

**LEGEND**

**LINE & VALVE SIZES**

METRIC (MM)	IMPERIAL (INCHES)
14	0 - 1/4
17	0 - 3/8
21	0 - 1/2
27	0 - 3/4
33	1
48	1 - 1/2
60	2
89	3
114	4
168	6
219	8
324	12

**LINE DESIGNATION**

LINE SIZE	LINE RATING	SOUR SERVICE	LINE SCHEDULE	LINE SERVICE	LINE NUMBER
219	BS	40	NG	101	

**LINE RATING**

- A - 150 ANSI
- B - 300 ANSI
- C - 600 ANSI
- D - 900 ANSI
- E - 1500 ANSI
- J - 2000 ANSI

**LINE SERVICE**

- NG - NATURAL GAS (SOUR, SWEET & SALES)
- SG - START GAS
- FG - FUEL GAS
- SB - SPILLBACK LINE
- ISD - INLET SEPARATOR DRAIN
- DR - DRAIN HEADER
- HPF - HIGH PRESSURE FLARE
- LPF - LOW PRESSURE FLARE
- HMS - HEAT MEDIUM SUPPLY
- HMR - HEAT MEDIUM RETURN
- IA - INSTRUMENT AIR
- CN - CONDENSATE
- DW - DOMESTIC WATER
- AG - ACID GAS
- LA - LEAN AMINE
- PG - PROPANE GAS
- PL - PROPANE LIQUID
- OW - OIL / WATER

**VALVE DESIGNATION**

VALVE SIZE	VALVE TYPE	VALVE RATING	CONNECTION DESIGNATION	SOUR SERVICE	FULL PORT (SEE NOTE)
114	BA	601	S	FP	

NOTE: ALL VALVES REGULAR PORT (RP) UNLESS OTHERWISE SHOWN.

**VALVE TYPE**

- BA - BALL VALVE
- CH - CHECK VALVE
- NE - NEEDLE VALVE
- GA - GATE VALVE
- GL - GLOBE VALVE
- SW - SWAGE
- ST - STRAINER
- CC - CORROSION COUPON
- TSS - START-UP SCREEN
- WCH - WAFER CHECK VALVE
- BF - BUTTERFLY VALVE
- PL - PLUG VALVE

**CONNECTION DESIGNATION**

- 1 - FLANGED
- 2 - SCREWED
- 3 - SOCKET WELD

**LINE SERVICE (EXPANSION 'A')**

- TV - TANK VAPOUR
- TW - TRANSFER WATER

**PR-101**  
PIG RECEIVER  
273 O.D. x 915 LG.  
7585 kPa @ 65°C

**P-101**  
METHANOL INJECTION PUMP  
TEXSTEAM PUMP  
MODEL: 05-LP

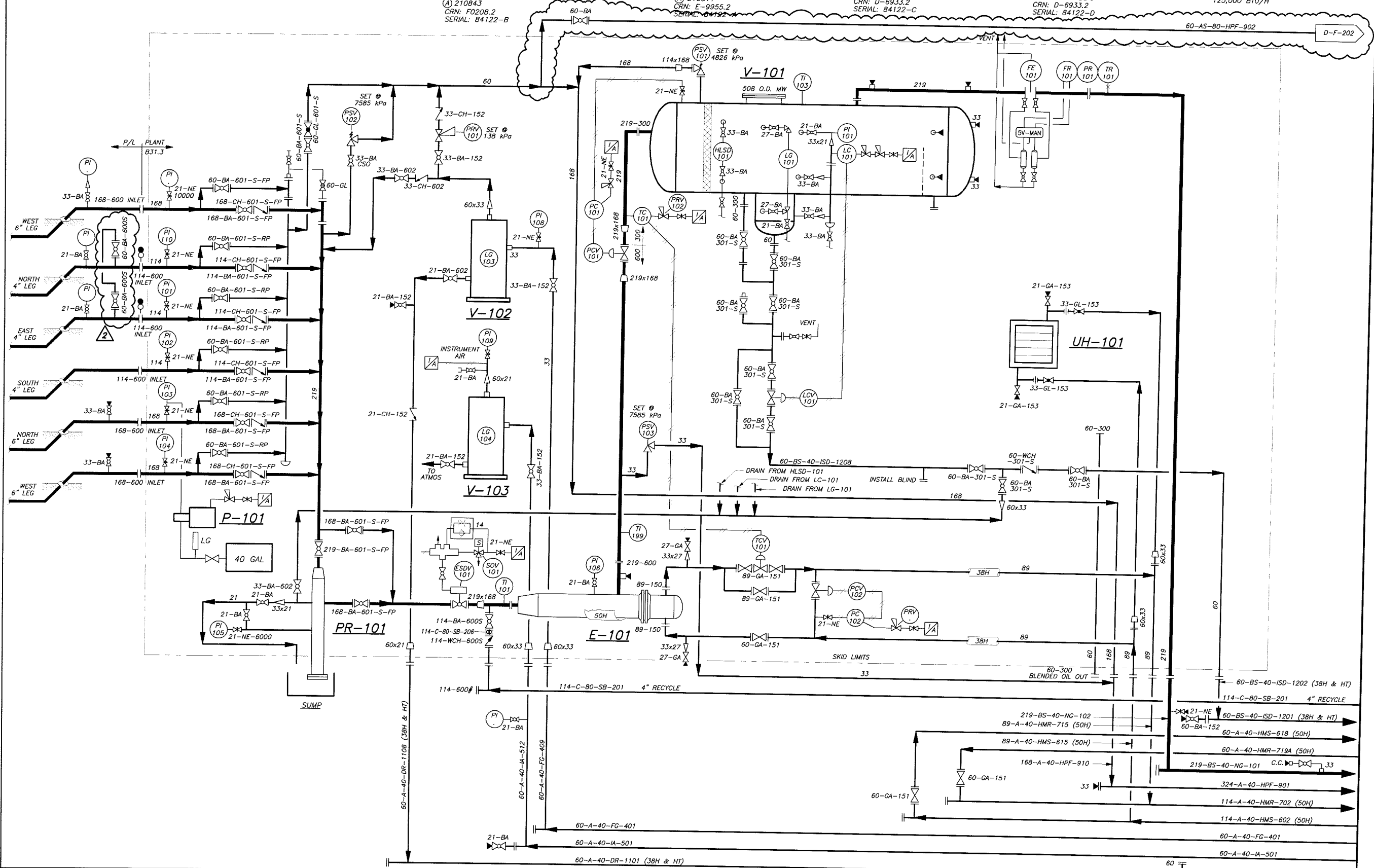
**E-101**  
HEAT MEDIUM/ GAS EXCHANGER  
324 O.D. x 3658 S/TS  
SHELL - 7585 kPa @ 65°C  
TUBE - 1034 kPa @ 204°C  
(A) 210843  
CRN: F0208.2  
SERIAL: 84122-B

**V-101**  
PLANT INLET SEPARATOR  
1219 O.D. x 4572 S/S  
4827 kPa @ 66°C  
(A) 210811  
CRN: E-9955.2  
SERIAL: 84122-A

**V-102**  
FUEL GAS POT  
273 O.D. x 457 LG.  
862 kPa @ 38°C  
CRN: D-6933.2  
SERIAL: 84122-C

**V-103**  
INSTRUMENT AIR POT  
219 O.D. x 457 LG.  
862 kPa @ 38°C  
CRN: D-6933.2  
SERIAL: 84122-D

**UH-101**  
UNIT HEATER  
TRANE MODEL H  
125,000 BTU/H



DWG. NO.	REFERENCE DRAWING	REV.	BY	DESCRIPTION	DATE	APP'D
		3	S.W.	AS-BUILT	10/05/2006	D.W.
		2	K.N.	AS-BUILT (ABSA REGISTRATION 2001)	06/29/2001	D.W.
		1	B.P.	EXPANSION 'A'	08/27/1986	D.W.
		C	B.P.	AS-BUILT	11/15/1984	D.W.

CONSTRUCTION DRAWING  
ENGINEER'S STAMP

CONSTRUCTION DRAWING  
PERMIT STAMP

BY: DON WIDYNOWSKI  
DATE: JUNE 29 - 2001

BY: SIGMA 3 ENGINEERING LIMITED  
PERMIT #: P5084  
DATE: JUNE 29 - 2001

PROJECT:  
**SIGNALTA RESOURCES LIMITED  
FORESTBURG GAS PLANT**

CUSTOMER:  
**SIGNALTA RESOURCES LIMITED**

DRAWN: K.N. DATE: NOVEMBER - 1984  
CHECKED: M.V. DATE: NOVEMBER - 1984  
APPROVED: D.W. DATE: NOVEMBER - 1984

SCALE:  
**164/867/1808**  
PROJECT NO.

TITLE:  
**MECHANICAL FLOWSHEET  
INLET HEADER AREA**

DRAWING NO.  
**D-F-201**

**SIGMA 3 ENGINEERING LIMITED**  
CONSULTING ENGINEERS  
EDMONTON ALBERTA

SHEET 1 of 12

**DE-251**  
DESURGER  
NIXCO DESURGER  
MODEL N200-3213  
SERIAL NO.: 6243

**P-251**  
INJECTION PUMP  
NATIONAL TRIPLEX PUMP  
MODEL J-60M  
738.5 BAR/ DAY @ 18548 kPa  
C/W 50 H.P. MOTOR

**F-251**  
WATER FILTER  
GAF FILTER  
MODEL RB-1A  
1034 kPa M.O.P. @ 38°C

**P-252**  
BOOSTER PUMP  
MONARCH 60 x 48  
ACE 200  
C/W 2 H.P. MOTOR

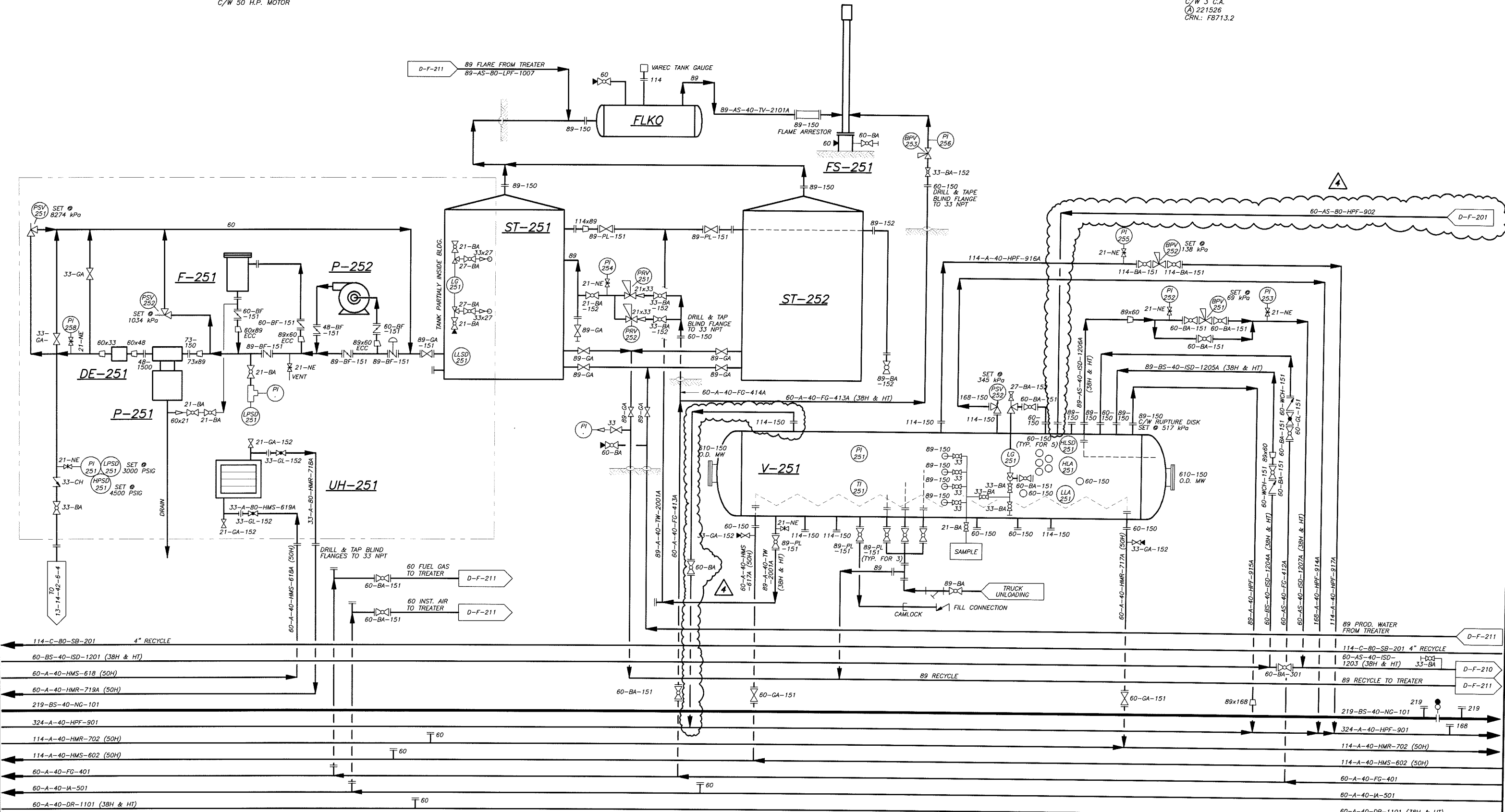
**UH-251**  
UNIT HEATER  
TRANE MODEL 84H

**ST-251**  
WATER STORAGE TANK  
3658 O.D. x 6096 HIGH  
400 BBL

**ST-252**  
WATER STORAGE TANK  
4724 O.D. x 7315 HIGH  
750 BBL

**V-251**  
LOW PRESSURE DUMP TANK  
3048 I.D. x 12192 S/S  
345 kPa @ 38°C  
C/W 3 C.A.  
221526  
CRN.: F8713.2

**FS-251**  
FLARE STACK  
89 O.D.  
12192 HIGH



DWG. NO.	REFERENCE DRAWING	REV.	BY	DESCRIPTION	DATE	APP'D
		4	S.W.	AS-BUILT	10/05/2006	D.W.
		3	K.N.	AS-BUILT (ABSA REGISTRATION 2001)	06/29/2001	D.W.
		2	D.M.	ADDED TREATER TR-225	05/17/1993	D.W.
		1	B.P.	ISSUED FOR BID	08/27/1986	D.W.

CONSTRUCTION DRAWING  
ENGINEER'S STAMP

CONSTRUCTION DRAWING  
PERMIT STAMP

BY: DON WIDYNOWSKI  
DATE: JUNE 29 - 2001

BY: SIGMA 3 ENGINEERING LIMITED  
PERMIT #: PS064  
DATE: JUNE 29 - 2001

PROJECT:  
**SIGNALTA RESOURCES LIMITED  
FORESTBURG GAS PLANT**

CUSTOMER:  
**SIGNALTA RESOURCES LIMITED**

DRAWN: K.N. DATE: NOVEMBER - 1984  
CHECKED: M.V. DATE: NOVEMBER - 1984  
APPROVED: D.W. DATE: NOVEMBER - 1984

SCALE: **82/264/867/1808**  
PROJECT NO.

TITLE:  
**MECHANICAL FLOWSHEET  
LOW PRESSURE DUMP TANK AND  
WATER INJECTION PUMP SKID AREA**

**SIGMA 3 ENGINEERING LIMITED**  
CONSULTING ENGINEERS  
EDMONTON ALBERTA

DRAWING NO.  
**D-F-202**

SHEET 2 of 12

**V-111**  
**INLET FILTER SEPARATOR**  
 610 O.D. x 3048 S/S  
 4875 kPa @ 65°C  
 A 406971  
 CRN: P1686.2

**T-111**  
**AMINE CONTACTOR**  
 1067 I.D. x 14630 S/S  
 4875 kPa @ 65°C  
 A 210803  
 CRN: E9756.2

**V-112**  
**FILTER SCRUBBER**  
 610 O.D. x 3048 S/S  
 4875 kPa @ 65°C  
 A 210770  
 CRN: E9759.2

**P-111/112**  
**CHARGE PUMPS**  
 SUNFLO MODEL P-2000

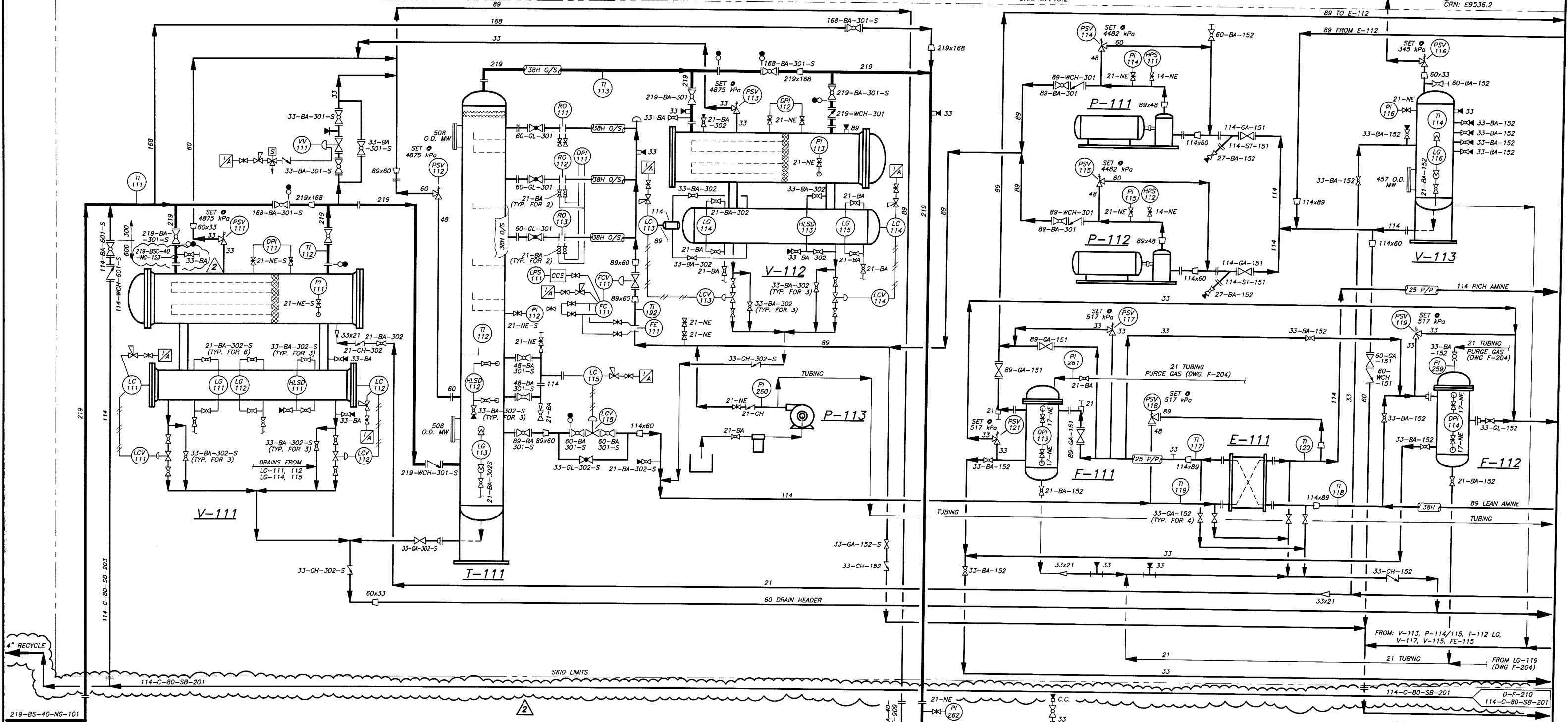
**V-113**  
**AMINE SURGE TANK**  
 1219 O.D. x 3048 S/S  
 345 kPa @ 65°C  
 A 210771  
 CRN: E9758.2

**P-113**  
**CHEMICAL INJECTION PUMP**  
 TEXTEAM SERIES 100  
 MODEL 110361

**F-111**  
**LEAN AMINE FILTER**  
 PECO MODEL 55-36-336  
 610 O.D. x 1220 S/S  
 1035 kPa @ 104°C  
 A 221343  
 CRN: E7713.2

**E-111**  
**RICH/LEAN EXCHANGER**  
 PLATE/PLATE TRANTER  
 517 kPa @ 150°C  
 CRN: D8942.2

**F-112**  
**CHARCOAL FILTER**  
 PECO 10-3-44  
 666 O.D. x 1854 S/S  
 698 kPa @ 121°C  
 A 221366  
 CRN: E9536.2



219-BS-40-NG-101	114-C-80-SB-201	324-A-40-HPF-901	114-A-40-HMR-702 (50H)	114-A-40-HMS-602 (50H)	60-A-40-FG-401	60-A-40-IA-501	60-A-40-DR-1101 (38H & HT)
219-B-40-NG-103	324-A-40-HPF-901	114-A-40-HMR-702 (50H)	114-A-40-HMS-602 (50H)	60-A-40-FG-401	60-A-40-IA-501	60-A-40-DR-1101 (38H & HT)	

DWG. NO.	REFERENCE DRAWING	REV.	BY	DESCRIPTION	DATE	APP'D
		2	K.N.	AS-BUILT (ABS REGISTRATION 2001)	06/29/2001	D.W.
		D	K.N.	EXTENDED SPILLBACK LINE INLET BLDG.	05/19/1993	D.W.
		1	B.P.	TURN-A-ROUND	07/15/1985	D.W.
		C	B.P.	AS-BUILT	11/15/1984	D.W.

PROFESSIONAL ENGINEER  
 WIDMANN  
 DATE: JUNE 29 - 2001  
 SIGNATURE:

THE ASSOCIATION OF PROFESSIONAL ENGINEERS, GEOLOGISTS and GEOPHYSICISTS OF ALBERTA  
 PERMIT NUMBER P 5064  
 SIGMA 3 Engineering Limited.  
 DATE: JUNE 29 - 2001  
 SIGNATURE:

PROJECT: **SIGNALTA RESOURCES LIMITED FORESTBURG GAS PLANT**

DRAWN: K.N. DATE: NOVEMBER - 1984  
 CHECKED: M.V. DATE: NOVEMBER - 1984  
 APPROVED: D.W. DATE: NOVEMBER - 1984

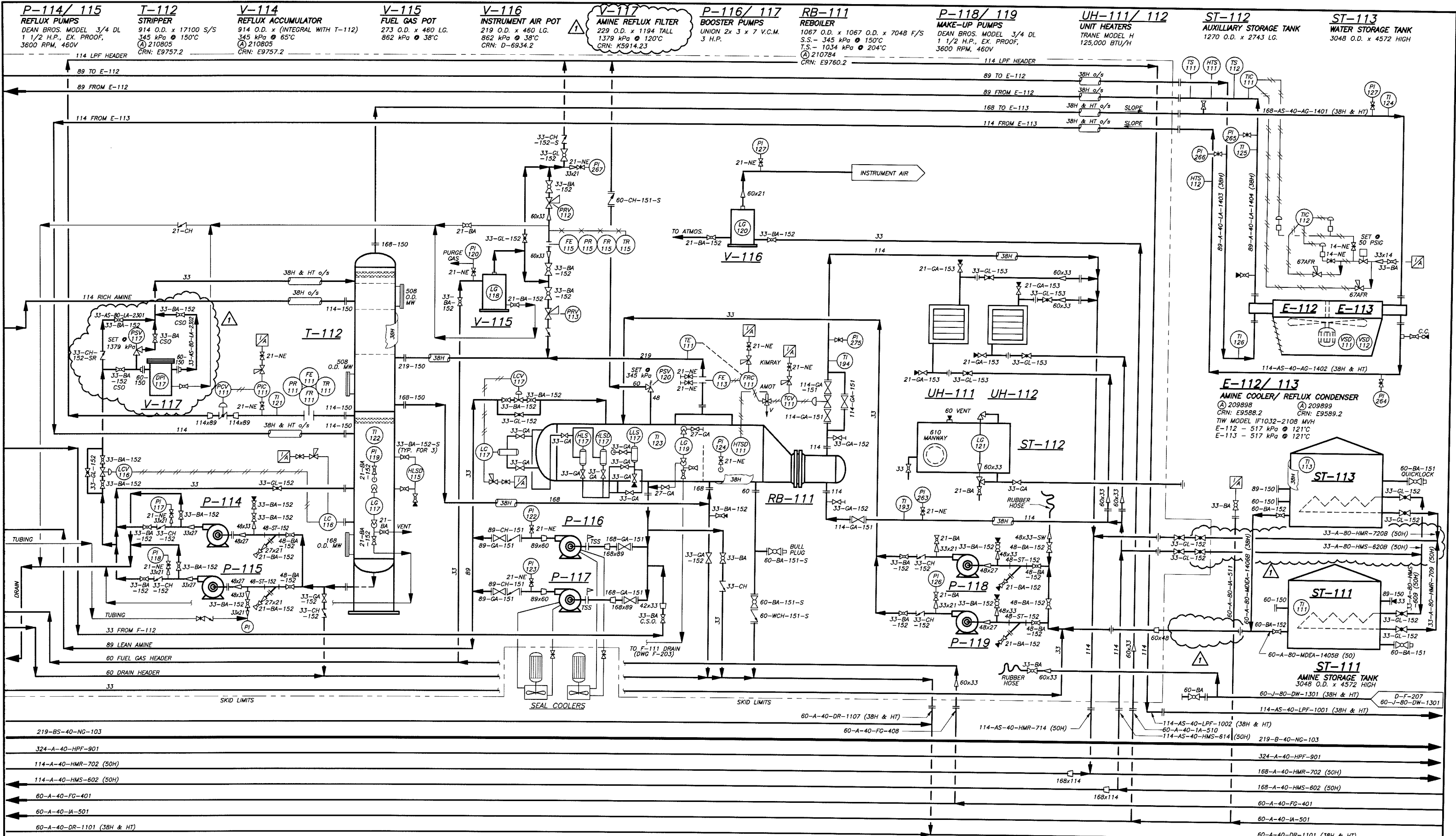
SCALE: **164/264/867**  
 PROJECT NO.

CUSTOMER: **SIGNALTA RESOURCES LIMITED**

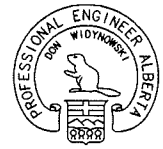
TITLE: **MECHANICAL FLOWSHEET AMINE AREA**

**SIGMA 3 ENGINEERING LIMITED**  
 CONSULTING ENGINEERS  
 EDMONTON ALBERTA

DRAWING NO. **D-F-203**  
 SHEET 3 of 12



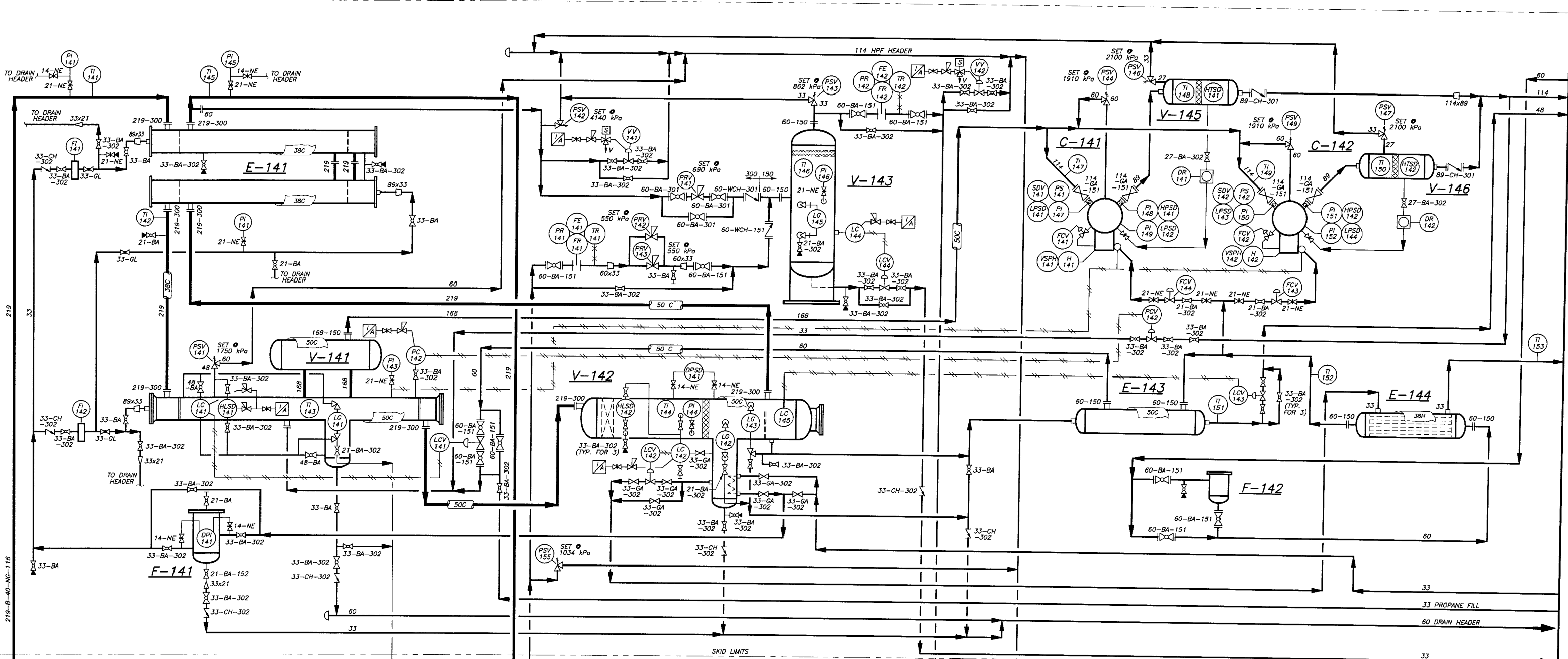
DWG. NO.	REFERENCE DRAWING	REV.	BY	DESCRIPTION	DATE	APP'D
		1	K.N.	AS-BUILT (ABS REGISTRATION 2001)	06/29/2001	D.W.
		D	B.P.	EXPANSION 'B' (PROJECT 188)	MAY 1987	D.W.
		C	B.P.	TURN-A-ROUND	JULY 1985	D.W.
		B	B.P.	ISSUED FOR BID	NOV. 1984	D.W.
		A	B.P.	ORIGINAL PROJECT 164	JULY 1984	D.W.

  
 THE ASSOCIATION OF PROFESSIONAL ENGINEERS, GEOLOGISTS and GEOPHYSICISTS OF ALBERTA  
 PERMIT NUMBER P 5064  
 SIGMA 3 Engineering Limited.  
 DATE: JUNE 29 - 2001  
 SIGNATURE:

PROJECT: **SIGNALTA RESOURCES LIMITED FORESTBURG GAS PLANT**  
 CUSTOMER: **SIGNALTA RESOURCES LIMITED**  
 DRAWN: K.N. DATE: NOVEMBER - 1984  
 CHECKED: M.V. DATE: NOVEMBER - 1984  
 APPROVED: D.W. DATE: NOVEMBER - 1984  
 SCALE: **188/867**  
 PROJECT NO.

TITLE: **MECHANICAL FLOWSHEET AMINE AREA**  
 DRAWING NO. **D-F-204**  
 SHEET 4 of 12

- E-141**  
GAS/ GAS EXCHANGER  
508 O.D. x 12186 TS/TS DBL  
4875 kPa @ 66°C
- V-141**  
SUCTION SCRUBBER  
508 O.D. x 3048 S/S  
1750 kPa @ 66°C
- E-142**  
CHILLER  
508 O.D. x 6090 TS/TS  
4875 kPa @ 66°C
- P-141**  
CHEMICAL INJECT. PUMP  
TEXTTEAM SERIES 100  
MODEL 110361
- F-141**  
INJECTION GLYCOL FILTER  
PECO MODEL WFB-1-2-C/S-2500-1-4  
17237 kPa @ 121°C  
A) 225630  
CRN: F7500.2
- V-142**  
LOW TEMP. SEPARATOR  
1219 O.D. x 4570 S/S  
4875 kPa @ 66°C  
A) 210809  
CRN: E-9918.2
- V-143**  
FUEL GAS SCRUBBER  
406 O.D. x 1219 S/S  
1030 kPa @ 38°C  
A) 210785  
CRN: E9923.2
- C-141/142**  
REFRIGERATION COMP'S  
MAYCOM P68 C/W ETA  
TECH 100 HP-XP
- V-145/146**  
OIL SEPARATORS  
406 O.D. x 610 S/S  
2758 kPa @ 150°C
- E-143**  
PROPANE SUB-COOLER  
SHELL- 89 O.D. x 3048 LG.  
1750 kPa @ 66°C  
TUBE- 48 O.D. x 3048 LG.  
4875 kPa @ 66°C
- E-144**  
GLYCOL PRE-HEATER  
SHELL- 168 O.D. x 3042 TS/TS  
2450 kPa @ 66°C  
TUBE- 19 O.D. x 3042 LG.  
1750 kPa @ 66°C
- F-142**  
PROPANE DRYER/ FILTER  
SPORLAN DESSICANT TYPE  
C-4016-P



114-AS-40-LPF-1001 (38H & HT)	BY PORKY 89	219-B-40-NG-105	60-A-40	60-A-40-FG-407	114-A-40-HPF-907	114-AS-40-LPF-1004 (38H & HT)	D-F-210	114-AS-40-LPF-1004
219-B5-40-NG-103						89-A-40-SG-301		
324-A-40-HPF-901						219-B-40-NG-104		
168-A-40-HMR-701 (50H)						324-A-40-HPF-901		
168-A-40-HMS-601 (50H)						168-A-40-HMR-701 (50H)		
60-A-40-FG-401						168-A-40-HMS-601 (50H)		
60-A-40-IA-501						60-A-40-FG-401		
60-A-40-DR-1101 (38H & HT)						60-A-40-IA-501		
						60-A-40-DR-1101 (38H & HT)		

DWG. NO.	REFERENCE DRAWING	REV.	BY	DESCRIPTION	DATE	APP'D
		3	K.N.	AS-BUILT (2001)	06/29/2001	D.W.
		2	K.N.	ADDED MAUKESHA F 3521GU COMPRESSOR	JULY 1998	D.W.
		1	B.P.	TURN-A-ROUND	JULY 1985	D.W.
		C	B.P.	AS-BUILT	11/15/1984	D.W.

PROFESSIONAL ENGINEER  
ALBERTA  
DATE: JUNE 29 - 2001  
SIGNATURE:

THE ASSOCIATION OF  
PROFESSIONAL ENGINEERS,  
GEOLOGISTS and GEOPHYSICISTS  
OF ALBERTA  
PERMIT NUMBER  
P 5064  
SIGMA 3  
Engineering Limited.  
DATE: JUNE 29 - 2001  
SIGNATURE:

PROJECT:  
**SIGNALTA RESOURCES LIMITED  
FORESTBURG GAS PLANT**

DRAWN: K.N. DATE: NOVEMBER - 1984  
CHECKED: M.V. DATE: NOVEMBER - 1984  
APPROVED: D.W. DATE: NOVEMBER - 1984

SCALE  
**164/290/867**  
PROJECT NO.

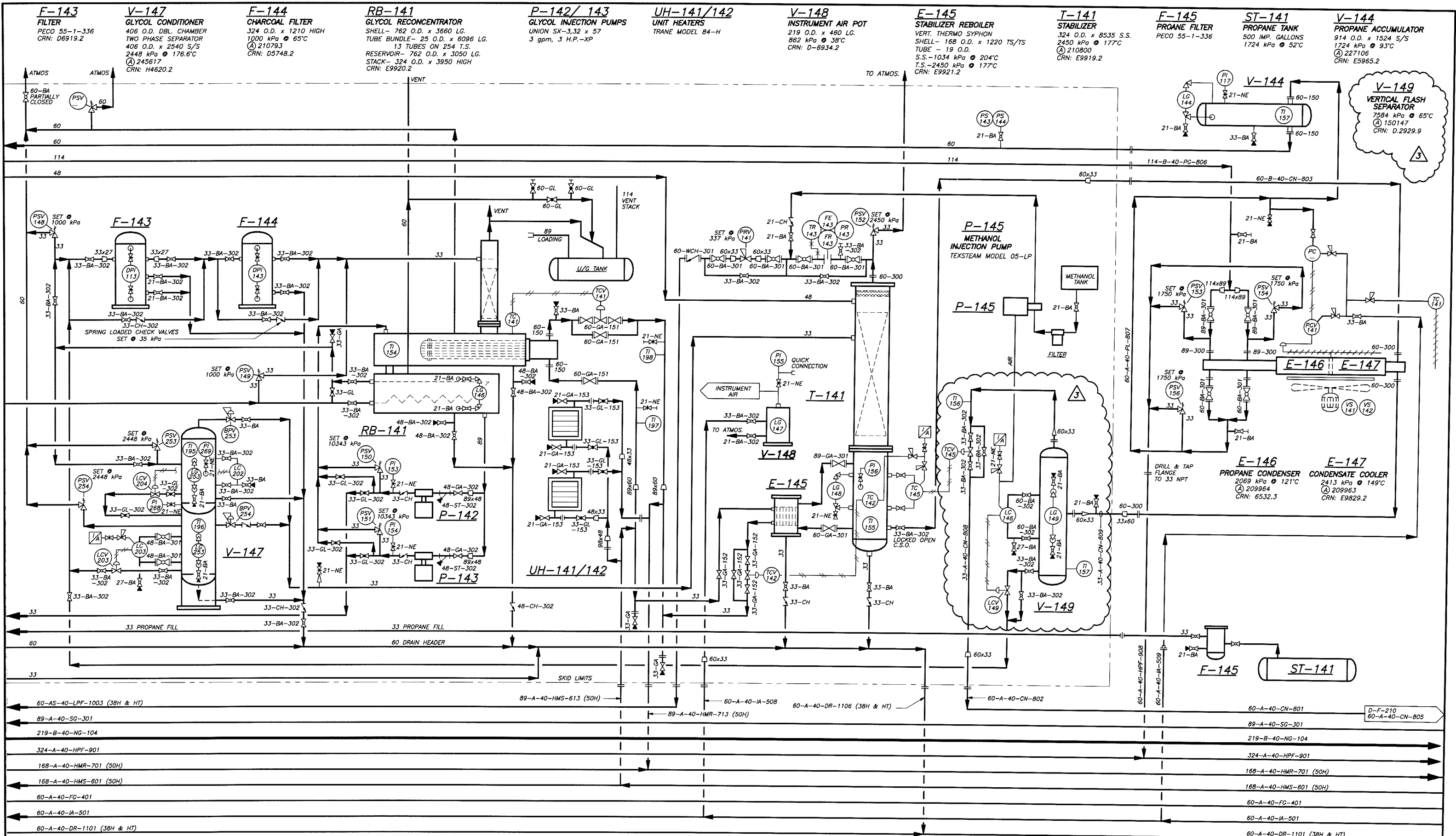
CUSTOMER:  
**SIGNALTA RESOURCES LIMITED**

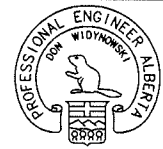
TITLE:  
**MECHANICAL FLOWSHEET  
REFRIGERATION AREA**

**SIGMA 3 ENGINEERING LIMITED**  
CONSULTING ENGINEERS  
EDMONTON ALBERTA

DRAWING NO.  
**D-F-205**

SHEET 5 of 12



DWG. NO.		REFERENCE DRAWING		REV. BY DESCRIPTION DATE APP'D		 DATE: JUNE 29 - 2001 SIGNATURE:		THE ASSOCIATION OF PROFESSIONAL ENGINEERS, GEOLOGISTS and GEOPHYSICISTS OF ALBERTA PERMIT NUMBER P 5064 SIGMA 3 Engineering Limited. DATE: JUNE 29 - 2001 SIGNATURE:		PROJECT: <b>SIGNALTA RESOURCES LIMITED FORESTBURG GAS PLANT</b> CUSTOMER: <b>SIGNALTA RESOURCES LIMITED</b> DRAWN: K.N. DATE: NOVEMBER - 1984 CHECKED: M.V. DATE: NOVEMBER - 1984 APPROVED: D.W. DATE: NOVEMBER - 1984 SCALE: <b>164/867</b> PROJECT NO.		TITLE: <b>MECHANICAL FLOWSHEET REFRIGERATION AREA</b> DRAWING NO. <b>D-F-206</b> SHEET 6 of 12	
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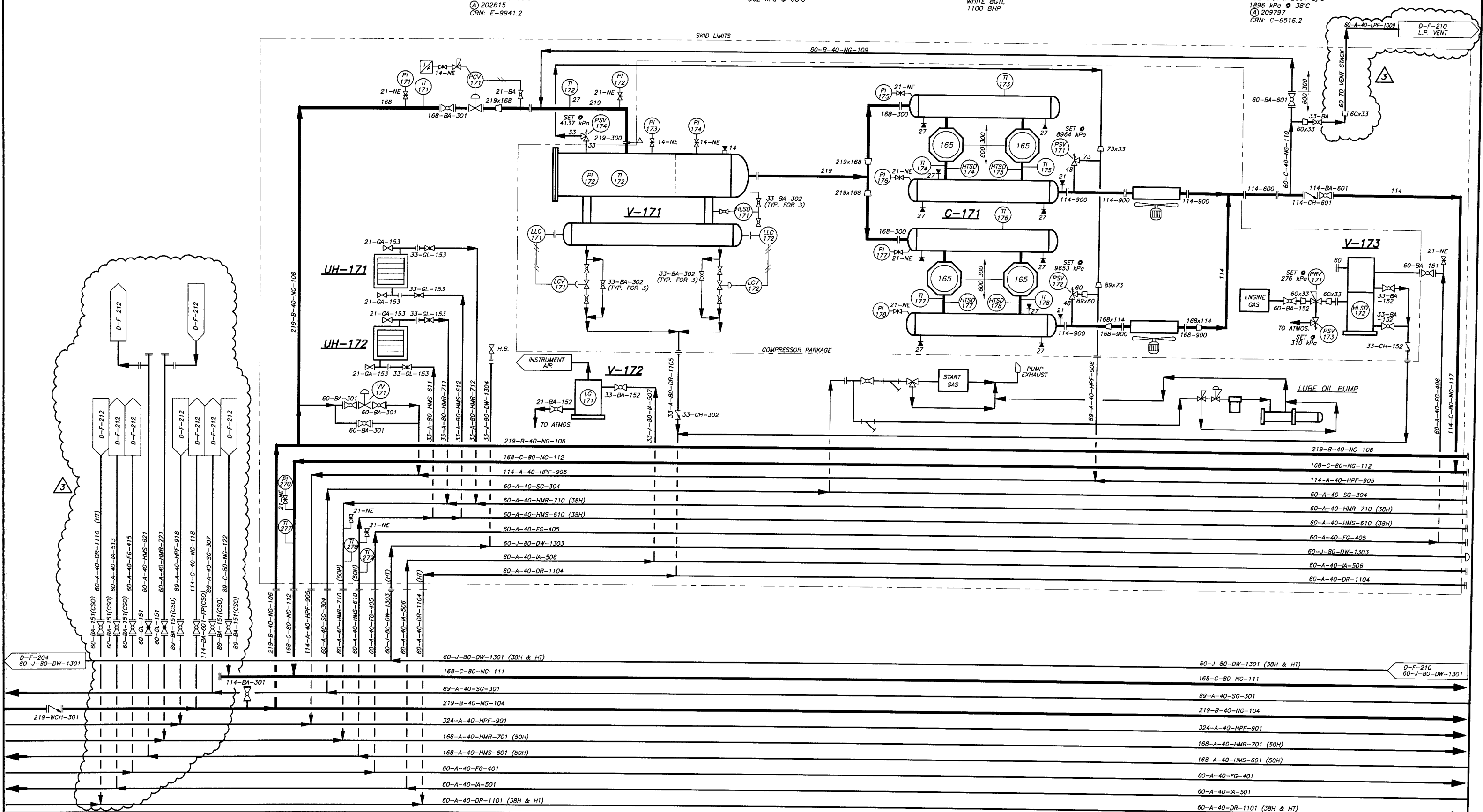
**UH-171/ 172**  
UNIT HEATERS  
TRANE MODEL 84-H

**V-171**  
FILTER SCRUBBER  
406 O.D. x 2565 S/S  
4875 kPa @ 38°C  
202615  
CRN: E-9941.2

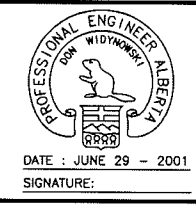
**V-172**  
INSTRUMENT AIR POT  
219 O.D. x 460 L.G.  
862 kPa @ 38°C

**C-171**  
GAS COMPRESSOR  
WHITE MW64 COMPRESSOR DRIVER  
WHITE 8GTL  
1100 BHP

**V-173**  
ENGINE FUEL GAS FILTER SCRUBBER  
152 O.D. x 2061 S/S  
1896 kPa @ 38°C  
209797  
CRN: C-6516.2



DWG. NO.	REFERENCE DRAWING	REV.	BY	DESCRIPTION	DATE	APP'D
		3	K.N.	AS-BUILT (ABSA REGISTRATION 2001)	06/29/2001	D.W.
		2	K.N.	ADDED WAUKESHA F 3521GU COMPRESSOR	JULY 1998	D.W.
		1	B.P.	TURN-A-ROUND	JULY 1985	D.W.
		C	B.P.	AS-BUILT	11/15/1984	D.W.



THE ASSOCIATION OF PROFESSIONAL ENGINEERS, GEOLOGISTS and GEOPHYSICISTS OF ALBERTA  
PERMIT NUMBER P 5064  
SIGMA 3 Engineering Limited.  
DATE: JUNE 29 - 2001  
SIGNATURE:

PROJECT: **SIGNALTA RESOURCES LIMITED FORESTBURG GAS PLANT**  
DRAWN: K.N. DATE: NOVEMBER - 1984  
CHECKED: M.V. DATE: NOVEMBER - 1984  
APPROVED: D.W. DATE: NOVEMBER - 1984  
SCALE: **164/290/867**  
PROJECT NO.

CUSTOMER: **SIGNALTA RESOURCES LIMITED**  
TITLE: **MECHANICAL FLOWSHEET C-171 (8GTL) COMPRESSOR AREA**

**SIGMA 3 ENGINEERING LIMITED**  
CONSULTING ENGINEERS  
EDMONTON ALBERTA  
DRAWING NO. **D-F-207**  
SHEET 7 of 12



**V-181**  
**SUCTION SCRUBBER**  
 610 O.D. x 2134 S/S  
 4689 kPa @ 38°C  
 (A) 144974  
 CRN: D3774.2

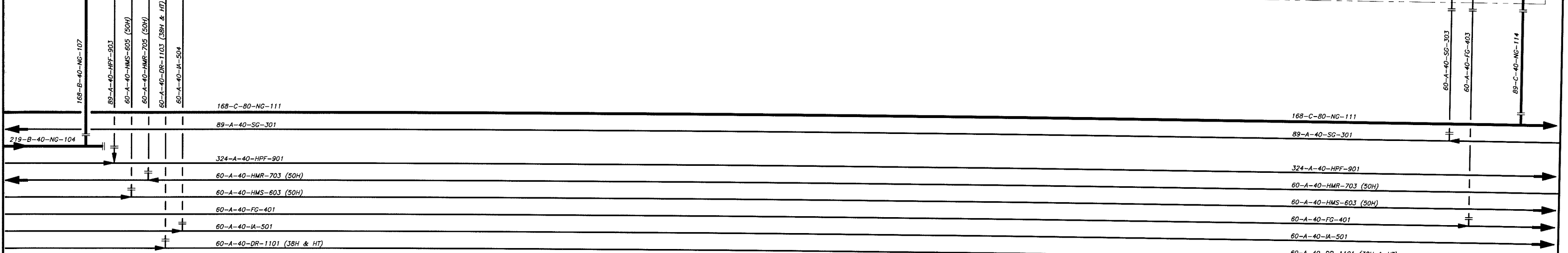
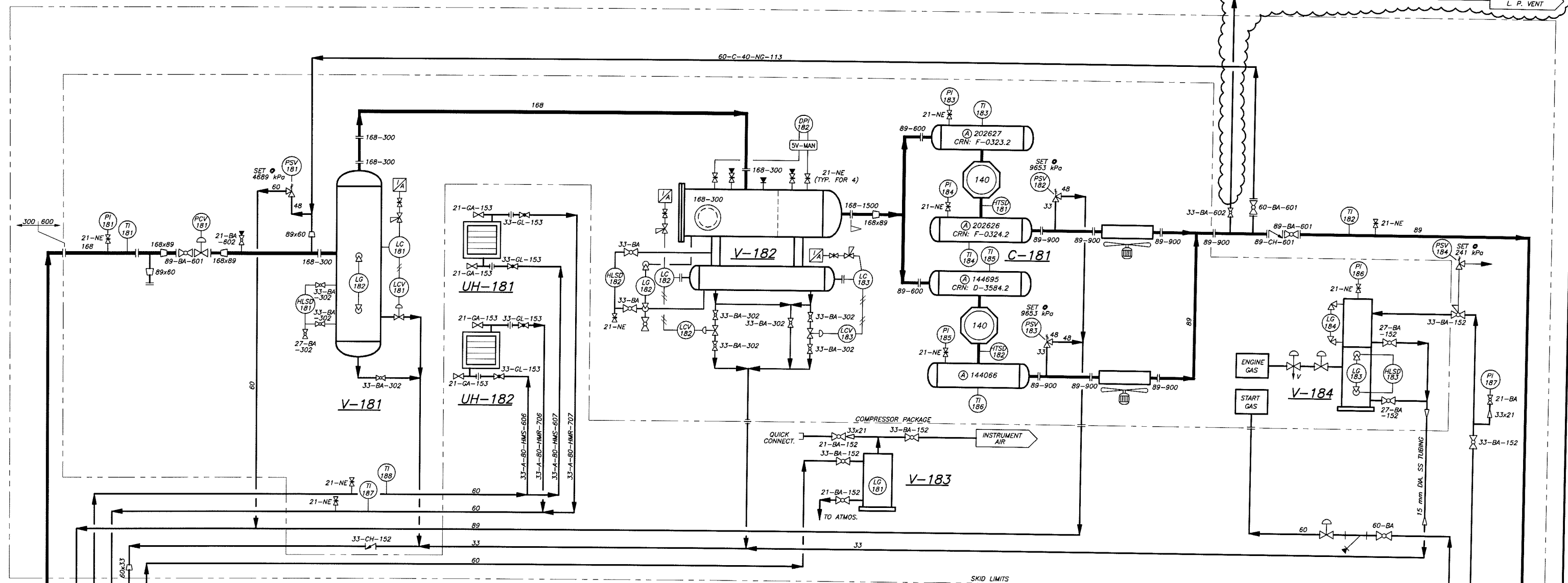
**UH-181/182**  
**UNIT HEATERS**  
 TRANE MODEL B4-H

**V-182**  
**FILTER SCRUBBER**  
 406 O.D. x 1829 S/S  
 4689 kPa @ 38°C  
 (A) 160271  
 CRN: C8201.2

**V-183**  
**INSTRUMENT AIR POT**  
 219 O.D. x 460 LG.  
 862 kPa @ 38°C

**C-181**  
**GAS COMPRESSOR**  
 WORTHINGTON OF6SU-2  
 COMPRESSOR DRIVER  
 WAUKESHA L5108G  
 634 BHP

**V-184**  
**ENGINE FUEL GAS FILTER SCRUBBER**  
 152 O.D. x 1711 S/S  
 1586 kPa @ 38°C  
 CRN: C-5257.21



DWG. NO.	REFERENCE DRAWING	REV.	BY	DESCRIPTION	DATE	APP'D
		1	K.N.	AS-BUILT (ABSA REGISTRATION 2001)	06/29/2001	D.W.
		C	B.P.	AS-BUILT	11/15/1984	D.W.

DATE: JUNE 29 - 2001  
 SIGNATURE:

THE ASSOCIATION OF PROFESSIONAL ENGINEERS, GEOLOGISTS and GEOPHYSICISTS OF ALBERTA  
 PERMIT NUMBER P 5064  
 SIGMA 3 Engineering Limited.  
 DATE: JUNE 29 - 2001  
 SIGNATURE:

PROJECT: **SIGNALTA RESOURCES LIMITED FORESTBURG GAS PLANT**

DRAWN: K.N.	DATE: NOVEMBER - 1984
CHECKED: M.V.	DATE: NOVEMBER - 1984
APPROVED: D.W.	DATE: NOVEMBER - 1984

SCALE: **164/867**  
 PROJECT NO.

CUSTOMER: **SIGNALTA RESOURCES LIMITED**

TITLE: **MECHANICAL FLOWSHEET C-181 (L5108G) COMPRESSOR AREA**

**SIGMA 3 ENGINEERING LIMITED CONSULTING ENGINEERS**  
 EDMONTON ALBERTA

DRAWING NO. **D-F-209**  
 SHEET 9 of 12

**V-191**  
**PECO SEPARATOR**  
 168 O.D. x 324 L.G. x 1753 F/F  
 9791 kPa @ 49°C  
 (A) 205624  
 CRN: E9986.2

**V-192**  
**INSTRUMENT AIR POT**  
 219 O.D. x 460 L.G.

**PL-191**  
**PIG LAUNCHER**  
 168 O.D. x 915 L.G.  
 9652 kPa @ 49°C

**PL-192**  
**PIG LAUNCHER**  
 219 O.D. x 915 L.G.  
 9652 kPa @ 49°C

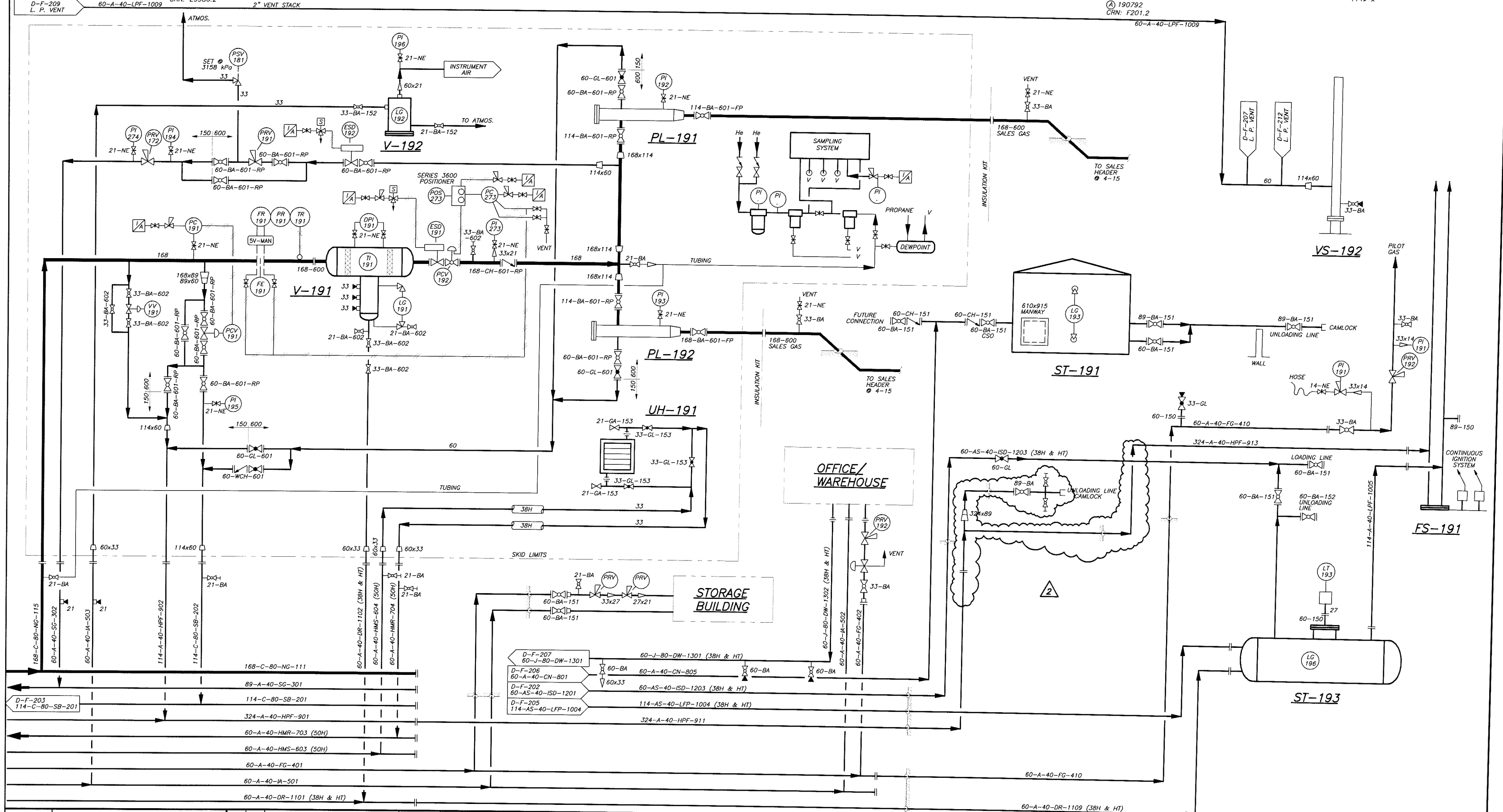
**UH-191**  
**UNIT HEATER**  
 TRANE MODEL 84-H

**ST-191**  
**CONDENSATE TANK**  
 6553 O.D. x 4877 HIGH  
 1000 BBL

**ST-193**  
**ACID GAS KNOCK-OUT DRUM**  
 2438 O.D. x 3048 S/S  
 345 kPa @ 38°C  
 (A) 190792  
 CRN: F201.2

**FS-191**  
**FLARE STACK**  
 45.5 m HIGH

**VS-192**  
**VENT STACK**  
 114 x



DWG. NO.	REFERENCE DRAWING	REV.	BY	DESCRIPTION	DATE	APP'D
		2	S.W.	AS-BUILT	10/05/2006	D.W.
		1	K.N.	AS-BUILT (ABSA REGISTRATION 2001)	06/29/2001	D.W.
		E	K.N.	EXTENDED SPILLBACK LINE TO INLET BLDG.	05/19/1993	D.W.
		D	B.P.	EXPANSION 'B' (PROJECT 188)	MAY 1987	D.W.
		C	B.P.	TURN-A-ROUND	JULY 1985	D.W.
		B	B.P.	ISSUED FOR BID	NOV. 1984	D.W.
		A	B.P.	ORIGINAL PROJECT 164	JULY 1984	D.W.

CONSTRUCTION DRAWING  
 ENGINEER'S STAMP

CONSTRUCTION DRAWING  
 PERMIT STAMP

BY: DON WIDYNOWSKI  
 DATE: JUNE 29 - 2001

BY: SIGMA 3 ENGINEERING LIMITED  
 PERMIT #: P5064  
 DATE: JUNE 29 - 2001

PROJECT:  
**SIGNALTA RESOURCES LIMITED  
 FORESTBURG GAS PLANT**

CUSTOMER:  
**SIGNALTA RESOURCES LIMITED**

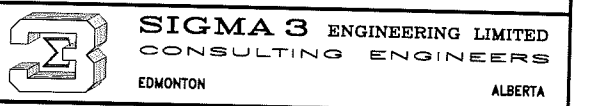
DRAWN: K.N. DATE: NOVEMBER - 1984  
 CHECKED: M.V. DATE: NOVEMBER - 1984  
 APPROVED: D.W. DATE: NOVEMBER - 1984

SCALE: 188/264/290/867 PROJECT NO.

TITLE:  
**MECHANICAL FLOWSHEET  
 SALES, OFFICE/WAREHOUSE, FLARE & CONDENSATE AREAS**

DRAWING NO.  
**D-F-210**

SHEET 10 of 12



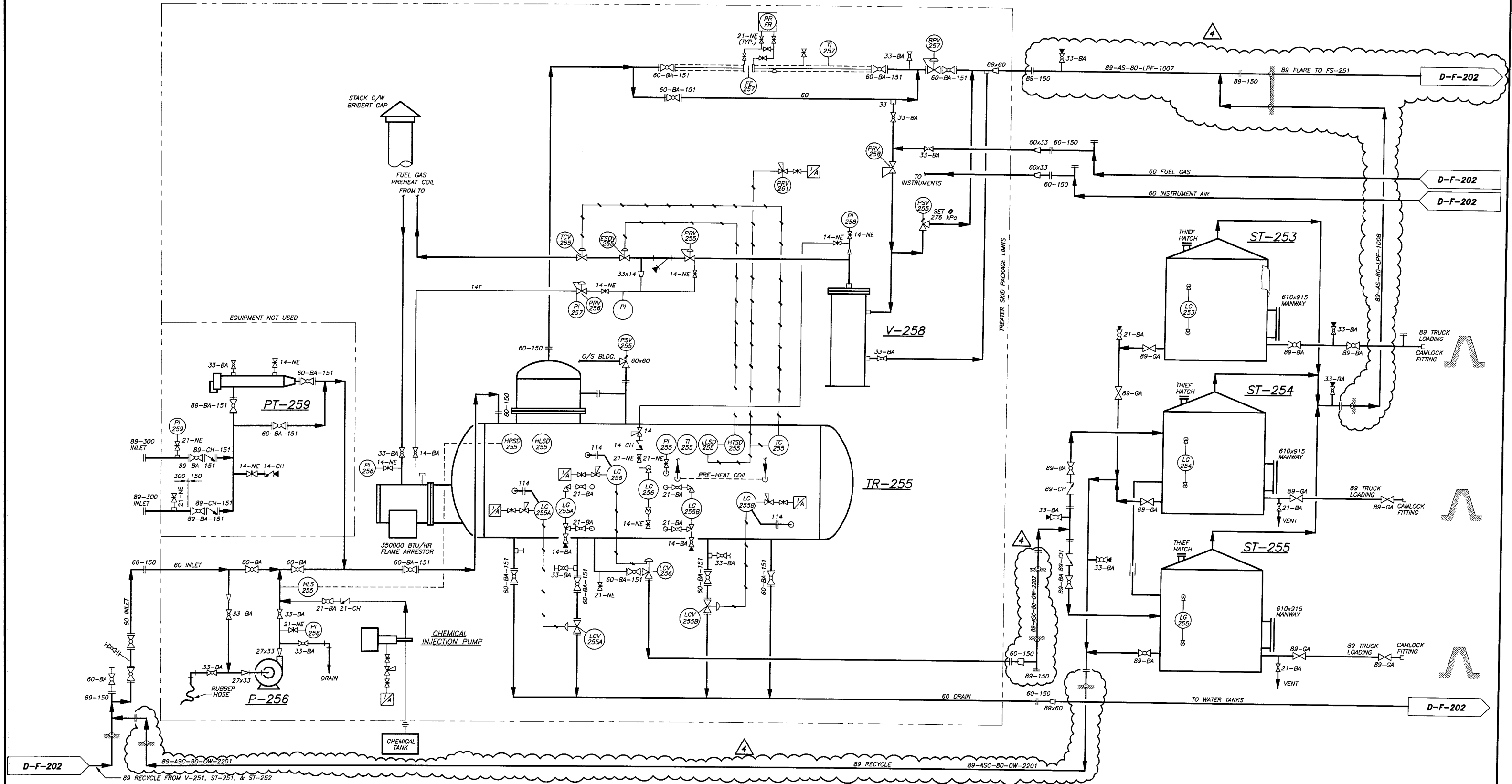
**P-256**  
**RECYCLE PUMP**  
 RAMROY 34401 C/W  
 3 HP BRIGGS & STRATTON DIESEL ENGINE  
 AND CENTRIFUGAL CLUTCH

**PT-259**  
**PIG RECEIVER**  
 6 5/8" x 3'-0" LONG

**TR-255**  
**EMULSION TREATER**  
 48" O.D. x 12'-0" S/S  
 345 kPa @ 93°C  
 A 199643  
 CRN: F3099.21

**V-258**  
**FUEL GAS SCRUBBER**  
 8 5/8" O.D. x 5'-0" LONG  
 MAWP 345 kPa @ 93.3°C  
 CRN: D38.213

**ST-253/254 & 255**  
**PRODUCTION STORAGE TANK**  
 12' x 20' API 650  
 HERRISITE 6000 INTERNAL COATING  
 A-36 1/4" BOT., 3/16" SHELL AND DECK



LD-1576-A1	LARSON & D'AMICO MFG. LTD. - PIPING SCHEMATIC	REV.	BY	DESCRIPTION	DATE	APP'D
		4	K.N.	AS-BUILT (ABSA REGISTRATION 2001)	06/29/01	D.W.
		3	K.N.	ADDED WAKESHA F3521GU COMP.	98/08/12	D.W.
		2	K.N.	ADDED ST-255	94/05/09	D.W.
		1	D.M.	AS-BUILT TREATER ADDITION	93/05/14	D.W.

DATE: JUNE 29 - 2001  
 SIGNATURE:

THE ASSOCIATION OF PROFESSIONAL ENGINEERS, GEOLOGISTS and GEOPHYSICISTS OF ALBERTA  
 PERMIT NUMBER P 5064  
 SIGMA 3 Engineering Limited.  
 DATE: JUNE 29 - 2001  
 SIGNATURE: \_\_\_\_\_

PROJECT: **SIGNALTA RESOURCES LIMITED FORESTBURG GAS PLANT**  
 CUSTOMER: **SIGNALTA RESOURCES LIMITED**  
 DRAWN: D.M. DATE: MAY - 1993  
 CHECKED: M.V. DATE: MAY - 1993  
 APPROVED: D.W. DATE: MAY - 1993  
 N.T.S. SCALE  
**264/290/867**  
 PROJECT NO.

TITLE: **MECHANICAL FLOW SHEET TREATER AND PRODUCTION STORAGE AREAS**

**SIGMA 3 ENGINEERING LIMITED**  
 CONSULTING ENGINEERS  
 EDMONTON ALBERTA  
 DRAWING NO. **D-F-211**  
 SHEET 11 of 12

**UH-163/UH-164**

UNIT HEATERS  
RUFFNECK MODEL HP5-24  
825,000 BTU/HR

**V-161**

INLET SEPARATOR  
1219 O.D. x 3048 S/S  
9653 kPa @ 38°C  
(A) 2630166  
CRN: H9909.2

**V-162**

SUCTION SCRUBBER  
4516 kPa @ 149°C  
(A) 2631071  
CRN: H9947.2

**V-163**

INTERSTAGE SCRUBBER  
4516 kPa @ 149°C  
(A) 2631088  
CRN: H9948.2

**C-161**

GAS COMPRESSOR  
ARIEL JGE/2  
C/W WAUKESHA F3521G DRIVER

**UH-161/UH-162**

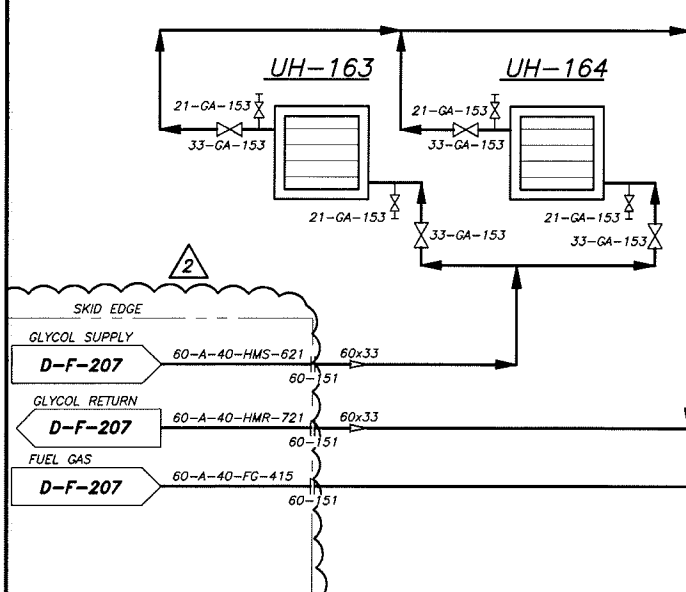
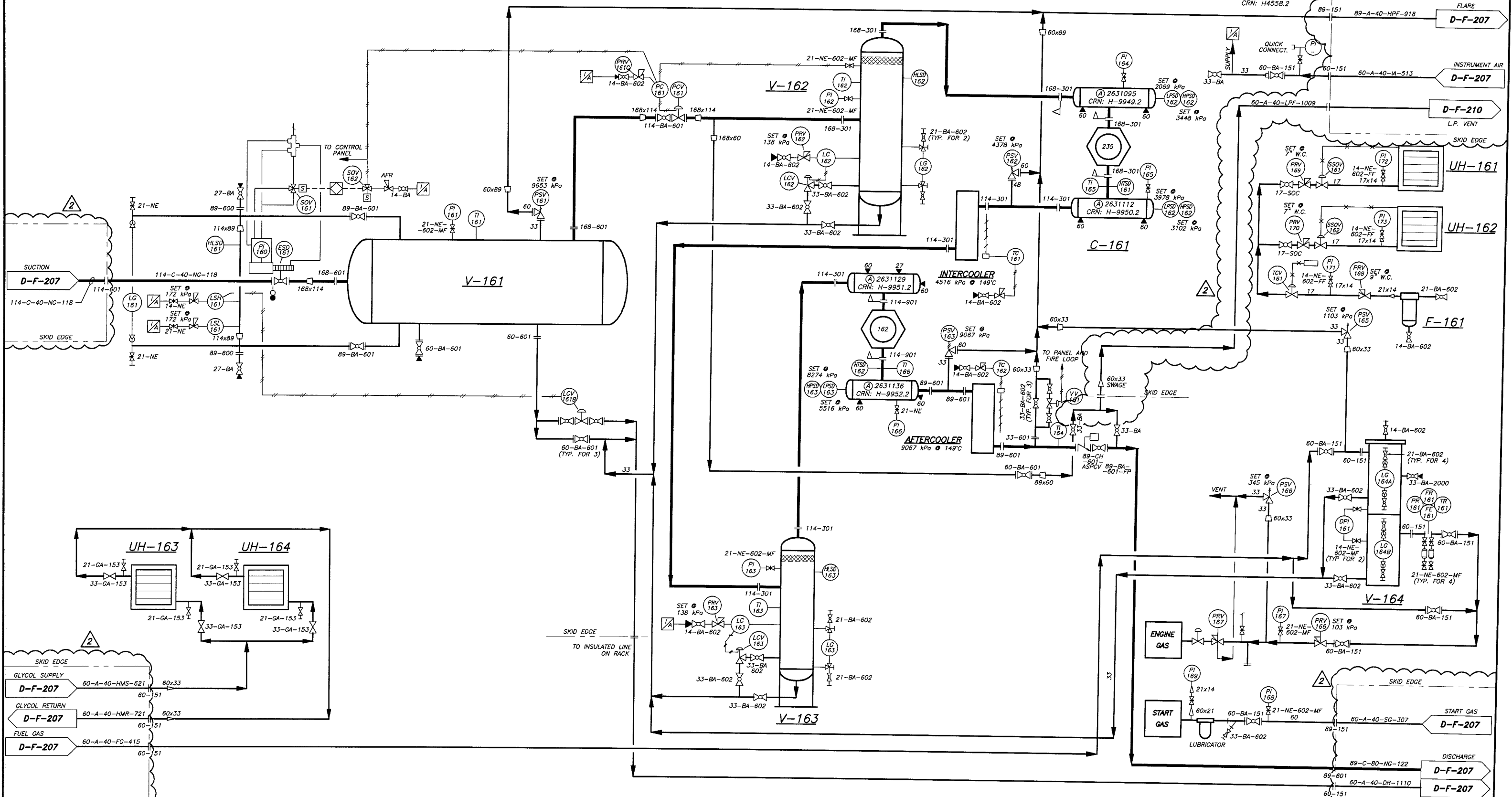
UNIT HEATERS  
CATA-DYNE MODEL BX-24x24  
6.6 KW (22500 BTU) XP

**F-161**

HEATER GAS FILTER  
PALL WELL MODEL 4463GB0  
1034 kPa @ 38°C

**V-164**

FUEL GAS SCRUBBER  
PECO MODEL 85-I-FG36  
168 O.D. x 2000 S/S  
1896 kPa @ 38°C  
CRN: H4558.2



DWG. NO.	REFERENCE DRAWING	REV.	BY	DESCRIPTION	DATE	APP'D
2			K.N.	AS-BUILT (ABS REGISTRATION 2001)	06/29/01	D.W.
1			K.N.	ADDED WAUKESHA F3521GU COMPRESSOR	JULY/1998	D.W.

PROFESSIONAL ENGINEER  
ALBERTA  
DATE: JUNE 29 - 2001  
SIGNATURE:

THE ASSOCIATION OF PROFESSIONAL ENGINEERS, GEOLOGISTS and GEOPHYSICISTS OF ALBERTA  
PERMIT NUMBER P 5064  
SIGMA 3 Engineering Limited.  
DATE: JUNE 29 - 2001  
SIGNATURE:

PROJECT:  
**SIGNALTA RESOURCES LIMITED  
FORESTBURG GAS PLANT**

CUSTOMER:  
**SIGNALTA RESOURCES LIMITED**

SCALE  
**164/290/867**  
PROJECT NO.

TITLE:  
**MECHANICAL FLOWSHEET  
C-161(F3521G) COMPRESSOR AREA**

**SIGMA 3 ENGINEERING LIMITED**  
CONSULTING ENGINEERS  
EDMONTON ALBERTA

DRAWING NO.  
**D-F-212**

SHEET 12 of 12