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MOBIL RESEARCH AND DEVELOPMENT CORPORATION

RESEARCH DEPARTMENT

TECHNICAL MEMORANDUM 67-41

INDEX TO ANVIL POINTS OIL SHALE RESEARCH CENTER FILES

ANVIL POINTS OIL SHALE RESEARCH CENTER

Rifle, Colorado

January 26, 1968

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Approval:

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Program Manager

The primary object of the Anvil Points Oil Shale Research Center TECHNICAL MEMORANDUM is to advise authorized personnel employed by the Participating Parties[1] that various activities are in progress or that certain significant data have been obtained within the Research Center.

These TECHNICAL MEMORANDA have been prepared to provide rapid, on-the-spot reporting of research currently in progress at Anvil Points. The conclusions drawn by project personnel are tentative and may be subject to change as work progresses. The TECHNICAL MEMORANDA have not been edited in detail.

[1] Mobil Research and Development Corporation, Project Manager

Continental Oil Company
Humble Oil and Refining Company
Pan American Petroleum Corporation
Phillips Petroleum Company
Sinclair Research, Inc.

INDEX TO ANVIL POINTS OIL SHALE RESEARCH CENTER FILES

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INDEX TO ANVIL POINTS OIL SHALE RESEARCH CENTER FILES

I. INTRODUCTION

The purpose of this memorandum is to provide convenient indexes to all data and correspondence that were generated during the Initial Program. All data and correspondence were arranged and filed according to major categories and a detailed index was compiled for each category. File drawers have been numbered consecutively from 1 through 54.

All files will be stored at the Mobil Research and Development Corporation, Paulsboro Laboratory, Paulsboro, New Jersey. These files will be maintained and preserved for a period covering the term of the Initial Program and for three years thereafter per minutes of the Technical Advisory Committee meeting of January 8, 1965.

Requests for copies of any data or correspondence should be directed to S. L. Meisel, Mobil Research and Development Corporation, Paulsboro Laboratory, Paulsboro, New Jersey 08066.

II. Technical Data Files Index

A. Retort, Crushing, and Mechanical Models Data File Index

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1	Retort Operations Charts and Data Sheets Runs 222A - 427
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15	Retort Operations Charts and Data Sheets Runs B905 - B947
16	Retort Operations Charts and Data Sheets Runs B948 - B964D
17	Retort Operations Charts and Data Sheets Runs B965 - C985
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19	Retort Operations Charts and Data Sheets Runs C990-16 - C1013
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26	Calibration Data Retort Pressure Data String Test Data Shale Segregation Data
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File Drawer No.	Contents
27	Crusher Log Book Crusher Log Sheets Corrosion Study Data Sheets Miscellaneous Retort Studies and Data
28	Movie film as follows: Dust Model Large Flow Model Mechanical Model and Retort No. 3 Simulation Retort No. 2 Drawoff Section Three-Pipe Air Distributor Study Extended Riser Study 100-Ton Bin Film Air Distributor Study Flow Distortion Due to Horizontal Plates in a Moving-Shale Bed Two-Pipe Air Distributor Studies Extended Riser Air Distributor Studies Use of Flow-Correcting Inserts in 100-Ton Shale Storage Bins Flow Characteristics of Raw and Spent Oil Shale - Parts 1 and 2 Technical Film No. 66-1 - Studies of Behavior of Mist in Gas-Combustion Retorting Process (Reference - Technical Memorandum No. 66-6) Technical Film No. 66-2 - The 1/12 Scale Model of Retort No. 3 (Reference - Technical Memorandum No. 66-7) Technical Film No. 66-3 - The Development of a Riser-Type Air Distributor For Large Shale in Retort No. 2 (Reference Technical Memorandum No. 66-8) Technical Film No. 66-4 - Mechanical Model Studies of the Introduction and Distribution of Gas in a Bed of Oil Shale (Reference Technical Memorandum No. 67-6) Technical Film No. 67-1 - Model Studies of the Operability Problem in the Gas-Combustion Retort (Reference Technical Memorandum No. 67-20)
29	OSRC-8 Computer Output Sheets as follows: Retort No. 1 Runs 433 Through 894 Retort No. 2 Runs B443 Through B984 Retort No. 3 Runs C987 Through C1058-2 First Draft Gas-Combustion Bulletin - Volumes I and II

B. Analytical Laboratory Data File Index

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File Drawer No.	Contents
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	Stage II - Mine Operating Schedule and Costs
	Stage II - Scoping Study
	Time Studies Data
	Ventilation Data
	Purchasing Data
	Notebooks Used to Record Data
36	Terrametrics Data
37	Equipment Specifications and Maintenance Records

D. Retort, Crushing, Mining, Mechanical Models, Analytical, and Plant Drawings

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	RB2	Piping Revisions	7/6/64
	RB3	Piping Revisions	7/6/64
	RB4	Spent Shale Weigh Bin	6/30/64
	RB5	Spent Shale Weigh Bin	7/16/64
	RB6	Product Tanks	7/14/64
	RB7	Process Piping	7/15/64
	RB8	Feed Revisions	7/20/64
	RB9	Raw Shale Distribution System	7/31/64
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	RB33	Main Control Panel	1/14/65
	RB39	Feed Revisions	2/26/65
	RB43	Spent Shale Discharge	4/2/65
	RB65	Cottrell Precipitator Modification	7/22/65
	RB71	Multiple Air/Gas Distributor	9/16/65
	RB73	Thermocouple Location	10/2/65
	RB78	Spent Shale Transfer Belt	11/2/65
	RB79	Spent Shale Drawoff Revisions	11/16/65
	RB89	Dust Injector	1/29/66
	RB234	Hoist Cage Details, Raw Shale Sampler	6/24/66
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	RB236	Air Cylinder Installed-Raw Shale Sampler	6/27/66
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	RC1	Demister Details	6/26/64
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	RC3	Platform Revisions	6/3/64
	RC4	Spent Shale Auxiliary Bin	7/1/64
	RC5	Spent Shale Auxiliary Bin	7/2/64
	RC6	Conveyor Drive, Spent Shale Conveyor	7/20/64

File Drawer No.	Drawing No.	Title	Date
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	RC10	Spent Shale Weigh Bin Shelter	8/18/64
	RC11	Dilution Gas Infeed Details	8/18/64
	RC12	Products Tanks	8/19/64
	RC13	Thermocouple Location	9/16/64
	RC14	Receiver Hopper	9/29/64
	RC15	Jet Impactor Pilot Tube	9/30/64
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	RC22	Condensor-Demister Installed	12/9/64
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	RC24	Installation of Surge Drum	12/9/64
	RC25	Line Burner to Air/Gas Distributor Piping	12/18/64
	RC26	Product Piping Revisions, Surge Drum/ Condenser-Demister	12/21/64
	RC27	Wiring Diagram For Dynamatic Adjusto Speed Control	12/23/64
	RC34	Condensor Demister Revision	1/26/65
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	RC58	Oxygen Feed Piping	8/27/65
	RC60	Double Rotary Seal Installed-Spent Shale	9/1/65
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	RC80	Air/Gas Distributor Insulation	1/3/66
	RC82	Roots Meter	2/1/66
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	RC89	T-3 Product Tank Scale Model	3/28/66
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	RD1	Spent Shale Scale Support	7/6/64
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	RD3	Retort Discharge Port	7/15/64
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	RD25	Shear Pin Alarum Switch Installed	5/11/65
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File Drawer No.	Drawing No.	Title	Date
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	RD37	Purge Gas Re-Heater	10/20/65
	RD38	Gas Seal Metering Assembly and Purge Gas Sampling Assembly	10/22/65
	RD42	Oil Injection System-Piping and Details	1/26/66
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	RD46	Vertical Thermocouple	3/15/66
	RD63	Electrical Wiring Diagram-Raw Shale Sampler	6/30/66
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	RE2	Demister Filter Spacers	6/10/64
	RE3	Plate Detail-Weigh Bin	6/10/64
	RE4	Ladder-Spent Shale Bin	7/9/64
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	RE9	Jet Impactor Adapter Flange	9/29/64
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	RB12	Process Piping Detail	10/16/64
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	RB21	In Line Gas Burner	10/1/64
	RB22	Thermocouple Location	10/1/64
	RB23	In Line Gas Burner Installation and Piping	10/26/64
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	RB27	Spent Shale Sampler Gate	12/7/64
	RB31	Electrical Diagram	1/12/65

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	RB35	Process Piping Revisions	2/9/65
	RB36	Process Piping Details-Revisions	2/9/65
	RB37	New Retorting Section	2/24/65
	RB38	New Offgas Section	2/24/65
	RB40	Process Flow Diagram	3/9/65
	RB41	Product Piping	3/9/65
	RB42	Rotary Seal and Conveyor-Spent Shale System	4/2/65
	RB44	Spent Shale Conveyor Dust Hood	4/9/65
	RB45	Elevations-Gas-Combustion Process	4/18/65
	RB46	Raw Shale Feed Chute Installation	4/2/65
	RB47	Foundation Details-Spent Shale Weigh Bin	4/20/65
	RB48	Spent Shale Conveyor Revisions	4/26/65
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	RB56	Spent Shale Sample Crusher and Splitter	5/25/65
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	RB94	Thermocouple Locations	2/5/66
	RB229	Star Feeder (Raw Shale) Relocation	5/27/66
	RB230	Shale Bed Height Adjusting Chute	5/27/66
	RB233	Spent Shale Colorimeter Sampler	6/20/66
	RB234	Hoist Cage Details-Raw Shale Sampler	6/24/66
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	RC33	Retort Feed Revisions	1/22/65
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	RC42	Air/Gas Mixer	4/2/65
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	RC44	Spent Shale Bin Chutes	5/5/65
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	RC46	Cover For Spent Shale Hopper	5/18/65
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	RC49	Three-Pipe Air/Gas Distributor System	5/28/65
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	RC52	Mist Drawoff Funnel	6/4/65
	RC54	Eight Riser Air/Gas Distributor Installation	7/13/65
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	RC71	Purge Gas Condenser	10/14/65
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File Drawer No.	Drawing No.	Title	Date
		Retort No. 2	
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File Drawer No.	Drawing No.	Title	Date
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	RE109	Air/Gas Distributor-Three Pipe-Ports Up	
	RE110	Air/Gas Distributor-Three Pipe-Ports Down	
	RE111	Air/Gas Distributor-Two Pipe-Ports Up	
	RE112	Air/Gas Distributor-Eight Risers Single Level H.V.	
	RE113	Air/Gas Distributor-Eight Risers Single Level L.V.	
	RE114	Air/Gas Distributor-Eight Risers Double Level	
	RE115	Air/Gas Distributor-Eight Risers Single Level	
	RE116	Air/Gas Distributor-Eight Risers Single Level, Low Low Velocity	
	RE117	Air/Gas Distributor-16 Risers-Down Flow H.V.	
	RE118	Air/Gas Distributor-Two Pipe Horizontal	
	RE119	Air/Gas Distributor-Four Riser-Single Level Slots	
	RE120	Air/Gas Distributor-Eight Riser-Single Level 39" Bayonet	
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	RDSK99	Stample Tap Details	6/16/66
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	RB51	Scoping Study-Plan II	5/4/65
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	RB55	Process Flow Diagram "B"	5/25/65
	RB81	Drawoff System Study	12/17/65
	RB85	Drawoff Concept	12/30/65
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	RB98	Phase 2 PERT Diagram	3/1/66
	RB99	Drawoff System Study	3/3/66
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	RB102	Spent Shale Receiver Bin and Distributor	3/11/66
	RB103	Air Distributor Study	3/14/66
	RB104	Stage II PERT Diagram	3/21/66
	RB105	Retort Feed Study	3/31/66
	RB106	Conceptual Retort Section	4/7/66
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	RB123	Air Distributor Study	3/21/67
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	RB128	Insulation Details	4/28/67
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	RB130	Air Distributor Study-41 Risers	5/10/67
	RB132	Recycle Blower Bypass to Electrostatic Precipitator	5/29/67
	RB133	Two Header-36 Riser Air Distributor	6/7/67
	RB135	New Header Boxes-Air Distributor	6/8/67
	RB136	Piping and Header Arrangement Plan and Elevations - Sheet 1	6/20/67
	RB137	Piping and Header Arrangement Plan and Elevations - Sheet 2	6/20/67
	RB138	Liquid Disengager Installation	7/19/67
	RB139	Deck Details Liquid Disengager	7/19/67
	RB140	Equipment Location-Liquid Disengager	7/17/67
	RB141	Liquid Piping Inside Retort-Liquid Disengager	7/17/67
	RB142	Gland Installations in Retort Walls	7/18/67
	RB143	Liquid Manifold Piping-Liquid Disengager	7/18/67
	RB144	Air Distributor Study	7/18/67
	RB145	Screen Supports For Liquid Disengager	8/2/67
	RB146	Type II Screen Installation-Liquid Disengager	8/2/67
	RB147	Gas Re-engager Installation-Liquid Disengager	8/4/67
	RB148	Butterfly Valve Installation-Liquid Disengager	8/22/67

File Drawer No.	Drawing No.	Title	Date
		Retort No. 3	
38 and 39	RB240	Distributor Spacing Study No. 1	7/25/66
	RB264	Ty-Lab Shale Sample Heating Furnace	11/4/66
	RB270	Revised Feed Inlet to No. 3 Screw Conveyor	5/2/67
	RB271	Air Distributor Insert No. 2-Details and Installation	6/26/67
	RB272	Air Distributor Insert No. 2 Installation	6/26/67
	RB273	Condenser Installations Modified Gas Sample System	7/6/67
	RB287	24" Belt Feeder-Frame and Assembly	6/7/67
	RB288	24" Belt Feeder-Hopper Details and Cover Frame	6/7/67
	RB289	24" Belt Feeder-Cover Details and Installation	6/7/67
	RB291	Spent Shale Distribution	4/20/67
	RB292	Roll Feeder Installation	4/18/67
	RB293	Roll Feeder Installation of Housing	4/18/67
	RB294	Drawoff Section	4/18/67
	RB295	Roll Feeder Housing Details	4/18/67
	RB296	Shale Flow Meter Installation	4/7/67
	RB297	Shale Flow Meter Assembly	3/30/67
	RB298	Shale Flow Meter Details	3/30/67
	RB299	Study Apparatus for Shale Draw Down Test	3/14/67
	RB300	Drawing List-Torkelson	10/11/66
	RB301	Flow Sheet-Torkelson	10/11/66
	RB302	Spent Shale Disposal Area-Torkelson	10/11/66
	RB303	Demolition Photo-Drawing-Torkelson	10/11/66
	RB304	Demolition Photo-Drawing-Torkelson	10/11/66
	RB305	Demolition Photo-Drawing-Torkelson	10/11/66
	RB306	Crushing Plant-Weigh House-Demolition Photo-Drawing-Torkelson	10/11/66
	RB307	Photo Drawings-Torkelson	10/11/66
	RB310	Secondary Crusher Foundation-Torkelson	10/11/66
	RB311	Primary Screen Hood-Conveyor No. 1 Chute and Hood-Torkelson	10/11/66
	RB312	Hood for Universal Screen and Secondary Crusher Chute-Torkelson	10/11/66
	RB313	Dust Collection System Duct Details-Torkelson	10/11/66
	RB314	Secondary Building Dust Collection-East Section-Torkelson	10/11/66
	RB315	Secondary Building Dust Collection-West Section-Torkelson	10/11/66
	RB316	Dust Collection System Duct Details-Torkelson	10/11/66
	RB317	Dust Collection System Duct Details-Torkelson	10/11/66

File Drawer No.	Drawing No.	Title	Date
		Retort No. 3	
38 and 39	RB360	Feeder at Top of Retort-General Arrangement-Torkelson	--
	RB361	General Site Plan-Shale Waste Dump-Torkelson	--
	RB362	Anti-Segregation Device-General Arrangement-Torkelson	--
	RB363	Anti-Segregation Device-External Cone Details-Torkelson	--
	RB364	Anti-Segregation Device-Miscellaneous Details-Torkelson	--
	RB365	Anti-Segregation Device-Interior Cone Details-Torkelson	--
	RB366	Spent Shale Sampling Arrangement, Elevations-Torkelson	--
	RB367	Spent Shale Sampling Arrangement-Plans-Torkelson	--
	RB368	Piping Arrangement-Plan at El. 0' - 0"-Torkelson	--
	RB369	Piping Arrangement-South and West Elevations-Torkelson	--
	RB370	Piping Arrangement-North and East Elevations-Torkelson	--
	RB371	Piping and Structural Details at Elevation 11' - 8 3/16"-Torkelson	--
	RB372	Piping Arrangement-Plan at El. 22' - 9"-Torkelson	--
	RB373	Piping and Structural Details at El. 37' - 8 1/2"-Torkelson	--
	RB374	Liquid Product System-Flow Sheet-Torkelson	--
	RB375	Piping Arrangement-Plan at El. 54' - 0"-Torkelson	--
	RB376	Recycle Gas Header-Torkelson	--
	RB377	8" Offgas Header-Torkelson	--
	RB378	12" Offgas Header-Torkelson	--
	RB379	Header Seal Plates-Torkelson	--
	RB380	Piping Spools-Torkelson	--
	RB381	Piping Spools-Torkelson	--
	RB382	Piping Spools-Torkelson	--
	RB383	Oil Skimmer-Assembly and Details-Torkelson	--
	RB384	Air Distributor Spacing-Torkelson	--
	RB385	Spent Shale Sampling-Sampler Arrangement-Torkelson	--
	RB386	Spent Shale Sampling-Sampler Housing-Torkelson	--
	RB387	Spent Shale Sampling-Sampler Reject Chute-Torkelson	--
	RB388	Spent Shale Sampling-Splitter Housing For Eight Stage Unit-Torkelson	--

File Drawer No.	Drawing No.	Title	Date
		Retort No. 3	
38 and 39	RB389	Spent Shale Sampling-Splitter Discharge Chute-Torkelson	--
	RB390	Spent Shale Sampling-Splitter Details-Torkelson	--
	RB391	Spent Shale Sampling-Sample Reject Chutes-Torkelson	--
	RB392	Spent Shale Sampling-Elevator Feed Chute-Torkelson	--
	RB393	Spent Shale Sampling-Elevator Discharge Chute-Torkelson	--
	RB394	Multiclone Inlet Plenum-Assembly and Details-Torkelson	--
	RB395	Multiclone Outlet Plenum-Assembly and Details-Torkelson	--
	RB396	Line Burner and Air Inlet Header-Torkelson	--
	RB397	Product Storage and LACT System-Torkelson	--
	RB398	LACT System-Decanter Tank Support Details-Torkelson	--
	RB399	Air Distributor Details-Torkelson	--
	RB400	Air Distributor Details-Torkelson	--
	RB401	Decanter Tank Details-Torkelson	--
	RB402	General Arrangement-Top View-Torkelson	--
	RB403	General Arrangement-Elevation-Torkelson	--
	RB404	Plot Plan and Product Piping Arrangement-Torkelson	--
	RB405	Spent Shale Sampling Changes to Existing Splitter Chute-Torkelson	--
	RB406	Product Piping-Arrangement and Details-Torkelson	--
	RB407	Gas Sample System-Schematic-Torkelson	
	RB408	Air Distributor Revision	12/13/66
	RB409	Air Distributor Revision	1/9/67
	RB410	Air Distributor Study	2/16/67
	RB411	Air Distributor Study	2/28/67
	RB412	Air Distributor Study	3/1/67
	RB413	Recycle Gas Distributor Modification	3/3/67
	RB414	Section Divider Installation	3/8/67
	RB415	Air Inlet Damper	3/9/67
	RB416	Air Distributor Study	3/21/67
	RB417	Raw Shale Sample Splitter	3/27/67
	RB418	Raw Shale Sample Splitter-Details	3/27/67
	RB419	Air Distributor Study	3/29/67
	RB421	Air Distributor Header Installation Details	3/29/67
	RB422	Air Distributor Piping Details	3/29/67
	RB423	Liner Plate Details-Torkelson	

File Drawer No.	Drawing No.	Title	Date
		Retort No. 3	
38 and 39	RB424	Shell Penetration Details-Torkelson	--
	RB425	Shell Penetration Details-Torkelson	--
	RB426	Refractory Repairs-Torkelson	--
	RB427	Single Level Drawoff Device-Miscellaneous Details-Torkelson	--
	RB428	Single Level Drawoff Device-Miscellaneous Details-Torkelson	--
	RB429	Single Level Drawoff Device-General Arrangement-Torkelson	--
	RB430	Shell Penetrations-Auxiliary Offgas Ports-Torkelson	--
	RB431	Adjustable Feed Tube-Assembly-Torkelson	--
	RB432	Adjustable Feed Tube Details-Torkelson	--
	RB433	Structural Details of Platform at El. 37' - 8 1/2"-Torkelson	--
	RB434	Structural Changes-Bottom Section-Torkelson	--
	RB435	Blower and Precipitator-Foundation Details-Torkelson	--
	RB436	Spent Shale Slusher-Anchor Details-Torkelson	--
	RB437	Spent Shale Slusher-Foundation Details-Torkelson	--
	RB438	Spent Shale Sampling Pit-Concrete Arrangement and Details-Torkelson	--
	RB439	Spent Shale Sampling Pit-Concrete Details-Torkelson	--
	RB440	Spent Shale Sampling Pit-Screw Conveyor Truss Layout and Details-Torkelson	--
	RB441	Spent Shale Sampling Pit-"A" Frame Details-Torkelson	--
	RB442	Spent Shale Sampling Pit-Stair Details-Torkelson	--
	RB443	Spent Shale Sampling Pit-Stair Details-Torkelson	--
	RB444	Spent Shale Sampling Pit-Platform @ (+) 3'-1 7/8" Plan and Detail-Torkelson	--
	RB445	Spent Shale Sampling Pit-Platform @ (+) 3'-1 7/8" Plan and Detail-Torkelson	--
	RB446	Spent Shale Sampling Pit-Platform Framing El. (-) 0'-1 3/4"-Torkelson	--
	RB447	Spent Shale Sampling Pit-Platform Framing El. (-) 8'-8"-Torkelson	--
	RB448	Spent Shale Sampling Pit-Screw Conveyor Truss, Braces, and Details-Torkelson	--
	RB449	Spent Shale Sampling Pit-Platform Framing and Details El. (+) 16'-10 5/8"-Torkelson	--

File Drawer No.	Drawing No.	Title	Date
		Retort No. 3	
38 and 39	RB450	Shale Sample Bucket Installation	10/19/66
	RB451	Fairlead Details-Spent Shale Slusher	12/27/66
	RB452	Spent Shale Sample Splitter Details	6/21/67
	RB453	Spent Shale Sample Splitter Installation	6/21/67
	RB454	Power-One Line Diagram-Torkelson	--
	RB455	Motor Control Diagram-Torkelson	--
	RB456	Electrical Control Panels-Torkelson	--
	RB457	Control and Alarm System-Torkelson	--
	RB458	Control House Plan and Details-Torkelson	--
	RB459	Transformer and Motor Pad Details-Torkelson	--
	RB460	2000 KVA Substation Site Plan and 5 KV Power Distribution-Torkelson	--
	RB461	2000 KVA Substation Details-Torkelson	--
	RB462	Power and Lighting Plan-El. 0'0"-Torkelson	--
	RB463	Power Plan @ El. 54'-0" and 76'-0"-Torkelson	--
	RB464	2000 KVA Substation-Steel Frame Arrangement-Torkelson	--
	RB465	2000 KVA Substation-Steel Frame Details-Torkelson	--
	RB466	Instrumentation Panel and Control Panel General Arrangements-Torkelson	--
	RB467	Power Plan @ El. 0'-0"-Torkelson	--
	RB468	Thermocouple Probe-Torkelson	--
	RB469	Motor Control Diagram Slot 2-Torkelson	--
	RB470	Conduit and Wire Schedule-Torkelson	--
	RB471	Zero Speed Switch Mountain Details-Torkelson	--
	RB472	Central Control Panel-Cutouts and Details-Torkelson	--
	RB473	Central Control Panel Wiring Diagram-Torkelson	--
	RB474	Central Control Panel Wiring Diagram-Torkelson	--
	RB475	Ty-Lab Sample System-Torkelson	--
	RB477	Gamm-O-Tron and Gamm-O-Switch Details-Torkelson	--
	RB478	Instrumentation Panels-Cutouts and Details-Torkelson	--
	RB479	Electrical Plan and Details-Torkelson	--
	RB480	Product Oil Pipe Tracing-Plan and Details-Torkelson	--
	RB481	Product Oil Pipe Tracing-Details-Torkelson	--
	RB482	Piping and Instrumentation-Schematic Diagram-Torkelson	--

File Drawer No.	Drawing No.	Title	Date
		Retort No. 3	
38 and 39	RB483	Instrumentation Details-Sheet 1-Torkelson	--
	RB484	Instrumentation Details-Sheet 2-Torkelson	--
	RB485	Instrumentation Conduit-Isometric Diagram-Torkelson	--
	RB486	Instrumentation Pressure Piping Isometric-Torkelson	--
	RB487	Instrumentation Panels Wiring Diagram-Torkelson	--
	RB488	Instrument Compressed Air Schematic Diagram-Torkelson	--
	RB498	Instrument Compressed Air Piping Isometric-Torkelson	--
	RB490	Bottom Thermocouple Probe Installation	10/11/66
	RB491	Vibrator Installation-Retort Bottom Plate	2/6/67
	RB492	Thermocouple Installation	3/9/67
	RB493	Air Distributor Riser Thermocouples Details and Installation	5/22/67
	RB494	Line Burner Manifold Piping	6/9/67
	RC88	Riser Details	3/26/66
	RC132	Gas Sample System Modified	2/8/67
	RC133	Surge Pipe Installation-Spent Shale Sample Rejects	2/14/67
	RC135	Air/Gas Distributor Internals	2/23/67
	RC136	Thermocouple Details Top Probes TR1 and TR2	2/23/67
	RC137	Retort Brick Sample Locations	2/13/67
	RC138	Lower Liner Plates	4/4/67
	RC139	Shale Flow	4/11/67
	RC140	Look Box	4/20/67
	RC141	Air Header Cover	4/24/67
	RC143	Platform Revisions-Line Burner	4/27/67
	RC144	Pressure Tap Revisions	5/24/67
	RC145	Air Inlet Expansion and Orifices Assembly	6/13/67
	RC146	Cyclone Details	7/11/67
	RC147	Grating Details-Liquid Disengager	7/12/67
	RC148	Manhole Details (25" X 33")	7/11/67
	RC149	Framing Details for Grating-Liquid Disengager	7/12/67
	RC150	Hanger Details-Deck Liquid Disengager	7/12/67
	RC151	Packing Glands-Liquid Disengager	7/14/67
	RC152	Filter Cartridge Details and Assembly-Liquid Disengager	7/15/67
	RC153	Heating Tank and Cooler Details	7/17/67
	RC154	Filter Lifting Details	7/18/67

File Drawer No.	Drawing No.	Title	Date
		Retort No. 3	
38 and 39	RC155	Tank Support (Surge)	7/19/67
	RC156	Flow Sheet for Liquid Disengager	7/19/67
	RC157	Piping Diagram-Liquid Disengager	7/19/67
	RC158	Tank Details-Liquid Disengager	7/19/67
	RC159	Screen Details Type II-Liquid Disengager	7/31/67
	RC160	Screen Details Type II-Liquid Disengager	8/1/67
	RC161	Screen Trimming Type II Screen-Liquid Disengager	8/3/67
	RC162	Drawdown Chute Modification-Liquid Disengager	8/3/67
	RC163	Gas Re-engager Details-Liquid Disengager	8/14/67
	RC164	Filter Cartridge Catch Basin-Liquid Disengager	8/16/67
	RC165	Revised Flow Sheet-Liquid Disengager	8/16/67
	RC166	Assembly and Component Details	8/23/67
	RC167	Access Platform-Recycle Header	2/7/67
	RC168	Diamond Distributor Installation	5/10/67
	RD71	Liquid Level Gauger and Temperature Probe Installation	11/8/66
	RD72	Electrical Diagram-Merrick System Manual Control	12/23/66
	RD74	Adjustable Feed Tube Extension (5'-0")	1/19/67
	RD75	Mixer Additions to Raw Shale Sample Splitter	2/16/67
	RD76	Vibro-Isolator Installation Raw Shale Crusher (Sampler)	2/17/67
	RD77	Thermocouple Detail Bottom Probes TR3 and TR4	2/23/67
	RD78	Piping Diagram-Recycle Gas to Line Burner	3/23/67
	RD79	Air Distributor Revision	7/18/67
	RD80	Air Distributor Configuration Diagram	7/26/67
	RD81	Chute Modification-Liquid Disengager	8/28/67
	RE53	Air Distributor Layout	9/6/66
	RE54	Air Distributor Layout Study	9/17/66
	RE55	Hydrogen Activity Probe	9/19/66
	RE56	Recovery System	11/17/66
	RE57	Thermocouple Diagram	11/22/66
	RE58	Gas Sample Tube Installation	12/13/66
	RE59	Gasket Details for Risers	12/30/66
	RE60	Orifice Plate Details Air Inlet Header	1/16/67
	RE61	Air Distributor Spacing-54 Risers	2/8/67
	RE62	Spent Shale Surge Pipe Sample Rejects	2/14/67
	RE63	Orifice Plate Detail Recycle Gas	3/10/67
	RE64	Stub Risers-Air/Gas Distributors	3/16/67
	RE65	Single Riser Detail	3/21/67
	RE66	Air Distributor Details-48 Risers	3/22/67
	RE67	Air Distributor Details-36 Risers	3/22/67

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		Retort No. 3	
38 and 39	RE68	Air Distributor-36 Risers	4/3/67
	RE69	Air Distributor-36 Risers	4/17/67
	RE70	Block Diagram Roll Feeder	4/17/67
	RE71	Spool Pieces Vertical Probes	5/1/67
	RE72	Adapter Details	5/1/67
	RE73	Center Probe Installation	5/2/67
	RE74	Orifice Plate Detail Air Distributor Header	5/2/67
	RE75	Thermocouple Diagram	5/10/67
	RE76	Liquid Probes	5/17/67
	RE77	Air Distributor	5/22/67
	RE78	Air Distributor End Plate	6/5/67
	RE79	Air Distributor Spacing-36 Risers (Modified)	6/9/67
	RE80	Thermocouple Installation Details	6/13/67
	RE81	Air Distributor Spacing-36 Risers	6/21/67
	RE82	Air Distributor Spacing-48 Risers	6/21/67
	RE83	Air Distributor Header Box Blank	7/5/67
	RE84	36 Riser Air Header	7/6/67
	RE85	Air Distributor Spacing Two Header-36 Risers	7/7/67
	RE86	Air Distributor Spacing-41 Risers	7/30/67
	RE87	Air/Gas Distributor Shell	7/11/67
	RE88	Liquid Disengager Flow Sheet	7/18/67
	RE89	Retort Internals	7/19/67
	RE90	Air Distributor Thermocouples-36 Risers	7/20/67
	RE91	Orifice Plate Details Liquid	7/21/67
	RE92	Thermocouple Diagram	7/25/67
	RE93	Recycle Gas Distributor Configuration Diagram	7/26/67
	RE94	Air Distributor Spacing-54 Risers-Two Header	7/28/67
	RE96	No. 1 Spent Shale Screw Conveyor	8/25/67
	RE97	Spent Shale Conveyor	8/25/67
	RE101	Corner Liner Detail	5/4/67
	RE106	Koppers Electrostatic Precipitator	9/7/67
	RBSK63	Feed Belt Scale Installation Proposal	--
	RDSK85	Air/Gas Distributor Mockup Details	4/1/66
	RDSK86	Air/Gas Distributor Mockup Installation	4/1/66
	RCSK126	Access Platform to Screw Conveyor Chute	5/26/67
	RCSK127	Access Platform to Star Feeder-D.P. Cell	5/26/67
		Mechanical Models	
	RB16	Observation Tower Raw Shale Flow	9/15/64
	RB17	Observation Hopper	9/15/64
	RB18	Surge Hopper	9/17/64
	RB20	Clapper Valve	9/16/67

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		Mechanical Models	
38 and 39	RB57	Revolving Chute Continuous Flow Study	6/17/65
	RB58	Distributor Chute Continuous Flow Study	6/21/65
	RB60	Platform Details Continuous Flow Study	6/30/65
	RB61	Continuous Flow Study	6/30/65
	RB62	Conveyor Details	7/6/65
	RB67	Mechanical Model No. 2 Drawoff Details Shale Flow Study	8/25/65
	RB68	General Arrangement South and East Elevation	8/26/65
	RB69	Ore Storage Bin Support	8/26/65
	RB70	Mist Simulator Study	9/7/65
	RB76	Oil System-Mist Simulator Study	10/22/65
	RB134	Sheet No. 1 and 2-Liquid Drawoff	6/7/67
	RB231	Three Pipe Feed System	6/2/66
	RB232	Three Pipe Drawoff	6/2/66
	RB238	Mechanical Model No. 2-Revision	6/30/66
	RC16	Mechanical Model No. 1-Receiver Hopper Dolly	10/1/64
	RC19	Mechanical Model No. 1-Air Piping	11/5/64
	RC51	Distributor Hopper-Continuous Flow Study	6/14/65
	RC53	Conveyor Drive Details	7/7/65
	RC55	Storage Bin Details	7/11/65
	RC57	Conveyor Chute-Continuous Flow Study	8/26/65
	RC59	Shale Observation Box-Mist Simulation Study	9/1/65
	RC61	Filter Box-Mist Simulator Study	9/3/65
	RC62	Apparatus Mount Details	9/9/65
	RC63	Mixing Chamber-Mist Simulator Study	9/9/65
	RC64	Mechanical Model No. 2-Main Hopper Feed Chute	9/14/65
	RC66	Mechanical Model No. 2-Conveyor Chute	9/7/65
	RC67	Mechanical Model No. 2-Main Hopper Feed Chute	9/14/65
	RC73	Field Mounts for Study Apparatus	10/25/65
	RC116	Mechanical Model No. 2-Revision Details	6/29/66
	RD7	Mechanical Model No. 1 Receiver Hopper Lift	10/2/64
	RCSK42	Jib Details	6/9/65
	RDSK43	Raw Shale Loading Bucket Modification	6/21/65
	RBSK44	Raw Shale Truck Load Modification	6/17/65
	RCSK69	Installation of Mist Study Apparatus	1/14/65
	RDSK70	Mist Study Apparatus	1/16/65
	RDSK97	Mist Study Vessel Relocation	6/9/66
	RCSK100	14" Conveyor Detail	6/30/66

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		Mine	
38 and 39	RB26	Portion of U. S. Bureau of Mines Drawing No. 20-10-K	11/27/64
	RB72	Contour Map	10/4/65
	RB108	Foundation for Mine Air Compressor	5/5/65
	RB113	Remodeling Floor Plan Mine Warehouse Office	5/23/66
	RB114	Mechanical Equipment-Floor Plan Mine Warehouse and Office	5/23/66
	RB115	Electrical Equipment-Floor Plan Mine Warehouse and Office	5/23/66
	RB116	Remodeling Floor Plan Change House	5/23/66
	RB117	Mechanical Equipment Floor Plan Change House	5/23/66
	RB118	Remodeling Floor Plan Mine Garage	5/23/66
	RB119	Mechanical and Electrical Floor Plan Mine Garage	5/23/66
	RB120	Specifications Rehabilitation of Mine Buildings	5/23/66
	RB121	Outrigger Installation Industrial Monkey	3/20/67
	RB220	Mine Drawing 1	1/6/67
	RB221	Mine Drawing 2	1/6/67
	RB222	Mine Drawing 3	1/6/67
	RB223	Mine Drawing 4	1/6/67
	RB224	Mine Drawing 5	1/6/67
	RB225	Mine Drawing 6	1/6/67
	RB226	Pump Receptacle and Outrigger Guard	8/4/67
	RB244	Bin Modification Details	7/28/66
	RB245	Grizzly Gate Details	7/28/66
	RB246	Bottom Grizzly Chute Detail	7/28/66
	RB247	+0'-6" Level Grizzly Detail	7/28/66
	RB248	+1'-0" Level Grizzly Detail	7/28/66
	RB249	+2'-0" Level Grizzly Detail	7/29/66
	RB250	+4'-0" Level Grizzly Detail	7/29/66
	RB254	Support Steel Details	8/4/66
	RB255	Support Steel Erection Details	8/4/66
	RC78	Main Cylinder Details Industrial Monkey	11/25/66
	RC83	Preliminary Plan Showing Location of Instruments to be Installed During Stage II	3/9/66
	RC93	Instructions for Installing Photoelastic Gauges in NX Size Boreholes	4/27/66
	RC127	Ventilation Adit Fan Installation	9/12/66
	RC169	Typical Layout of 84,000 T/D Oil Shale Mine	10/27/67
	RD21	Diagram Water Piping Arrangement for 15½ / 9½ X 7 "Y" Type Air Compressor	2/22/65

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		Mine	
38 and 39	RE17	Electric Conduit Junction Box	2/22/65
	RE18	Compressor Control Installation and Wiring	2/22/65
	RE98	Standard Heading Round	8/28/67
	RE99	Loading Diagram	8/29/67
	RE100	Drilling Diagram	8/29/67
	RE104	Drill System	9/5/67
	RE105	Feed System	9/5/67
	RCSK8	Skid Base for Compressor	2/16/65
	RBSK9	8 X 7 Compressor General Management	2/19/65
	RBSK10	Air Recovery and Water Storage Tanks	2/19/65
	RBSK11	Assembly Jumbo Drill Rig Modification	2/22/65
	RBSK12	Details Jumbo Drill Rig Modification	2/22/65
	RESK13	Blasting Cable Hangers	2/3/65
	RESK14	Traverse Face Hole Bore Location	3/5/65
	RESK15	Water Supply Tank-Truck Scrubber	3/12/65
	RDSK16	Water Supply Tank-Truck Scrubber	3/12/65
	RDSK17	Water Supply Tank-Truck Scrubber	3/12/65
	RDSK19	Tank Cradle Water Tank Dart Scrubber	3/15/65
	RCSK20	Scrubber Installation Dart Truck	3/10/65
	RCSK21	Scrubber Installation Utility Vehicles	3/12/65
	RCSK23	Pump Installation Water Tanks	3/17/65
	RESK25	Drill Round for 20' X 60' Heading	3/18/65
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	RCSK27	Scrubber Installation Mine Utility Truck	3/16/65
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IV. Transmittal of Raw Data from the Initial Program to the U. S. Bureau of Mines

In accordance with the Lease Agreement under Appendix I, Article III, Section 5, Confidentiality; Publication, the U. S. Bureau of Mines had the right to station observers at the Anvil Points facilities. The observers had the right to inspect and observe the work under any project, receive any samples if available, and request data and technical information obtained in such projects provided no interpretation or evaluation was included. The observers had the right to make copies of the data and information so supplied and to remove these copies and the samples provided from the Anvil Points facilities. In addition pertinent data and information which was produced as an integral part of a project but at locations other than Anvil Points was subject to disclosure.

At the very beginning of the Initial Program, the U. S. Bureau of Mines stationed observers at the facilities. A system of data transmittal was established in a meeting held July 17, 1964 with Bureau observers present. The following system was initiated and maintained through the end of the Initial Program.

1. Locked files were provided so that Participating Party personnel only would have access to all data.

2. The observers established the kind of data they wished to receive on a regular basis.

3. A system of bound pre-numbered log books were obtained from Mobil's Technical Information Group. These books were set up to log raw data that was transmitted to the Bureau observers. All data received was signed for by a Bureau observer and the date received indicated. The following log books were used and the data contained as indicated:

   a. Book No. 7706 - Working drawings of Retort, Crusher, Mine, Mechanical Models, Analytical, and Plant area.

   b. Three books numbered 7707, 8248, and P4 - Analytical raw data.

   c. Two books numbered 7705 and P3 - Retort raw data.

   d. Book number P50 - Mine raw data

   e. Book number P135 - Miscellaneous raw data - mist study, bench scale, corrosion study, and crushing study data.

   These log books are filed under Administration Correspondence File 108.06.02.

4. The system was established in a manner to provide the observers data on a regular basis so that they could be kept up to date and at the same time did not interfere with the program.

5. The observers were provided with two copies of all data requested. All copies were made by Participating Party personnel with the cost of reproducing these copies paid by the U. S. Bureau of Mines.

6. Occasionally the observers made special requests for certain raw data. The requests for these data and the receipt of the data are filed in Administration Correspondence File 108.06.02

At the completion of the Initial Program operations on September 15, 1967 the observers provided a list of raw data not previously requested during the program. All data requested by the Bureau observers have now been transmitted to them.

Data was transmitted to designated personnel from all the Participating Parties on a regular basis. Transmittal letters for these data are filed in Administration Correspondence File Index 108.06.01.