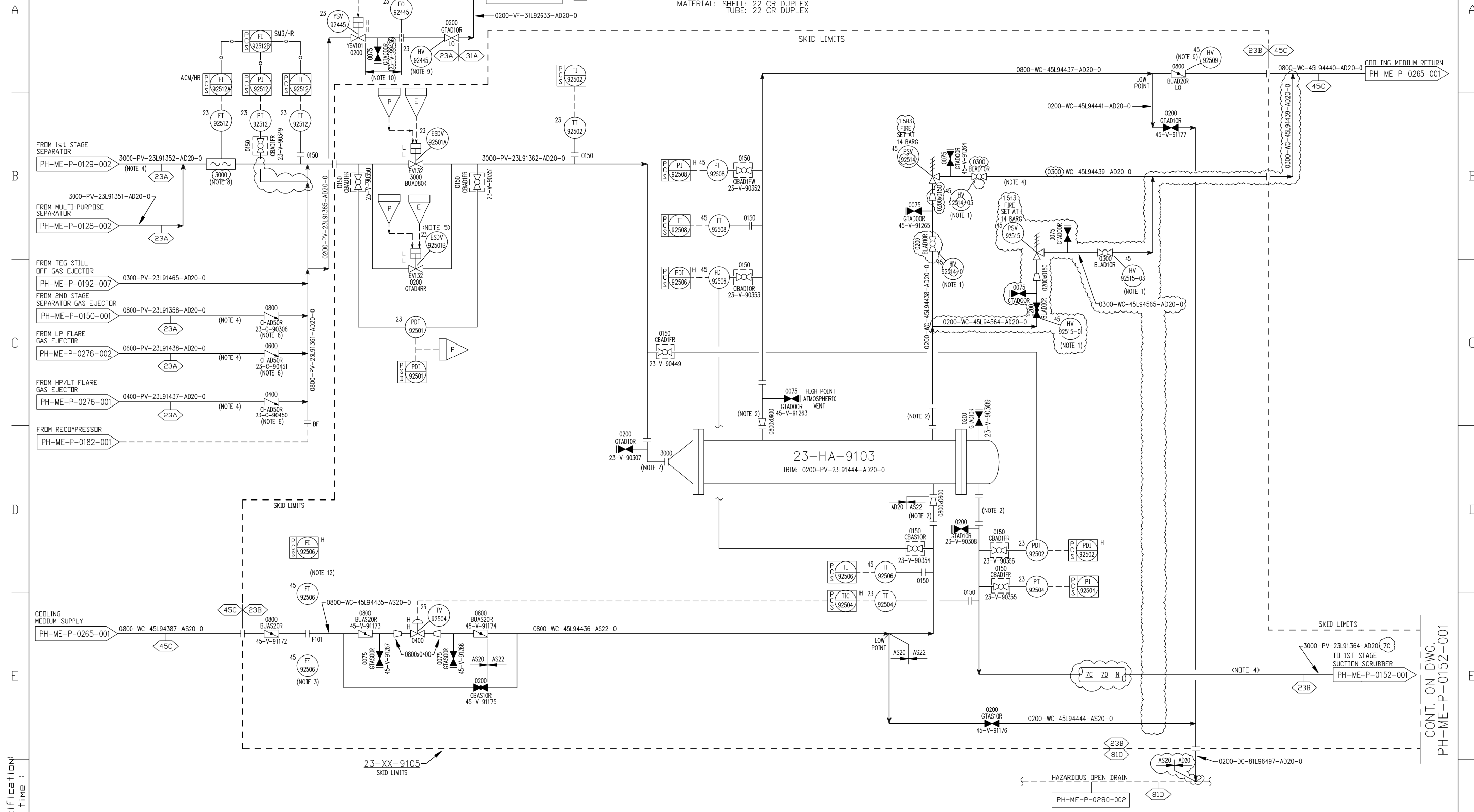


23-XX-9105  
1ST STAGE SUCTION/DISCHARGE COOLER SKID

23-HA-9103  
1ST STAGE SUCTION COOLER  
DUTY: (2108) kW  
TYPE: SHELL-AND-TUBE  
DESIGN SHELL: 14 BARG AT 150°C  
OPERATING SHELL: 7.0 BARG AT 20.0°C  
DESIGN TUBE: (10.8) BARG AT 150°C (-28°C MIN)  
OPERATING TUBE: 3.87 BARG AT 49.5°C  
MATERIAL: SHELL: 22 CR DUPLEX  
TUBE: 22 CR DUPLEX



Field for file specification  
Field for date and time

- NOTES:
- KEY INTERLOCKED VALVE.
  - REMOVABLE MAINTENANCE SPOOL.
  - CONDITIONING PLATE. PROVIDE STRAIGHT RUN OF 2D UPSTREAM AND 2D DOWNSTREAM.
  - DD NOT POCKET.
  - 2" EQUALIZATION VALVE PARALLEL TO ESDV VALVE.
  - ANTI-SLAM DESIGN.
  - VALVE WILL BE LOCATED AS CLOSE TO EXCHANGER AS PRACTICAL.
  - GAS ULTRASONIC METER. PROVIDED STRAIGHT RUN OF 7D UPSTREAM AND 3D DOWNSTREAM.
  - KEY LOCKED VALVE.
  - MINIMUM ONE METER SEPARATION.
  - DELETED.
  - TWO 0050 SIZE FLANGED GATE VALVES, GTAS00R, FOR EACH OF: 45-FV-92506 (TOTAL: 2 VALVES) - BY PIPING. SEE DETAIL F101 ON P&ID PH-ME-P-0102-001.

REV	DATE	BY	DESCRIPTION	CHK	ENGR	APPR	CLIENT
2	15OCT08	CDB	RE-ISSUED FOR CONSTRUCTION	RAK	RK/PS/A		RAB
1	09MAY08	JDK	RE-ISSUED FOR CONSTRUCTION	RAK	JC/PS/A		SVS
0	01OCT07	JDK	ISSUED FOR CONSTRUCTION	JTG	JC/ES/A		SVS

**Wood Group Engineering**  
(North Sea) Ltd.

**bp**

**MUSTANG INTERNATIONAL, LP**  
HOUSTON, TEXAS

VALHALL  
RE-DEVELOPMENT PROJECT  
PIPING & INSTRUMENT DIAGRAM  
1ST STAGE SUCTION COOLER

PROJECT NO. 10910		REGISTRATION CODES		DRAWING NO.		SCALE	
AREA 133-02	SYSTEM 23	TYPE XB	FACILITY CODE PH	ORIG ME	DISP P	SEQ. No. 0151	SHEET 001
						NONE	
						REV. 2	

CONT. ON DWG.  
PH-ME-P-0152-001