



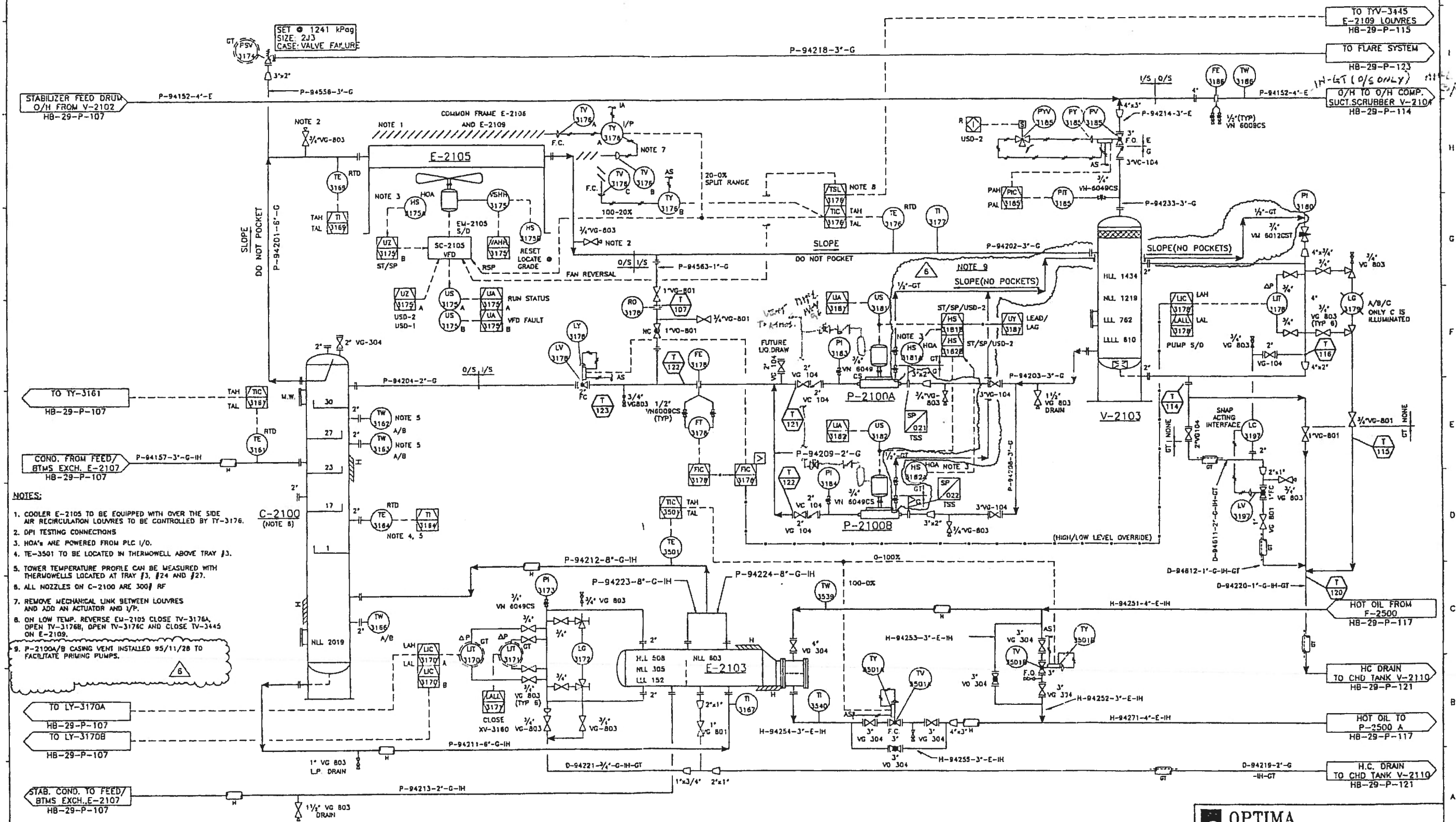
**CONDENSATE STABILIZER**  
 SIZE: 914mm I.D. x 22555mm  
 (FIREPROOF SKIRT ONLY)  
 DP: 1241 kPa DT: 204°C  
 INSULATION: 50mm HOT

**STABILIZER OVERHEAD CONDENSER**  
 DUTY: 536 kW  
 DP: 1792 kPa DT: 93°C

**CONDENSER**  
 CAP: 9.8m<sup>3</sup>/h @ 414 kPa  
 C/W 2.24 kW MOTOR  
 V, 3 PHASE, 60 Hz  
 100% CAPACITY

**CONDENSER**  
 DUTY: 1160 kW  
 SHELL DP: 1379 kPa DT: 204°C  
 TUBE DP: 1724 kPa DT: 260°C  
 INSULATION: 75mm HOT

SIZE: 1219mm I.D. x 3677mm  
 DP: 1792 kPa DT: 93°C



- NOTES:**
- COOLER E-2105 TO BE EQUIPPED WITH OVER THE SIDE AIR RECIRCULATION LOUVRES TO BE CONTROLLED BY TV-3176.
  - DPI TESTING CONNECTIONS
  - HOA'S ARE POWERED FROM PLC I/O.
  - TE-3501 TO BE LOCATED IN THERMOWELL ABOVE TRAY #3.
  - TOWER TEMPERATURE PROFILE CAN BE MEASURED WITH THERMOWELLS LOCATED AT TRAY #3, #24 AND #27.
  - ALL NOZZLES ON C-2100 ARE 300# RF
  - REMOVE MECHANICAL LINK BETWEEN LOUVRES AND ADD AN ACTUATOR AND I/P.
  - ON LOW TEMP. REVERSE EM-2105 CLOSE TV-3176A, OPEN TV-3176B, OPEN TV-3176C AND CLOSE TV-3445 ON E-2109.
  - P-2100A/B CASING VENT INSTALLED 95/11/28 TO FACILITATE PRIMING PUMPS.

NO.	DATE	DRAWN BY	CHECKED BY	DESCRIPTION
84-02-29	F.I.			AS-BUILT
84-01-19	W.C.			ISSUED FOR MODIFICATIONS
85-10-18	RSP			AS-BUILT
85-07-28	W.C.			ISSUED FOR COMMISSIONING
85-04-23	W.C.			GENERAL REVISION
85-08-05	W.C.			GENERAL REVISION

NO.	DATE	DRAWN BY	CHECKED BY	DESCRIPTION	PROJ. ENGINEER	ENG. SUPPR.	OPERATIONS

CONSTRUCTION	W.P.W.	J.I.	R.H.	B.O.O.	85.04.20	86.02.29	85.03.10	85.01.28	85.01.09	84-12-04
AS-BUILT										

SEE REV 'D' FOR OPTIMA ENGINEER AND PERMIT STAMP

**PERMIT TO PRACTICE**  
 OPTIMA ENGINEERS & CONSTRUCTORS INC.  
 Signature: \_\_\_\_\_  
 Date: \_\_\_\_\_  
**PERMIT NUMBER: P 4743**  
 The Association of Professional Engineers, Geologists and Geophysicists of Alberta

**OPTIMA ENGINEERS AND CONSTRUCTORS INC.**

**Shell Canada Limited**

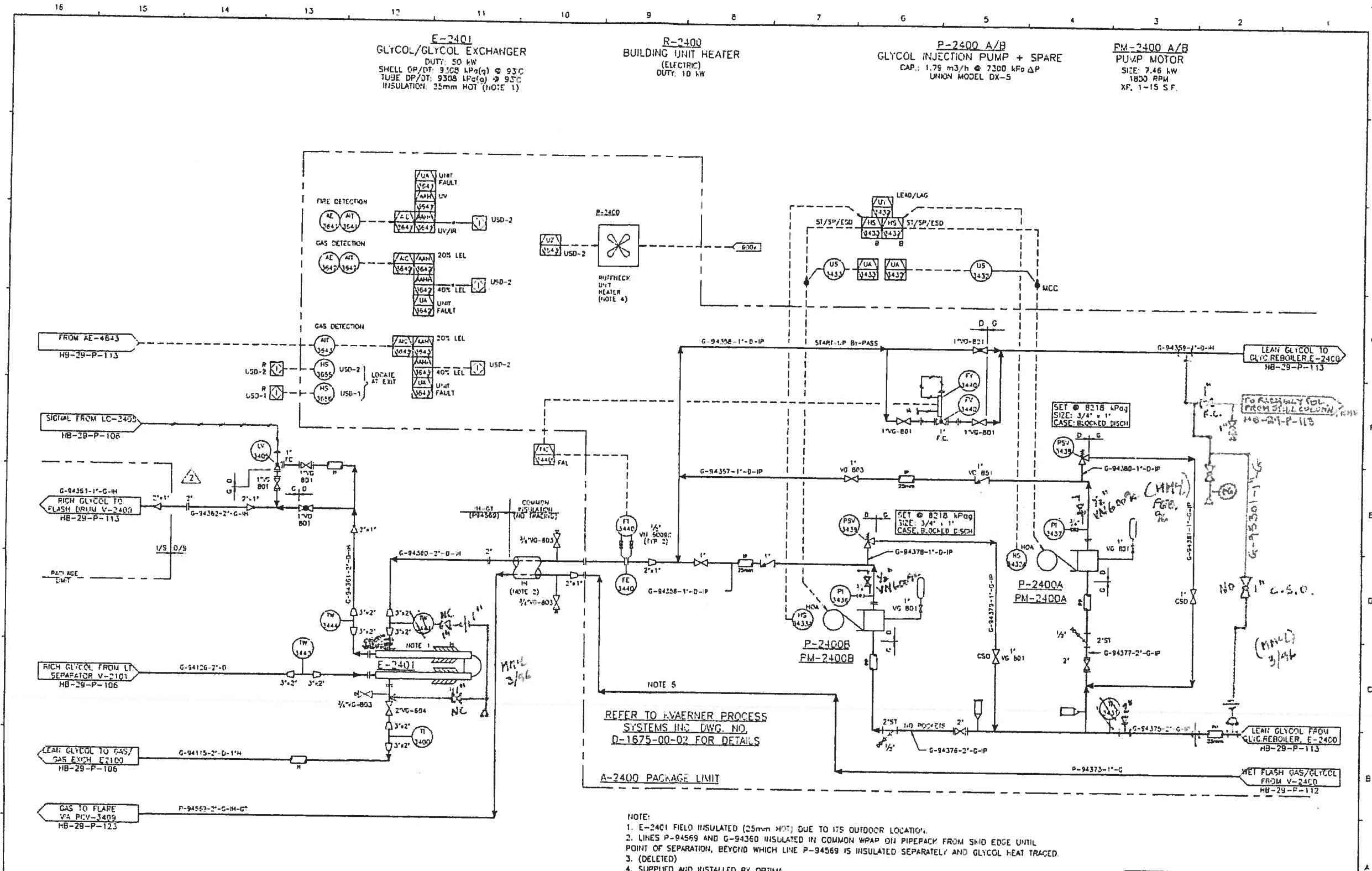
HAMBURG ALBERTA  
 HAMBURG REFRIGERATION UNIT  
 MECHANICAL FLOW DIAGRAM

CONDENSATE STABILIZER

DATE: 84-12-04  
 SCALE: N.T.S.  
 DESIGN: B. WAY  
 DRAWN: R. FIELDS  
 CHECKED: \_\_\_\_\_

APPROVED: \_\_\_\_\_  
 AUTO DRAFT: D558MF05  
 SHELL DRAWING NUMBER: HB-29-P-108  
 REV: 1  
 SHEET: 1 OF 1





**E-2401**  
 GLYCOL/GLYCOL EXCHANGER  
 DUTY: 50 KW  
 SHELL DP/DT: 9308 LPa(g) @ 93°C  
 TUBE DP/DT: 9308 LPa(g) @ 93°C  
 INSULATION: 25mm HOT (NOTE 1)

**R-2400**  
 BUILDING UNIT HEATER  
 (ELECTRIC)  
 DUTY: 10 KW

**P-2400 A/B**  
 GLYCOL INJECTION PUMP + SPARE  
 CAP.: 1.79 m<sup>3</sup>/h @ 7300 kPa ΔP  
 UNION MODEL DX-5

**PM-2400 A/B**  
 PUMP MOTOR  
 SIZE: 7.46 KW  
 1800 RPM  
 XF: 1-15 S.F.

REFER TO KVAERNER PROCESS SYSTEMS INC. DWG. NO. D-1675-00-02 FOR DETAILS

A-2400 PACKAGE LIMIT

- NOTE:
- E-2401 FIELD INSULATED (25mm HOT) DUE TO ITS OUTDOOR LOCATION.
  - LINE P-94569 AND G-94360 INSULATED IN COMMON W/PAIP ON PIPEPACKY FROM SHD EDGE UNTIL POINT OF SEPARATION, BEYOND WHICH LINE P-94569 IS INSULATED SEPARATELY AND GLYCOL HEAT TRACED.
  - (DELETED)
  - SUPPLIED AND INSTALLED BY OPTIMA.
  - A SHORT RUN (3.0m) OF LINE P-94569 IS ELECTRIC HEAT TRACED OUTSIDE THE A-2400 PACKAGE LIMIT.

NO.	DATE	DRAWN BY	CHECKED BY	DESCRIPTION	PROJ. ENGINEER	ENGR. SUPERV.	OPERATIONS
10-10-20		W.C.		AS-BUILT			
03-07-21		W.C.		ISSUED FOR CONSTRUCTION			
03-09-20		W.C.		GENERAL REVISION			
03-08-05		W.C.		GENERAL REVISION			

CONSTRUCTION	APP.	DATE	BY
DESIGN		93-04-20	G.M.C.
REVISED		93-03-11	
REVIEW		93-01-08	
PRELIMINARY		94-12-04	

SEE REV '0' FOR OPTIMA ENGINEER AND PERMIT STAMP

PERMIT TO PRACTICE  
 OPTIMA ENGINEERS & CONSTRUCTORS INC.  
 Signature: \_\_\_\_\_  
 Date: \_\_\_\_\_  
 PERMIT NUMBER: P 4743  
 The Association of Professional Engineers, Geologists and Geophysicists of Alberta

**OPTIMA ENGINEERS AND CONSTRUCTORS INC.**

**Shell Canada Limited**

SOUTH HAUBURG ALBERTA  
 HAUBURG REFRIGERATION UNIT  
 MECHANICAL FLOW DIAGRAM  
 GLYCOL PACKAGE (1 OF 2)

DATE: 94-12-04  
 SCALE: N.T.S.  
 DESIGN: B. BAY  
 DRAWN: P. PELOS  
 CHECKED: \_\_\_\_\_

APPROVED: \_\_\_\_\_  
 SHELL DRAWING NUMBER: HB-29-P-112  
 SHEET: 1 OF 1