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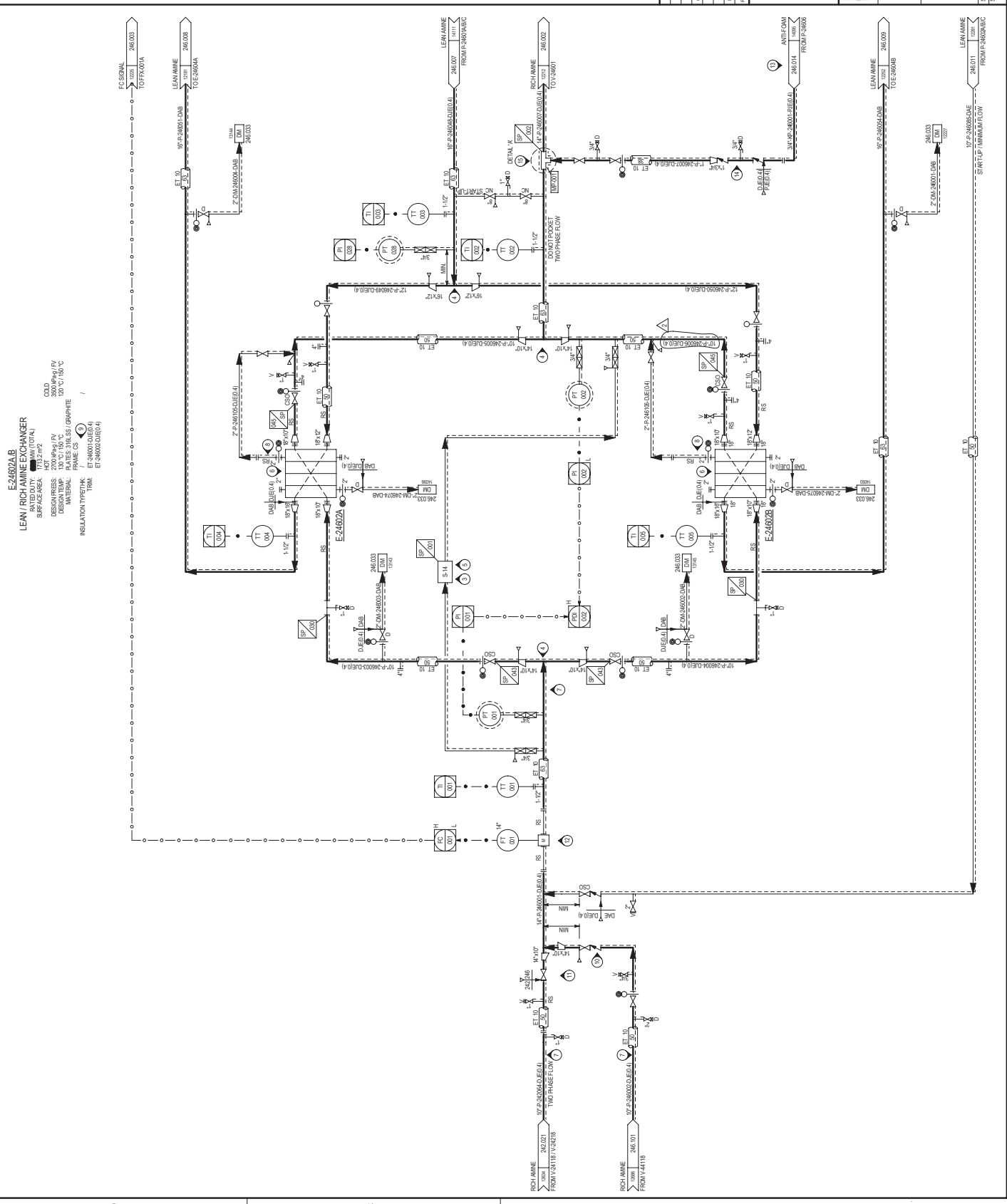
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NOTES:

- SEE DRAWINGS 200.0000.0001.041.00 THROUGH 016 FOR SYMBOL IDENTIFICATION GENERAL NOTES & CONNECTION DETAILS.
- ALL INSTRUMENT TAG NUMBERS ARE PREFIXED BY 246 UNLESS OTHERWISE SPECIFIED.
- SAMPLE TAKE-OFF POINTS TO BE ACCESSIBLE.
- SYMMETRICAL PIPING.
- FOR PIPING DETAILS OF SAMPLE STATION, SEE DRAWING 200.0000.0001.012.
- ALL INSTRUMENT TAG NUMBERS ARE PREFIXED BY 246 UNLESS OTHERWISE SPECIFIED.
- LOCALIZED DISASSEMBLING OF CO2 MAY OCCUR AT RESTRICTIONS, BENDS, TEES, ETC. RESULTING IN LOCALIZED TWO-PHASE FLOW AND VIBRATION.
- ACCUMULATOR VAPOR COMPRESSORS MUST BE PROVIDED TO PREVENT ACCUMULATOR VAPOR FROM BEING DRAWN INTO THE PROCESS.
- TO BE INSULATED WITH REMOVABLE INSULATING COVER WITH 50mm THICKNESS.
- VALVES ARE FOR ARBITRARY LIMIT ISOLATION.
- VALVE TO BE LOCATED MINIMUM DISTANCE FROM REMOVABLE SPOOL.
- VALVE TO BE LOCATED MINIMUM DISTANCE FROM THE NEXT HEATER.
- VALVE TO BE LOCATED MINIMUM DISTANCE FROM THE NEXT HEATER.
- PIPE PRESSURES TO BE MINIMAL LENGTH.
- ALL CONNECTIONS TO BE MADE BY THE OPERATOR BASED ON HANGUP AND TO BE MADE IN THE HANGUP POSITION.
- TWO CHECK VALVES IN SERIES, ONE IN THE HORIZONTAL AND ONE IN THE VERTICAL POSITION, SEPARATED BY AT LEAST 50mm.
- TO BE LOCATED MINIMUM DISTANCE FROM THE NEXT HEATER.
- TO BE LOCATED MINIMUM DISTANCE FROM THE NEXT HEATER.

REV	NO	DATE	DESCRIPTION	BY	CHK	APP	DATE
1	000001		ISSUED FOR CONSTRUCTION	CB	US	LN	13
2	000002		ISSUED FOR CONSTRUCTION	CB	US	LN	13
3	000003		ISSUED FOR CONSTRUCTION	CB	US	LN	13
4	000004		ISSUED FOR CONSTRUCTION	CB	US	LN	13
5	000005		ISSUED FOR CONSTRUCTION	CB	US	LN	13
6	000006		ISSUED FOR CONSTRUCTION	CB	US	LN	13
7	000007		ISSUED FOR CONSTRUCTION	CB	US	LN	13
8	000008		ISSUED FOR CONSTRUCTION	CB	US	LN	13
9	000009		ISSUED FOR CONSTRUCTION	CB	US	LN	13
10	000010		ISSUED FOR CONSTRUCTION	CB	US	LN	13
11	000011		ISSUED FOR CONSTRUCTION	CB	US	LN	13
12	000012		ISSUED FOR CONSTRUCTION	CB	US	LN	13
13	000013		ISSUED FOR CONSTRUCTION	CB	US	LN	13
14	000014		ISSUED FOR CONSTRUCTION	CB	US	LN	13
15	000015		ISSUED FOR CONSTRUCTION	CB	US	LN	13



SHELL CANADA
QUEST CCS PROJECT

FLUOR®

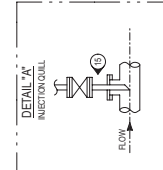
PIPING AND INSTRUMENT DIAGRAM
QUEST CCS PROJECT
UNIT 246 - REGENERATION/Common
LEAN / RICH AMINE EXCHANGER

SCALE NONE

SHELL DWG NO: 246-0000-0001.041.001

REV: 2

ISSUED FOR CONSTRUCTION
06 Feb 2013



E-24602A/B
LEAN / RICH AMINE EXCHANGER

RATED DUTY: 100% (TOTAL)
SURFACE AREA: 107.27 m²

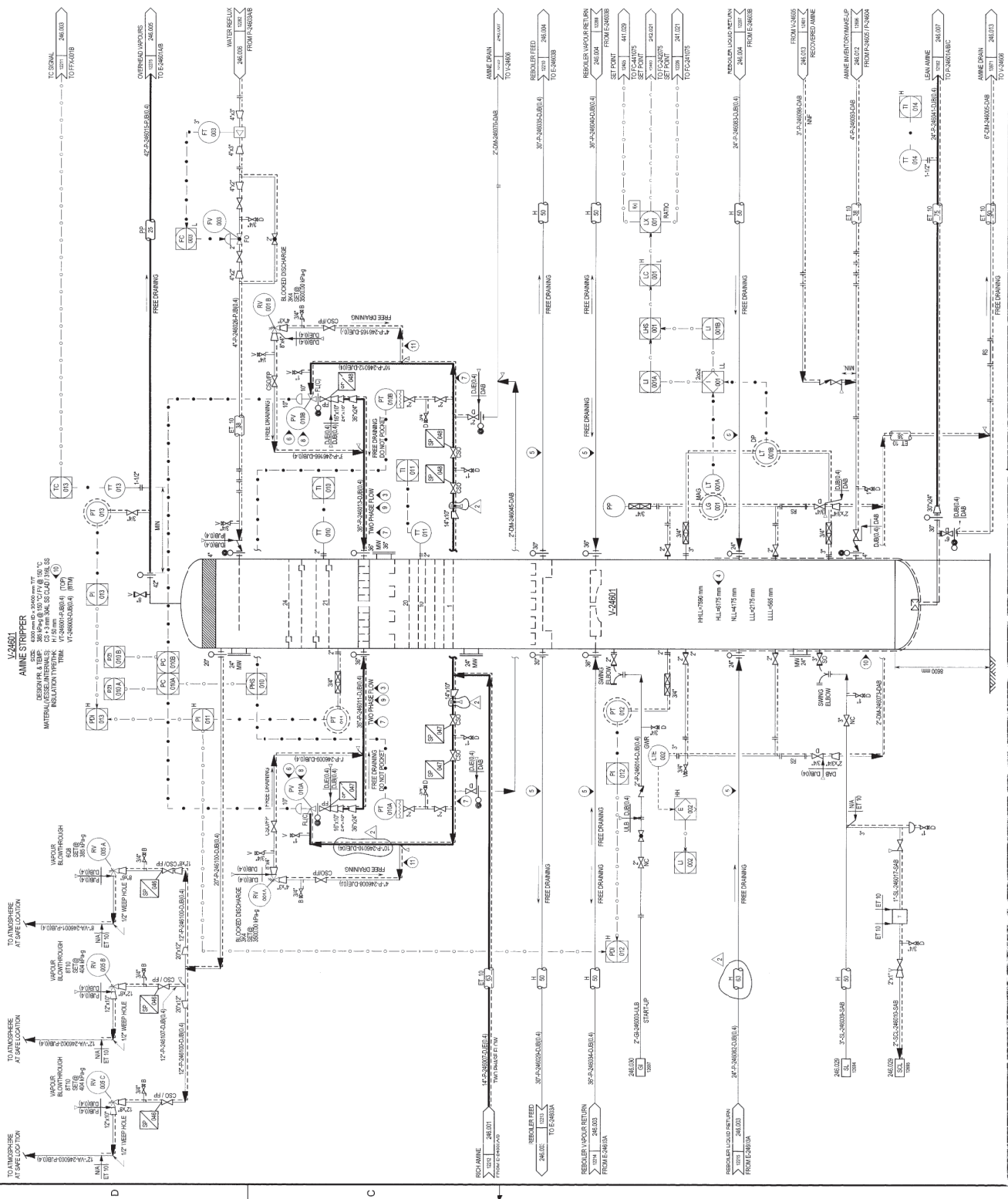
DESIGN PRESS: 2000 kPa (g) / 17.2 MPa (g)
DESIGN TEMP: 110 °C / 230 °F

COLD
3000 kPa (g) / 17.2 MPa (g)
110 °C / 230 °F

INSULATION TYPE: TRK
E-24602A (024)
E-24602B (024)

NOTES:

1. SEE DRAWINGS 200.000.000.001 THRU 000.000.000 FOR SYMBOL IDENTIFICATION
2. ALL INSTRUMENT TAG NUMBERS ARE PREFIXED BY "SP" UNLESS OTHERWISE NOTED
3. ALL INSTRUMENT TAG NUMBERS ARE PREFIXED BY "SP" UNLESS OTHERWISE NOTED
4. TOP OF WER IN HORIZONTAL PLANE WITHIN 10.0 OF W/LET NOZZLE
5. TOP OF WER IN VERTICAL PLANE WITHIN 10.0 OF W/LET NOZZLE
6. TOP OF WER IN HORIZONTAL PLANE WITHIN 10.0 OF W/LET NOZZLE
7. TOP OF WER IN VERTICAL PLANE WITHIN 10.0 OF W/LET NOZZLE
8. CONTROL VALVES TO BE MINIMUM OF AFFECTS TO PROCESSING
9. CONTROL VALVES TO BE MINIMUM OF AFFECTS TO PROCESSING
10. CONTROL VALVES TO BE MINIMUM OF AFFECTS TO PROCESSING
11. ELECTRIC TRANCE (ET) WITH 50 mm INSULATION THICKNESS TO ALL
12. LOCATE IN 400 mm MINIMUM DISTANCE FROM PYRODAM INLET.



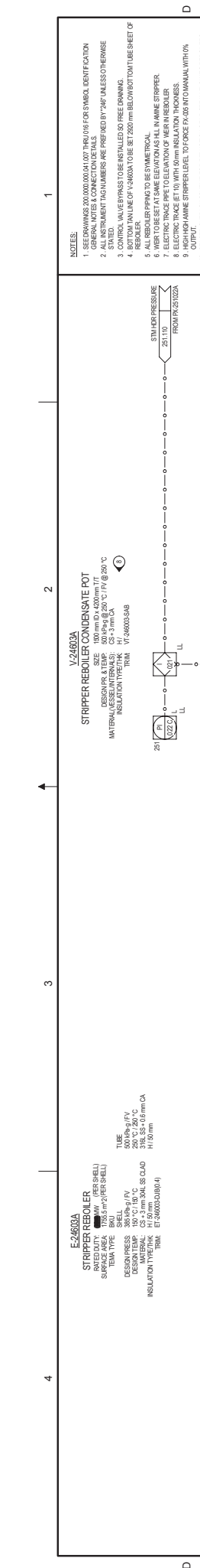
NO.	DATE	DESCRIPTION	BY	CHKD	APPD	SCALE	UNIT	PROJ	REV
1	2000.000.000.001	ISSUED FOR CONSTRUCTION	SP	SP	SP	1:1	UNIT	246	1
2	2000.000.000.002	ISSUED FOR CONSTRUCTION	SP	SP	SP	1:1	UNIT	246	2
3	2000.000.000.003	ISSUED FOR CONSTRUCTION	SP	SP	SP	1:1	UNIT	246	3
4	2000.000.000.004	ISSUED FOR CONSTRUCTION	SP	SP	SP	1:1	UNIT	246	4
5	2000.000.000.005	ISSUED FOR CONSTRUCTION	SP	SP	SP	1:1	UNIT	246	5
6	2000.000.000.006	ISSUED FOR CONSTRUCTION	SP	SP	SP	1:1	UNIT	246	6
7	2000.000.000.007	ISSUED FOR CONSTRUCTION	SP	SP	SP	1:1	UNIT	246	7
8	2000.000.000.008	ISSUED FOR CONSTRUCTION	SP	SP	SP	1:1	UNIT	246	8
9	2000.000.000.009	ISSUED FOR CONSTRUCTION	SP	SP	SP	1:1	UNIT	246	9
10	2000.000.000.010	ISSUED FOR CONSTRUCTION	SP	SP	SP	1:1	UNIT	246	10
11	2000.000.000.011	ISSUED FOR CONSTRUCTION	SP	SP	SP	1:1	UNIT	246	11
12	2000.000.000.012	ISSUED FOR CONSTRUCTION	SP	SP	SP	1:1	UNIT	246	12
13	2000.000.000.013	ISSUED FOR CONSTRUCTION	SP	SP	SP	1:1	UNIT	246	13
14	2000.000.000.014	ISSUED FOR CONSTRUCTION	SP	SP	SP	1:1	UNIT	246	14
15	2000.000.000.015	ISSUED FOR CONSTRUCTION	SP	SP	SP	1:1	UNIT	246	15
16	2000.000.000.016	ISSUED FOR CONSTRUCTION	SP	SP	SP	1:1	UNIT	246	16
17	2000.000.000.017	ISSUED FOR CONSTRUCTION	SP	SP	SP	1:1	UNIT	246	17
18	2000.000.000.018	ISSUED FOR CONSTRUCTION	SP	SP	SP	1:1	UNIT	246	18
19	2000.000.000.019	ISSUED FOR CONSTRUCTION	SP	SP	SP	1:1	UNIT	246	19
20	2000.000.000.020	ISSUED FOR CONSTRUCTION	SP	SP	SP	1:1	UNIT	246	20

PERMIT TO PRACTICE
FLUOR CANADA LTD.
Signature: [Signature]
Title: PERMIT HOLDER, P. 0716
The Association of Professional Engineers, Geoscientists and Geotechnical Engineers of Alberta
July 27, 2015

SHELL CANADA
QUEST CCS PROJECT

FLUOR
PIPING AND INSTRUMENT DIAGRAM
QUEST CCS PROJECT
UNIT 246 - RECONSTRUCTION/COMMON
AMINE STRIPPER

SCALE: NONE
SHELL DWG NO.: 246.000.000.041.002
REV: 2



E-24603A STRIPPER REBOILER
 RATED OUTPUT: 400 MW (PER SHELL)
 SHELL TYPE: 3U
 DESIGN PRESS: 150°C @ 16.0°C
 DESIGN TEMP: 150°C @ 16.0°C
 INSULATION TYPE/THK: NI 50 mm / 2.0 mm CA
 TML: ET 246030.DIB(4)

V-24603A STRIPPER REBOILER CONDENSATE POT
 SIZE: 180 mm ID x 4200 mm HT
 DESIGN PRESS: 150°C @ 16.0°C / 17 @ 250°C
 MATERIALS/INSULATION: CS-3 mm CA
 INSULATION TYPE/THK: NI 50 mm / 2.0 mm CA
 TML: V-246030.SAB

NOTES:
 1. SEE DRAWINGS 200.0000.000.041.007 THRU 016 OF SYMBOL IDENTIFICATION GENERAL NOTES & CONNECTION DETAILS.
 2. ALL DIMENSIONS UNLESS OTHERWISE STATED.
 3. CONTROL VALVE PRESSURES TO BE INSTALLED AS FREE DRAWING.
 4. REBOILER STRIPPER LEVEL TO BE SET 1520 mm BELOW BOTTOM LUG SHEET OF REBOILER.
 5. ALL REBOILER PIPING TO BE SYMMETRICAL.
 6. WBP TO BE SET AT SAME ELEVATION AS ALL W/AVE STRIPPER.
 7. REBOILER STRIPPER LEVEL TO BE SET 1520 mm BELOW BOTTOM LUG SHEET OF REBOILER.
 8. ELECTRIC TRACE SET TO 40°C INSULATION THICKNESS.
 9. HIGH PERFORMANCE STRIPPER LEVEL TO FORCE FC AS NOT MANUAL WITH 0% OUTPUT.
 10. THE REBOILER COILS ARE FOR DESIGNATION OF 16 REAMS ON TO BE LESS THAN 100% STEAM FLOW WILL OCCUR AT 300 MPa. THE SECOND CURB BACK TO 100% STEAM FLOW WILL OCCUR AT 320 MPa. FOR FURTHER DETAILS REFER TO CONTROL INSTRUMENTS I&E 100.000.010.001.
 11. THE REBOILER SHOULD HAVE A MINIMUM SPACING OF 12 METERS FROM FT-246005.

ISSUED FOR CONSTRUCTION
 04 OCT 2012

REV	DATE	DESCRIPTION	BY	CHKD	APP'D	DATE
1	18/11/11	ISSUED FOR CONSTRUCTION	GE	RB	BN	11/11/11
2	18/11/11	ISSUED FOR CONSTRUCTION	GE	RB	BN	11/11/11
3	18/11/11	ISSUED FOR CONSTRUCTION	GE	RB	BN	11/11/11
4	18/11/11	ISSUED FOR CONSTRUCTION	GE	RB	BN	11/11/11
5	18/11/11	ISSUED FOR CONSTRUCTION	GE	RB	BN	11/11/11
6	18/11/11	ISSUED FOR CONSTRUCTION	GE	RB	BN	11/11/11
7	18/11/11	ISSUED FOR CONSTRUCTION	GE	RB	BN	11/11/11
8	18/11/11	ISSUED FOR CONSTRUCTION	GE	RB	BN	11/11/11
9	18/11/11	ISSUED FOR CONSTRUCTION	GE	RB	BN	11/11/11
10	18/11/11	ISSUED FOR CONSTRUCTION	GE	RB	BN	11/11/11
11	18/11/11	ISSUED FOR CONSTRUCTION	GE	RB	BN	11/11/11
12	18/11/11	ISSUED FOR CONSTRUCTION	GE	RB	BN	11/11/11

SHELL CANADA
 QUEST CCS PROJECT

FLUOR
 PIPING AND INSTRUMENT DIAGRAM
 QUEST CCS PROJECT
 UNIT 246 - REGENERATION COMMON
 STRIPPER REBOILER "A" AND CONDENSATE POT

SCALE: NONE
 SHEET NO: 246.0000.000.041.003 18/11/11

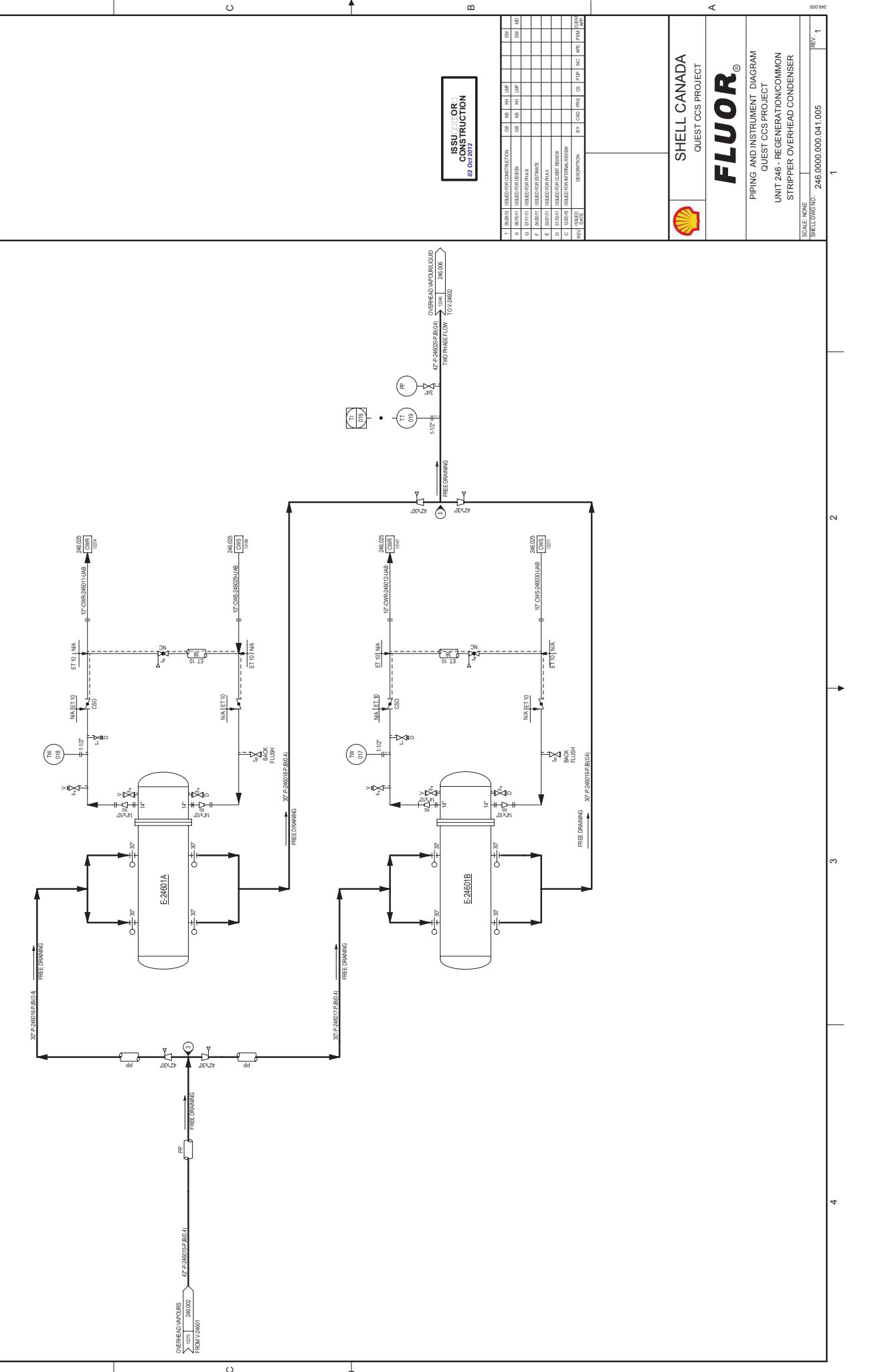
1 2 3 4

1
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4

NOTES:
 1. SEE DRAWINGS 200.000.000.041.007 THROUGH 045 FOR SYMBOL IDENTIFICATION
 2. GENERAL NOTES & CONNECTION DETAILS
 3. ALL INSTRUMENT TAG NUMBERS ARE PREPARED BY 246 UNLESS OTHERWISE SPECIFIED
 4. SYMMETRICAL PIPING

E-24601A/B
STRIPPER OVERHEAD CONDENSER
 RATED DUTY: **100%** (TOTA)
 SERVICE: **100%**
 TEMA TYPE: **B3U**
 SHELL: **304L SS**
 DESIGN PRESS: **150 PSIG**
 DESIGN TEMP: **150 °C / 300 °F**
 INSULATION MATERIAL: **CS-3**
 HEAT TRACE MEDIA TEMP: **150 °C / 300 °F**
 TBM: **ET-24600P-BE001A**

TUBE: **1 1/2" x 19.0" x 1/2"**
 SHELL: **304L SS**
 DESIGN PRESS: **150 PSIG**
 DESIGN TEMP: **150 °C / 300 °F**
 INSULATION MATERIAL: **CS-3**
 HEAT TRACE MEDIA TEMP: **150 °C / 300 °F**
 TBM: **ET-24600P-BE001A**



1
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4

NO.	DATE	DESCRIPTION	BY	CHKD	PRD	CS	APP	MC	ARE	PRD	DATE
1	02/02/2012	ISSUE FOR CONSTRUCTION									
2		ISSUE FOR CONSTRUCTION									
3		ISSUE FOR CONSTRUCTION									
4		ISSUE FOR CONSTRUCTION									
5		ISSUE FOR CONSTRUCTION									
6		ISSUE FOR CONSTRUCTION									
7		ISSUE FOR CONSTRUCTION									
8		ISSUE FOR CONSTRUCTION									
9		ISSUE FOR CONSTRUCTION									
10		ISSUE FOR CONSTRUCTION									
11		ISSUE FOR CONSTRUCTION									
12		ISSUE FOR CONSTRUCTION									
13		ISSUE FOR CONSTRUCTION									
14		ISSUE FOR CONSTRUCTION									
15		ISSUE FOR CONSTRUCTION									
16		ISSUE FOR CONSTRUCTION									
17		ISSUE FOR CONSTRUCTION									
18		ISSUE FOR CONSTRUCTION									
19		ISSUE FOR CONSTRUCTION									
20		ISSUE FOR CONSTRUCTION									

ISSUE FOR CONSTRUCTION
02/02/2012

SHELL CANADA
QUEST CCS PROJECT

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PIPING AND INSTRUMENT DIAGRAM
QUEST CCS PROJECT
UNIT 246 - REGENERATION COMMON
STRIPPER OVERHEAD CONDENSER

SCALE: NONE
SHEET NO: 246.0000.000.041.005

1
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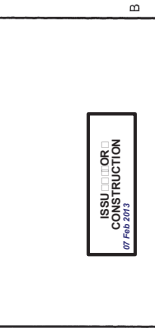
1
2
3
4

- NOTES:**
- SEE DRAWINGS 200.000.00.04.001 THRU 04.001.007 FOR SYMBOL IDENTIFICATION
 - ALL INSTRUMENT TAG NUMBERS ARE PREFIXED BY "467" UNLESS OTHERWISE STATED
 - ALL DIMENSIONS TO BE AS DIMENSIONAL AS POSSIBLE
 - 3.150% PUMPS FOR TOTAL DESIGN FLOW RATE OF 1510.0 m³/D
 4. PIPES WITH FULL FACE SOFT GASKETS TO THE MAX FLOW METER
 5. ELECTRIC TRACES (ET) WITH 15 mm INSULATION THICKNESS
 7. AUTOMATIC STAND-BY PUMP ON PA.000 OR MAIN FAILURE OF EITHER PRIMARY PUMP
 8. VALVE AND SPACER TO BE ORIENTED IN THE HORIZONTAL PLANE
 9. FOR MORE DETAILS OF SWIRE EDITION, REFER TO DRAWING 200.000.00.04.107
 10. PIPES TO BE 3" DIA. UNLESS OTHERWISE SPECIFIED
 11. ET 110 TO EXTEND 6" UP FROM BEASER
 12. REFER TO PWD 26.000.00.04.001 FOR SCA. PLAN AND PUMP MONITORING
 13. THREE 3" DRAIN VALVES PROVIDED WITH PUMP
 14. WARE ELEVATION

ISSUED FOR CONSTRUCTION
07-04-2015

NO.	DESCRIPTION	DATE	BY	CHKD.	APP.
1	ISSUED FOR CONSTRUCTION	07-04-2015
2	ISSUED FOR CONSTRUCTION	07-04-2015
3	ISSUED FOR CONSTRUCTION	07-04-2015
4	ISSUED FOR CONSTRUCTION	07-04-2015
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11	ISSUED FOR CONSTRUCTION	07-04-2015
12	ISSUED FOR CONSTRUCTION	07-04-2015
13	ISSUED FOR CONSTRUCTION	07-04-2015
14	ISSUED FOR CONSTRUCTION	07-04-2015
15	ISSUED FOR CONSTRUCTION	07-04-2015
16	ISSUED FOR CONSTRUCTION	07-04-2015
17	ISSUED FOR CONSTRUCTION	07-04-2015
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19	ISSUED FOR CONSTRUCTION	07-04-2015
20	ISSUED FOR CONSTRUCTION	07-04-2015

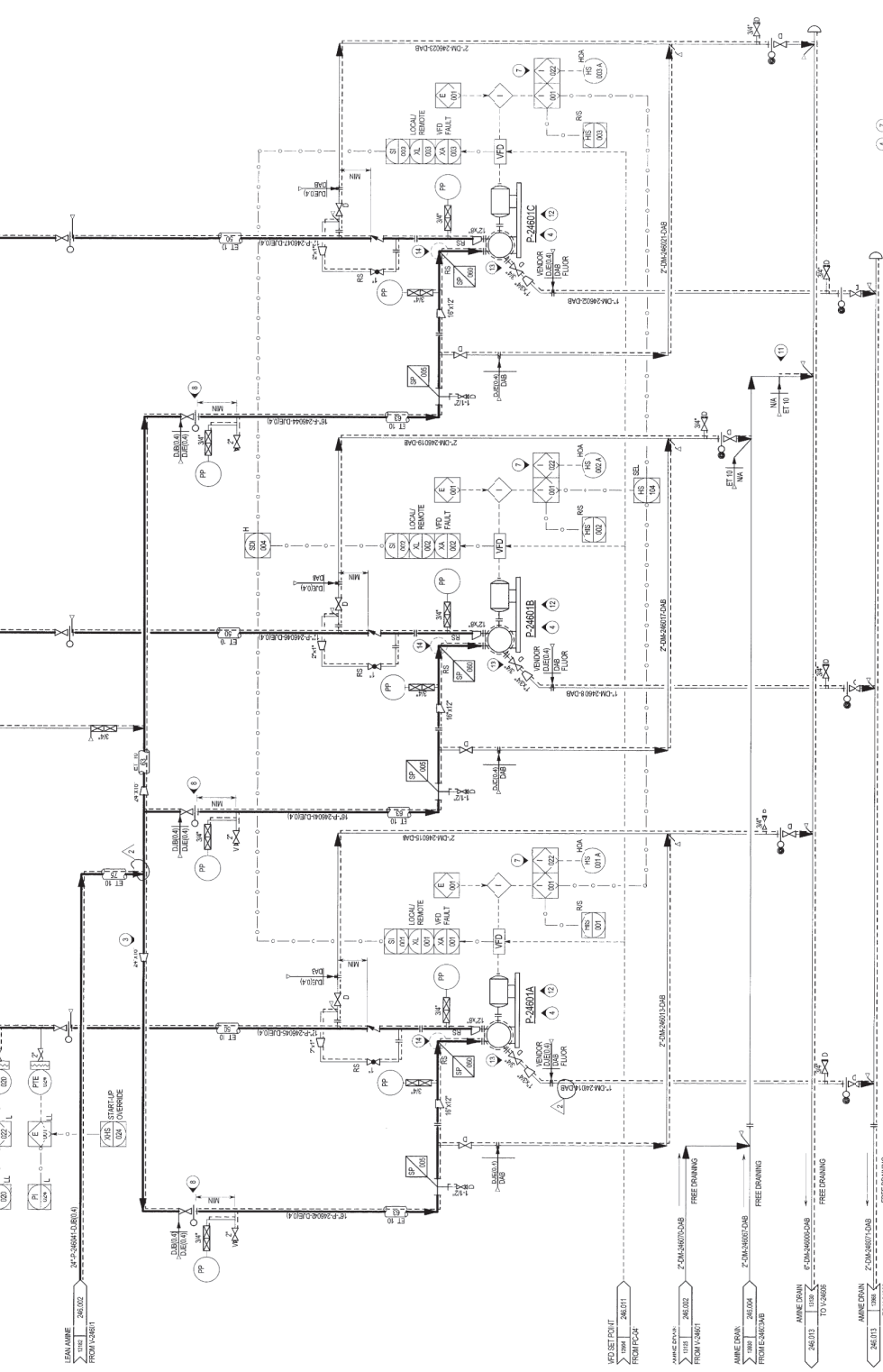
PERMIT TO PRACTICE
FLUOR CANADA LTD.
Signature: [Signature]
Date: 07/04/2015
The Association of Professional Engineers and Geoscientists of Alberta



FLUOR
QUEST CCS PROJECT
LEAN AMINE PUMPS

PIPING AND INSTRUMENT DIAGRAM
UNIT 246 - REGENERATION/COMMON
LEAN AMINE PUMPS

SCALE: NONE
SHEET NO: 246.000.00.041.007
REV: 2



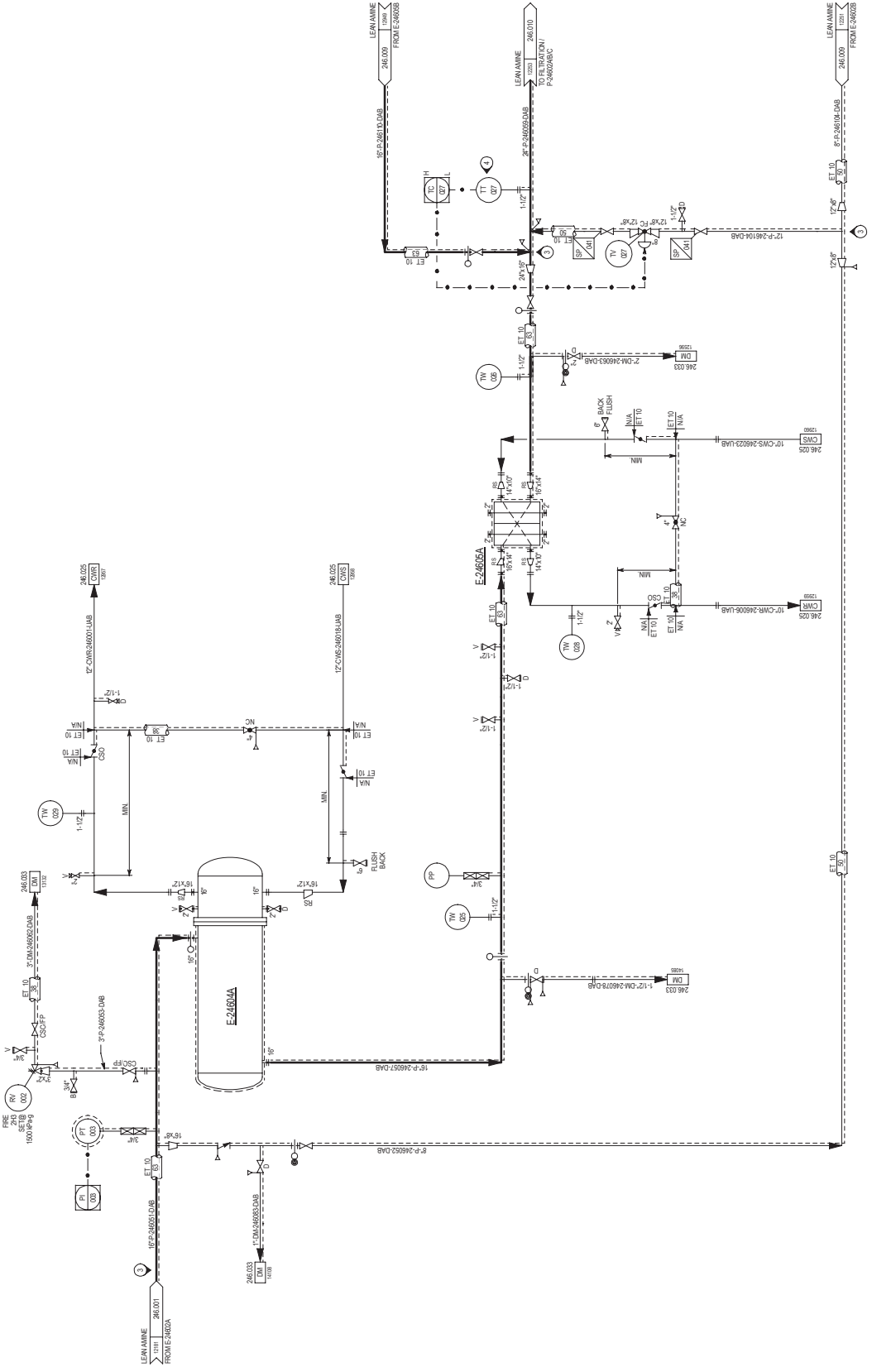
- LEAN AMINE PUMPS**
- RAISED FLOOR
 - DRIVE
 - MATERIAL: 316 SS
 - INSULATION TYPE: TITAN
- LEGEND:**
- LEAN AMINE PUMPS
 - RAISED FLOOR
 - DRIVE
 - MATERIAL: 316 SS
 - INSULATION TYPE: TITAN

NOTES:

1. SEE DRAWINGS 200.0000.000.041.007H&U.010 FOR SYMBOL IDENTIFICATION
2. GENERAL NOTES & CONNECTION DETAILS
3. ALL INSTRUMENT TAG NUMBERS ARE PREFIXED BY "246" UNLESS OTHERWISE SPECIFIED
4. PIPING BETWEEN TRAIN "A" AND TRAIN "B" TO BE AS SYMMETRICAL AS POSSIBLE
5. LOCATE 1.027 MINIMUM ID PIPE DANCE BERS DOWNSTREAM OF BYPASS MOUNTING
6. ELECTRIC TRACE ET 10 WITH 60 mm INSULATION THICKNESS

E-246054
LEAN AMINE TRIM COOLER
 RATED DUTY: 1500 PPMg / FV
 SURFACE AREA: 1200 PPMg / FV
 TEMA TYPE: PLATE & FRAME
 DESIGN PRESS: 1500 PPMg / FV
 DESIGN TEMP: 105°C / 150°C
 MATERIAL: SS304
 FRAME CS: GRAPHITE
 INSULATION TYPE/THK: 7 3.0mm/24.0
 TBM: E-246011.048
 ET: 246010.048

E-246014
LEAN AMINE COOLER
 RATED DUTY: 1500 PPMg / FV
 SURFACE AREA: 1200 PPMg / FV
 TEMA TYPE: PLATE & FRAME
 DESIGN PRESS: 1500 PPMg / FV
 DESIGN TEMP: 105°C / 150°C
 MATERIAL: SS304
 FRAME CS: GRAPHITE
 INSULATION TYPE/THK: 7 3.0mm/24.0
 TBM: E-246009.048
 ET: 246010.048



ISSUED FOR CONSTRUCTION
 01 April 2012

NO.	REVISED DESCRIPTION	BY	RE	IN	DATE	SP
1	ISSUED FOR CONSTRUCTION	OB	RE	IN	DATE	SP
2	ISSUED FOR CONSTRUCTION	OB	RE	IN	DATE	SP
3	ISSUED FOR CONSTRUCTION	OB	RE	IN	DATE	SP
4	ISSUED FOR CONSTRUCTION	OB	RE	IN	DATE	SP
5	ISSUED FOR CONSTRUCTION	OB	RE	IN	DATE	SP
6	ISSUED FOR CONSTRUCTION	OB	RE	IN	DATE	SP
7	ISSUED FOR CONSTRUCTION	OB	RE	IN	DATE <td SP	
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10	ISSUED FOR CONSTRUCTION	OB	RE	IN	DATE	SP
11	ISSUED FOR CONSTRUCTION	OB	RE	IN	DATE	SP
12	ISSUED FOR CONSTRUCTION	OB	RE	IN	DATE	SP

SHELL CANADA
 QUEST CCS PROJECT

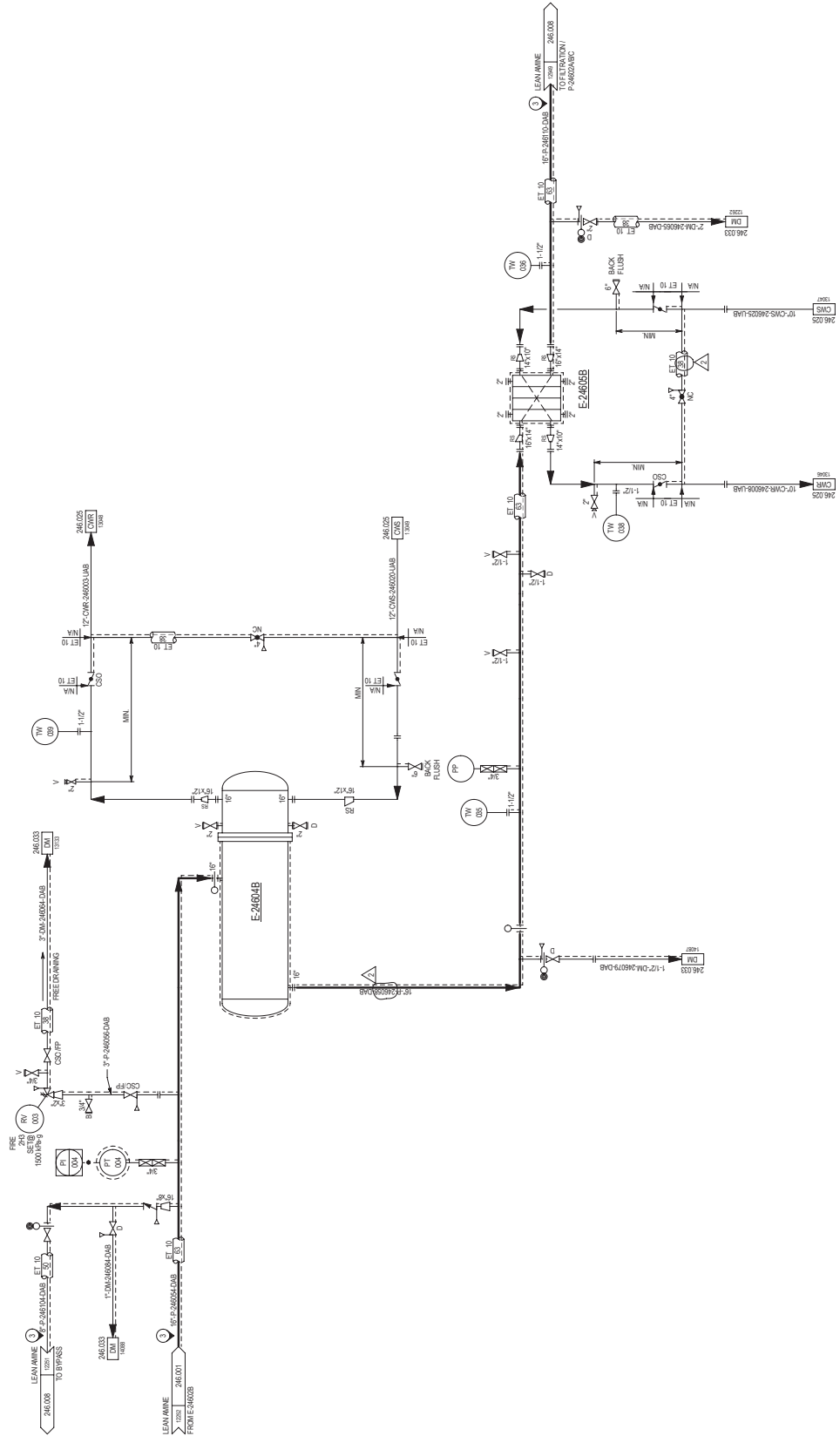
FLUOR
 PIPING AND INSTRUMENT DIAGRAM
 QUEST CCS PROJECT
 UNIT 246 - REGENERATION COMMON
 LEAN AMINE COOLING TRAIN "A"

SCALE: NONE
 SHEET NO: 246.0000.000.041.008
 REV: 1

- NOTES:
1. DIMENSIONS ARE GIVEN IN METERS UNLESS OTHERWISE SPECIFIED.
 2. ALL INSTRUMENT TAG NUMBERS ARE PREFIXED BY 246 UNLESS OTHERWISE STATED.
 3. ALL INSTRUMENT TAG NUMBERS ARE PREFIXED BY 246 UNLESS OTHERWISE STATED.
 4. ELECTRIC TRACES ET 100 WITH 50mm INSULATION THICKNESS.

E-24605B
LEAN AMINE TRIM COOLER
 RATED DUTY: 100%
 SURFACE AREA: 100 m²
 SHELL DIA: 1000 mm
 DESIGN PRESS: 10.0 barg
 DESIGN TEMP: 100 °C
 MATERIAL: CS-3mm 304L SS
 INSULATION TYPE/THK: 100mm EPS
 TRIM: ET-24605LAB

E-24604B
LEAN AMINE COOLER
 RATED DUTY: 100%
 SURFACE AREA: 100 m²
 SHELL DIA: 1000 mm
 DESIGN PRESS: 10.0 barg
 DESIGN TEMP: 100 °C
 MATERIAL: CS-3mm 304L SS
 INSULATION TYPE/THK: 100mm EPS
 TRIM: ET-24603LAB



ISSUED FOR CONSTRUCTION
 09 Feb 2013

NO	REV	DESCRIPTION	BY	CHKD	DATE
1	01	ISSUED FOR CONSTRUCTION	AS	AS	09 FEB 2013
2	02	ISSUED FOR CONSTRUCTION	AS	AS	09 FEB 2013
3	03	ISSUED FOR CONSTRUCTION	AS	AS	09 FEB 2013
4	04	ISSUED FOR CONSTRUCTION	AS	AS	09 FEB 2013
5	05	ISSUED FOR CONSTRUCTION	AS	AS	09 FEB 2013
6	06	ISSUED FOR CONSTRUCTION	AS	AS	09 FEB 2013
7	07	ISSUED FOR CONSTRUCTION	AS	AS	09 FEB 2013
8	08	ISSUED FOR CONSTRUCTION	AS	AS	09 FEB 2013
9	09	ISSUED FOR CONSTRUCTION	AS	AS	09 FEB 2013
10	10	ISSUED FOR CONSTRUCTION	AS	AS	09 FEB 2013

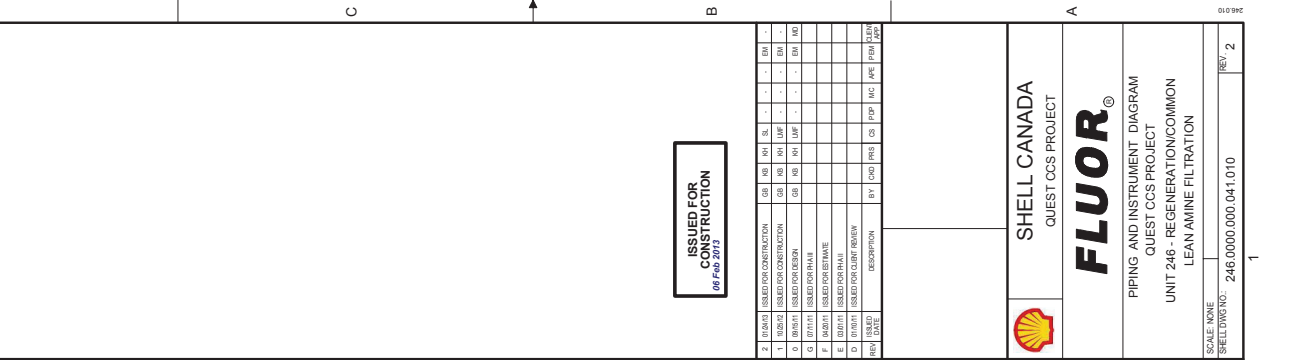
SCALE: NONE
 SHEET NO: 246.0000.000.041.009
 REV: 2

SHELL CANADA
 QUEST CCS PROJECT

FLUOR
 PIPING AND INSTRUMENT DIAGRAM
 QUEST CCS PROJECT
 UNIT 246 - REGENERATION COMMON
 LEAN AMINE COOLING TRAIN "B"

NOTES:

1. SEE DRAWINGS 200.000.000.041.010 THRU 016 FOR SYMBOL IDENTIFICATION GENERAL NOTES & CONNECTION DETAILS.
2. ALL INSTRUMENT NUMBERS ARE PREPARED BY 746 UNLESS OTHERWISE SPECIFIED.
3. FOR PIPING DETAILS OF SAMPLE STATION, SEE DRAWING 200.000.000.041.012.
4. SAMPLE TAKE-OFF POINTS TO BE ACCESSIBLE.
5. ELECTRIC TRACE ET TO WITH 50mm INSULATION THICKNESS.
6. ALL INSTRUMENTS TO BE PROVIDED.
7. WAGMAN TRUCK CONNECTION.



V-246004
LEAN AMINE FILTER
 Dimensions: 1170 mm HT
 Rated Flow: 150 m³/h @ 90 °C / V @ 190 °C
 Design Pressure: 15.0 barg @ 90 °C / V @ 190 °C
 Pressure Drop: 0.5 bar @ 150 m³/h @ 90 °C
 Material: CS-3 mm CA + PAINT / 316L SS INTERNAL
 Insulation: TYPE:TRK H: 240005 DAB
 ITRN: V1-46003 DAB
 Particle Retention Size: 10 microns Absolute

V-246003
LEAN AMINE CARBON FILTER
 Dimensions: 1708 mm HT
 Rated Flow: 150 m³/h @ 90 °C / V @ 190 °C
 Design Pressure: 15.0 barg @ 90 °C / V @ 190 °C
 Pressure Drop: 0.5 bar @ 150 m³/h @ 90 °C
 Material: CS-3 mm CA + PAINT / 316L SS INTERNAL
 Insulation: TYPE:TRK H: 240005 DAB
 ITRN: V1-46003 DAB

V-246009
LEAN AMINE POST FILTER
 Dimensions: 1570 mm HT
 Rated Flow: 150 m³/h @ 90 °C / V @ 190 °C
 Design Pressure: 15.0 barg @ 90 °C / V @ 190 °C
 Pressure Drop: 0.5 bar @ 150 m³/h @ 90 °C
 Material: CS-3 mm CA + PAINT / 316L SS INTERNAL
 Insulation: TYPE:TRK H: 240005 DAB
 ITRN: V1-46003 DAB

LEAN AMINE
 Z-246001
 FROM P-246001

STARTUP AMINE
 Z-246012
 FROM P-246001

LEAN AMINE
 Z-246002
 FROM P-246001

LEAN AMINE
 Z-246003
 FROM P-246001

LEAN AMINE
 Z-246004
 FROM P-246001

LEAN AMINE
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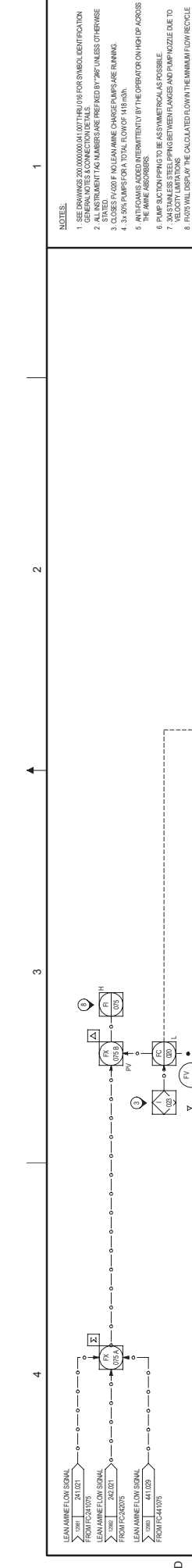
LEAN AMINE
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LEAN AMINE
 Z-24615



NOTES:

- SEE DRAWINGS 200.0000.04.1001 THROUGH 04.1005 FOR SYMBOL IDENTIFICATION GENERAL NOTES & CONNECTION DETAILS.
- ALL INSTRUMENT TAG NUMBERS ARE PREFIXED BY "246" UNLESS OTHERWISE NOTED.
- CLOSES PA-0203 FLOW AMINE CHARGE PUMPS ARE RUNNING.
- 3.1.570 PUMPS OR A TOTAL FLOW OF 1419 m³/hr.
- ANTI-COAGS ADDED INTERNITENTLY BY THE OPERATOR ON HIGH UP ACROSS THE AMINE ABSORBERS.
- PUMP SUCTION PIPING TO BE AS SYMMETRICAL AS POSSIBLE.
- VALVES TO BE OPERATED BETWEEN 15 AND 45 DEGREES TO PREVENT STICKING DUE TO VELOCITY LIMITATIONS.
- ROOT VALVE DISPLAY THE CALCULATED FLOW IN THE MINIMUM FLOW RECYCLE MODE. THE ROOT VALVE DISPLAY THE CALCULATED FLOW IN THE MINIMUM FLOW RECYCLE MODE. THE ROOT VALVE DISPLAY THE CALCULATED FLOW IN THE MINIMUM FLOW RECYCLE MODE. THE ROOT VALVE DISPLAY THE CALCULATED FLOW IN THE MINIMUM FLOW RECYCLE MODE.
- ELECTRIC TRACE ET-10 WITH 50mm INSULATION THICKNESS.
- TWO CHECK VALVES IN SERIES ONE IN THE HORIZONTAL AND ONE IN THE VERTICAL.
11. VALVE AND SPACER TO BE ORIENTED IN THE HORIZONTAL PLANE.
12. VALVES ARE FOR BATTERY LIMIT ISOLATION OF UNIT.
13. 16 SS INJECTION QUILL, OUTLET OF INJECTION QUILL TO BE CENTERED.
14. AUTO START DESIGNATED STAND BY PUMP ON PA-0203 OR ON BATTERY LIMIT FAILURE OF EITHER PRIMARY PUMP.
15. ALL VALVE BODY AND FLANGE TO BE SUPPLIED WITH URIC FOR CHEMICAL CLEANING.
16. REFER TO P&ID 246.0000.000.04.1001 FOR SEAL PLAN AND MACHINE MONITORING.
17. THREE 3/4" ORN VALVES PROVIDED WITH PUMP.



ISSUED FOR CONSTRUCTION
 07/NOV/2012

NO.	DESCRIPTION	BY	DATE	REV.	DATE	BY	DATE
1	ISSUED FOR CONSTRUCTION	...	07/NOV/2012	1			
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SHELL CANADA
 QUEST CCS PROJECT

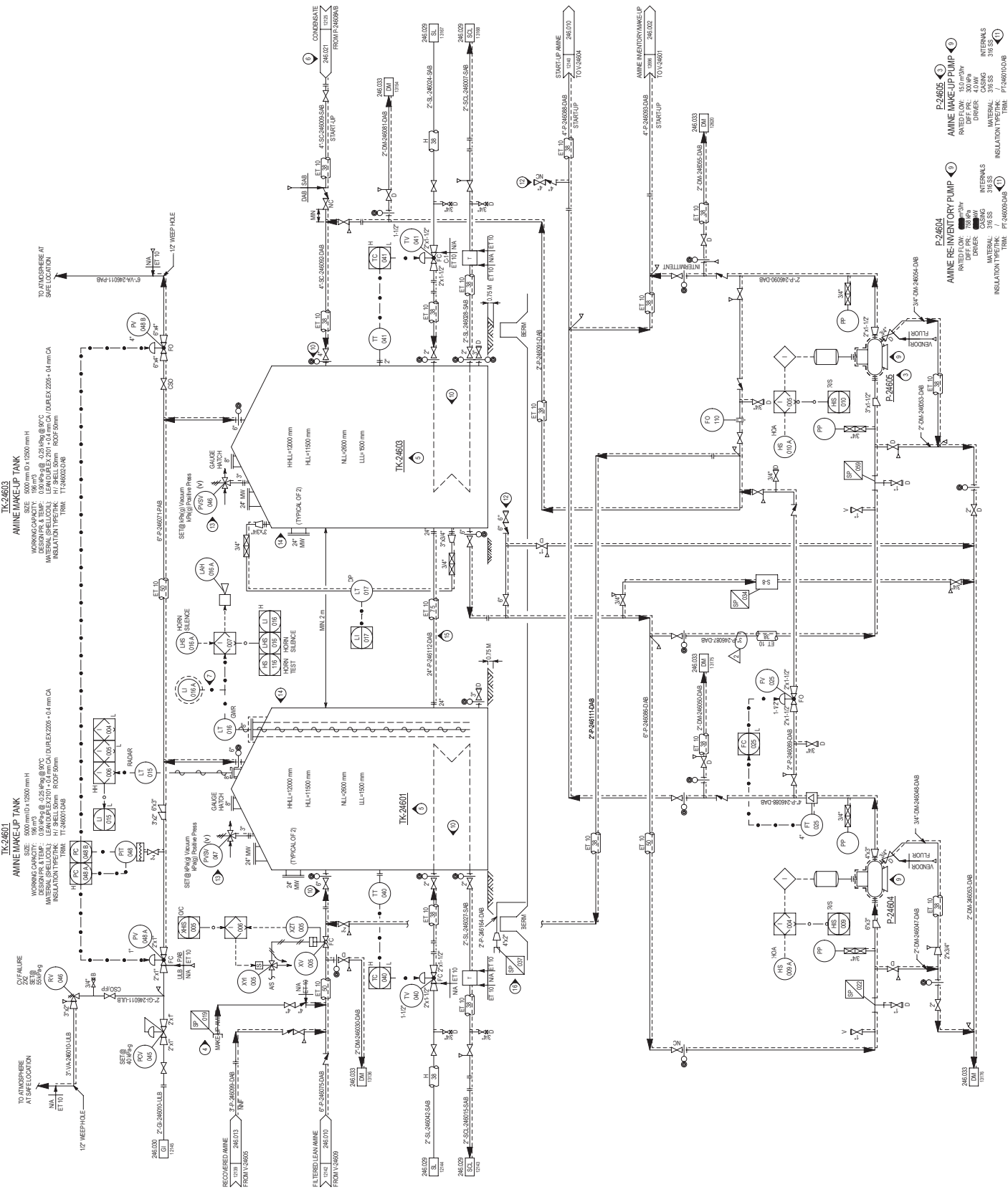
FLUOR
 PIPING AND INSTRUMENT DIAGRAM
 QUEST CCS PROJECT
 UNIT 246 - REGENERATION COMMON
 LEAN AMINE CHARGE PUMPS

SCALE: AS SHOWN
 SHEET NO: P-246-0000-000-04.1011
 DATE: 07/NOV/2012
 REVISION: 1

LEAN AMINE CHARGE PUMPS
 RATED FLOW: 1419 m³/hr (EACH)
 TYPE: CENTRIFUGAL
 MOTOR: 300 HP (EACH)
 CASING: 12" (EACH)
 INTERNALS: 12" (EACH)
 MATERIAL: 316 SS (EACH)
 INSULATION: 75 MM (EACH)
 ITEM: P1246000A/B/C
 ITEM: P1246000B/C

NOTES:

1. SEE DRAWINGS 200.000.001.041.007.010 FOR SYMBOL IDENTIFICATION
2. GENERAL NOTES & CONNECTION DETAILS
3. ALL INSTRUMENT TAG NUMBERS ARE PREFIXED BY 746 UNLESS OTHERWISE SPECIFIED
4. PUMP WILL HAVE A WAREHOUSE SPACE
5. TRUCK CONNECTION NEAR TANK LOCAL CONTAINMENT FOR TRUCK UNLOADING. PAVED AREA TO BE PART OF THE CAPTURE AREA'S STORMWATER DRAINAGE FACILITIES.
6. ALL TANKS SHALL BE UNGATED TANKS
7. LEVEL INDICATION AT GRADE TO BE VISIBLE AT TRACK UNLOADING LOCATION. CONDENSATE
8. ALL AMINE PUMPS ARE CONTAINED WITHIN CARBON CONTAINMENT AREA.
9. REFER TO 200.000.001.041.007.010 FOR S&P DETAILS.
10. TANKS AS CLOSE TO GRADE AS POSSIBLE BELOW ALL CONTAINMENT COURSE OF CONCRETE
11. ELECTRIC TRUCK (ET 10) WITH 90mm INSULATION THICKNESS
12. RENTAL TANK CONNECTION. TEMPORARY RENTAL TANKS TO BE PROVIDED BY CONTRACTOR. RENTAL TANKS TO BE PROVIDED WITH 90mm INSULATION WITH AN MINIMUM VOLUME OF 64 M³. SPACERS SIX TANKS WILL BE PROVIDED ALONG SOUTHERN EDGE OF QUEST PLOT FOR TEMPORARY TANK USE. FOUNDATION TO BE PROVIDED WITH ENVIRONMENTAL LINERS. CATCHMENT FACILITIES AS PART OF RENTAL PLACEMENT OR WILL BE SPECIFIED AS DOUBLE VALLEY.
13. TANK VENDOR TO SUPPLY P&ID
14. TANK VENDOR TO SUPPLY P&ID
15. TANKS TO BE NO RIBBER THAN 20" APART. TANKS TO BE THE MINIMUM LENGTH AND TANK NOZZLES TO BE LOCATED AS CLOSE TO GRADE AS POSSIBLE. NO RIBBER
16. W/OUT TRACK CONNECTION



ISSUED FOR CONSTRUCTION
08 Feb 2013

NO.	ISSUED FOR CONSTRUCTION	BY	CHKD	APPD	DATE
1	ISSUED FOR CONSTRUCTION	BY	CHKD	APPD	DATE
2	ISSUED FOR CONSTRUCTION	BY	CHKD	APPD	DATE
3	ISSUED FOR CONSTRUCTION	BY	CHKD	APPD	DATE
4	ISSUED FOR CONSTRUCTION	BY	CHKD	APPD	DATE
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17	ISSUED FOR CONSTRUCTION	BY	CHKD	APPD	DATE
18	ISSUED FOR CONSTRUCTION	BY	CHKD	APPD	DATE
19	ISSUED FOR CONSTRUCTION	BY	CHKD	APPD	DATE
20	ISSUED FOR CONSTRUCTION	BY	CHKD	APPD	DATE

SHELL CANADA
QUEST CCS PROJECT

FLUOR

PIPING AND INSTRUMENT DIAGRAM
QUEST CCS PROJECT
UNIT 246 - REGENERATION/COMMON
AMINE MAKE-UP TANK & PUMPS

SCALE: NONE
SHEET NO: 246.000.000.041.012

TK-24601
AMINE MAKE-UP TANK
SIZE: 5000 mm D x 12000 mm H
WORKING CAPACITY: 0.25 MPa @ 80°C
DESIGN PR. & TEMP.: 0.25 MPa @ 80°C
MATERIAL: 316 SS
INSULATION: 100 mm CA
TRIM: TT-24601-048

TK-24603
AMINE MAKE-UP TANK
SIZE: 5000 mm D x 12000 mm H
WORKING CAPACITY: 0.25 MPa @ 80°C
DESIGN PR. & TEMP.: 0.25 MPa @ 80°C
MATERIAL: 316 SS
INSULATION: 100 mm CA
TRIM: TT-24603-048

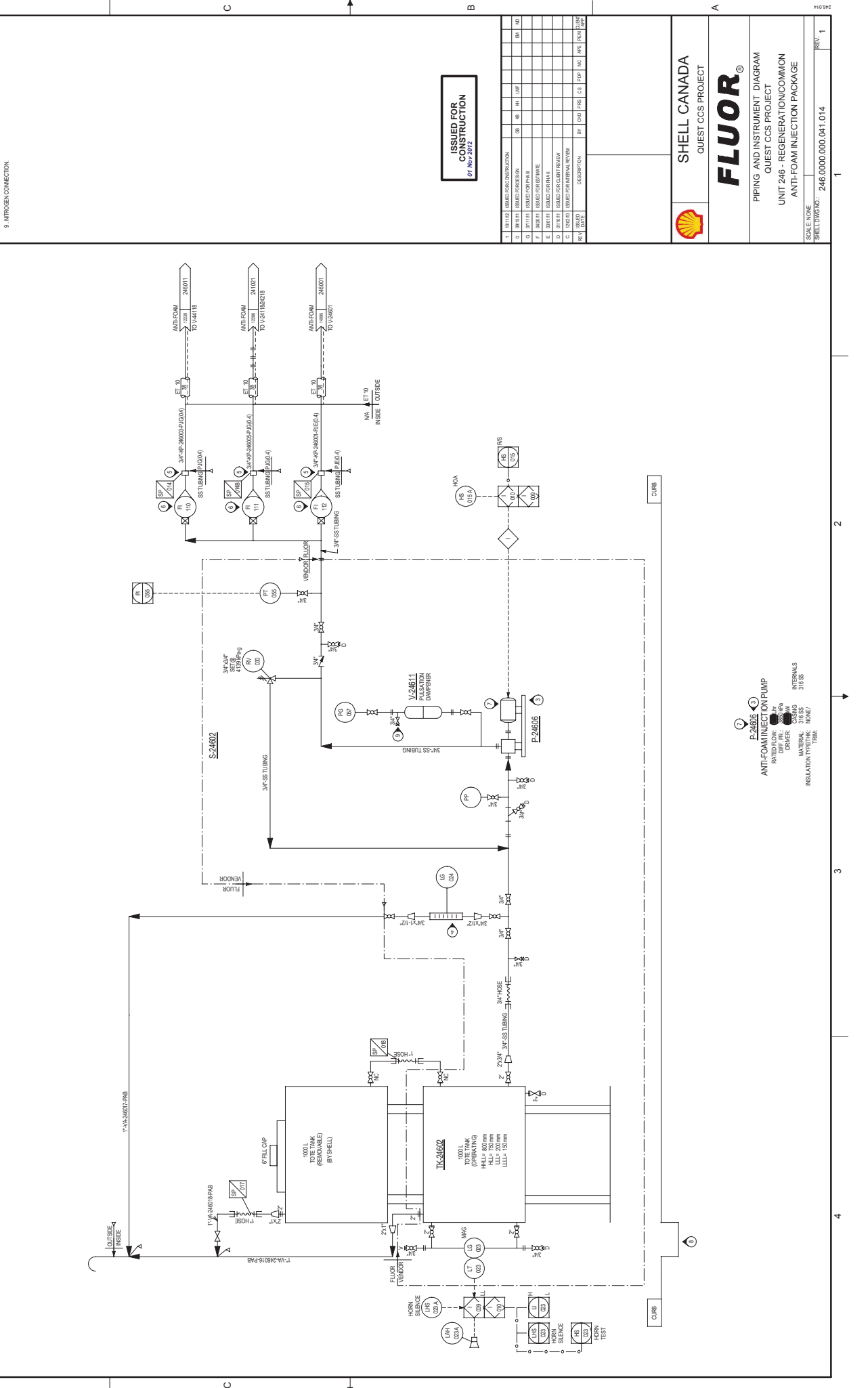
P-24601
AMINE MAKE-UP PUMP
RATED FLOW: 150 m³/hr
DIFF. PR.: 300 kPa
MATERIAL: 316 SS
INSULATION: 100 mm CA
TRIM: TT-24601-048

P-24602
AMINE MAKE-UP PUMP
RATED FLOW: 150 m³/hr
DIFF. PR.: 300 kPa
MATERIAL: 316 SS
INSULATION: 100 mm CA
TRIM: TT-24602-048

P-24603
AMINE MAKE-UP PUMP
RATED FLOW: 150 m³/hr
DIFF. PR.: 300 kPa
MATERIAL: 316 SS
INSULATION: 100 mm CA
TRIM: TT-24603-048

P-24604
AMINE REGENERATORY PUMP
RATED FLOW: 150 m³/hr
DIFF. PR.: 300 kPa
MATERIAL: 316 SS
INSULATION: 100 mm CA
TRIM: TT-24604-048

- NOTES:**
1. SEE DRAWINGS 200.0000.041.007.HR.010 FOR SYMBOL IDENTIFICATION GENERAL NOTES & CONNECTION DETAILS.
 2. ALL INSTRUMENT TAG NUMBERS ARE PREFIXED BY "IP" UNLESS OTHERWISE SPECIFIED.
 3. POSITIVE DISPLACEMENT PUMP WITH ADJUSTABLES PROBE.
 4. GRAVITATED GLASS COLUMN FOR INJECTION PUMP CALIBRATION.
 5. SS TUBING TO PIPE CONNECTOR.
 6. VERTICAL ORIENTATION REQUIRED FOR ROTAMETER WITH INLET FLOW INTO THE BOTTOM OF THE INSTRUMENT.
 7. WAREHOUSE SPARE PUMP TO BE PROVIDED.
 8. CURBED AREA TO BE PROVIDED WITH A SUMP WHICH WILL BE EMPTIED USING A SUMP PUMP.
 9. NITROGEN CONNECTION.



ISSUED FOR
CONSTRUCTION
01 NOV 2017

NO.	DATE	DESCRIPTION	BY	CHKD	APP'D	REV	DATE
1	01/11/17	ISSUED FOR CONSTRUCTION	BB	BB	BB	BB	BB
2	01/11/17	ISSUED FOR CONSTRUCTION	BB	BB	BB	BB	BB
3	01/11/17	ISSUED FOR CONSTRUCTION	BB	BB	BB	BB	BB
4	01/11/17	ISSUED FOR CONSTRUCTION	BB	BB	BB	BB	BB
5	01/11/17	ISSUED FOR CONSTRUCTION	BB	BB	BB	BB	BB
6	01/11/17	ISSUED FOR CONSTRUCTION	BB	BB	BB	BB	BB
7	01/11/17	ISSUED FOR CONSTRUCTION	BB	BB	BB	BB	BB
8	01/11/17	ISSUED FOR CONSTRUCTION	BB	BB	BB	BB	BB
9	01/11/17	ISSUED FOR CONSTRUCTION	BB	BB	BB	BB	BB
10	01/11/17	ISSUED FOR CONSTRUCTION	BB	BB	BB	BB	BB

SHELL CANADA
QUEST CCS PROJECT

FLUOR[®]

PIPING AND INSTRUMENT DIAGRAM
QUEST CCS PROJECT
UNIT 246 - REGENERATION COMMON
ANTI-FOAM INJECTION PACKAGE

SCALE: NONE
SHEET NO: 246.0000.041.014
REV: 1

TK-24602
ANTI-FOAM INJECTION TANK
CAPACITY: 1m3

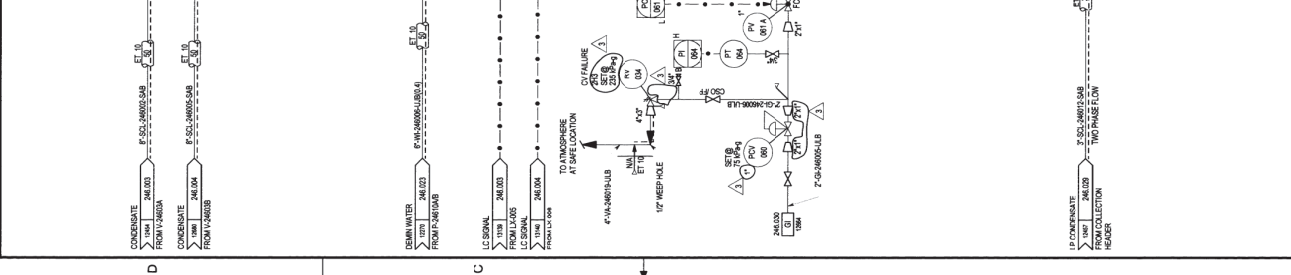
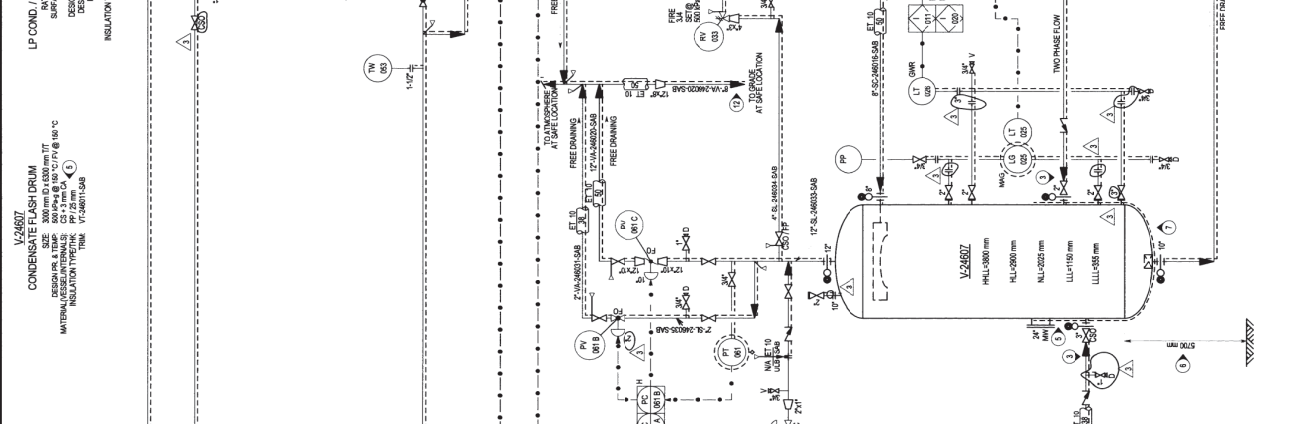
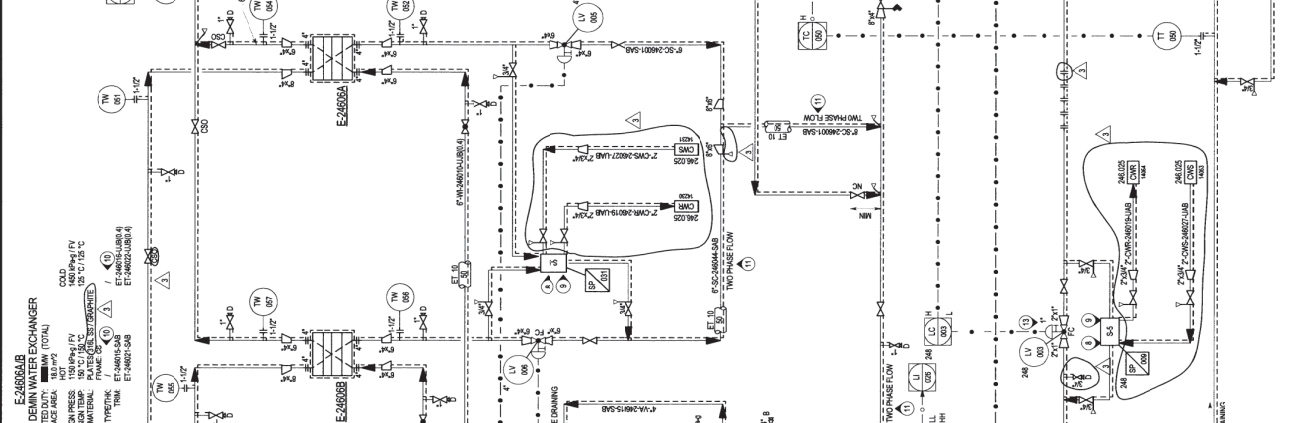
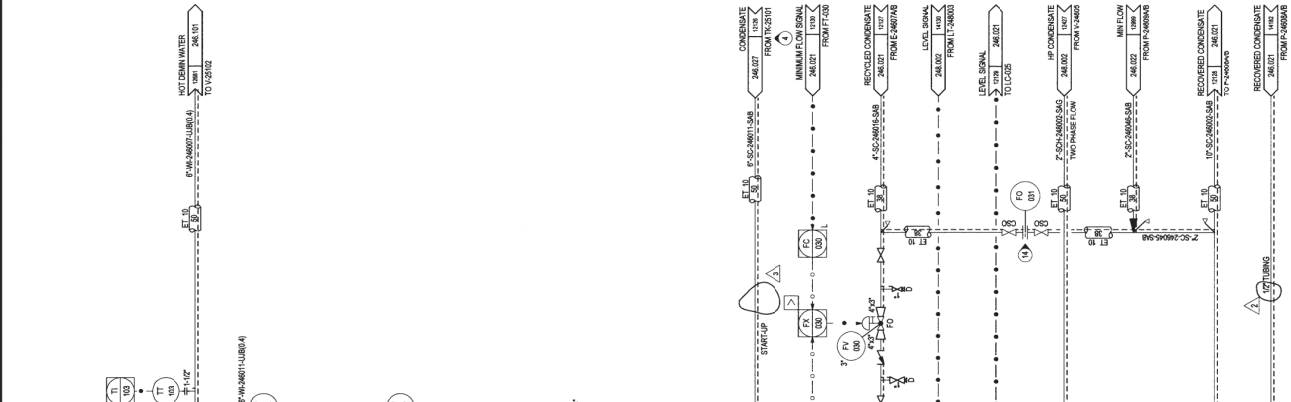
S-24602
ANTI-FOAM INJECTION PACKAGE

P-24606
ANTI-FOAM INJECTION PUMP
RATED FLOW: 100 LPH
DIFF. PR.: 100 PSI
MATERIAL: 316 SS
INSULATION: 1" FOAM

NOTES:

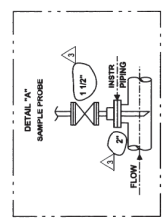
- SEE DRAWINGS 200.000.04.107 THRU FOR SYMBOL IDENTIFICATION
- INSULATION SHALL BE AS SHOWN UNLESS OTHERWISE SPECIFIED
- ALL INSTRUMENT TAG NUMBERS ARE PREFIXED BY "246" UNLESS OTHERWISE STATED.
- RELOCATE AND/OR TAPLING UP CONDENSATE LINES TO ENTER V-2607
- BELOW LULL
- STAPLE-UP PIPING REQUIRED FOR INITIAL, WAKE-FILL AND DRAINOUT WITH
- CONDENSATE TRACES SHALL BE 150 MM (6 IN) INSULATION THICKNESS TO ALL
- REQUIRE HEIGHT TO BE AS LOW AS POSSIBLE (MINIMUM 2.0M) FOR PROCESS
- VESSEL SUPPORTED BY MODULAR STRUCTURE AND IS LOCATED ABOVE
- CONDENSATE IS NORMAL
- SAMPLE TACK OFF POINTS TO BE ACCESSIBLE
- ELECTRIC TRACES (ETS) WITH 50 MM INSULATION THICKNESS
- THE POWER CORD MAY OCCUR DURING PROCESS WHEN NEARBY
- CONDENSATE TRACES SHALL BE 150 MM (6 IN) INSULATION THICKNESS TO ALL
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- NOTES:**
- SEE DRAWINGS 2000000001.001 THRU 010 FOR SYMBOL IDENTIFICATION.
 - ALL INSTRUMENT TAG NUMBERS ARE PREPARED BY "MAP" UNLESS OTHERWISE NOTED.
 - START AND STOP POINTS FOR TOTAL CONDENSATE OF GAS VAIN.
 - START AND STOP POINTS FOR TOTAL CONDENSATE OF LIQUID.
 - START AND STOP POINTS FOR TOTAL CONDENSATE OF WATER.
 - LOCATE TWT AT ELBOW.
 - REFER TO P&ID 2000000001.001 FOR SEAL PLAN DETAILS.
 - REFER TO P&ID 2000000001.001 FOR ANALYZER DETAILS.
 - CONNECTION TO BE USED AS POINT FOR MAINTENANCE.



IFC
 JUL 30, 2013
 FLUOR

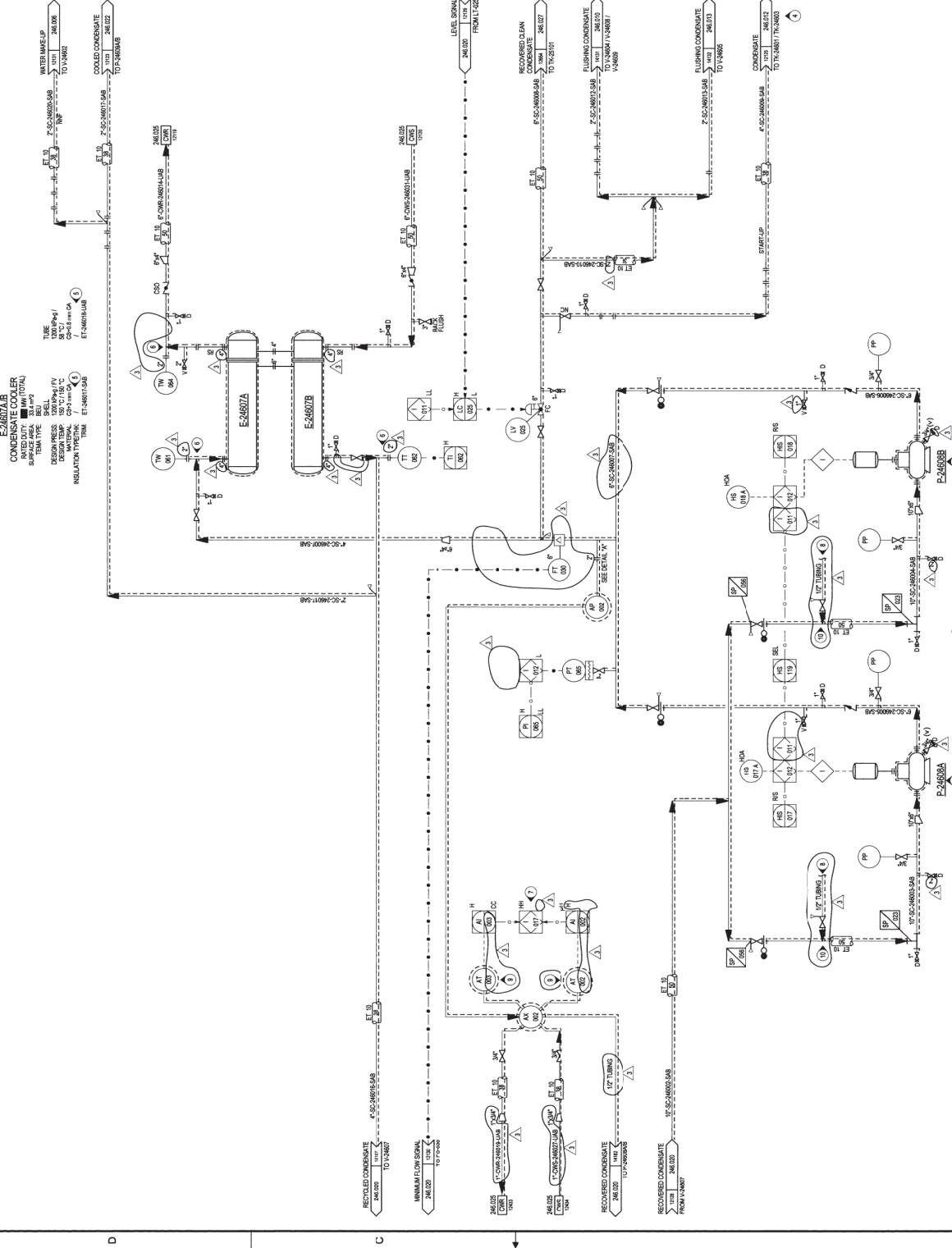
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4	ISSUED FOR CONSTRUCTION	AB	07/15/13	
5	ISSUED FOR CONSTRUCTION	AB	07/15/13	
6	ISSUED FOR CONSTRUCTION	AB	07/15/13	

PERMIT TO PRACTICE
 FLUOR CANADA LTD.
 Signature: _____
 Date: 24/02/13
 PERMIT NUMBER: P 0778
 8 2nd Floor
 Shell Canada Building
 4000 15th Avenue
 Calgary, Alberta, Canada T2C 0L7

SHELL CANADA
 QUEST CCS PROJECT

FLUOR®
 PIPING AND INSTRUMENT DIAGRAM
 QUEST CCS PROJECT
 UNIT 246 - REGENERATION/COMMON
 CONDENSATE RECOVERY PUMPS & COOLER

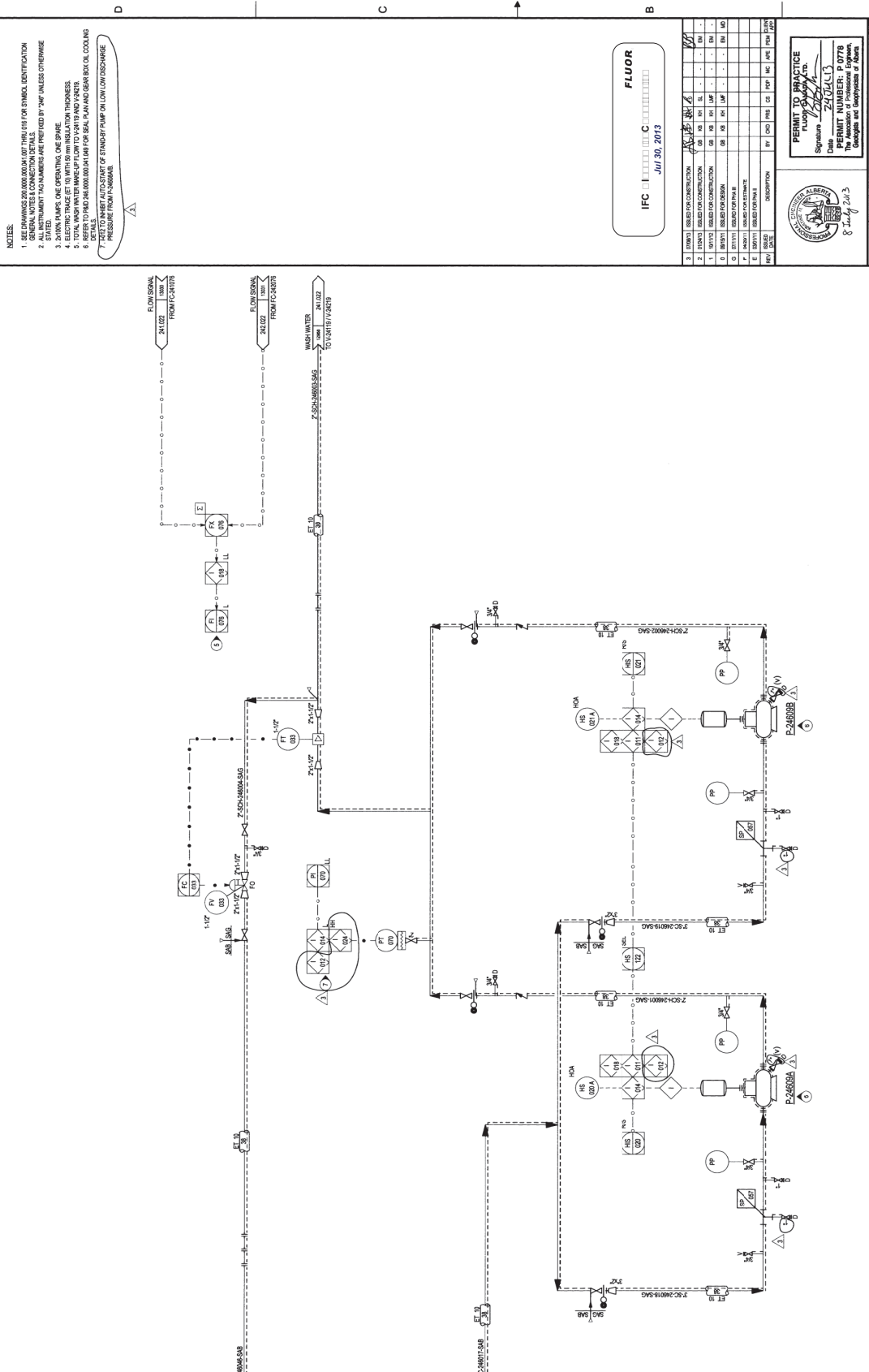
SCALE: AS SHOWN
 SHELL WORK NO.: 246-0000-000.041.021
 REV. 3



- E-24607A/B
 CONDENSER/COOLERS**
- | ITEM NO. | DESCRIPTION | UNIT | QUANTITY | TYPE | SKILL |
|----------|-----------------------------|-------------------|----------|----------|---------|
| 1 | E-24607A/B | CONDENSER/COOLERS | 2 | VERTICAL | PROCESS |
| 2 | Shell | | | VERTICAL | PROCESS |
| 3 | 1/2" x 1/2" x 1/2" (304 SS) | | | VERTICAL | PROCESS |
| 4 | 1/2" x 1/2" x 1/2" (304 SS) | | | VERTICAL | PROCESS |
| 5 | 1/2" x 1/2" x 1/2" (304 SS) | | | VERTICAL | PROCESS |
| 6 | 1/2" x 1/2" x 1/2" (304 SS) | | | VERTICAL | PROCESS |
- INSULATION TYPE/THICKNESS**
 TYPICAL: 1" (304 SS)
 E-24607A/B: 1" (304 SS)
 E-24607C/D: 1" (304 SS)

- P-24608A/B/C/D
 RECOVERED CLEAN CONDENSATE PUMPS**
- | ITEM NO. | DESCRIPTION | UNIT | QUANTITY | TYPE | SKILL |
|----------|-----------------------------|----------------------------------|----------|----------|---------|
| 1 | P-24608A/B/C/D | RECOVERED CLEAN CONDENSATE PUMPS | 4 | VERTICAL | PROCESS |
| 2 | 1/2" x 1/2" x 1/2" (304 SS) | | | VERTICAL | PROCESS |
| 3 | 1/2" x 1/2" x 1/2" (304 SS) | | | VERTICAL | PROCESS |
| 4 | 1/2" x 1/2" x 1/2" (304 SS) | | | VERTICAL | PROCESS |
- INSULATION TYPE/THICKNESS**
 TYPICAL: 1" (304 SS)
 P-24608A/B/C/D: 1" (304 SS)

1 2 3 4



- NOTES:**
- SEE DRAWINGS 246.000.004.01 THRU 018 FOR SYMBOL IDENTIFICATION AND INSTRUMENT TAG NUMBERS ARE PREFERED BY "AM" UNLESS OTHERWISE STATED.
 - ALL INSTRUMENT TAG NUMBERS ARE PREFERED BY "AM" UNLESS OTHERWISE STATED.
 - USE STANDARD SIZE PIPING UNLESS OTHERWISE SPECIFIED.
 - ELECTRIC TRANCE SET FOR 101.5 IN 1.6 mm INSULATION THICKNESS.
 - TOTAL WASH WATER MAKE-UP FLOW TO V-24119 AND V-24119.
 - USE 1/2" DIA. 316 SS. 1.25 WALL THICKNESS FOR SEAL PLAN AND GEAR BOX COOLING WATER.
 - NOTES TO INHIBIT AUTO-START OF STANDBY PUMP ON LOW DISCHARGE PRESSURE FROM H-246008.

D C B A

IFC ■■■■■■ **C** ■■■■■■

Jul 30, 2013

FLUOR

NO.	REV.	DESCRIPTION	BY	CHKD	APP'D	DATE
1	1	ISSUED FOR CONSTRUCTION	AV	MS	SL	07/24/13
2	1	ISSUED FOR CONSTRUCTION	AV	MS	SL	07/24/13
3	1	ISSUED FOR CONSTRUCTION	AV	MS	SL	07/24/13
4	1	ISSUED FOR CONSTRUCTION	AV	MS	SL	07/24/13
5	1	ISSUED FOR CONSTRUCTION	AV	MS	SL	07/24/13
6	1	ISSUED FOR CONSTRUCTION	AV	MS	SL	07/24/13
7	1	ISSUED FOR CONSTRUCTION	AV	MS	SL	07/24/13
8	1	ISSUED FOR CONSTRUCTION	AV	MS	SL	07/24/13

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QUEST CCS PROJECT

FLUOR

PIPING AND INSTRUMENT DIAGRAM

QUEST CCS PROJECT

UNIT 246 - REGENERATION/COMMON

WASH WATER MAKE-UP PUMPS

SCALE: AS SHOWN

SHELL DRAWING NO.: 246.0000.000.041.022

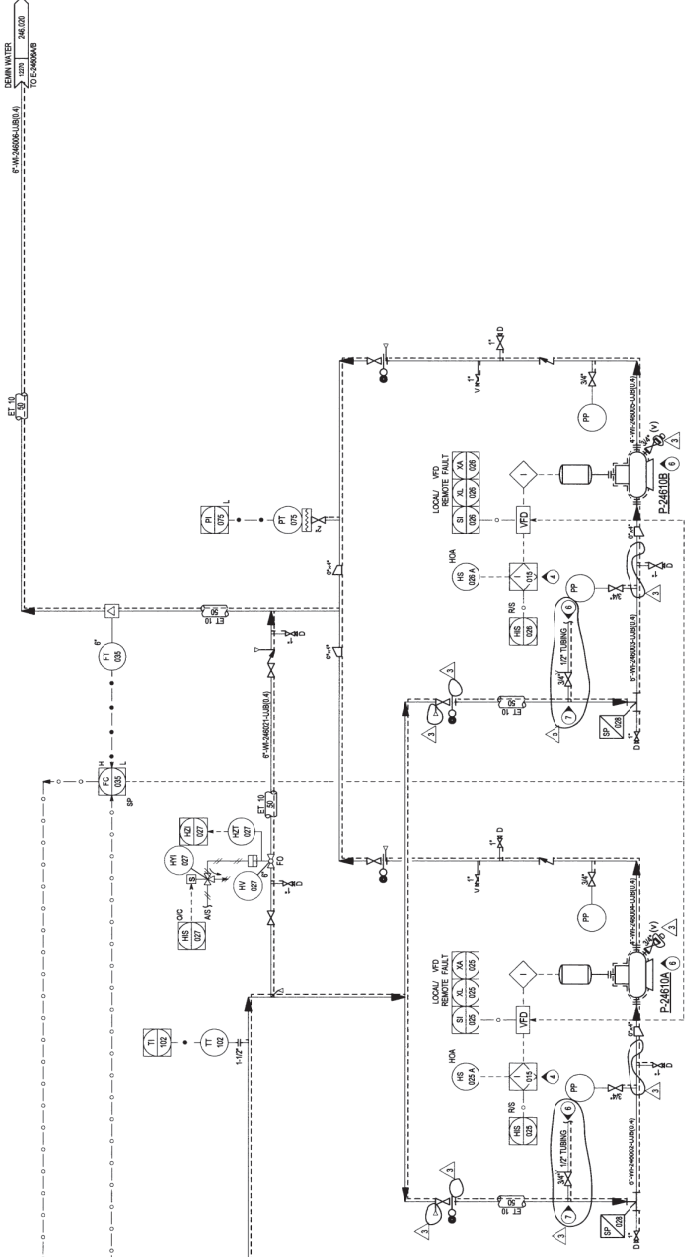
REV: 3

PERMIT TO PRACTICE
FLUOR CANADA INC.

Signature: [Signature]
Date: 24 JUL 13

PERMIT NUMBER: P 0778
Date of Issue: 07/24/13
Issued by: [Signature]

NOTES:
 1. SEE DRAWINGS ADDENDUM 007 THRU 016 FOR SYMBOL IDENTIFICATION.
 2. ALL INSTRUMENT TAG NUMBERS ARE PREFIXED BY "MIF" UNLESS OTHERWISE STATED.
 3. 2,000 LPM FOR TOTAL DESIGN FLOW RATE OF 160 m³/d.
 4. PUMP AND MOTOR ARE TO BE SUPPLIED TO A LIFT AND HEAD OF 50 M AND 5.5 MW.
 5. PUMP AND MOTOR ARE TO BE SUPPLIED TO A LIFT AND HEAD OF 50 M AND 5.5 MW.
 6. ELECTRIC TRACELIT IS WITH 50 MM INSULATION THICKNESS.
 7. REFER TO BID AND ADDENDUM 007 FOR SCALE PLAN DETAILS.
 8. CONNECTIONS TO BE USED TO TEST FOR WATER TIGHTNESS.



P-2460A/B
 DEMIN WATER REGEN. PUMPS
 DESIGNED BY: [Signature]
 CHECKED BY: [Signature]
 DESIGNED: [Signature]
 INSTRUMENTS
 INSULATION TYPING: [Signature]

IFC
 C
 Jul 30, 2013
FLUOR

REV.	DATE	DESCRIPTION	BY	CHKD.	APP'D.	DATE
1	2013	ISSUED FOR CONSTRUCTION				
2	2013	ISSUED FOR CONSTRUCTION				
3	2013	ISSUED FOR CONSTRUCTION				
4	2013	ISSUED FOR DESIGN				
5	2013	ISSUED FOR PERMITS				
6	2013	ISSUED FOR PERMITS				
7	2013	ISSUED FOR PERMITS				
8	2013	ISSUED FOR PERMITS				
9	2013	ISSUED FOR PERMITS				
10	2013	ISSUED FOR PERMITS				

PERMIT TO PRACTICE
 FLUOR PRACTICE
 Signature: [Signature]
 PERMIT NUMBER: P-0778
 The Association of Professional Engineers,
 Geoscientists and Geographers of Alberta
 8 July 2013

SHELL CANADA

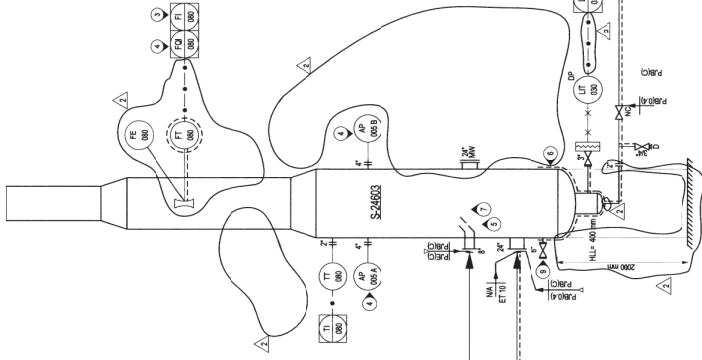
QUEST CCS PROJECT

FLUOR

PIPING AND INSTRUMENT DIAGRAM
 QUEST CCS PROJECT
 UNIT 246 - REGENERATION/COMMON
 DEMIN WATER PUMPS

SCALE: NONE
 SHEET NUMBER: 246-0000-000-041-1023
 REV: 2

- NOTES:**
- SEE DRAWINGS 200.000.004.001 THRU 016 FOR SYMBOL IDENTIFICATION AND INSTRUMENT TAG NUMBERS TO BE USED FOR ALL INSTRUMENTS.
 - ALL INSTRUMENT TAG NUMBERS ARE PREFIXED BY "M" UNLESS OTHERWISE STATED.
 - ALL INSTRUMENTS ARE TO BE LOCATED ON THE UNIT OR ON THE STACK DURING INSTALLATION.
 - INSULATION SHALL BE PROVIDED FOR ALL INSTRUMENTS. INSULATION SHALL BE LOCATED ON THE UNIT OR ON THE STACK DURING INSTALLATION OF THE INSTRUMENT.
 - PIPELINE DEPRESSING AND NOZZLE TO BE AT A SAFE HEIGHT ABOVE THE HIGH WATER LEVEL. THE INSTRUMENT SHALL BE PROTECTED FROM DAMAGE BY DEPRESSING AND NOZZLE TO BE AT A SAFE HEIGHT ABOVE THE HIGH WATER LEVEL. THE INSTRUMENT SHALL BE PROTECTED FROM DAMAGE BY DEPRESSING AND NOZZLE TO BE AT A SAFE HEIGHT ABOVE THE HIGH WATER LEVEL.
 - ELECTRIC TRACES (ET 10) WITH 6mm INSULATION THICKNESS TO BE PROVIDED FOR ALL INSTRUMENTS.
 - INSULATION SHALL BE PROVIDED FOR ALL INSTRUMENTS.
 - NOZZLE PROVIDED FOR UTILITY INJECTION TO INCREASE COEFFICIENCY DURING STARTING.



S24603 STACK COOLING
 DESIGN NA 1.5m
 INSULATION TYPE: PINK MOUNT 40mm
 UNIT: XT-4001-F403

IFC C Jul 30, 2013
FLUOR

NO.	REVISION	DESCRIPTION	BY	CHKD	DATE
1	ISSUED FOR CONSTRUCTION				
2	ISSUED FOR CONSTRUCTION				
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4	ISSUED FOR CONSTRUCTION				
5	ISSUED FOR CONSTRUCTION				
6	ISSUED FOR CONSTRUCTION				
7	ISSUED FOR CONSTRUCTION				
8	ISSUED FOR CONSTRUCTION				
9	ISSUED FOR CONSTRUCTION				
10	ISSUED FOR CONSTRUCTION				

PERMIT TO PRACTICE
 FLUOR CANADA LTD.
 Signature: [Signature]
 Title: [Title]
 The Association of Professional Engineers, Geoscientists and Geographers of Alberta

SHELL CANADA
 QUEST CCS PROJECT
FLUOR

PIPING AND INSTRUMENT DIAGRAM
 QUEST CCS PROJECT
 UNIT 246 - REGENERATION/COMMON
 CO2 VENT STACK

SCALE: AS SHOWN
 SHEET NO.: 246.000.004.041.026