		4, 882, 5	6	o o	9	4, 882. 5		
2609	9	•	-	-	2	1, 271.3	4.4	5.504.1	27.3	448.4	5, 500. 4		6, 086. 5	0.0		Ž.	1, 431, 8	292.9		23	150.6	157.0	27.0	253.4	•	3		2, 182, 4			5,054.4	4,882.5	6		1,059.2		4. 882.5		2.699.7	G (4)	3,813.3	-1	
9867	1902		 -	3	=	1, 271.3	4.43.4		1, 271. 3	4,449.4	5,508.0		6, 985, 0	0.0 7.736.8			1, 431, 8	292	2 5	23	150.0	157.	27.0	253.4		æ •	å	2, 582.4		r r r	i,	4.882.5			1.936.1		4.882.5	-	336.1	-	2,345.3	1.	
2006	2002		- c		-	1, 271, 3	448.4	5.500.0	1, 271, 3	4 443 4	5.50		8 086 1	0.0			1.433.8	292. 9	e š	8	150.0	157.0	27.0	253.4	3	8	i d	2, 682. 4	,	6	5.05.4	4, 882, 5	٠		2 211 7	· · · · · · · · · · · · · · · · · · ·	4 882.5	5	3.211.7	2	1.670.8		
2446	5002				 	27. 3	4.54	9 905 1	1, 271. 3	4.443.4	5.500.9		1.088.0	0.0		 	1, 431, 8	252.9	200	128.1	150.0	157.0	27. 0	253.4	- -	8		2, 682. 4		4 e	5, 654. 4	4.882.5		جه دخ ان ان		÷	2 887 5	0.0	3 4		4, 882.5		
790	2004						٠.	. =		.	. 50 th			0 300 0			8.431.8	292.9	23		156.0	157. 8	23.0	Z.	3 d	0.0	2 -	2, 582, 4		d d	Z.	4, 882. 5			200	0.00	4 882 5		8	- - -	4,778.7	-	
	2013		= :	-		1. 271. 3	4,443.4		127.3	4 449 4	2 00 00 2 00 0		5. 186. 6	0.0			1 431 8	25		128	5	157.0	27.0	253	a d		-	2,682.4		4.40	5.05	4, 882.5	. :	a a	-	-	2 88		5		4,882.5		
0	2002		<u>-</u>	- «	2 e	271.3	4.4.4	5 2 2 3	27.3	4 449.4	5.586.6		5 985 B	0.0			8 (67)	292. 9		28.7	150.0	157. 0	2.2	253.4	3		ල දා ස් ප්	2, 682, 4		4 90 %	5.054.4	4.882.5	:	ය ය ය ය	1, 528.0	1, 628- 0	68.5	20	628.0	3 6	3, 254, 5		
	288		3	-		1, 271.3	4,448.4		1, 273, 3	4.448.4	S 200 9		E 385. 0	-	. 199. 0		1.431.6	95	## F	* - * *	5	2.5	27.	251.4	5	3	 	2,682.4		ų Ž	5.054	4 882 5		- o	3	3	3 600 1	1	o .	ാ ടെ	4, 882, 5		
	2000		4	-	 	1, 271, 3	4.448.4		271.3	3	5.50		980 9	-	, (de. c		8 (6)	282.8	30 130 130	176.4	25	157	22	2		6	00	2, 582, 4		ei võ		172.0 4,882.5		9 0	2		629		0	36	4, 882, 5		
	583		ž	2:	.	27.3	4 448 4	ري دو دو	271.3	4,449.4	5.5		9 904 9		3		9.167	292.5	6	1.08	150.4	157.6	27.	253.4	<u>.</u>	3		2, 182, 4	٠.	5,054.4	7 7 7, 6 7, 6	172.0		e e		ب ت	800	4 00 4 4 00 4	6	n ⇔ #i ⇔ ***	4. 822. 7		
	8561		-	3	-		3	3		: 5	2 0		. 904 3	0	d			- -	a di			6	3	2	a	6.0	0 C			۵,				0 0 E	-	2 2 2 3 3 3	•		8 119.2	3 3 3 3	-8.13.2		
	1987		ī	_	-	 	3	-		-					a.		•	 		e e	 	•		3	6	6	o c	4		-		40 40 44 44		9 707 5		6.497.7		3 6	6, 497.7	0 0 6 0	-6 497.7		
	986	١.	1	÷	= :	3 3	3	÷		-	o .		٠.		2			2 2	-	o (2	3	÷	0.0	-	12		7		4 E	_/ :	.				3 3	2				
	-		CI [843 ED.	CHOS BOAT	00/0	£ 2	CE SEE	(C/D			Ç/3	Ì	-	33	- T	(F 94)			•			. :	:	2				ests.	(P. 98)	(Loss)	Tax (9K)	\$ (829)	GI 96 12	acement	enent.	1	C806 7g)	(\$50	1 Cost	ī.			
						Total Escavelion		atro	Total Excavation		Patio	10 T 14 M	: C.	8 z	Economic Benefit (14st Tg)	OPERATING COSTS] (1 pm 6 Ta)	1 & Energy	8	8	icity	1 wes	abor Costs	Social Insurance	thers Revalties & Charges	Payable Interest	epreciation Past Depreciation	ceest.	Aggittional Javestand, Total Operating Costs		Defore Tax Profit(Loss)	Corporate Income Tax (WK)	After Tax Expenses Retained Earning(Loss)	٠.	. E.	Additional investment Additional Replacement	Total Capital Cost		Retained Earning(Loss) Depreciation	LESS: Total Capital Cost	USSS:Norking Capital Payable Interest	1	5	
		KULL STORY	, Coe.	Destourded	Stripping Patio	100		Strippe		Sverbardes	Strippi	4	[Nevenue]	Trude Tax	Ecocati	(OPERATING	Lterial &	Parts Diesel Oil	201 4 1.00	Electricity	Explosives	Labor Costs	Secie	Revalt	Payed	Past Deprec	Replacement	Total	(2806) 7	Be fore	Corpora	Retaine	[INVESTMENT]	Existic	Addition	Total	(CASI PLOT)	Retained Earl	T.SS.T	Payable Payable	1	3	

Table 5.6 Expension ANALYSIS (REMOVATION COMBINES)

SELVEE OFOC COAL KINE RENOVATION PROJECT

EQUIPMENT: NOR REVALUATION OF ASSETS

								. Set	Egesi Egesi	
. [10.21	17, 411.7 59, 549.8 77, 590.4 22, 425.9 88, 997.8 118, 000.4 42, 426.7 148, 528.4 148, 528.4 148, 528.4 148, 528.4 148, 528.4 148, 528.4	9. 0	44, 314, 3 20, 222, 8 2, 239, 4 6, 8977, 4, 275, 3 4, 979, 4	6, 387.4 3, 939.4 8, 339.5	8.0 6.0 8.0 8.0 8.0 8.0 8.0 8.0 8.0 8.0 8.0 8	118, 396. 5 146, 396. 5 7, 569. 4 169, 836. 2	16, 746.7 14, 616.8 17, 258.2 46, 697.7	166, 839, 2 6, 8 48, 687, 7	110,858 9 67.1 30,576.3
9019	2000	25 22 1.4 2.53 38 38 38 38 38 38 38 38 38 38 38 38 38	5, 186, 9 0, 0 12, 238, 3	2 113 5 482 7 7 118 6 120 5 130 5	25 55 55 55 55 55 55 55 55 55 55 55 55 55	25 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	7, 968.8 7, 968.9 352.7 7, 616.1	544.4 0.248.5 1.793.9	7. 616.1 2. 793.8 1. 793.8	5, 822.1 (S) EIRR - Tr.) NPV -
583.7		739. 739. 739. 739. 759. 759. 759. 759. 759. 759. 759. 75	5, 985.0 0.0 12, 238.3	2013 113.5 113.5 113.5 156.5 156.5	28. 25. 38. 25. 38.	0005 4445 4	7, 568.3 7, 968.8 355.7 7, 616.1	25. 25. 26. 27. 26. 27. 26. 27. 27. 27. 27. 27. 27. 27. 27. 27. 27	7, 28, 18, 17, 19, 19, 19, 19, 19, 19, 19, 19, 19, 19	4. 678.5 C10*6 Tg
9836	6416	739 4 5 883 4 5 883 4 5 883 4 7 4 1 7 4 1 1 8 7 8 1 8 1 8 1 8 1 8 1 8 1 8 1 8 1 8 1 8 1	6,486.0 0.0 12,238.3	2, 13, 13, 13, 13, 13, 13, 13, 13, 13, 13	288.2 51.3 483.5	4, 269.5	7,968.8 7,968.8 7,968.8 352.7 7,516.1	821. 1 6.0 143.8 924.9	7. 816.1 92.4.9 0.0	10.0
4636	ETA	2,588.75 5,882.75 5,882.75 7,582.75 7,582.75 7,582.75 7,582.75 7,583.75 7,583.75 7,583.75 7,583.75 7,583.75 7,583.75 7,583.75	6, 086, 9 0, 0 12, 238, 3	2 4827 4827 4827 4836 8856 8856 8856	286. S1.3 S43.5 S.5	4.253.5	7, 968.8 7, 968.8 352.7 7, 616.1	773.8 9.0 1.77.8	7, 716.1	5.842.8. te (%) ::
961	6113	2 336 5 36 5 36 5 36 5 36 5 36 5 36 5 36	6, 086. 4 0. 0 12, 238.3	2 113 5 482.7 168.7 202.6 196.5	298.2 51.3 403.5	6.6 6.6 6.0 4, 263.5	7, 968.8 7, 968.8 352.7 7, 516.1	958. 9 8. 6 3, 211. 7 4, 161. 7	7,516.1	3.454.3 5 Discount Rate
2 1 8 2	9.5	23.00 12.12.13.13.13.13.13.13.13.13.13.13.13.13.13.	6,086.0 4.0 12,238.3	2, 114 5 482 7 105 6 412 8 196 8	250 250 250 250 250 250 250 250 250 250	4. 269. 5	7, 986.8	950-1 173-4 1, 123-6	7.815.1	£ 493. P
4:90	2117	4 11.14 11.19.19.20.20.20.20.20.20.20.20.20.20.20.20.20.	6,086.6 0.4 12,238.3	2 113.5 487.7 198.6 412.6 202.6 186.5	238 51: 538 54: 53: 53: 53: 53: 53: 53: 53: 53: 53: 53	4. 289. 5	7,968.8 7,968.8 352.7 7,614.1	945.6 1, 872.2 2, 817.8	7. 81.92 19.73 19.74 19.74	4.798.3
196	6011	24 22 22 22 22 22 22 22 22 22 22 22 22 2	6, 685. 0 0. 6 12, 238. 3	2, 113.5 1482.7 108.8 412.8 202.6 196.5	298.2 51.3 403.5	4, 2000. 2000. 2000.	7, 968. 8 0.4 7, 968. 8 352. 7 7, 618. 1	 	7. 91. 91. 91. 90. 90. 90. 90. 90. 90. 90. 90. 90. 90	7,615.1
0.00	\$10°	23.25.25.25.25.25.25.25.25.25.25.25.25.25.	6, 986. 4 0. 6 12, 238. 3	2 113.5 482.7 108.6 412.6 202.6 196.5	298.2 51.3 403.5	4, 269. 5	7.968.8 7.968.8 352.7 7.618.1	143.3 0.0 103.8 247.1	7.618.1 247.1 -0.0	7, 369.0
	2002	739. 6 2 588. 7 5 588. 6 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	6, 086-1 0.0 12, 238.3	2,113.5 482.7 108.6 412.6 205.6 196.5	288.2 51.3 51.3 51.3	0.0 0.0 4, 269.5	7, 969. 8 7, 968. 8 352. 7	1, 456. 2 9. 0 1, 456. 2	7,616.1	6.161.9
0000	2000	23 239. 588.4 588.4 1.3.289.4 4.449.4 7.5.589.4 7.5.89.4 7.6.89.4 3.4 7.700.4	6, 686. 5 0. 0 12, 238.3	2 113 5 482.7 106.6 202.6 196.5	298. 2 51. 3 403. 5	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	7, 988.8 7, 968.8 352.7 7, 616.1	272 2 0.0 1, 869 1 1, 341, 4	7, 816.1, 341.4	6.274.8
1000	2042	22 739. 25 883.4 25 883.4 25 25 25 25 25 25 25 25 25 25 25 25 25 2	6, 886. 0 0. 0 12, 238. 3	2 113.5 482.7 108.6 202.6 196.5	238.2 51.3 403.5	0.0 0.0 0.0 4.269.5	7, 968.8 9.0 7, 968.6 352.7 7, 616.1	272.2 0.0 1.936.1 2.208.3	7, 618.1 2, 25.0 6.0 6.0	5.407.7
	2002	22 24 4 23 23 23 23 24 24 24 24 24 24 24 24 24 24 24 24 24	5, 686.0 0.0 12, 238.3	2012 102 102 103 103 103 103 103 103 103 103 103 103	51.3	200 d d d d d d d d d d d d d d d d d d	7.968.8 7.968.8 352.7 7.618.1	3,211.7 3,756.1	7.816. 3.756. 4.756. 0.00	3,859.9
	2002	24 24 4 24 25 25 25 25 25 25 25 25 25 25 25 25 25	6, 686.0 1.0 12, 238.3	2412-6 412-6 2412-6 342-7 343-8 343-8 343-8	288.2 51.3 463.5	2. 2. 0.0 0.0 2. 0.0 0.0 2. 0.0 0.0	7, 968. 8 0. 0 7, 968. 3 352. 7 7, 618. 1	***** ರಕ್ಷಕ	200000 200000 2000000	7, \$18, 1
	2007	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	6, 986. 0 0.0 12, 238. 3	2,113.5 482.7 482.7 412.8 282.6 196.5	298.2 51.3 543.5	4.28 9.99 9.99 9.99 0.09	7.388.8 0.0 7.348.8 352.7 7.616.1	2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2	7. 618.1 6.0 6.0 6.0 6.0 6.0 6.0	8, 987. 9
	2003	20 738, 4 5.883, 4 5.883, 4 5.883, 4 5.883, 4 5.893, 4 5.71, 3	6, 086.9 0.6 12, 238.3	2 113.5 482.7 168.6 118.6 202.6 136.5	51. 3 51. 3	4. 269 4. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2	7, 968.8 7, 968.8 352.7 7, 616.1	1, 095.0 4.0 1, 096.0	7, 616.1 1, 886.0 1, 686.0	6, 520. 1
	2002	2,538.6 2,538.6 3,55.7 3,256.0 4,44.5 4,54.6 5,550.0 7,038.1 7,038.1 8,760.0	6, 086, 9 0, 0 12, 238, 3	2,113.5 482.7 108.6 412.6 202.8	51.3	4, 269.5	7,968.8 7,968.8 352.7 7,614.1	272. 2 0. 5 1, 528. 9 1, 908. 2		5, 715, 8
	2001	739.6 2.588.7 2.588.7 3.587.3 1.271.3 4.44.84 4.44.84 7.509.0 7.009.0 7.009.0 7.009.0 7.009.0 7.009.0 7.009.0	6, 086. 0 0. 6 12, 239. 3	2 482.7 108.8 412.8 202.8 136.8	298.2 51.3 403.5	9 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	7, 968.8 7, 966.8 352.7 7, 615.1	1, 308. 2 0. 0 1, 308. 2	7,615.1	6, 307. 9
	2000	739.6 739.6 739.6 739.7 7.271.3 7.449.4 4.449.4 7.509.0 7.509.	6, 186, 0 0.0 12, 238, 3	2 482 7 108.5 7 202 18.5 18.5	298.2 51.3 463.5	4,269 5	7, 968.8 7, 968.8 352.7 7, 616.1	1, 222, 2	7, 816.1	6, 393-8
	1999	2, 2, 1, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2,	6. 486. 0 0. 0 12. 238.3	2113.5 482.7 108.6 412.6 135.6	238.2 51.3 403.5	2 4 4 4 8 8 2 4 4 4 4 5 8 2 4	7, \$68.8 9.0 7, \$18.8 352.7 7, 616.1	# # # # # # # # # # # # # # # # # # #	7,616.1 0.0 877.8 878.7	6, 859, 6
200	8661	20 20 20 20 20 20 20 20 20 20 20 20 20 2	6, 086. 9 0. 0 4, 501. 4	881.8 22.22.4 24.7.4 24.5 24.5 24.5	22.3	1, 537. b	2.864.5 2.864.5 2.864.5 2.774.2	821.1 6,115.2 0.0 8,540.3	2,739,23 8,94,00 15,94,00 15,9	-6, 165. 9
	1397	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	6, 086, 0 0, 0 4, 501, 4	88 84 87 4 4 8 8 6 6 6 6 6 6	24.3	2 2 2 2 4	3,097.2 0,0 3,007.2 168.5 2,838.7	1, 896.0 6, 497.7 6.0 7, 593.7	2.886.7 7.598.7 7.598.7	-4,768.3
	986		6, 086. F 6. 9 4, 501. 4	88 84 84 84 84 84 84 84 84 84 84 84 84 8	2.2. 2.2.	1,457.7	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	EE	2.888.1 9.9 672.4 673.4 8.54.6	1,752.2
		0.000 0.000	0000 0000 0000 0000 0000	GP 750	12	a A A	(1046 72) (1085) Tax (00) Loss) 1	(16+5 Tg) accessor mont ment t	(UM 12)	
		A PER	poefit	E S	abor Costs Salaries & Mages Social lesserance Pheers Royalties & Charges	Enyable Interest Peprociation Past Depreciation Replacement Additional Investmen Jotal Operating Costs	URIT) ((ps Tz Before Tax Profit(Loss) After-Tax Folorit(Loss) After Tax Expenses After Tax Expenses Retained Sarning(Loss)	Eo. Repl 1 Invest 1 Replac ital Cos	S Con in	
		(PROBECTION) A Coal A Coal A Coal A Coal A Coal Stripping Pa Overbucke Stripping Pa Stripping Pa Overbucke Overbucke Stripping Pa Total Exam	[Nevenue] Sale Price Trade Tax Communic Ba	Material, & Ene Farts Farts Diesel Oil Gas & Lub. Electricity Explosives I & E-Sthers	Labor Costs Salaries & Social loss Others Royalties	Rayable Jotu Bepreciation Past Bepreci Replacement Additional Jotal Operati	(PEOFIT) Before II Corporate After Tar After Tar	INVESTMENT) Existing Additions Additions Total Cap	Retained Earr Retained Earr Paperciation LESS: Forking Payable Inter	Carth Tie

Table 5.7

SHIVES OVOG COAL BINE REMOVATION PROJECT

		•							٠									٠					•					Selvage	-109.4	O. O	1, 325, 2	Equipment 11, 843.3	13.063.1		
Total		59,540.8	23.600.0	15, 425	, c	116, 000, 0	148, 528.4	183, 660.9		8	206, 615, 7	•	A4 316.3	2, 235, 4	8.897.4	4,470.6	6, 387, 9	1, 099. 0	7. 532. 1		500 \$40	68, 511.7		18, 94, 9	7, 381.	116, 722, 2	16.748.7	17, 250.2	46. 60 f.	116, 722. 2	48, 607, 7		80, 785, 3	ន់ខ	
2018		7.38.6	2 20 0	1.27.3	2 5	5, 500. 0	7, 938. 1	8,786.0		4.858.3		•	2,113.5	108.6	412.6	196.5	298.2	2.	336.7			4, 202.8		5.587.9	2, 187. 244.	. 743.8 8.	ž	2,49.5	1, 793. 9	5, 243.8	783.5	200		TO NIPY	
2017	.,	2.586.7	. ·		4			., e		8.88.9	9, 730, 6		2,113.5	108. 6 208. 6	412.6	196.5	248.2	51.3	336.7	i	##: 55:	4.202.8	e.	5,587.9	5,587.9 344.1	5, 243, 8	358. 2	2,587.3	200	5, 243.8	9 47 6 6 47 6		2, 258. 3		
2016		739.6	2 300 5	1, 271. 3	4.48.44.44.44.44.44.44.44.44.44.44.44.44	5.580.0	7, 638. 1	3.5 8.798.8		\$ 858. \$ ₹ ₹	5, 790. 6		2,113.5	98.5	412.	196.5	298.2	51.3	336.7	s	0 0 0 6 0	4, 202.8		5, 587. 9	5.587. 374.19	5, 243, 8	821.	103.8	22	5.22.8	0 740		4, 318, 9	10.0	
2015		738 6		1, 271.3	4.45	5, 504. 0	2, 016.9 7, 038.1	8.790.4		4, 858.8 9.0	9 062 6	: '	2,113.5	482. 7 1 98. 6	8 22 5	205 136 2	248 2	25	336.7	3	66	0.0 4,202.8		5,587.9	. 55 5. 55 6. 45 6. 45	5, 243.8	777.8	9 e 5 ci	. 73. 8	5. 223.8	23.62	200	3, 470, 6	Rate (%) =	
2014		733.6 2,588.7	us «		- v.		.	.c. =		4.868.8	9,790.6		2, 113.5	108.6	412.6	202.6 196.5	248.3	51.3	336.7	≟	9 0 0 9 0	0.0 4, 202.8	٠.	5, 587. 9	344.1	5, 243, 8	950.0	3.211.7	4, 161. 7	5, 243. 8		 	1.082	Discount R	
2013		738.6		1, 271.3	4.48.4 4.5.4	5,500.0	2,034.5	8.786.6		4.868.e	5, 750. S		2,113.5	186.5	412.6	282:6 196:5	286	51.3	336.7	3	24	4,262.8		5,587.9	5.587.9	5.243.8	956.0	ę E	1, 123	5, 243.8		- - - - - - - - - - - - - - - - - - -	. 120 S	3-103-X	
2012		2,588.7	un F	1, 271.3	4,449.4	5,500.0	2,010.9	4 00 T		4, 868, 8	9. 790. 6	٠.	2,113.5	182.7	412.6	2 52. 6	0 000	51.3	336.7	3	0 0 d d	9.202.6		5, 587. 9	5.587.3	2,23	345.8	879.2	2,817.8	5, 243.8	9 66 6	2.00 0.00 0.00	0.498.0	4 306.4	
(196		738 1	. B	277.3	4,449.4	5, 500.0	2,410.9	3.5	٠.	4, 863. 8	J. 790. 6		2,113.5	182.7	412.6	202. 6 136. 5	0	25.5	336.7	Š		4, 202.8		5, 587. 9	5.587.3	5.243.8	6	- ·	₽ ₽	5, 243.8	- ·	3 5 5	5 247 8	2.000	
9192		739. 6 2,588.7	e,	3,200.4	4,445.4	5,500.0	2,010.9	8,700.3	٠	4, 868.8	3, 790, 6		2,113.5	7.532	412.6	202.8 196.5		51.3	336.7	3	23	4, 302.8		5.587.5	5,587.9	5, 243.8	143.3	9.0	247. 1	5, 243, 8	- ·	, di di	480 +	4,337.1	
9006	PANG	739.5	ري ش	2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2	+ 449.4	5.506.8	2,016.9	8 780 B		4, 868.8	3, 790. 6	٠.	2, 113.5	182.7	412.6	242.6 196.5	9	2.3	338 7	é		4, 202. 8		5, 587.9	5.587.9	5 243 8	1.454.2	.	1, 454. 2	5, 243, 3	-	7 7 9 9 9	2 200 6	6 (83· 6	
0400	0847	739.5	3.5	3.200.0	4.449.4	5.500.0	2,010.3	3.5		4.853.8		· :	2,113:5	482.7	412.6	262.6		51.3	336.7	e .	33	4, 202.8		5,587.3	5,587.9	5.243.8	272. 2	0.0	1.341.4	5, 243, 8	2	7 5 5 5 5 7 5 6	4	4.276.9	1
2440	100	739.6	3.5	3,200.0	4,449.4	6 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	2.010.9	8.78.0 2.00 2.00 2.00 2.00 2.00 3.00 3.00 3.		4, 868.8			2,113.5	482.7	412.6	252.6		51.3	338. 7	9	a 0	4, 202.8		5, 587. 8	5, 587.9	5,223.8	272.2	0.0	2, 208.3	5, 243, 8	6	2, 2 6 8, 9, 9 9, 9, 9	. 200	3,933.3	
5446	288	739.6	લં	3.256.0	4.448.4	2 E E	2,010,9	8.796.0		4.868.8	9.736.6		2 1:3.5	25	412, 6	202		51.2	336. 7	e e	6 6 6 6	4, 202. 8		5.587.9	5.587.9	88.	3	3.211.7	3,756.	27.3	9	3.756. -0.0	0 001	1.481.7	
	Char	739.6	5	3,280,4	4.00	500.5	2,010.9	3.5	} .	4.868.8	3, 794. 6		5 2 2	482.7	108.6	202.8		288	336.7	3	 	0.0 4.202.8		5, 587. 9	5.587.9	5.243.8		0 0		5.243.8	6	 	, 6	\$ 243. 8	
	25	739.6	1.5	3,280.0	4 4 6 4		25.0	8,700.0		4, 868.8	3, 730. 6		1 81 6	482.7	108.6 412.6	202.6		88 23 23 23	336. ?	9	9.0	4. 202. 8		5, 587. 9	5,587.9	5.243.8		9 6		5 243.8	-	E 000		4, 595. E	
	2013	739.6	é rá	3, 201.4	4.44	بر در و	2,010.5			4, 868.8	3, 790, 6		2 577 6	482.7	198.6	202	E.	28 25 27 28 27 28 27 28 28 28 28 28 28 28 28 28 28 28 28 28	336.7	6	66	0 0 4 202.8		5.587.9	5.587.9	2.2	196		1, 596. 0	3 8P6 5	-	0.00		4, 147.8	٠
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Table 5.8 sowwite MALYSIS (REMOVATION COMBINE)

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9867	١	738. 8	~	200.0		4.63.4	566.6	016.9		<u> </u>		5, 986.0 9, 0.49			2113.5 2	198.6	412.6	136.5	238.2		4 6 6 6 6	3	0 0 0 10	4, 265.5		7.968.8		326.6	7.323.4 6.65		7, 816.	2, 550.		
3440	6880		i.	eri Seri		∢.		9	ي ســــــــــــــــــــــــــــــــــــ	907		986.0	3 12 238		2	c- 64	9715	o'un'	3.2 298.2		1.5 403.5		000	4	7,988.	0.0 0.0 8.8 7.968.8	7.522		2 8 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	-f	16.1 7.516.	o- o-	0.0	
	CM2 5002				27.3	443.4	n e n e	910.9	138.1			986.4 5.0			دا در	(- u	412.6 412.		298.2 258		403.5	_		ا من	. 8		35. 6.6	659. 3	124.5	777.8	7, 616. 1 7, 63		ම ම මේ ජි	
	2 5002		ed.		5i • 03	449.4	2 2 2 2 4		33.1	, es		6. 886.3 5. 0. 6.	2, 238, 3, 12,	٠.	2 113.5 2		412.6		238.2	7	483.5 0.0	0	é 6	269 5	Q.		352. 7 816. 1			1,315.2	7, 518. 1	9 5 E		
	2002		~		š	₹	u	4 ~4		œ		د ه	3 12 238.3				615	.5 202.6 .5 196.5		Ä	207.5			e es			2.7 352.7 5.1 7.616.1		1, 353.	ം .				
	2000 2001		588.7 2,588.7						7, 938. 7, 938.1			20.	12, 238.3 12, 238.3		811.6 2 9 11.9		412.5 412.1	262. 6 202 156. 5 156	238. 2 238. 2		483.5 483. 0.0 0.0			~ ~	030 6 6 030 6		352.7 352.7 7,616.1 7,616.1	1,466.7 1,569.			7,616.1 7,616.	۰,	1 6 6 4 5 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	
	13.68		2,586.7		3.200.0				٠	8,786.9 &		٠.	12, 238, 3 12,				412.5	282.6 136.5	238.2	e .	403.5	=		4, 269.5	0 0 0 0 0		352.7	4 113		813.4	7.616.1	01	200 200 200 200 200 200 200 200 200 200	
KSSETS	1998	į	2.588.7	eri L	3,200.0		d	٠.	2,588.7	19.3		0.086.0	4.501.4					\$ 45 5 5 5 5	. ~	~ 3	127.4			2 1.537.0		1 0	• • •		6 6	4 18.7	7 2.796.2	-	10, 28, 24, 24, 24, 24, 24, 24, 24, 24, 24, 24	
NEW DEVALUATION OF ASSETS	11107		2 C 135.0		326	: 3	4					6	31.4. 4.50		ő		162 9 184		ŀ.	24.3 24	93.9			57.7 1.454.	. ,	3, 443.0 3, 100. 1.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	. .			211.2	2 838 2 838	٠	5, 112 454.6 13	
	3886		320		Cles 100 3 280	2	(MC/t)	(C)	-	(BCL/E) 3.289.		- 2	GPC CONT. 4.50	1	<u> </u>	• =	-							sts 1,457.	9	<u></u>	<u>.</u>	2	<u></u>	- 4:	5	•		
		RODICTION]	3	Partie.			ott.	Jotal Excession (1)	Dverburden (1)	2 2	A. Tak	4.	mefit		L & Energy	Farts Diesel Dil	Gas & Lab.	Explosives	Lator Costs Salaries & Tages	Social Insurance	Others Royalties & Charges	Depreciation	Past Depreciation Replacement	Additional Investment Total Operating Costs	(PROFIT)	Corporate Income Tax (#K)	After fax Froittluss, After fax Expenses Betwined Exeminations	(INVESTMENT)	Additional lavestment Additional Prolacement	Total Capital Cost	(cast) (101)	Depreciation	UNS: Total Capital Cost UNS: Working Capital	

Table 5.10 consists (RENOVATION COMBINE)

SHIVEE DVOO COAL MINE RENDYATION PROJECT

			:																						
	1896	1597	1998	1999	2003	2041	2002	2003	2004	2005	5002	2007	2008	2015	2614	2011	2012	2013	2014	2015	2016	2017	8102	Total	
(Problem100) A Coal. A Coal. A Coal. Corresponde Ratio (RGL/D) Total Excavation (1993 ED) S Coal. Governanced (1993 ED) Overburded (1993 ED)	735.6		738.6 2.588.7 3.20\$.5 0.0	2,588.7 2,588.7 3,280.0 1,271.3 4,448.4	739.6 2.588.7 3.200.8 1.271.3 4.449.4	739.6 2.588.7 3.200.0 1,271.5 4.449.4	739.6 2.588.7 3.200.0 1.271.3 4.449.4	733.6 2.588.7 3.200.0 1,271.3	739.6 2,568.7 3,206.9 1,271.3	739.6 2.588.7 3.200.0 1,271.3	739.6 2,588.7 3,590.0 1,271.3 4,449.4	739.6 2,588.7 3,200.8 1,271.3 4,449.4	738.6 2.588.7 3.200.8 1,271.3	739.5 2.588.7 3.200.0 4.449.4	738.7 2.588.7 3.5 3.200.0 1.271.3	2,588.7 2,588.7 3,289.0 4,499.0	735.6 2.588.7 2.288.7 4.45.1 3.55.0 4.45.1	735.6 2,588.7 3,286.0 1,271.3 4,449.4	2,588.7 3,260.0 1,271.3 4,449.4	739. 6 739. 6 739. 7 7, 588. 7 7, 571. 3 449. 6	2 588.7 2 288.7 2 286.0 4 449.1 2 449.4	739. 6 2,588. 7 3,289. 8 1,271. 3	739. 739. 6 3. 588. 7 1. 271. 3 445. 4	12, 031.7 59, 545.8 73, 685.0 25, 425.0 88, 387.5	
Stripping Ratio (BUK) John Exervation (1975 BD) Cost. Overburden (1975 P) Overburden (1975 P) Stripping Ratio (BCK) Total Exervation (1975 BD)	7. 7.39.6 2.588.7 3.286.0	2,588.7 2,588.7 3,240.5	739.6 739.6 2,588.7 3,5	5.500.0 2.910.9 7.938.1 8.700.9	2,500.8 2,010.8 7,038.1 3,5	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	2,500.0 2,610.9 7,638.1 3,5 8,740.0	2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2	8.589.0 7.038.1 7.038.1 8.780.0	5, 500.0 2, 010.9 7, 038.1 8, 706.0	5, 500.0 7, 938.1 3, 55 8, 700.0	8, 500.0 7, 036.1 8, 700.0	7,638,1 8,709,0 8,709,0 8,709,0 8,709,0	5.500.0 2.018.9 7.038.1 3.55	, കര⊶ പറ	2, 48, 60, 50 7, 43, 6, 50 8, 740, 5		, ⇔ ø ⊸ ., o	5,500.0 7,638.1 8,700.0 8,700.0	5, 500, 6 7, 038.1 8, 700.0		5,500.0 2,010.9 7,038.1 3.5 8,700.0	5,500.0 7,038.1 3,550.0 3,500.0	식적합점	
	6, 686.0 4, 501.4	6, 486.0 0.0 4, 501.4	6, 986. 0 0. 0 4, 503. 4	6, 086. 4 0. 6 12, 238. 3	6, 086. 0 0, 0 12, 238. 3	6.086.1 0.0 12, 238.3	5, #86.0 22, 23, 20, 0	6, 186. 0 0. 0 12, 238. 3	6, 086, 0 0.0 12, 238, 3	6, 686. 0 0, 0 12, 238. 3	6,086.0 0.0 12,238.3	6. 986. 0 0. 0 13. 236. 3	6, 636.4	6,036.1	6, 686. 0 6. 0 12, 238. 3	6, 986. 4 0. 0 12, 238.3	6, 1886. 0 12, 238. 3	5.086.0 0.0 12,238.3	6. 686.4 0.0 12, 238.3	6,086.0 0.0 12,238.3	6,086.0 0.0 12,238.3	6,086.4 0.6 12,238.3	6.086.0 0.0 12, 238.3	h. 0 258. 263. 6	
<u> </u>	222.22 223.28 1951.2 4 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	25.25.25.25.25.25.25.25.25.25.25.25.25.2	25, 25, 25, 25, 28, 28, 28, 28, 28, 28, 28, 28, 28, 28	2,536.3 578.2 130.3 495.1 243.2 235.9	2535.2 573.2 134.2 243.1 243.2 235.4	2.536.3 578.2 130.3 243.2 235.3	2.538.3 579.2 130.3 485.1 248.2 255.8	2, 535, 3 579, 2 130, 3 243, 1 243, 2 235, 9	2, 596. 3 579. 2 130. 3 495. 1 235. 9	2, 536.3 579.2 130.3 1495. – 243.8 235.9	2, 536. 3 579. 2 139. 3 243. 1 243. 2 235. 9	2,536.3 573.2 135.3 243.1 243.1 235.4	2,536.3 578.2 138.3 495.1 243.2 235.3	2,536.3 578.2 130.3 2435.1 2435.1 25.3 25.3	25.55 25.55	25.55 136.2	2,536.3 579.2 136.3 243.1 235.3 235.3 235.3	2,536.3 579.2 136.3 243.1 235.3	2 536.3 579.2 130.3 245.1 245.1 235.9	2,536.3 579.2 130.3 495.1 243.2 235.3	2,536.3 579.2 139.3 485.1 245.2 235.9	2,536.3 579.2 130.3 495.1 243.2 235.9	2, 536, 3 578, 2 136, 3 245, 1 235, 9	53.173.6 12.287.3 2.753.2 10.568.3 5.131.5 4.884.7	
abor Costs Starries Arges Social Instrance Others & Charges Reyalties & Charges Payable Interest	25.55 25.55 25.55 25.55	169.5 29.2 111.1	169.5 29.2 129.5	357.5 51.6 51.6 6.83	357.5 \$1.6 \$1.6 \$1.0 \$1.0	357.5 61.6 488.3	357.9 61.6 62.9 0.0	357.9 61.6 61.8 0.0	357.9 61.6 488.3 0.0	357.9 61.6 6.0 9.0	357.8 51.6 408.3	357. 9 61. 6 61. 6 0. 6	357.5 51.6 51.6 0.0	357.5 61.6 68.3 6.0	357.9 61.6 61.6 0.0	557.3 61.6 488.3	357.9 61.6 408.3	357.9 61.6 60.6 0.0	357.9 61:6 408.3	357.3 61.6 646.3	357.8 61.6 468.3	357.8 61.6 408.3	357.9 61.6 61.6 0.0	7. 565. 1. 316.8 9. 582.5 0.0	
Depreciation Replacement Replacement Additional Investment Total Operating Coets	1,732.5	200E	0.6 0.6 1,921.		6.0 6.0 5.047.6	5, 647, 6	5. 6 47.6	5.647.8	5.049.55 8.049.55 8.049.55	5. 64 7. 6	0.0 0.0 0.0 5.047.6	6.0 5.047.6	5.047.8	0.0 0.0 0.0 0.0 5.047.8	6 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	5. 14 7. 6	5.042.6	0.0 0.0 9.0 5.047.6	0.0 0.0 0.0 5.047.6	5.047.5	5.047.8	0.0 0.0 5.047.6	5.047.6	11.0 6.0 9.0 106.278.0	
[FROFT] Before Tar Profit(Loss) Corporate Londone Tar (M) Mirer Tar Profit(Loss) After Tar Expenses Relained Sarning(Loss)	2.788:3 2.768:3 1.53:6 2.575:3	2,728.1 2,728.1 198.9 2,529.2	2 580.4 0.0 2 580.4 205.1 2 475.4	7, 194. 7 8, 6 7, 196. 7 413.5 6, 776. 8	7, 130.7 7, 136.7 413.9	7,130.7 6.5 7,190.7 413.9 8,776.8	7, 190.7 0.0 7, 190.7 413.9 5, 775.8	7, 190, 7 0, 6 7, 190, 7 413, 9 8, 776, 8	7, 190. 7 0.0 7, 190. 7 413. 3	7, 156. 7 0, 6 7, 196. 7 413. 9 6, 775. 8	7, 190. 7 8. 0 7, 190. 7 6, 776. 8	7,190.7 6.6 7,190.7 413.9 6,276.8	7, 190.7 6.0 7, 190.7 415.9 8, 776.8	7,196.7 9.0 7,196.7 413.9 8,776.8	7.180.7 0.0 7.180.7 413.9 8.770.8	7.190.7 0.0 7.196.7 413.9 6.776.8	7, 196.7 7, 186.7 413.9 8, 776.8	7,190.7 0.0 7,196.7 413.9 6,776.8	7.196.7 9.8 7.196.7 413.9 6.776.8	7, 196.7 7, 196.7 413.9 6, 776.8	7, 190.7 6, p 7, 190.7 413.8 6, 776.8	7.150.7 8.1 7.150.7 413.5 6.775.8	7, 159.7 7, 130.7 413.5 413.5	151, 991, 6 2, 9 151, 991, 6 8, 875, 6 143, 116, 0	
[INVESTMENT] (1pt 7g) Existing Eq. Replacement Additional Investment Additional Replacement Folial Capital Coet	1995	1, 698. 0 6, 497. 7 9, 8	821. 1 8. 119. 2 9. 9 8. 949. 3	F	1, 222, 2 1, 0 1, 0 1, 0 1, 0 1, 0	1, 368. 2 0. 0 0. 0 1, 368. 2	272.2 0.0 1.628.0 1.900.2	1, 096, 0 0, 0 0, 0 1, 095, 0	7.4.7 10.0.1 103.8 8.63.8 2.2	0000 8888	544.4 1.0 1.211.7 1.756.1	272. 2 9. 0 1. 936.) 2. 208. 3	272.2 0.0 1.069.2 1.341.4	1, 454. 2 p. 0 1, 454. 2	143.3 0.0 103.8 247.1	2222	345. 6 9. 9 1. 872. 2 2. 817. 8	950.0 173.0	3,211.7	1, 773.8	821. 1 0: 0 103. 8 924. 9	358. 2 8. 4 2, 587. 3 2, 945. 5	54.4 1, 249.5 1, 735.9	16, 748.7 14, 616.9 17, 256.2 48, 687.7	Ø.3
[CASS FLET] (18e6 Tg) Netained Earning(Loss) Description: DESS: Post Contact Cost (LESS: Posting Capital Payable interest	2.575.3 873.4 537.8	2,529.2 0.0 7,583.7 14.6	2, 29, 24, 24, 24, 24, 24, 24, 24, 24, 24, 24	6.776.8 1.0 1.029.3	6, 776. 8 1, 222. 3 1.0	80 8	2,776.8 0,000.0 0,000.0 0,000.0	8,777.8 1,985.0 1,085.0	80 00 00 00 00 00 00 00 00 00 00 00 00 0	27.77 20.00	3 277 23 23 24 25 25 25 25 25 26 25 26 25 27 25	6. 77 2. 20 2. 20 2. 30 2. 30 3. 30 30 30 30 30 30 30 30 30 30 30 30 30 3	6.777.8 8.47.8 4.12.9 6.0.0	6, 775.8 9.9 9.0 9.0 9.0	6,776.8 247.1 20.0 20.0	6.778.8 0.00 0.00 0.00	6. 5. 5. 6. 6. 6. 6. 6. 6. 6. 6. 6. 6. 6. 6. 6.	1, 123.0	6,776.8 4,161.7 0.0	6, 776, 8 1, 773, 8 4, 0	6.775.8 924.5 4.0	8 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	6, 776.8	143.116.9 48.407.7 & 0	Forkir Rauip
Cash Flor	. 364. 1	-5.000.2	6.482.2	5,069.7	5,554.6	5,468.6	4,876.5	5, 689.8	£, 128. \$	£, 776. 8	3, 024. 7	4,568.5	5,435.4	5, 322, 7	8.523.8	6,775.8	3, 959. 0	5. 653. 8	2.615.1		5.851.9	3.831.3	4 982. 9	92 918.3 48.3	
					· ·			•	÷	·.								E	Discount Pate	S	₽	2 m 1	× AdK		

SKIVEE OVOC COAL MINE REMOVATION PROJECT

1985 1987 1886 1885 2009 2009 2008 2003 2194 2005 2004 2004 2005 2005 2005 2005 200	2224 7224 7325 735 735 735 735 735 735 735 735 735 73	4 R.9 S.544.4 S.544.4 S.544.4 S.549.4	3,239,7,3,233,7,3,232,7,3,23,7,3,1,3,7,3,1,3,7,3,1,3,1,3,3,3,3,3,3,	(2027) (4.886.9 6.884.9 6.886.0 6.886.0 6.886.0 6.886.0 6.86.0 6.98.0 6.98.0 6.986.0 6	(1887 R) 818.2 818.2 2.538.3 2	158.9 158.9 335.4 335.4 335.4 335.4 335.4 335.4 335.4 335.4 335.4 335.7 357.7 377 377 577 577 577 577 577 577 577 57	34.8 188.9 128.3 438.4 445.4 485.4 485.4 485.4 485.4 405.4 4	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	OPTION CORPORATE TO TAX A 2.741.5 2.891.0 7.220.0 7.22	Normany) (1865 II) (1856 II) (177.8 1,222.2 1,386.2 272.2 1,886.0 544.4 8.0 544.4 272.2 272.2 1,886.0 544.4 8.0 544.4 272.2 272.2 1,886.0 544.4 8.0 54.9 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0	72) 2.594.9 2.543.5 2.454.1 5.698.0 f. 898.0 f. 898.1 f. 898.2 f. 898.0 f.	1,332.3 -5,044.3 -5,457.4 5,164.7 5,555.7 5,435.8 4,307.7 5,712.0 6,155.8 6,806.0 3,051.9 4,595.5 5,46
1956 1955 2000 2000 2002 2003 2195 2005 2004 2007 2006 2005 2006 2005 2005 2005 2005 2005	F 728.6 723.6 723.6 723.7 7228	4 R.9 S.544.4 S.544.4 S.544.4 S.549.4	7 1222/7 1/76.] 2/76.]	9 8.086.6 8.086.9 6.086.0 6.186.0 5.186.0 6.08	816.2 2.536.3 2.536.3 2.538.3	158.9 335.4 335.4 335.4 335.4 335.4 335.4 335.4 335.4 335.7 235.7 25.7 27.7 27.7 27.7 27.7 27.7 27.7 2	9 [28.2] 495.4 405.4 485.4 485.4 485.4 485.4 405.4 405.4 405.4 6.9 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	0 1.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	2 741.6 2 894.0 7 220.	1865 9 221.1 877.8 1.222.2 1.386.2 272.2 1.886.0 544.4 0.0 544.4 272.2 1.86.4 6.4 6.4 6.0 545.4 272.2 6.4 6.4 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0	2,543.5 2,450.1 6,886.0 6,886.	-8.467.4 5.164.7 5.585.7 5.489.8 4.907.7 5.712.0 6.159.8 6.808.0 3.
8 770 8 770 8 770 6 720 8 775 6 775 6 775 6	733.6 733.6 735.8 735.7 73.25.	1 5,544.4 5,545.4 5,545.4 5,548.4 5,54	7 8,778.1 8,778.1 8,778.1 8,778.1 8,778.1 8,778.1 8,778.1 8,778.1 8,778.1 8,778.1 8,778.1 8,778.1 8,778.1 8,778.1 8,778.1 8,78.1	6. 1986. 19. 1986. 19. 1986. 19. 1986. 19. 1986. 19. 1986. 19. 1986. 19. 1986. 19. 19. 19. 19. 19. 19. 19. 19. 19. 19	2,536.3 2,536.3 2,538.	305.4 305.4 305.4 305.4 305.4 305.4 305.4 305.4 305.4 305.7 56.7 56.7 56.7 56.7 56.7 56.7 56.7 5	3 445.4 435.4 465.4 465.4 465.4 405.4 405.4 405.4	0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	6 7.220.9 7.220.9 7.220.0 7.22	677.8 1,222.2 1,382.2 272.2 1,696.0 544.4 8.0 544.4 272.2 8.0 544.4 8.0 544.4 272.2 8.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6	1 5.58% U \$ 882 U \$ 883. U \$ 826. U \$.883. U \$.883. U \$ 686. U \$ 6.805. U \$ 0.0 \$ 0	5.104.7 5.585.7 5.485.8 4.907.7 5.712.0 6.159.8 6.808.0 3.
23.6 733.6 733.6 735.6 735.6	183.8 (1834 1835) 1836 1836 1836 1836 1836 1836 1836 1836	5.543.4 \$5.5	1 8,778, 1 8,788, 1 8	6 6.086.0 6.386.0 5.956.0 6.086.0 6.086.1 6.096.4 6.096.0 6.06.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6	2.596.3 2.516.3 2.536.3 2.536.3 2.536.3 2.536.3 2.556.3 2.536.	335.4 335.4 335.4 335.4 335.4 335.4 335.4 335.4 335.4 335.4	4 405.4 405.4 405.4 405.4 405.4 405.4 405.4 405.4 60.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	0.6 0.1 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	9 7.200.9 7.224.0 7.234.0 7.224.0 7.24	1,222.2 1,396.2 272.2 1,096.0 544.4 0.0 544.4 272.2 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	6.888.9 E.503.0 E.503.0 E.503.0 E.5008.0 E.5008.	5,585.7 5,489.8 4,907.7 5,712.0 6,159.8 6,808.0 3.
8 730 6 739 6 739 6 739 6 739 6 739 6	1,020.7 1,020.	5.554.4 5.559.4 5.549.4 5.549.4 5.549.4 5.549.4 5.549.4 5.549.4 5.549.4 5.549.4 5.549.4 5.549.4 5.549.4 5.549.4 5.549.4 5.549.1 5.549.	8,772. 8,778. 8,778. 8,778. 6,778. 6,778. 6,778. 6,778. 6,778. 6,44. 4.4 4.4 4.4 4.4 4.4 4.4 4.4 4.4 4.4	6,185,0 6,886,0 6,195,	2.598.3 2.558.3 2.538.3 2.538.3 2.538.3 2.558.	335.4 335.4 335.4 335.4 335.4 335.4 335.4 335.4 337.4 37.7 57.7 57.7 57.7 57.7 57.7 57.7 57.7	495.4 495.4 485.4 485.4 405.4 405.4 405.4 5.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.1 E.O 6.0 0.0 0.0 0.9 0.9 0.0 0.0 0.0 0.0 0.0 0	# 7.228.8 7.228.0 7.228.0 7.228.0 7.228.3 7.228.0 7.22	2 1,386.2 272.2 1,686.0 544.4 0.0 554.4 272.2 2 6.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	808.9 E.503.0 E.508.0 E.503.0 E.5008.0 E.500.0 E.508.0	5,489.8 4,907.7 5,712.0 6,159.8 6,808.0 3.
739.6 739.6 739.6 739.6 739.6	100.7 100.0	4 5,548.4 5,548.4 5,548.4 5,548.4 5,548.4 5,548.4 5,548.4 5,548.4 5,548.5 5,54	1 8,778.1 8,778.1 8,778.1 8,778.1 8,778.1 4,4 4 4,4 4,4 4,4 4,4 4,4 4,4 4,4 4,4 4	S. 2884. \$1.984.0 8.986.0 8.986.8 8.984.9 8.988.0 8. 0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	2,556.3 2,536.3 2,538.	335.4 335.4 335.4 335.4 335.4 335.4 335.4 335.4 335.4	4 405.4 465.4 485.4 405.4 405.4 0.05.4 0.05.4 0.05.4	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	7,220,0 7,221,0 7,220,0 7,220,0 1,220,0 7,220,0 7, 6 7,220,0 7,221,0 7,220,0 7,220,0 7,220,0 7,220,0 7, 6 7,220,0 7,220,0 7,220,0 7,220,0 7,220,0 7,220,0 7, 6 7,220,0 7,200,0 7,20	2 272.2 1.696.0 544.4 8.0 544.4 272.2 2 6.0 1.626.0 1.036.0 1.0 1.626.0 1.626.0 1.626.0 1.626.0 1.626.0 1.636.	8, 898.0 6, 809.0 6, 809.0 6,	8 4,907.7 5,712.0 6,155.8 6,808.0 3.
4 730 6 735 8 734 6 735 6 735 6	7 7.228 7 3.281.7 3.28	4 5,548.4 5,54	1 8,778.1 8,778.1 8,746.1 8,748.1 0,410.1 4 4,4 44.0 10,440.0 10,440.0 10,440.0 10,440.0	986.9 6.986.0 6.986.9 6.986.4 6.986.4 0.086.0 6.08.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	3 2.586.3 2.598.3 2.598.3 2.598.3 2.598.3 2.598.3 2.598.3 2.598.2 2.598.2 5.99.	4 535.4 335.4 335.4 335.4 335.4 7 57.7 57.7 57.7 57.7	4 405.4 405.4 405.4 405.4 405.4 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	1.9 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	20.0 (2.22.0 (7.220.0	2 1,996.0 544.4 0.0 544.4 272.2 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	8,505.0 5.805.0 6.808.0 6.805.0 6.905.0 6.905.0 6.905.0 6.905.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6	8 6,808.0 3.
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8 739.6 733.6 739.6 739.6	7 3.228.7 3.228.7 3.228.7 3.228.7 3.228.7 3.228.7 3.228.7 3.228.7 3.228.7 3.228.7 3.228.7 3.228.7 3.227.3 3.271.3 3.27	4 5,448 4 5,548 4 5,548 4 5,548 4 7,548 4 4 6 6,640 6 6,840 6 6 6,840 6 6 6,840 6 6 6,840 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	1 10,440.0 10,440.0 10,440.0	096.0 6.085.9 6.086.6 6.385.0 6. 0.8 0.0 8.0 0.6 238.3 12.238.3 12.238.3 12.	3 2.538.3 2.538.3 2.558.3 2. 2 579.2 579.2 579.2 579.2 130.3	4 305.4 335.4 335.4 7 57.7 57.7	4 405.4 405.4 405.4 0 0.8 0.8 0.0	0.0 0.0 0.0 0.8 0.0 0.0 0.8 0.0 0.0 3 5,818.3 5,018.3 5	0 7,228.0 7,228.0 7,228.0 7, 0 7,28.0 7,228.0 7,220.0 7, 0 412.0 412.0 412.0 0, 0 6,888.0 6,898.0 6,	6 0.0 554.4 272.2 0.0 0.0 0.0 0.0 8 0.0 3.211.7 1.938.1 1. 2 0.0 3.756.1 2.208.8 1.	0 6,808.0 6,808.0 6,908.0 6, 0.0 0.0 0.0 0.0 0.0 2 0.0 3,758.1 2,288.3 1, 0.0 0.0 0.0	8 6,808.0 3.
f 731.6 735.6 739.6	1 3.23.7 3.228.7 3.228.7 3.228.7 3.228.7 3.248.0 3.848	4 3 348.4 3,348.4 3,348.4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	1 8,175-1 0,416-1 4 4.4 4.4 9 10,440.0 10,440.0	085.8 6,086.6 6,085.0 6. 0.0 8.0 0.0 238.3 12,238.3 12,238.3 12,	2 256.3 2 258.3 2 258.3 2 258.3 2 258.3 2 258.3 2 258.3 2 255.9 235.9 235.9 235.9	7 57.7 57.7	4 405.4 405.4 8 0.8 0.0	6 0.0 0.0 6.0 0.0 7 0.0 0.0 3 5.018.3 5.018.3 5	7, 220, 0 7, 220, 0 7, 220, 0 7, 220, 0 7, 220, 0 7, 220, 0 8, 808, 0 6, 808, 0 6,	0 545.4 272.2 0 0.0 0.0 0 3.211.7 1.936.1 1.0 0 3.756.1 2.208.8 1.	6.848.0 6.808.0 6. 9.75.1 2.258.3 1. 6.0 6.0	8
6 739.6 739.6	3, 228. 7 3, 228. 7 3, 228. 7 3, 228. 7 3, 228. 7 3, 228. 7 3, 228. 7 3, 273. 3 3, 273	4 3 343.4 3 343.4 4 4.4 4.4 4.4 4.4 4.4	10,4460	086. 6 6.088. 0 6. 8. 0 0. 0 238. 3 12. 238. 3 12.	2 5585.3 2, 5585.3 2, 136.3 1,	335.4	4 405.4	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0 7,220.0 7, 1 7,220.0 7, 0 412.0 7, 0 6,808.0 6,	545.4 272.2 0.0 0.0 211.7 1.936.1 1.756.1 2.208.3 1.	588.0 6.808.0 6. 0.0 0.0 756.1 2.208.3 1. 0.0 0.0	3.051.9 4.599.6 5.46
735.6	e e e e e e e e e e e e e e e e e e e	2 2 2 2 3 3 3 4 3 3 3 3 3 3 3 3 3 3 3 3		986.0 6. 0.0 238.3 12.	ದಿಗ∾ಎಂ	:	40		220.0 7. 0.0 7. 220.0 7. 412.0 6.	272. 2 0. 6 936. 1 208. 3	208. 0 9. 0 9. 0 9. 0 9. 0	4,539.5 5.45
	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	2,010.0	4 4 6		2 22 2 4 2 2		\$	4 5 6 6 5 6 5 6 5 6 5 6 5 6 5 6 5 6 5 6	7, 220 7, 220 6, 888	27.2	96.3 13.76	5.46
•				മേകന ഗേക്ക്	നേരുന്ന പട	45	7-		. 00000	2004	898.6 9.47.6 9.00	9
33.6	3. 228. 7 3. 84. 4 1. 271. 3	4 4 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	e √ ਵ	8, 086, 1 0, 0 12, 238.3	2, 536. 579. 8 134. 8 245. 1 245. 1 25. 8	335. 4 57. 7	465.4 0.0	6.6 6.6 6.8 18.18	7, 220. 6 7, 220. 0 412. 6 8 8 9 8 . 0	1,454.2	6.888. 0.95. 0.00. 0.00.	5,353.8
739.6	3,228.7		15.45.	6.186.0 4.0 17.238.3	2.536.3 579.2 139.3 2455.1 2455.1 2455.2 2455.2 2455.2	35.4 57.7	405:4	2 2 2 3 3 3 5 5 5 5 5 5 5 5 5 5 5 5 5 5	7, 229, 0 6, 0 7, 220, 0 412, 0 6, 808, 0	143.3	6.808.8 9.0 0.4 247.1 9.0	6, 569. 9
738. 6	3,228.7	4.000 ×	16,440.0	6. 686.0 0.0 12, 238.3	2,558 1598.2 495.1 243.1 243.2 255.2 355.9	335.4	405.4	4 0 0 0 0 0 0 0 0	7, 228. 9	0000 6666	20 0 0 0 0 20 0 0 0 20 0 0 0 20 0 0 0	6.848.9
8	3, 228.7	: - : : :	44.4	6, 686.0 9, 0 12, 238.3	25.55 25.55	335.4	405.4	4 4 4 6 6 6 6 6 6 6 6 7	7, 220. 0 6, 848. 6	945. 6 0. 6 1. 872. 2	20 80 80 80 80 80 80 80 80 80 80 80 80 80	3, 990, 2
739. 6	3, 228. 7 1, 840. 9 1, 271. 3	5.600.0 2.010.0 2.010.0	4.4	f. 486. 9 0. 0 12, 238.3	2, 5,23, 2,4	335.4	465.4 p. 9	5, 6 18.3	7, 226. 9 9, 0 7, 270. 0 412. 0 6, 868. 0	950.0 0.0 173.0 1.123.0	6.868.0 1.23.0 1.00.0 1.00.0	5, 685. 6
739. 6	3, 228.7	2,016.3 778.	10,440.0	6, 586. 0 0. 4 12, 238. 3	2, 536, 3 579, 2 130, 3 243, 1 235, 3	335.4	425.4	9.0 9.0 9.0 5.018.3	7, 220, 0 7, 220, 0 412, 0 5, 808, 0	950.0 0.0 3.2.1.7 4.161.7	6,808.0 6,0 4,161.7 6,0 6,0	2,646.2
733.6	3, 228 7	4 3 3 5	10, 440.6	6, 986, 0 0, 0 12, 238, 3	2.538.3 1.39.6.2 2.35.1 2.35.1 2.35.2 2.35.3	335.4 57.7	405.4 0.0	9.0 9.0 9.0 9.0 9.0 9.0 9.0	7, 220.0 7, 220.0 412.0 5, 848. 0	1,773.8	808 T. 20 P. C.	5.034.2
739. 6	3,840.0	5, 600.0 2, 016.9 8, 778.1	4.4	6, 986. 0 0. 0 12, 238.3	2 535.3 573.2 130.2 243.1 243.2 243.2	335.4	405.4	5. 9.9.9.5. 9.9.9.5. 9.9.9.5.	7, 229.0 7, 229.0 432.0 6, 8\$8.0	821 :: 0.0 143 8 924.9	888.8 888.8 8.45.8 8.45.8 8.0 8.0 8.0	5.883.1
739. 6	3, 228.7			£, 085.4 6.8 12, 238.3	2.536.3 578.2 131.3 495.3 243.2 235.9	335.4 57.7	405.4	5.018 0.00 0.00 0.00 0.00 0.00 0.00 0.00	7,220.0 7,220.0 7,220.0 412.0 8,308.9	358.2 0.6 2.587.3 2.945.5	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	3.862.5
É	228 228 24 24 24 24 24 24 24 24 24 24 24 24 24	7855€	4.2	6.986.0 9.0 12, 238.3	2, 536. 3 579. 2 136. 3 243. 2 243. 2 235. 9	335.4	405.4	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	7, 220.0	544.4 0.0 1,249.5 1,753.9	6. 868. 8 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0	5,014.1
1	74, 269, 3 4.4 88, 328, 3 25, 425, 9	4특류꽃	4.52	0.0 258, 268. 6	53, 173, 6 12, 287, 3 2, 758, 2 10, 568, 9 5, 131, 5	7, 184,	% 444	9.0 9.0 105,651.	152, 617, 7 0, 0 152, 617, 7 8, 834, 1 143, 783, 6	16, 740. 14, 616. 17, 250. 48, 607.	143, 783. 0. 48, 807.	33, 584.

Table 5.12 Coal Price VS EIRR
Shivee Ovoo Coal Mine

Price (Tg/t)	EIRR (%)
3, 000	-1.3
100	0.3
200	1.8
300	3. 3
400	4.8
500	6.3
600	7.8
700	9.3
800	10.8
900	12. 4
4, 000	13. 9
100	15. 5
200	17.1
300	18.7
400	20. 4
500	22. 1
600	23.8
700	25. 7
800	27. 5
900	29. 5

		<u> </u>	
Price	(Tg/t)	EIRR	(%)
5,	000	31.	5
	100	33.	6
	200	35.	8
	300	38.	1
	400	40.	5
	500	43.	1
	600	45.	8
	700	48.	8
	800	52.	0
	900	55.	0
6,	000	59.	4
	100	63.	7
	200	68.	7
	300	74.	7
	400	82.	. 1
	500	92.	. 5
6.	600	136.	9

Table 5.13 Discount Rate VS Net Present Value at 6,086.0 Tg/t
Shivee Ovoo Coal Mine

D/R (%)	6,086.0 Tg/t
0	123, 670. 3
1	105, 539. 0
2	90, 468. 8
3	77, 885. 1
4	67, 329. 9
5	58, 436. 6
6	50, 910. 8
7	44, 514. 9
8	39, 056. 6
9	34, 379. 5
10	30, 356. 0
11	26, 881. 4
12	23, 869. 8
13	21, 250. 2
14	18, 963. 6
15	16, 961. 2
16	15, 202. 1
17	13, 651. 9
18	12, 281. 9
19	11, 067. 8
20	9, 989. 0
21	9, 027. 9
22	8, 169. 8
23	7, 401. 7
24	6, 712. 8

D/R (%)	6,086.0 Tg/t
25	6, 093. 6
26	5, 535. 9
27	5, 032. 8
28	4, 578. 1
29	4, 166. 5
30	3, 793. 3
35	2, 376. 4
40	1, 475. 9
45	890. 5
50	504. 1
55	247. 0
60	75. 5
65	-38. 1

Table 5.14 (1) rinada. Analists (ELISTING LIPPOYEERT)

SHIVEE OVOD COAL RINE REHOVATION PROJECT

								_=== +
			1 1 1 1 a				Salvage Reclassition -43.	Loun Unrepaid 8. 8. 8. 8. 8. 8. 8. 8. 8. 8. 8. 8. 18. 1
Total	17, 911.7 55, 540.6 75, 540.6 75, 500.0 75, 500.0 17, 91.7 55, 500.0	75, 214. 3	19, 511.4 5, 882.1 1, 176.4 5, 807.9 2, 132.9 1, 177.6	3,492.3 558.8 5,454.1 0.0	1159.9	17, 831. 8 7, 159. 9 19, 681. 9 4, 767. 4 6, 613. 5	19,743.6 6.0 0.0 19,743.0	2.55 P.
2818		5, 323, 8 484, 0 3, 573, 7	255.7 255.7 255.7 359.8 32.7 51.2	245.3 9.9	782.7 2.763.5	816.2 326.5 488.7 176.2 311.5	2 2 2	311.5 733.1 642.0 642.0 4.0 4.0 (3) FIRE :
2017	2,588.7 2,588.7 2,588.7 2,588.6 3,286.6 3,286.6 3,286.6 3,286.6	5, 323. 8 484. 0 3, 579. 7	255.7 51.1 55.8 52.7 51.2	25.3 24.3 5.0 5.0	0.4 782.7 0.0 2.763.5	326.5 326.5 178.7 311.5	42.4.4	311.5 784.1 422.4 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0
2016	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	5, 323, 8 484, 0 3, 579, 7	255.7 255.7 51.1 52.3 51.2 51.2	251.8 24.3 245.3	728.4	865.5 347.8 521.7 343.5	988 4 0 58 4 0 58	25.55 25.55
2015	2.25.6 2.558.7 3.25.68.7 3.258.7 3.258.7 2.588.7 3.258.7 3.256.0	5, 323, 8 484, 6 3, 573, 7	255.7 255.7 255.8 255.8 51.2	24.3 24.3 245.3	0.4 729.4 0.0 2.710.2	868. 347.8 521.7 347.8 347.8	2,091.9	343.5 729.8 1 2.091.9 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0
2014	739.6 3.588.7 3.588.7 3.00.0 0.00.0 0.00.0 0.00.0 0.00.0 0.00.0	5, 323, 8 484. • 3, 579. 7	855.55 55.75 85.75 85.77 87.77	245.3	729.4 729.4 2,710.2	969.5 347.8 178.7 24.5 34.5	1, 120.4 0, 9 0, 9 1, 120.4	343.5 729.8 1,120.4 0.0 0.0 6.0 47.1
2013	2 739.6 3, 258.7 3, 250.4 0, 60.0 2, 588.7 3, 200.6 3, 200.6	5, 323, 8 484, 0 3, 579, 7	88.53 5.1.2 88.7.3 88.7.3 8.7.3 8.7.3	151.8 24.3 245.3 0.0	2.4 2.710.2	865.5 347.8 521.7 178.2 343.5	1, 120.4	343.5 723.8 723.8 -0.4 -17.1
2012	2.33.6 5.33.6 5.33.6 5.33.50 6.00 7.33.6 7.33.4 7.3	5,323,8 484.0 3,579.7	848.3 555.3 51.7 7.7 86.3 51.7 51.7	24.3 24.3 245.3	0.4 782.7 0.0 2.763.5	816.2 326.7 178.2 311.5	1115.1	311.5 783.1 1,115.1 9,4 9,0 0,0 20,5
2011	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	5, 323.8 484.4 3, 579.7	255.7 255.7 51.1 258.8 92.7 91.2	24.3 24.3 245.3 0.0	782.7	816.2 326.5 489.7 178.2 311.5	5000 5555	186 199 199 199 199 199 199 199 199 199 19
2010	2.739.6 3.398.7 3.396.0 5.300.0 7.39.6 3.500.0 3.500.0	5, 323, 8 484, 0 3, 579, 7	848.3 255.7 51.1 259.8 92.7 51.2	24.3 24.3 245.3 0.0	0.4 782.7 0.0 2.763.5	316.2 326.5 489.7 178.2 311.5	169.0 0.0 169.0	311:5 78:53 16:54
2009	2.588.7 2.588.7 3.588.7 3.588.7 5.50.0 5.50.0 3.550.0 3.550.0	5, 323, 8 484, 0 3, 579, 7	848.3 255.7 51.1 259.8 51.2	245.3	0.4 782.7 6.0 2.763.5	816.2 326.5 489.7 178.2 311.5	1, 714 9 0.0 0.0 1, 714.9	311.5 783.1 1.714.9 9.0 9.0 9.0
2008	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	5, 323, 8 484, 0 3, 579, 7	255.7 251.7 251.1 259.8 21.2 21.2	24.3 24.3 245.3 0.0	2.763.5 2.763.5	816.2 326.5 469.7 178.2 311.5	321.8	311.5 321.0 321.0 6.0 773.5
2007	2, 739.6 2, 298.7 3, 298.0 6, 298.0 7, 39.0 7, 39.0 8, 288.3 8, 288.3 8, 288.3 8, 286.0	5, 323.8 484.0 3, 579.7	255.7 255.7 25.7 25.8 51.1	24:3	0.5 7.82.7 6.0 2.763.7	816.0 325.4 485.6 178.2 311.4	321.0 6.0 0.0 321.0	211.4 221.0 21.0 21.0 21.0 21.0 21.0 21.0 21.
2466	1 44 10	5, 323, 8 484, 0 3, 573, ?	848. 5.35. 7.35. 8.35. 8.43. 8	24.3 24.3 245.3 6.0	6.6 782.7 9.0 2.763.7	88.85 86 86 86 86 86 86 86 86 86 86 86 86 86	7. e. e. e.	911. 642.0 642.0 642.0 642.0 642.0 642.0 642.0 642.0 642.0 643.0 6
2005	2 733.6 2 558.7 2 558.7 3 568.7 5 6 6 6 6 6 7 735.6 7 735.6 7 755.7 7 755.7 7 755.7 7 755.7 7 755.7 7 755.7 7 755.7 7 755.7 7 755.7	5, 323 8 484. 0 3, 573. 7	255.7 255.7 251.1 259.8 21.2	245.3 245.3 0.0	0.7 782.7 0.0 2.763.8	815.9 326.4 489.6 178.2 311.3	5050	1.887 1.887 6.49.00 0.48
2000	25.58.7 25.58.7 25.58.7 25.59.0 0.000 25.588.7 25.588.7 3.200 3.200 3.200	5, 323, 8 484, 0 3, 579, 7	255.7 255.7 259.7 259.8 259.8	24.8 24.3 245.3 0.0	0.7 782.7 0.0	815.9 325.4 489.6 178.2		311.3 783.4 642.0 0.0 0.0
2003	2013 733.6 2,588.7 3,200.0 3,200.0 0.0 0.0 0.0 739.6 2,589.7 3,589.7 3,589.0	5,323.8 484.0 3,579.7	255.7 255.7 256.3 25.7 25.7 25.7 25.7 25.7	E. 22. 25. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2.	782.7 782.7 2.764.1	326. 5 326. 2 439. 4 178. 2 311. 1	1, 292.5 0.0 0.0 1, 292.5	311. 1 783.7 1, 292.5 -0.0 0.0 0.0
2000	723.6 723.6 725.6 725.0 3.200.0 6.000 739.6 739.6 739.6 3.200.0	5, 323. 8 484. 0 3, 579. 7	25.75 25.75 25.75 25.75 27.10	151.8 24.3 245.3 0.0	782.7	815. 8 326. 2 489. 3 178. 2 311. 1	32 0.0 0.0 0.10	311.1 783.8 321.0 0.0 0.0 0.0
1900	73% 5 2.588.7 3.596.9 3.208.9 0.0 0.0 0.0 7.39.6 3.599.3 3.509.9	5, 323. 8 484. 0 3, 579. 7	255.7 255.7 255.8 259.8 32.7 51.2	24.3 24.3 245.3	24. 5 623. 1 0. 0 2. 628. 1	351.6 380.6 576.9 178.2 392.7	542 6 6 6 5 6 6 6 8	26.25.25.25.25.25.25.25.25.25.25.25.25.25.
9690	2000 2.588.7 3.500 3.500 0.000 0.000 0.000 0.000 3.500 3.500 3.500 3.500 3.500	5.323.6 484.0 3.579.7	255.7 255.7 55.7 25.8 8.7 8.7 8.7	24.3 24.3 245.3 0.0	31.6 462.8 0.0 2.474.7	1, 195.0 442.0 663.0 178.2	1,441	4.89. 7 4.99. 4 4.41. 4 0.0 0.0 0.0 0.0
463.	25.58.7 2.586.7 2.586.7 2.586.7 2.586.7 2.588.7 3.586.7 3.586.7	5, 323. 8 484. 0 3, 579. 7	255.7 51.7 255.8 255.8	24.3 24.3 245.3	130.4 408.5 408.5 2,520.3	1, 953.4 425.8 835.7 178.2 457.4	85 25 4 4 81 25 5 4	25.55 25.55
000	2.588.7 2.588.7 2.588.7 3.580.7 3.580.7 5.60.0 5.738.8 2.588.7 3.588.7 3.590.6	4.461.3 405.8 2.938.6	255.7 255.7 51.3 224.5 51.2	24.3	285. 1 328. 1 6.0 7.528. 4	2882 2882 2882 2882 444	968.	114.4 513.1 368.3 14.0 14.0 14.0 14.0 14.0 14.0 14.0 14.0
H	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	338.5	265.7 265.7 265.7 262.8 51.2	24.3	338.3 112.6 0.0 1.0	205. 5 81. 4 122. 1	1, 292, 5 0, 0 0, 0 1, 292, 5	45.2 450.9 1, 292.5 1, 292.5
	2,588.7 2,588.7 3,258.7 3,258.7 0,004.0 0,004.	3, 132. s 284. 8 2, 106. 5	88.88 8.63 8.63 8.63 8.63 8.63 8.63 8.63	8.14 8.14 8. 8.9	2. 152. 1	45.4	73. 9. 9. 9. 13. 4. 13.	286.6 340.8 340.8 794.1 452.8 0.0
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	REGULTION A Coal Perchanter Servicine Ratio Fortigone Ratio B Coal B Coal Perchanter Perchanter Perchanter Perchanter Coal Coa	Revenue] Sale Price Trade Tax Revenue OPERATION COSTS]	Material & Energy Parts Diesel 011 Gas & Lub. Electricity Explosives # & E. Others	Labor Costs Salaries & Rages Secial Insurance Others Reynlites & Charges Reynlites of Charges	Depreciation Part Depreciation Replacement Additional Investment Total Operation Costs	PROFILI Before Tax Profit(Loss) Oppose Income Tax (493) After Tax Profit(Loss) After Tax Expenses Retained Earning(Loss)	NYSSMENT) (1646 Ta) Existing Eq. Replacement Additional Investment Additional Replacement Total Capital Cost	CASE FLORE Profit Or Loss Depreciation LESS: Forcing Capital LESS: Forcing Capital Betty Cash Flore Cash Flore