

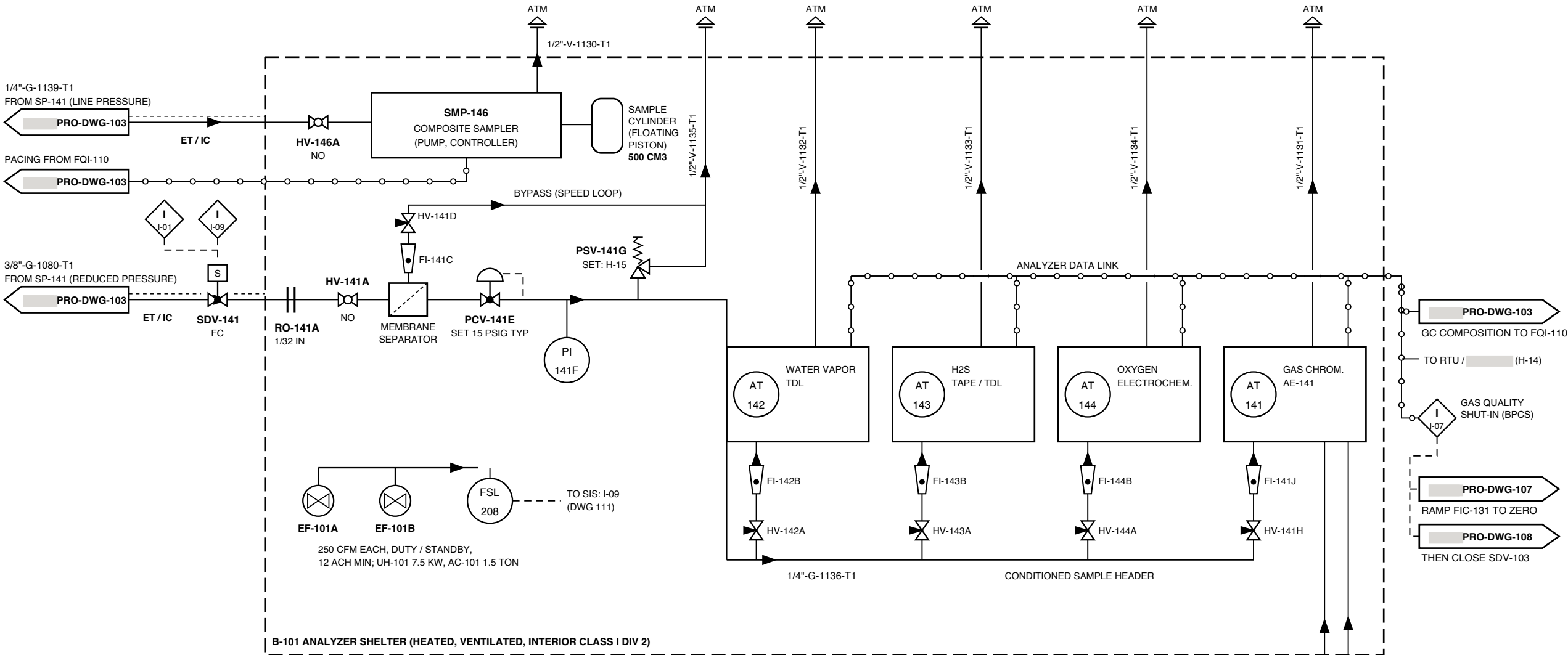
B-101
ANALYZER SHELTER
10 FT x 12 FT FIBERGLASS, HEATED AND VENTILATED
INTERIOR CLASS I DIV 2 (API RP 500)
SAMPLE SYSTEM DESIGN: 1,440 PSIG UPSTREAM OF
PCV-141E

AE-141 / AT-141
GAS CHROMATOGRAPH, C6+ BTU
C1 TO C5, N2, CO2, C6+; GPA 2261 / GPA 2172
HELIUM CARRIER, CERTIFIED CAL BLEND (GPA 2198)
CYCLE TIME 5 MIN TYP (HOLD H-15)

AT-142 / AT-143 / AT-144
WATER VAPOR, H2S, O2 ANALYZERS
AT-142 TDL, 0-20 LB/MMSCF (ASTM D5454 REF.)
AT-143 TAPE OR TDL, 0-16 PPMV (ASTM D4084)
AT-144 ELECTROCHEMICAL, 0-100 PPMV

SMP-146
COMPOSITE SAMPLER (API 14.1)
FLOW-PROPORTIONAL, PACED BY FQI-110
CONSTANT-PRESSURE FLOATING-PISTON CYLINDER
500 CM3, 1,440 PSIG RATED

- NOTES**
- SP-141 (DWG-103) IS A PRESSURE-REDUCING INSERTION PROBE. LINE 1080 CARRIES REDUCED-PRESSURE SAMPLE TO THE ANALYZERS. LINE 1139 IS A FULL-PRESSURE PORT ON THE SAME PROBE HEAD FOR SMP-146 (VENDOR TO CONFIRM, HOLD H-15).
 - LINES 1080, 1139 AND 1138 OUTSIDE B-101 ARE ELECTRICALLY HEAT TRACED (ET) AND INSULATED (IC), SET AT LEAST 20 F ABOVE THE HYDROCARBON DEWPOINT (API 14.1). TUBING INSIDE THE HEATED SHELTER IS NOT TRACED.
 - ALL ANALYZER, BYPASS, RELIEF AND SAMPLER VENTS ARE INDIVIDUAL 1/2 IN T1 TUBES TO ATMOSPHERE, 3 FT MIN ABOVE THE B-101 ROOF WITH RAIN CAPS, AWAY FROM THE HVAC INTAKE. THEY DO NOT TIE INTO VENT HEADER 1070 (BACKPRESSURE WOULD BIAS THE ANALYZERS).
 - AT-141 COMPOSITION UPDATES FQI-110 HOURLY. ON GC FAILURE FQI-110 USES LAST GOOD OR FIXED COMPOSITION PER THE INTERCONNECT AGREEMENT (HOLD H-01).
 - OFF-SPEC GAS ALARMS TO THE OWNER AND [REDACTED] SUSTAINED OFF-SPEC (15 MIN, ADJUSTABLE) INITIATES I-07: RAMP FIC-131 TO ZERO, THEN CLOSE SDV-103. I-07 IS A BPCS FUNCTION, NOT A SIF.
 - SMP-146 IS PACED BY FQI-110 FLOW (PROPORTIONAL GRABS) INTO A CONSTANT-PRESSURE CYLINDER AT LINE PRESSURE.
 - HELIUM CARRIER AND CAL GAS CYLINDERS ARE IN A VENTILATED, SHADED RACK OUTSIDE B-101. AT-142 / 143 / 144 ARE VALIDATED WITH PORTABLE CERTIFIED STANDARDS.
 - B-101 IS VENTILATED BY EF-101A / EF-101B (250 CFM EACH, DUTY / STANDBY, 12 AIR CHANGES PER HOUR MINIMUM) WITH AIRFLOW SWITCH FSL-208 ON THE SAFETY PLC. GAS DETECTION GD-205 / GD-206 AND I-09 LOGIC: SEE [REDACTED] PRO-DWG-111.
 - PSV-141B (SET 50 PSIG) AT THE SP-141 PROBE REGULATOR OUTLET PROTECTS LINE 1080 IF THE REGULATOR FAILS OPEN; IT IS SHOWN ON [REDACTED] PRO-DWG-103 WITH ITS OUTLET 1/2"-V-1121-T1 TO HEADER 1120.
 - SDV-141 (3/8 IN 316 SS SOLENOID VALVE, NC, FAIL CLOSED) AND RO-141A (1/32 IN) AT THE B-101 WALL LIMIT THE SAMPLE RELEASE INTO B-101. SDV-141 CLOSURES ON STATION ESD (I-01) AND ON FIRE AND GAS ACTION (I-09).
 - SAMPLE TRANSPORT TUBING AND HEATED REGULATORS ARE MEASUREMENT SCOPE ([REDACTED] MEA MTO). HEAT TRACING RUNS AS TWO CIRCUITS. TOTAL ANALYZER VENT RATE ABOUT 183 SCF/D.
 - SAMPLE TUBING 316 SS (T1), COMPRESSION FITTINGS. PCV-141E AND PSV-141G SETPOINTS PER ANALYZER VENDOR INLET RATINGS (HOLD H-15).



GAS QUALITY ALARM LIMITS AT DELIVERY (BASIS SECTION 5.2)

PARAMETER	ANALYZER	LIMIT	ACTION
GROSS HEATING VALUE	AT-141	970 TO 1,150 BTU/SCF	ALARM; I-07 AFTER 15 MIN
CO2 / TOTAL INERTS	AT-141	2.0 / 4.0 MOL % MAX	ALARM; I-07 AFTER 15 MIN
WATER VAPOR	AT-142	7 LB/MMSCF MAX	ALARM; I-07 AFTER 15 MIN
H2S	AT-143	0.25 GR/100 SCF MAX	ALARM; I-07 AFTER 15 MIN
OXYGEN	AT-144	10 PPMV MAX	ALARM; I-07 AFTER 15 MIN

HOLD H-13

NOTES / REFERENCES

REF: [REDACTED] PRO-DWG-100 SH 1-2 (LEGEND)
REF: [REDACTED] PRO-DWG-103 (SP-141, FQI-110)
REF: [REDACTED] INS-LST-004 (CAUSE AND EFFECT)
REF: [REDACTED] GEN-DB-001 SECTIONS 5.2, 8.2, 9.6
REF: API MPMS 14.1, GPA 2166, GPA 2261, GPA 2198

REVISIONS

REV	DATE	DESCRIPTION	BY	CHK	APP
A	2026-09-29	ISSUED FOR REVIEW (IFR)			

PRELIMINARY - ISSUED FOR REVIEW - NOT FOR CONSTRUCTION

ENGINEER OF RECORD SEAL

NOT SEALED
PRELIMINARY

PE NO. _____

PROJECT

120 MMSCFD RECEIPT INTO [REDACTED]
[REDACTED]
[REDACTED] COUNTY, [REDACTED]
DISCIPLINE: PROCESS
SCALE: NTS

P&ID ANALYZERS AND SAMPLING

ANALYZER SHELTER B-101, AT-141 TO AT-144, SMP-146

DRAWN: _____ CHECKED: _____ APPROVED: _____

DWG NO.

PRO-DWG-104

SHEET 1 OF 1 REV A