

Disclaimer

This Report, including the data and information contained in this Report, is provided to you on an “as is” and “as available” basis at the sole discretion of the Government of Alberta and subject to the terms and conditions of use below (the “Terms and Conditions”). The Government of Alberta has not verified this Report for accuracy and does not warrant the accuracy of, or make any other warranties or representations regarding, this Report. Furthermore, updates to this Report may not be made available. Your use of any of this Report is at your sole and absolute risk.

This Report is provided to the Government of Alberta, and the Government of Alberta has obtained a license or other authorization for use of the Reports, from:

Shell Canada Energy, Chevron Canada Limited. and Marathon Oil Canada Corporation, for the Quest Project

(collectively the “Project”)

Each member of the Project expressly disclaims any representation or warranty, express or implied, as to the accuracy or completeness of the material and information contained herein, and none of them shall have any liability, regardless of any negligence or fault, for any statements contained in, or for any omissions from, this Report. Under no circumstances shall the Government of Alberta or the Project be liable for any damages, claims, causes of action, losses, legal fees or expenses, or any other cost whatsoever arising out of the use of this Report or any part thereof or the use of any other data or information on this website.

Terms and Conditions of Use

Except as indicated in these Terms and Conditions, this Report and any part thereof shall not be copied, reproduced, distributed, republished, downloaded, displayed, posted or transmitted in any form or by any means, without the prior written consent of the Government of Alberta and the Project.

The Government of Alberta’s intent in posting this Report is to make them available to the public for personal and non-commercial (educational) use. You may not use this Report for any other purpose. You may reproduce data and information in this Report subject to the following conditions:

- any disclaimers that appear in this Report shall be retained in their original form and applied to the data and information reproduced from this Report
- the data and information shall not be modified from its original form
- the Project shall be identified as the original source of the data and information, while this website shall be identified as the reference source, and
- the reproduction shall not be represented as an official version of the materials reproduced, nor as having been made in affiliation with or with the endorsement of the Government of Alberta or the Project

By accessing and using this Report, you agree to indemnify and hold the Government of Alberta and the Project, and their respective employees and agents, harmless from and against any and all claims, demands, actions and costs (including legal costs on a solicitor-client basis) arising out of any breach by you of these Terms and Conditions or otherwise arising out of your use or reproduction of the data and information in this Report.

Your access to and use of this Report is subject exclusively to these Terms and Conditions and any terms and conditions contained within the Report itself, all of which you shall comply with. You will not use this Report for any purpose that is unlawful or prohibited by these Terms and Conditions. You agree that any other use of this Report means you agree to be bound by these Terms and Conditions. These Terms and Conditions are subject to modification, and you agree to review them periodically for changes. If you do not accept these Terms and Conditions you agree to immediately stop accessing this Report and destroy all copies in your possession or control.

These Terms and Conditions may change at any time, and your continued use and reproduction of this Report following any changes shall be deemed to be your acceptance of such change.

If any of these Terms and Conditions should be determined to be invalid, illegal or unenforceable for any reason by any court of competent jurisdiction then the applicable provision shall be severed and the remaining provisions of these Terms and Conditions shall survive and remain in full force and effect and continue to be binding and enforceable.

These Terms and Conditions shall: (i) be governed by and construed in accordance with the laws of the province of Alberta and you hereby submit to the exclusive jurisdiction of the Alberta courts, and (ii) ensure to the benefit of, and be binding upon, the Government of Alberta and your respective successors and assigns.

V-24707
TEG INLET SCRUBBER

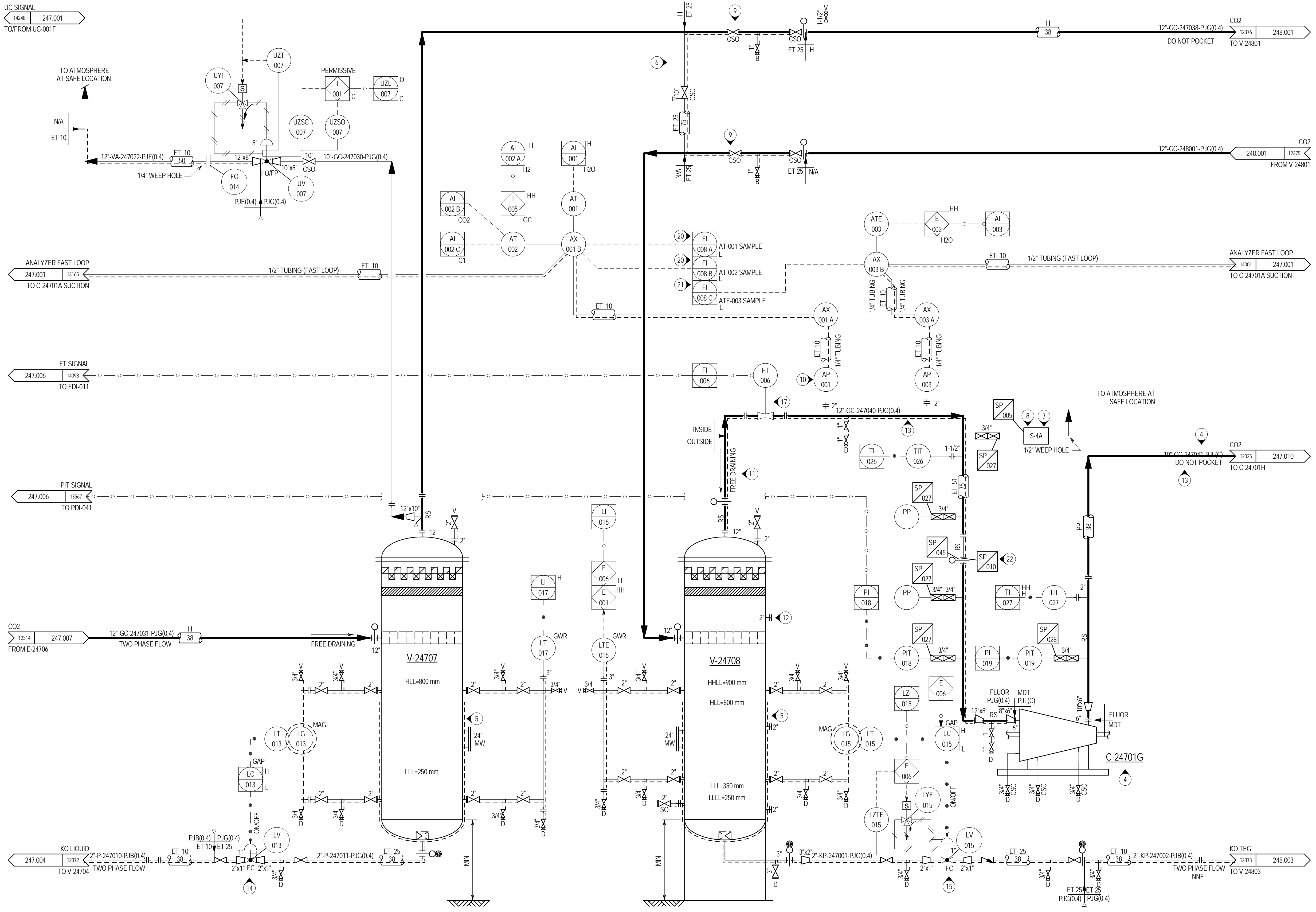
SIZE: 959 mm ID x 3300 mm T/F
 DESIGN PR. & TEMP: 6500 kPa-g @ 105 °C / FV @ 150 °C
 MATERIAL (VESSEL/INTERNAL): CS + 3 mm 304L SS CLAD / 316L SS
 INSULATION TYPE/THK: H / 38 mm
 TRIM: VT-247007-PJG(0.4)

V-24708
COMPRESSOR 7th STAGE KO DRUM

SIZE: 959 mm ID x 3400 mm T/F
 DESIGN PR. & TEMP: 6500 kPa-g @ 105 °C / FV @ 150 °C
 MATERIAL (VESSEL/INTERNAL): CS + 3 mm 304L SS CLAD / 316L SS
 INSULATION TYPE/THK: H / 38 mm
 TRIM: VT-247008-PJG(0.4)

NOTES:

- SEE DRAWINGS 200.0000.000.041.007 THRU 016 FOR SYMBOL IDENTIFICATION GENERAL NOTES & CONNECTION DETAILS.
- ALL INSTRUMENT TAG NUMBERS ARE PREFIXED BY "247" UNLESS OTHERWISE STATED.
- DRIVER POWER AND DIFFERENTIAL PRESSURE DEPICTED ARE THE TOTAL FOR THE COMPRESSOR.
- ELASTOMERS SHALL NOT BE USED FOR DENSE PHASE CO2 SERVICE.
- ELECTRIC TRACE (ET 25) WITH 75 mm INSULATION THICKNESS TO HLL.
- DEHYDRATION UNIT BYPASS.
- SAMPLE TAKE-OFF POINT TO BE ACCESSIBLE.
- FOR PIPING DETAILS OF SAMPLE STATION, SEE DRAWING 200.0000.000.041.012.
- VALVES ARE FOR BATTERY LIMIT ISOLATION OF UNIT. CSO ON THE BLOCK VALVES ARE REQUIRED TO ENSURE AN OPEN FLOW PATH TO THE COMPRESSOR AND PROTECT THE MACHINE AGAINST SURGE AND PROVIDE OVER-PRESSURE PROTECTION OF V-24707.
- SAMPLE PROBE INCLUDES A DOUBLE BLOCK AND BLEED VALVE ASSEMBLY.
- MAXIMIZE LENGTH OF PIPING THAT FREE DRAINS TO KO DRUM.
- RELIEF VALVE NOZZLE. RELIEF VALVE NO LONGER REQUIRED AS SYSTEM IS PROTECTED BY OPPSD (REFERENCE DOCUMENT: A6GT-R-1071 - OPPSD TECHNICAL JUSTIFICATION AND BASIS).
- GTAW ROOT PASS WELD IS MANDATORY ON THIS LINE.
- THE CV OF LV-013 AFFECTS THE SIZING OF RV-006 FOR THE VAPOUR BLOWTHROUGH CASE.
- THE CV OF LV-015 AFFECTS THE SIZING OF RV-248002 FOR THE VAPOUR BLOWTHROUGH CASE.
- FLOW MEASUREMENT AND ADDITIONAL INSTRUMENTS ARE REQUIRED FOR ON-SITE COMPRESSOR PERFORMANCE TESTING.
- ELECTRIC TRACE (ET 52) UP TO ISOLATION VALVE.
- REFER TO P&ID 246.0000.000.041.053 FOR ANALYZER DETAILS.
- DELETED.
- FT-247008A AND FT-247008B ARE INSTALLED INSIDE SAMPLE CONDITIONING SYSTEM PANEL AX-247001B.
- FT-247008C IS INSTALLED INSIDE SAMPLE CONDITIONING SYSTEM PANEL AX-247003B.
- AFTER START-UP, TEMPORARY STRAINER SP-247010 TO BE REPLACED BY SPACER SP-247045.



FLUOR
 IAB – Issued As Built
 Sep 28, 2015

CRITICAL DRAWING
 AS BUILT
 INFORMATION REQUIRED

THE HARD COPY ORIGINAL
 CONTAINS THE
 ENGINEERING AND PERMIT
 STAMPS, SIGNATURE AND
 DATES

5	08/28/15	CHANGE LIST 247.0000.000.041.009	GB	CC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	09/24/15	CHANGE LIST 247.0000.000.041.009	GB	CC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	07/08/13	ISSUED FOR CONSTRUCTION	GB	KB	KH	SL	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	02/01/13	ISSUED FOR CONSTRUCTION	GB	KB	KH	SL	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1	10/31/12	ISSUED FOR CONSTRUCTION	GB	KB	KH	SL	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0A	07/25/12	RE-ISSUED FOR PHA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0	04/15/11	ISSUED FOR DESIGN	GB	OC	KH	SD	-	-	-	-	-	-	-	-	-	-	-	-	-	-
REV	ISSUED DATE	DESCRIPTION	BY	CHK	PRS	CS	PDP	MC	APL	PEM	APP	CLN	APP							



SHELL CANADA
 QUEST CCS PROJECT

FLUOR

PIPING AND INSTRUMENT DIAGRAM
 QUEST CCS PROJECT
 UNIT 247 - COMPRESSION
 TEG INLET SCRUBBER & CO2 COMP. 7TH STAGE

SCALE: NONE
 SHELL DWG NO.: 247.0000.000.041.009
 REV. 5

THIS DRAWING CONTAINS CONFIDENTIAL INFORMATION PROPRIETARY TO SHELL CANADA, AND OTHER INFORMATION WHICH MAY BE CONFIDENTIAL OR PROPRIETARY TO FLUOR OR ITS AFFILIATES. THIS DRAWING AND THE INFORMATION CONTAINED HEREIN IS NOT TO BE USED, DISCLOSED, OR REPRODUCED IN ANY FORM BY ANY OTHER PARTY WITHOUT SHELL CANADA AND FLUOR PRIOR WRITTEN PERMISSION.

247.009 FILE:1\025\DRAWINGS\CO2\247.009.ppt MODEL DATE:8/28/2015 9:35:01 AM BY:bae2451

DWG. No. SHELL 247.0000.000.041.009

TITLE LEAN / RICH AMINE EXCHANGER

REV.	DATE	DESCRIPTION	DRWN	CHKD	MECH	PROC	INST	APP'D	LOC
4	MAY 23 2015	AS-BUILT AS PER MOC-11457. ADDED NOTE TO REPLACE TEMP STRAINER SP-247010 TO SPACER SP-247045. ADDED HH ALARM TO TI-247027. MMG REPLACED WITH MINERAL FIBER AND ALUMINUM CLADDING FOR PERSONAL PROTECTION ON LINE 10"-GC-247041-PJL(C). ADDED LZI-247015. REPLACED E-247003 TO E-247006. ADDED E-247006 ACTION TO LC-247015. ADDED NEW NOTE FOR AT-247001, AT-247002 AND ATE-247003.	CC	GB					A\2 B\2,3 C\1,3
5	AUG 19 2015	AS-BUILT AS PER MOC-11457. ADDED NEW VALVE & INSTRUMENT UV-007 & FO-014. ADDED TWO LINES 10"-GC-247030-PJG(0.4) & 12"-VA-247022-PJE(0.4)	CC	GB					C\4 D\4

NOTES

- MULTIPLE REVISIONS ARE PERMITTED UNDER A SINGLE REVISION NUMBER.
- — LINE UNDER REVISION INDICATES NOT MICROFILMED-REVISION STILL OPEN.
- LINE UNDER REVISION INDICATES MICROFILMED-REVISION CLOSED.



SHELL CANADA PRODUCTS LIMITED
SCOTFORD COMPLEX ALBERTA

CHANGE LIST

DRAWN	DATE	DESIGN	SCALE	CHECKED	APPROVED
GB	15/05/23		N.T.S.	CC	CC
SHELL DRAWING NUMBER 247.0000.000.041.009					REV. SHEET 5 1 OF 1