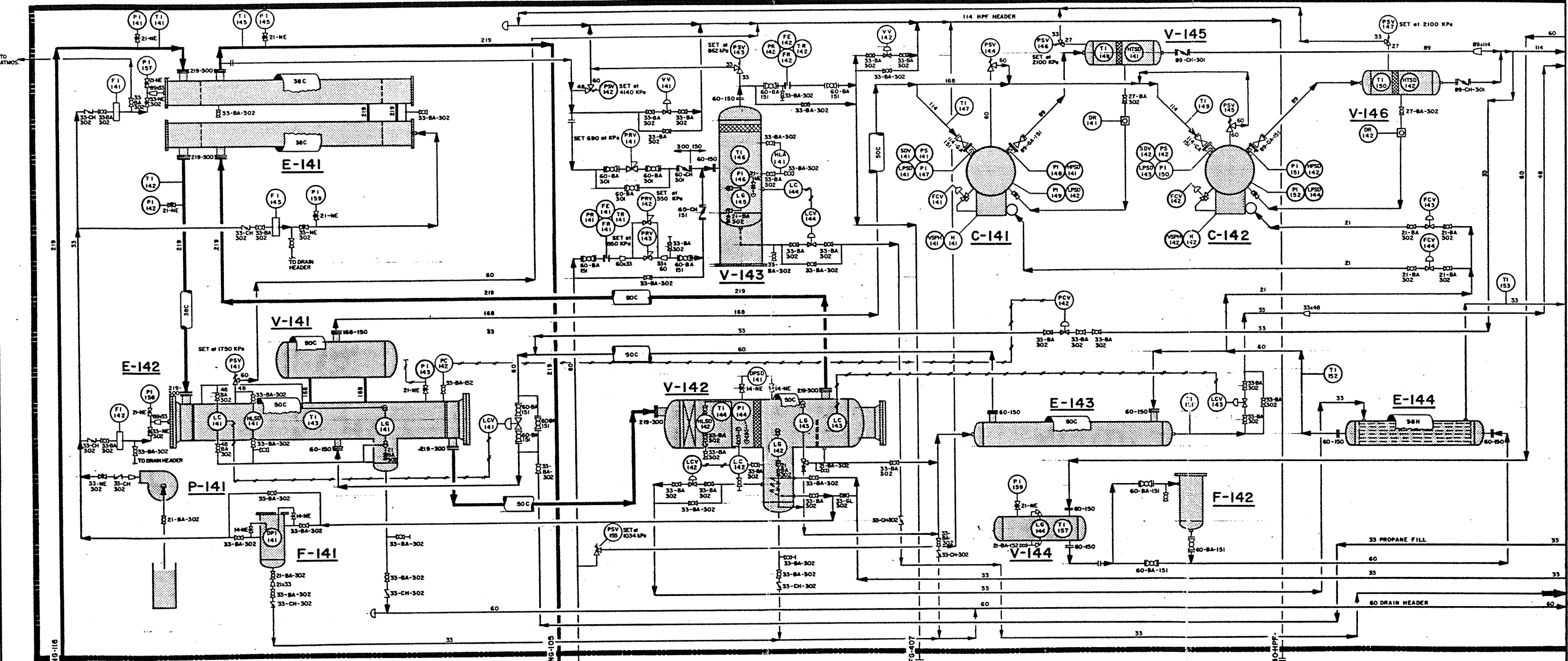



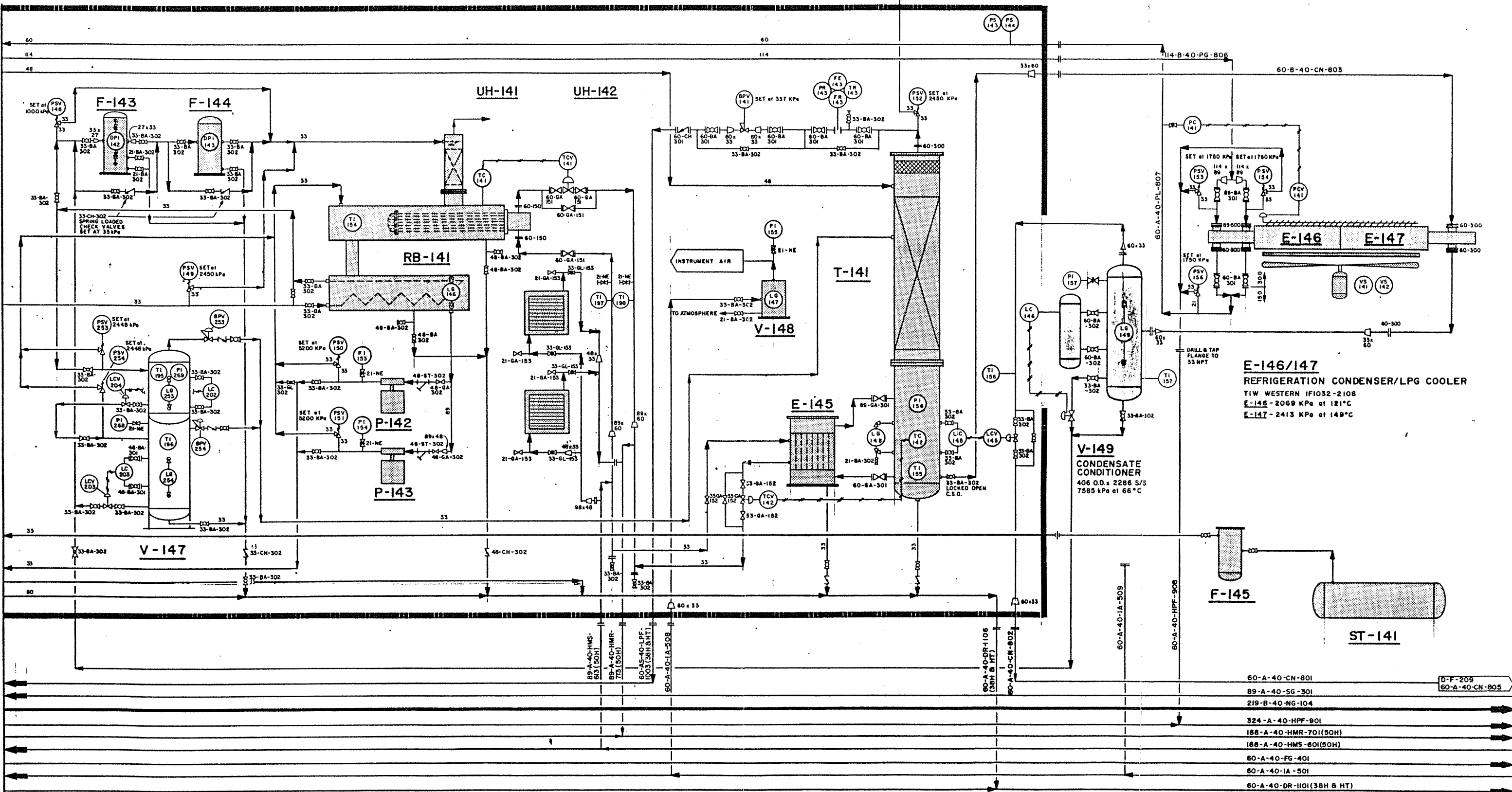
E-141 GAS/GAS EXCHANGER 508 O.D. x 12186 TS/TS DBL. 4875 KPa at 66°C	V-141 SUCTION SCRUBBER 508 O.D. x 3048 S/S 1750 KPa at 66°C	E-142 CHILLER 508 O.D. x 6090 TS/TS 4875 KPa at 66°C	P-141 CHEMICAL INJECT. PUMP TEXSTEAM SERIES 100 MODEL 110361 F-141 INJECTION GLYCOL FILTER C.E. NATCO MODEL 1F-120	V-142 LOW TEMP. SEPARATOR 1219 O.D. x 4570 S/S 4875 KPa at 66°C	V-143 FUEL GAS SCRUBBER 406 O.D. x 1219 S/S 1030 KPa at 38°C	C-141/142 REFRIGERATION COMP'S MYCOM P6B C/W ETA TECH 100 HP-XP	V-144 PROPANE ACCUMULATOR 914 O.D. x 1524 S/S 1724 KPa at 93°C	V-145/146 OIL SEPARATORS 406 O.D. x 610 S/S 2758 KPa at 150°C	E-143 PROPANE SUB-COOLER SHELL-89 O.D. x 3048 LG. 1750 KPa at 66°C TUBE-48 O.D. x 3048 LG. 4875 KPa at 66°C	E-144 GLYCOL PRE-HEATER SHELL-168 O.D. x 3042 TS/TS 2450 KPa at 66°C TUBE-19 O.D. x 3042 LG. 1750 KPa at 66°C	F-142 PROPANE DRYER/FILTER SPORLAN DESSICANT TYPE C-40016-P
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219-B-40-NG-116	219-B-40-NG-103	219-B-40-NG-105	60-A-40	60-A-40-FG-401	114-A-40-HPF-901	114-A-40-HPF-1001 (38H & HT)	114-A-50-LPF-1004 (38H & HT)	60 AS 40 LPF 1003 (38H & HT)	89-A-40-SG-301	219-B-40-NG-104	324-A-40-HPF-901	168-A-40-HMR-701 (50H)	168-A-40-HMS-601 (50H)	60-A-40-FG-401	60-A-40-1A-501	60-A-40-DR-1101 (38H & HT)
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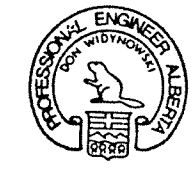
 <p>PERMIT TO PRACTICE WIDY ENGINEERING LTD. Date: NOV 15 1984 PERMIT NUMBER: P 2059 The Association of Professional Engineers, Geologists and Geophysicists of Alberta</p>	<table border="1"> <tr> <th>REV.</th> <th>BY</th> <th>DESCRIPTION</th> <th>DATE</th> <th>APP'D</th> </tr> <tr> <td>I</td> <td>B.P.</td> <td>TURN-A-ROUND</td> <td>JULY 1983</td> <td></td> </tr> <tr> <td>C</td> <td>B.P.</td> <td>AS-BUILT</td> <td>NOV 15 1984</td> <td></td> </tr> </table>	REV.	BY	DESCRIPTION	DATE	APP'D	I	B.P.	TURN-A-ROUND	JULY 1983		C	B.P.	AS-BUILT	NOV 15 1984		<p>CUSTOMER: SIGNALTA RESOURCES LTD.</p> <p>PROJECT: FORESTBURG GAS PLANT</p> <p>DRAWN: B.P. DATE: JULY, 1984</p> <p>CHECKED: DATE: _____</p> <p>APPROVED: DATE: _____</p>	<p>WIDY ENGINEERING LTD. EDMONTON ALBERTA</p> <p>TITLE: MECHANICAL FLOWSHEET REFRIGERATION AREA</p> <p>DRAWING No: D-F-205</p>
		REV.	BY	DESCRIPTION	DATE	APP'D												
I	B.P.	TURN-A-ROUND	JULY 1983															
C	B.P.	AS-BUILT	NOV 15 1984															
<p>SCALE: 164</p> <p>PROJECT No: _____</p>	<p>SHEET: 5 OF 10</p>																	

F-143 FILTER PECO 55-1-336	V-147 GLYCOL CONDITIONER 406 O.D. DBL. CHAMBER TWO PHASE SEPARATOR 406 O.D. x 2540 S/S 2448 kPa at 176.6°C	F-144 CHARCOAL FILTER 324 O.D. x 1210 HIGH 1000 KPa at 65°C	RB-141 GLYCOL RECONCENTRATOR SHELL- 762 O.D. x 3660 LG. TUBE BUNDLE- 25 O.D. x 6096 LG. 13 TUBES ON 254 T.S. RESEVOIR- 762 O.D. x 3050 LG. STACK- 324 O.D. x 3950 HIGH	P-142/143 GLYCOL INJECTION PUMPS UNION SX-3, 32 x 57 3 GPM, 3HP-XP	UH-141/142 UNIT HEATERS TRANE MODEL 84-H	V-148 INSTRUMENT AIR POT 219 O.D. x 460 LG. 862 KPa at 38°C	E-145 STABILIZER REBOILER VERT. THERMO SYPHON SHELL- 168 O.D. x 1220 TS/TS TUBE- 19 O.D. S.S.- 1034 KPa at 204°C T.S.- 2450 KPa at 177°C	T-141 STABILIZER 324 O.D. x 8535 S/S 2450 KPa at 177°C	F-145 PROPANE FILTER PECO 55-1-336	ST-141 PROPANE TANK 500 IMP. GALLONS 1724 KPa MWP at 52°C
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E-146/147
REFRIGERATION CONDENSER/LPG COOLER
TIW WESTERN IF1032-2108
E-146 - 2069 KPa at 121°C
E-147 - 2413 KPa at 149°C

60-A-40-CN-801	D-F-209
89-A-40-SG-301	60-A-40-CN-805
219-B-40-NG-104	
324-A-40-HPF-901	
168-A-40-HMR-701(50H)	
168-A-40-HMS-60(50H)	
60-A-40-FG-401	
60-A-40-IA-501	
60-A-40-DR-1101(38H & HT)	

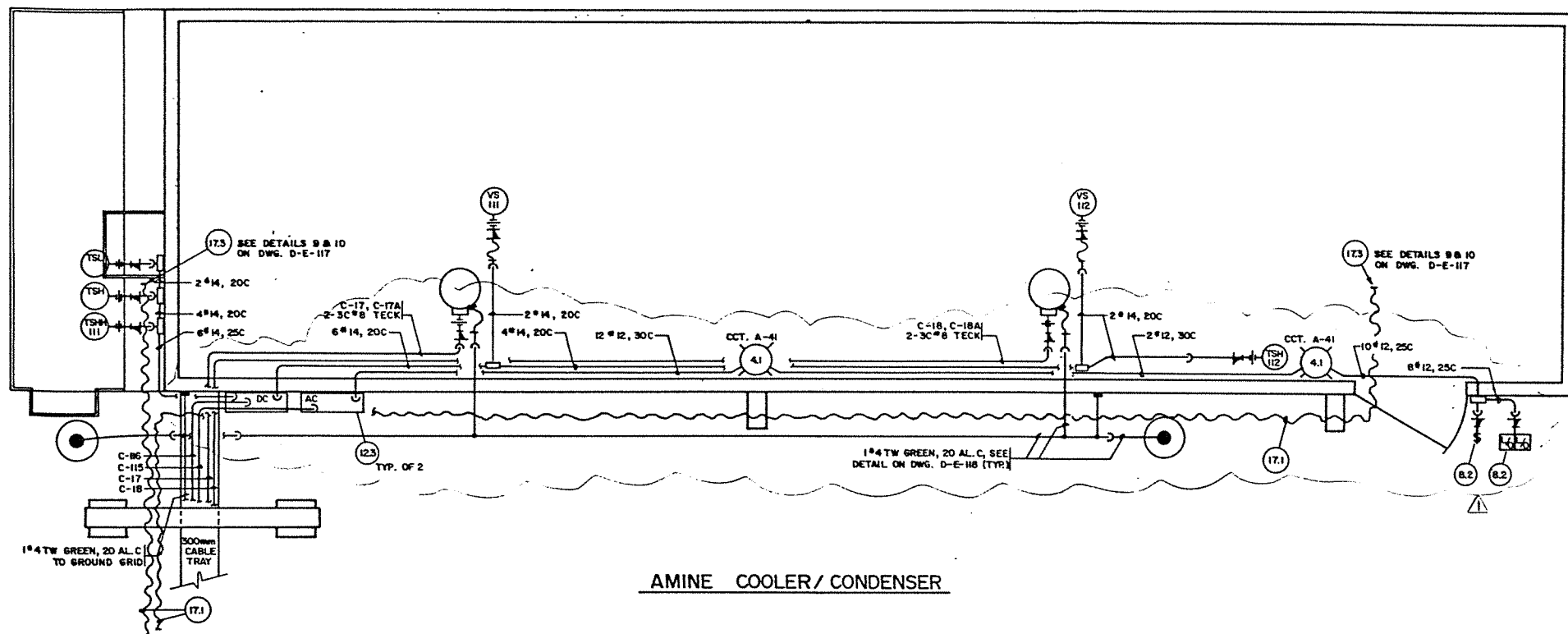


PERMIT TO PRACTICE
WIDY ENGINEERING LTD.
Signature
Date **NOV 15 1984**
FERMIT NUMBER: P 2059
The Association of Professional Engineers,
Geologists and Geophysicists of Alberta

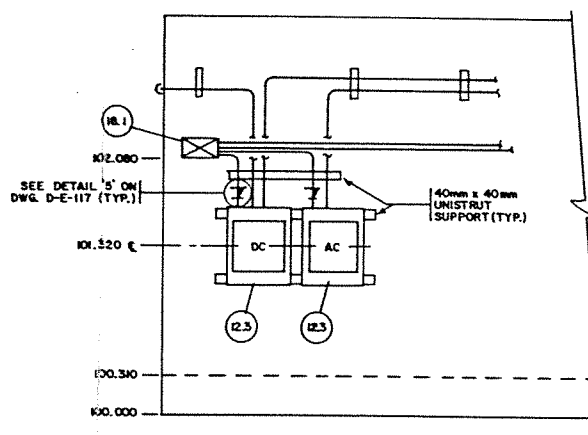
REV.	BY	DESCRIPTION	DATE	APP'D
2	H.V.	ADDED CONDENSATE CONDITIONER	DEC 1982	
1	B.P.	TURN-A-ROUND	JULY 1983	
C	B.P.	AS-BUILT	NOV 15 1984	

CUSTOMER: SIGNALTA RESOURCES LTD.	
PROJECT: FORESTBURG GAS PLANT	
DRAWN: B.P.	DATE: JULY, 1984
CHECKED:	DATE:
APPROVED:	DATE:

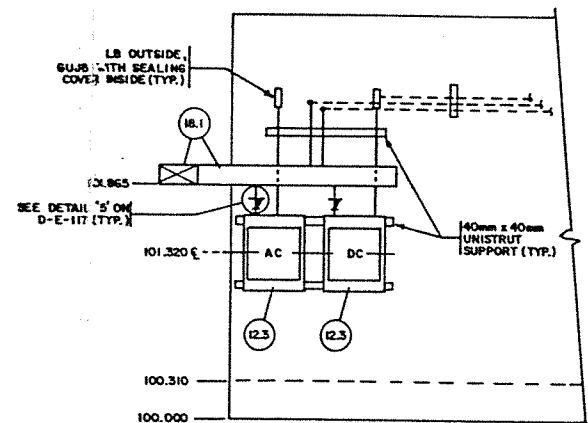
WIDY ENGINEERING LTD. EDMONTON ALBERTA	
TITLE: MECHANICAL FLOWSHEET REFRIGERATION AREA	DRAWING No. D-F-206
SCALE: 164	SHEET 6 of 10



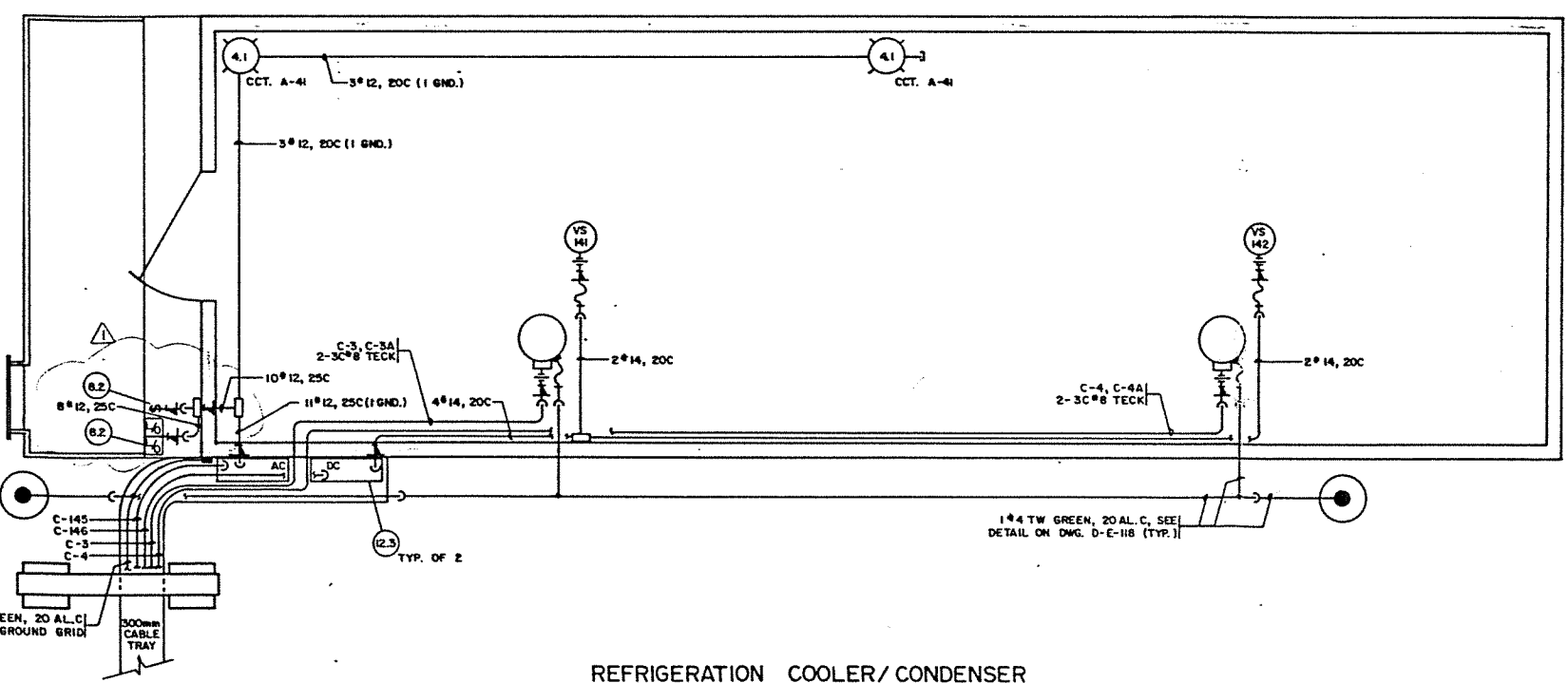
AMINE COOLER/CONDENSER



AMINE COOLER CABLE ENTRANCE DETAIL NTS

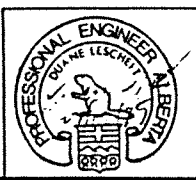


REFRIGERATION COOLER CABLE ENTRANCE DETAIL NTS



REFRIGERATION COOLER/CONDENSER

- NOTES
1. Seal all buried conduit into hazardous areas at ground level at both ends. Seal all cable to hazardous areas at termination point or at transition from cable to conduit at BOTH ends.
 2. All building conduit to be mounted on Unistrut and securely fastened to buildings.
 3. All cable in trays to be arranged in an orderly fashion and secured with P-clips at regular intervals; cable shall not be "thrown" into trays. Unnecessary crossovers in trays shall be avoided. All cable, where not in cable tray, to be secured with P-clips frequently enough to avoid needless sagging of cable and to ensure a neat, workmanlike installation.
 4. All terminal boxes to be mounted at 1520mm (52") above grade unless otherwise noted. Locate terminal box supports on structural steel of cooler free of cooler louvers.
 5. Millize Noyes hubs on all outdoor junction boxes.
 6. Conduit entry to buildings to be LB conduit typical outside; RUB (B) c/w sealing cover typical inside Class I, Div. I area.
 7. All building conduit to be CSA Approved rigid aluminum, fittings to be -5A copper-free aluminum.
 8. Building motor switches to mount on steel plate on building wall at 1520mm (52") above finished floor.
 9. All explosion proof flexible conduit fittings to be coated with two coats of DCE "Dyptal," then hand wrapped with polytan tape.
 10. All control and instrumentation terminations must be made ONLY at designated terminal blocks and at end devices, as shown on schematic drawings. No other splices will be permitted. Ground instrumentation shields ONLY at control panel.
 11. All wire nipples to be of the crimp type, covered with a nylon insulator, dipped in DCE "Dyptal" and wrapped with Scotch 833 tape.
 12. Label all power and control wiring as per power distribution panel designations and control schematic designations. Terminate and label all wires on terminals in outdoor junction boxes. All wiring to be 600V 1-line stranded type conductors.
 13. All terminal strips to be spray coated after plant commissioning with 3 coats of Ideal 840-116 clear plastic coating.



THE ASSOCIATION OF PROFESSIONAL ENGINEERS OF ALBERTA
 PERMIT NUMBER P 2053
 A. COMEAU & ASSOCIATES LTD.

NUMBER	REFERENCE DWG	NO	REVISION	BY	DATE	CHKD	DATE
2	AS BUILT			RF	17/09/84		
1	REVISED AS NOTED			RF	28/06/84		

A COMEAU & ASSOCIATES LTD.
 DRAWN: R.F.
 CHECKED: /
 DATE: JUNE 11/84

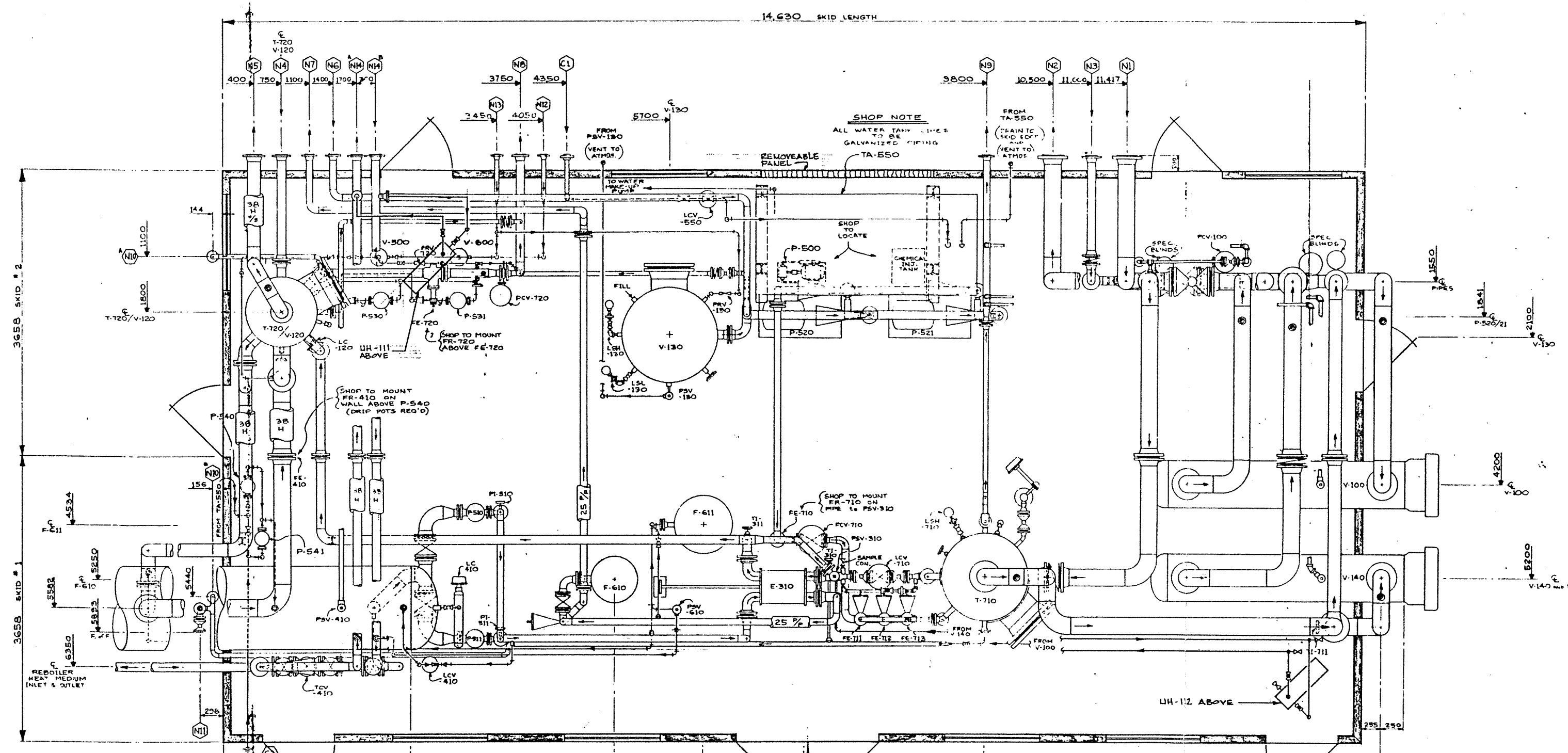
WIDY ENGINEERING LTD.
 EDMONTON ALBERTA

SIGNALTA RESOURCES LTD.
 FORESTBURG GAS PLANT
 AMINE/REFRIG. CONDENSERS
 CONDUIT LAYOUT

SCALE	DRAWING NUMBER	REV
1:25	D-E-108	2

THIS DRAWING AND THE DESIGN IT COVERS ARE CONFIDENTIAL AND THE PROPERTY OF PROPAK SYSTEMS LTD. AND SHALL NOT BE DISCLOSED TO OTHERS OR REPRODUCED IN ANY MANNER UNLESS BY WRITTEN CONSENT OF P.S.L.

14,630 SKID LENGTH



SHOP NOTE
ALL WATER TANK LINES TO BE GALVANIZED PIPING

SHOP TO MOUNT FR-720 ABOVE FE-720

SHOP TO MOUNT FR-410 ON WALL ABOVE P-540 (DRIP POTS REQ'D)

SHOP TO MOUNT FR-710 ON PIPE TO PSV-910

NOZZLE SCHEDULE				
MK	SIZE	RATING	DESCRIPTION	NOZ. SCHED.
N1	219	300	GAS INLET	40
N2	219	300	SALES GAS OUTLET	40
N3	114	600	RECYCLE GAS INLET	40
N4	114	150	GAS IN TO REFLUX ACCUMULATOR V-120 (E-330)	40
N5	168	150	GAS OUT TO REFLUX CONDENSER E-330	40
N6	89	150	LEAN AMINE TO CHARGE PUMPS P-520/21 (E-320)	40
N7	89	150	LEAN AMINE TO COOLER E-320	40
N8	114	150	ACID GAS TO FLARE	40
N9	89	150	TO FLARE HEADER	40
N10	60	150	DRAINS	40
N11	60	150	TO AMINE PUMP TANK	40
N12	60	150	INST AIR SUPPLY	40
N13	60	150	FUEL GAS SUPPLY	40
N14	114	150	HEAT MEDIUM INLET AND OUTLET	40
C1	4	3000	TANK INLET TO TA-550 (GALVANIZED)	50
C2	1A	3000	FROM AMINE TANK	50

INVOICE SHIPPING ITEMS	SHIPPING WEIGHTS
SKID # 1	10,000 kg
SKID # 2	9,000 kg
E-410	5100 kg
T-710	13,200 kg
T-720/V-120	5800 kg

DRAWING TITLE	NO.	REVISION	BY	DATE	CHKD	ENGR
	5	ISOLATION VALVES ADDED TO L5 & L6	J.K.	12/1/84		
	4	C1 IS NOW 60% UNION	J.K.	11/1/84		
	3	WATER TANK ADDED & CS ADDED (REVISED)	J.K.	10/1/84		
	2	AMINE TANK INLET LOWERED (C1)	J.K.	9/1/84		
	1	ISSUED FOR CONSTRUCTION	J.K.	8/1/84		
	0	ISSUED FOR APPROVAL	J.K.	7/1/84		

PREPARED BY
PROPAK SYSTEMS LTD.
ENGINEERING DESIGN FABRICATION CONSTRUCTION

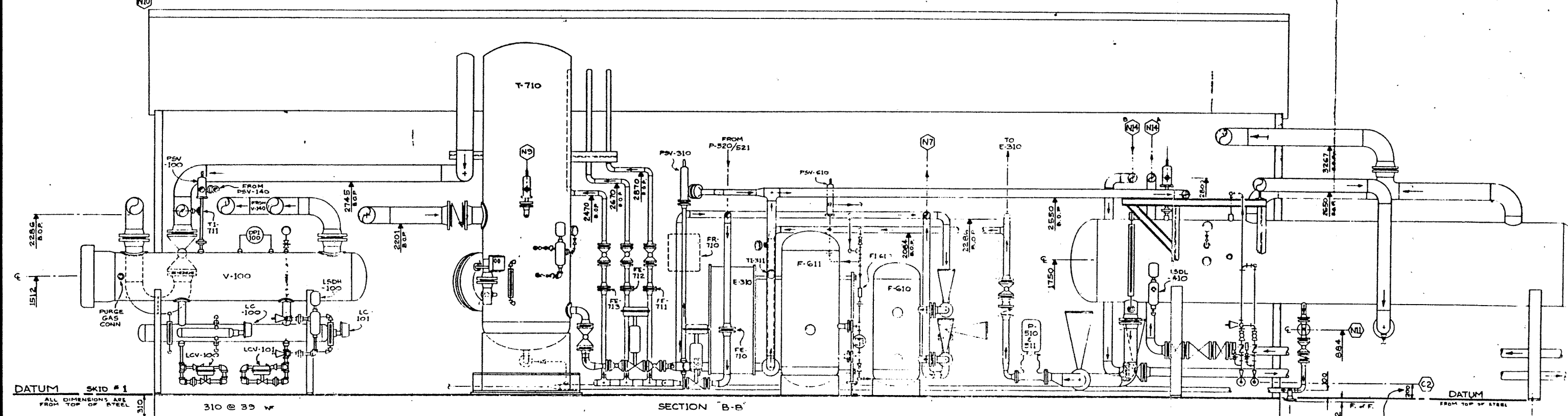
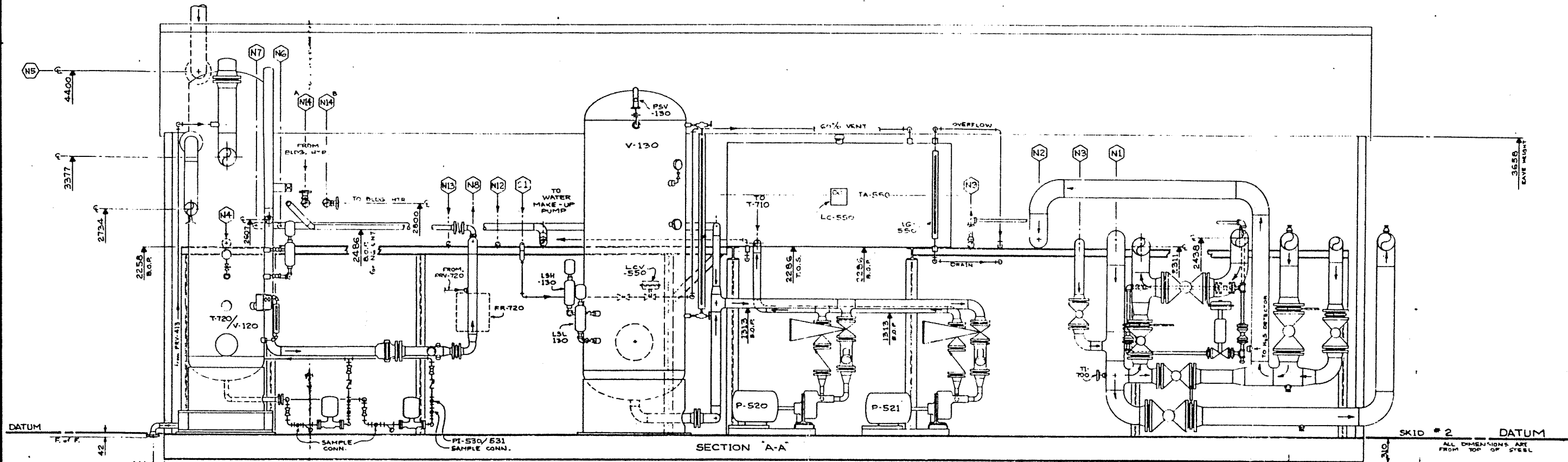
SIGNALTA RESOURCES % WIDY ENGINEERING
ASSEMBLY FOR
GAS SWEETENING UNIT
100 U.S.G.P.M.

AIRDRIE ALBERTA

DRAWN	CHECKED	APPROVED	DATE	SCALE	DRAWING NUMBER	SHT	REV
J. LAVER			12 APR 84	1:25	E-ASY-84088-051	1	1/2

11/12/84

THIS DRAWING AND THE DESIGN IT COVERS ARE CONFIDENTIAL AND THE PROPERTY OF PROPAC SYSTEMS LTD. AND SHALL NOT BE DISCLOSED TO OTHERS OR REPRODUCED IN ANY MANNER OR USED FOR ANY PURPOSE WHATSOEVER EXCEPT BY WRITTEN CONSENT OF THE COMPANY.



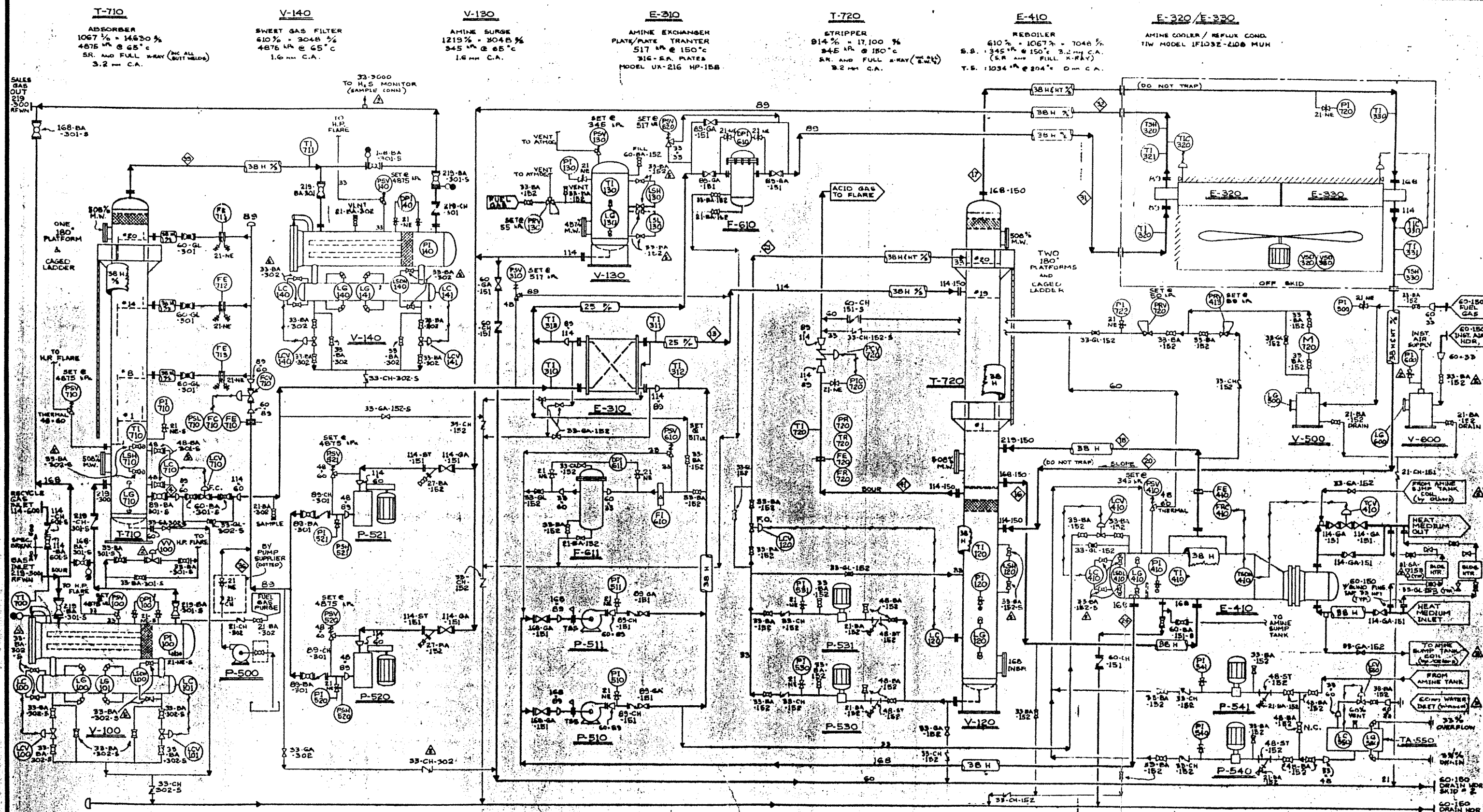
SKID # 2 DATUM
ALL DIMENSIONS ARE FROM TOP OF STEEL

DATUM SKID # 1
ALL DIMENSIONS ARE FROM TOP OF STEEL

SHOP NOTE
AMINE INLET (C2) AND ALL PIPING UP TO AMINE PUMP MUST NOT BE HIGHER THAN 200 mm

MTH 12/84

GENERAL NOTES		REFERENCE DRAWINGS		NO.		REVISION		BY	DATE	CHK	ENG	PREPARED BY		SIGNALTA RESOURCES % WIDY ENGINEERING	
NUMBER	TITLE											PROPAC SYSTEMS LTD.		ASSEMBLY FOR	
												ENGINEERING DESIGN FABRICATION CONSTRUCTION		GAS SWEETENING UNIT	
												AIRDRIE	ALBERTA	SCALE	DRAWING NUMBER
				5	ISOLATION VALVES ADDED LA, LS & LC'S	J.K.	7/84	J.K.							
				4	C1 IS NOW 60% UNION	J.K.	7/84	J.K.							
				3	WATER TANK ADDED & CS ADDED (CS WANTED)	J.K.	6/84	J.K.							
				2	AMINE TANK INLET LOWERED (C1)	J.V.	6/84	J.V.							
				1	ISSUED FOR CONSTRUCTION	J.K.	5/84	J.K.							
				0	ISSUED FOR APPROVAL	J.K.	5/84	J.K.							
												DATE	SCALE	DRAWING NUMBER	REV
												19 MAR 84	1" = 5'	E-ASY-84088-051	REV 2.02



T-710

ABSORBER
1067% = 14630%
4875 MP @ 65°C
S.R. AND FULL X-RAY (INC. ALL
3.2 MM C.A.)

V-140

SWEET GAS FILTER
610% = 3048%
4876 MP @ 65°C
1.6 MM C.A.

V-130

AMINE SURGE
1219% = 3048%
345 MP @ 65°C
1.6 MM C.A.

E-310

AMINE EXCHANGER
PLATE/RAE TRANSTER
517 MP @ 150°C
316-S.S. PLATES
MODEL UX-216 HP-158

T-720

STRIPPER
914% = 17,100%
345 MP @ 150°C
S.R. AND FULL X-RAY (INC. ALL
3.2 MM C.A.)

E-410

REBOILER
610% = 1067% = 7048%
S.S. 1345 MP @ 150°C 3.2 MM C.A.
(S.R. AND FULL X-RAY)
T.S. 1034 MP @ 204°C 0.6 MM C.A.

E-320/E-330

AMINE COOLER / REFLUX COND.
TIW MODEL 1F103Z-2108 MM

V-100

INLET FILTER SEPARATOR
610% = 3048%
4875 MP @ 65°C
S.R. AND FULL X-RAY (INC. ALL
3.2 MM C.A.)

P-520/521

CHARGE PUMPS
SUNFLO MODEL P-2000
SIZE 1 2BFG 31G S.H.
CONSTRUCTION

P-500

CHEMICAL INJECTION PUMP
TEXSTEAM
MODEL 100
1/4" H.P. HP MOTOR
0.65 GPH CAPACITY

F-611

CHARCOAL FILTER
686% = 1854%
10-3-44, Pccg
689 MP @ 66°C

F-610

AMINE FILTER
PECO MODEL SS-5A-986
1034 MP @ 100°C
3.2 MM C.A.

F-510/511

BOOSTER PUMPS
UNION 2-3-7 VCM 3/8"
53.5 USGPM @ 48'-0"
2'-0" NPSH

P-530 AND 531 / P-540 AND 541

REFLUX PUMPS/MAKE-UP PUMPS
DEAN BROS. MODEL 3/4 DL
1 1/2 H.P. EX. PROOF
3600 RPM, 460 V.

V-120

REFLUX ACCUMULATOR
914% = (INTEGRAL W/ T-720)
345 MP @ 65°C
S.R. AND FULL X-RAY (INC. ALL
3.2 MM C.A.)

V-500

FUEL GAS SCRUBBER
P.S.L. Standard
273% = 460%
862 MP @ 38°C

TA-550

WATER TANK
1270%
274%
274%
(WESTELL TORSCO)

V-600

INSTRUMENT AIR REFRIGERATOR
R.S.L. Standard
219% = 460%
862 MP @ 38°C

JUL 16 1984

GENERAL NOTES

- USE 67X STUDS & 2HX NUTS THROUGHOUT
- INSTRUMENT TUBING - ELECTROGALVANIZED STEEL (AND BRASS/LOK FITTINGS FOR SWEET AND S.B. FITTINGS FOR SOUR
- DRAIN POTS REQ'D @ FE-410 ONLY

REFERENCE DRAWINGS

NUMBER	TITLE
5	ISOLATION VALVES ADDED TO L.S. & L.C.'S
4	WATER INLET TO TA 550 NOW 60%
3	WATER TANK ADDED
2	WTR MESH TANK NOW SITES / H ₂ S CONC. ADDED
1	ISSUED FOR CONSTRUCTION
0	ISSUED FOR APPROVAL

PREPARED BY

PROPAK SYSTEMS LTD.
ENGINEERING DESIGN FABRICATION CONSTRUCTION
AIRDRIE ALBERTA
DRAWN BY J. KLAVER
CHECKED
APPROVED
DATE 19 JUL 84

SIGNALTA RESOURCES % WIDY ENGINEERING

MECHANICAL FLOWSHEET FOR
GAS SWEETENING UNIT
100 U.S.G.P.M.
SCALE
DRAWING NUMBER E-MFS-84088-101
REV 15