

Minutes of First Meeting
of the

SHALE OIL TECHNICAL ADVISORY COMMITTEE

held at
150 E. 42nd Street, New York, N.Y.
on
Monday, June 29, 1964

The first meeting of the Technical Advisory Committee was held at the headquarters of Socony Mobil Oil Co., Inc., 150 E. 42nd Street, New York City, New York, on Monday, June 29, 1964, in Room C-1607. Those present were:

S. L. Meisel, Chairman - Socony Mobil
R. H. Cramer - Socony Mobil Program Manager
K. M. Elliott - Socony Mobil
J. R. Felix - Esso Research & Engineering
C. D. Geiger - Humble Oil & Refining Co.

The meeting opened at 10 a.m., with Chairman Meisel distributing copies of the agenda, a copy of which is attached.

Agenda Item I. Appointment of Permanent Secretary

There was unanimous agreement that a Permanent Secretary is required and that he should be an employee of Project Manager. Some of his functions would include advising and helping future Chairmen arrange meetings and meeting agendas, serving as a central contact point for members of the Technical Advisory Committee with Project Manager and arranging for minutes of meetings. Dr. Meisel was selected as the first Permanent Secretary and will continue to serve as Chairman. He will provide a recommended set of duties for the Permanent Secretary for consideration at the next Advisory Committee meeting.

Agenda Item II. Discussion of Functions and Responsibilities of Committee

A brief discussion clearly indicated that all Committee members understood that their function was advisory rather than supervisory in regard to the experimental program. Committee functions and responsibilities are clearly spelled out on Page 12 of the Research Agreement, a portion of which is included below:

"Such Technical Advisory Committee shall meet bimonthly in the offices of the Project Manager in New York City or at such other place as shall be designated by the chairman in the notice of the meeting furnished to

members of the Committee. The chairman will promptly call a meeting at any time at the request of any Participating Party. Salaries and expenses of the Technical Advisory Committee shall not be charged to the research program.

"The program manager shall report to the regular meetings of the Technical Advisory Committee concerning the progress and results of the research program so that such Technical Advisory Committee shall, at all times, be fully advised on the progress of the program. In addition, the program manager will from time to time make such additional reports to the Technical Advisory Committee as are necessary to acquaint them of the completion of any significant phase of the research program and the data, information and results relating thereto. Such Technical Advisory Committee shall have the responsibility of providing technical advice and recommendations to the Project Manager based upon its continuing review of the program conducted hereunder. Such Committee shall also have the right, by unanimous vote, to direct changes, modifications, reductions or expansions of the research program to be conducted hereunder, which shall be binding upon all parties."

Agenda Item III. Status of Additional Participating Parties

The Chairman reported that copies of the agreements have been sent to a substantial number of companies for consideration. Sinclair Oil had indicated that they expected to execute the agreements but Socony Mobil had not received them as of June 29. (Note added later): Sinclair is still considering executing the agreements, but they chose to pass up the June 29 deadline.

Agenda Item IV. Establish Schedule of Committee Meetings

The desirability of having periodic meetings of the Advisory Committee at Rifle was discussed. Numerous advantages that would accrue to both the project personnel and to the Committee were stated. It was concluded that meetings should be held in Rifle at regular intervals, possibly every third meeting (twice a year). It was agreed that the next meeting would be in Rifle on September 3 and the morning of the 4th. It was also agreed that another Rifle meeting would be tentatively scheduled for around March 1, 1965.

The Committee recommended that a dinner meeting be held at Rifle with key members of the Project staff and their wives. It was agreed that this expense could be charged to the Program as Project Manager's expense.

Agenda Item V. Other Items1. Audits

The Chairman referred to Page 39 of the Research Contract and Page 26 of the Research Agreement on the subject of audits. An audit is required approximately three months after rehabilitation starts at Rifle. It must be conducted by one man from the Project Manager and one man representing the Participating Parties. Humble agreed to supply the name of their auditor to the Chairman who, in turn, would arrange for an audit report at the next Committee meeting.

2. Safety Program

Mr. Geiger expressed concern over the skin irritation properties of oil shale and asked about any specific program of medical information, advice, and attention which has been adopted,

Mr. Cramer reported as follows: The safety and medical aspects of the program were reviewed extensively with representatives of the Socony Mobil Medical Director's office, Safety Department and the Research Department Toxicologists on April 22, 1964. On May 8, 1964, Dr. G. M. Saunders, the Socony Mobil Medical Director, sent a detailed outline of the medical program and stated that he would discuss this program with the Humble Medical Director. Dr. Saunders recommended that a local physician be retained as Medical Advisor to the program. Effective May 11, 1964, Drs. Roger D. Niehoff and J. Max Word were retained in this capacity. Drs. Niehoff and Word, who act in a similar capacity for Union Carbide Nuclear in Rifle, will hold safety meetings and will assist in setting up and supervising the safety program. They have been corresponding regularly with Dr. Saunders. A Safety Engineer will be hired June 29; his first task will be to implement the safety program and to prepare a safety manual.

It was concluded by the Committee that the program appeared adequate.

3. Report to U. S. Government on Patents

The Chairman pointed out that under Section 2.09, Page 42 of the Lease Agreement, each company is obligated to submit to the Government every six months a list of primary patent applications and indicate the status of each application.

Agenda Item VI. Report of Program ManagerA. Program1. Rehabilitation and Staffing

The Program Manager presented the attached organization chart (Exhibit I) and the modified PERT diagram (Exhibit II) which summarizes the master plan for and the status of rehabilitation and staffing at Rifle. He briefly reviewed the current status of the telephone system, shops, vehicles, steam boiler, clean up, pilot plants, mine road, Richardson scales, office requirements, housing and the analytical laboratory. Progress in each of these areas is proceeding on schedule.

Mr. Cramer reported that staffing the facility with non-technical personnel is proceeding according to schedule. However, staffing with technical personnel to be supplied by Socony Mobil, Humble and possibly Sinclair has been delayed and is becoming critical. He pointed out that the technical people must have time to terminate their present assignments with their respective companies, time to learn their assignments at Rifle and time to move their families to Rifle. If the technical people, primarily retort engineers, are not assigned to Rifle quickly, the mid-August startup of Retort No. 1 may be delayed.

2. 1964 Program

The 1964 program, outlined in detail in the attached hand-out (Exhibit III), was presented by the Program Manager. The Committee decided to take the program under study and adopt it at the next meeting.

B. Budget

The Program Manager stated that the budget had been prepared on accrual basis rather than on a modified cash basis, as is the program accounting system, because elapsed time between the actual incurring of a cost and the disbursement of funds to meet the cost could not be determined without experience.

The proposed Anvil Points budget for the period May 1, 1964 to December 31, 1964 will be approximately \$910,000 for net expenses and \$200,000 advanced to the Research Foundation for the program imprest fund. The budget, which contains estimated quarterly revenues and expenses for each of the chart of accounts listed in Exhibit D of the Research Contract, is attached (Exhibit IV). The budget as presented contains charges for 5/6 of Boyd Guthrie's expenses. It was agreed that Guthrie's expenses while acting as consultant to the program at Rifle would be charged to the program. The remainder of his expenses will be charged to Socony Mobil.

After some discussion of items comprising the budget, the Committee decided that it would advise on and adopt the budget at the next meeting in order to have sufficient time for study.

The Committee decided to send copies of this budget to any Participating Parties who join the program before the next meeting.

C. Reports

It was agreed that the Program Manager would make the following reports:

- (a) Monthly progress report on entire program.
- (b) Memorandum when a significant phase of some portion of the progress is completed. (These would be informal with a minimum of editing at Rifle and no editing elsewhere by Project Manager.)
- (c) Formal reports as needed upon the completion of the program or of major segments of the program. (These would be final reports from Project Manager.)

Copies of (a) and (b) reports will be sent directly to Participating Parties by Program Manager, if he is requested to do so by them.

D. Other

Mr. Geiger proposed renovating the Community Hall and using program funds to provide a recreation program in order to maintain high morale. The Program Manager agreed in principle and will discuss implementation with the Guthries, who will advise as to the previous program carried out by the Bureau of Mines.



K. M. Elliott
Secretary for First Meeting

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Attachments

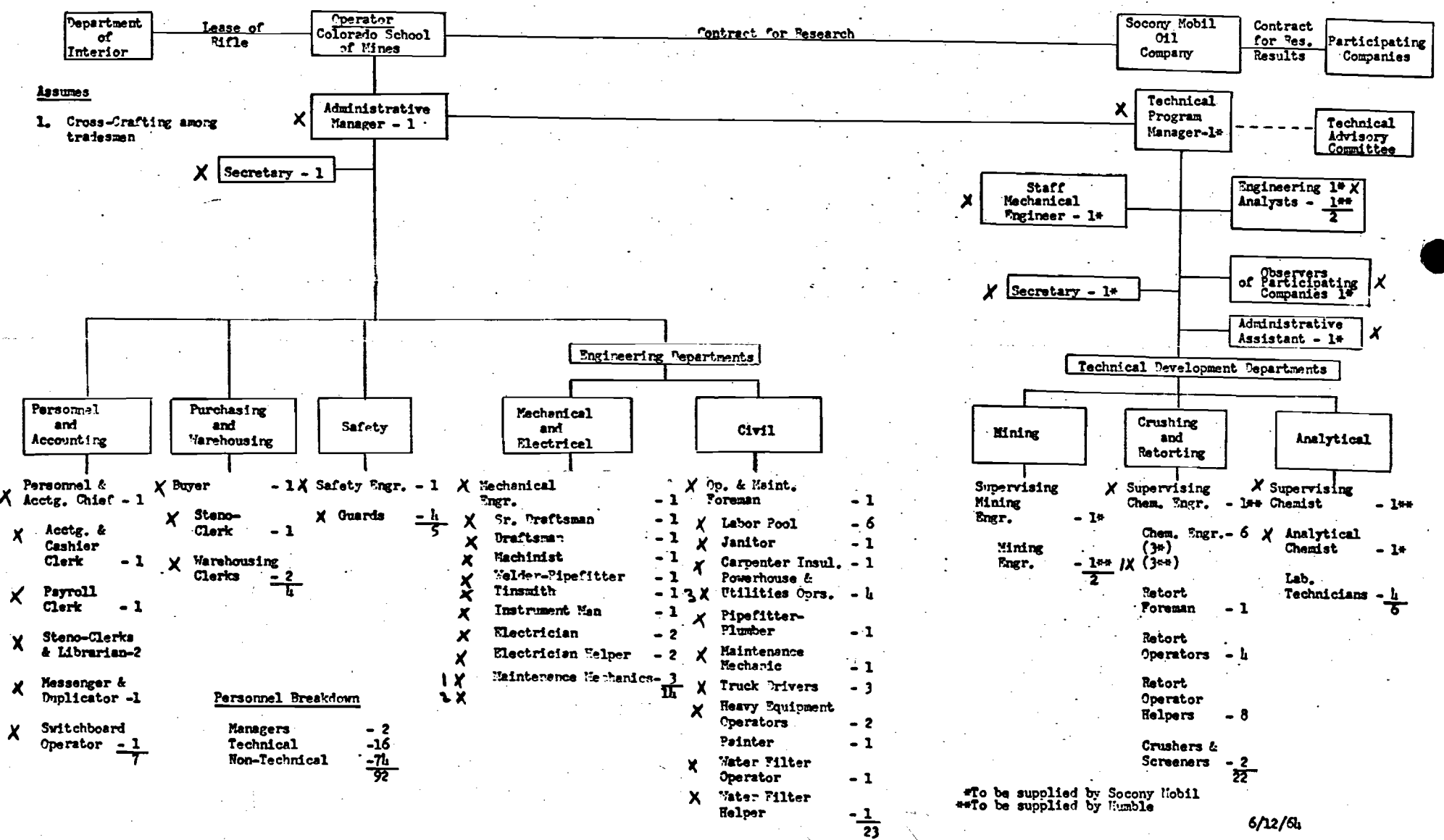
July 16, 1964

Agenda

Initial Technical Advisory Committee Meeting June 29, 1964

- I. Appointment of Secretary
- II. Discussion of Functions and Responsibilities of Committee
- III. Status of Additional Participating Parties
- IV. Establish Schedule of Committee Meetings
- V. Other Items
- VI. Report of Program Manager
 - A. Program
 1. Rehabilitation and Staffing
 2. 1964 Program
 - B. Budget
 1. Administrative
 2. Program
 - C. Reports -- Type, frequency
 - D. Other
- VII. Executive Session

ORGANIZATION CHART FOR STAGE I ANVIL POINTS OIL SHALE RESEARCH CENTER



X PRESENTLY ON SITE
 X TO BE ON SITE WEEK OF 6/23

ANVIL POINTS OIL SHALE RESEARCH CENTERSUMMARY OF INITIAL PROGRAM FOR 1964

May 1, 1964 to December 31, 1964

Estimated Net Expense:	\$910,000
Distribution of Net Expense	Estimated % ⁽¹⁾
Rehabilitation and Staffing Facility	47
Pilot Retort Studies	32
Mechanical Model Studies	16
Engineering and Economic Studies	3
Mining Studies	2
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Total	100%

(1) Quantities shown represent Program Manager's current best estimate. Program Accounting is not and will not be designed to accumulate these specific costs.

1964 INITIAL PROGRAM FOR

ANVIL POINTS OIL SHALE RESEARCH CENTER

Time Period: May 1, 1964 to December 31, 1964

Estimated Cost: \$910,000

Overall Objective: Rehabilitate facilities, establish the feasibility of the Gas-Combustion Retort and begin to define the retort operating problems.

I. REHABILITATION AND STAFFING FACILITY - ESTIMATED SHARE OF NET EXPENSE: 47%

Broad Objective

Rehabilitate the Anvil Points Oil Shale Research Center facilities and staff to operate the No. 1 and No. 2 Retorts with existing supply of mined shale.

Time: May 1, 1964 to August 1, 1964

Specific Objectives

1. Rehabilitate general facilities as necessary.
2. Rehabilitate housing as necessary.
3. Rehabilitate and modify the No. 1 and the No. 2 pilot retorts to operate up to 750 lbs./ $(\text{Hr})(\text{Ft}^2)$ with a new oil mist recovery system.
4. Hire and relocate personnel as required to operate the pilot retorts on existing mined shale and to staff supporting administrative and shop functions.

II. PILOT RETORT STUDIES - ESTIMATED SHARE OF NET EXPENSE: 32%

Broad Objective

Establish operability of Gas-Combustion process for retorting of oil shale and define importance of operating problems.

Supervising Engineer: J. E. Lawson

Staff: 4 Retort Engineers
1 Retort Foreman
11 Retort Operators
2 Crusher/Screeners Operators

Time: August 1, 1964 to December 31, 1964

Specific Objectives

1. Train operating personnel and make shake down runs on Retort No. 1 and No. 2 and test the new oil mist recovery system. (18%)

2. Demonstrate operability of Retorts No. 1 and No. 2, the operating techniques, and the state of training of personnel by carrying out the following runs: (17%)
 - a. Duplicate Bureau of Mines Runs 222 and 334E on Retort No. 1.
 - b. Duplicate Bureau of Mines Run 19 on Retort No. 2.
 - c. Establish maximum shale throughput rate with existing equipment.
3. Establish shale and gas flow characteristics of the existing retorts and make revisions where indicated to provide more uniform distribution. (10%)
4. Establish maximum shale throughputs on Retort No. 1 with air distributor design (developed in mechanical model studies) in the following test operations: (10%)
 - a. Cold operations (circulation of shale and gas with no firing).
 - b. Hot operations without air preheat.
 - c. Hot operations with air preheat.
5. Establish operability of line burner and determine feasibility of using recycle gas as fuel. (5%)
6. Study effect of air preheating on yields, operability, and shale throughput. (15%)
7. Study effect of nucleating agents and gas cooling rate on yield and oil quality. (15%)
8. Begin process variable study. (10%)

III. MECHANICAL MODEL STUDIES - ESTIMATED SHARE OF NET EXPENSE: 16%

Broad Objectives

Construct and operate mechanical models to provide information regarding optimum design of shale feed and drawoff systems, air and gas distributors, and anti-segregation devices for pilot and commercial retorts.

Supervising Engineer: J. E. Lawson

Staff: 2 Retort Engineers
1 Retort Operator

Time: August 1, 1964 to December 31, 1964

Specific Objectives

1. Design and construct mechanical models. (70%)
2. Evaluate promising air distributor designs. (10%)
3. Establish effects of particle size and size range on particle segregation and develop feed and drawoff designs to maintain uniform distributions. (20%)

IV. ENGINEERING AND ECONOMIC ANALYSIS - ESTIMATED SHARE OF NET EXPENSE: 3%

Broad Objective

Provide engineering and economic analysis to guide development program toward a commercial design.

Staff: P. W. Snyder and James Birchfield

Time: August 1, 1964 to December 31, 1964

Specific Objectives

1. Make process variable study with Math Model to define the effects of:
 - a. Shale throughput
 - b. Shale size
 - c. Recycle gas rate
 - d. Air rate
 - e. Retort dimensions
 - f. Air temperature
2. Make math model runs to help define the importance of uniformity of gas flow, kerogen content and particle size segregation.
3. Develop economic guide lines for the mining, crushing, and retorting complex.
4. Make other economic studies as needed.

V. MINING STUDIES - ESTIMATED SHARE OF NET EXPENSE: 2%

Broad Objective

Review existing technology and plan Stage II mining program.

Supervising Engineer: Not assigned yet

Staff: One Mining Engineer (not assigned yet)

Time: October 1, 1964 to December 31, 1964

Specific Objectives

1. Review existing mining facilities.
2. Review existing mining technology.
3. Plan operation of mine as needed for Stage II and begin to screen and select new or improved equipment for mine.

ANVIL POINTS OIL SHALE RESEARCH CENTER
1964 ADMINISTRATIVE BUDGET
May 1, 1964 to December 31, 1964

<u>Manpower Quota (End of Year)</u>	
Participating Parties	18
Research Foundation	<u>74</u>
Total	92
 <u>Salaries and Wages</u>	
Participating Parties	130,400
Research Foundation	<u>200,300</u>
Total	330,700
 <u>Employee Benefits</u>	
Participating Parties	32,600
Research Foundation	<u>31,500</u>
Total	64,100
 <u>Employee Expenses</u>	
Participating Parties	114,100
Research Foundation	<u>3,000</u>
Total	117,100
Materials and Supplies	70,000
Facilities and Equipment	150,000
Professional Fees and Services	55,000
Other Operating Services	46,100
Other Direct Expenses	84,200
Lease Expense	2,800
Rent Revenue	<u>(10,000)</u>
<u>Net Expenses</u>	910,000
Investment - Participating Parties	<u>200,000</u>
Grand Total Investment and Net Expenses	<u><u>1,110,000</u></u>

ANVIL POINTS OIL SHALE RESEARCH CENTER
1964 ADMINISTRATIVE BUDGET
May 1, 1964 to December 31, 1964

Account Number	Description	Total Last 8 Months	Total 2nd Quarter	Total 3rd Quarter	Total 4th Quarter
Investment Account					
400	Investment- Participating Parties	200,000	200,000	-	-
	Total Investment	<u>200,000</u>	<u>200,000</u>	<u>-</u>	<u>-</u>
Expense Accounts					
Salaries & Wages - Research Foundation					
500	Administration Personnel & Accounts	30,000	5,200	13,100	11,700
502	Purchasing & Warehousing	13,300	1,300	6,500	5,500
504	Safety	11,900	1,100	5,800	5,000
505	Eng. - Electrical - Rehabilitation	13,900	1,700	12,200	-
506	Operating	19,100	-	1,900	14,500
507	Mechanical - Rehabilitation	12,200	1,000	11,200	-
508	Operating	17,900	-	1,500	13,100
509	Civil - Rehabilitation	11,100	2,000	9,100	-
510	Operating	26,200	-	5,700	20,500
512	Housing	3,000	1,500	1,500	-
Technical Development					
520	Tech. Dev. - Mining - Rehabilitation	-	-	-	-
521	Operating	-	-	-	-
522	Retorting - Rehabilitation	100	-	100	-
523	Operating	32,100	-	12,800	19,300
524	Analytical - Rehabilitation	2,100	-	2,100	-
525	Operating	6,800	-	1,700	5,100
	Sub-Total Research Foundation	<u>200,300</u>	<u>13,800</u>	<u>91,500</u>	<u>95,000</u>
Salaries & Wages - Participating Parties					
530	Administrative	54,200	10,000	22,100	22,100
Technical Development					
532	Technical Development - Mining	8,800	-	1,200	7,600
533	Retorting	51,000	5,000	23,000	23,000
534	Analytical	16,100	1,000	6,200	6,200
	Sub-Total Participating Parties	<u>130,400</u>	<u>19,000</u>	<u>52,500</u>	<u>58,900</u>
	Total - Salaries & Wages	<u>330,700</u>	<u>32,800</u>	<u>144,000</u>	<u>153,900</u>
Employee Benefits					
540	Research Foundation	31,500	2,300	11,500	11,700
541	Participating Parties	32,600	1,800	13,100	11,700
	Total Employee Benefits	<u>64,100</u>	<u>7,100</u>	<u>27,600</u>	<u>29,100</u>

Account Number	Description	Total Last 8 Months	Total 2nd Quarter	Total 3rd Quarter	Total 4th Quarter
	Employee Expenses				
550	Travel - Research Foundation	1,500	300	600	600
551	Travel - Participating Parties	15,000	9,000	3,900	2,100
552	Moving - Research Foundation	1,500	1,000	500	-
553	Moving - Participating Parties	27,600	5,000	22,600	-
554	Living Expenses - Participating Parties	39,500	6,100	22,200	10,900
555	Miscellaneous	32,000	-	30,000	2,000
	Total Employee Expenses	117,100	21,700	79,800	15,600
560	Consult. Auditors & Attorneys	5,000	-	2,600	2,400
570	Project Manager's Expenses	19,200	6,900	6,100	6,200
571	Other Participating Parties Expenses	-	-	-	-
575	Contractors Fee	40,000	10,000	15,000	15,000
576	Precontract Expenses	10,000	10,000	-	-
	Materials & Supplies				
580	Rehabilitation	37,000	16,000	21,000	-
581	Operating	25,000	-	10,000	15,000
582	Stationery & Office Supplies	5,000	900	2,200	1,900
583	Housing	3,000	1,500	1,500	-
	Total Materials & Supplies	70,000	18,400	34,700	16,900
	Equipment				
590	Rehabilitation	91,000	43,000	48,000	-
591	Operating	59,000	4,000	25,000	30,000
	Total Equipment	150,000	47,000	73,000	30,000
	Rents on Leased Equipment				
595	Rehabilitation	-	-	-	-
596	Operating	2,800	400	1,200	1,200
	Total Rents on Leased Equipment	2,800	400	1,200	1,200
	Subcontracts				
600	Rehabilitation	22,000	8,000	14,000	-
601	Operating	10,000	-	-	10,000
602	Maintenance	2,500	-	500	2,000
603	Laboratory Service	2,500	-	1,000	1,500
604	Machine Accounting	9,100	700	4,200	4,200
605	Dismantlement	-	-	-	-
	Total Subcontracts	46,100	8,700	19,700	17,700

Account Number	Description	Total Last 8 Months	Total 2nd Quarter	Total 3rd Quarter	Total 4th Quarter
610	Freight & Postage	2,300	500	900	900
	Utilities				
620	Fuel	9,300	-	1,000	8,300
621	Electricity	15,200	2,000	4,700	8,500
622	Government Services	-	-	-	-
623	Telephone & Telegraph	11,500	2,500	4,500	4,500
624	Other	8,000	2,100	3,600	2,300
	Total Utilities	41,000	6,600	13,800	23,600
	Insurance & Operating Taxes				
630	Insurance - By Major Type	10,500	8,700	900	900
640	State & Local Taxes	-	-	-	-
650	Permits or Licenses	200	200	-	-
	Total Insurance & Operating Taxes	10,700	8,900	900	900
660	Personnel Procurement	500	200	300	-
670	Labor Relations & Negotiations	2,500	300	1,000	1,200
690	Other Miscellaneous Expenses	5,000	800	2,100	2,100
	Total Expense Accounts	920,000	180,300	422,700	317,000
	GRAND TOTAL INVESTMENT & EXPENSE ACCOUNTS	<u>1,120,000</u>			

Account Number	Description	Total Last 8 Months	Total 2nd Quarter	Total 3rd Quarter	Total 4th Quarter
700	Revenue - House Rent	4,200	200	1,000	2,100
701	Revenue - Electricity	4,400	600	1,900	2,100
702	Revenue - Bureau of Mines Payments	1,400	200	600	600
710	Other Miscellaneous Income	-	-	-	-
Total Revenues		10,000	800	4,400	4,800

1964 ADMINISTRATIVE BUDGET OF ESTIMATED COSTS & EXPENSES LESS REVENUES
May 1, 1964 to December 31, 1964

Total Expense Accounts	920,000
Less: Total Revenues	10,000
<u>Net Expenses</u>	<u>910,000</u>
Investment Account	200,000
Grand Total Investment and Net Expenses	1,110,000