SECTION 3.0
COAL PREPARATION
(Areas 201, 202, 203, 204)

3.1 DESIGN BASIS

3.1.1 The coal preparation system will be sized to supply the operating requirements of 8 gasifiers and the steam generation plant.

3.1.2 Coal will arrive from the Capps and Chuitna mines in unit trains consisting of sixty 100 ton bottom dump cars, on a 6 trains per day, 5 days per week schedule.

3.1.3 The coal unloading facility shall be designed for 5 day operation 3 shifts per day.

3.1.4 Capps and Chuitna coals will be blended to a ratio of 70% Capps and 30% Chuitna.

Analysis Wt.%	
Carbon	40.51
Hydrogen	2.98
Sulfur	0.15
Oxygen	11.17
Nitrogen	0.53
Water	23.90
Ash	20.73
Chlorine	0.03
	100.00

3.1.5 **Blended Coal:**

Proximate Analysis, Wt.%	
Moisture	23.90
Ash	20.73
Volatile	30.98
Fixed Carbon	24.24
Sulfur	0.15
	100.00

Size Analysis, Wt.%	
+6	0
-6" to +3/8"	85
-3/8	15
	100

(May change, depending upon final design of crushers at mine)

Higher Heating Value, Btu/lb (dry, ash-free basis) 12409

Ultimate Analysis, Wt.% Dry Basis	
Ash	27.24
Carbon	53.23
Hydrogen	3.92
Nitrogen	0.70
Oxygen	14.67
Sulfur	0.20
Chlorine	0.04
	100.00

Ash Analysis, Wt.%	
SiO_2	56.36
Al_2O_3	24.3
TiO_2	1.0
Fe_2O_3	4.7
CaO	6.0
MgO	1.5
K_2O	2.3
Na_2O	0.5
SO_3	1.9
P_2O_5	0.3
Undetermined	1.14
	100.00

Ash Fusion Temperature, °F

	Reducing	Oxidizing
Initial Deformation	2160-2230	2120-2600
Softening (H=W)	2180-2700	2330-2700
Softening (H=1/2W)	2220-2700	2370-2700
Fluid	2270-2700	2460-2700

Hardgrove Grindability Index		
Coal Moisture, Wt.%	Low	High
21.0	31	50
14.0	32	44
6.0	33	33

3.1.6 Process Coal: Normal operation of the gasifiers will require a minus 3/8" coal feed, a maximum moisture content of 8% by weight, and a minimum of micro fines.

Analysis Wt.%	
Carbon	48.97
Hydrogen	3.61
Sulfur	0.18
Oxygen	13.50
Nitrogen	0.64
Water	8.00
Ash	25.06
Chlorine	0.04
	100.00

3.1.7 The coal dryer design will incorporate commercially available equipment from vendors having dryers of the same size in current operation on coal.

Coal dryers will burn "as received" coal. Design emphasis will be concentrated on fluid bed dryers.

3.1.8 Process Coal Storage: Provide 14 days dead storage, 3 days live storage.

3.1.9 Fuel Coal Storage: Provide 7 days dead storage, 3 days live storage (with process coal).

3.1.10 Coal for utility use will be supplied from primary crushers and screening operations. No drying will be required. Size: -1-1/2" x 0

3.2 PROCESS DESCRIPTION

3.2.1 Receiving, Storage and Reclaiming (Area 201, Dwg. 5530-201-Y-001)

Unit trains of coal are shipped from the two mine sites on a six-trains-per-day, five-days-per-week schedule. The coal unloading facility consists of a 500 foot long trestle enclosed by a metal structure. There are several electrical contacts at various points for opening the car doors. The operator controls the power to make a specific contact "live." As cars enter the building, the car doors are activated by the "live" electrical contact. The doors open and the coal is dumped into the hopper. By changing the "live" contact, the operator can fill one end of the hopper with Capps coal and the other end with Chuitna coal. (The coals are blended to a ratio of 70% Capps and 30% Chuitna.) As the train proceeds, each car dumps its coal. The car doors are then closed by an electrical contact at the far end of the trestle.

Flow of coal from the unloading hoppers is either to the coal silo, at a rate required for the process and power house, or to the live storage, at an increased rate. During the two days that trains are not received from the mines, coal is reclaimed from live storage. It is replaced during the five days that trains are received at the plant. For extended delays in blending and transferring the coal or for extended stacker-reclaimer maintenance, the coal is removed from blended dead storage with a track-type tractor and transferred by conveyor for process and power house use.

An emergency power house coal storage is provided. This coal is removed from storage with a track-type tractor, crushed to a size acceptable to the boiler pulverizers, and transferred directly to the power house coal surge bin.

3.2.2 Coal Preparation (Area 202, Dwg. 5530-202-Y-001)

Coal received from the coal silo is screened and crushed in two preparation stations. In the primary preparation station the coal is first sized on a set of scalping screens. The undersize coal from these scalping screens is transferred to a set of sizing screens. The oversize coal from the scalping screens is transferred to roll crushers. The fines removed by the sizing screens are transferred to the boiler house coal surge bins. To these fines is added a sufficient quantity of oversize coal from the second set of screens to make up the total requirement to the boiler house surge bins. The balance of the oversize from the second set of screens is added to the coal leaving the crushers and is transferred to the secondary preparation station for further sizing.

In the secondary preparation station the coal receives its final sizing to meet the requirements of the gasification process. The coal is screened and the oversized coal is transferred to the crushers. The undersized coal is combined with the coal leaving the crushers to make up the total process requirements.

Char, generated in the gasification process and removed from the waste heat boiler and cyclones, is transferred to the char feed bin. This char is added to the coal being transferred to the boiler house to make up the total requirements for the boiler energy input.

Sufficient equipment is included to insure no interruption of coal supply to the process.

3.2.3 Coal Drying (Area 203, Dwg. 5530-203-Y-001)

The finely crushed process coal leaving the secondary preparation station is transferred to thermal dryers to remove approximately 75% of the original moisture. The thermal dryers continuously dry the coal before it is distributed to the process.

3.2.4 Process Coal Conveying (Area 204, Dwg. 5530-204-Y-001)

The process coal distribution bin receives the dried coal from the dryers and delivers the required coal for each of 8 gasification trains. The total coal requirement is always delivered to the gasification trains. If coal is not needed at any specific gasification train, that amount continues on the conveyor belt to the end of the limit of the trains and is returned to the distribution bin.

Sufficient equipment is included to insure coal delivery to all gasification trains on demand.

3.3 ENGINEERING DESIGN DATA

Design data pertinent to coal preparation is detailed in the flow diagrams immediately following this page, in the Equipment List beginning on page 3/8, and in the Drawings following page 3/23.

DRAWINGS RELATING TO COAL PREPARATION

DRAWING NO.	TITLE
5530-201-Y-001	Coal Receiving Storage, Reclaim
5530-202-Y-001	Coal Preparation
5530-203-Y-001	Coal Drying
5530-204-Y-001	Process Coal Conveying
EQUIPMENT LIST	
5530-201-P-001	Coal Receiving, Storage & Reclamation - Plan
5530-201-P-002	Coal Receiving, Storage & Reclamation - Site Preparation
5530-201-P-003	Coal Receiving, Storage & Reclamation - Conveyors Profiles
5530-201-P-004	Coal Receiving, Storage & Reclamation - Conveyors Profiles
5530-201-P-005	Coal Receiving, Storage & Reclamation - Coal Unloading Station
5530-201-P-006	Coal Receiving, Storage & Reclamation - Raw Coal Store & Reclaim
5530-201-P-008	Coal Receiving, Storage & Reclamation - Silo, Lowering Tower and Reclaim Hoppers
5530-201-P-009	Coal Receiving, Storage & Reclaim -Track Layout
5530-202-P-001	Coal Preparation - Primary Crush & Screening Station
5530-202-P-002	Coal Preparation - Secondary Crush & Screening Station
5530-203-P-001	Coal Drying - Prepared Coal Drying Facilities
5530-203-P-002	Coal Drying - Gasifier & Dryer Feed Bins
5530-204-P-001	Process Coal Conveying Gasifier Feed System - Plans and Sections
5530-204-P-002	Process Coal Conveying Gasifier Feed System - Elevation and Sections

SCALING RULES 1/8" 1/4"

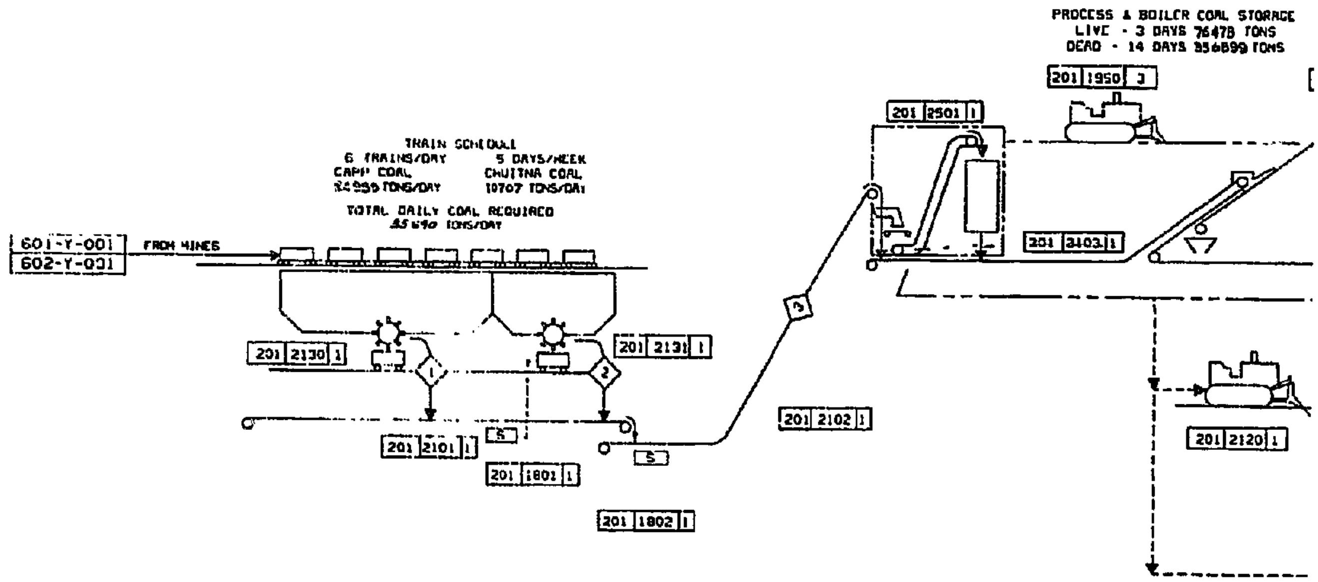
STREAM NO.		1		2		3		4		5		6	
STREAM DESCRIPTION		CAPPS COAL FROM MINE		CHUITNA COAL FROM MINE		BLENDED COAL TO STG & PROC.		COAL TO PRIMARY PREP.		EMER. COAL TO PRIMARY PREP.		EMER. COAL TO BOILER CRUSH.	
PHASE													
COMPONENT	MOL. WT.	STPH	WT%	STPH	WT%	STPH	WT%	STPH	WT%	STPH	WT%	STPH	WT%
FIXED CARBON	12.011	329.6	23.54	155.2	25.87	484.8	24.24	257.5	24.24	257.5	24.24	48.5	24.24
HYDROGEN	2.016												
NITROGEN	28.014												
SULFUR	32.060	2.2	0.16	0.8	0.14	0.0	0.15	1.6	0.15	1.6	0.15	0.3	0.15
OXYGEN	32.000												
CHLORINE	35.453												
ASH	-	319.2	22.80	95.4	15.80	414.6	20.75	220.2	20.75	220.2	20.78	41.5	20.75
WATER	18.016	322.0	23.00	156.0	26.00	478.0	23.90	253.9	23.90	253.9	23.90	47.8	23.90
CARBON MONOXIDE	28.011												
CARBON DIOXIDE	44.011												
METHANE	16.043												
HYDROGEN SULFIDE	34.078												
CARBONYL SULFIDE	60.071												
SULFUR DIOXIDE	64.066												
METHANOL	32.043												
DIMETHYL ETHER	46.068												
HIGHER ALCOHOL	74.120												
VOLATILE MATTER		427.0	30.50	192.6	32.09	619.6	30.98	329.0	30.98	329.0	30.98	61.9	30.98
SIZE		-6"x0"		-6"x0"		-6"x0"		-6"x0"		-6"x0"		-6"x0"	
TOTAL (WET)	STPH	1400.0	100.0	600.0	100.0	2000.0	100.0	1062.2	100.0	1062.2	100.0	200.0	100.0
FLOW (DRY)	SCFH												
TOTAL FLOW	LB/HR												
PRESSURE	PSIA												
TEMPERATURE	°F	AMBIENT		AMBIENT		AMBIENT		AMBIENT		AMBIENT		AMBIENT	
HHV	BTU/LB												
HHV, (DRY)	BTU/SCF												

201-1801
BELT WEIGH SCALE

201-1802
BELT WEIGH SCALE TOTAL COAL TO PLANT

201-1950
RAW COAL DOZER

201-2501
SAMPLING SYSTEM



201-2130
ROTARY PLOW FEEDER

201-2101
BELT CONVEYOR

201-2131
ROTARY PLOW FEEDER

201-2102
BELT CONVEYOR

201-2103
YARD BELT CONVEYOR

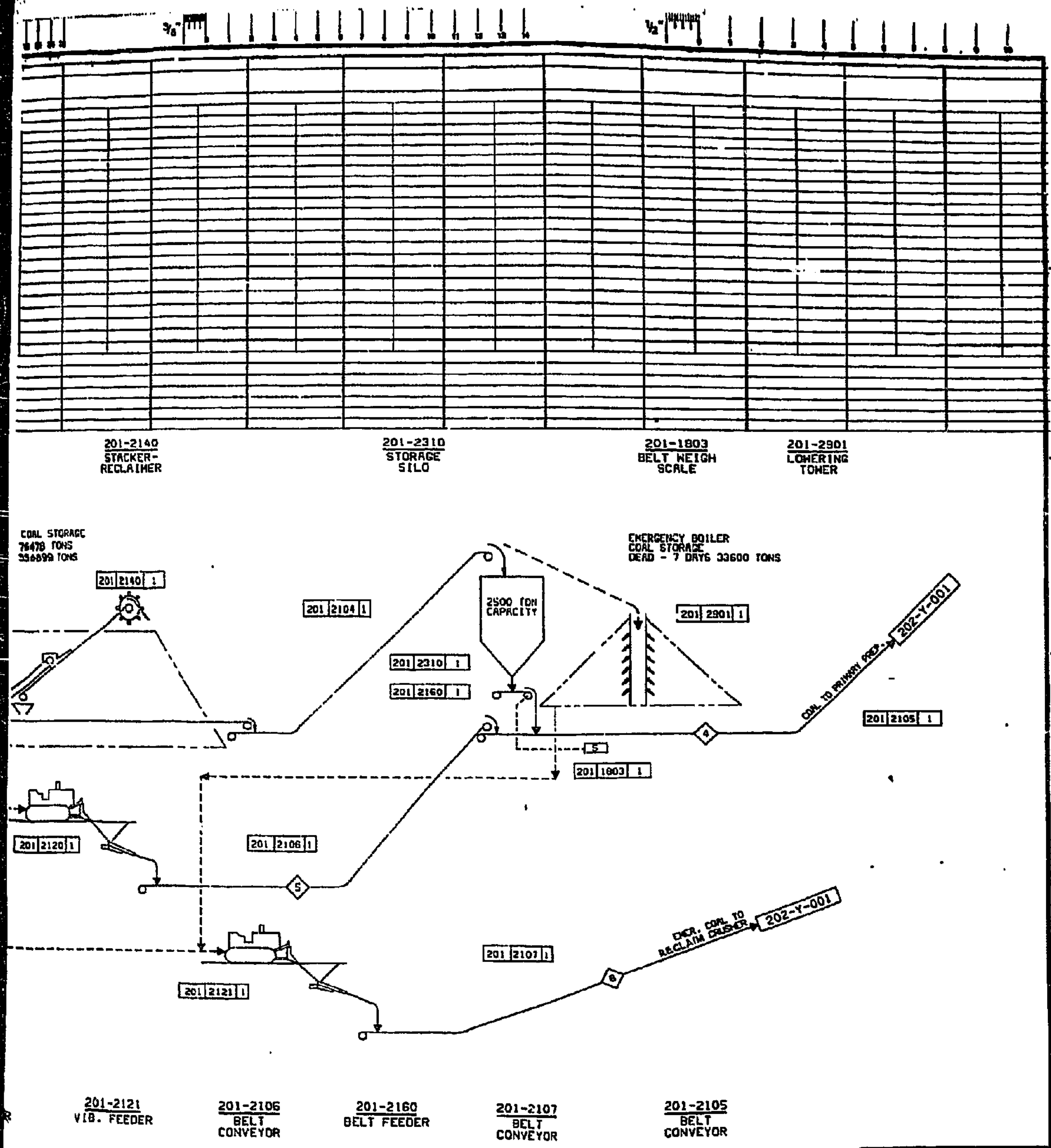
201-2104
BELT CONVEYOR

201-2120
VIB. FEEDER

2
VIE

REVISIONS NO.	DESCRIPTION	BY	CH.	APPROVED	DATE	ORIGINALS NO.	DESCRIPTION	BY	CH.	APPROVED	DATE	REFERENCES
0	ISSUED FOR REPORT				7/18/							

1 2 3 4 5



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CLIENT
CIRI/PLACER
BELUGA METHANOL PROJECT
COOK INLET, ALASKA

Davy McKee
ENGINEERS AND CONSTRUCTORS

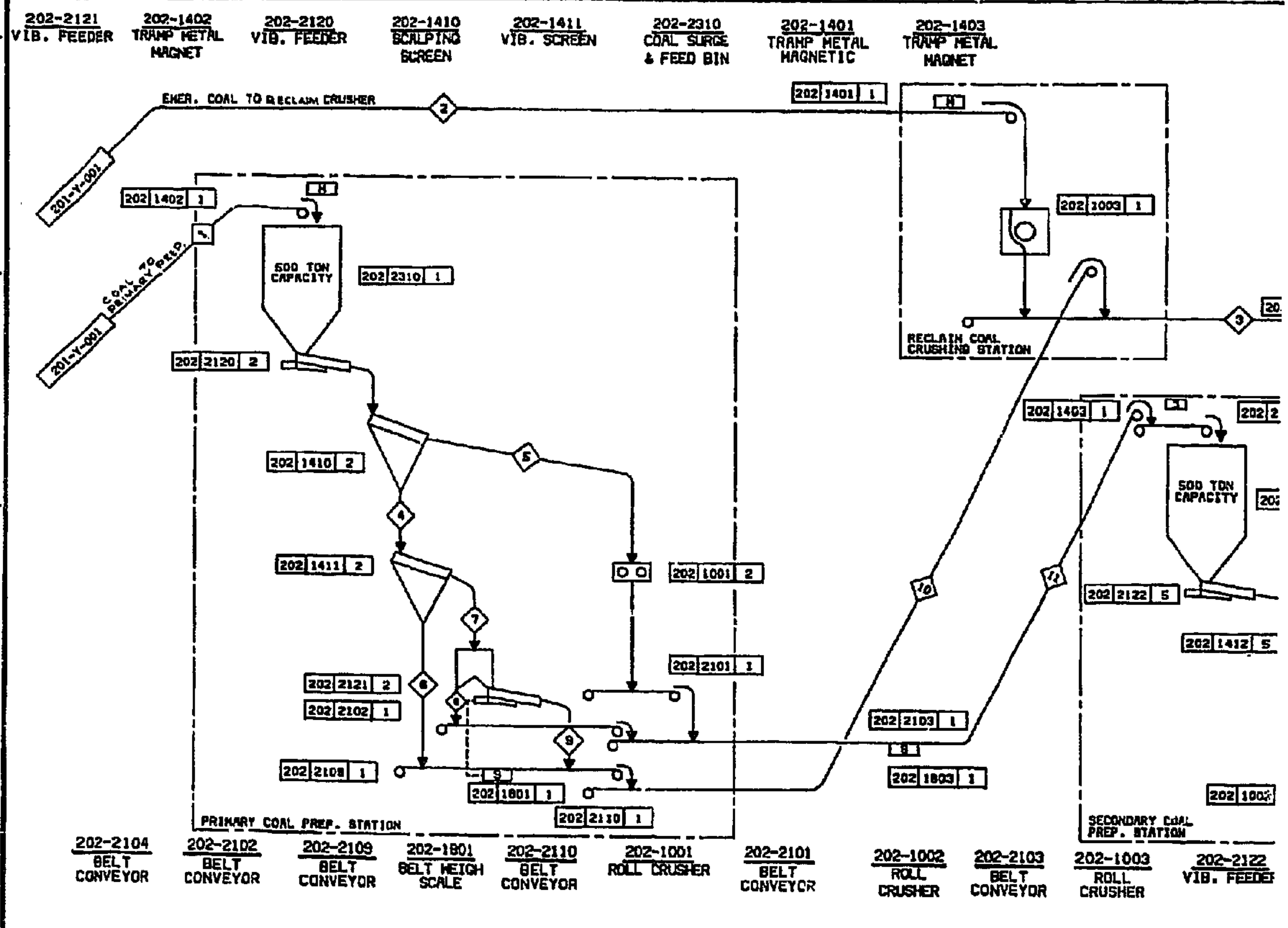
TITLE
COAL RECEIVING
STORAGE & RECLAIM

	BY	DATE
DESIGNED		
DRAWN	MPS	
CHECKED		
APPROVED 1		
APPROVED 2		
APPROVED 3		

5530-201-Y-001

AC0987

STREAM NO.		1		2		3		4		5		6		7		8		9	
STREAM DESCRIPTION		COAL TO PRIMARY PREP.		EMER. COAL TO BOILER CRUSHER		COAL TO BOILER FEED		ONSIZE COAL TO SCREEN		OVERSIZE COAL TO CRUSHER		FINES TO BOILER FEED		ONSIZE COAL TO SPLITTER		ONSIZE COAL TO SECONDARY PREP		COAL TO BOILER FEED	
PHASE																			
COMPONENT	MOL. WT.	STPH	WT%	STPH	WT%	STPH	WT%	STPH	WT%	STPH	WT%	STPH	WT%	STPH	WT%	STPH	WT%	STPH	WT%
FIXED CARBON	12.011	157.5	24.24	48.5	14.24	48.5	20.24	85.0	24.24	172.5	24.24	34.0	24.24	51.0	24.24	36.5	24.24	14.5	24.
HYDROGEN	2.016																		
NITROGEN	28.014																		
SULFUR	32.060	1.6	0.15	0.3	0.15	0.3	0.15	0.5	0.15	1.1	0.15	0.2	0.15	0.3	0.15	0.2	0.15	0.1	0.
OXYGEN	32.000																		
CHLORINE	35.453																		
ASH	-	220.2	20.73	41.5	20.73	41.5	20.73	72.6	20.73	147.5	20.73	29.1	20.73	43.6	20.73	31.2	20.73	12.4	20.
WATER	18.016	253.9	23.90	47.8	23.90	47.8	23.90	83.8	23.90	170.1	23.90	33.5	23.90	[illegible]	23.90	36.0	23.90	14.3	23.
CARBON MONOXIDE	28.011																		
CARBON DIOXIDE	44.011																		
METHANE	16.043																		
HYDROGEN SULFIDE	34.078																		
CARBONYL SULFIDE	60.071																		
SULFUR DIOXIDE	64.066																		
METHANOL	32.043																		
DIMETHYL ETHER	46.069																		
HIGHER ALCOHOL	74.120																		
VOLATILE MATTER		329.0	30.98	61.9	30.98	61.9	30.98	108.6	30.98	220.5	30.98	43.4	30.98	65.2	30.98	46.6	30.98	18.5	30
SIZE		-6"x0"		-6"x0"		-1½"x0"		-1½"x0"		-6"x1½"		-¼"x0"		-1½"x¼"		-1½"x¼"		-1½"x0"	
TOTAL (WET)	STPH	1062.2	100.0	200.0	100.0	200.0	100.0	350.5	100.0	711.7	100.0	140.2	100.0	210.3	100.0	150.5	100.0	59.8	10
FLOW (DRY)	SCFH																		
TOTAL FLOW	LB/HR																		
PRESSURE	PSIA																		
TEMPERATURE	°F	AMBIENT		AMBIENT		AMBIENT		AMBIENT		AMBIENT		AMBIENT		AMBIENT		AMBIENT		AMBIEN	
HHV	BTU/LB																		
HHV. (DRY)	BTU/SCF																		



IGS AC0988

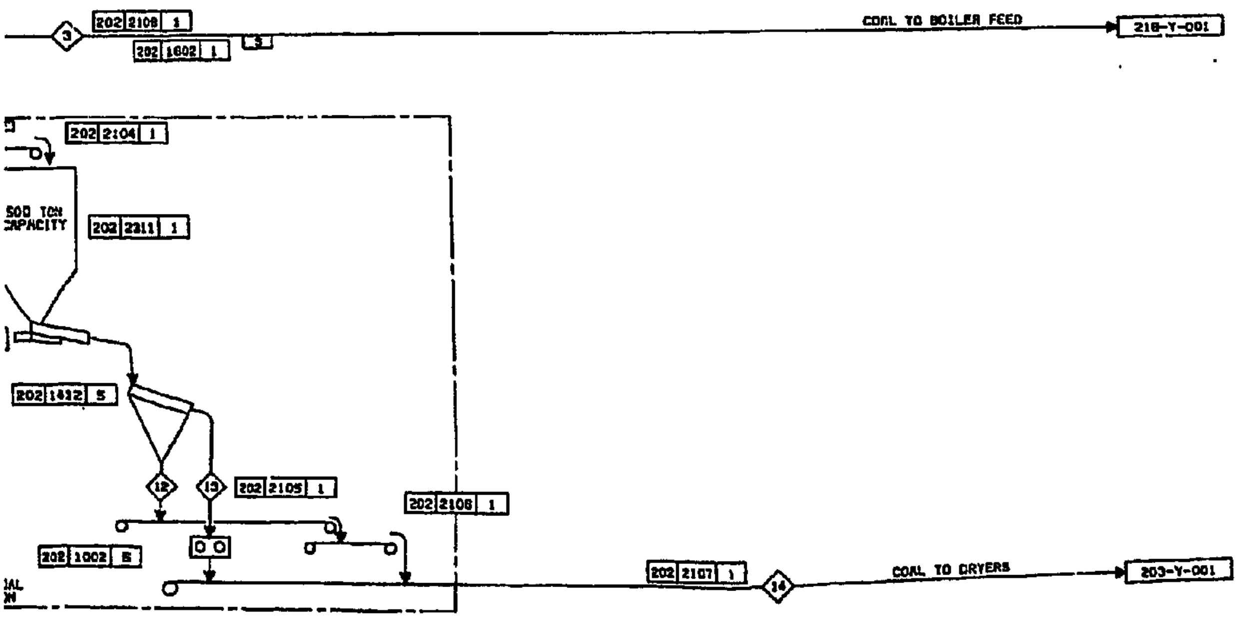
NO.	DESCRIPTION	BY	CH.	APPROVED	DATE	NO.	DESCRIPTION	BY	CH.	APPROVED	DATE
A	ISSUED FOR REPORT										

9		10		11		12		13		14	
COAL TO BOILER FEED		COAL TO BOILER FEED		COAL TO SECONDARY PREP		ONSIZE COAL TO PROCESS		OVERSIZE COAL TO CRUSHER		COAL TO DRYERS	
STPH	WT%	STPH	WT%	STPH	WT%	STPH	WT%	STPH	WT%	STPH	WT%
14.5	24.24	48.5	24.24	209.0	24.24	29.2	24.24	178.8	24.14	205.0	24.24
0.1	0.18	0.3	0.15	1.5	0.16	0.2	0.15	1.1	0.16	1.8	0.12
11.4	20.75	41.5	20.75	178.7	20.75	25.1	20.75	153.7	20.75	178.7	20.75
16.5	25.90	47.8	23.90	206.1	25.90	28.5	25.90	177.2	25.90	206.1	25.90
18.5	30.98	61.9	30.98	267.1	30.98	37.3	30.98	225.7	30.98	267.1	30.98
-1½"x0"		-1½"x0"		-1½"x¼"		-3/8"x0"		-1½"x3/8"		-3/8"x0"	
55.8	100.0	200.0	100.0	862.2	100.0	120.7	100.0	741.5	100.0	862.2	100.0
AMBIENT		AMBIENT		AMBIENT		AMBIENT		AMBIENT		AMBIENT	

202-1802
BELT WEIGH SCALE
COAL TO BOILER

202-2311
COAL SURGE AND FEEDER BIN

202-1803
BELT WEIGH SCALE
TOTAL COAL TO PROCESS



202-2122
VIB. FEEDER

202-1412
VIB. SCREEN

202-2108
BELT CONVEYOR

202-2105
BELT CONVEYOR

202-2106
BELT CONVEYOR

202-2107
BELT CONVEYOR

CLIENT
CIRI/PLACER
BELUGA METHANOL PROJECT
COOK INLET, ALASKA

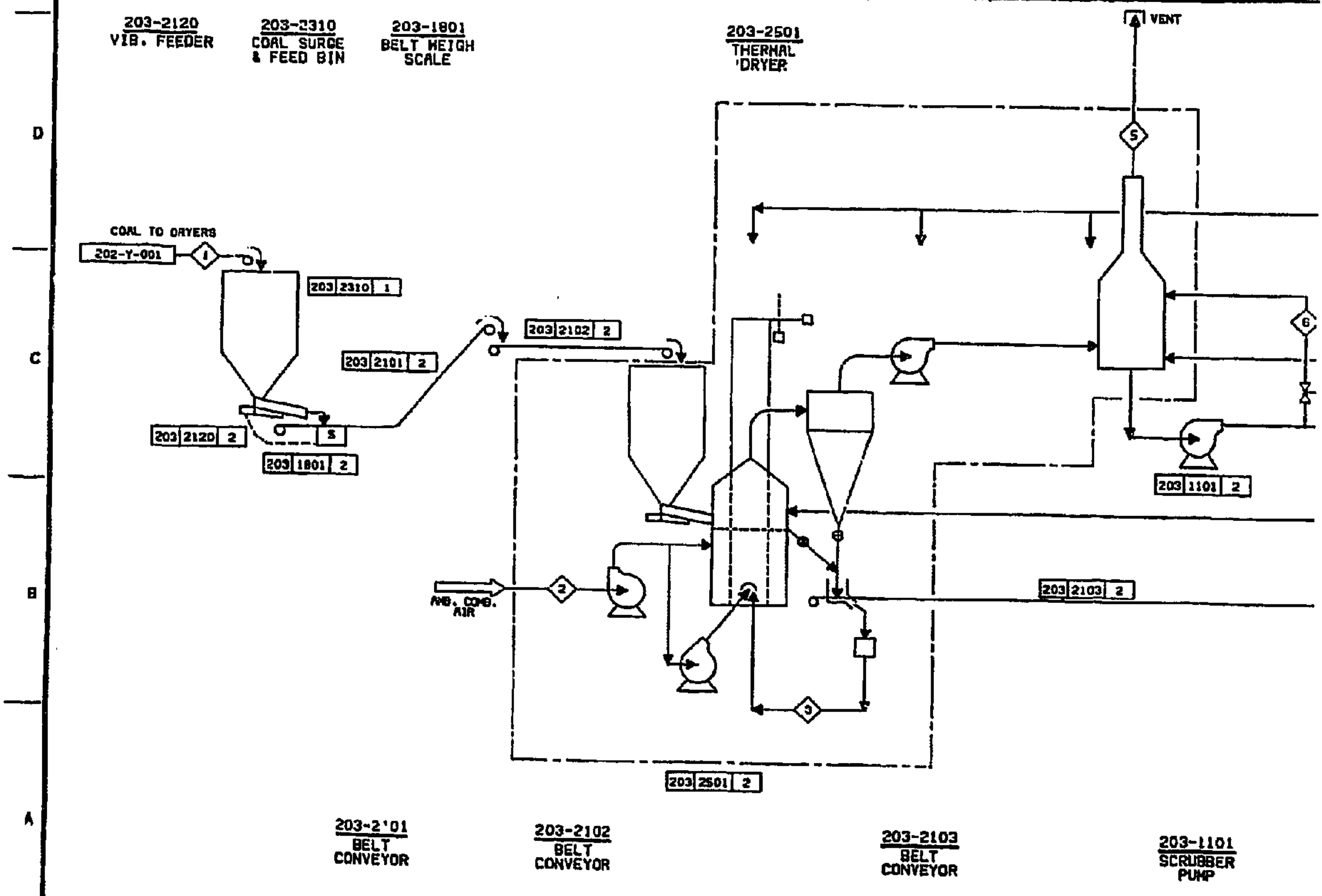
Davy McKee
ENGINEERS AND CONSTRUCTORS

DESIGNED	BY	DATE
DRAWN	CH	
CHECKED		
APPROVED 1		
APPROVED 2		
APPROVED 3		

TITLE
COAL PREPARATION

5530-202-Y-001
REVISION 0

STREAM NO.		1		2		3		4		5		6		7		8		9	
STREAM DESCRIPTION		COAL TO DRYERS		DRYER AIR		FUEL COAL		DRIED COAL TO GASIFIER DISTRIB		DRYER VENT GAS		SCRUBBER WATER RECIRCULATION		SCRUBBER BLOWDOWN		EMERG. QUENCH WATER		EMERG. SPRI SYSTEM	
PHASE																			
COMPONENT	MOL. WT.	STPH	WT. %	LB/HR	WT. %	STPH	WT. %	STPH	WT. %	LB/HR	WT. %	STPH		STPH		STPH		STPH	
FIXED CARBON	12.011	[illegible]	[illegible]			12.90	28.31	196.1	29.31										
HYDROGEN	2.016																		
NITROGEN	28.014			1350480	76.7					1384200	64.62								
SULFUR	32.060	1.5	0.15			0.08	0.18	1.2	0.18										
OXYGEN	32.000			417020	25.2					278800	15.02								
CHLORINE	35.453																		
ASH	–	178.7	20.75			11.10	25.06	167.7	25.06			1124.2		11.2					
WATER	18.016	206.1	23.90			3.55	8.00	53.5	8.00	322000	15.03			101.2		1002.0		125.2	
CARBON MONOXIDE	28.011																		
CARBON DIOXIDE	44.011									157000	7.33								
METHANE	16.043																		
HYDROGEN SULFIDE	34.076																		
CARBONYL SULFIDE	60.071																		
SULFUR DIOXIDE	64.066																		
METHANOL	32.042																		
DIMETHYL ETHER	46.068																		
HIGHER ALCOHOL	74.120																		
VOLATILE MATTER		[illegible]7.1	30.98			16.59	37.45	250.5	37.45										
SIZE		-3/4" x 0"				-200 MESH		-3/4" x 0"											
SPECIFIC GRAVITY												1.02		1.02		1.00		1.00	
TOTAL (WET)	STPH	862.2	100.0	2555[illegible]		44.3	100.0	665.0	100.0			1124.2		112.4		1002.0		125.2	
FLOW (DRY)	SCFH			1777500															
TOTAL FLOW	LB/HR									2142000									
PRESSURE	PSIA			14.7															
TEMPERATURE	°F	AMBIENT		60		140-150		140-130		145		145		145					
HHV	BTU/LB																		
HHV (DRY)	BTU/SCF																		



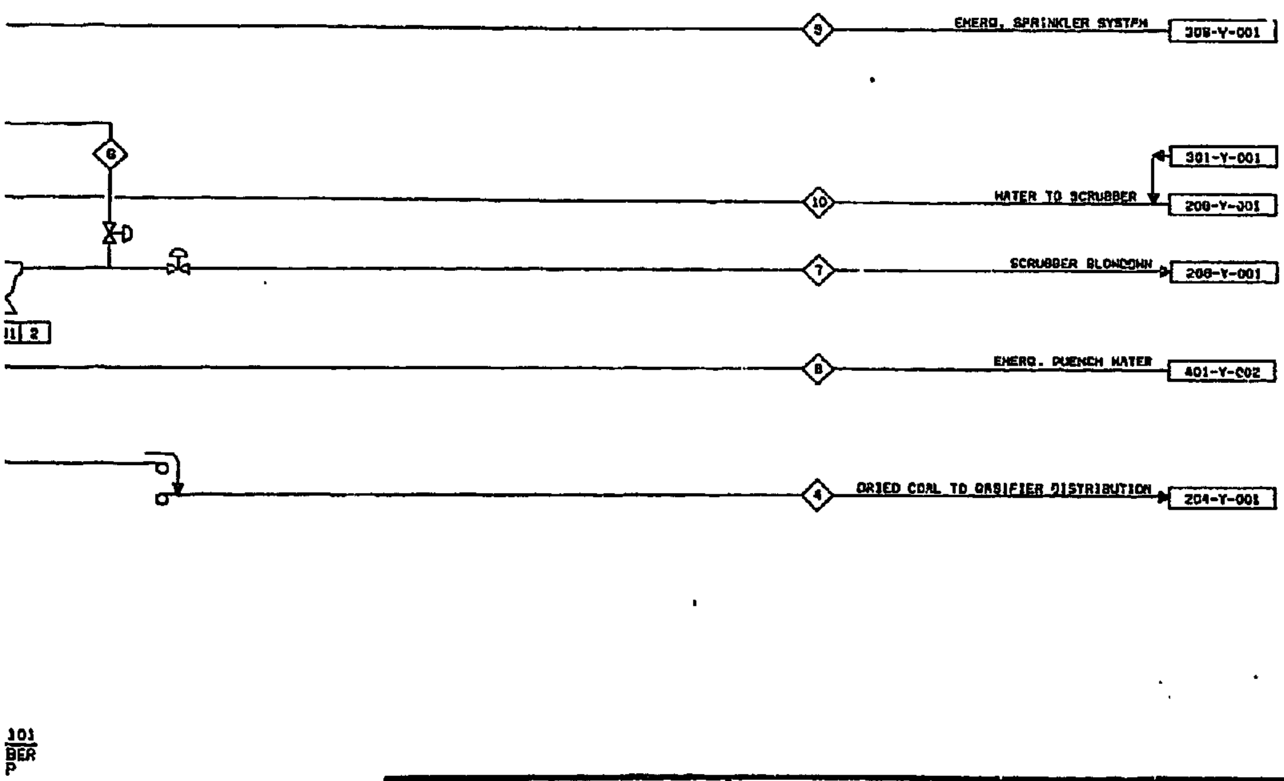
AC0383

REVISIONS NO.	DESCRIPTION	BY	CH.	APPROVED	DATE
	ISSUED FOR REPORT				

REVISIONS NO.	DESCRIPTION	BY	CH.	APPROVED	DATE

REFERENCES

	9	10
	EMERG. SPRINKLER SYSTEM	WATER TO SCRUBBER
	STPH	STPH
	125.2	101.2
	1.00	1.00
	125.2	101.2



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BELUGA METHANOL PROJECT
COOK INLET, ALASKA

Davy McKee
ENGINEERS AND CONSTRUCTORS

	BY	DATE
DESIGNED		
DRAWN	CH	5/13/81
CHECKED	AOJ	7-7-81
APPROVED 1	ADL	7/8/81
APPROVED 2		
APPROVED 3		

DATE TO: CLIENT, FIELD — A B C D E F G H I J K L

TITLE
COAL DRYING

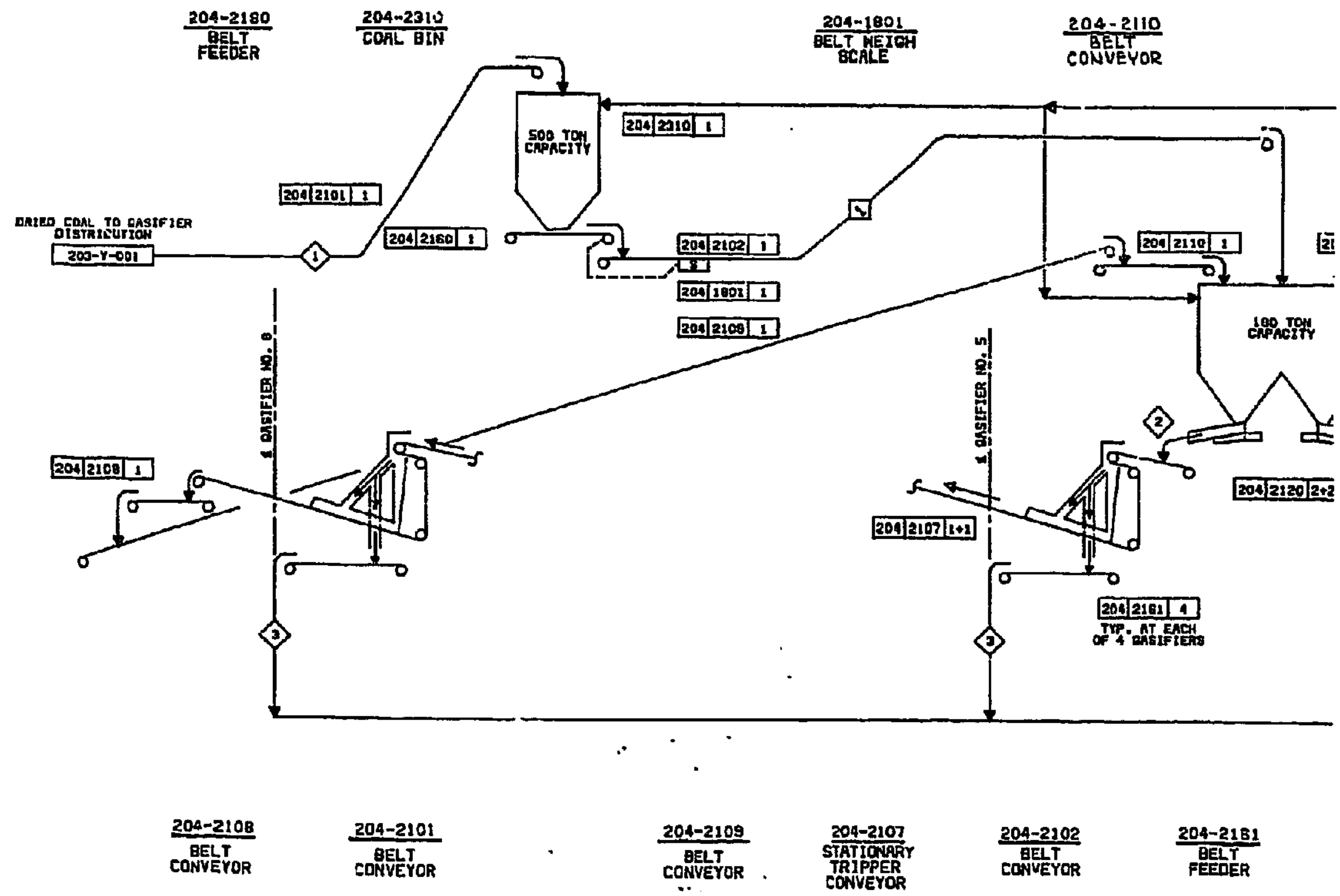
SCALE ____ E/N NO. ____

5530-203-Y-001

REVISION 0

6 7 8ACO885 9 10

STREAM NO.		1		2		3		4		5
STREAM DESCRIPTION		DRIED COAL TO GASIFIER DIST.		COAL TO GASIFIER LOCK HOPPERS		TYP. COAL TO EA. GAS LOCK HOPPER		DRIED COAL TO GASIFIERS		N_2 FOR DRY COAL HANDLING
PHASE										
COMPONENT	MOL. WT.	STPH	WT%	STPH	WT%	STPH	WT%	STPH	WT%	SCFH
FIXED CARBON	12.011	196.1	28.51	98.0	29.31	24.51	29.51	156.1	29.51	
HYDROGEN	2.016									
NITROGEN	28.014									450.0
SULFUR	32.060	1.2	0.18	0.6	0.18	0.15	0.18	1.2	0.18	
OXYGEN	32.000									
CHLORINE	35.453									
ASH	-	167.7	25.06	83.8	25.06	20.96	25.06	167.7	25.06	
WATER	18.016	53.5	8.00	26.8	8.00	6.69	8.00	53.5	8.00	
CARBON MONOXIDE	28.011									
CARBON DIOXIDE	44.011									
METHANE	16.043									
HYDROGEN SULFIDE	34.076									
CARBONYL SULFIDE	60.071									
SULFUR DIOXIDE	64.066									
METHANOL	32.043									
DIMETHYL ETHER	46.068									
HIGHER ALCOHOL	74.120									
VOLATILE MATTER		250.5	37.45	125.3	37.45	31.32	37.45	250.5	37.45	
SIZE		-3/8"x0"		-3/8"x0"		-3/8"x0"		-3/8"x0"		
TOTAL (WET)	STPH	669.0	100.0	334.5	100.0	83.63	100.0	669.0	100.0	
FLOW (DRY)	SCFH									27000
TOTAL FLOW	LB/HR									
PRESSURE	PSIA									
TEMPERATURE	°F	140-150		140-150		140-150		140-150		115
HHV	BTU/LB									
HHV. (DRY)	BTU/SCF									



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NO.	DESCRIPTION	BY	CH.	APPROVED	DATE	NO.	DESCRIPTION	BY	CH.	APPROVED	DATE
0	ISSUED FOR REPORT				7/2/						

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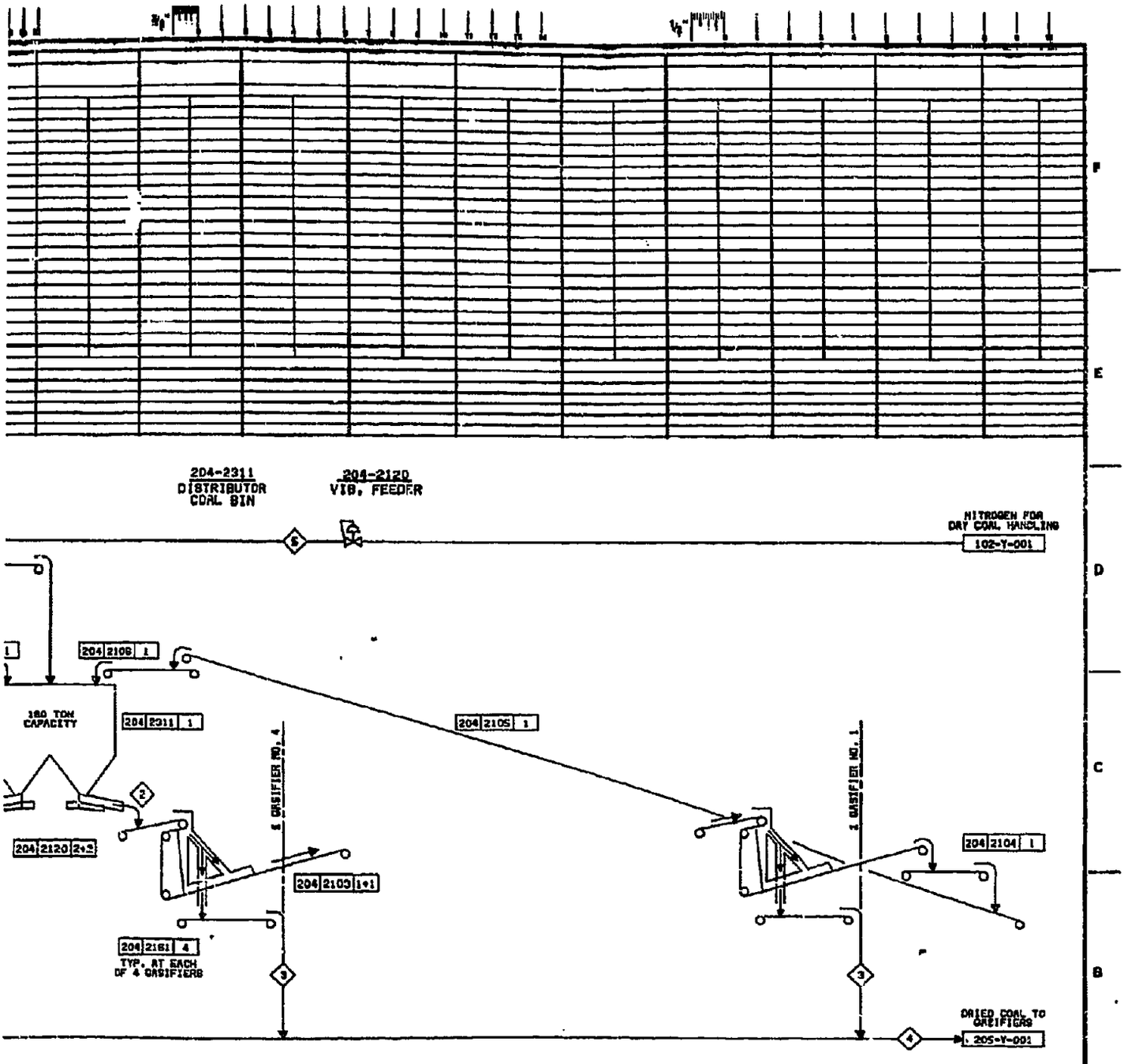


CLIENT
CIRI/PLACER
BELUGA METHANOL PROJECT
COOK INLET, ALASKA

Davy McKee
ENGINEERS AND CONSTRUCTORS

DESIGNED	BY	DATE	DATE TO
DRAWN	CN	7/13/81	CLIENT
CHECKED	AJT	7-14-81	FIELD
APPROVED 1	MC	7/15/81	
APPROVED 2			
APPROVED 3			

TITLE
PROCESS COAL
CONVEYING

SCALE _____ DRG. NO. 5530-204-Y-001

REVISION 0

8RC0990

NOMENCLATURE:
T - TYPE
C - CAPACITY
S - SIZE
P/T - OPERATING PRESSURE/TEMPERATURE
M - MATERIAL
CS - CARBON STEEL
SS - STAINLESS STEEL
CI - CAST IRON
D - DRIVE
W - WEIGHT
ACC - ACCESSORIES

COAL RECEIVING, STORAGE & RECLAIM - AREA 201

EQUIPMENT LIST

ITEM	NO. REQUIRED	DESCRIPTION
201-1301	1	Fan T - Centrifugal C - 11,800 ACFM @ 11" W.C. & Amb. Temp. D - 30 hp
201-1302	1	Fan T - Centrifugal C - 5,000 ACFM @ 9" W.C. & Amb. Temp. D - 15 hp
201-1303	1	Fan T - Centrifugal C - 12,500 ACFM @ 12" W.C. & Amb. Temp. D - 40 hp
201-1701	1	Dust Collector T - Bag, Pulse Air 6:1 Air/Cloth C - 11,800 ACFM @ Amb. Temp.
201-1702	1	Dust Collector T - Bag, Pulse Air 6:1 Air/Cloth C - 5,000 ACF @ Amb. Temp.
201-1703	1	Dust Collector T - Bag, Pulse Air 6:1 Air/Cloth C - 12,500 ACFM @ Amb. Temp.

COAL RECEIVING, STORAGE & RECLAIM - AREA 201

EQUIPMENT LIST

ITEM	NO. REQUIRED	DESCRIPTION
201-1704		Dust Suppression System
	1	T - Proportioning Unit with Flow Controllers C - 600 GPM @ 30 psi D - 100 hp
201-1801	1	Belt Weigh Scale C - 1400 STPH Norm. S - 72" Wide
201-1802	1	Belt Weigh Scale C - 2,000 STPH Norm. S - 72" Wide
201-1803	1	Belt Weigh Scale C - 1062 STPH Norm. S - 42" Wide
201-2101	1	Blended Coal Collecting Conv. T - Belt C - 2,000 STPH Norm.-2,600 STPH Max. S - 72" Wide x 425 FPM D - 100 hp
201-2102	1	Blended Coal Transfer Conv. T - Belt C - 2,000 STPH Norm.-2,600 STPH Max. S - 60" Wide x 550 FPM D - 350 hp

COAL RECEIVING, STORAGE & RECLAIM - AREA 201

EQUIPMENT LIST

ITEM	NO. REQUIRED	DESCRIPTION
201-2103	1	Yard Conveyor T - Belt C - 2,000 STPH Norm.-2,600 STPH Max. S - 60" Wide x 550 FPM D - 300 hp
201-2104	1	Blended Coal Transfer Conveyor T - Belt C - 2,000 STPH Norm.-2,600 STPH Max. S - 60" Wide x 550 FPM D - 500 hp
201-2105	1	Blended Coal Transfer Conveyor T - Belt C - 1062 STPH Norm.-1314 STPH Max. S - 48" Wide x 450 FPM D - 175 hp
201-2106	1	Process Coal Emer. Reclaim Conveyor T - Belt C - 1062 STPH Norm.-1314 STPH Max. S - 48" Wide x 450 FPM D - 75 hp
201-2107	1	Boiler Coal Emer. Reclaim Conv. T - Belt C - 200 STPH Norm. - 317 STPH Max. S - 30" Wide x 300 FPM D - 30 hp

COAL RECEIVING, STORAGE & RECLAIM - AREA 201

EQUIPMENT LIST

ITEM	NO. REQUIRED	DESCRIPTION
201-2120	1	Emer. Process Coal Vib. Feeder T - Electromechanical C - 1062 STPH Norm. - 1314 STPH Max. S - 72" x 96" D - 15 hp
201-2121	1	Emer. Boiler Coal Vib. Feeder T - Electromechanical C - 200 STPH Norm.-317 STPH Max. S - 48" x 72" D - 5 hp
201-2130	1	Rotary Plow Feeder C - 1400 STPH Norm.-1870 STPH Max. D - 150 hp
201-2131	1	Rotary Plow Feeder C - 600 STPH Norm.-810 STPH Max. D - 100 hp
201-2140	1	Stacker - Reclaimer D - 415 total hp
201-2160	1	Blended Coal Belt Feeder T - Belt C - 1062 STPH Norm.-1314 STPH Max. S - 48" Wide D - 20 hp

COAL RECEIVING, STORAGE & RECLAIM - AREA 201

EQUIPMENT LIST

ITEM	NO. REQUIRED	DESCRIPTION
201-2310	1	Boiler & Process Coal Storage Silo T - Cylindrical - Conc. Slip-Form C - 2500 ST Net S - 45 Ø x 135' high M - Concrete with 1/2" Cast Steel Insert
201-2501	1	Sampling System C - 34.8# Sample per Train D - 55 1/2" Total hp Includes: Sample Collector Primary Crusher Hydr. Power Unit Reject Bucket Elevator, Belt Feeders and Second. Sample Crusher
201-2901	1	Boiler Coal Lowering Tower
201-1950	3	Raw Coal Dozer S - D9H-BD9U - 24 Ft. Coal Blade

NOMENCLATURE:
T - TYPE
C - CAPACITY
S - SIZE
P/T - OPERATING PRESSURE/ TEMPERATURE
M - MATERIAL
CS - CARBON STEEL
SS - STAINLESS STEEL
CI - CAST IRON
D - DRIVE
W - WEIGHT
ACC - ACCESSORIES

COAL PREPARATION - AREA 202

EQUIPMENT LIST

ITEM	NO. REQUIRED	DESCRIPTION
202-1001	2	Primary Coal Crusher
		T - Roll Crusher - Double Roll C - 356 STPH Norm. S - 30" Ø x 72" Wide D - 2-125 hp Each
202-1002	5	Secondary Coal Crusher
		T - Roll Crusher - Double Roll C - 175 STPH Norm. S - 30" Ø x 72" Wide D - 2-125 hp Each
202-1003	1	Boiler Reclaimed Coal Crusher
		T - Roll Crusher - Double Roll C - 200 STPH Norm. S - 30" Ø x 72" Wide D - 2-125 hp
202-1401	1	Tramp Iron Separator
		T - Magnetic
202-1402	1	Tramp Iron Separator
		T - Magnetic
202-1403	1	Tramp Iron Separator
		T - Magnetic
202-1410	2	Scalping Screen
		T - 1-Surface Vibrating C - 531 STPH (33%-1 1/2 x D Passing) S - 8' x 16' D - 20 hp Each

COAL PREPARATION - AREA 202

EQUIPMENT LIST

ITEM	NO. REQUIRED	DESCRIPTION
202-1411	2	Primary Sizing Screen
		T - 1-Surface Vibrating C - 175 STPH (39.5%-1/4 x 0 Passing) S - 6' x 20' D - 20 hp Each
202-1412	5	Secondary Sizing Screen
		T - 1-Surface Vibrating C - 175 STPH (14% - 3/8 x 0 Passing) S - 6' x 16' D - 15 hp Each
202-2101	1	Process Coal Collecting Conveyor
		T - Belt C - 712 STPH Norm. - 880 STPH Max. S - 48" Wide x 300 tpm D - 20 hp
202-2102	1	Process Coal Collecting Conveyor
		T - Belt C - 150 STPH Norm. - 213 STPH Max. S - 30" Wide x 300 fpm D - 10 hp
202-2103	1	Process Coal Transfer Conveyor
		T - Belt C - 862 STPH Norm. - 1093 STPH Max. S - 42" Wide x 500 fpm D - 150 hp
202-2104	1	Process Coal Distributing Conveyor
		T - Belt C - 862 STPH Norm - 1093 STPH Max. S - 54" Wide x 300 fpm D - 15 hp

COAL PREPARATION - AREA 202

EQUIPMENT LIST

ITEM	NO. REQUIRED	DESCRIPTION
202-2105	1	Process Coal Collecting Conv. T - Belt C - 120 STPH Norm - 153 STPH Max. S - 30" Wide x 300 fpm D - 15 hp
202-2106	1	Process Coal Transfer Conveyor T - Belt C - 120 STPH Norm - 153 STPH Max. S - 30" Wide x 300 fpm D - 5 hp
202-2107	1	Process Coal Transfer Conveyor T - Belt C - 862 STPH Norm. - 1093 STPH Max. S - 54" Wide x 350 fpm D - 100 hp
202-2108	1	Reclaimed Boiler Coal Transfer Conveyor T - Belt C - 200 STPH Norm. - 317 STPH Max. S - 30" Wide x 300 fpm D - 100 hp
202-2109	1	Boiler Coal Collecting Conveyor T - Belt C - 200 STPH Norm. - 317 STPH Max. M - 30" Wide x 300 fpm D - 10 hp
202-2110	1	Boiler Coal Collecting Conveyor T - Belt C - 200 STPH Norm. - 317 STPH Max. S - 30" Wide x 375 fpm D - 10 hp

COAL PREPARATION - AREA 202

EQUIPMENT LIST

ITEM	NO. REQUIRED	DESCRIPTION
202-2120	2	Vibrating Feeder T - Electromechanical C - 531 STPH Norm. S - 48" x 72" D - 5 hp Each
202-2121	2	Vibrating Feeder T - Electromechanical C - 31 STPH Norm. S - 18" x 30" D - 1/4 hp Each
202-2122	5	Vibrating Feeder T - Electromechanical C - 172 STPH Max. S - 48" x 72" D - 5 hp Each
202-2310	1	Coal Surge Bin (Primary Crushing) C - 500 T
202-2311	1	Distribution Bin (Secondary Crusher) C - 500 T
202-1801	1	Belt Weigh Scale C - 150 STPH Norm. S - 30" Wide
202-1802	1	Belt Weight Scale C - 200 STPH Norm. S - 30" Wide

COAL PREPARATION - AREA 202

EQUIPMENT LIST

ITEM	NO. REQUIRED	DESCRIPTION
202-1803	1	Belt Weight Scale C - 862 STPH Norm. S - 42" Wide
202-1301	1	Fan T - Centrifugal C - 42,500 ACFM @ 13"W.C. & Amb. Temp. D - 150 hp
202-1302	1	Fan T - Centrifugal C - 45,500 ACFM @ 13" W.C. & Amb. Temp. D - 150 hp
202-1701	1	Dust Collector T - Bag, Pulse Air 6:1 Air/Cloth C - 42,500 ACFM @ Amb. Temp.
202-1702	1	Dust Collector T - Bag, Pulse Air 6:1 Air/Cloth C - 45,500 ACFM @ Amb. Temp.

NOMENCLATURE:
T - TYPE
C - CAPACITY
S - SIZE
P/T - OPERATING PRESSURE/ TEMPERATURE
M - MATERIAL
CS - CARBON STEEL
SS - STAINLESS STEEL
CI - CAST IRON
D - DRIVE
W - WEIGHT
ACC - ACCESSORIES

COAL DRYING - AREA 203

EQUIPMENT LIST

ITEM	NO. REQUIRED	DESCRIPTION
203-2501	2	Thermal Dryer
		T - Fluid Bed C - 431 STPH @ 26% Moisture Max. S - #12 D - 6350 hp Total Each ACC - See Next Page
203-1801	2	Belt Weigh Scale
		C - 431 STPH Norm. S - 36" Wide
203-2101	2	Process Coal Transfer Conveyor
		T - Belt C - 431 STPH Norm. - 505 STPH Max. S - 36" Wide x 325 fpm D - 75 hp Each
203-2102	2	Dryer Feed Conveyor
		T - Belt C - 431 STPH Norm. - 505 STPH Max. S - 36" Wide x 325 fpm D - 10 hp Each
203-2103	2	Dried Coal Transfer Conveyor
		T - Belt C - 335 STPH Norm. - 398 STPH Max. S - 30" Wide x 375 fpm D - 20 hp Each
203-2120	2	Vib. Feeder
		T - Electromechanical C - 431 STPH Norm. S - 48" x 72" D - 5 hp Each

COAL DRYING - AREA 203

EQUIPMENT LIST

ITEM	NO. REQUIRED	DESCRIPTION

AREA 203 THERMAL DRYER 203-2501 Includes:

1. Combustion Chamber:

2. Fuel System:

   a. Forced Draft Burners
   b. Ignitor Gas Valve Trains
   c. Ball Tube Mill Pulverizer
   d. Centrifugal Classifier
   e. Crusher Dryers
   f. Press. Drum Type Coal Feeders
   g. Seal Air Supply Fans
   h. Controls

3. Drying Chamber:

   a. Wet Coal Electromech. Feeder
   b. Wet Coal Surge Bin
   c. Dried Coal Rotary Valve

4. Cyclone Dust Collection:

   a. Cyclone Dust Collectors (16' dia.)
   b. Coal Dust Rotary Discharge Valves
   c. Dust Collection Screw Conveyors

5. Fluidizing Fans:

6. Insulation Material:

7. Instrumentation:

   a. All Necessary Instrumentation
   b. Thermocouple Wires, Relays, Alarms
   c. Control Panel
   d. Electric Motor Operators & Spray Valves

COAL DRYING - AREA 203

EQUIPMENT LIST

ITEM	NO. REQUIRED	DESCRIPTION
203-2310	1	Dryer Feed Bin
203-1101	2	Scrubber Circ. Pump
		C - 2420 GPM @ 1.02 Sp.Gr. D - 100 hp Each
203-1301	1	Fan
		T - Centrifugal C - 24,200 ACFM @ 12" W.C. & 150°F D - 75 hp
203-1302	2	Fan
		T - Centrifugal C - 11,500 ACFM @ 13" W.C. & 150°F D - 40 hp
203-1701	1	Dust Collector
		T - Bag, Pulse Air 6:1 Air/Cloth C - 24,200 ACFM @ 150°F
203-1702	2	Dust Collector
		T - Bag, Pulse air 6:1 Air/Cloth C - 11,500 ACFM @ 150°F

T - TYPE
C - CAPACITY
S - SIZE
P/T - OPERATING PRESSURE/ TEMPERATURE
M - MATERIAL
CS - CARBON STEEL
SS - STAINLESS STEEL
CI - CAST IRON
D - DRIVE
W - WEIGHT
ACC - ACCESSORIES

PROCESS COAL CONVEYING AREA 204

EQUIPMENT LIST

ITEM	NO. REQUIRED	DESCRIPTION
204-1801	1	Belt Weigh Scale
		C - 669 STPH Norm. S - 42" Wide
204-2101	1	Dried Coal Transfer Conveyor
		T - Belt C - 669 STPH Norm. - 863 STPH Max. S - 36" Wide x 550 fpm D - 125 hp
204-2102	1	Dried Coal Transfer Conveyor
		T - Belt C - 669 STPH Norm. - 863 STPH Max. S - 42" Wide x 400 fpm D - 250 hp
204-2103	1 + 1	Stationary Tripper Conveyor
		T - Belt C - 335 STPH Norm. - 431 STPH Max. S - 36" Wide x 275 fpm D - 60 hp Each
204-2104	1	Cross Conveyor
		T - Belt C - 335 STPH Norm. - 431 STPH Max. S - 30" Wide x 400 fpm D - 10 hp
204-2105	1	Recycle Conveyor
		T - Belt C - 335 STPH Norm. - 431 STPH Max. S - 30" Wide x 400 fpm D - 50 hp

PROCESS COAL CONVEYING AREA 204

EQUIPMENT LIST

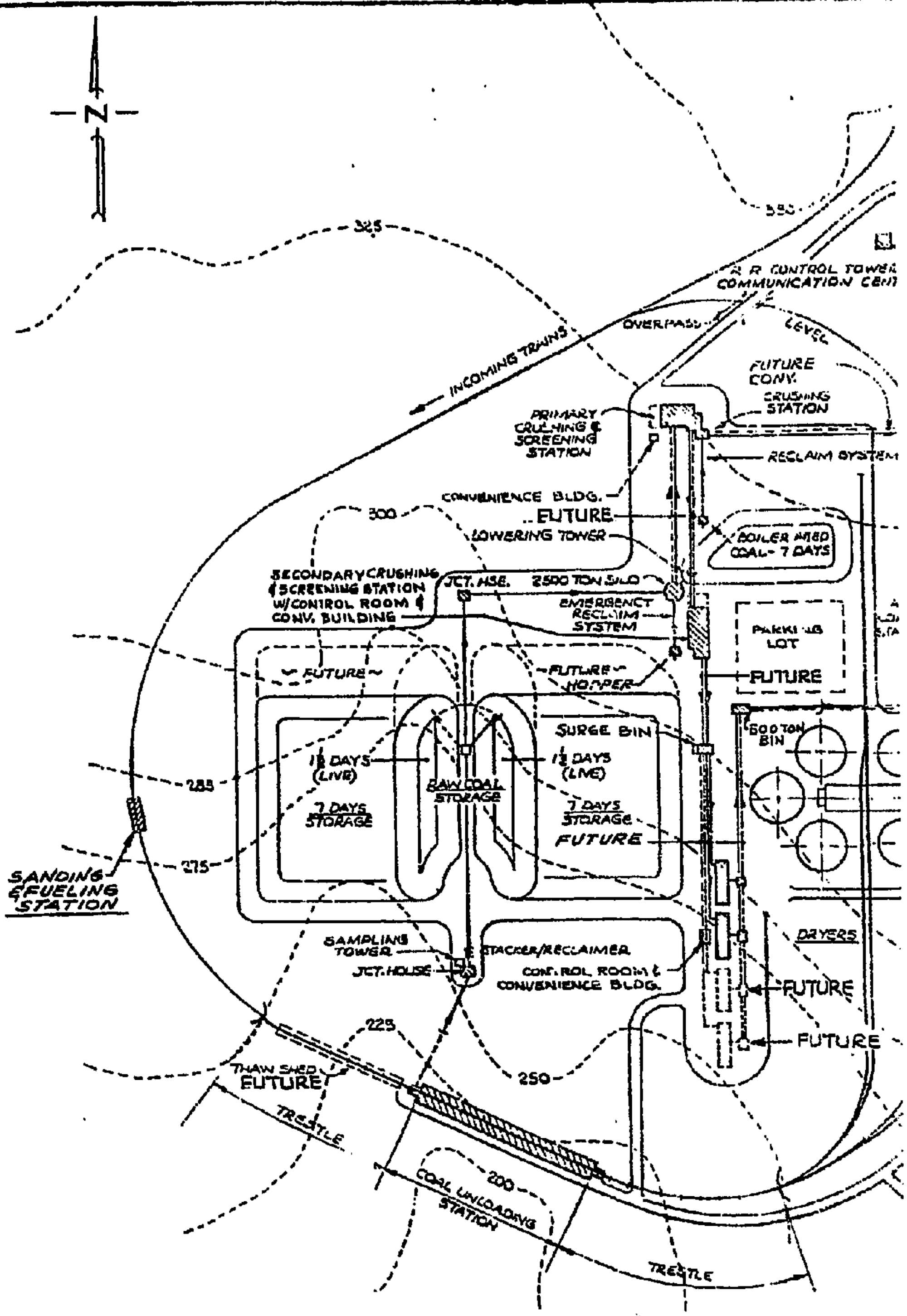
ITEM	NO. REQUIRED	DESCRIPTION
204-2106	1	Recycle Cross Conveyor
		T - Belt C - 335 STPH Norm. - 431 STPH Max. S - 30" Wide x 400 fpm D - 10 hp
204-2107	1 + 1	Stationary Tripper Conveyor
		T - Belt C - 335 STPH Norm. - 431 STPH Max. S - 36" Wide x 275 fpm D - 60 hp Each
209-2108	1	Cross Conveyor
		T - Belt C - 335 STPH Norm. - 431 STPH Max. S - 36" Wide x 275 fpm D - 10 hp
209-1209	1	Recycle Conveyor
		T - Belt C - 335 STPH Norm. - 431 STPH Max. S - 36" Wide x 275 fpm D - 50 hp
204-2110	1	Recycle Cross Conveyor
		T - Belt C - 335 STPH Norm. - 431 STPH Max. S - 36" Wide x 350 fpm D - 10 hp
204-2120	2 + 2	Vibrating Feeder
		T - Electromechanical C - 335 STPH Min. S - 48" x 72" D - 5 hp Each

PROCESS COAL CONVEYING AREA 204

EQUIPMENT LIST

ITEM	NO. REQUIRED	DESCRIPTION
204-2160	1	Feeder
		T - Belt C - 669 STPH Norm. S - 60" Wide x 250 fpm D - 15 hp
204-2161	8	Feeder
		T - Belt C - 84 STPH Norm. - 100 STPH Max. S - 36" Wide x 45 fpm D - 3 hp Each
204-2310	1	Process Coal Surge Bin
		C - 500 ST
204-2311	1	Process Coal Distributor Bin
		C - 180 ST
204-1301	1	Fan
		T - Centrifugal C - 79,600 ACFM @ 14" W.C. & 150°F D - 250 hp
204-1701	1	Dust Collector
		T - Bag, Pulse Air 6:1 Air/Cloth C - 79,600 ACFM @ 150°F

100-d-102



PLAN- COAL HANDLING & STORAGE

REVISIONS

NO.	DESCRIPTION	BY	CH.	APPROVED	DATE
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B	STORAGE YARD, ROADS, & WAREHOUSE ADDED				[illegible]
C	FUTURE EQUIPMENT NOTED	RVK			[illegible]
D	№ OF SAMPLERS REDUCED & FUTURE EQUIP. NOTED	TGM			[illegible]
E	ISSUE FOR REPORT	MS		JAL	7-1-81

NO.	DESCRIPTION	BY	CH.	APPROVED	DATE

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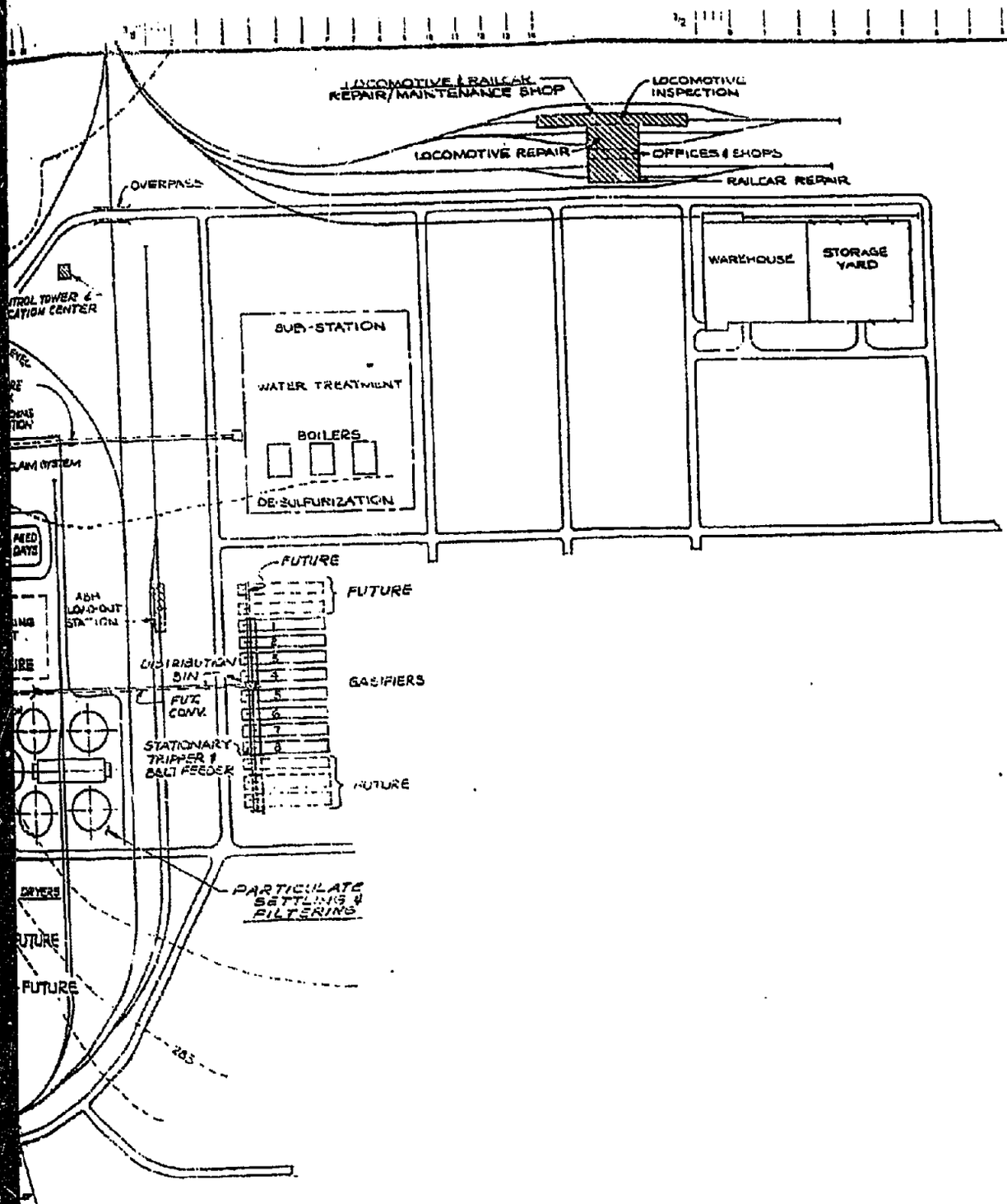

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CLIENT: CIRI/PLACER
BELUGA METHANOL PROJECT
COOK INLET, ALASKA

Davy McKee
ENGINEERS AND CONSTRUCTORS

TITLE: COAL RECEIVING, STORAGE & RECLAIM - PLAN

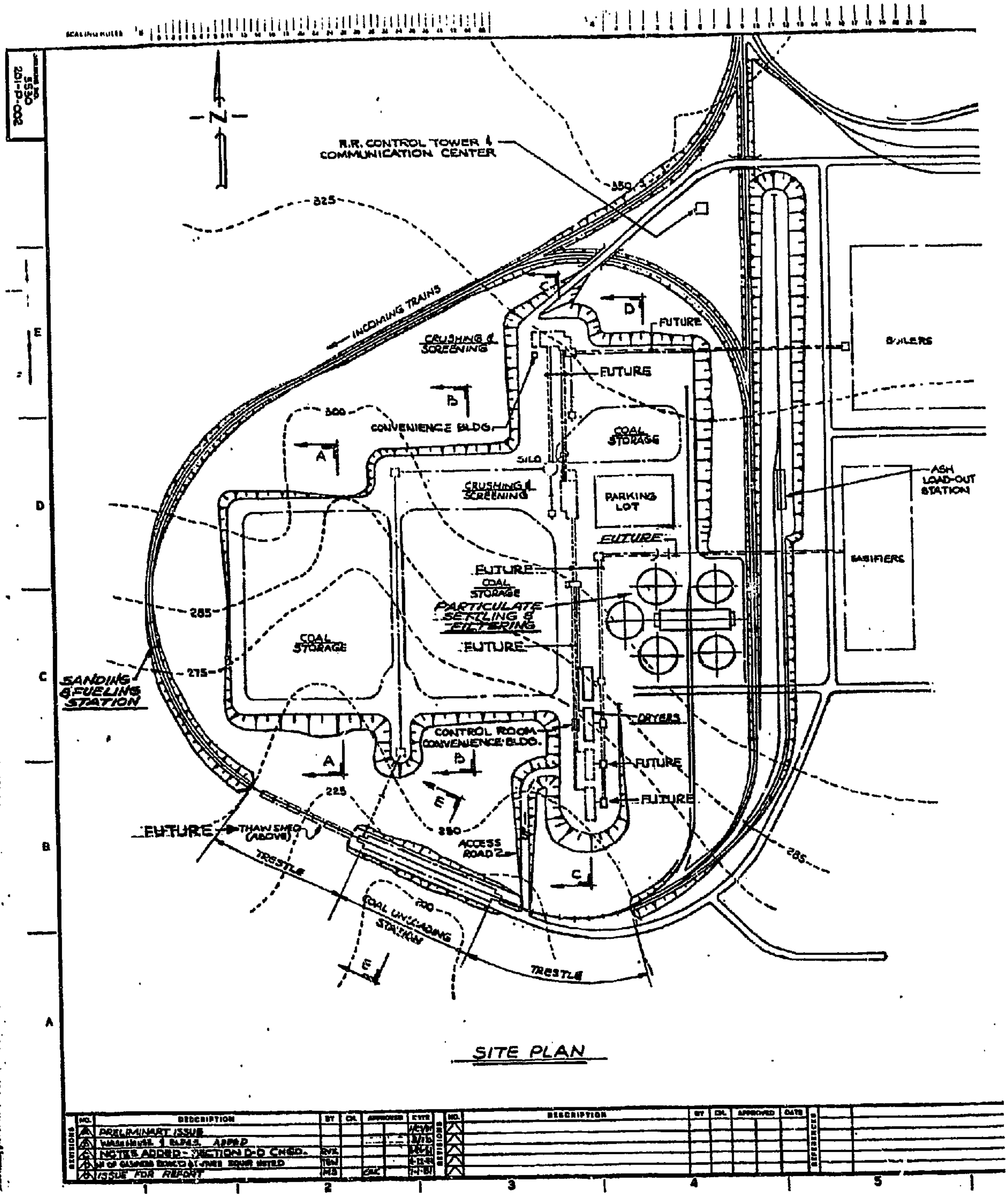
SCALE: 1" = 200'-0" PC-5530

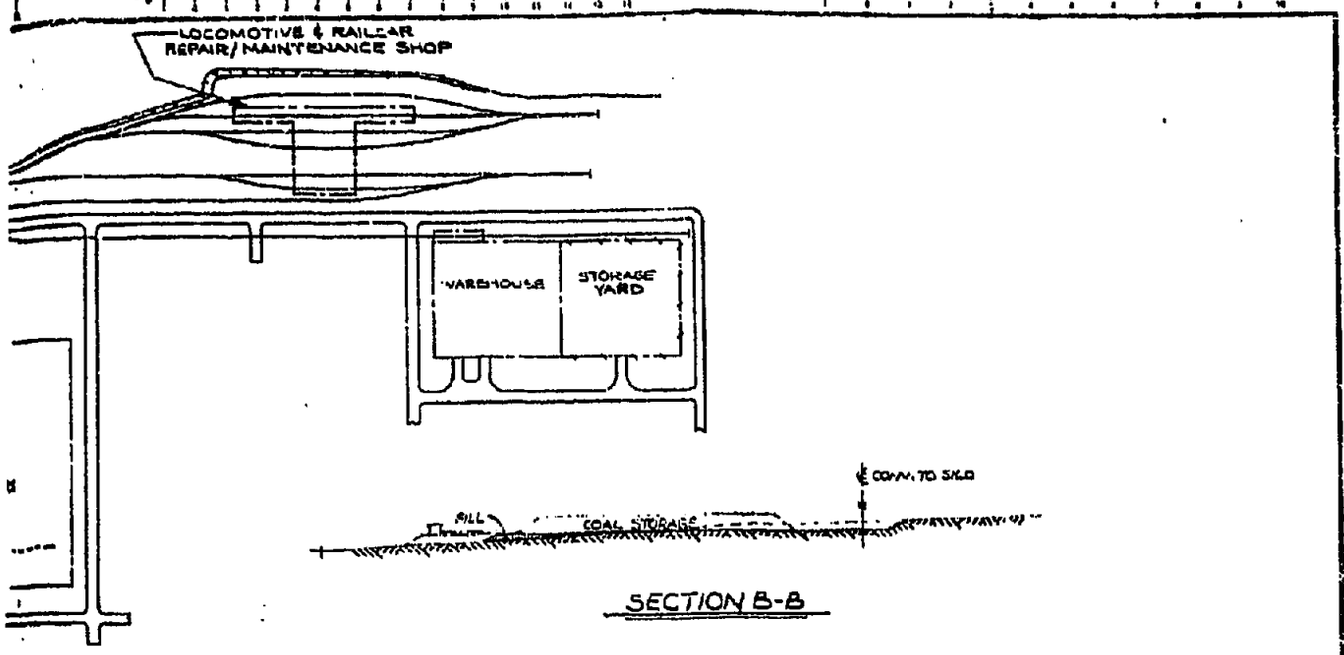
5530
201-P-001

REVISION: 0

	DESIGNED	BY	DATE
	DRAWN	RVK	1/81
	CHECKED		
	APPROVED 1		
	APPROVED 2		
	APPROVED 3		

DATE TO	A	B	C	D	E	F	G	H	I	J
CLIENT										
FIELD										


R.R. CONTROL TOWER &
COMMUNICATION CENTER
INCOMING TRAINS
CRUSHING & SCREENING
FUTURE
CONVENIENCE BLDG.
COAL STORAGE
SILO
CRUSHING & SCREENING
PARKING LOT
BOILERS
ASH LOAD-OUT STATION
GASIFIERS
PARTICULATE SETTLING & FILTERING
CONTROL ROOM CONVENIENCE BLDG.
DRYERS
ACCESS ROAD 2
SANDING & FUELING STATION
THAW SHED (ABOVE)
TRESTLE
COAL UNLOADING STATION
325
350
300
285
275
225
250
200
SITE PLAN
DESCRIPTION
BY
CK.
APPROVED
DATE
REVISIONS
PRELIMINARY ISSUE
NOTES ADDED - SECTION D-D CHGD.
ISSUE FOR REPORT



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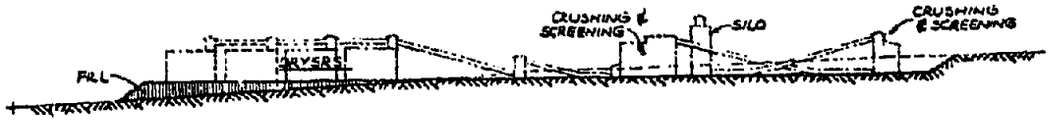

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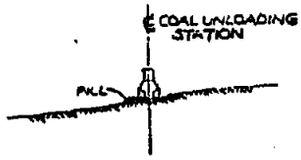

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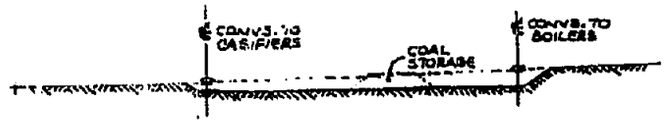


SECTION D-D

SECTION A-A

CLIENT: CIRI/PLACER
BELUGA METHANOL PROJECT
COOK INLET, ALASKA

Davy McKee
ENGINEERS AND CONSTRUCTORS

	BY	DATE
DESIGNED		
DRAWN	RYK	1/87
CHECKED		
APPROVED 1		
APPROVED 2		
APPROVED 3		

DATE TO: CLIENT / FIELD

A	B	C	D	1	2	3	4	5	6	7

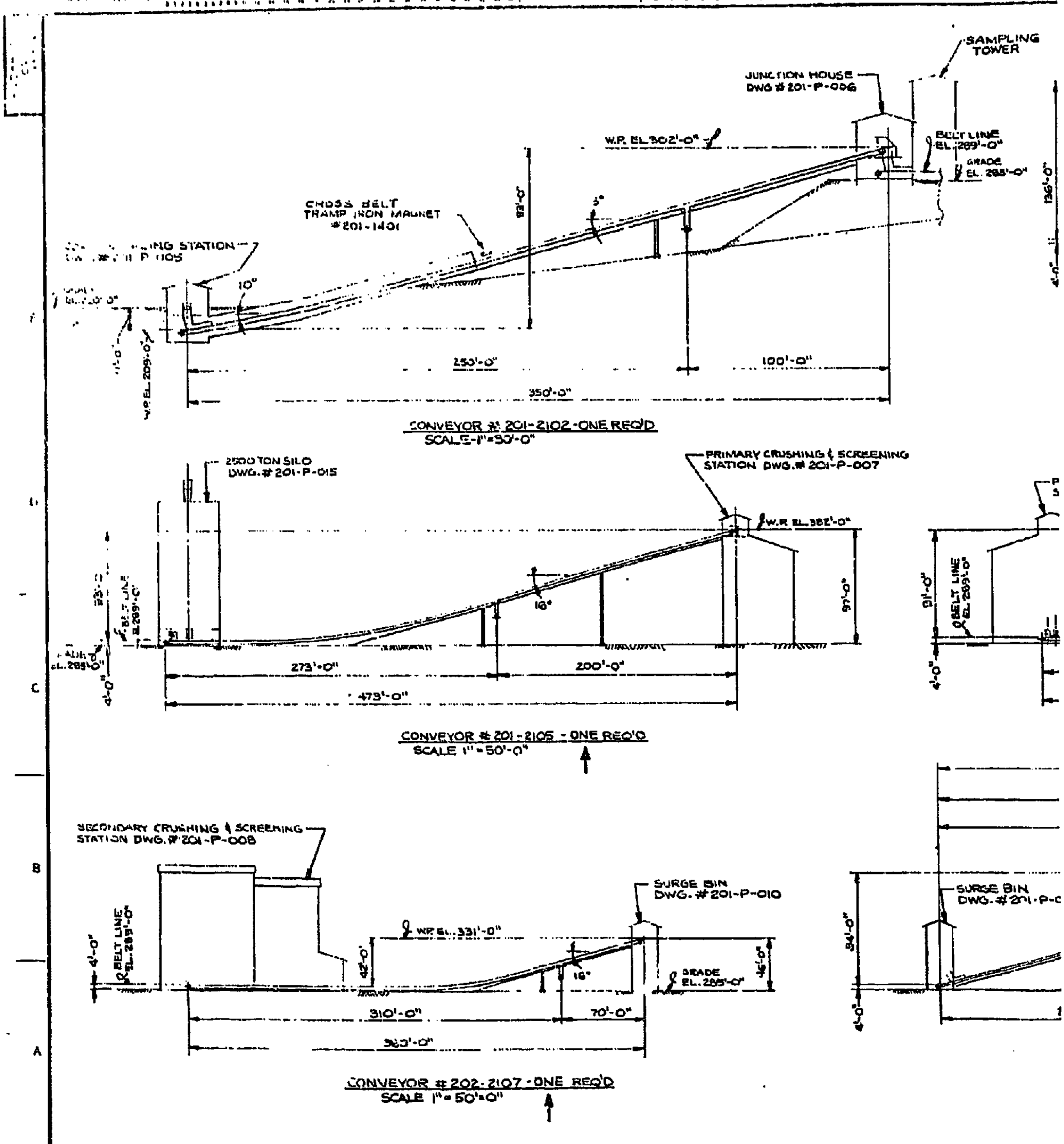
TITLE: COAL RECEIVING, STORAGE & RECLAIM-SITE PREPARATION

SCALE: 1"=200' DWG NO: PC-5530

5530
201-P-002

REVISION: 0

6 7 8 9 10



NO	DESCRIPTION	BY	CH	APPROVED	DATE
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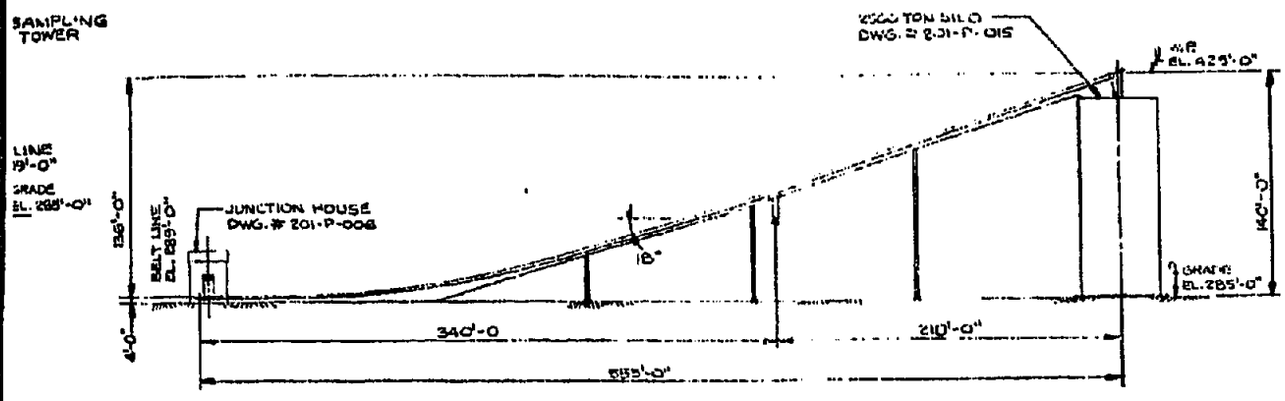
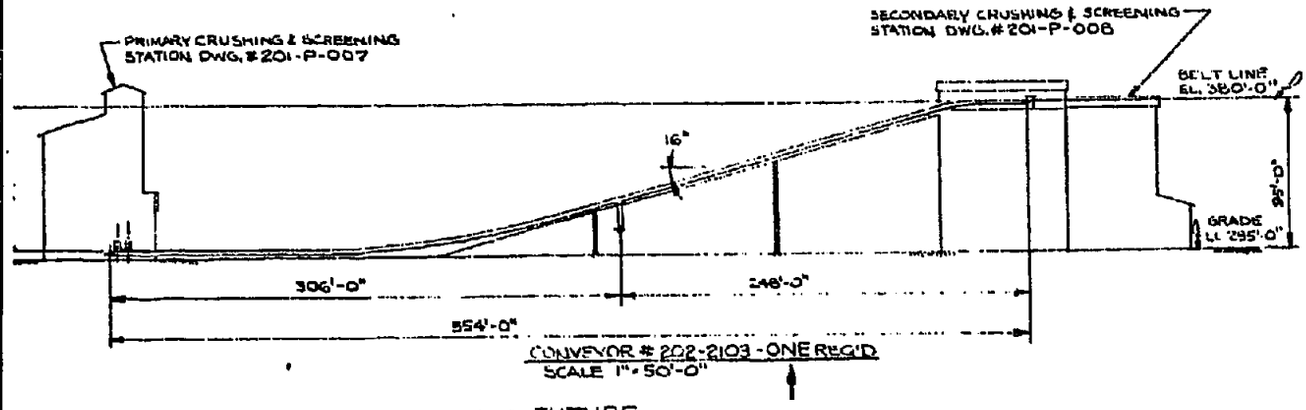
B	QUANTITIES CHG. - NOTE ADDED	RVK			[illegible]
C	REVISED NOTE	TCW			[illegible]
D	ISSUED FOR [illegible]	[illegible]		CAK	[illegible]



CONVEYOR # 201-2104 ONE REQ'D
SCALE 1"=50'-0"



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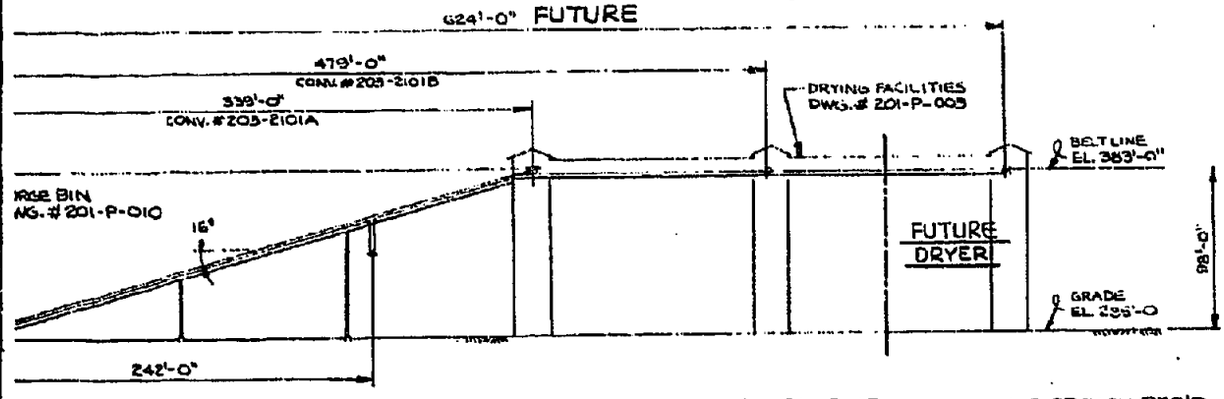
SCALE 1"=50'-0"



CONVEYOR # 203-2101A, 203-2101B, ONE OF EACH REQ'D
SCALE 1"=50'-0"

CLIENT: CIRI/PLACER
BELUGA METHANOL PROJECT
COOK INLET, ALASKA

Davy McKee
ENGINEERS AND CONSTRUCTORS

	BY	DATE
DESIGNED		
DRAWN	ALW	11/28
CHECKED		
APPROVED 1		
APPROVED 2		
APPROVED 3		

DATE TO: CLIENT / FIELD

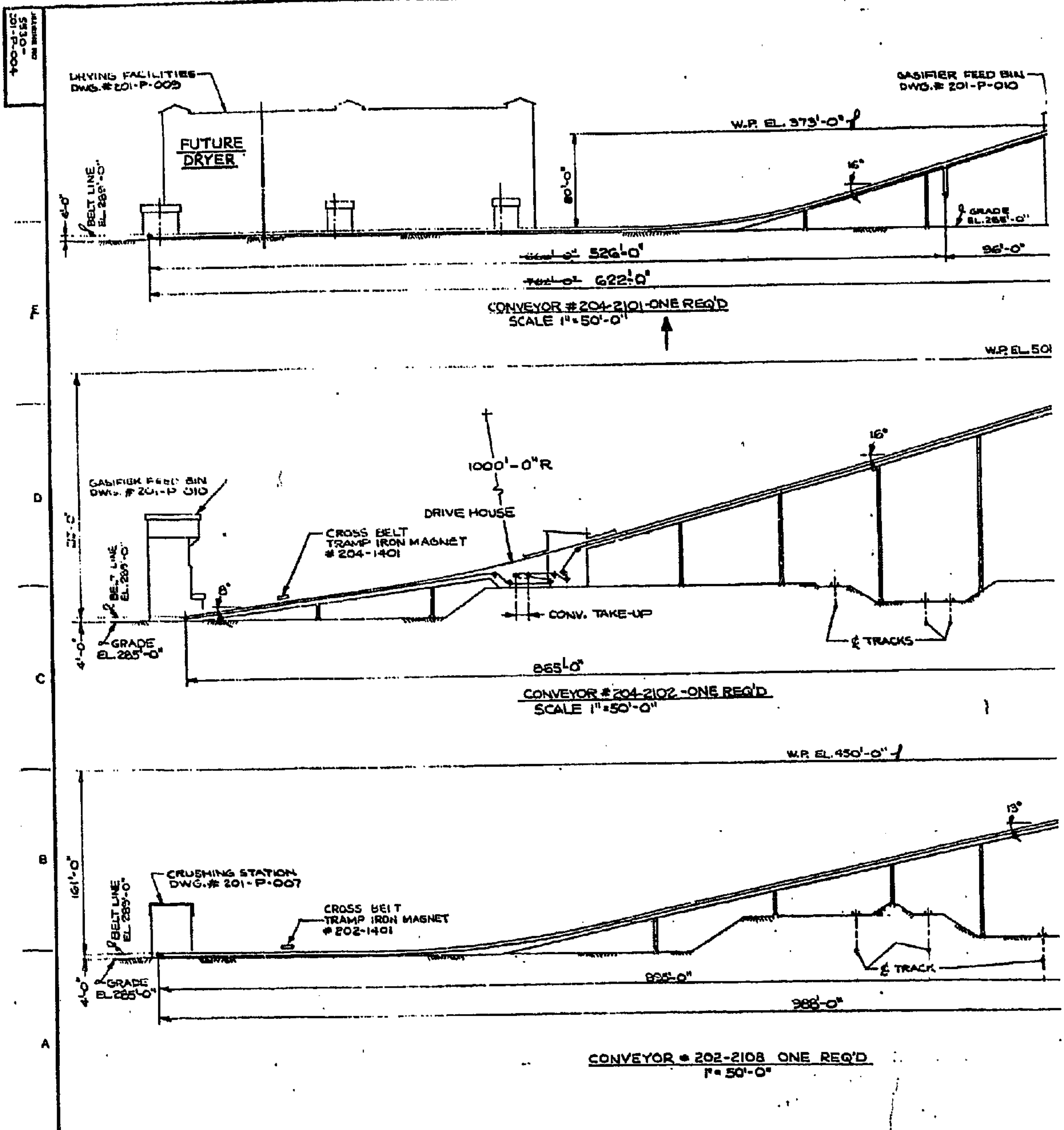
	A	B	C	D	1	2	3	4	5	6	7

TITLE: COAL RECEIVING, STORAGE & RECLAIM CONVEYOR PROFILES

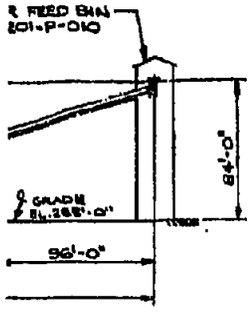
SCALE: AS NOTED — DWG. PC-5530

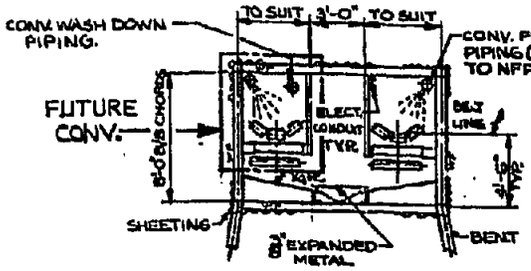
5530
201-P-003

REVISION: D

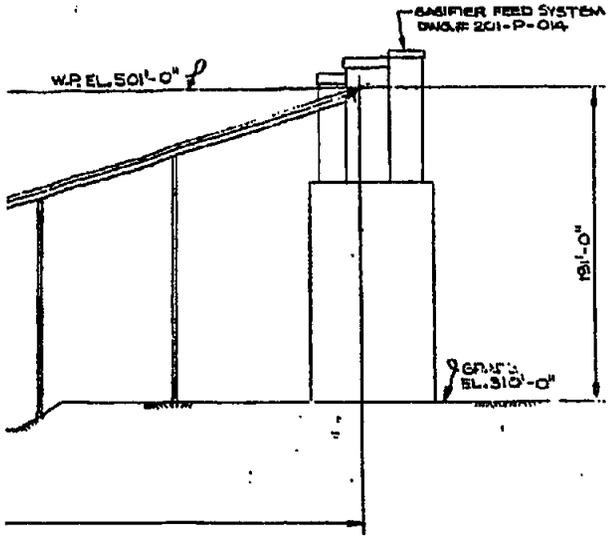


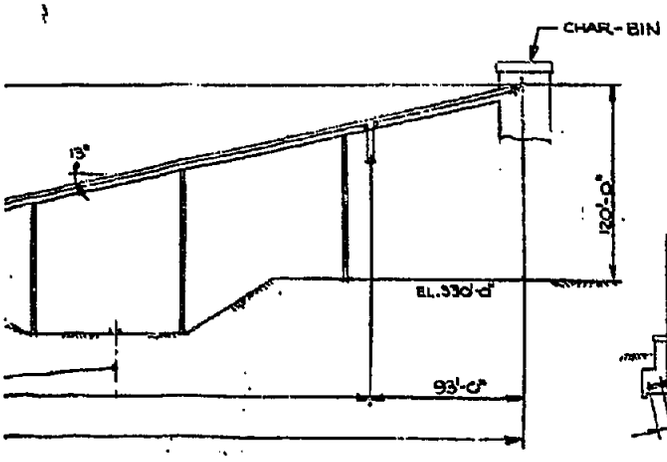
NO	DESCRIPTION	BY	CH	APPROVED	DATE
A	PRELIMINARY ISSUE				2-11
B	REVISED CONV. PROFILES				3/13
C	QUANTITY CH'D. - NOTE ADDED	RK			[illegible]
D	QUANTITY CH'D. - NOTE REVISED	TLW			4-29-81
[illegible]	ISSUED FOR REPORT	[illegible]		[illegible]	[illegible]

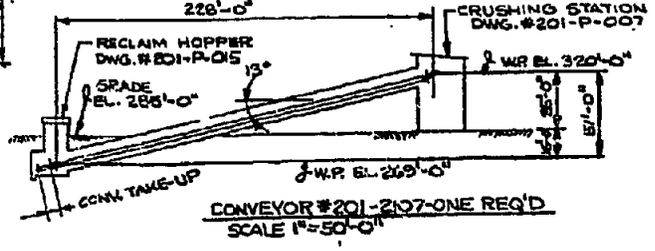




TYPICAL SECTION FOR BELT CONVEYOR MODULES 100'-0" LG.







CONVEYOR #201-2107-ONE REQ'D
SCALE 1"=50'-0"

NOTE: This Print is the property of DAVY McKEE CORPORATION. It must not be traced nor reproduced in any manner nor shall it be submitted to outside parties for examination without our consent. It shall be used only as a means of reference to work designed or furnished by us.

CLIENT: CIRI/PLACER BELUGA METHANOL PROJECT COOK INLET, ALASKA

Davy McKee
ENGINEERS AND CONSTRUCTORS

	BY	DATE
DESIGN		
DRAFTER	ALW	3-27-81
CHECKED		
APPROVED 1		
APPROVED 2		
APPROVED 3		

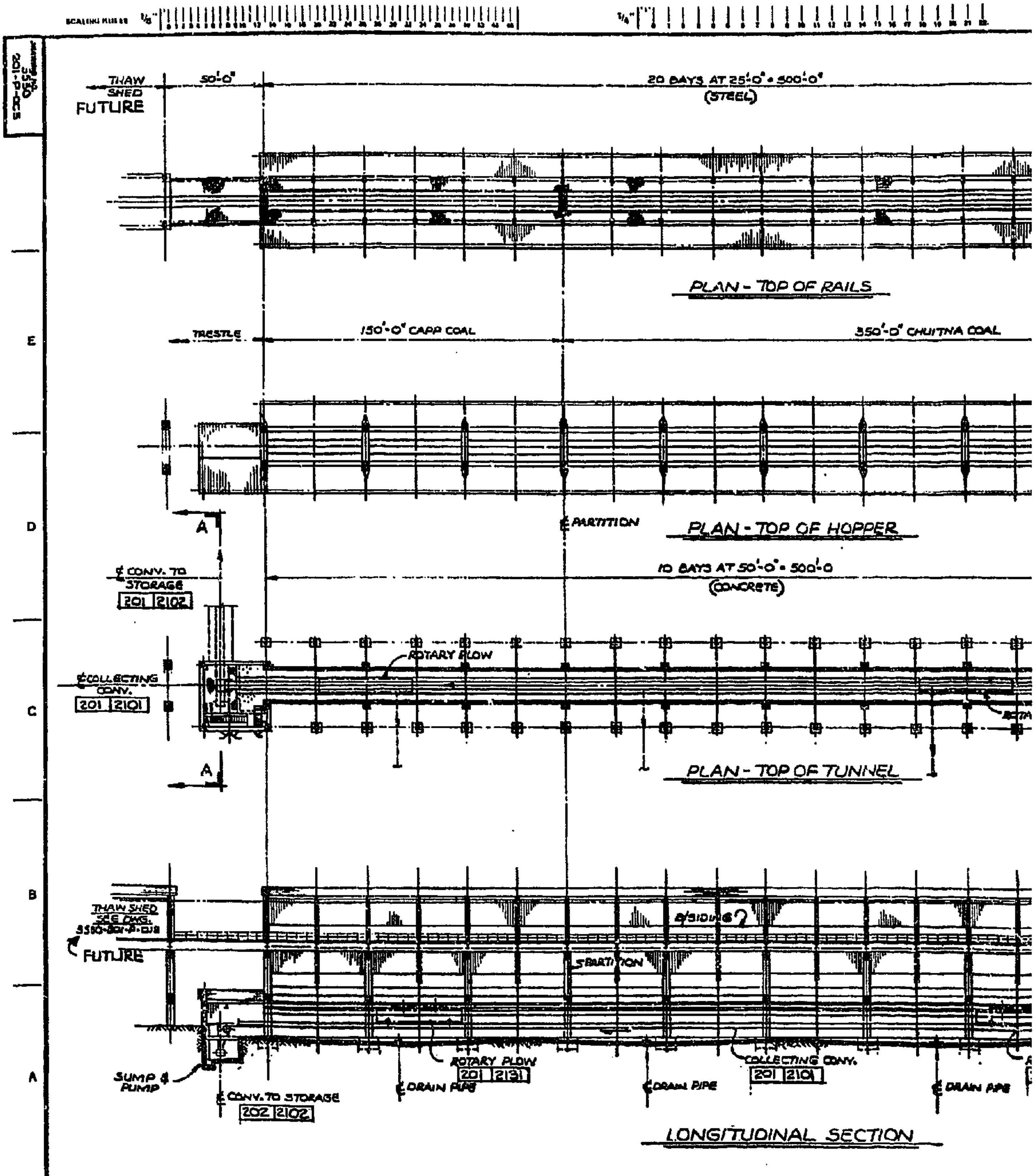
DATE TO: CLIENT / FIELD

TITLE: COAL RECEIVING, STORAGE & RECLAIM CONVEYOR PROFILES

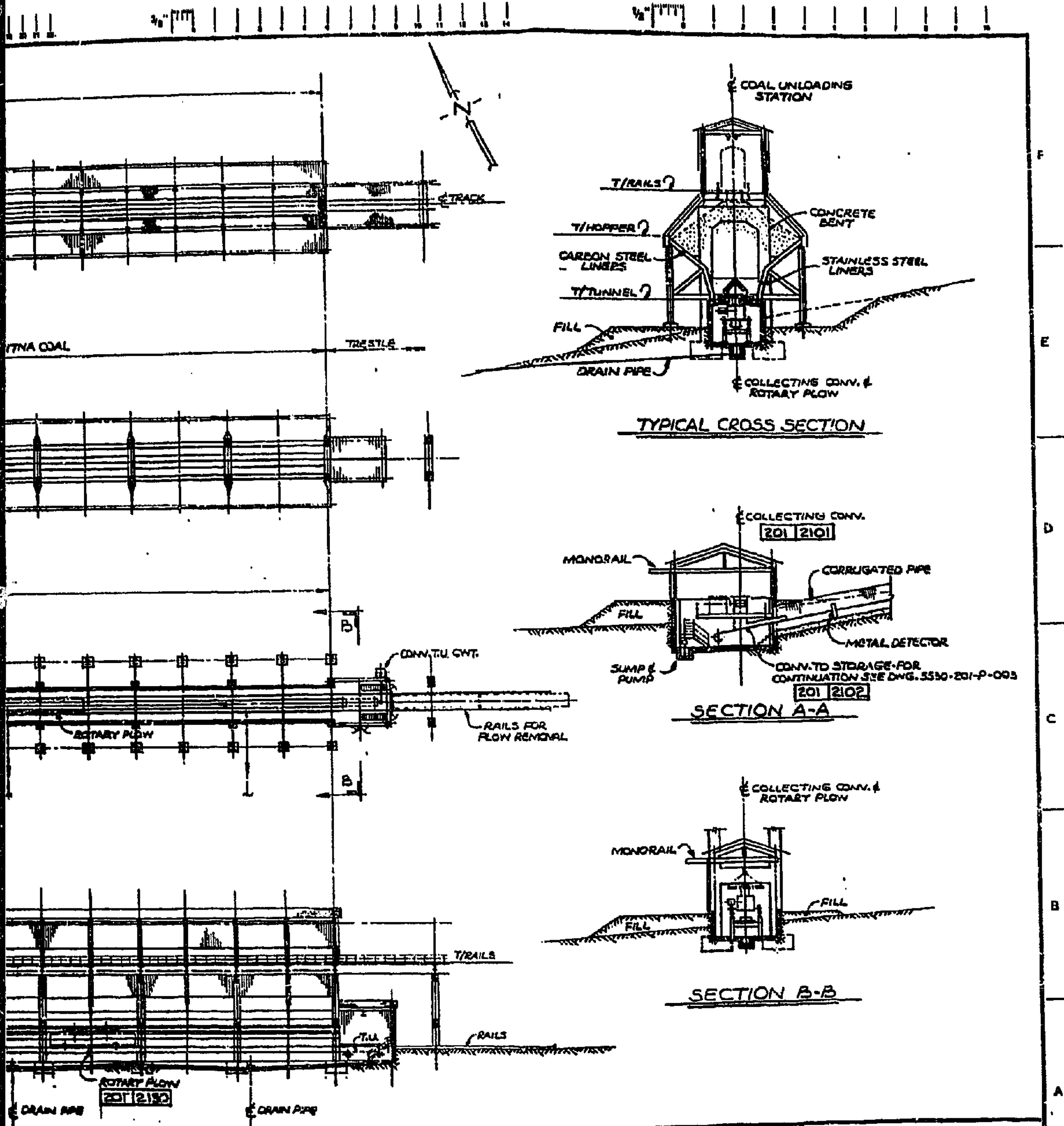
SCALE: AS NOTED — PC-5530

5530-201-P-004

REVISION: C



NO.	DESCRIPTION	BY	CH.	APPROVED	DATE
1	PRELIMINARY ISSUE				[illegible]
2	CONVEYOR & PLOW EQUIP No ADDED				[illegible]
3	ISSUED FOR REPORT	[illegible]		[illegible]	[illegible]



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CLIENT: CIRI/PLACER
BELUGA METHANOL PROJECT
COOK INLET, ALASKA

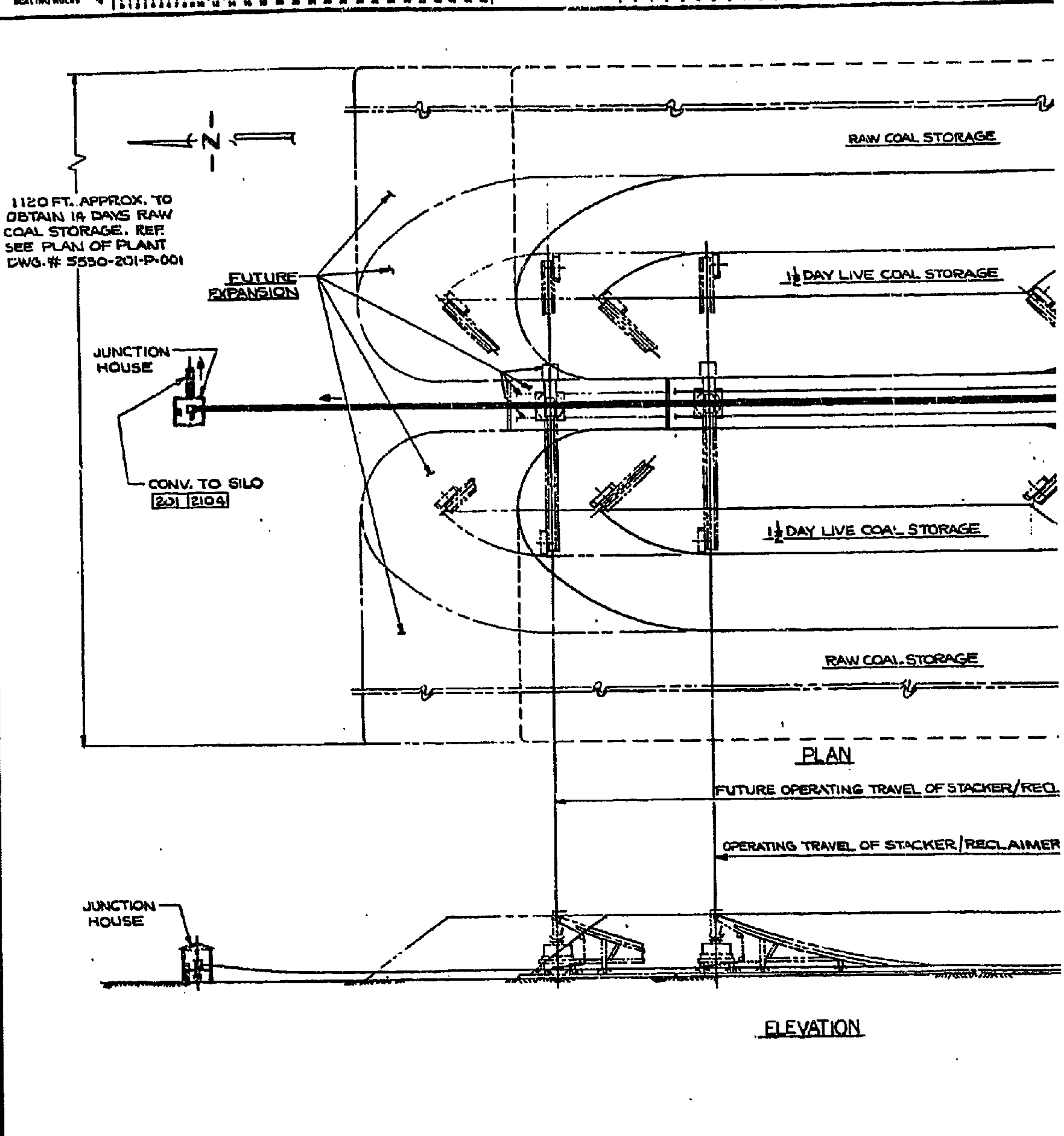
Davy McKee
ENGINEERS AND CONSTRUCTORS

TITLE: COAL RECEIVING, STORAGE & RECLAIM - COAL UNLOADING STATION

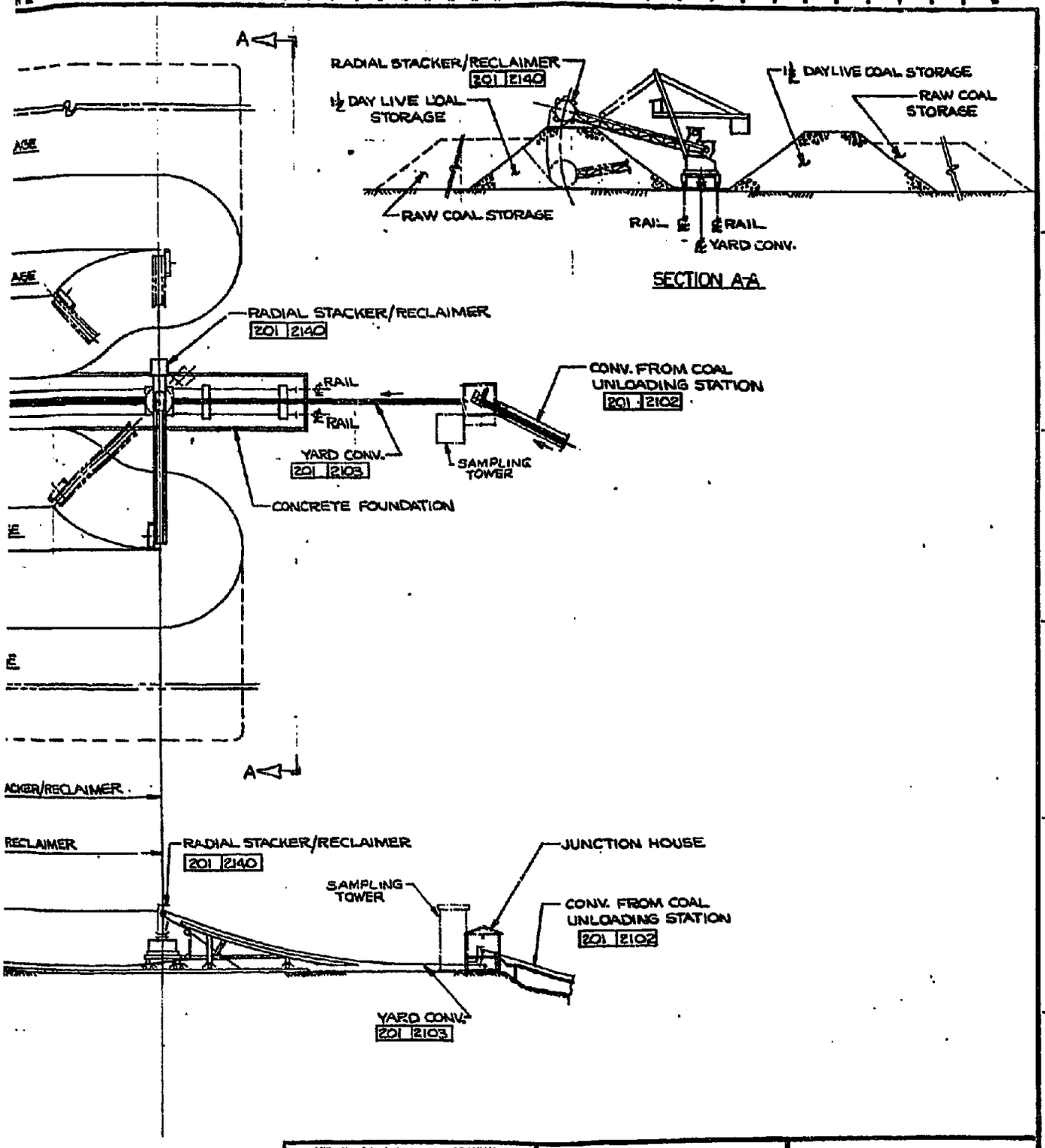
SCALE: 1"=30', 1"=20'
PC-5530

DESIGNED | BY | DATE
DRAWN | EVA | 1/81

5530
201-P-005
REVISION 0



NO.	DESCRIPTION	BY	CH.	APPROVED	DATE
1	PRELIMINARY ISSUE				
2	SAMPLE TOWER & EQUIP. NO ADDED				
3	ISSUED FOR REPORT	KB			



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CLIENT: CIRI/PLACER
BELUGA METHANOL PROJECT
COOK INLET, ALASKA

Davy McKee
ENGINEERS AND CONSTRUCTORS

	BY	DATE
DESIGNED		
DRAWN	ALW	
CHECKED		
APPROVED 1		
APPROVED 2		
APPROVED 3		

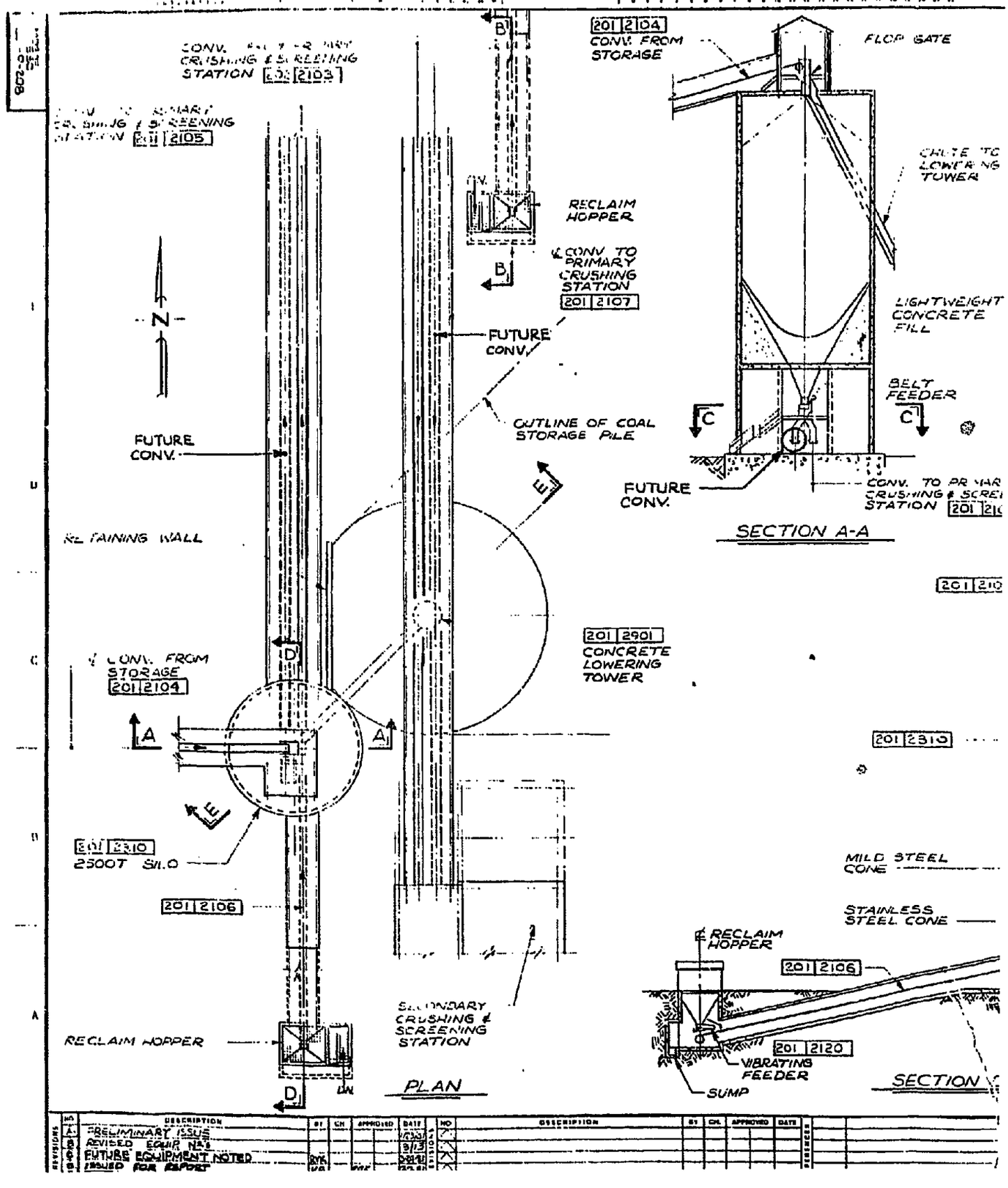
DATE TO: CLIENT / FIELD

TITLE: COAL RECEIVING, STORAGE & RECLAIM – RAW COAL STORAGE & RECLAIM

SCALE 1"=50'-0" PC-5530

5530
201-P-006

REVISION: 0

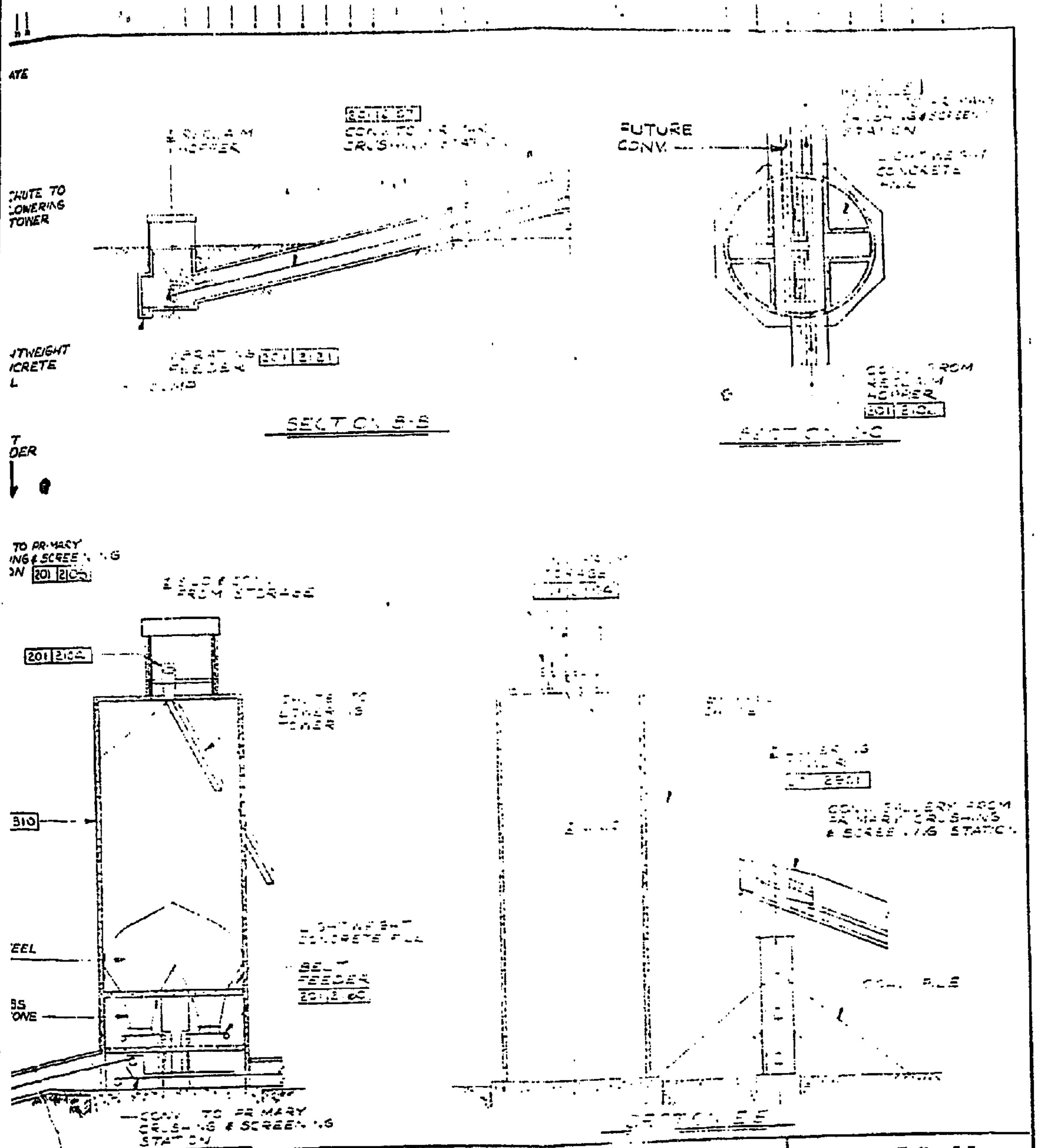


NO	DESCRIPTION	BY	CH	APPROVED	DATE
A	PRELIMINARY ISSUE				
B	REVISED EQUIP. NOS.				9/13
C	FUTURE EQUIPMENT NOTED				
D	ISSUED FOR REPORT				

REVISIONS

NO	DESCRIPTION	BY	CH	APPROVED	DATE

REFERENCES



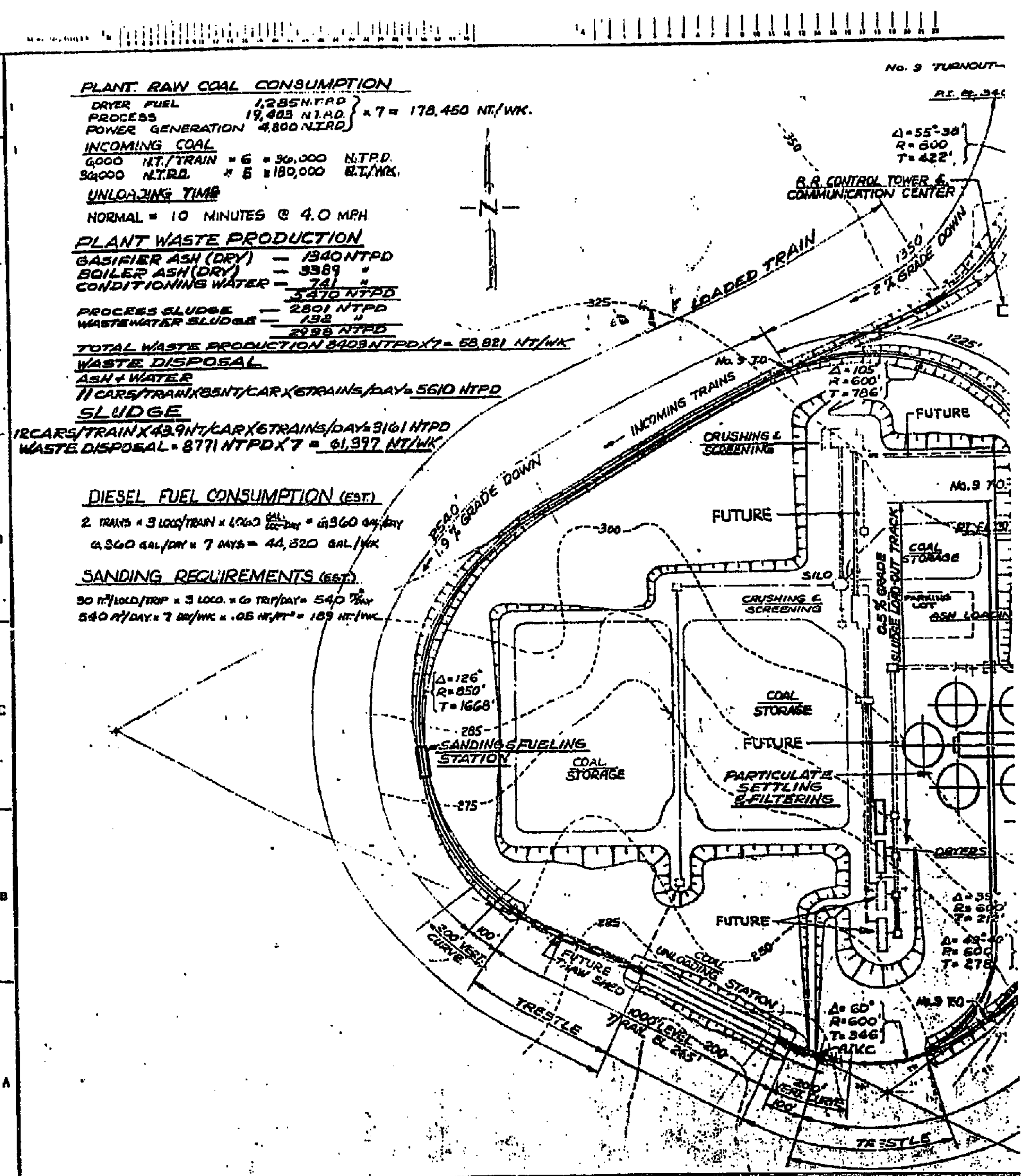
BELUGA METHANOL PROJECT
COOK INLET, ALASKA

COAL RECEIVING, STORAGE & RECLAIM
SILO, LOWERING TOWER
AND RECLAIM HOPPERS

Davy McKee
ENGINEERS AND CONSTRUCTORS

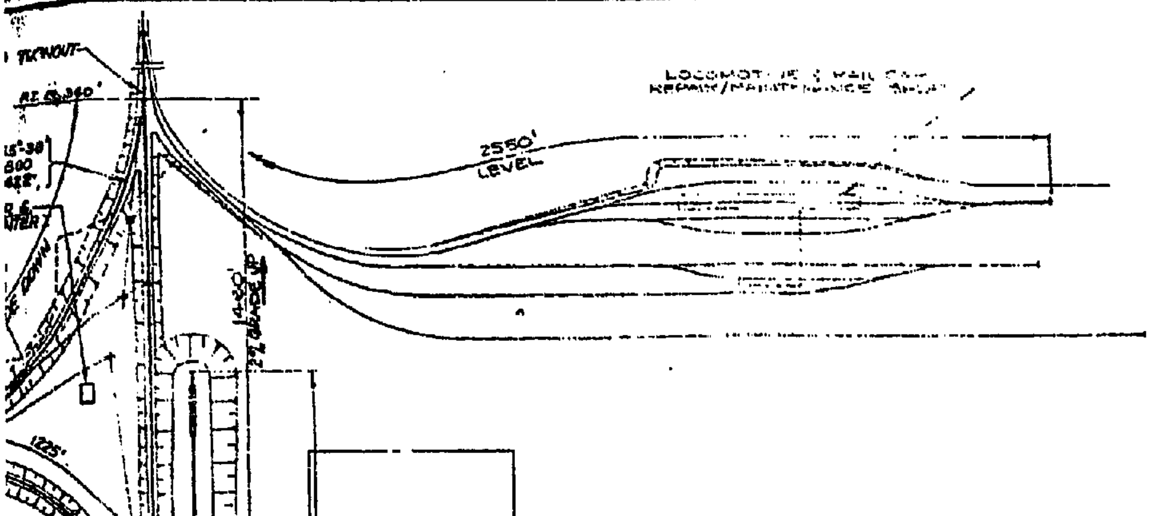
5530
201-P-008

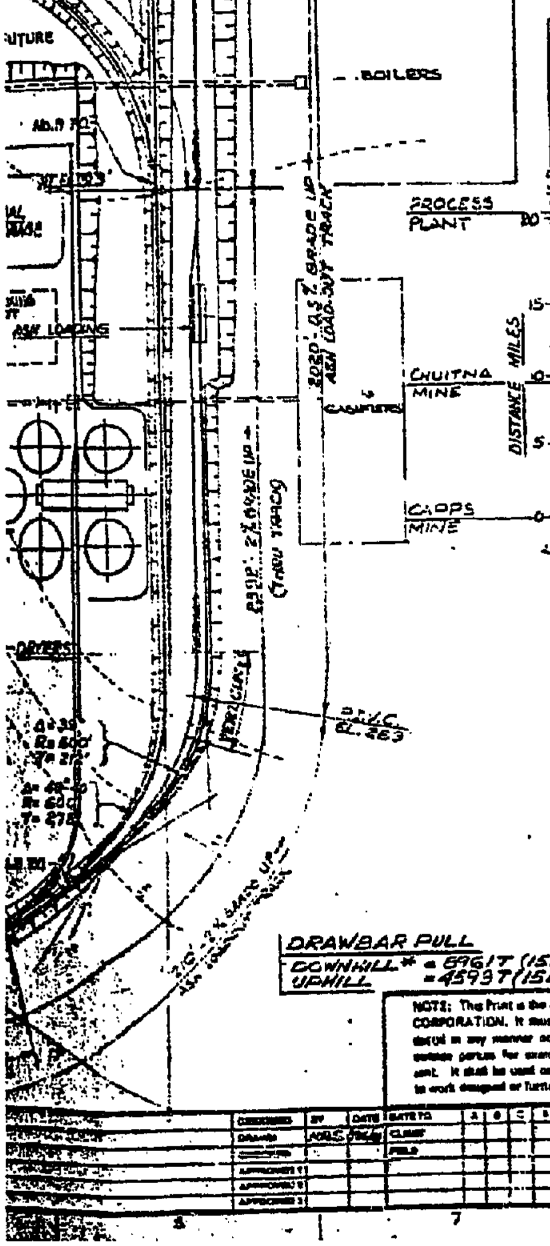
9 10

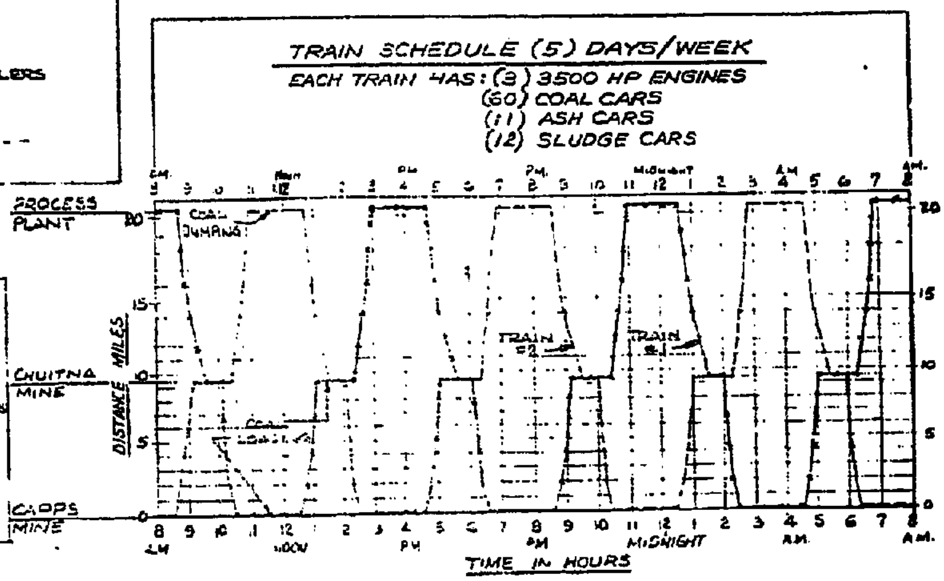


NO.	DESCRIPTION	BY	CH.	APPROVED	DATE
1	PRELIMINARY ISSUE				[illegible]
2	REVISED ASH LOADING & MAINT. TRACKS				[illegible]
3	NOTES ADDED	[illegible]			[illegible]
4	WASTE PR. ADDED & COAL FIG. REVISED	KCS			[illegible]
5	FUTURE EQUIP. NOTED	TCW			[illegible]

NO.	DESCRIPTION	BY	CH.	APPROVED	DATE
6	ISSUE FOR REPORT	MS		[illegible]	9-1-81







ROLLING STOCK

TYPE	SIZE	NO. OPER.	NO. SPARE	REMARKS
LOCOMOTIVE	3500HP	7	1	DIESEL-ELECTRIC
COAL CAR	100 TON	120	18	RAPID-BOTTOM DISCHARGE
ASH CAR	85 TON	33	6	SIDE DISCHARGE
SLUDGE CAR	50CU.YD.	39	6	SIDE DISCHARGE
BOX CAR	70 TON	6	1	STANDARD
FLAT CAR	70 TON	6	1	——"——
TANK CAR	20,000 GAL	10	1	STANDARD

TRAIN WEIGHTS

DOWNHILL = 6000T(COAL) + 0T(ASH) + 0T(SLUDGE) + 2961T(CARS) = 8961T
UPHILL = 0T(COAL) + 1135T(ASH) + 527T(SLUDGE) + 2961T(CARS) = 4593T

DRAWBAR PULL

DOWNHILL* = 8961T (15LB/TON - 20(.075%)) = 120,974 LB
UPHILL = 4593T (15LB/TON + 20(2%)) = 252,618 LB

* DYNAMIC BRAKES ARE REQUIRED MOST OF THE DOWNHILL TRIP.

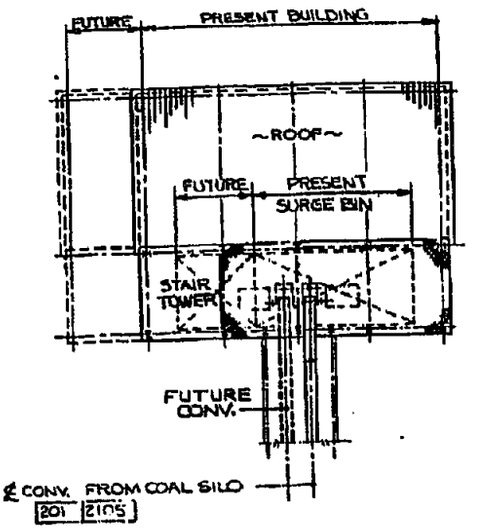
CLIENT
CIRI/PLACER
BELUGA METHANOL PROJECT
COOK INLET, ALASKA

Davy McKee
ENGINEERS AND CONSTRUCTORS

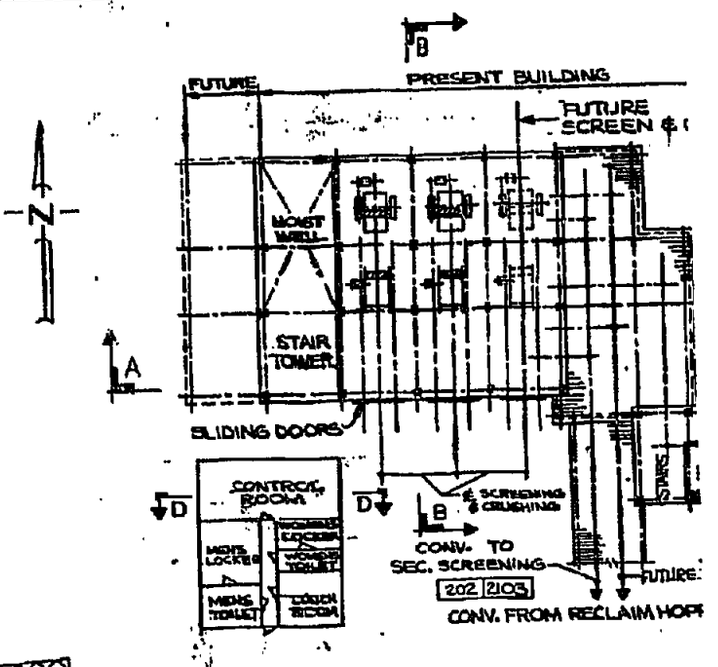
TITLE
COAL RECEIVING, STORAGE & RECLAIM-TRACK LAYOUT

SCALE 1" = 200' PG-5530

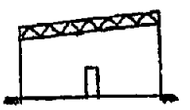
5530
201-P-009
0



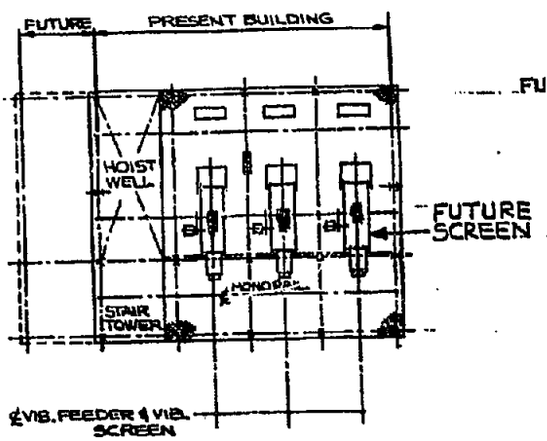
PLAN AT BIN FLOOR



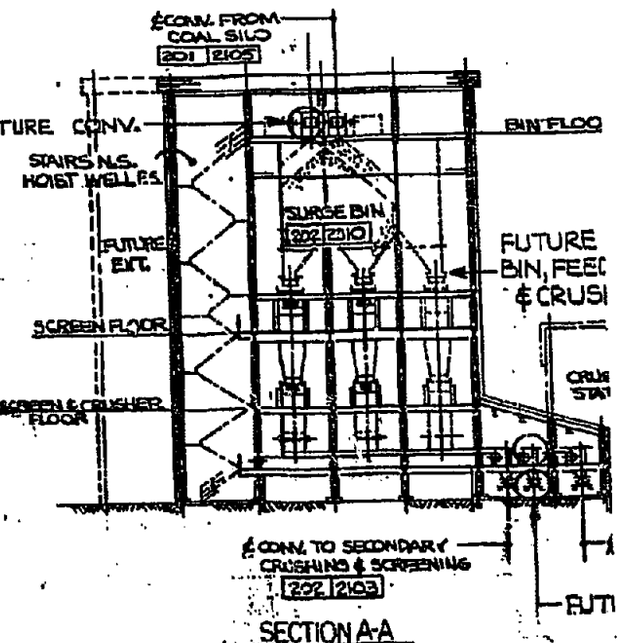
PLAN AT SCREEN & CRUSHER FLOOR



SECTION D-D



PLAN AT SCREEN FLOOR



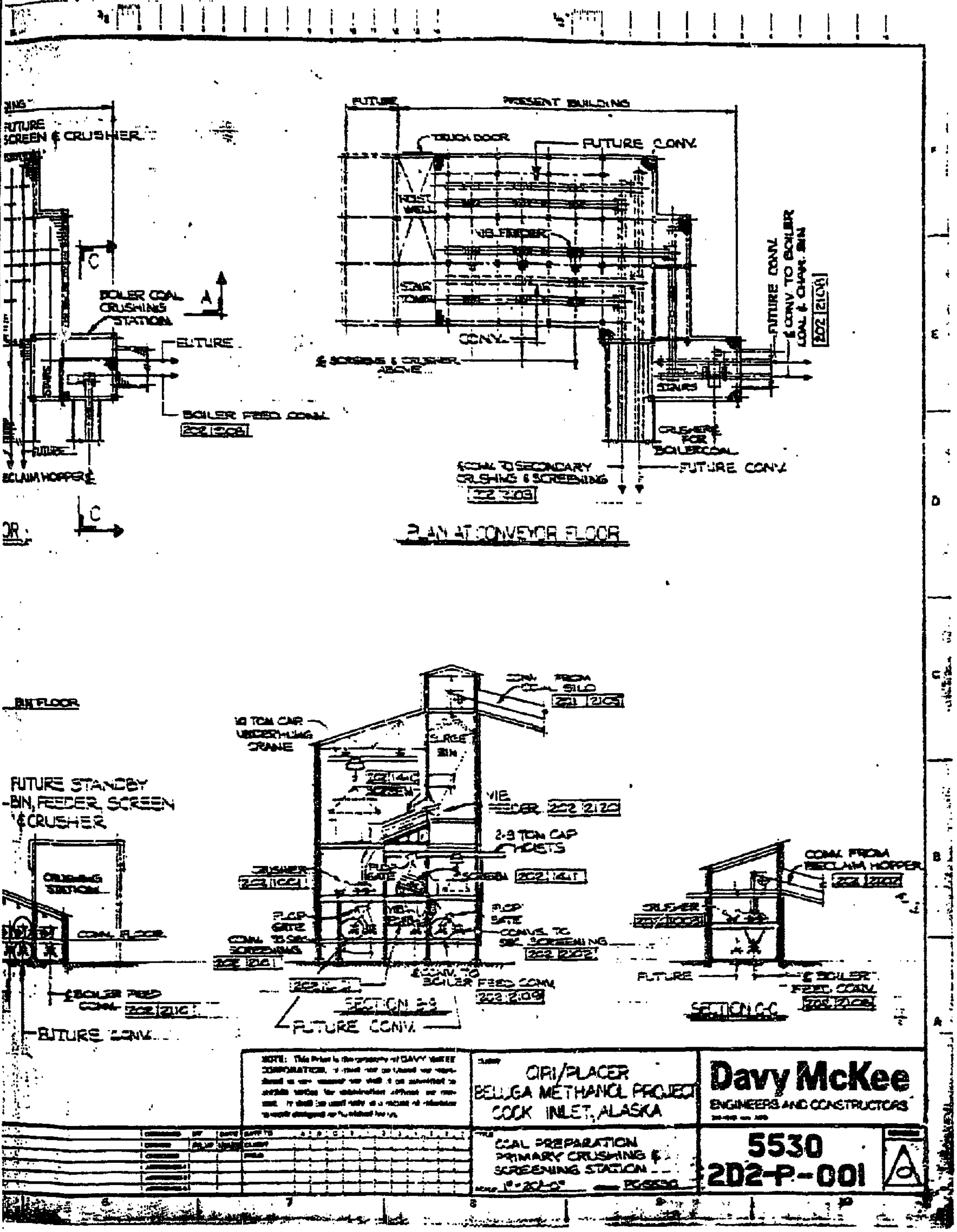
SECTION A-A

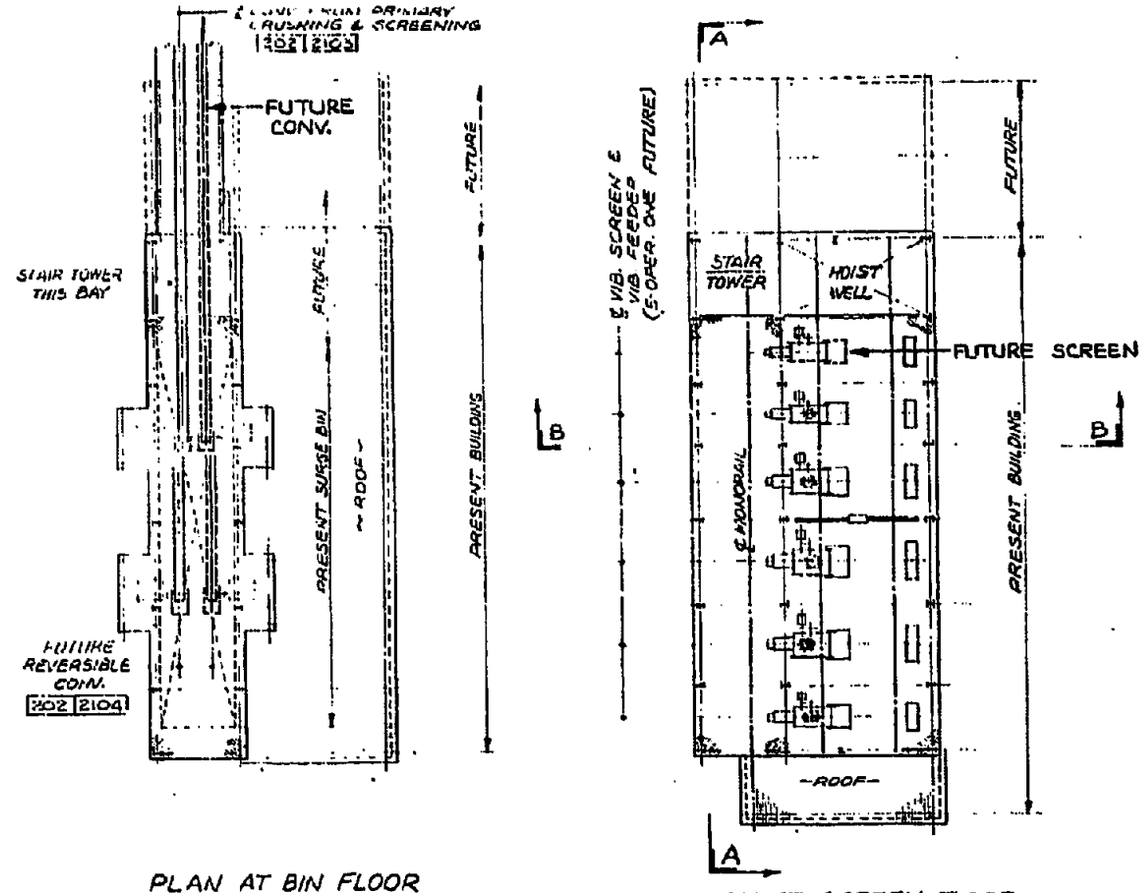
NO.	DESCRIPTION	BY	CHK	APPROVED	DATE
A	PRELIMINARY ISSUE				
B	ADDED CONTROL ROOM & CONVENIENCE BLDG				
C	FUTURE EQUIPMENT NOTED				
D	FUTURE EQUIPMENT NOTED				
E	ISSUED FOR REPORT				

REVISIONS

NO.	DESCRIPTION	BY	CHK	APPROVED	DATE

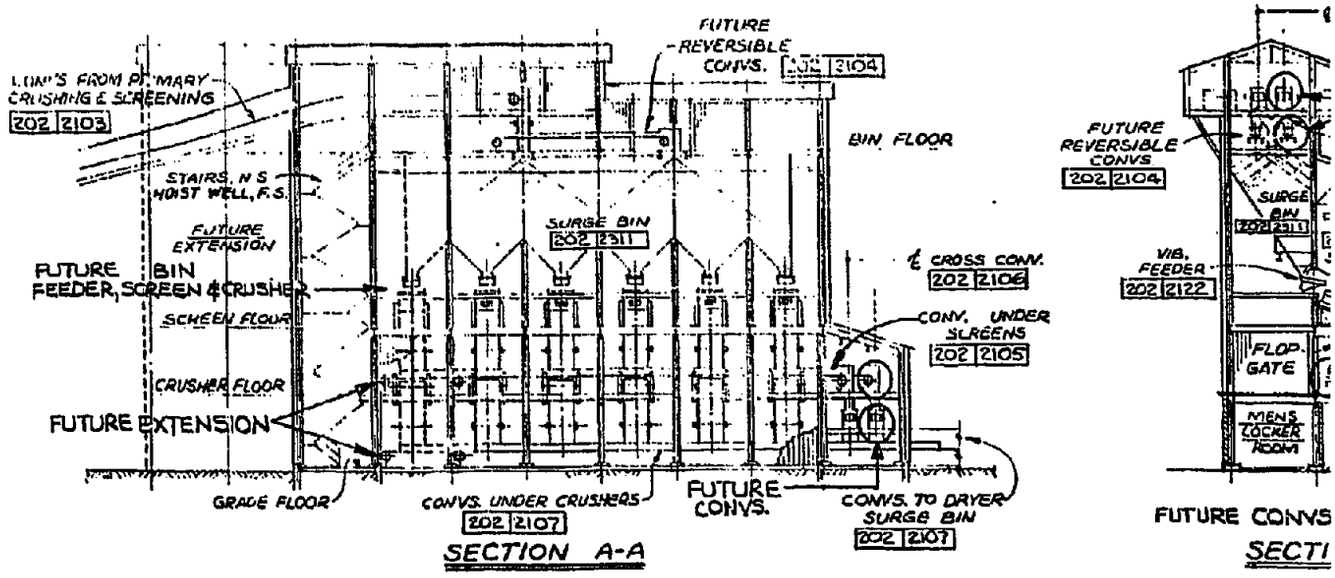
REVISIONS


FUTURE SCREEN & CRUSHER
BOILER COAL CRUSHING STATION
FUTURE
BOILER FEED CONV.
202 2108
RECLAIM HOPPER
FUTURE
PRESENT BUILDING
TRUCK DOOR
FUTURE CONV.
HOIST WELL
VIB. FEEDER
STAIR TOWER
CONV.
℄ SCREENS & CRUSHER ABOVE
FUTURE CONV. ℄ CONV. TO BOILER COAL & CHAR. BIN
202 2108
STAIRS
CRUSHERS FOR BOILER COAL
℄ CONV. TO SECONDARY CRUSHING & SCREENING
202 2103
FUTURE CONV.
PLAN AT CONVEYOR FLOOR
BIN FLOOR
FUTURE STANDBY BIN, FEEDER, SCREEN & CRUSHER
CRUSHING STATION
CONV. FLOOR
℄ BOILER FEED CONV. 202 2110
FUTURE CONV.
10 TON CAP. UNDERHUNG CRANE
CONV. FROM COAL SILO 221 2105
SURGE BIN
VIB. FEEDER 202 2120
2-3 TON CAP HOISTS
CRUSHER 202 1001
SCREEN 202 1411
FLOP GATE
CONV. TO SEC. SCREENING 202 2101
CONVS. TO SEC. SCREENING 202 2102
℄ CONV. TO BOILER FEED CONV. 202 2109
SECTION A-A
FUTURE CONV.
CONV. FROM RECLAIM HOPPER 202 2107
CRUSHER
FUTURE
℄ BOILER FEED CONV. 202 2108
SECTION C-C
ORI/PLACER
BELUGA METHANOL PROJECT
COOK INLET, ALASKA
Davy McKee
ENGINEERS AND CONSTRUCTORS
COAL PREPARATION
PRIMARY CRUSHING & SCREENING STATION
5530
2D2-P-001



PLAN AT BIN FLOOR

PLAN AT SCREEN FLOOR



SECTION A-A

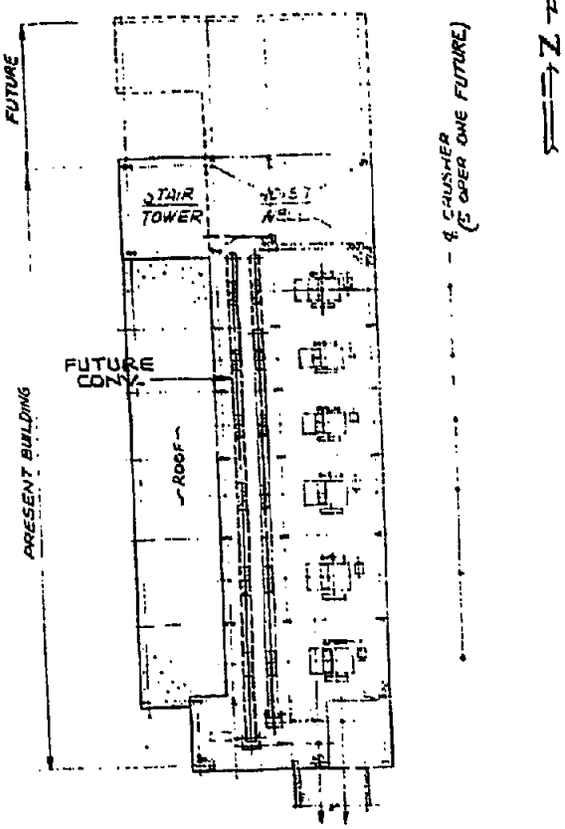
SECTI

NO	DESCRIPTION	BY	CH	APPROVED	DATE
A	PRELIMINARY ISSUE				10/2/81
B	CONTROL & LUNCH ROOMS ADDED				2/2/82
C	FUTURE EQUIPMENT NOTED	RW			3/31/82
D	FUTURE EQUIPMENT NOTED	RW			5-21-82
E	ISSUE FOR REPORT	KB	CAK		7-1-82

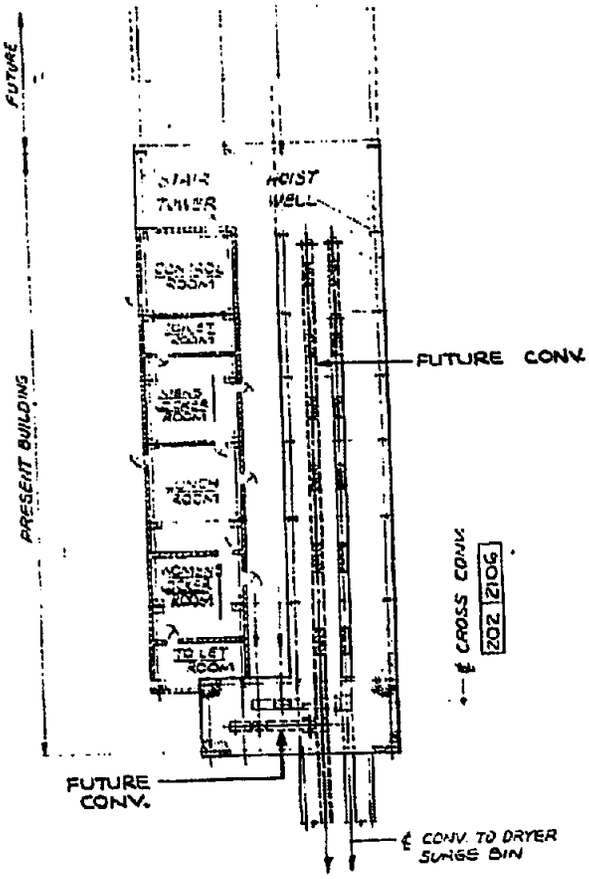
REVISIONS

NO	DESCRIPTION	BY	CH	APPROVED	DATE

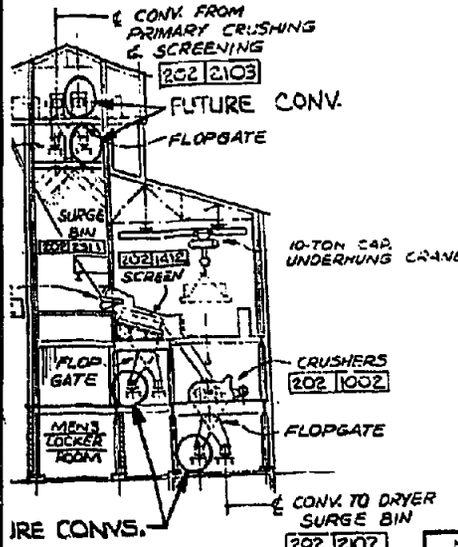
REFERENCES



PLAN AT CRUSHER FLOOR



PLAN AT GRADE FLOOR



SECTION B-B

CLIENT: Cirl/PLACER
BELUGA METHANOL PROJECT
COOK INLET, ALASKA

Davy McKee
ENGINEERS AND CONSTRUCTORS

	DESIG. BY	DRAWN	CHECKED	APPROVED 1	APPROVED 2	APPROVED 3
BY		RVK				
DATE		11/80				

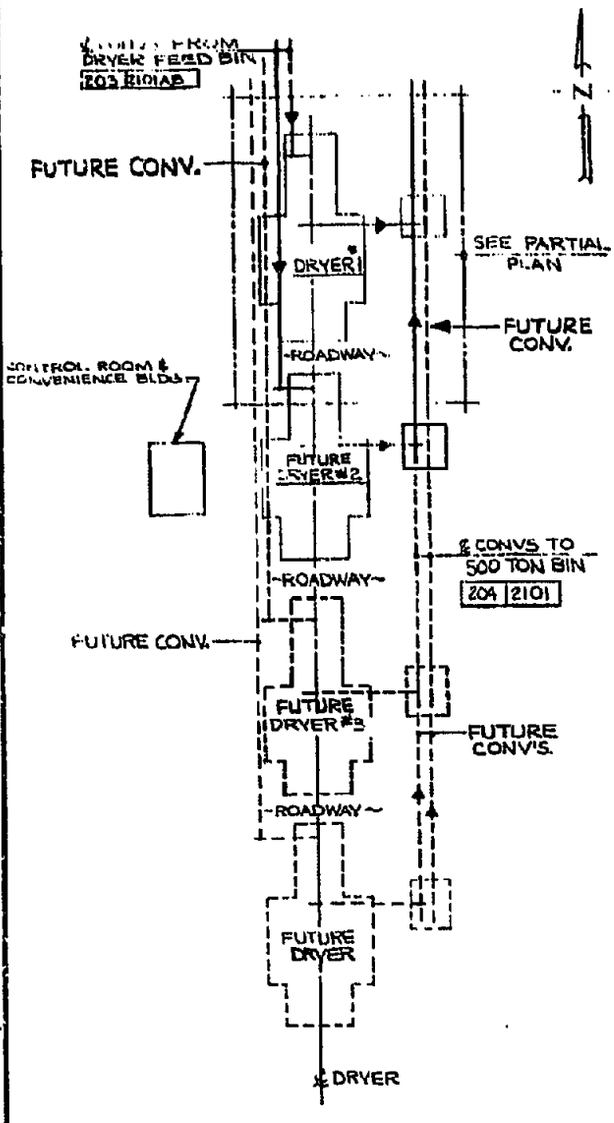
DATE TO: CLIENT / FIELD

A	B	C	D	1	2	3	4	5	6	7

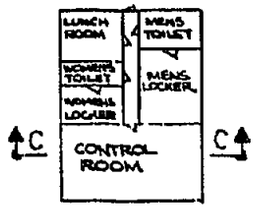
TITLE: COAL PREPARATION
SECONDARY CRUSHING & SCREENING STATION
SCALE: 1"=20'-0" PC-5530

5530
202-P-002
REVISION 0

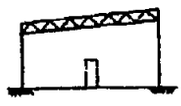
6 7 8 9 10



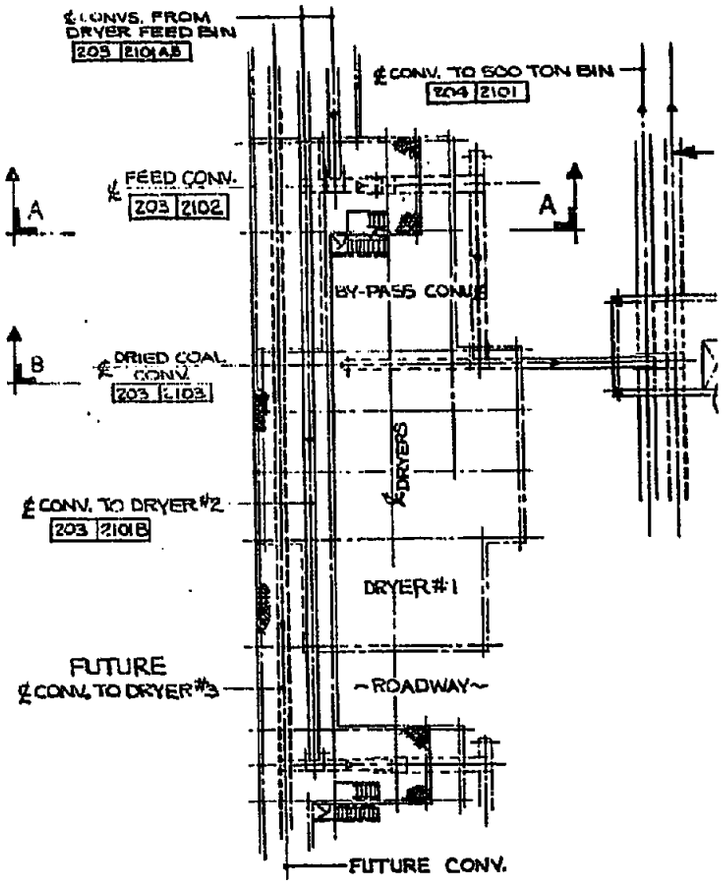
PLAN
1" = 50'



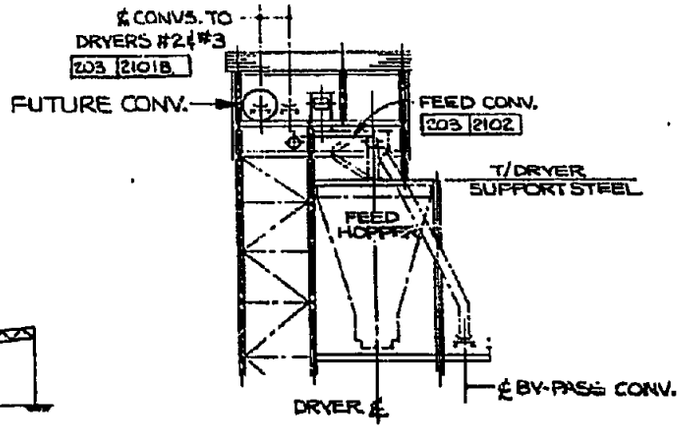
PLAN OF CONTROL ROOM & CONVENIENCE BLDG.



SECTION C-C

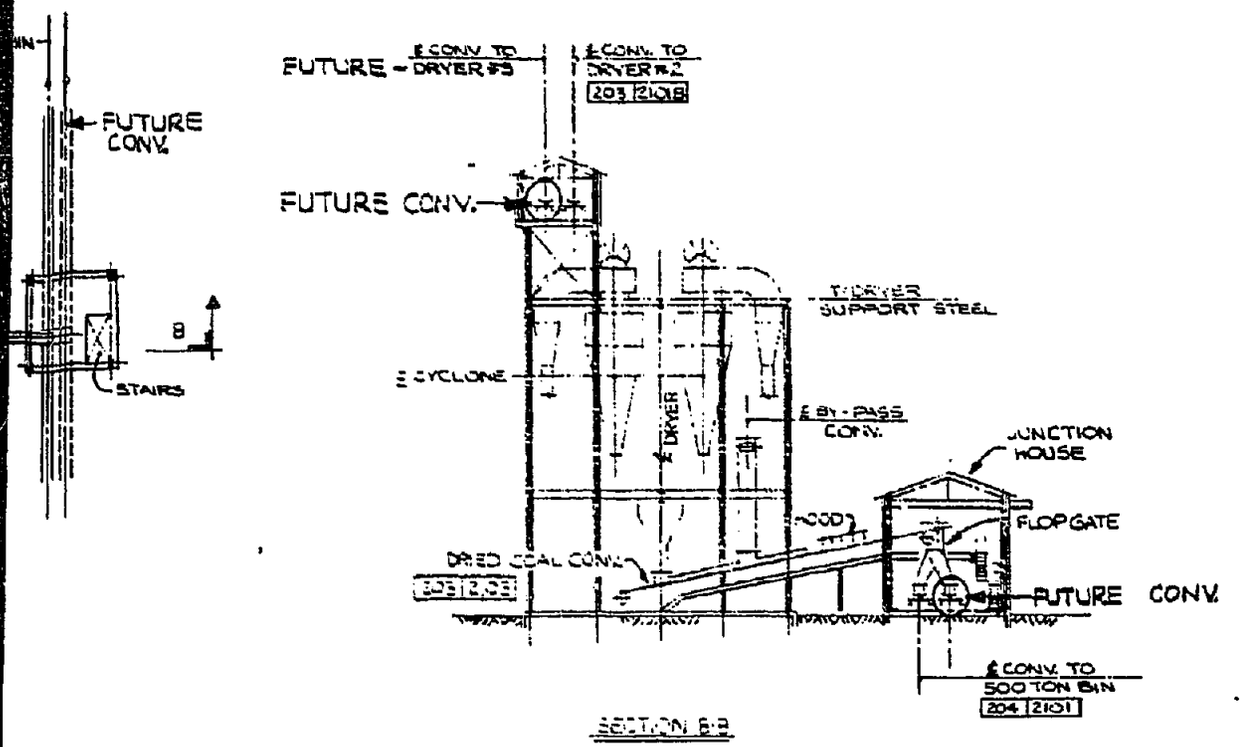


PARTIAL PLAN

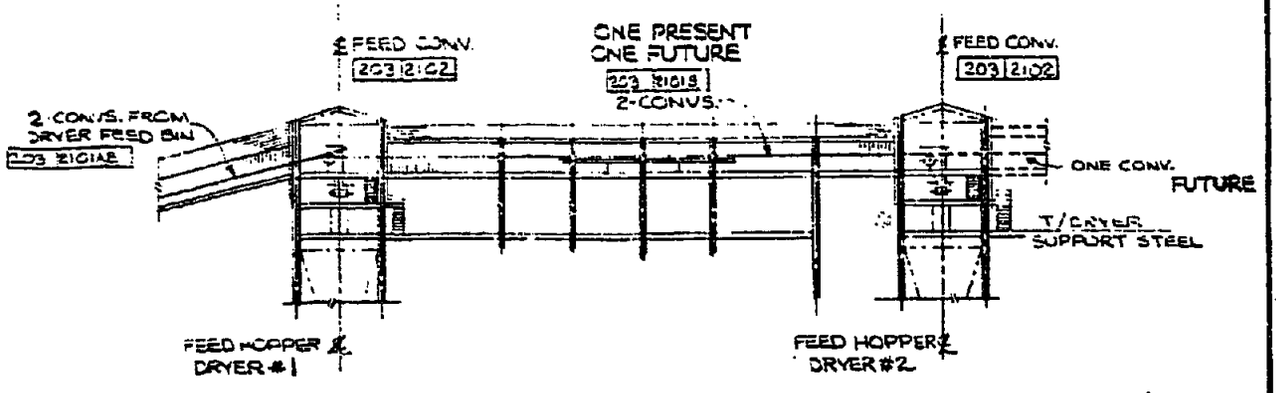


SECTION A-A

NO	DESCRIPTION	BY	CH	APPROVED	DATE
A	PRELIMINARY ISSUE				4/30/81
B	ADDED CONTROL ROOM & CONVENIENCE BLDG.	ALW			5/6/81
C	FUTURE EQUIPMENT NOTED	RWK			6/4/81
D	FUTURE EQUIPMENT NOTED	TJW			9/11/81
E	ISSUED FOR REPORT	KB		BLK	12-7-81



SECTION B-B



LONGITUDINAL ELEVATION

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CLIENT: CIRI/PLACER
BELUGA METHANOL PROJECT
COOK INLET, ALASKA

Davy McKee
ENGINEERS AND CONSTRUCTORS

TITLE: COAL DRYING
PREPARED COAL
DRYING FACILITIES

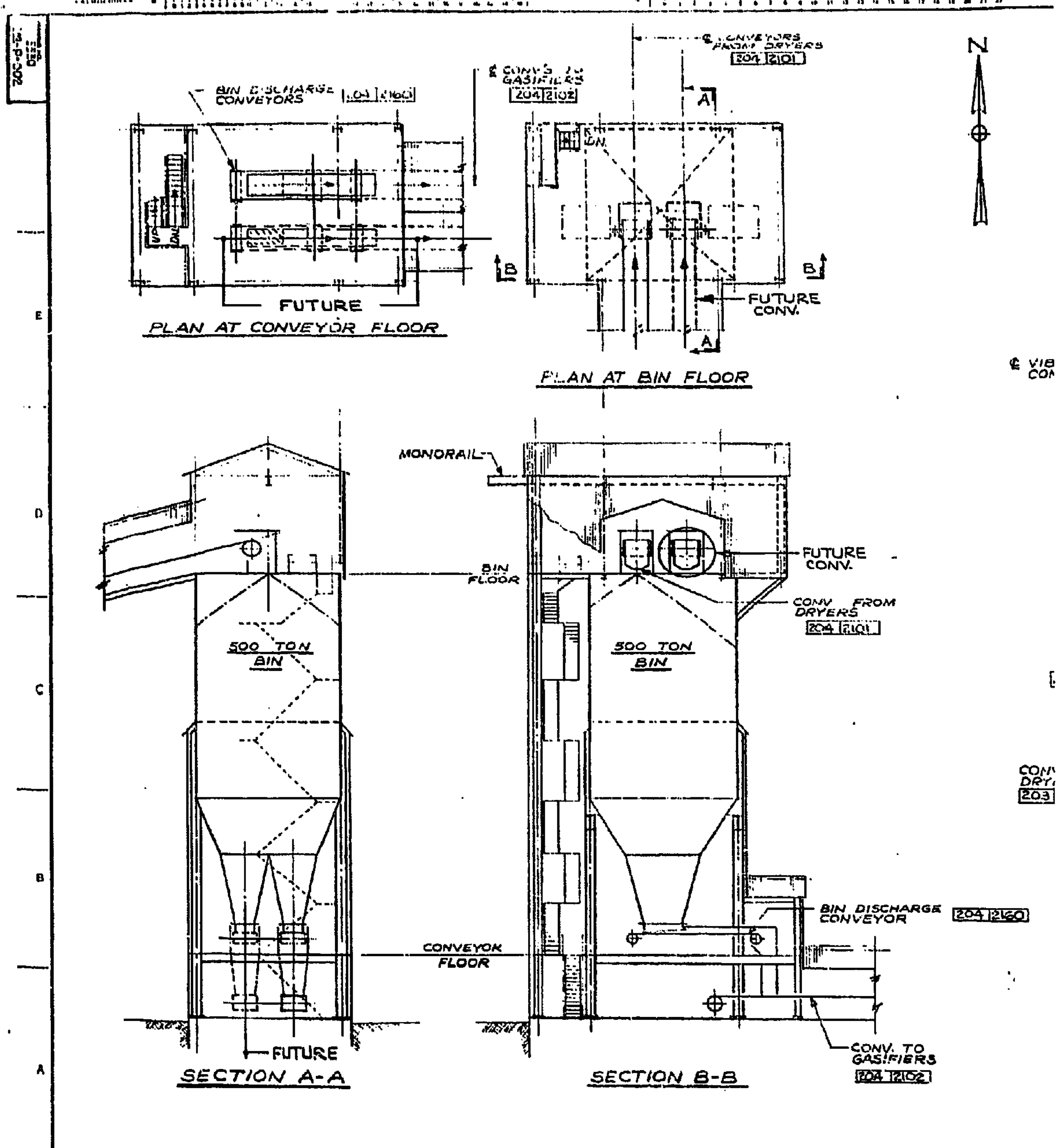
SCALE: 1"=20'-0" PC 5530

5530
203-P-001

	BY	DATE
DESIGNED		
DRAWN	AL-W	
CHECKED		
APPROVED 1		
APPROVED 2		
APPROVED 3		

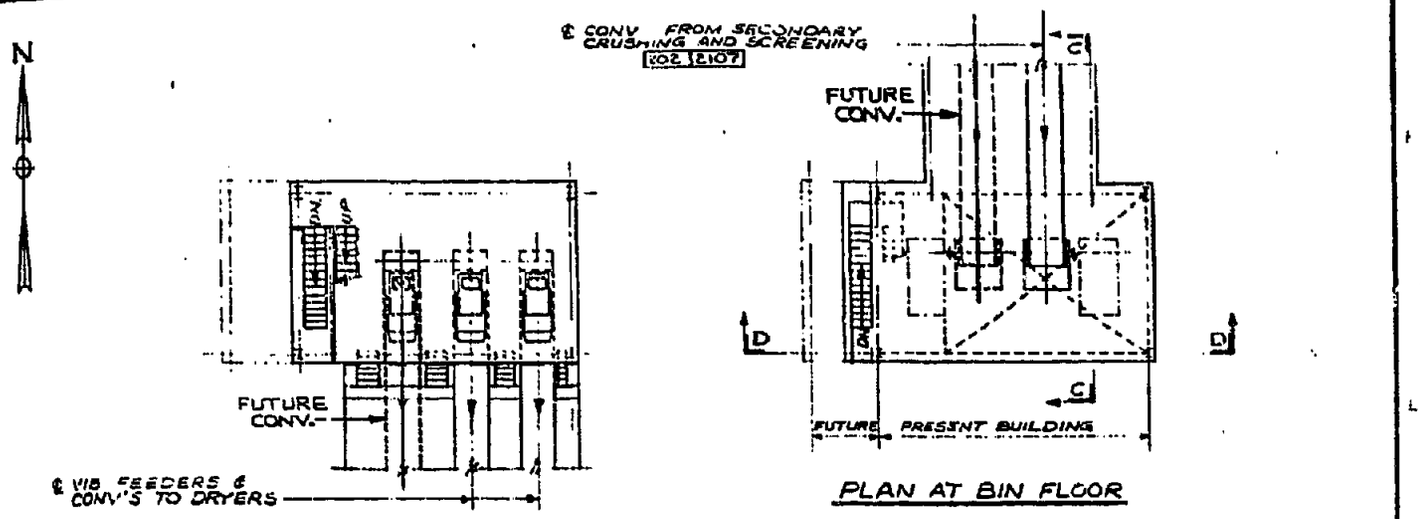
DATE TO: CLIENT / FIELD

6 7 8 9 10



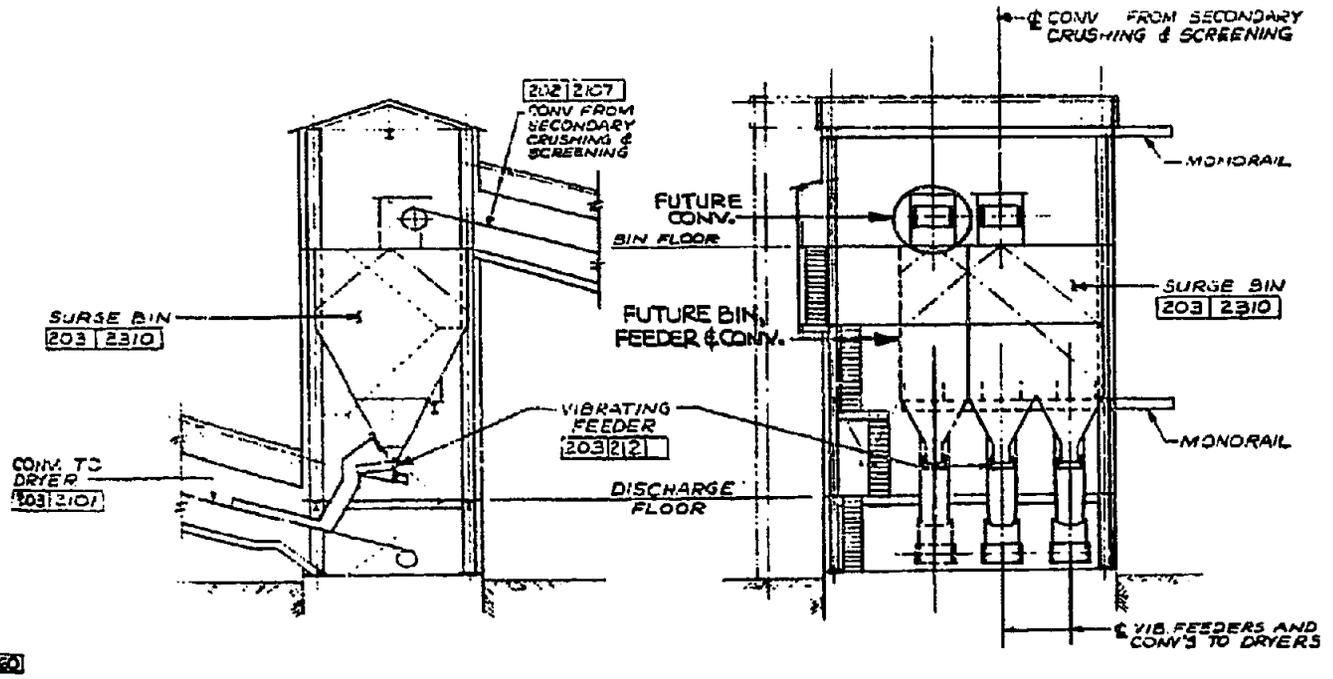
REVISIONS

NO	DESCRIPTION	BY	CH	APPROVED	DATE
A	PRELIMINARY ISSUE				[illegible]
B	EQUIP. NO. 1 ADDED				[illegible]
C	FUTURE EQUIPMENT NOTED	BVS			[illegible]
D	FUTURE EQUIPMENT REVISED & NOTED	RW			[illegible]
E	ISSUED FOR REPORT	KB		[illegible]	7-7-81



PLAN AT DISCHARGE FLOOR

PLAN AT BIN FLOOR



204 2150

SECTION C-C

SECTION D-D

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CLIENT: CIRI/PLACER BELUGA METHANOL PROJECT COOK INLET, ALASKA

Davy McKee
ENGINEERS AND CONSTRUCTORS

	BY	DATE
DESIGNED		
DRAWN	VJB	8/81
CHECKED		
APPROVED 1		
APPROVED 2		
APPROVED 3		

DATE TO: CLIENT / FIELD

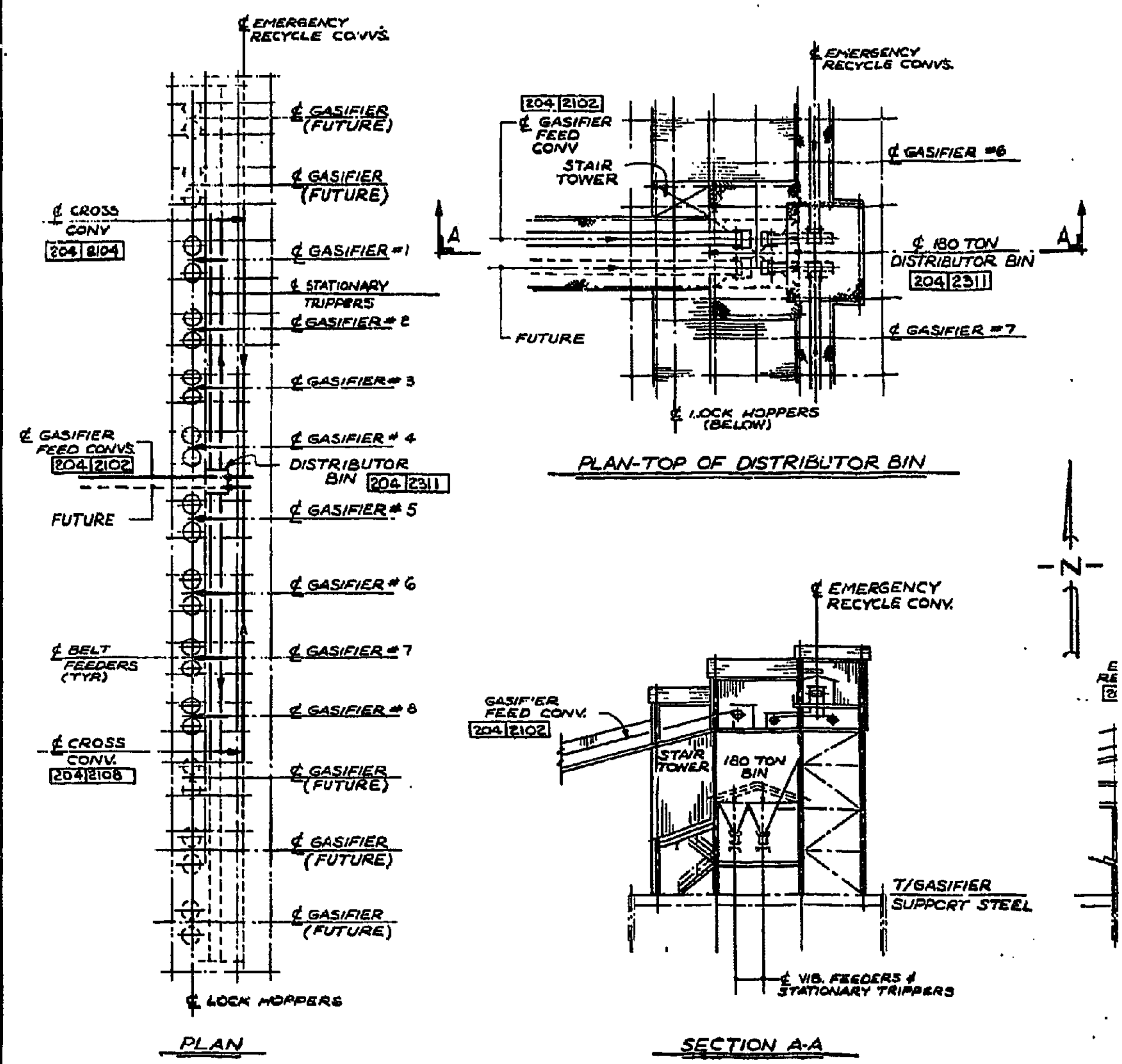
TITLE: COAL DRYING GASIFIER AND DRYER FEED BINS

SCALE 1"=10'-0" PC-5530

5530
203 P-002

REVISION A

204-P-001



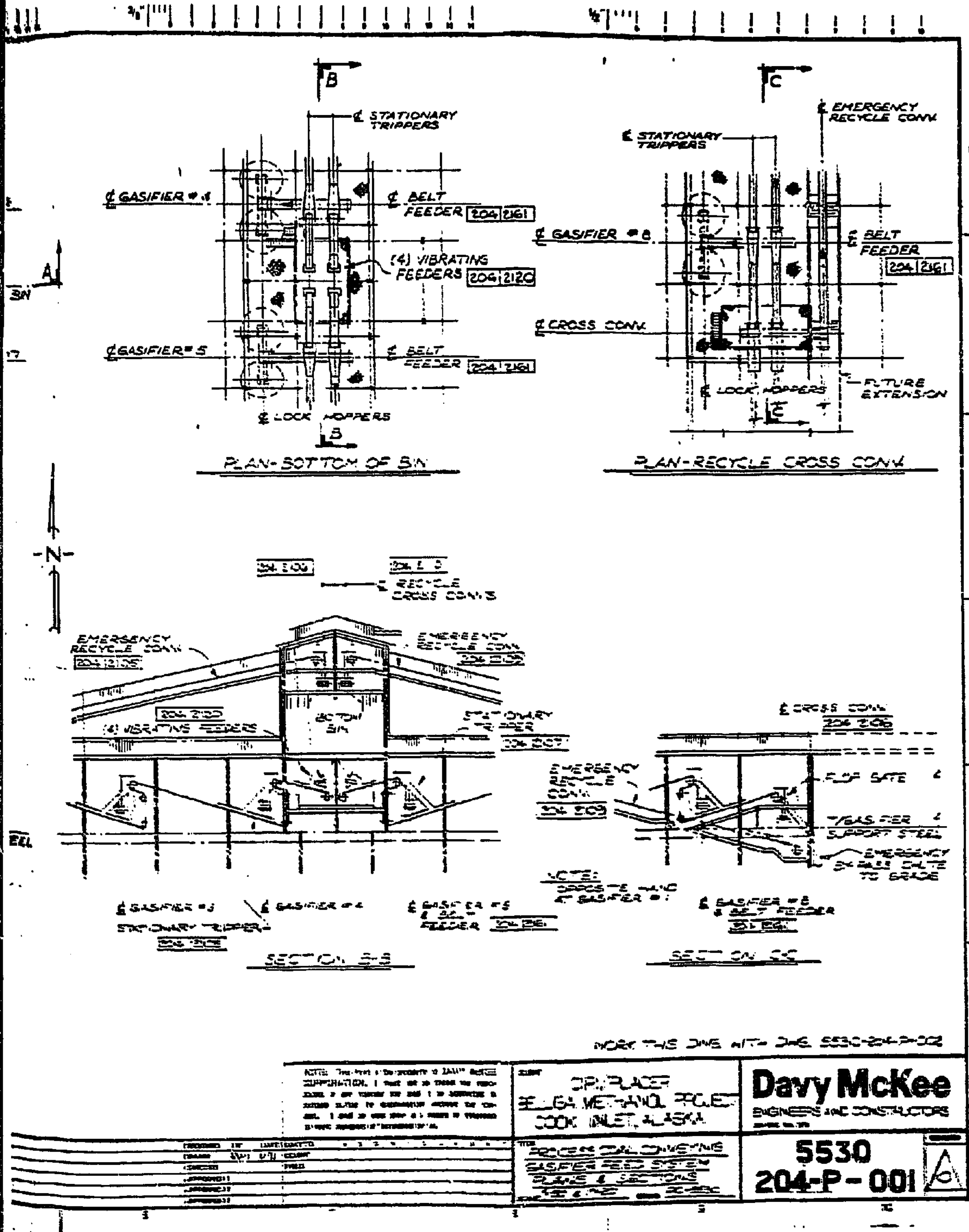
REVISIONS NO.	DESCRIPTION	BY	CH.	APPROVED		DATE
A	PRELIMINARY ISSUE					[illegible]
B	EQUIP. NO'S ADDED					[illegible]
C	FUTURE EQUIP NOTED	TON				[illegible]
D	ISSUED FOR REPORT	KB		RGK		[illegible]

REVISIONS NO.	DESCRIPTION	BY	CH.	APPROVED	DATE

REFERENCES

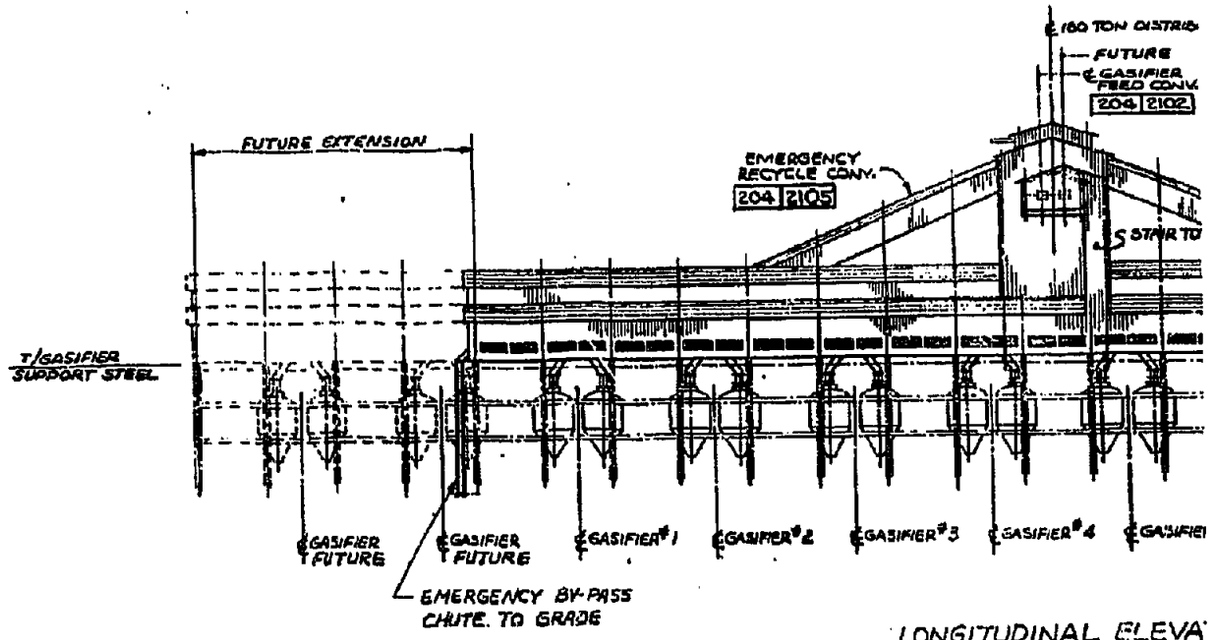
1 2 3 4 5

A B C D E

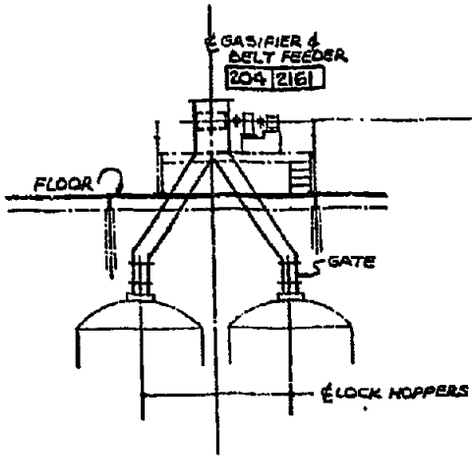


℄ STATIONARY TRIPPERS
℄ GASIFIER #4
℄ BELT FEEDER 204 2161
(4) VIBRATING FEEDERS 204 2120
℄ GASIFIER #5
℄ LOCK HOPPERS
PLAN - BOTTOM OF BIN
℄ EMERGENCY RECYCLE CONV.
℄ GASIFIER #8
℄ CROSS CONV.
FUTURE EXTENSION
PLAN - RECYCLE CROSS CONV.
N
EMERGENCY RECYCLE CONV.
BOTTOM BIN
NOTE:
SECTION B-B
SECTION C-C
WORK THIS DWG WITH DWG. 5530-204-P-002
Davy McKee
ENGINEERS AND CONSTRUCTORS
BELUGA METHANOL PROJECT
COOK INLET, ALASKA
5530
204-P-001

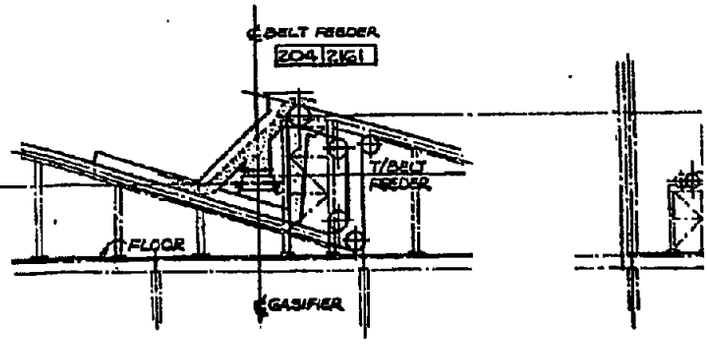
SCALING RULES 1/8" 1/4"



LONGITUDINAL ELEVA



LOCK HOPPER FEED CHUTE
TYPICAL



STATIONARY TRIPPER
TYPICAL

204 2103 & 204 2107

NO.	DESCRIPTION	BY	CH.	APPROVED	DATE
A	PRELIMINARY ISSUE				
A	EQUIP NOS ADDED				
A	FUTURE EQUIP ADDED				
A	ISSUED FOR REPORT				

REVISIONS

NO.	DESCRIPTION	BY	CH.	APPROVED	DATE

REVISIONS

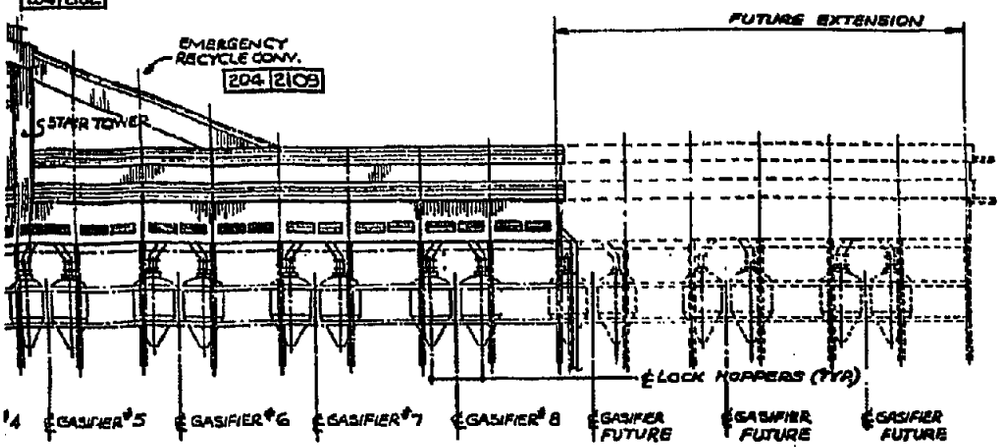
REFERENCES

1 2 3 4 5

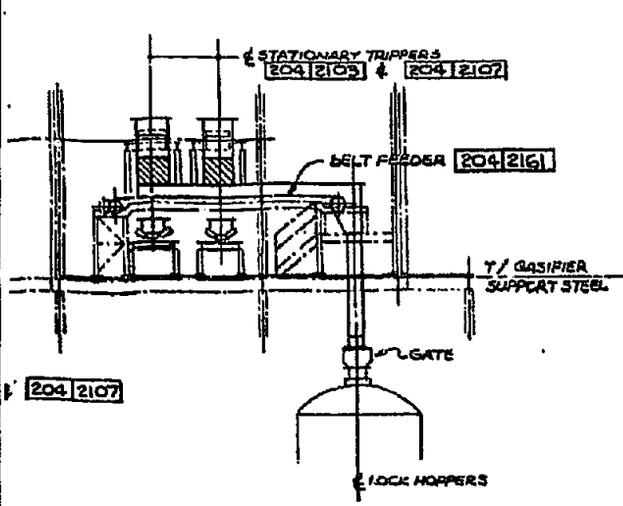
10 TON DISTRIBUTOR BIN

—FUTURE

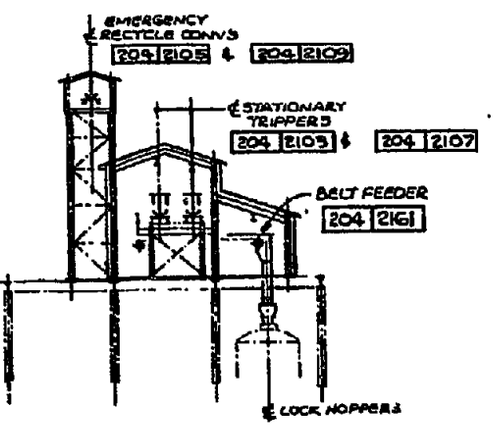
—℄GASIFIER FEED CONV. 204 2102



L ELEVATION



BELT FEEDER TYPICAL



CROSS SECTION

WORK THIS DWG. WITH DWG. 5530-204-P-001

CLIENT: CIRI/PLACER BELUGA METHANOL PROJECT COOK INLET, ALASKA

Davy McKee ENGINEERS AND CONSTRUCTORS

	BY	DATE
DESIGNED		
DRAWN	RVK	1/81
CHECKED		
APPROVED 1		
APPROVED 2		
APPROVED 3		

DATE TO	A	B	C	D	1	2	3	4	5	6	7
CLIENT											
FIELD											

TITLE: PROCESS COAL CONVEYING GASIFIER FEED SYSTEM ELEVATION & SECTIONS

SCALE 1" = 10' 1:120 1:20 — DC-5530

5530 204-P-002

REVISION C

8 7 8 9 10