

**INDEX TO THE EXHIBITS OF THE
BRIEF OF EVIDENCE OF JOHN BROWN**

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RECEIVED

Waitangi Tribunal

25 May 26

Ministry of Justice
WELLINGTON



LOSS OF INCOME FROM MOUTOHORA QUARRY

These spreadsheets seek to define loss of earnings from the quarry since 1937, and look at three periods:

- i) loss of royalty earnings – 1937 to 1982
- ii) loss of profits – 1983 to 2000
- iii) loss of future profits – 2000 to 2009.

ROYALTIES: (Page 4)

Since 1937 the owners have been due a fair royalty, which we believe is \$2.00 / m³.

From 1937 to 1971 we have used an estimated annual production of 10,000 m³ per year.

For the period 1972 to 1982 we have used the actual production figures reported to the Department of Labour.

LOSS OF PROFITS: (Page 5)

Since 1983 the owners have been entitled to resume ownership and operate the quarry.

We have calculated loss of profits based on a production margin of \$10.00 / m³.

We have used reported production figures 1983 to 1994 and the average annual production for this period for the years 1996 to 2000.

LOSS OF FUTURE PROFITS: (Page 6)

The lease runs till 2009.

Investigations reveal current annual production consistently above 30,000 m³.

Research reveals the possibility of major increases in production due to economic growth in the Gisborne region.

We have calculated the loss of future profits at 30,000 m³ per year, and a margin of \$10.00 per cubic metre.

NOTES:

- i) Department of Labour (OSH) production tonnages have been converted to cubic metres by dividing by 1.5.
- ii) These figures are available for the period 1972 to mid-1996.
- (iii) Royalties and production margins have been used after consultation with –

Mr. Simon Carryer
Geologist
Carryer Riley
Resource Consultants
2 Fred Thomas Drive
Takapuna
Auckland

Phone: 09 489 7872.

He advises royalties range from \$2.00 to \$4.00 per cubic metre based on 10% of the gate price of quarry products.

These products range from \$20.00 per cubic metre for basecourses to \$40.00 per cubic metres for sealing chip (produced at Moutohora).

Profits across a range of quarry products should average more than \$10.00 per cubic metre with higher margins on sealing chip.

He believes our royalty figure and profit margin, used in our calculations, are fair and reasonable.

- iv) Spreadsheets have been calculated by –

Mr. Jeremy Wilson
Chartered Accountant
Gibson & Associates
Newmarket
Auckland

Phone: 09 529 1907

He has assumed funds earned from the quarry have been invested, and have returned 5% per annum.

The sum earned in the period 1937 to 1982 - \$3,805,217 - is the starting figure for the second spreadsheet 1983 to 2000.

SUMMARY:

We believe the assumptions used have been very conservative and highly defensible. Further research will strengthen our case.

The income denied the Whakapaupakihi to date, totals not less than \$16,051,448.

The lease denies future income of not less than \$2,700,000.

We believe it is an appropriate course of action to compensate the Whakapaupakihi for this loss of future income.

To terminate the lease would expose the Crown to action from the current tenants.

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SAMPLE ROYALTY CALCULATION

Assumptions	Royalty Start Date:				1937
Annual Production (m3):	1937	to	1971		10,000
	1972	to	2000		as detailed
Royalty Rate (per m3):	1937	to	1982	\$	2.00
Profit (per m3):	1983	to	2000	\$	10.00
Interest Rate:					5%

Year	Production	Royalty/Profit	Brought Forward	Sub-Total	Interest	Total Due
1937	10,000	20,000	0	20,000	1,000	21,000
1938	10,000	20,000	21,000	41,000	2,050	43,050
1939	10,000	20,000	43,050	63,050	3,153	66,203
1940	10,000	20,000	66,203	86,203	4,310	90,513
1941	10,000	20,000	90,513	110,513	5,526	116,039
1942	10,000	20,000	116,039	136,039	6,802	142,841
1943	10,000	20,000	142,841	162,841	8,142	170,983
1944	10,000	20,000	170,983	190,983	9,549	200,532
1945	10,000	20,000	200,532	220,532	11,027	231,559
1946	10,000	20,000	231,559	251,559	12,578	264,137
1947	10,000	20,000	264,137	284,137	14,207	298,344
1948	10,000	20,000	298,344	318,344	15,917	334,261
1949	10,000	20,000	334,261	354,261	17,713	371,974
1950	10,000	20,000	371,974	391,974	19,599	411,573
1951	10,000	20,000	411,573	431,573	21,579	453,152
1952	10,000	20,000	453,152	473,152	23,658	496,810
1953	10,000	20,000	496,810	516,810	25,841	542,651
1954	10,000	20,000	542,651	562,651	28,133	590,784
1955	10,000	20,000	590,784	610,784	30,539	641,323
1956	10,000	20,000	641,323	661,323	33,066	694,389
1957	10,000	20,000	694,389	714,389	35,719	750,108
1958	10,000	20,000	750,108	770,108	38,505	808,613
1959	10,000	20,000	808,613	828,613	41,431	870,044
1960	10,000	20,000	870,044	890,044	44,502	934,546
1961	10,000	20,000	934,546	954,546	47,727	1,002,273
1962	10,000	20,000	1,002,273	1,022,273	51,114	1,073,387
1963	10,000	20,000	1,073,387	1,093,387	54,669	1,148,056
1964	10,000	20,000	1,148,056	1,168,056	58,403	1,226,459
1965	10,000	20,000	1,226,459	1,246,459	62,323	1,308,782
1966	10,000	20,000	1,308,782	1,326,782	66,439	1,395,221
1967	10,000	20,000	1,395,221	1,415,221	70,781	1,485,982
1968	10,000	20,000	1,485,982	1,505,982	75,299	1,581,281
1969	10,000	20,000	1,581,281	1,601,281	80,064	1,681,345
1970	10,000	20,000	1,681,345	1,701,345	85,067	1,786,412
1971	10,000	20,000	1,786,412	1,806,412	90,321	1,896,733
1972	20,887	41,774	1,896,733	1,938,507	96,925	2,035,432
1973	23,681	47,362	2,035,432	2,082,794	104,140	2,186,934
1974	17,058	34,116	2,186,934	2,221,050	111,053	2,332,103
1975	16,317	32,634	2,332,103	2,364,737	118,237	2,482,974
1976	21,227	42,454	2,482,974	2,525,428	126,271	2,651,699
1977	12,879	25,758	2,651,699	2,877,467	133,873	2,811,330
1978	12,008	24,018	2,811,330	2,835,346	141,787	2,977,113
1979	33,749	67,498	2,977,113	3,044,611	152,231	3,196,842
1980	16,222	32,444	3,196,842	3,229,286	161,464	3,390,750
1981	10,966	21,932	3,390,750	3,412,662	170,634	3,583,346
1982	20,350	40,700	3,583,316	3,624,016	181,201	3,805,217

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SAMPLE ROYALTY CALCULATION

Assumptions	Royalty Start Date:			1937
Annual Production (m3):	1937	to	1971	10,000
	1972	to	2000	as detailed
Royalty Rate (per m3):	1937	to	1982	\$ 2.00
Profit (per m3):	1983	to	2000	\$ 10.00
Interest Rate:				5%

Year	Production	Royalty/Profit	Brought Forward	Sub-Total	Interest	Total Due
1983	14,592	145,920	3,805,217	3,951,137	197,557	4,148,694
1984	22,759	227,590	4,148,694	4,376,284	218,814	4,595,098
1985	29,258	292,560	4,595,098	4,887,658	244,383	5,132,041
1986	17,091	170,910	5,132,041	5,302,951	265,148	5,568,099
1987	20,144	201,440	5,568,099	5,769,539	288,477	6,058,016
1988	20,388	203,680	6,058,016	6,281,696	313,085	6,574,781
1989	21,178	211,760	6,574,781	6,786,541	339,327	7,125,868
1990	29,280	292,800	7,125,868	7,418,668	370,933	7,789,601
1991	19,552	195,520	7,789,601	7,985,121	399,256	8,384,377
1992	33,497	334,970	8,384,377	8,719,347	435,967	9,155,314
1993	26,106	261,060	9,155,314	9,416,374	470,819	9,887,193
1994	29,070	290,700	9,887,193	10,177,893	508,895	10,686,788
1995	26,176	261,760	10,686,788	10,948,548	547,427	11,495,975
1996	23,774	237,740	11,495,975	11,733,715	586,686	12,320,401
1997	23,774	237,740	12,320,401	12,556,141	627,907	13,186,048
1998	23,774	237,740	13,186,048	13,423,788	671,189	14,094,977
1999	23,774	237,740	14,094,977	14,332,717	716,636	15,049,353
2000	23,774	237,740	15,049,353	15,287,093	764,355	16,051,448
983,281	5,390,058	-	5,390,058	10,861,380	16,051,448	

5/12/00

Assumptions	Royalty Start Date:				2001
	Annual Production (m3):	2001	to	2009	30,000
	Profit (per m3):				\$ 10.00
	Interest Rate:				0%

Year	Production	Royalty	Brought Forward	Sub-Total	Interest	Total Due
2001	30,000	300,000	0	300,000	-	300,000
2002	30,000	300,000	300,000	600,000	-	600,000
2003	30,000	300,000	600,000	900,000	-	900,000
2004	30,000	300,000	900,000	1,200,000	-	1,200,000
2005	30,000	300,000	1,200,000	1,500,000	-	1,500,000
2006	30,000	300,000	1,500,000	1,800,000	-	1,800,000
2007	30,000	300,000	1,800,000	2,100,000	-	2,100,000
2008	30,000	300,000	2,100,000	2,400,000	-	2,400,000
2009	30,000	300,000	2,400,000	2,700,000	-	2,700,000
		270,000	2,700,000	-	2,700,000	2,700,000

Net Present Value \$1,913,666.11

“B”

AN

Owner details

Total shares	Allocated owners	Block balanced
495.375	5536	Yes

Area details

Hectares	Square metres	Calculated area acres	Roods	Perches
794.1634	7941634	1962	1	27.3126

▼	Block shape
---	--------------------



AGREEMENT FOR SALE AND PURCHASE OF A BUSINESS

This form is approved by the Real Estate Institute of New Zealand and by the Auckland District Law Society. QUARRY

DATE: 15th February 1995

VENDOR: ROCK PRODUCTS LIMITED a duly incorporated company having its registered office at Gisborne

PURCHASER: EASTWORKS LIMITED a duly incorporated company having its registered office at Gisborne

Address of Business premises: Moutohora

Name and Description of Business:

Including plant, fittings and fixtures as set out in the Schedule and the goodwill, lease and stock in trade

Purchase Price: \$1,018,500.00 (Plus GST if any — see clause 16.0)

which is made up as follows:

- For the Goodwill of the business including (where applicable) the benefit of the lease of the premises quarry \$ 570,000.00
- For the Plant Fittings and Fixtures as per schedule \$ 398,500.00
- For Stock in Trade (subject to adjustment as provided in Clause 5) \$ 50,000.00
- Deposit: \$ 10,000.00

NEW ZEALAND STAMP DUTY
23/06/95 00024001 DUTY *10650.00

Balance of purchase price to be paid or satisfied as follows:

In cash on the 3rd of April 1995 or 7 days after this contract becomes unconditional whichever is the later (hereinafter called "the possession date")

Possession date: Interest rate for late settlement: 12 % p.a.

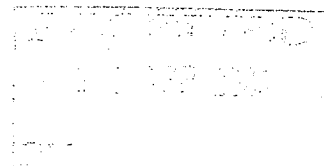
Maximum percentage stock value adjustment (Clause 5.2):	%
Turnover warranty (Clause 6.1(7)) immediately preceding the date of this agreement.	\$ per week (including GST) for a period of weeks
Vendor's period of assistance (Clause 6.1(10))	days after the possession date.
Vendor's restraint of trade (Clause 7.1)	years after the possession date within kilometres of the Premises.

Lease Details: (1)	(2)
Lessor: Transit New Zealand	Mangatu Blocks
Commencement Date: 1.9.89 for 10 years	Term: 1.7.92 for 9 years
Right(s) of Renewal (if any): NIL	9 years
Present Rental: 35c per cubic metre \$300 pa + GST	Rent Reviews: \$240 pa + GST
Date for Lessor's consent (Clause 9.2): (See clauses 21.1(i) and 21.1(iii))	

Financial Conditions: Description of Security (mortgage, debenture etc):			
Amount Required: \$1,000,000.00	Lending Source: BNZ		
Term: (to be negotiated)	Interest rate: to be negotiated	% p.a.	Penalty rate: % p.a.
Last Day for Arranging Finance: 8 March 1995			

Sole by (name of real estate agent):

It is agreed that the vendor sells and the purchaser purchases the above described business on the terms set out above, on the general conditions attached and any special conditions hereinafter appearing.



Our Ref: CRL 03/03/00/01

Your Ref:

Toitu te
Land whenua
Information
New Zealand



26 April 2004

Mr J Bunbury
Egan and Kite
P O Box 146
GISBORNE

Dear Mr Bunbury

WHAKAPAUPAKIHI NO. 2 BLOCK

I refer to your request of 19 February 2004 regarding Whakapaupakihi No. 2 Block addressed to the Minister for Energy and subsequent letter from S. Shaw of the Office of the Minister for Land Information.

I advise that Land Information New Zealand (LINZ) has inspected the following files:

File Number	Volume / Part	Date	Title
PW 62/86/4	2	Dec 1937 – Dec 1957	
PW 62/86/4	3	Dec 1957 – Aug 1985	Main Highways, Gravel Pits No 4 District
PW 9/4	I		Motuhora Quarry
PW 9/4	II		Motuhora Quarry
51/5/1		May 1954 – Oct 1968	Quarries, Metal & Gravel Pits & Reserves, Motuhora Quarry – Returns of Metal and Royalties,
51/5	2	21 June 1955 – 27 Sep 1967	Quarries, Metal & Gravel Pits, Reserves etc Motuhora Quarry – General
51/5	3	9 April 1968 – 8 June 1977	Quarries, Metal & Gravel Pits, Reserves etc Motuhora Quarry – General
PW 25/7	II	1 Jan 1960 – 18 July 1974	Stone Quarries & Metal Pits, General
25/7		27 June 1974 – Feb 1975	Quarries: Statistics

National Office
Lambton House
160 Lambton Quay
PO Box 5501
Wellington
New Zealand
Tel 64-4-460 0110
Fax 64-4-460 0590
Internet
<http://www.linz.govt.nz>

File Number	Volume / Part	Date	Title
CRL 03/03/00/01	1	3 May 2002 – 3 Dec 2003	Gisborne Land District, Moutohora Quarry.
CRL 03/03/00/01	2	3 May 2002 -	Gisborne Land District, Moutohora Quarry.

The first nine files mentioned above are not held by, and are not the property of LINZ. They are held by and are the property of Archives New Zealand. Although LINZ has inspected the files in the course of researching your questions, they are a public record and are available for you to research.

With reference to the questions raised in your letter:

- (i) *What the "authorized" public work was?*
From the available files, LINZ is unable to establish what the authorised public work was.
- (ii) *When and how the public work was "authorized"?*
From the available files, LINZ has been unable to establish when and how the public work was authorised.
- (iii) *How much metal was taken from the quarry for the purpose of the "authorized" work?*
The files inspected do not contain this information. Some of the files inspected contain a "Summary of the Metal on which Royalty is Payable" and copies of these papers are enclosed.
- (iv) *How much metal has been taken out of the quarry on an annual basis since it was taken in 1937?*
The files inspected do not contain this information. Some of the files inspected contain a "Summary of the Metal on which Royalty is Payable" and other papers which that contain various figures. Copies of these papers are enclosed.
- (v) *What the metal was used for and in what quantities?*
The files inspected do not contain this information. Some of the files inspected contain a "Summary of the Metal on which Royalty is Payable" and other papers which mention various uses. Copies of these papers are enclosed.
- (vi) *If the metal was ever used for purposes outside of the original "authorized" work in what quantities was it used?*
From the available files, LINZ is unable to establish what the authorised public work was.

(vii) *If the metal was used outside of the purposes of the original "authorized" work whether or not a proclamation was issued in relation to the same, or notice was given under S17?*

From the available files, LINZ is unable to establish what the authorised public work was.

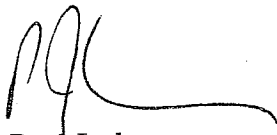
(viii) *Advise why the Crown considered it necessary to take the freehold as opposed to simply taking the license or the lease.....?*

See copy of letter on file PW 9/4 Part I - dated 20 April 1937.

See copy of letters on file PW 62/86/4 Part 2 - dated 25 July 1938, 12 August 1938 and the letter that has no date addressed to Mrs KB Quirk from Prime Minister MJ Savage.

Enclosed is a "Despatch Notice" that shows the amount owing for costs incurred in complying with your request. Please note that an invoice will follow.

Yours faithfully



Paul Jackson
Manager Crown Property Management



INTERNATIONAL SAFETY
HEALTH SERVICE



93 Collingwood Street
Private MBE 433
HAMILTON
Ph: (07) 838 1381
FAX: (07) 838 0054

HTTP://WWW.OSH.DOL.GOV.NZ

TE RATONGA ORANGA

File ref: GIS202923

28 March 2000

Mr Tom Logan
9 Eastcliff Road
Castor Bay
AUCKLAND 1309

Dear Sir

ANNUAL OUTPUT MATAWAI QUARRY AND MOTUHORA QUARRY

ANNUAL OUTPUT MATAWAI QUARRY		
YEAR	TONNAGE	COMPANY
1991	NIL	
1992	NIL	
1993	NIL	
1994	15108	B J METAL SUPPLIES
1995	21200	FULTON/HOGAN
1996	15647	FULTON/HOGAN
1997	NIL	
ANNUAL OUTPUT MOTUHORA QUARRY		
YEAR	TONNAGE	COMPANY
1991	29329	ROCK PRODUCTS
1992	50246	ROCK PRODUCTS
1993	39160	ROCK PRODUCTS
1994	43605	ROCK PRODUCTS
1995	39265	EAST WORKS
1996	22021	FULTON/HOGAN
1997	NIL	

223,626

22,660 cm

Yours sincerely

Patrick Wallbank
Health & Safety Inspector of Quarries





OSH
 93 Collingwood Street
 Private MBE 433
 HAMILTON
 Ph: (07) 838 1381
 FAX: (07) 838 0054

HTTP://WWW.OSH.DOL.GOVT.NZ
 TE RATONGA ORANGA

File ref: GIS202923

11 April 2000

Mr Tom Logan
 9 Eastcliff Road
 Castor Bay
 AUCKLAND 1309

Handwritten notes:
 57880.57
 165373.08
 \$ 223,253.65
 2005 x 2425

Dear Mr Logan

ANNUAL OUTPUT MOTUHORA QUARRY

MOTUHORA QUARRY		
YEAR	TONNAGE	COMPANY
1972	31331	F D McIntosh & Sons Ltd
1973	35522	F D McIntosh & Sons Ltd
1974	25587	F D McIntosh & Sons Ltd
1975	24476	F D McIntosh & Sons Ltd
1976	31841	F D McIntosh & Sons Ltd
1977	19319	Ministry of Works, Gisborne
1978	18012	Ministry of Works, Gisborne
1979	50624	Motuhora Quarries Ltd, Gisborne
1980	24334	Ministry of Works, Gisborne
1981	16450	Ministry of Works, Gisborne
1982	30526	Motuhora Quarries Ltd, Gisborne
1983	21888	Motuhora Quarries Ltd, Gisborne
1984	34139	Motuhora Quarries Ltd, Gisborne
1985	43884	Motuhora Quarries Ltd, Gisborne
1986	25637 17091.33	Motuhora Quarries Ltd, Gisborne
1987	30216 20144.0	Motuhora Quarries Ltd, Gisborne
1988	30553 20368.66	Motuhora Quarries Ltd, Gisborne
1989	32764 21842.66	Motuhora Quarries Ltd, Gisborne
1990	43921 29280.66	Motuhora Quarries Ltd, Gisborne

NEED TO CHECK PRODUCTS →

○
x
x
x

571,024
 Yours sincerely
Patrick Wallbank

\$166,811.25

*57,384.41
 114,765.85*

Patrick Wallbank
 Health & Safety Inspector



“F”

PRODUCTION MOUTOHORA QUARRY 1972-1996

Figures show production in tonnes 1972-1996.
After 96 requirements to report quarry production ended.
Conversion to cubic metres has been calculated at 1.5 tonnes
per cubic metre.

Total Production	= 794,650 tonnes
÷ 1.5	= 529,766 metres
÷ 25	= 21,190 cubic metres per year

From these figures the calculations for a 20,000 cubic metre
per year royalty are a good starting point.



Rock Prod	tonnage	m3	Royalty m3	Total	Factor	Interest rate	Amount	
Jun-86	14954	9969	\$0.25	\$2,492.25	2.7078746	5%	\$6,748.70	Interest for 6 months in 1986 plus full year to date.
1987	30216	20144	\$0.25	\$5,036.00	2.0789282	5%	\$10,469.48	
1988	30553	20369	\$0.25	\$5,092.17	1.9799316	5%	\$10,082.14	
1989	32764	21843	\$0.25	\$5,460.67	1.8856491	5%	\$10,296.90	
1990	43921	29281	\$0.50	\$14,640.33	1.7958563	5%	\$26,291.94	
1991	29329	19553	\$0.50	\$9,776.33	1.7103394	5%	\$16,720.85	
1992	50246	33497	\$0.50	\$16,748.67	1.6288946	5%	\$27,281.81	
1993	39160	26107	\$0.50	\$13,053.33	1.5513282	5%	\$20,250.00	
1994	43605	29070	\$0.50	\$14,535.00	1.4774554	5%	\$21,474.81	
Sep-95	18875	12583	\$0.75	\$9,437.25	1.6696004	5%	\$15,756.44	Interest for 3 months in 1995 plus full year to date.
TOTAL		222,415		\$96,272.00			\$165,373.08	
Eastwork								
Apr-95	22021	22660	\$0.75	\$16,995.00	2.1071004	5%	\$35,810.17	Interest for 8 months in 1995 plus full year to date.
1996	33990	22660	\$0.75	\$16,995.00	1.3400956	5%	\$22,774.93	
1997	33990	22660	\$0.75	\$16,995.00	1.2762816	5%	\$21,690.41	
1998	33990	0	\$0.75	\$0.00	1.2155063	5%	\$0.00	
TOTAL		67980		\$50,985.00			\$80,275.50	
Fulton								
1998/99		37415.1	\$1.00	\$37,415.10	1.157625	5%	\$43,312.66	
1999/2000		35560.89	\$1.00	\$35,560.89	1.1025	5%	\$39,205.88	
2000/2001		30056.1	\$1.00	\$30,056.10	1.05	5%	\$31,558.91	
2001/2002		13142.61	\$1.00	\$13,142.61	0	5%	\$13,142.61	
TOTAL		116174.7		\$116,175			\$127,220	

Total for 16 years \$372,869

2002.

Access royalty varies for all sorts of reasons and is usually a price that one is prepared to pay or accept; some times the access royalty is included in the stone royalty. Below are some samples from my investigations.

- 2001 Bay of Plenty River Agreement. \$1.00 m3 Access to river
\$.80 m3 Metal
\$.20 m3 For use of Stockpile area
Total \$2.00 m3
- 1997 Bay of Plenty Beach Access. **Total \$5.00 m3.**
- 2001 Ruatoria River Access only. **Total \$1.00 m3**
- 2001 Northern Hawke's Bay. \$ 1.00 m3 Access to Beach
\$ 1.00 m3 Metal
Total \$ 2.00 m3
- 1999 Northern Hawke's Bay \$ 1.00 m3 Access.
\$ 0.20 m3 For use of Stockpile area
\$ 1.00 m3 Stone
Total \$ 2.20 m3

Should you have any more queries please do not hesitate to contact me at the above numbers.

John Reilly
 QUARRY MANAGEMENT LTD
 The independent quarrying specialists



QUARRY.XLS

EASTWORKS LIMITED
ESTIMATED PROFIT PROJECTIONS
ON PURCHASE OF MOUTOHORA & PATUTAHI QUARRYS

MOUTOHORA QUARRY

ESTIMATED ANNUAL SALES - 32,500 CUBIC METRES

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	TOTAL
<u>SALES REVENUE</u>											
NRB 11,500 @ \$23.00	264500	264500	264500	264500	264500	264500	264500	264500	264500	264500	2645000
MAINT 21,000 @ \$15.00	315000	315000	315000	315000	315000	315000	315000	315000	315000	315000	3150000
	<u>579500</u>	<u>579500</u>	<u>579500</u>	<u>579500</u>	<u>579500</u>	<u>579500</u>	<u>579500</u>	<u>579500</u>	<u>579500</u>	<u>579500</u>	<u>5795000</u>
<u>LESS DIRECT COSTS</u>											
STRIPPING	191750	185250	175500	165750	156000	139750	123500	107250	91000	81250	1417000
DRILLING	19500	19500	19500	19500	19500	19500	19500	19500	19500	19500	195000
BLASTING	29250	29250	29250	29250	29250	29250	29250	29250	29250	29250	292500
FACE TO CRUSHER	52000	52000	52000	52000	52000	52000	52000	52000	52000	52000	520000
CRUSHING	97500	97500	97500	97500	97500	97500	97500	97500	97500	97500	975000
STOCKPILING	48750	48750	48750	48750	48750	48750	48750	48750	48750	48750	487500
LOADING TRUCKS	48750	48750	48750	48750	48750	48750	48750	48750	48750	48750	487500
<u>TOTAL DIRECT COSTS</u>	<u>487500</u>	<u>481000</u>	<u>471250</u>	<u>461500</u>	<u>451750</u>	<u>435500</u>	<u>419250</u>	<u>403000</u>	<u>386750</u>	<u>377000</u>	<u>4374500</u>
<u>GROSS MARGIN</u>	<u>92000</u>	<u>98500</u>	<u>108250</u>	<u>118000</u>	<u>127750</u>	<u>144000</u>	<u>160250</u>	<u>176500</u>	<u>192750</u>	<u>202500</u>	<u>1420500</u>



ROYALTY CALCULATION

Assumptions	Royalty Start Date:			1937
	Annual Production (m3):	1937	to	1971
		1972	to	1996
		1997	to	2000
	Royalty Rate (per m3):			\$ 2.00
	Interest Rate:			5%

Year	Production	Royalty	Brought Forward	Sub-Total	Interest	Total Due
1937	10,000	20,000	0	20,000	1,000	21,000
1938	10,000	20,000	21,000	41,000	2,050	43,050
1939	10,000	20,000	43,050	63,050	3,153	66,203
1940	10,000	20,000	66,203	86,203	4,310	90,513
1941	10,000	20,000	90,513	110,513	5,526	116,039
1942	10,000	20,000	116,039	136,039	6,802	142,841
1943	10,000	20,000	142,841	162,841	8,142	170,983
1944	10,000	20,000	170,983	190,983	9,549	200,532
1945	10,000	20,000	200,532	220,532	11,027	231,559
1946	10,000	20,000	231,559	251,559	12,578	264,137
1947	10,000	20,000	264,137	284,137	14,207	298,344
1948	10,000	20,000	298,344	318,344	15,917	334,261
1949	10,000	20,000	334,261	354,261	17,713	371,974
1950	10,000	20,000	371,974	391,974	19,599	411,573
1951	10,000	20,000	411,573	431,573	21,579	453,152
1952	10,000	20,000	453,152	473,152	23,658	496,810
1953	10,000	20,000	496,810	516,810	25,841	542,651
1954	10,000	20,000	542,651	562,651	28,133	590,784
1955	10,000	20,000	590,784	610,784	30,539	641,323
1956	10,000	20,000	641,323	661,323	33,066	694,389
1957	10,000	20,000	694,389	714,389	35,719	750,108
1958	10,000	20,000	750,108	770,108	38,505	808,613
1959	10,000	20,000	808,613	828,613	41,431	870,044
1960	10,000	20,000	870,044	890,044	44,502	934,546
1961	10,000	20,000	934,546	954,546	47,727	1,002,273
1962	10,000	20,000	1,002,273	1,022,273	51,114	1,073,387
1963	10,000	20,000	1,073,387	1,093,387	54,669	1,148,056
1964	10,000	20,000	1,148,056	1,168,056	58,403	1,226,459
1965	10,000	20,000	1,226,459	1,246,459	62,323	1,308,782
1966	10,000	20,000	1,308,782	1,328,782	66,439	1,395,221
1967	10,000	20,000	1,395,221	1,415,221	70,761	1,485,982
1968	10,000	20,000	1,485,982	1,505,982	75,299	1,581,281
1969	10,000	20,000	1,581,281	1,601,281	80,064	1,681,345
1970	10,000	20,000	1,681,345	1,701,345	85,067	1,786,412
1971	10,000	20,000	1,786,412	1,806,412	90,321	1,896,733
1972	21,000	42,000	1,896,733	1,938,733	96,937	2,035,670
1973	21,000	42,000	2,035,670	2,077,670	103,884	2,181,554
1974	21,000	42,000	2,181,554	2,223,554	111,178	2,334,732
1975	21,000	42,000	2,334,732	2,376,732	118,837	2,495,569
1976	21,000	42,000	2,495,569	2,537,569	126,878	2,664,447
1977	21,000	42,000	2,664,447	2,706,447	135,322	2,841,769
1978	21,000	42,000	2,841,769	2,883,769	144,188	3,027,957
1979	21,000	42,000	3,027,957	3,069,957	153,498	3,223,455
1980	21,000	42,000	3,223,455	3,265,455	163,273	3,428,728
1981	21,000	42,000	3,428,728	3,470,728	173,536	3,644,264
1982	21,000	42,000	3,644,264	3,686,264	184,313	3,870,577

ROYALTY CALCULATION

Options	Royalty Start Date:				1937
	Annual Production (m3):	1937	to	1971	10,000
		1972	to	1996	21,000
		1997	to	2000	30,000
	Royalty Rate (per m3):				\$ 2.00
	Interest Rate:				5%

<u>Year</u>	<u>Production</u>	<u>Royalty</u>	<u>Brought Forward</u>	<u>Sub-Total</u>	<u>Interest</u>	<u>Total Due</u>
1983	21,000	42,000	3,870,577	3,912,577	195,629	4,108,206
1984	21,000	42,000	4,108,206	4,150,206	207,510	4,357,716
1985	21,000	42,000	4,357,716	4,399,716	219,986	4,619,702
1986	21,000	42,000	4,619,702	4,661,702	233,085	4,894,787
1987	21,000	42,000	4,894,787	4,936,787	246,839	5,183,626
1988	21,000	42,000	5,183,626	5,225,626	261,281	5,486,907
1989	21,000	42,000	5,486,907	5,528,907	276,445	5,805,352
1990	21,000	42,000	5,805,352	5,847,352	292,368	6,139,720
1991	21,000	42,000	6,139,720	6,181,720	309,086	6,490,806
1992	21,000	42,000	6,490,806	6,532,806	326,640	6,859,446
1993	21,000	42,000	6,859,446	6,901,446	345,072	7,246,518
1994	21,000	42,000	7,246,518	7,288,518	364,426	7,652,944
1995	21,000	42,000	7,652,944	7,694,944	384,747	8,079,691
1996	30,000	60,000	8,079,691	8,139,691	406,985	8,546,676
1997	30,000	60,000	8,546,676	8,606,676	430,334	9,037,010
1998	30,000	60,000	9,037,010	9,097,010	454,851	9,551,861
1999	30,000	60,000	9,551,861	9,611,861	480,593	10,092,454
2000	30,000	60,000	10,092,454	10,152,454	507,623	10,660,077
	<u>1,004,000</u>	<u>2,008,000</u>	<u>-</u>	<u>2,008,000</u>	<u>8,652,077</u>	<u>10,660,077</u>

SAMPLE ROYALTY CALCULATION

Assumptions	Royalty Start Date:			1937
	Annual Production (m3):	1937	to	1971
		1972	to	1996
		1997	to	2000
				10,000
				21,000
				30,000
	Royalty Rate (per m3):			\$ 1.50
	Interest Rate:			5%

Year	Production	Royalty	Brought Forward	Sub-Total	Interest	Total Due
1937	10,000	15,000	0	15,000	750	15,750
1938	10,000	15,000	15,750	30,750	1,538	32,288
1939	10,000	15,000	32,288	47,288	2,364	49,652
1940	10,000	15,000	49,652	64,652	3,233	67,885
1941	10,000	15,000	67,885	82,885	4,144	87,029
1942	10,000	15,000	87,029	102,029	5,101	107,130
1943	10,000	15,000	107,130	122,130	6,107	128,237
1944	10,000	15,000	128,237	143,237	7,162	150,399
1945	10,000	15,000	150,399	165,399	8,270	173,669
1946	10,000	15,000	173,669	188,669	9,433	198,102
1947	10,000	15,000	198,102	213,102	10,655	223,757
1948	10,000	15,000	223,757	238,757	11,938	250,695
1949	10,000	15,000	250,695	265,695	13,285	278,980
1950	10,000	15,000	278,980	293,980	14,699	308,679
1951	10,000	15,000	308,679	323,679	16,184	339,863
1952	10,000	15,000	339,863	354,863	17,743	372,606
1953	10,000	15,000	372,606	387,606	19,380	406,986
1954	10,000	15,000	406,986	421,986	21,099	443,085
1955	10,000	15,000	443,085	458,085	22,904	480,989
1956	10,000	15,000	480,989	495,989	24,799	520,788
1957	10,000	15,000	520,788	535,788	26,789	562,577
1958	10,000	15,000	562,577	577,577	28,879	606,456
1959	10,000	15,000	606,456	621,456	31,073	652,529
1960	10,000	15,000	652,529	667,529	33,376	700,905
1961	10,000	15,000	700,905	715,905	35,795	751,700
1962	10,000	15,000	751,700	766,700	38,335	805,035
1963	10,000	15,000	805,035	820,035	41,002	861,037
1964	10,000	15,000	861,037	876,037	43,802	919,839
1965	10,000	15,000	919,839	934,839	46,742	981,581
1966	10,000	15,000	981,581	996,581	49,829	1,046,410
1967	10,000	15,000	1,046,410	1,061,410	53,071	1,114,481
1968	10,000	15,000	1,114,481	1,129,481	56,474	1,185,955
1969	10,000	15,000	1,185,955	1,200,955	60,048	1,261,003
1970	10,000	15,000	1,261,003	1,276,003	63,800	1,339,803
1971	10,000	15,000	1,339,803	1,354,803	67,740	1,422,543
1972	21,000	31,500	1,422,543	1,454,043	72,702	1,526,745
1973	21,000	31,500	1,526,745	1,558,245	77,912	1,636,157
1974	21,000	31,500	1,636,157	1,667,657	83,383	1,751,040
1975	21,000	31,500	1,751,040	1,782,540	89,127	1,871,667
1976	21,000	31,500	1,871,667	1,903,167	95,158	1,998,325
1977	21,000	31,500	1,998,325	2,029,825	101,491	2,131,316
1978	21,000	31,500	2,131,316	2,162,816	108,141	2,270,957
1979	21,000	31,500	2,270,957	2,302,457	115,123	2,417,580
1980	21,000	31,500	2,417,580	2,449,080	122,454	2,571,534
1981	21,000	31,500	2,571,534	2,603,034	130,152	2,733,186
1982	21,000	31,500	2,733,186	2,764,686	138,234	2,902,920

AMPLE ROYALTY CALCULATION

Assumptions	Royalty Start Date:				1937
	Annual Production (m3):	1937	to	1971	10,000
		1972	to	1996	21,000
		1997	to	2000	30,000
	Royalty Rate (per m3):				\$ 1.50
	Interest Rate:				5%

<u>Year</u>	<u>Production</u>	<u>Royalty</u>	<u>Brought Forward</u>	<u>Sub-Total</u>	<u>Interest</u>	<u>Total Due</u>
1983	21,000	31,500	2,902,920	2,934,420	146,721	3,081,141
1984	21,000	31,500	3,081,141	3,112,641	155,632	3,268,273
1985	21,000	31,500	3,268,273	3,299,773	164,989	3,464,762
1986	21,000	31,500	3,464,762	3,496,262	174,813	3,671,075
1987	21,000	31,500	3,671,075	3,702,575	185,129	3,887,704
1988	21,000	31,500	3,887,704	3,919,204	195,960	4,115,164
1989	21,000	31,500	4,115,164	4,146,664	207,333	4,353,997
1990	21,000	31,500	4,353,997	4,385,497	219,275	4,604,772
1991	21,000	31,500	4,604,772	4,636,272	231,814	4,868,086
1992	21,000	31,500	4,868,086	4,899,586	244,979	5,144,565
1993	21,000	31,500	5,144,565	5,176,065	258,803	5,434,868
1994	21,000	31,500	5,434,868	5,466,368	273,318	5,739,686
1995	21,000	31,500	5,739,686	5,771,186	288,559	6,059,745
1996	30,000	45,000	6,059,745	6,104,745	305,237	6,409,982
1997	30,000	45,000	6,409,982	6,454,982	322,749	6,777,731
1998	30,000	45,000	6,777,731	6,822,731	341,137	7,163,868
1999	30,000	45,000	7,163,868	7,208,868	360,443	7,569,311
2000	30,000	45,000	7,569,311	7,614,311	380,716	7,995,027
	1,004,000	1,506,000	-	1,506,000	6,489,027	7,995,027

SAMPLE ROYALTY CALCULATION

Assumptions	Royalty Start Date:	2001
	Annual Production (m3):	2001 to 2009 45,000
	Royalty Rate (per m3):	\$ 2.50
	Interest Rate:	0%

<u>Year</u>	<u>Production</u>	<u>Royalty</u>	<u>Brought Forward</u>	<u>Sub-Total</u>	<u>Interest</u>	<u>Total Due</u>
2001	45,000	112,500	0	112,500	-	112,500
2002	45,000	112,500	112,500	225,000	-	225,000
2003	45,000	112,500	225,000	337,500	-	337,500
2004	45,000	112,500	337,500	450,000	-	450,000
2005	45,000	112,500	450,000	562,500	-	562,500
2006	45,000	112,500	562,500	675,000	-	675,000
2007	45,000	112,500	675,000	787,500	-	787,500
2008	45,000	112,500	787,500	900,000	-	900,000
2009	45,000	112,500	900,000	1,012,500	-	1,012,500
	405,000	1,012,500	-	1,012,500	-	1,012,500

Net Present Value	\$717,624.79
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