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FORMINCO, INCORPORATED

GEOHERMAL SULFUR RECOVERY PROJECT

The prime objective of Forminco, Inc. is to develop the proven geothermal and mineral reserves on their property at Sulphurdale, Utah into an agri-industrial complex.

This objective has been made possible because on December 31, 1979 Forminco, as per their contractual agreement with Union Oil Company, has acquired all the geothermal rights, including wells et al which were owned by that company. Accordingly, it is Forminco's intent to operate these existing wells to provide hot water for a proposed gasohol and sulfur recovery plants and thereafter to develop greenhouse agriculture, food processing and other industrial processing and space heating operations on their property.

To date, Forminco has not been an operating entity but rather had been actively engaged in the research, development and identification of the various natural resources present on their 18,000 acres of property in Beaver and Millard Counties. Although there had been a minimal effort during the past three years to market their product Sulphursoil, it has now become apparent, through industry acceptance and profitable pending contracts, that a large scale commercial marketing effort is justified. The only other operating venture of the company, which proved economically unprofitable because of artificially low prices, involved the production and sale of fluorspar.

Therefore, Forminco believes that the substantial reserves of sulfur and sulphursoil, the acquisition of the geothermal hot water, the existing grinding mill, production facilities and rolling stock

and the location of their real property on the intersection of Interstates 15 and 70, combine to enable a major development of these resources to be realized.

To that end, Forminco has concluded or will soon conclude the following agreements:

1. As stated above, Forminco has acquired all the geothermal rights and holdings of the Union Oil Company. Essentially, there are three production and one injection well available for immediate use. Twenty-seven potential well sites have been identified and future development of these is under consideration.

2. The R & R Energies, Inc. of East Layton, Utah has entered into an agreement to purchase 250,000,000 BTUs from our well for use in their gasohol plant. An equity participation by Forminco at no cost to them is also a part of the agreement. A return of \$100,000 to \$250,000 per year has been projected.

3. The R & R Energies, Inc. will also contract with Forminco to perform all the construction required to establish their facility on Forminco's property.

4. Forminco has acquired a license to the Thermochem process for abstracting sulfur from sulfur ore. This is a proven technology which produces 99.6-99.85% pure sulfur.

5. Forminco is negotiating with Morris-Knudsen Engineering Company to engineer, construct and operate the sulfur reclamation plant. Needless to say, a performance bond will be required as a condition of the contract.

6. Forminco has concluded a 200,000 ton sulfur contract with L/USUF Alikamw Sabby International to deliver sulfur of a 99.6% min. grade at the rate of 4000-10,000 tons per month at a price of \$90.00 per ton F.A.S., Stockton, California.

7. Forminco has entered into several sulphursoil sales contracts from which they should realize between \$200,000 - \$300,000 in sales during 1980.

Documents and reports supporting the above are included as exhibits.

Forminco is now preparing an application to the D.O.E. for guaranteed loans to enable the aforementioned developments to move forward expeditiously.

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GEOHERMAL SULFUR RECOVERY PROJECT

1. Forminco owns approximately 25 square miles of properties in Beaver and Millard Counties, near the village of Cove Fort in the state of Utah. In addition, it leases a similar property in Thermopolis, Wyoming.
2. Based upon revaluation of results reported for a diamond drilling program carried out under Clarence King in 1952 and a rotary drilling campaign under Donald Podesta in 1967, ore reserves, classified as Drill Measured are estimated to be 1,505,000 metric tons containing 302,000 metric tons of sulphur in five deposits at an average grade of 20.1% elemental sulphur. The Thermopolis property contains a calculated additional 325,856 tons of sulfur, of an average grade of 31.4%.
3. King's reserve estimates, which can only partially be confirmed because drill logs and individual assay records are not available, were reported as 3,900,000 short tons containing 663,868 metric tons of sulphur at an average grade of 18.8% elemental sulphur after adjusting grades apparently reported as total sulphur.
4. Eight sulphur-bearing exposures which have not been evaluated but may contain additional reserves are known on the properties.
5. We consider that there is a high degree of probability of the presence of 2,500,000 metric tons containing 500,000 metric tons of sulphur on the Cove Fort lands and a reasonable

possibility of finding an additional 200,000 metric tons of sulphur.

6. A process for recovering a high purity sulfur from volcanic and fumarolic source materials is owned by Teck Corporation of Canada, to be licensed to Forminco, Inc. The Colorado School of Mines Research Foundation, Inc. at Golden Colorado developed a pilot plant which lead to plant design and engineering, and commercial feasibility analysis during 1968-69.
7. Subject to redesign for geothermal application, it is anticipated the capital requirements for a plant to treat 1000 metric tons per day to be in the range of three to four million dollars, direct operating costs to be less than \$4 U. S. per metric ton treated, recovery to be 94% and product grade to be 99.9% sulfur or better.
8. The sulfur markets are currently strong, and might be described as in a period of acute shortage. Discussions with major sulfur users and key brokers indicate the current favorable market conditions are expected to continue through 1981.

Verbal agreement has been reached with the government of India through Sabby International of Ontario, Canada. Terms are for 200,000 tons minimum, \$90 U. S. per ton F.A.S. Stockton, California, backed by an irrevocable international letter of credit.
9. We believe that the Forminco sulfur recovery operation at the 1000 MT/day rate from estimated reserves will generate direct

operating profits per ton of sulfur produced in the range of \$30 per ton, based upon a contract price of \$90 F.A.S. Stockton, California.

10. The total reserves of 302,000 metric tons of contained sulfur at 95% recovery would produce 286,900 tons of 99.982% sulfur product and generate operating profits in the range of \$8,600,000 before amortization and taxes. Based upon these reserves, the Cove Fort operation would have a life of four and one quarter years. However, if reserves quantified as highly probable are finally proven, the facility would have an operating life of 7.4 years, and a profit potential of \$14,250,000.
11. If properly designed and constructed, the sulfur processing plant could be reassembled on Forminco's Thermopolis leasehold, or another sulfur property where adequate geothermal fluids are identified, thereby producing further profits.

ESTIMATED CAPITAL REQUIREMENTS

1000 metric ton per day thermochem plant,
including design, engineering, and
installation \$3,500,000

Pre-production

Stripping and Mining test	60,000	(Completed)
Drilling and Sampling	50,000	(Completed)
Haulage Prod.	100,000	(Completed)
Water	40,000	(Completed)
Tailings disposal	20,000	(Completed)
Property supervision	45,000	45,000

Working Capital 500,000

Interest 200,000

Contingency 255,000

Total \$4,500,000

DIRECT OPERATING COSTS

		<u>Daily</u>	<u>Monthly</u>	<u>Annual (1)</u>
(2)	Labor. 136 hrs. per day	= \$ 816	23,664	285,600
(3)	Overhead on Labor	= 408	11,832	148,920
(4)	Fuel per 24 hour day	= 100	2,900	35,000
(5)	Power per 24 hour day	= 150	4,350	52,500
(6)	Supplies per 24 hour day	= 40	1,160	14,000
(7)	Reagent, \$3.00 X 188 ton	= 564	16,356	197,400
(8)	Maintenance items per 24 hour day	= 300	8,700	105,000
(9)	Planning Contingency	= 122	3,538	42,700
	Sub-total	<u>\$2,500</u>	<u>\$72,500</u>	<u>\$881,120</u>
(10)	Tons Production	188	5,452	65,800
	Direct Cost Per Ton	13.30		
(11)	Mining Cost Per Ton	<u>2.50</u>		
(12)	Total Cost Per Ton	15.80		

Assumptions

- (1) Assumes Operating on a 350 day year, 29 day month.
- (2) Historic cost of labor, 1979, \$6 per hour.
- (3) Fringe benefits equal 28% of base labor charge (\$79,900)
Two Operations Supervisors, 22% of base labor charge (\$62,800)
- (4) Savings due to Geothermal operation estimated at \$900 per day,
\$315,000 per year.
- (5) Consumer Price Index Adjusted.
- (6) Consumer Price Index Adjusted.
- (7) Industrial Raw Material Price Index Adjusted.
- (8) Historic cost while operating flotation mill.
- (9) Contingency Reserve.
- (10) Based upon plant design of 1000 short tons of feed X 20% sulfur
X 94% recover = 188 short tons of sulfur per 24 hour day.
- (11) Historic cost of Forminco based upon 25,000 ton production runs,
single shift per day.
- (12) Reference base P.25 Thermochem Industries, Ltd.
Feasibility Report, dated March 6, 1969.

OPERATING PROFIT PROJECTIONS

	<u>Per Ton</u>	<u>Day</u>	<u>Month</u>	<u>Year</u>
Tonnage Production	1	188	5452	65,800
Revenue (\$90 U.S. Per Ton F.A.S.)	\$90.00	\$16,920	\$490,680	\$5,922,000
Mining and Crushing (1)	\$ 2.50	\$ 470	13,630	164,500
Processing (2)	13.30	2,500	72,512	875,140
Rail Loading (3)	5.00	940	27,260	329,000
Rail Freight (4)	25.00	4,700	136,300	1,645,000
Management and Overhead (5)	2.00	376	10,904	131,600
Contingency (6)	12.20	2,294	66,514	802,760
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Operating Costs	\$60.00	\$11,280	\$327,120	\$3,948,000
Gross Operating Profit (7)	\$30.00	\$ 5,640	\$163,560	\$1,974,000
% of Sales				33.3%
Return on Invested Capital (8)				43.9%
Payback Period (Years)				2.3 yr

(1) 1000 Tons Per Day Capability

(2) Estimated Direct Operating Costs

(3) Includes hauling sulfur by truck to Black Rock rail siding, 24 miles to the West.

(4) Rail freight to Stockton, California, and delivery to dockside or client storage area.

(5) Allocated at \$2 per ton.

(6) 20% contingency reserve.

(7) Before taxes and amortization.

(8) Project capital requirement of \$4,500,000.

FORMINCO, INC.

TARGET CASH FLOW

	<u>YEAR 1</u>	<u>YEAR 2</u>	<u>YEAR 3</u>	<u>YEAR 4</u>	<u>YEAR 5</u>
Profit after taxes	(\$580,000)	\$ 849,000	\$1,080,000	\$1,300,000	\$ 847,000
Depreciation	(+570,000)	+570,000	+570,000	+570,000	+570,000
Depletion	0	+270,000	+350,000	+410,000	+500,000
Capital Purchases	0	(100,000)	(200,000)	(200,000)	(200,000)
Principal Payments	0	(1,000,000)	(1,500,000)	(2,000,000)	(1,500,000)
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Net Cash Flow	\$ (10,000)	\$+589,000	+300,000	+80,000	+217,000
Cumulative Cash Flow	\$ (10,000)	\$+579,000	+879,000	+959,000	+1,176,000

FORMINCO TARGET FORECAST

OPERATING PROJECTIONS YEARS 1-5

		<u>YEAR 1</u>	<u>YEAR 2</u>	<u>YEAR 3</u>	<u>YEAR 4</u>	<u>YEAR 5</u>
<u>REVENUE</u>						
Sulphursoil/ Acid-Iron	(1)	\$ 225,000	\$ 300,000	\$ 400,000	\$ 500,000	\$ 600,000
Construction	(2)	200,000	100,000	100,000	100,000	100,000
Geothermal Sales	(3)	0	105,000	150,000	200,000	250,000
Geothermal Rentals	(4)	30,000	30,000	30,000	30,000	30,000
Sulfur Recovery	(5)	900,000	5,922,000	6,000,000	6,000,000	6,000,000
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Total		\$1,355,000	\$6,457,000	6,680,000	6,830,000	6,980,000
<u>EXPENSES</u>						
Sulphursoil Acid-Iron	(6)	25,000	50,000	60,000	80,000	100,000
Construction	(7)	140,000	70,000	70,000	70,000	70,000
Geothermal Sales	(8)	0	0	0	0	0
Geothermal Rentals	(9)	0	0	0	0	0
Sulfur Recovery	(10)	800,000	3,948,000	4,000,000	4,000,000	4,000,000
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Direct Expenses		\$965,000	\$4,068,000	\$4,130,000	\$4,150,000	\$4,170,000
Gross Operating Profit		\$390,000	\$2,389,000	\$2,550,000	\$2,680,000	\$2,810,000
Interest	(11)	400,000	700,000	550,000	400,000	150,000
Depletion	(12)	0	270,000	350,000	410,000	500,000
Depreciation	(13)	570,000	570,000	570,000	570,000	570,000
Net Profit		\$(580,000)	+\$849,000	\$1,080,000	\$1,300,000	\$1,590,000
Taxes (48%)	(14)	0	0	0	0	743,000
Profit After Taxes		(580,000)	+\$849,000	\$1,080,000	\$1,300,000	\$847,000

ASSUMPTIONS

FORMINCO TARGET FORECAST

REVENUE

- (1) Estimated 1980s sulphur soil and Acid-Iron Plus sales based upon historic sales growth and current commitments.
- (2) Forminco's heavy equipment and construction capability will aid construction of \$6.5 million Gasahol plant (R&R Energies)⁺
- (3) Revenues based solely upon contractual obligations between R&R Energies to buy hot water from Forminco.
- (4) AMAX leases approximately 3,000 acres from Forminco at \$10 per acre.
- (5) Start-up period to produce 10,000 tons sulfur in 1980, thereafter according to plant design.

EXPENSES

- (6) First two years sales (25,000 tons) is currently inventoried.
- (7) Assumes 30% gross profit margin.
- (8) Net sale with no expenses.
- (9) Net lease with no expenses.
- (10) Basic \$600,000 direct cost, plus 200,000 start-up expense.
- (11) Based upon Debt Amortization Schedule (attached).
- (12) Depletion allowance of 22% of sales, maximum 50% of tax liability.
- (13) Depreciation equals 7 year Straight Line, to reserve depletion.
- (14) Based upon Tax Schedule (attached).

DEBT AMORTIZATION SCHEDULE

	<u>YEAR 1</u>	<u>YEAR 2</u>	<u>YEAR 3</u>	<u>YEAR 4</u>	<u>YEAR 5</u>
Beginning Debt	\$2,000,000	\$6,500,000	\$5,500,000	\$4,000,000	\$2,000,000
Incremental Debt	4,500,000	0	0	0	0
Debt Reduction	0	1,000,000	1,500,000	2,000,000	1,500,000
Net Year End Debt	6,500,000	5,500,000	4,000,000	2,000,000	500,000
Estimated Interest	400,000	700,000	550,000	400,000	150,000

TAX SCHEDULE

Beginning Tax Loss	\$1,500,000	\$2,080,000	\$1,231,000	\$ 151,000	\$ 0
Incremental T.L.C.	580,000	0	0	0	0
Incremental I.T.C.	500,000	10,000	20,000	20,000	20,000
Profit Before Taxes	0	849,000	1,080,000	1,300,000	1,590,000
Ending T.L.C.	2,080,000	1,231,000	151,000	0	0
Ending I.T.C.	500,000	510,000	530,000	0	0
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Taxes Paid	0	0	0	0	743,000

FORMINCO

HISTORIC OPERATING SUMMARY

Year Ending	<u>6/30/79</u>	<u>6/30/78</u>	<u>6/30/77</u>	<u>6/30/76</u>	<u>6/30/75</u>	<u>6/30/74</u>	<u>TOTAL</u>
(1) <u>Revenues</u>	\$256,766	\$193,635	\$103,795	\$100,142	\$ 56,306	\$ 201	\$710,845
% Change	+33%	+86%	+3.6%	+78%			
(2) <u>Operating Expenses</u>	281,975	231,731	256,784	288,734	218,119	183,392	1,460,735
(3) Gross Operating Profit (Loss)	(25,209)	(38,096)	(152,989)	(188,592)	(161,813)	(183,191)	(749,890)
(4) Asset Purchases	\$3,923	\$173,243	\$164,859	\$222,389	\$280,282	\$364,444	\$1,209,140

1. Revenues primarily from agricultural fertilizer sales of Sulphursoil, and \$18,000 Geothermal rental from Union Oil.
2. From Income Tax Returns. Asset Development, Sulphursoil Research.
3. Line 1 minus line 2.
4. Includes mining equipment and rolling stock, 200 ton per day flotation mill, Sulphursoil bagging plant, etc.

Annotated Resume

WAYNE A. PORTANOVA
58 RICHMOND HILL ROAD
GREENWICH, CONNECTICUT 06830

Education

- 1973-1975 HARVARD BUSINESS SCHOOL, BOSTON, MASSACHUSETTS
Received Master of Business Administration with High Distinction, June 1975. Named Baker Scholar. Awarded first year honors. Elected to Century Club.
- 1967-1971 HARVARD COLLEGE, CAMBRIDGE, MASSACHUSETTS
Received Bachelor of Arts degree in Economics, Magna Cum Laude, June 1971. Dean's List 4 years. Recipient Harvard College Scholarship and Army ROTC MS II outstanding cadet award.

Business
Experience

- 1976-1980 ENERDYNE, LOS ANGELES, CALIFORNIA
Co-founder and business manager of a privately funded research and development organization, focusing on advanced energy systems for powering electric vehicles.
- 1976-1980 FORMINCO, BEAVER UTAH
Investor, Director, and Executive Vice President. Geothermal energy, sulfur fertilizers, and mineral asset development.
- 1975-1976 GENERAL FOODS CORPORATION, WHITE PLAINS, NEW YORK
Summer 1974 Assistant Product Manager, Pet Foods Division, Product responsibilities included Gainesburgers, Gravy Train, and Gaines Biscuits and Bits.
- 1971-1973 TRAVELERS INSURANCE COMPANY, NEW YORK, NEW YORK
Field Representative in Group Department, sales and service of corporate accounts.

Associations

HARVARD-RADCLIFFE CLUB OF WESTCHESTER, Co-president.
MEAD SCHOOL FOR HUMAN DEVELOPMENT, Chairman of the Board.

I PERSONAL DATA

Name: Richard J. McComb
Address: 18 Sportsman Drive
Shelton, Connecticut 06484
Born: December 26, 1924
Place: New York City
Married: Wife - Marilyn - Children - 2 - Grandchildren - 2

II EDUCATION

Degree - B. Ch. E., New York University, 1947
Graduate Studies - Administrative Engineering
New York University, 1947-48
Public Relations - Publicity Institute of New York, 1952

III MILITARY EXPERIENCE

1943-1945 - United States Army
1st Lieutenant 15th Air Force
Military decorations: Air Medals, Purple Heart, Unit
Citations, European Theatre of Operations

IV BUSINESS EXPERIENCE

1978-Present - Sales and Engineering Associate
McBar Associates, Incorporated
195 West Street
Waltham, Massachusetts

Duties: Design, development and sale of environmental test systems usually for military and special purposes. Provide computer based solutions for industrial and commercial problems. Electronic representative and specialist in instrumentation, microwave, power, and semiconductor systems.

1961-1978 - Vice President and Director - Deuterium Corporation
3 Corporate Park
White Plains, New York

Duties: Administrative: Develop sales proposals and make presentations, prepare feasibility studies, annual reports, SEC and government reports, new business development.

Engineering: Heavy water distillation process.
Removal of sulfur contaminants from geothermal steam.

1963-1968 - Vice President and Director
Deuterium of Canada, Ltd.
Glance Bay, Nova Scotia

Duties: Liaison between management and engineering consultants during construction of heavy water plant. Negotiated contracts.

1963-1965 - Director, Member of Executive Committee and Organizer, Terra Chemicals International, Inc.

Duties: Participated in organizing, financing and development of a new fertilizer corporation which today is one of the leaders in the industry.

1958-1961 - President, manufacture's agency representing industrial, chemical and engineering corporations in New England.

Duties: Managed agency employing 5 salaried salesmen selling directly to customers. Trade show participation.

1949-1958 - Director of sales
Mitchell Bradford Chemical Company
Stratford, Connecticut

Duties: Recruited and trained salesmen in chemical sales, advertising and sales promotion. Trade show participation.

V MEMBERSHIPS

a. Technical Societies and Others

Atomic Industrial Forum
American Nuclear Society
Delegate for the United States to: International Atomic Energy Society, Symposium Heavy Water Reactors, Vienna, Austria, 1967.

b. Social

Huntington Historical Society
Huntington Garden Club

c. Civic

Past Chairman - Shelton Economic Development Commission
Past President - Connecticut Association of Municipal Development Commissions (CAMDC)
Member - Executive Committee, CAMDC
Member - Economic Advisory Group to Council of Governors
Corporator - Grittin Hospital, Derby, Connecticut
Director - Shelton Land Conservation Trust

d. Church

Past Vestryman - St. Paul's Episcopal Church
Huntington, Connecticut

Church (Con't.)

Episcopal Churchmen of Connecticut

e. Military

Military Order of Purple Heart
Veterans of Foreign Wars
American Legion

VI LISTINGS

Who's Who In The East - 1974-1975

VII OTHER ACTIVITIES - Current

- a. Consultant to Running Brook Farm, Easton, Connecticut
Development of large scale process for shredding and
composting leaves into humus for commercial sale.
- b. Developer - of Heritage Acres and Heritage Enterprises,
Chatham, New Brunswick, Canada. Consists of 120
apartments expandable to 300 apartments. Also, projected
motel and commercial development.