



3 0307 00007 5559

This document is made available electronically by the Minnesota Legislative Reference Library
as part of an ongoing digital archiving project. <http://www.leg.state.mn.us/lrl/lrl.asp>

Chap. 100
781507
PCA

RESERVE MINING COMPANY

MILEPOST 7 PROJECT

CONSTRUCTION STATUS

AND

PROGRESS ANALYSIS REPORT

PHASE II

REPORT I

(MARCH)

TD
899
.M5
P8x
v. 1

**Pullman Torkelson Co.**

A Subsidiary of Pullman Incorporated



RESERVE MINING COMPANY

MILEPOST 7 PROJECT

CONSTRUCTION STATUS AND PROGRESS ANALYSIS REPORT

PHASE II REPORT I (MARCH)

<u>SECTION</u>	<u>TITLE</u>	<u>PAGE NO.</u>
I.	SUMMARY	1
II.	KAISER DESIGN ENGINEERING	3
III.	STATUS OF PROJECT PROCUREMENT PERFORMANCE	5
IV.	CONSTRUCTION STATUS	12
V.	SARGENT & LUNDY REPORT NO. 8	14
VI.	EXHIBITS	
	1. Kaiser Engineer's Drawing Status Report	
	2. Design Progress Schedule	
	3. Design and Drawing Report	

I. SUMMARY

This is the first of the Phase II reports that will be used to highlight the critical areas in the design, procurement and construction effort on the Milepost 7 project. All of the Phase II reports will be numbered chronologically with this report, which covers the month of March, being Phase II - No. 1. The Phase I report, dated May 1978, recapped the information received for the month of February and included several categories that will not be covered in this report. We will follow with another Phase II review which will cover the month of April and we will then be current. The subsequent reports will be issued on a regular monthly basis and will not have the delay that was apparent in the May report, in that they will be issued directly from here without having the number of approvals that were required for the Phase I report.

A brief overview of the reports indicate the following:

- A. It is apparent from a comparison of the monthly reports reviewed thus far that there has been a considerable change in the schedule that is not explained. We cannot comment until the new CPM, which is scheduled for completion by the end of June is available. At that time an adequate baseline can be established.
- B. The design effort shows two major problems at this time; the piping design and instrumentation being completed by Kaiser. These areas seem to be falling further behind schedule as can



be seen by the more detailed report that follows. The electrical design progress has improved but is still behind schedule and should be closely checked.

- C. On the Sargent & Lundy Report we have no reason to doubt the progress shown but we have no way of evaluating their actual performance in that we do not know the number of drawings required or the number completed at this time.
- D. The Procurement Schedule and Status Report has undergone a lot of change in dates for which there is no apparent reason. An explanation for these changes should be requested. There are many items listed that do not have any information given and they cannot be evaluated. The detailed report shows some definite trends, particularly the increase in the number of items showing negative slack. Only a new CPM can reveal if this is just an adjustment to a new schedule or an adverse trend.
- E. In the Construction Report only two areas require attention: steel construction in the dry cobbing area has not yet commenced, and the tailing pipeline and road grading is now behind the late start schedule. It is expected that there will be an improvement shown in the construction activities with the improving weather conditions that can be expected at this time of year.

II. KAISER DESIGN ENGINEERING

It can be seen from Kaiser Engineer's Drawing Status Report (Exhibit A) that engineering drawings are approximately 44% complete for the total drawing package. This is a net change of 5.3% from the previous report. The equivalent percent complete for the various disciplines is also listed on the Drawing Status Report.

The following is a comparison of the reported percent complete versus the scheduled percent complete by discipline.

<u>Discipline Dwgs.</u>	<u>Reported Eqv. % Complete</u>	<u>Scheduled % Complete</u>	<u>Difference</u>	<u>% Var. Based on Last Month</u>
Structural	56.1	61	-4.9	-5.5
Architectural	65.2	60	+5.2	-1.9
Mechanical	87.8	90	-2.2	+2.6
Civil	68.0	75	-7.0	-0.7
Piping	42.1	52	-9.9	-0.1
H & V	39.8	55	-15.2	-5.0
Electrical	29.4	31	-1.6	+0.7
Instrumentation	35	43	-8.0	-5.8

Only the Architectural discipline is ahead of schedule. All other disciplines are behind in varying degrees. The H & V discipline has the most significant deviation from the planned percent complete. Exhibit B, Design Progress Schedule, indicates total design as 46% complete versus 47% scheduled. However, this is calculated on a weighted manhour

III. STATUS OF PROJECT PROCUREMENT PERFORMANCE

The PSSR requires input of more complete and accurate information. Dates in various columns have changed a great deal without any apparent reason. In many cases forecast dates and computer dates that were on previous reports have been eliminated on the March report.

PTC was told in February 1978 that the PSSR was undergoing a major review to ensure completeness and accuracy. This has not occurred to the degree desired.

We are aware that the CPM is undergoing a major review and the resulting construction schedule may effect the information reported on the PSSR. However, all of the discrepancies on the PSSR cannot be attributed to this cause.

A. Improvements/Discrepancies in Procurement Performance

The following table gives a breakdown of the number of line items that show negative slack on the March PSSR as compared to the February PSSR.

It should be noted that the PSSR for February and March are dated March 15, 1978 and April 14, 1978 respectively.

It should be noted that an increase in the number of line items showing slip has occurred in many areas.

PTC is aware that some of the purchase orders have been broken down from one large purchase order to two or more smaller purchase orders on the PSSR due to the fact that all of one type of equipment

is not required on site at the same time. However, this does not account for the increase in all cases.

NUMBER OF LINE ITEMS SHOWING NEGATIVE SLACK								
AREA	Days of Negative Slack							
	7-30 Feb. Mar.		31-90 Feb. Mar.		Over 90 Feb. Mar.		TOTAL Feb. Mar.	
161	2	2	12	11	10	4	24	17
170	10	3	6	3	7	4	23	10
171	9	1	11	4	6	5	26	10
240	3	0	5	2	1	0	9	2
290	7	4	6	9	2	7	15	20
291	3	4	5	4	2	3	10	11
292	1	2	3	1	0	0	4	3
293	4	0	1	2	4	10	9	12
TOTAL	39	16	49	36	32	33	120	85

It is felt by PTC that the PSSR is not being updated properly, that dates are being changed to coincide with the work performed rather than indicating performance measured against a set schedule.

B. Critique of Each Column of the PSSR

Rather than analyze each line item that shows a negative slack on the PSSR, a comment and example of discrepancies common to several line items under each column of the Schedule and Control Section of the PSSR has been made.

1. Specification Approval Date Column

- (a) 161-241 -- On earlier PSSR's the event was shown as F 12 Dec 1977. On a later PSSR it was changed to F 27 Mar 1978. On the March Report it has been changed again to F 14 Apr 1978. The March PSSR indicates this event is not behind schedule when in fact the original schedule was missed by four months. Other examples of this nature are line items 161-251, 161-344, 161-363, 161-460, 170-006A through 170-006D, 170-007A through 170-007D, 170-023A and 170-024A.
- (b) No information provided: 161-001G, 161-001GM, 161-001M, 161-256 and 161-267.

2. Bid Receipt Column

- (a) The PSSR indicates no bids were received on dates required. Example line items 161-253, 170-021Z, 170-035A through 170-035F.
- (b) Line item 161-359 -- The PSSR of February shows a Bid Receipt of A 21 Feb 1978 while the March PSSR shows a A 16 Mar 1978. Which is correct? Line item 291-131 shows similar discrepancy.

3. Issue Recommendations for Purchase Column

The date the Recommendation for Purchase is issued should be shown on the PSSR. If this event date is not applicable an N/A should be inserted in the space on the PSSR.

4. Purchase Award Date Column

- (a) Line Item 170-137A -- The Recommendation for Purchase was issued A 27 Dec 77. The Purchase Order has not yet been awarded and the PSSR shows a 91 day slip. Recommend Purchase Order be awarded.
- (b) Line Item 161-231 -- Comparing the reports for February and March there has been a 37 day improvement in the purchase order award and a slip of 15 days in the release for fabrication.

5. Vendor Drawing Column

A vendor should be able to provide a date when he will provide his drawings for approval and this date should be on the PSSR. If no drawings are required N/A should be shown on the PSSR.

6. Release for Fabrication Column

- (a) A Release for Fabrication should be a forecastable event providing the information in the preceeding columns is provided.

- (b) A Release for Fabrication was shown on previous PSSR, either computer date or a forecast date; however, this date has been removed on the March PSSR as per Line Item 171-370.
- (c) Release for Fabrication should be shown, either a computer date or a forecast date at least for all line items that have had the Purchase Order awarded.

7. Ship from Plant Column

- (a) Many dates shown on the previous PSSR's have been removed from the March PSSR.
- (b) Line items that have had the Purchase Order awarded should be able to show a forecast date.

8. Arrive at Site Column

Understandably the date an item arrives on site depends on schedules of the carrier and may vary from the date shown on the PSSR.

9. Required at Site Column

- (a) Line Items 161-270AM and 161-270BM -- These line items show a Required on Site date of 5 May 78 yet no procurement action has started.
- (b) Many Required on Site dates have changed. This is understandable due to the CPM being updated. However, dates that have changed as much as 181 days

(Line Item 161-272) raises a question as to the project completion date being met.

- (c) Some line items do not show a Required at Site date and this information should be forecastable.

10. Difference (DIFF)

Many line items have had the float days omitted although they were on previous PSSR's. Others have never shown any float or slip and others have changed without any apparent reason.

C. General

1. The following items were on the February PSSR but are not on the March PSSR:

161-251M

161-360M

161-821

170-021M

2. Line Items 161-044M and 161-044BM on the March PSSR were listed under Line Item 161-044 on the February PSSR. On the February PSSR they were listed as 50 HP motors and on the March PSSR they are listed as 75 HP motors.
3. Line Items 170-501A through 170-501B -- Several of these line items require expediting due to excessive negative slack shown in the DIFF column.

D. Recommendations

Update the PSSR with complete and accurate information.

IV. CONSTRUCTION STATUS

The following comments of the various areas are derived from the facility summary schedule and physical progress report. It should be noted, however, from PTC's previous report that the percent weight column is incorrect. Reserve Mining will be updating this column for the April report whereby a more accurate completion percentage will be obtained. Hence for this month's report, percentage completion will not be evaluated.

A. Dry Cobbing

Concrete work is behind schedule at this time; hence, structural steel erection has not yet commenced.

B. Coarse Tails Handling and Loadout

Excavation and concrete work are behind the early start schedule. However, since there is considerable float time, this is not yet a problem.

C. Concentrate Filtering

Progress remains fairly good in this area. Excavation is maintaining pace with the early start schedule while concrete work is just slightly behind the late start schedule.

D. Pelletizer Air Quality

Total progress has fallen behind this month but is still maintaining pace with the late start schedule.

E. Truck Repair Shop

Construction progress is proceeding ahead of schedule except for the building; however, this facility is not critical to the total project.

F. Tailing Clarifiers

Only early start excavation was scheduled for this month which stands at 24% complete; well ahead of schedule.

G. Tailings Pipeline and Road Grade

The only progress made this month was clearing and grubbing and a limited amount of excavation. Actual progress is now behind the late start schedule.



V. SARGENT & LUNDY REPORT NO. 8

A. Mechanical Progress Report

Since the equipment bids have been received on the baghouse, vertical service water pump, misc. cooling water pumps and the traveling screens, action should be taken as soon as possible to award the appropriate contracts.

B. Electrical Progress Report

The following equipment requires at least "spec released for bid" scheduled dates: misc. power and control cable, traveling screen controls, circ. water pump house M.C.C., 115 KV bus capacitor banks addition, units 1 and 2 control system, bulk power check water system.

The main control board modifications and misc. materials requires action to be taken on releasing the specs for "actual bid". These were scheduled to be written 1-2-78 but to date this activity has not been accomplished.

PTC has no reason to doubt the mechanical and electrical progress reports; however, we have no way of determining the amount of float or slip between the stated required delivery date and the actual installation.

C. Electrical Drawing Release Schedule

The physical drawings released would appear to be on schedule. However, it is difficult to evaluate since the actual number of



drawings required for each installation is not given; e.g. cable trays are 80% complete design, and 65% complete drafting. How many drawings does this represent compared to the other activities such as cable routing and electrical installation which is only 10% complete?

PTC cannot evaluate the percentage complete, hence, can only accept the stated completion progress.

The wiring drawings would also appear to be on schedule, although some of the activities have not yet been started.

D. Mechanical Drawing Release Schedule

With the exception of the baghouse and associated ductwork most of the other areas appear to be proceeding well; however, no schedule completion dates are given to compare against.

RESERVE MILE POST 7 PROJECT

75083-001

DRAWING STATUS

EXHIBIT A

DATE: 3/31/78

DISCIPLINE	TOTAL DWGS AS OF 7/1/77	CURRENT # OF DWGS	DWGS NOT STARTED	DWGS IN PROCESS	DWS ISSUED FOR APPROVAL	DWGS APPROVED FOR CONSTRUCTION	EQV DWGS COMP	EQV % COMP
STRUCTURAL	361	344	116	64	0	164	193.1	56.1
ARCHITECTURAL	44	56	16	10	2	28	36.5	65.2
MECHANICAL	142	142	1	57	5	79	124.7	87.8
CIVIL	49	50	11	10	3	26	34.0	68.0
PIPING	216	255	86	98	14	57	107.4	42.1
HEATING & VENTILATION	50	57	25	13	0	19	22.7	39.8
ELECTRICAL	575	792	521	92	85	94	232.6	29.4
INSTRUMENTATION	73	64	35	9	8	12	22.4	35.0
TOTAL	1,510	1,760	811	353	117	479	773.4	43.9
PREVIOUS REPORT TOTALS		1,724	874	362	152	336	665.5	38.6
NET CHANGE FROM PRIOR REPORT		36	(63)	(9)	(35)	143	107.9	5.3

REMARKS:

DESIGN PROGRESS SCHEDULE 75083-001 RESERVE MILEPOST 7 PROJECT

PERIOD ENDING: 31 MAR 78

EXHIBIT B

DISCIPLINE	1977												1978												1979							PERCENT COMPLETE	
	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J					
STRUCTURAL ²			2	5	10	15	21	28	36	44	45	53	61	69	77	81	91	94	96	97	98	99	100										
					8.7	14.7	20.7	29.8	37.4	43.1	50.6	53.6	56.1																				
ARCHITECTURAL ²				3	6	15	24	33	42	51	45	53	60	67	74	81	88	92	96	100													
					11.0	12.5	22.7	30.4	41.5	48.7	56.6	60.1	65.2																				
MECHANICAL ²			4	13	25	37	49	60	69	78	71	82	90	93	94	95	96	97	98	99	100												
					23.7	37.7	44.4	53.6	65.5	72.3	69.4	77.2	87.8																				
CIVIL ²				8	16	24	32	40	48	56	59	66	75	82	89	96	98	100															
					9.8	22.8	25.5	39.4	46.4	50.8	55.1	59.7	68.0																				
PIPING ²		1	3	6	10	15	21	27	33	38	45	52	59	65	71	77	83	88	93	96	97	98	99	100									
				2.4	6.1	8.8	14.9	20.7	27.6	30.3	35.2	42.1																					
HEATING & VENTILATING ²			3	6	11	19	27	35	43	51	41	48	55	62	69	76	83	90	97	100													
					3.2	9.4	14.5	20.0	27.8	32.9	36.1	37.8	39.8																				
ELECTRICAL ²		1	2	4	7	11	16	21	27	21	26	31	36	41	46	51	56	61	66	71	76	81	86	90	94	98	99	100					
				2.8	3.8	7.8	14.0	17.3	21.8	19.7	23.7	29.4																					
INSTRUMENTATION ²			1	3	6	11	17	24	32	31	37	43	49	56	61	67	72	77	82	86	90	93	96	98	100								
				6.5	6.3	13.8	18.8	19.8	29.8	30.8	34.8	35.0																					
SPECIFICATIONS ³			4	8	12	21	30	39	48	48	51	54	57	61	64	67	70	74	77	80	83	87	90	93	96	100							
				9.4	14.7	19.5	26.6	33.4	38.1	50.3	56.8	63.1																					
MISC. SUPPORT ³			4	10	14	18	23	26	30	32	33	33	4.7	51	55	59	63	67	71	75	79	83	87	91	94	96	98	100					
				10.9	13.8	19.4	24.7	29.3	33.6	40.8	44.6	50.5																					
SUPERVISION ³			5	10	15	20	24	28	32	36	36	40	44	48	52	55	59	63	67	70	74	78	82	85	89	93	97	100					
				8.6	9.1	11.7	18.5	22.9	29.5	39.7	47.5	53.4																					
TOTAL DESIGN ⁴		1	4	8	13	19	25	32	39	35	41	47	53	59	65	71	76	80	84	87	90	93	95	96	97	98	99	100					
				6.7	11.1	16.3	23.4	29.1	35.2	36.2	40.6	46.0																					
LEGEND:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28					
SCHEDULED ¹																																	
ACTUAL ———																																	

NOTE: 1- SCHEDULE BASED ON ESTIMATED MANMONTH EXPENDITURES.
 NOTE: 2- PERCENT COMPLETE IS CALCULATED ON AN EQUIVALENT DRAWING BASIS.
 NOTE: 3- PERCENT COMPLETE IS CALCULATED ON AN MANHOURS EXPENDED VERSUS TOTAL AT COMPLETION.
 NOTE: 4- PERCENT COMPLETE FOR TOTAL DESIGN IS CALCULATED ON A WEIGHTED MANHOUR BASIS.

** K A I S E R E N G I N E E R S **

DESIGN & DRAWING REPORT
JOB TITLE RESERVE MINING PROJECT SILVER BAY MINN
JOB NO. 75083-001

SUMMARY

APR 14 1978

DEPARTMENT 2			SUMMARY				JOB NO.75083-001				SUMMARY				APR 1,1978			
AREA NO	STRUCTURAL		ARCHITECT		MECHANICAL		CIVIL		PIPING		H + V		ELECTRICAL		INSTRUMENT			
	TOTL DWGS	ISSD DWGS	TOTL DWGS	ISSD DWGS	TOTL DWGS	ISSD DWGS	TOTL DWGS	ISSD DWGS	TOTL DWGS	ISSD DWGS	TOTL DWGS	ISSD DWGS	TOTL DWGS	ISSD DWGS	TOTL DWGS	ISSD DWGS		
15	0	0	0	0	0	0	3	2	0	0	0	0	0	0	0	0		
22	9	8	3	3	0	0	24	15	24	12	5	3	18	12	4	2		
240	6	6	6	6	0	0	0	0	0	0	7	7	11	11	0	0		
161	132	77	19	8	88	53	1	1	29	9	11	6	102	26	11	4		
170	73	16	6	5	36	13	0	0	139	16	5	0	423	77	28	9		
171	55	51	6	6	17	17	1	1	28	24	3	3	79	28	4	2		
290	48	6	4	2	1	1	2	2	22	9	5	0	95	15	9	3		
291	16	0	6	0	0	0	11	7	13	1	6	0	51	10	7	0		
292	0	0	1	0	0	0	6	0	0	0	3	0	2	0	1	0		
293	5	0	5	0	0	0	2	1	0	0	12	0	11	0	0	0		
TOTALS	344	164	56	30	142	84	50	29	255	71	57	19	792	179	64	20		

GRAND TOTALS
TOTAL DRAWINGS 1760
TOTAL ISSUED 596