

# Cominco American, Inc., Douglas Mine and Concentrator Records, 1957-1976

## Overview of the Collection

<b>Creator</b>	Cominco American, Inc.
<b>Title</b>	Cominco American, Inc., Douglas Mine and Concentrator Records
<b>Dates</b>	1957-1976 (inclusive) 1957 1976
<b>Quantity</b>	13.0 linear feet
<b>Collection Number</b>	Mss 614
<b>Summary</b>	The Douglas Mine and Concentrator operated in Granite County, Montana from 1964-1968 under the ownership of the Montana Phosphate Products Company and later Cominco American, Inc. The records contain material related to the development, operation and dismantling of the mine and concentrator, as well as several maps and engineering drawings illustrating the Douglas Operation and other nearby mines owned by these same companies.
<b>Repository</b>	<a href="#">University of Montana, Mansfield Library, Archives and Special Collections</a> Archives and Special Collections Maureen and Mike Mansfield Library University of Montana 32 Campus Dr. #9936 59812-9936 Missoula, MT Telephone: 406-243-2053 Fax: 406-243-4067 <a href="mailto:library.archives@umontana.edu">library.archives@umontana.edu</a>
<b>Access Restrictions</b>	Researchers must use collection in accordance with the policies of Archives and Special Collections, the Maureen and Mike Mansfield Library, and The University of Montana--Missoula.
<b>Languages</b>	English
<b>Sponsor</b>	Funding for creating this finding aid was provided through a grant awarded by the National Historic Publications and Records Commission. Funding for encoding this finding aid was provided through a grant awarded by the National Endowment for the Humanities.

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## Historical Note

In 1962 the Montana Phosphate Products Company, based in Garrison, Montana, began a significant phosphate mining and milling project in the Maxville Mining District of Granite County, Montana. In addition to the potential profit for the company, it was hoped that the exploitation of area phosphate deposits would boost the region's economy. The Douglas Mine and Concentrator located nine miles south of Drummond, Montana on Douglas Creek were a major part of this development. Montana

Phosphate Products Company began underground mining at this location in 1962. By 1964 the mine employed approximately 110 workers and was steadily producing phosphate rock.

The advent of phosphate mining in Granite County during the early 1960s perked the interest of other significant firms, particularly Cominco American, Inc., the American branch of a large Canadian mining and smelting corporation. Cominco had been mining in adjacent Powell County, Montana for years, sometimes in partnership with Montana Phosphate Products Company, and saw the expanding Douglas Operation as a natural addition to its holdings. In 1965, Cominco American, Inc. gained control of the Douglas Mine and continued to expand operations at that location. The Douglas Concentrator began milling phosphate rock in 1965, and Cominco started one of Montana's few open pit phosphate mines on their Douglas Creek site in 1967. During these years of steady expansion, production peaked and the operation employed nearly 160 men and women.

Despite promising production and heavy investment by both Montana Phosphate Products Company and Cominco American, Inc., the operation was closed down in 1968. In 1972, Cominco American, Inc. hired the Bechtel Corporation to dismantle the Douglas Concentrator and send all salvageable equipment to Greenland for use in a mine operated by Greenex, a subsidiary of Cominco. Sections of the mine and tailings at the Douglas site have since been reclaimed by the Montana Waste Cleanup Bureau, while other portions remain on the Montana DEQ shortlist, and may require further reclamation.

## Content Description

This collection contains materials related to the development, operation and dismantling of the Douglas Mine and Concentrator, located in Granite County, Montana, by the Montana Phosphate Products Company and Cominco American, Inc. during the 1960s and early 1970s. The records offers insight into mining philosophies and trends of that time, as well as providing information on the day-to-day operations of a phosphate mine and milling operation in Western Montana.

Series I, Mine and Concentrator Development, contains materials related to the development of the Douglas Operation by the Montana Phosphate Products Company, and later Cominco American, Inc., beginning in 1962 and extending into mid-1960s. Included are cost quotations and advertisements for various mining and milling equipment, engineering drawings, construction specifications, cost projections and other materials. This series gives an overview of state-of-the-art phosphate mining technologies in the 1960s, as well as the amount of financial investment and work necessary to undertake such a mining project.

Series II, Mine and Concentrator Operations, contains daily and monthly reports, maintenance schedules, studies, correspondence, financial calculations, and other miscellaneous materials created by the Montana Phosphate Products Company and Cominco American, Inc. during the operation of the Douglas Mine and Concentrator from 1962-1968. This material provides a look into the day-to-day operations of a phosphate mine and concentrator operating in Western Montana during the 1960s.

Series III, Concentrator Dismantling, contains correspondence and daily reports, as well as other miscellaneous material related to the dismantling of the Douglas Concentrator in 1972. This action was authorized by Cominco American, Inc. and carried out by the Bechtel Corporation. The series is representative of how Cominco American, Inc. was able to salvage much of the equipment at its Douglas Creek location for use in another mining project in Greenland.

Series IV, Maps and Drawings, contains numerous oversized maps and drawings depicting the Douglas Operation and other Montana Phosphate Products Company and Cominco American, Inc. mines in the region, including the Anderson (Warm Springs), Brock, Luke, and Relyea Mines.

The materials range in subject from underground mines to dam cross-sections to construction specifications.

## Use of the Collection

### Restrictions on Use

Researchers are responsible for using in accordance with 17 U.S.C. and any other applicable statutes. Copyright not transferred to The University of Montana. Copyright status unknown.

### Preferred Citation

[Name of document or photograph number], Cominco American, Inc., Douglas Mine and Concentrator Records, Archives and Special Collections, Maureen and Mike Mansfield Library, The University of Montana--Missoula.

## Administrative Information

### Arrangement

Series I: Mine and Concentrator Development, 2.25 linear feet, 1962-1966 and undated

Series II: Mine and Concentrator Operations, 8.0 linear feet, 1957-1968 and undated

Series III: Concentrator Dismantling, 0.5 linear feet, 1972

Series IV: Maps and Drawings, 2.25 linear feet, 1961-1976 and undated

### Acquisition Information

These records were found at the mine site and given to the K. Ross Toole Archives by an unknown donor in the mid-1980s.

### Processing Note

The materials in this collection were maintained in their original order as closely as possible during processing. In general, originally foldered materials were placed in new folders and labeled with original folder titles. Loose materials were either integrated or placed in new folders, which were then titled by subject. In Series I, a strict grouping system was in place prior to processing. All loose materials belonging in this series, but which did not fit with any of the preexisting folder titles were placed immediately after the prearranged materials and organized alphabetically. A group of miscellaneous folded drawings from the mine and concentrator development were placed at the end of this series. In Series II, reports were placed in appropriately labeled folders, and arranged by type at the beginning of the series. Materials in this series originally held in folders grouped loosely by subject were maintained in their original order and placed immediately after the reports. Other miscellaneous loose materials were foldered by subject and arranged alphabetically at the end of this series. Materials in Series III remain in their exact original order, but were placed in new folders. The oversized maps and drawings in Series IV were grouped by subject and housed together in rolled material storage cases.

# Detailed Description of the Collection

## Series I: Mine and Concentrator Development, 1962-1966

Container(s)	Description	Dates
Box/Folder		
1/1	Grinding, Electric Motor	1962
1/2	Grinding, Flotation Machines	1962-1965
1/3	Filtering, Thickeners	1962
1/4	Filtering, Thickeners, EIMCO Corporation	1962-1966
1/5	Filtering, Albany Felt Company	1964-1965
1/6	Filtering, AMETEK Filtration Fabrics	1963-1964
1/7	Drying	1962-1965
1/8	Drying, Dorrco Fluosolids Drying System, Dorr-Oliver, Inc.,	1963
1/9	Drying, Dryers, Dorr-Oliver Inc.	1962-1965
1/10	Drying, Dryers, Refractory and Insulation	1963 and undated
1/11	Drying, Dust Collecting	1964-1965
1/12	Loading, General	1962-1964
1/13	Loading, Air Slides and Loading Chutes	1963
1/14	Loading, Bucket Elevators	1963
1/15	Loading, Car Movers	1963
2/1	Loading, Car Movers, Northern Pacific Railway	1962-1963
2/2	Loading, Elevators, Link Belt Company	1963-1965

<b>Container(s)</b>	<b>Description</b>	<b>Dates</b>
2/3	Loading, Weightometer Conveyors	1962
2/4	Loading, Weightometer Conveyors, Fuller Company	1962-1963
2/5	Loading, Weightometer Conveyors, Sutorbuilt Corporation	1963
2/6	Tailings, Disposal	1962-1964
2/7	Tailings, Thickener, EIMCO Corporation	1963-1964
2/8	Pumps, General	1962-1964
2/9	Pumps, Denver Equipment Company	1962-1965
3/1	Pumps, Galigher Company	1962-1965
3/2	Piping	1963-1966
3/3	Valves and Sumps	1963-1964
3/4	Instruments, General	1962-1963
3/5	Instruments, Automatic Timing & Controls, Inc.	1963
3/6	Instruments, Bailey Meter Company	1963 and undated
3/7	Instruments, Beckman Instruments, Inc.	1963-1964
3/8	Instruments, Foxboro Company	1962
3/9	Instruments, Motor Control Centers	1962-1963
3/10	Instruments, Taylor Instrument Companies	1962-1964
3/11	Instruments, Temperature Control	1963-1964
3/12	Plant Air System	1963
4/1	Drives, General	1962
4/2	Drives, General	1962-1963

<b>Container(s)</b>	<b>Description</b>	<b>Dates</b>
4/3	Laboratory Equipment	1963-1964
4/4	Laboratory Equipment	1963-1964
4/5	Cranes	1963
4/6	Cranes, Harnischfeger Corporation	1962-1963
4/7	General and Miscellaneous	1962-1965
4/8	Concentrator Construction Specifications	undated
4/9	Cost Predictions	undated
4/10	Douglas Creek Tailings Dam Testing	1964
4/11	Electronic Controls	1963
4/12	Field Notebook entitled "6315 Plant Control & Ties"	undated
4/13	Fire Protection	1962 and undated
5/1	Gas and Burners	1963 and undated
5/2	Ground and Soil Data	1963 and undated
5/3	Invoices from Kaiser Engineers	1964-1965
5/4	Miscellaneous Equipment Quotations	1962-1963
5/5	Painting	1963
5/6	Process Equipment to be Purchased by Owner	1963
5/7	Water Heaters, Cooley Company	1963-1964
5/8	Western Knapp Engineering Company, Monthly Job Cost Report	1963

Container(s)	Description	Dates
5/9	Western Knapp Engineering Company, Requests for Quotations	1962-1963
5/10	List of 815 Original Plant Series Drawings	undated
5/11	Miscellaneous Drawings	1963-1964
5/12	Miscellaneous Drawings	1958-1964

## Series II: Mine and Concentrator Operations, 1957-1968

Container(s)	Description	Dates
<b>Box</b>		
OS1	Douglas Mine Underground Daily Reports	1966
OS2	Douglas Mine Underground Daily Reports	1967
OS2	Douglas Mine Underground Daily Reports	1968
<b>Box/Folder</b>		
5/13	Douglas Mine Drilling and Loading Reports for Locations 5213C-5312	1966-1967
5/14	Douglas Mine Drilling and Loading Reports for Locations 5313B-5319B,	1966-1967
6/1	Douglas Mine Drilling and Loading Reports for Locations 5407-5419C,	1966-1967
6/2	Douglas Mine Drilling and Loading Reports for Locations 5505C-5517C,	1966-1968
6/3	Douglas Mine Drilling and Loading Reports for Locations 5519B-5813,	1966-1968
6/4	Douglas Mine Production Reports	1964-1965
6/5	Douglas Mine Daily Underground Time Sheets	1967

<b>Container(s)</b>	<b>Description</b>	<b>Dates</b>
6/6	Douglas Mine Daily Underground Time Sheets	1967
6/7	Douglas Mine Daily Underground Time Sheets	1967
6/8	Douglas Concentrator Daily Assay Reports	1964
6/9	Douglas Concentrator Daily Assay Reports	1964
6/10	Douglas Concentrator Daily Assay Reports	1965
7/1	Douglas Concentrator Daily Assay Reports	1965
7/2	Douglas Concentrator Daily Assay Reports	1965
7/3	Douglas Concentrator Daily Assay Reports	1965
7/4	Douglas Concentrator Daily Assay Reports	1965
7/5	Douglas Concentrator Daily Assay Reports	1965
7/6	Douglas Concentrator Daily Assay Reports	1965
7/7	Douglas Concentrator Daily Assay Reports	1965
7/8	Douglas Concentrator Daily Assay Reports	1966
7/9	Douglas Concentrator Daily Assay Reports	1966
7/10	Douglas Concentrator Daily Assay Reports	1966
7/11	Douglas Concentrator Daily Assay Reports	1966
8/1	Daily Concentrator Reports	1964
8/2	Daily Concentrator Reports	1964
8/3	Daily Concentrator Reports	1965
8/4	Daily Concentrator Reports	1965
8/5	Daily Concentrator Reports	1965



<b>Container(s)</b>	<b>Description</b>	<b>Dates</b>
8/6	Daily Concentrator Reports	1965
8/7	Concentrator Daily Plant Service Reports	1966
8/8	Concentrator Daily Plant Service Reports	1966
8/9	Concentrator Daily Plant Service Reports	1966
8/10	Concentrator Daily Plant Service Reports	1966
8/11	Concentrator Monthly Reports	1964-1966
9/1	Douglas Operation Feeder and Crusher Daily Reports	1966
9/2	Douglas Operation Feeder and Crusher Daily Reports	1966
9/3	Douglas Operation Feeder and Crusher Daily Reports	1966
9/4	Douglas Operation Feeder and Crusher Daily Reports	1966
9/5	Filter Bag Reports	1965-1966
9/6	Concentrator Daily Grinding and Flotation Report	undated
9/7	Reports on Wet Tons Delivered to Coarse Ore Bin	1964-1967
9/8	Ore Storage Silo Inventories	1968
9/9	Monthly Maintenance Reports	1967-1968 and undated
9/10	Equipment Maintenance Schedule Cards	undated
9/11	Equipment Maintenance Schedule Cards	undated
9/12	Equipment Maintenance Schedule Cards	undated
10/1	Douglas Concentrator Maintenance Backlog	1965 and undated
10/2	High Voltage Breaker Maintenance Check-off Sheet	1966

<b>Container(s)</b>	<b>Description</b>	<b>Dates</b>
10/3	Maintenance Department, Miscellaneous Material	1967-1968 and undated
10/4	Miscellaneous Maintenance Manuals	undated
10/5	Concentrator Cost Calculations	1965 and undated
10/6	Cost and Variance Statements	1965
10/7	Economic Design and Calculations	1965 and undated
10/8	Mine Operation Cost Calculations	1965
10/9	Specific Gravity Samples of Douglas Ore	1965
10/10	Metallurgy Studies	1965-1966
10/11	Atomic Absorption Analysis	1966
10/12	Fatty Acid Saponification	1966
10/13	Plant Water Supply Studies	1966
10/14	Sink-Float and Floatation Testing on Phosphate Rock	1966
10/15	Emergency Tailings Thickeners	1967
10/16	System for Testing the Moisture and Content of Phosphate Rock	1967
10/17	Concentrator Operation Manuals and Instructions	undated
10/18	Forms to Accompany Concrete Cylinders, Montana State Highway Department	1966
10/19	Labor and Related Expenses	1966-1968 and undated
10/20	Mine and Mill Code Sheets	undated
10/21	Painting Agreement	1968

Container(s)	Description	Dates
10/22	Purchasing and Warehousing	1967-1968
10/23	Quotations and Information on Compressed Air Drying and Cleaning Equipment	1968
10/24	Various Publications	1966
11/1	Water and Power Information	1957-1967 and undated
11/2	Weekly Contract Summary	1963-1965
11/3	Work Order 225, Revision of Mine Bunker at Douglas Mine	1968
11/4	Miscellaneous Correspondence	1964-1968
11/5	Miscellaneous Meeting Minutes and Reports	1966 and undated

### Series III: Concentrator Dismantling, 1972

Container(s)	Description	Dates
<b>Box/Folder</b>		
11/6	Incoming to Construction from other Departments	1972
11/7	Outgoing from Field to Engineering	1972
11/8	Incoming from Engineering	1972
11/9	Incoming Engineering from other Departments	1972
11/10	Incoming from Purchasing to Field	1972
11/11	Requisition Register	1972
11/12	Incoming from Purchasing to other Departments	1972
11/13	Outgoing to Estimating from Field	1972
11/14	Code of Accounts	1972

<b>Container(s)</b>	<b>Description</b>	<b>Dates</b>
11/15	Incoming from Planning and Scheduling to Field	1972
11/16	Detailed Engineering and Construction Schedule	1972
11/17	Incoming from Labor Relations to Field	1972
11/18	Outgoing to Labor Relations from Field	1972
11/19	Outgoing from Equipment Department	1972
11/20	Outgoing from Engineering to Client	1972
11/21	Conference Notes between Home Office and Client	1972
11/22	Monthly Construction Progress Report	1972
11/23	Critical Crafts Report	1972
11/24	Weekly Construction Activities	1972
11/25	Force Report	1972
11/26	Labor and Safety Report	1972
11/27	Historical Report for Job 10090	1972
11/28	Tools	1972
11/29	Equipment, Miscellaneous Correspondence	1972
11/30	Incoming from Vendors to Field	1972
11/31	Outgoing to Vendors from Field	1972
11/32	Daily Reading File	1972

#### **Series IV: Maps and Drawings, 1961-1976 and undated**

Container(s)	Description	Dates
Case-row:Tube		
1/1:1	Douglas Mine, Ore Extraction Cross-sections	1966
1/1:2	Douglas Mine, Proposed "A" Cross-section and Road, 1 Sheet	1968
1/1:2	Douglas Mine, Proposed B-North Development, 4 Sheets	undated
1/1:2	Douglas Mine, Chute Cutouts for 5201C, 2 Sheets	undated
1/1:2	Douglas Mine, Proposed C-South Development, 2 Sheets	undated
1/1:3	Douglas Mine Phosphate Ore Reserves, 1 Sheet	undated
1/1:3	Douglas Mine, Additions and Raises, 9 Sheets	1963-1968
1/1:4	Douglas Mine, D-Bed Strip Mining Cross-sections, 19 Sheets	undated
1/1:4	Douglas Mine, D Stockpile Open Pit Mining Cross-sections, 4 Sheets,	undated
1/1:4	Douglas Mine, Canal Base Line Survey, 1 Sheet	undated
1/1:4	Douglas Mine, Drift and Tunnel Locations and Elevations, 9 Sheets,	Undated
1/2:1	Douglas Mill Drawings and Specifications, 4 Sheets	1966
1/2:1	Douglas Mill Construction Drawings	1962-1963
1/2:2	Douglas Mill Construction Drawings	1962-1963
1/2:3	Douglas Mill Construction Drawings	1963
1/2:4	Douglas Mill Boiler-Steam Complex Construction Drawings	1963
1/3:1	Douglas Mine, Tailings Capacity, 2 Sheets	1963
1/3:1	Douglas Mine, Tailings Plans, 11 Sheets	1963-1964
1/3:1	Douglas Operation, Cross-sections of Tailing Pond, 1 Sheet	1966

Container(s)	Description	Dates
1/3:2	Douglas Creek Tailings and Diversion Dam	1963
1/3:2	Douglas Operation Tailings Pond, 4 Sheets	1961-1963 and undated
1/3:3	Douglas Mine, Tailings Pond, 21 Sheets	1963-1964 and undated
1/3:4	Douglas Mine, Tailings "Pond B" Cross-sections, 2 Sheets	undated
1/3:4	Douglas Mine, Tailings Pond	undated
1/4:1	Douglas Mine, Tailings Pond, 4 drawings	1963 and undated
1/4:1	Cross-section Douglas Tailings Dam, Stage 1, Rocky Mountain Construction, 1 Sheet	1963
1/4:1	Cross-section Douglas Tailings Dam, Stage 1, Rocky Mountain Construction, 1 Sheet	1964
1/4:2	Douglas Creek Dam Cross-sections, 2 Sheets	undated
1/4:2	Douglas Creek Dam Cross-sections, 1 Sheet	undated
1/4:2	Douglas Mine, Miscellaneous Dam Cross-sections, 3 Sheets	undated
1/4:3	Douglas Mine, Main Dam Drawings, 4 Sheets	undated
1/4:3	Water Supply Storage Dam, 3 Sheets	1963
1/4:4	Douglas Mine, Proposed Access Roads and Elevations, 4 Sheets	1967
1/4:4	Northern Pacific Railway, Prod Tracking to serve Douglas Mine, 1 Sheet,	1962
1/4:4	Douglas Mill, Cross-section of Proposed Railway Grade, 1 Sheet	1963
2/5:1	Douglas Operation, Miscellaneous Cross-sections, 18 Sheets	undated
2/5:1	Tonnage/Cost Budgetary Chart, 1 Sheet	1966-1967

Container(s)	Description	Dates
2/5:2	Willow Creek Storage Dam, USDA	undated
2/5:3	Willow Creek Storage Dam, USDA Soil Conservation, 1 Sheets	undated
2/5:3	Anderson, Brock and Relyea Mines, 1 Sheet	1961
2/5:3	Brock Mine, 4 Sheets	1966-1975
2/5:3	Dunkelberg Mine, Sheet	1965
2/5:4	South Luke Mine, 1 Sheet	1976
2/5:4	Warm Springs (Anderson) Mine, Sheet	1973
2/5:4	South Warm Springs (Anderson) Mine, 2 Sheets	1975

## Find Related Collections

### Subject Terms :

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[Mining corporations--Montana](#)

[Phosphate mines and mining--Montana--Granite County](#)

### Other Creators :

#### Corporate Names :

[Montana Phosphate Products Company](#)