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July 13, 2021

Filed Electronically

Canada Energy Regulator Suite 210, 517 Tenth Avenue SW Calgary, AB T2R 0A8

Attention: Mr. Jean-Denis Charlebois, Secretary of the Commission

Dear Mr. Charlebois:

Re: NOVA Gas Transmission Ltd. (NGTL)
2021 NGTL System Expansion Project (Project)
Didsbury B7 Compressor Station Unit Addition (Didsbury CS)
Order XG-001-2020 (as amended) (Order)
Application for Leave to Open (LTO) Pursuant to Section 213 of the
Canadian Energy Regulator Act (CER Act)

File: OF-Fac-Gas-N081-2018-03 02

On November 5, 2020, the Canada Energy Regulator (CER),¹ issued the Order which approved the construction and operation of the Project pursuant to section 58 of the NEB Act.¹ NGTL applies for final Leave to Open (LTO) for the Didsbury B7 Compressor Station Unit Addition (Didsbury CS) portion of the Project under section 213 of the CER Act following completion of its hydrotest program for this portion. This is the second LTO application for the Didsbury CS. NGTL applied for partial LTO on March 12, 2021,² for certain large bore piping, gas vents and hydrocarbon drains, and fuel gas piping which was approved under Order GPSO-002-2021.³

In this application, NGTL applies for final LTO for the Didsbury CS, which includes:

- the balance of large bore piping installed to date including compressor suction and discharge spools
- gas vents, seal gas, and hydrocarbon drains
- fuel gas piping

In its Project update filed on August 7, 2020,⁴ NGTL requested exemption from the requirements of sections 180(1)(b) and 213(1) of the CER Act to obtain LTO from the CER prior to installing tie-in assemblies, utility gas system and auxiliary systems. NGTL's request for exemption from LTO for the above-mentioned components was approved by the CER. As committed to in

² CER Filing ID: C11939.

¹ CER Filing ID: C09385.

³ CER Filing ID: C12355.

⁴ CER Filing ID: C07711.

NGTL's exemption request, NGTL provides a copy of the hydrotest information to the CER (Appendix A).

The documents to support this LTO were prepared in accordance with Guide T of the Filing Manual (see Table 1). The supporting documents, contained in Tab A through Tab C, as attached, constitute the materials required by the Commission for its review and consideration of NGTL's LTO Application. NGTL confirms that all pressure tests for this LTO Application were conducted in accordance with *Canadian Standards* Association Z662-19: Oil and Gas Pipeline Systems (CSA Z662).

Table 1: Supporting Documents for Final Leave to Open

Tab	Contents
А	Leave to Open Document: Didsbury CS
А	Guide T Checklist
В	Hydrotest Summary Report
В	TC Energy Standards, Specifications and Procedures
В	Summary of Pipe Manufacturers
В	Summary of Piping, Welds and Valves Not Tested Following Installation
В	Schematic of Pressure Tested Facility
С	TC Energy Pressure Test Report signed by TC Energy representative
С	Pressure and Temperature Log Sheets
С	Line Lists
С	Pressure Recorder Charts
С	Piping and Instrumentation Diagram and Isometric Drawings
С	Test Equipment Calibration Certificates for the Instruments Used for the Test

NGTL respectfully requests the Commission's determination of this LTO Application by July 30, 2021, in order to maintain Project schedule and achieve its in service date. In the event that the installation cannot proceed as planned, the delay may impact current service to existing customers.

If the CER requires additional information with respect to this filing, please contact me by phone at (403) 920-5214 or by email at jaron_dyble@tcenergy.com.

Yours truly,

NOVA Gas Transmission Ltd.

Original signed by

Jaron Dyble

Regulatory Project Manager

Regulatory Facilities, Canadian Natural Gas Pipelines

Enclosure

cc: Heather Dodds, Canada Energy Regulator

TAB A

Leave to Open Document Guide T Checklist



LEAVE TO OPEN DOCUMENT

July 12, 2021

On November 5, 2020, the Canada Energy Regulator (CER) issued Order XG-001-2020, approving the construction of the compression component of the 2021 NGTL System Expansion Project (Project).

This document has been prepared pursuant to Filing Manual Guide T in order to obtain final Leave To Open (LTO) for the Didsbury B7 Compressor Station Unit Addition (Didsbury CS) for the Project located at NE ½ 29-30-2 W5M. The Project consists of approximately 344 km of pipeline that parallels existing right-of-way where feasible, three compressor unit additions, as well as the installation of a control valve at an existing NGTL site.

NGTL respectfully requests the CER's determination of this LTO Application by July 30, 2021. The target in service for the Didsbury CS is September 8, 2021.

This facility has been hydrostatically tested as summarized on the following pages, and I have reviewed all required test documentation and find it to be in accordance with TC Energy's hydrostatic pressure testing specifications which are subject to the <i>Onshore Pipeline Regulations</i> and Canadian Standards Association Z662 requirements.				
Signed by: Renze Van Dijk P. Eng Emp. No. 89587 Date:				
I have confirmed that:				
 All control and safety devices were or will be inspected and tested for functionality. All field joints were non-destructively examined. All necessary permits for the use and disposal of water were obtained. Pressure testing was performed under the direct supervision of a company representative. The minimum test pressures did not fall below 97.5% of the minimum strength test pressure. 				
It is my opinion that the subject facility may be safely opened for the transmission of natural gas at a maximum operating pressure of 8,690 kPa (gauge).				
Signed by: CHRIS PHUNG CHRIS PHUNG CHRIS PHUNG Dec C-18. CHRIS PHUNG CHRIS PHUNG CHRIS PHUNG Dec C-18. Chris Phung [Chris Phung] Project Manager Emp. No. 68791 Date:				

¹ CER Filing ID: C09385.

GUIDE T CHECKLIST - FOR A PIPELINE OR PIPELINE SECTION

ITEM	REQUIREMENTS	WHERE INCLUDED	TAB
1.0	NEB certificate or order number under which work was carried out.	Leave to Open Application Letter	Cover
2.0	A list of standards, specifications and procedures to and under which the facilities were designed, constructed and tested.	TC Energy Standards, Specifications and Procedures List	В
3.0	A description of the pressure-tested facilities including:	Hydrotest Summary Report	В
3.1	The MOP	Leave to Open Document	В
3.2	The location	Leave to Open Document	В
3.3	The piping specifications, including the pipe manufacturer	TC Energy Standards, Specifications, and Procedures Summary of Pipe Manufacturers	В
3.4	A schematic of the pressure-tested facilities	Schematic of Pressure Tested Facility	В
3.5	Where applicable, the elevation profile of the test section, including high, low and test point elevations	Not Applicable (N/A)	-
4.0	A summary of continuous pressure and temperature readings for the pipeline test section over the test period, including:	Hydrotest Summary Report	В
4.1	The date of the test	Hydrotest Summary Report	В
4.2	The test medium	Hydrotest Summary Report	В
4.3	The minimum and maximum allowable test pressures	Hydrotest Summary Report	В
5.0	A summary of all piping, welds, and valves not subjected to a pressure test following installation (e.g. pre-tested pipe and assemblies) with justification for not pressure testing following installation	Summary of Piping, Welds, and Valves Not Tested Following Installation	В
6.0	A statement that all control and safety devices were or will be inspected and tested for functionality	Leave to Open Document	А
7.0	Confirmation that any permits required for the use and disposal of water was obtained	Leave to Open Document	А
8.0	Confirmation that required tests were taken and met requirements	Leave to Open Document	А
8.1	Confirmation that all field joints were non-destructively tested	Leave to Open Document	Α
8.2	Confirmation that the test pressure did not fall below the 97.5% of the minimum strength test pressure	Leave to Open Document	А
8.3	Confirmation that pressure testing was performed under the direct supervision of a company representative	Leave to Open Document	А
9.0	Test equipment calibration certificates	Test Documentation	С
10.0	All logs, test charts and other test records, signed and dated by the company representative	Test Documentation	С
11.0	Details regarding any unsuccessful pressure tests, including the cause of the test failure	N/A	N/A

TAB B

Hydrotest Summary Report

TransCanada Standards, Specifications, and Procedures

Summary of Pipe Manufacturers

Summary of Piping, Welds and Valves Not Tested Following Installation

Schematic of Pressure Tested Facility

Leave to Open Hydrostatic Test Summary Report

Hydrostatic Test Details			
Test Number:	STRIKE_2021S76		
Description:	High Pressure Gas System Field Piping		
Spool Control Numbers:	3346, 3347, 3356, 3357		
Reference Drawings:	0629-01-B7-04-HG-0116-01 Rev. 00 0629-01-B7-04-HG-0121-01 Rev. 00 0629-01-B7-02-005 Rev. 02 0629-01-B7-05-100 Rev. 01		
TC Energy Representative:	Duane Learning		
Pipe Information:	Line Numbers: B7-24-D1-HG-116-N B7-24-D1-HG-121-N		
	Pipe Data: NPS 12 x 10.31 mm WT, Grade 359 CAT II (M45C) NPS 24 x 15.90 mm WT, Grade 414 CAT II (M45C)		
Design Pressure:	9,560 kPa		
Test Achieved Pressure:	Theoretical Minimum: 14,340 kPa(g) Theoretical Maximum: 15,040 kPa(g)		
	Actual Minimum: 14,696 kPa(g) Actual Maximum: 14,732 kPa(g)		
Test Medium:	Water/Methanol (60/40 mix)		
Test Location:	Strike Crossfield Mod Yard 1 – 1027 Western Drive		
Test Date and Time:	January 22, 2021 – 11:51 – 12:51 hours		
Test Ambient Temperature:	-6.1 deg C – -4.6 deg C		
Fabricator/Contractor:	Strike Group		
Testing Supervisor:	Duane Learning (TC Energy) / Matt Jones (Strike)		
Comments:	No leaks were observed throughout th	e duration of this test.	

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Hydrostatic Test Details				
Test Number:	STRIKE_2021S77			
Description:	High Pressure Gas System Field Piping	,		
Spool Control Numbers:	3344, 3345, 3353, 3354			
Reference Drawings:	0629-01-B7-04-HG-0115-01 Rev. 00 0629-01-B7-04-HG-0120-01 Rev. 00 0629-01-B7-02-005 Rev. 02 0629-01-B7-05-100 Rev. 01			
TC Energy Representative:	Duane Learning			
Pipe Information:	Line Numbers: B7-24-D1-HG-115-N B7-24-D1-HG-120-N			
	Pipe Data: NPS 12 x 10.31 mm WT, Grade 359 CAT II (M45C) NPS 24 x 15.90 mm WT, Grade 414 CAT II (M45C)			
Design Pressure:	9,560 kPa			
Test Achieved Pressure:	Theoretical Minimum: 14,340 kPa(g)	Theoretical Maximum: 15,040 kPa(g)		
	Actual Minimum: 14,719 kPa(g)	Actual Maximum: 14,939 kPa(g)		
Test Medium:	Water/Methanol (60/40 mix)			
Test Location:	Strike Crossfield Mod Yard 1 – 1027 Western Drive			
Test Date and Time:	January 28, 2021 – 11:50 – 12:50 hours			
Test Ambient Temperature:	-14.3 deg C – -12.5 deg C			
Fabricator/Contractor:	Strike Group			
Testing Supervisor:	Duane Learning (TC Energy) / Matt Jones (Strike)			
Comments:	No leaks were observed throughout th	No leaks were observed throughout the duration of this test.		

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Hydrostatic Test Details			
Test Number:	STRIKE_2021S78		
Description:	High Pressure Gas System Field Piping		
Spool Control Numbers:	3342, 3343, 3352, 3355		
Reference Drawings:	0629-01-B7-04-HG-0114-01 Rev. 00 0629-01-B7-04-HG-0119-01 Rev. 00 0629-01-B7-02-005 Rev. 02 0629-01-B7-05-100 Rev. 01		
TC Energy Representative:	Duane Learning		
Pipe Information:	Line Numbers: B7-24-D1-HG-114-N B7-24-D1-HG-119-N		
	Pipe Data: NPS 12 x 10.31 mm WT, Grade 359 CAT II (M45C) NPS 24 x 15.90 mm WT, Grade 414 CAT II (M45C)		
Design Pressure:	9,560 kPa		
Test Achieved Pressure:	Theoretical Minimum: 14,340 kPa(g)	Theoretical Maximum: 15,040 kPa(g)	
	Actual Minimum: 14,413 kPa(g) Actual Maximum: 15,007 kPa(g)		
Test Medium:	Water/Methanol (60/40 mix)		
Test Location:	Strike Crossfield Mod Yard 1 – 1027 Western Drive		
Test Date and Time:	February 16, 2021 – 11:11 – 12:11 hours		
Test Ambient Temperature:	-7.3 deg C – -4.3 deg C		
Fabricator/Contractor:	Strike Group		
Testing Supervisor:	Duane Learning (TC Energy) / Matt Jones (Strike)		
Comments:	No leaks were observed throughout th	e duration of this test.	

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Hydrostatic Test Details			
Test Number:	STRIKE_2021S79		
Description:	High Pressure Gas System Field Piping		
Spool Control Numbers:	3340, 3341, 3350, 3351		
Reference Drawings:	0629-01-B7-04-HG-0113-01 Rev. 00 0629-01-B7-04-HG-0118-01 Rev. 00 0629-01-B7-02-005 Rev. 02 0629-01-B7-05-100 Rev. 01		
TC Energy Representative:	Duane Learning		
Pipe Information:	Line Numbers: B7-24-D1-HG-113-N B7-24-D1-HG-118-N		
	Pipe Data: NPS 12 x 10.31 mm WT, Grade 359 CAT II (M45C) NPS 24 x 15.90 mm WT, Grade 414 CAT II (M45C)		
Design Pressure:	9,560 kPa		
Test Achieved Pressure:	Theoretical Minimum: 14,340 kPa(g)	Theoretical Maximum: 15,040 kPa(g)	
	Actual Minimum: 14,372 kPa(g)	Actual Maximum: 14,953 kPa(g)	
Test Medium:	Water/Methanol (60/40 mix)		
Test Location:	Strike Crossfield Mod Yard 1 – 1027 Western Drive		
Test Date and Time:	February 20, 2021 – 11:04 – 12:04 hours		
Test Ambient Temperature:	1.9 deg C – 2.9 deg C		
Fabricator/Contractor:	Strike Group		
Testing Supervisor:	Duane Learning (TC Energy) / Matt Jones (Strike)		
Comments:	No leaks were observed throughout the duration of this test.		

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Hydrostatic Test Details			
Test Number:	STRIKE_2021S80		
Description:	High Pressure Gas System Field Piping		
Spool Control Numbers:	3338, 3339, 3348, 3349		
Reference Drawings:	0629-01-B7-04-HG-0112-01 Rev. 00 0629-01-B7-04-HG-0117-01 Rev. 00 0629-01-B7-02-005 Rev. 02 0629-01-B7-05-100 Rev. 01		
TC Energy Representative:	Duane Learning		
Pipe Information:	Line Numbers: B7-24-D1-HG-112-N B7-24-D1-HG-117-N		
	Pipe Data: NPS 12 x 10.31 mm WT, Grade 359 CAT II (M45C) NPS 24 x 15.90 mm WT, Grade 414 CAT II (M45C)		
Design Pressure:	9,560 kPa		
Test Achieved Pressure:	Theoretical Minimum: 14,340 kPa(g)	Theoretical Maximum: 15,040 kPa(g)	
	Actual Minimum: 14,415 kPa(g)	Actual Maximum: 14,673 kPa(g)	
Test Medium:	Water/Methanol (60/40 mix)		
Test Location:	Strike Crossfield Mod Yard 1 – 1027 Western Drive		
Test Date and Time:	February 23, 2021 – 11:50 – 12:50 hours		
Test Ambient Temperature:	0.9 deg C – 2.8 deg C		
Fabricator/Contractor:	Strike Group		
Testing Supervisor:	Duane Learning (TC Energy) / Matt Jones (Strike)		
Comments:	No leaks were observed throughout th	e duration of this test.	

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Hydrostatic Test Details			
Test Number:	STRIKE_2021S83		
Description:	Gas Vent System Field Piping		
Spool Control Numbers:	1455, 1456, 1458, 1459		
Reference Drawings:	0629-01-B7-04-GV-0229-04 Rev. 01 0629-01-B7-04-GV-0229-05 Rev. 01 0629-01-B7-04-GV-0230-04 Rev. 01 0629-01-B7-04-GV-0230-05 Rev. 01 0629-01-B7-02-601 Rev. 04 0629-01-B7-05-200 Rev. 03		
TC Energy Representative:	Liam Megoran		
Pipe Information:	Line Numbers: B7-2-SA62S-GV-229-N B7-2-SA62S-GV-230-N Pipe Data:		
	NPS 1/2 x 3.73 mm WT, A312-TP316/316L NPS 2 x 3.91 mm WT, A312-TP316/316L		
Design Pressure:	1,035 kPa		
Test Achieved Pressure:	Theoretical Minimum: 1,555 kPa(g)	Theoretical Maximum: 2,255 kPa(g)	
	Actual Minimum: 1,623 kPa(g)	Actual Maximum: 1,739 kPa(g)	
Test Medium:	Water		
Test Location:	Strike Crossfield Mod Yard 1 – 1027 Western Drive		
Test Date and Time:	March 19, 2021 – 08:45 – 09:45 hours		
Test Ambient Temperature:	17.9 deg C – 18.6 deg C		
Fabricator/Contractor:	Strike Group		
Testing Supervisor:	Liam Megoran (TC Energy) / Matt Jones (Strike)		
Comments:	No leaks were observed throughout th	e duration of this test.	

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Hydrostatic Test Details			
Test Number:	STRIKE_2021S84		
Description:	Fuel Gas System		
	Field Piping		
Spool Control Numbers:	3436, 3582, 3583		
Reference Drawings:	0629-01-B7-04-FG-0726-01 Rev. 01		
	0629-01-B7-02-601 Rev. 04		
	0629-01-B7-05-700 Rev. 03		
TC Energy Representative:	Liam Megoran		
Pipe Information:	Line Numbers:		
	B7-1-D1S-FG-726-N		
	Pipe Data:		
	NPS 1 x 4.55 mm WT, A312-TP316/316L		
Design Pressure:	7,480 kPa		
Test Achieved Pressure:	Theoretical Minimum: 11,220 kPa(g)	Theoretical Maximum: 11,920 kPa(g)	
	Actual Minimum: 11,405 kPa(g)	Actual Maximum: 11,514 kPa(g)	
Test Medium:	Water		
Test Location:	Strike Crossfield Mod Yard 1 – 1027 V	Vestern Drive	
Test Date and Time:	March 22, 2021 – 9:18 – 10:18 hours		
Test Ambient Temperature:	18.3 deg C – 19.4 deg C		
Fabricator/Contractor:	Strike Group		
Testing Supervisor:	Liam Megoran (TC Energy) / Matt Jones (Strike)		
Comments:	No leaks were observed throughout the duration of this test.		

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System / Fuel Gas System Field Piping / D-D-05 Spool Control Numbers: 1022, 1127, 1134, 1146, 1476, 3305, 3310, 3311, 3316, 3317, 3319, 3320, 3321, 3322, 3383, 3384, 33646, 3647, 3648 Reference Drawings: 0629-01-B7-04-FG-0700-03 Rev. 00 0629-01-B 0629-01-B7-04-GV-0215-02 Rev. 01 0629-01-B 0629-01-B7-04-GV-0218-04 Rev. 01 0629-01-B 0629-01-B7-04-HC-0250-01 Rev. 01 0629-01-B	ydrocarbon Condensate		
Description: High Pressure Gas System / Gas Vent System / Hy System / Fuel Gas System Field Piping / D-D-05 Spool Control Numbers: 1022, 1127, 1134, 1146, 1476, 3305, 3310, 3311, 3316, 3317, 3319, 3320, 3321, 3322, 3383, 3384, 33646, 3647, 3648 Reference Drawings: 0629-01-B7-04-FG-0700-03 Rev. 00 0629-01-B 0629-01-B7-04-GV-0215-02 Rev. 01 0629-01-B 0629-01-B7-04-GV-0218-04 Rev. 01 0629-01-B 0629-01-B7-04-HC-0250-01 Rev. 01 0629-01-B	ydrocarbon Condensate		
Spool Control Numbers: 1022, 1127, 1134, 1146, 1476, 3305, 3310, 3311, 3316, 3317, 3319, 3320, 3321, 3322, 3383, 3384, 33646, 3647, 3648 Reference Drawings: 0629-01-B7-04-FG-0700-03 Rev. 00 0629-01-B 0629-01-B7-04-GV-0215-02 Rev. 01 0629-01-B 0629-01-B7-04-GV-0218-04 Rev. 01 0629-01-B 0629-01-B7-04-HC-0250-01 Rev. 01 0629-01-B	High Pressure Gas System / Gas Vent System / Hydrocarbon Condensate System / Fuel Gas System		
0629-01-B7-04-GV-0215-02 Rev. 01 0629-01-B 0629-01-B7-04-GV-0218-04 Rev. 01 0629-01-B 0629-01-B7-04-HC-0250-01 Rev. 01 0629-01-B	1022, 1127, 1134, 1146, 1476, 3305, 3310, 3311, 3312, 3313, 3314, 3315, 3316, 3317, 3319, 3320, 3321, 3322, 3383, 3384, 3385, 3386, 3440, 3645,		
0629-01-B7-04-HC-0250-05 Rev. 00 0629-01-B 0629-01-B7-04-HC-0250-07 Rev. 00 0629-01-B 0629-01-B7-04-HG-0150-02 Rev. 00 0629-01-B 0629-01-B7-04-HG-0152-02 Rev. 00 0629-01-B 0629-01-B7-04-HG-0153-02 Rev. 01 0629-01-B 0629-01-B7-04-HG-0156-01 Rev. 00 0629-01-B	67-04-HG-0182-02 Rev. 00 67-04-HG-0182-03 Rev. 00 67-04-HG-0183-02 Rev. 01 67-04-HG-0183-04 Rev. 00 67-04-HG-0185-02 Rev. 00 67-04-HG-0187-01 Rev. 00 67-04-HG-0188-01 Rev. 00 67-02-003 Rev. 02 67-02-004 Rev. 03 67-02-100 Rev. 02 67-02-101 Rev. 02 67-02-102 Rev. 03		
0629-01-B7-04-HG-0158-04 Rev. 00 0629-01-B 0629-01-B7-04-HG-0180-01 Rev. 00 0629-01-B 0629-01-B7-04-HG-0180-02 Rev. 01 0629-01-B 0629-01-B7-04-HG-0180-03 Rev. 00 0629-01-B 0629-01-B7-04-HG-0182-01 Rev. 00	67-02-102 Rev. 03 67-05-101 Rev. 03 67-05-200 Rev. 03 67-05-250 Rev. 02 67-05-700 Rev. 03		
	IC 402 N		
B7-2-D1-HG-150-N B7-3-D1-HG-152-N B7-2-D1-H B7-2-D1-HG-153-N B7-2-D1-H B7-3-D1-HG-156-N B7-6-D1-G B7-2-D1-HG-158-N B7-2-D1-H B7-3-D1-HG-180-N B7-2-D1-H B7-2-D1-HG-182-N B7-4-D1-F Pipe Data: NPS 1 x 4.55 mm WT, A106 Grade B NPS 2 x 8.74 mm WT, A333 Grade 6 NPS 3 x 5.49 mm WT, Grade 359 CAT II (M45C) NPS 4 x 6.02 mm WT, Grade 359 CAT II (M45C) NPS 6 x 7.11 mm WT, Grade 359 CAT II (M45C)	B7-3-D1-HG-152-N B7-2-D1-HG-187-N B7-2-D1-HG-153-N B7-3-D1-HG-156-N B7-3-D1-HG-158-N B7-2-D1-HG-158-N B7-3-D1-HG-188-N B7-3-D1-HG-180-N B7-2-D1-HG-250-I2E B7-2-D1-HG-182-N B7-4-D1-FG-700-N Pipe Data: NPS 1 x 4.55 mm WT, A106 Grade B NPS 2 x 8.74 mm WT, A333 Grade 6 NPS 3 x 5.49 mm WT, Grade 359 CAT II (M45C) NPS 4 x 6.02 mm WT, Grade 359 CAT II (M45C)		
	9,560 kPa		
	I Maximum: 15,040 kPa(g) :imum: 14,655 kPa(g)		
Test Medium: Water	Water		
Test Location: Strike Crossfield Mod Yard 1 – 1027 Western Drive	Strike Crossfield Mod Yard 1 – 1027 Western Drive		
Test Date and Time: February 9, 2021 – 14:08 – 15:09 hours			
Test Ambient 15.5 deg C – 16.2 deg C Temperature:			
Fabricator/Contractor: Strike Group	Strike Group		
Testing Supervisor: Duane Learning (TC Energy) / Matt Jones (Strike)			
	No leaks were observed throughout the duration of this test.		

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	Hydrostatic Test Details		
Test Number:	STRIKE_2021S91		
Description:	Gas Vent System Field Piping		
Spool Control Numbers:	1467, 1471, 1472, 1484, 1485, 3398, 3	3399	
Reference Drawings:	0629-01-B7-04-GV-0217-02 Rev. 00 0629-01-B7-04-GV-0217-03 Rev. 00 0629-01-B7-04-GV-0224-01 Rev. 00 0629-01-B7-04-GV-0224-02 Rev. 00 0629-01-B7-04-GV-0224-04 Rev. 00 0629-01-B7-04-GV-0224-05 Rev. 00 0629-01-B7-04-GV-0234-02 Rev. 00 0629-01-B7-02-101 Rev. 02 0629-01-B7-02-102 Rev. 03		
TC Energy Representative:	Duane Learning		
Pipe Information:	Line Numbers: B7-3-A1-GV-217-N B7-3-A1-GV-224-N B7-6-A1-GV-234-N Pipe Data: NPS 1/2 x 3.73 mm WT, A106 Grade B		
	NPS 3 x 5.49 mm WT, A333 Grade 6		
Design Pressure:	1,800 kPa		
Test Achieved Pressure:	Theoretical Minimum: 2,700 kPa(g)	Theoretical Maximum: 3,000 kPa(g)	
	Actual Minimum: 2,852 kPa(g)	Actual Maximum: 2,920 kPa(g)	
Test Medium:	Water		
Test Location:	Strike Crossfield Mod Yard 1 – 1027 Western Drive		
Test Date and Time:	February 25, 2021 – 12:31 – 13:31 hours		
Test Ambient Temperature:	18.2 deg C – 20.3 deg C		
Fabricator/Contractor:	Strike Group		
Testing Supervisor:	Duane Learning (TC Energy) / Matt Jones (Strike)		
Comments:	No leaks were observed throughout th	e duration of this test.	

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Hydrostatic Test Details		
Test Number:	STRIKE_2021S93	
Description:	High Pressure Gas System Field Piping / D-D-05	
Spool Control Numbers:	810, 1005, 1006, 2405, 3358	
Reference Drawings:	0629-01-B7-04-HG-0107-04 Rev. 01 0629-01-B7-04-HG-0108-04 Rev. 01 0629-01-B7-04-HG-0110-01 Rev. 00 0629-01-B7-04-HG-0123-02 Rev. 01 0629-01-B7-02-003 Rev. 02 0629-01-B7-02-004 Rev. 03 0629-01-B7-02-005 Rev. 02 0629-01-B7-02-006 Rev. 02 0629-01-B7-05-100 Rev. 01	
TC Energy Representative:	Duane Learning	
Pipe Information:	Line Numbers: B7-48-D1-HG-107-N B7-48-D1-HG-108-N B7-48-D1-HG-110-N B7-48-D1-HG-123-N	
	Pipe Data: NPS 36 x 19.70 mm WT, Grade 483 CAT II (M45C) NPS 48 x 26.20 mm WT, Grade 483 CAT II (M45C)	
Design Pressure:	9,560 kPa	
Test Achieved Pressure:	Theoretical Minimum: 14,340 kPa(g)	Theoretical Maximum: 15,040 kPa(g)
	Actual Minimum: 14,415 kPa(g)	Actual Maximum: 14,598 kPa(g)
Test Medium:	Water/Methanol (60/40 mix)	
Test Location:	Strike Crossfield Mod Yard 1 – 1027 Western Drive	
Test Date and Time:	March 9, 2021 – 12:03 – 13:03 hours	
Test Ambient Temperature:	3.7 deg C – 5.3 deg C	
Fabricator/Contractor:	Strike Group	
Testing Supervisor:	Duane Learning (TC Energy) / Matt Jones (Strike)	
Comments:	No leaks were observed throughout the duration of this test.	

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Hydrostatic Test Details		
Test Number:	STRIKE_2021S94	
Description:	High Pressure Gas System Field Piping	
Spool Control Numbers:	3359, 3364, 3643, 3644	
Reference Drawings:	0629-01-B7-04-HG-0107-08 Rev. 00 0629-01-B7-04-HG-0108-02 Rev. 01 0629-01-B7-04-HG-0162-01 Rev. 01 0629-01-B7-04-HG-0162-02 Rev. 00 0629-01-B7-02-004 Rev. 03 B1-0629-00-108 Rev. 03 0629-01-B7-05-100 Rev. 01 0629-01-B7-05-101 Rev. 03	
TC Energy Representative:	Liam Megoran	
Pipe Information:	Line Numbers: B7-10-D1-HG-162-N B7-48-D1-HG-107-N B7-48-D1-HG-108-N Pipe Data: NPS 10 x 9.27 mm WT, Grade 359 CAT II (M45C) NPS 36 x 19.7 mm WT, Grade 483 CAT II (M45C)	
Design Pressure:	9,560 kPa(g)	
Test Achieved Pressure:	Theoretical Minimum: 14,340 kPa(g)	Theoretical Maximum: 15,040 kPa(g)
	Actual Minimum: 14,421 kPa(g)	Actual Maximum: 14,662 kPa(g)
Test Medium:	Water/Methanol (60/40 mix)	
Test Location:	Strike Crossfield Mod Yard 1 – 1027 Western Drive	
Test Date and Time:	March 16, 2021 – 11:10 – 12:10 hours	
Test Ambient Temperature:	3.9 – 5.5 deg C	
Fabricator/Contractor:	Strike Group	
Testing Supervisor:	Liam Megoran (TC Energy) / Matt Jones (Strike)	
Comments:	No leaks were observed throughout the duration of this test	

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Hydrostatic Test Details		
Test Number:	STRIKE_2021S95	
Description:	Fuel Gas System Field Piping	
Spool Control Numbers:	3429, 3437	
Reference Drawings:	0629-01-B7-04-FG-0721-03 Rev. 00 0629-01-B7-04-FG-0723-01 Rev. 01 0629-01-B7-02-102 Rev. 03 0629-01-B7-05-700 Rev. 03	
TC Energy Representative:	Duane Learning	
Pipe Information:	Line Numbers: B7-4-D1-FG-721-N B7-1-D1-FG-723-N	
	Pipe Data: NPS 1 x 4.55 mm WT, A106 Grade B NPS 4 x 6.02 mm WT, Grade 359 CAT II (M45C)	
Design Pressure:	6,274 kPa	
Test Achieved Pressure:	Theoretical Minimum: 9,415 kPa(g)	Theoretical Maximum: 10,115 kPa(g)
	Actual Minimum: 9,705 kPa(g)	Actual Maximum: 9,772 kPa(g)
Test Medium:	Water	
Test Location:	Strike Crossfield Mod Yard 1 – 1027 Western Drive	
Test Date and Time:	February 25, 2021 – 9:16 – 10:16 hours	
Test Ambient Temperature:	17.0 deg C – 18.1 deg C	
Fabricator/Contractor:	Strike Group	
Testing Supervisor:	Duane Learning (TC Energy) / Matt Jones (Strike)	
Comments:	No leaks were observed throughout the duration of this test.	

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Hydrostatic Test Details		
Test Number:	STRIKE_2021S96	
Description:	Fuel Gas System	
	Field Piping	
Spool Control Numbers:	3430, 3431, 3432, 3433, 3434, 3435,	3580, 3581
Reference Drawings:	0629-01-B7-04-FG-0724-01 Rev. 02	
	0629-01-B7-04-FG-0724-02 Rev. 01	
	0629-01-B7-04-FG-0725-01 Rev. 01 0629-01-B7-02-102 Rev. 03	
	0629-01-B7-02-102 Rev. 03	
	0629-01-B7-05-700 Rev. 03	
TC Energy Representative:	Liam Megoran	
Pipe Information:	Line Numbers:	
	B7-4-D1S-FG-724-N	
	B7-1-D1S-FG-725-N	
	Pipe Data: NPS 1 x 4.55 mm WT, A312-TP316/316L	
	NPS 2 x 5.54 mm WT, A312-TP316/316L	
	NPS 4 x 6.02 mm WT, A312-TP316/316L	
Design Pressure:	6,274 kPa	
Test Achieved Pressure:	Theoretical Minimum: 9,415 kPa(g)	Theoretical Maximum: 10,115 kPa(g)
	Actual Minimum: 9,612 kPa(g)	Actual Maximum: 9,801 kPa(g)
Test Medium:	Water	
Test Location:	Strike Crossfield Mod Yard 1 – 1027 Western Drive	
Test Date and Time:	March 19, 2021 – 12:18 – 13:18 hours	
Test Ambient Temperature:	19.1 deg C – 20.4 deg C	
Fabricator/Contractor:	Strike Group	
Testing Supervisor:	Liam Megoran (TC Energy) / Matt Jones (Strike)	
Comments:	No leaks were observed throughout the duration of this test.	

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	Hydrostatic Test Details		
Test Number:	STRIKE_2021S97		
Description:	Gas Vent System Field Piping		
Spool Control Numbers:	1464, 1465, 3387, 3388, 3555		
Reference Drawings:	0629-01-B7-04-GV-0233-01 Rev. 00 0629-01-B7-04-GV-0233-02 Rev. 00 0629-01-B7-04-GV-0234-04 Rev. 00 0629-01-B7-04-GV-0234-05 Rev. 00 0629-01-B7-02-601 Rev. 04 0629-01-B7-05-200 Rev. 03		
TC Energy Representative:	Duane Learning		
Pipe Information:	Line Numbers: B7-2-D1-GV-233-N		
	Pipe Data: NPS ½ x 3.73 mm WT, A106 Grade B NPS 1 x 4.55 mm WT, A106 Grade B NPS 2 x 8.74 mm WT, A333 Grade 6		
Design Pressure:	6,274 kPa		
Test Achieved Pressure:	Theoretical Minimum: 9,415 kPa(g)	Theoretical Maximum: 9,715 kPa(g)	
	Actual Minimum: 9,472 kPa(g)	Actual Maximum: 9,607 kPa(g)	
Test Medium:	Water	Water	
Test Location:	Strike Crossfield Mod Yard 1 – 1027 Western Drive		
Test Date and Time:	February 26, 2021 – 09:17 – 10:17 hours		
Test Ambient Temperature:	19.6 deg C – 20.3 deg C		
Fabricator/Contractor:	Strike Group		
Testing Supervisor:	Duane Learning (TC Energy) / Matt Jones (Strike)		
Comments:	No leaks were observed throughout the duration of this test.		

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Hydrostatic Test Details		
Test Number:	STRIKE_2021S102	
Description:	Hydrocarbon Condensate System Field Piping	
Spool Control Numbers:	3352, 3353, 3354, 3379, 3380, 3382	
Reference Drawings:	0629-01-B7-04-HC-0250-09 Rev. 00 0629-01-B7-04-HC-0252-01 Rev. 01 0629-01-B7-04-HC-0252-02 Rev. 01 0629-01-B7-02-003 Rev. 02 0629-01-B7-05-250 Rev. 02	
TC Energy Representative:	Jack McCartney	
Pipe Information:	Line Numbers: B7-2-D1-HC-250-I2E B7-4-D1-HC-252-I2E	
	Pipe Data: NPS 2 x 8.74 mm WT, A333 Grade 6 NPS 4 x 6.02 mm WT, Grade 359 CAT II (M45C)	
Design Pressure:	9,560 kPa	
Test Achieved Pressure:	Theoretical Minimum: 14,340 kPa(g)	Theoretical Maximum: 15,040 kPa(g)
	Actual Minimum: 14,417 kPa(g)	Actual Maximum: 14,990 kPa(g)
Test Medium:	Water/Methanol (60/40 mix)	
Test Location:	Didsbury Compressor Station	
Test Date and Time:	April 20, 2021 – 10:32 – 11:32 hours	
Test Ambient Temperature:	5.3 deg C – 10.0 deg C	
Fabricator/Contractor:	Strike Group	
Testing Supervisor:	Jack McCartney (TC Energy) / Tatenda N Bvuma (Strike)	
Comments:	No leaks were observed throughout the duration of this test.	

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Hydrostatic Test Details			
Test Number:	STRIKE_2021S108		
Description:	High Pressure Gas System Field Piping		
Spool Control Numbers:	2005, 2006, 2007, 2008		
Reference Drawings:	0629-01-B7-04-HG-0106-12 Rev. 02 0629-01-B7-04-HG-0107-01 Rev. 00 0629-01-B7-02-003 Rev. 02 0629-01-B7-05-100 Rev. 01		
TC Energy Representative:	Jack McCartney		
Pipe Information:	Line Numbers: B7-48-D1-HG-106-N B7-48-D1-HG-107-N		
	Pipe Data: NPS 3 x 5.49mm WT, Grade 359 CAT II (M45C) NPS 48 x 26.20 mm WT, Grade 483 CAT II (M45C)		
Design Pressure:	9,560 kPa		
Test Achieved Pressure:	Theoretical Minimum: 14,340 kPa(g)	Theoretical Maximum: 15,040 kPa(g)	
	Actual Minimum: 14,454 kPa(g)	Actual Maximum: 14,827 kPa(g)	
Test Medium:	Water/Methanol Mix (60/40 Mix)		
Test Location:	Didsbury Compressor Station		
Test Date and Time:	April 17, 2021 – 16:19 – 17:19 hours		
Test Ambient Temperature:	20.0 deg C – 22.0 deg C		
Fabricator/Contractor:	Strike Group	Strike Group	
Testing Supervisor:	Jack McCartney (TC Energy) / Tatenda Bvuma (Strike)		
Comments:	No leaks were observed throughout th	e duration of this test.	

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Hydrostatic Test Details			
Test Number:	STRIKE_2021S109		
Description:	Gas Vent System Module D-F-01/D-F-02/D-F-03/D-F-04		
Spool Control Numbers:	4, 5, 6, 107, 108, 109, 111, 204, 205, 206	5, 307, 310, 311	
Reference Drawings:	0629-01-00-04-GV-0211-01 Rev. 01 0629-01-00-04-GV-0212-01 Rev. 00 0629-01-00-04-GV-0213-01 Rev. 00 0629-01-00-04-GV-0214-01 Rev. 01 0629-01-00-04-GV-0235-01 Rev. 00 0629-01-00-04-GV-0236-01 Rev. 00 0629-01-B7-02-001 Rev. 04 0629-01-B7-02-002 Rev. 04 0629-01-B7-05-200 Rev. 03		
TC Energy Representative:	Jack McCartney		
Pipe Information:	Line Numbers: B7-1.5-D1-GV-211-N B7-1.5-D1-GV-212-N B7-1.5-D1-GV-213-N B7-1.5-D1-GV-235-N B7-1.5-D1-GV-236-N Pipe Data: NPS 1.5 x 7.14 mm WT, ASTM A106 Grade B		
Design Pressure:	9560 kPa		
Test Achieved Pressure:	Theoretical Minimum: 14340 kPa(g)	Theoretical Maximum: 15040 kPa(g)	
	Actual Minimum: 14451 kPa(g)	Actual Maximum: 14747 kPa(g)	
Test Medium:	Water/Methanol (60/40 mix)	Water/Methanol (60/40 mix)	
Test Location:	Didsbury Compressor Station		
Test Date and Time:	April 19, 2021 – 9:46 – 10:46 hours		
Test Ambient Temperature:	12.6 deg C – 14.6 deg C		
Fabricator/Contractor:	Strike Group		
Testing Supervisor:	Jack McCartney (TC Energy) / Cherish Little (Strike)		
Comments:	No leaks were observed throughout the duration of this test.		

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Hydrostatic Test Details		
Test Number:	STRIKE_2021S110	
Description:	Hydrocarbon Condensate System	
	Field Piping	
Spool Control Numbers:	3381	
Reference Drawings:	0629-01-B7-04-HC-0252-02 Rev. 01	
	0629-01-B7-02-003 Rev. 02	
	0629-01-B7-05-250 Rev. 02	
TC Energy Representative:	Jack McCartney	
Pipe Information:	Line Numbers:	
	B7-4-A1-HC-253-I2E	
	Pipe Data:	
	N/A	
Design Pressure:	1,800 kPa	
Test Achieved Pressure:	Theoretical Minimum: 2,700 kPa(g)	Theoretical Maximum: 3,000 kPa(g)
	Actual Minimum: 2,700 kPa(g)	Actual Maximum: 2,950 kPa(g)
Test Medium:	Water/Methanol (60/40 mix)	
Test Location:	Didsbury Compressor Station	
Test Date and Time:	April 17, 2021 – 12:16 – 13:16 hours	
Test Ambient	19.0 deg C – 21.0 deg C	
Temperature:		
Fabricator/Contractor:	Strike Group	
Testing Supervisor:	Jack McCartney (TC Energy) / Cherish Little (Strike)	
Comments:	No leaks were observed throughout the duration of this test.	

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Hydrostatic Test Details		
Test Number:	STRIKE_2021S111	
Description:	High Pressure Gas System Field Piping / D-F-01 / D-F-02	
Spool Control Numbers:	7, 8, 9, 112, 113, 114, 115, 116, 117, 3326, 3328, 3329, 3330, 3331, 3332, 3333, 3334, 3335, 3336, 3337, 3537, 3538, 3539, 3540, 3541, 3542, 3543, 3544, 3545	
Reference Drawings:	0629-01-B7-04-HG-0123-11 Rev. 00 0629-01-B7-04-HG-0123-12 Rev. 01 0629-01-B7-04-HG-0123-13 Rev. 01 0629-01-B7-04-HG-0134-02 Rev. 01 0629-01-B7-04-HG-0135-02 Rev. 01 0629-01-B7-04-HG-0136-01 Rev. 02 0629-01-B7-04-HG-0136-02 Rev. 01 0629-01-B7-04-HG-0137-01 Rev. 02 0629-01-B7-04-HG-0137-02 Rev. 01 0629-01-B7-04-HG-0139-01 Rev. 00 0629-01-B7-04-HG-0139-02 Rev. 00	0629-01-B7-04-HG-0139-03 Rev. 01 0629-01-B7-04-HG-0141-01 Rev. 00 0629-01-B7-04-HG-0141-02 Rev. 00 0629-01-B7-04-HG-0141-03 Rev. 01 0629-01-B7-04-HG-0143-01 Rev. 00 0629-01-B7-04-HG-0143-02 Rev. 00 0629-01-B7-04-HG-0143-03 Rev. 01 0629-01-B7-02-002 Rev. 04 0629-01-B7-02-007 Rev. 02 0629-01-B7-05-100 Rev. 01 0629-01-B7-05-101 Rev. 03
TC Energy Representative:	Duane Learning	
Pipe Information:	Line Numbers: B7-48-D1-HG-123-N B7-16-D1-HG-134-N B7-16-D1-HG-135-N B7-16-D1-HG-136-N B7-16-D1-HG-137-N B7-3-D1-HG-139-N B7-3-D1-HG-141-N B7-3-D1-HG-143-N Pipe Data: NPS 3 x 5.49mm WT, Grade 359 CAT II (M45C) NPS 16 x 14.30mm WT, Grade 414 CAT II (M45C) NPS 30 x 16.40mm WT, Grade 483 CAT II (M45C) NPS 42 x 23.00mm WT, Grade 483 CAT II (M45C) NPS 48 x 26.20 mm WT, Grade 483 CAT II (M45C)	
Design Pressure:	9,560 kPa	
Test Achieved Pressure:	Theoretical Minimum: 14,340 kPa(g)	Theoretical Maximum: 15,040 kPa(g)
	Actual Minimum: 14,454 kPa(g)	Actual Maximum: 14,806 kPa(g)
Test Medium:	Water/Methanol Mix (60/40 Mix)	
Test Location:	Didsbury Compressor Station	
Test Date and Time:	April 26, 2021 – 11:54 – 12:54 hours	
Test Ambient Temperature:	10.3 deg C – 11.6 deg C	
Fabricator/Contractor:	Strike Group	
Testing Supervisor:	Duane Learning (TC Energy) / Tatenda Bvuma (Strike)	
Comments:	No leaks were observed throughout the duration of this test.	

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Hydrostatic Test Details			
Test Number:	STRIKE_2021S114		
Description:	High Pressure Gas System Field Piping / D-F-04 / D-F-03		
Spool Control Numbers:	207, 208, 209, 312, 313, 314, 315, 316, 317, 3365, 3366, 3367, 3368, 3369, 3370, 3371, 3372, 3373		
Reference Drawings:	0629-01-B7-04-HG-0101-01 Rev. 00 0629-01-B7-04-HG-0101-02 Rev. 00 0629-01-B7-04-HG-0101-03 Rev. 01 0629-01-B7-04-HG-0103-01 Rev. 00 0629-01-B7-04-HG-0103-02 Rev. 00 0629-01-B7-04-HG-0103-03 Rev. 01 0629-01-B7-04-HG-0105-01 Rev. 00 0629-01-B7-04-HG-0105-02 Rev. 00 0629-01-B7-04-HG-0105-03 Rev. 01 0629-01-B7-04-HG-0106-01 Rev. 01 0629-01-B7-04-HG-0106-02 Rev. 01 0629-01-B7-04-HG-0106-03 Rev. 01 0629-01-B7-04-HG-0106-04 Rev. 00 0629-01-B7-04-HG-0106-05 Rev. 00 0629-01-B7-02-001 Rev. 04 0629-01-B7-02-003 Rev. 02 0629-01-B7-02-003 Rev. 02		
TC Energy Representative:	Duane Learning		
Pipe Information:	Line Numbers: B7-3-D1-HG-101-N B7-3-D1-HG-103-N B7-3-D1-HG-105-N B7-48-D1-HG-106-N Pipe Data: NPS 3 x 5.49 mm WT, CSA Z245.1 Grade 359 CAT II (M45C) NPS 30 x 16.40 mm WT, CSA Z245.1 Grade 483 CAT II (M45C) NPS 42 x 23.00 mm WT, CSA Z245.1 Grade 483 CAT II (M45C)		
Design Pressure:	NPS 48 x 26.20 mm WT, CSA Z245.1 Grade 483 CAT II (M45C) 9,560 kPa		
Test Achieved Pressure:	Theoretical Minimum: 14,340 kPa(g)	Theoretical Maximum: 15,040 kPa(g)	
	Actual Minimum: 14,495 kPa(g)	Actual Maximum: 14,845 kPa(g)	
Test Medium:	Water/Methanol (60/40 mix)		
Test Location:	Didsbury Compressor Station		
Test Date and Time:	April 29, 2021 – 13:56 – 14:56 hours		
Test Ambient Temperature:	20.9 deg C – 22.3 deg C		
Fabricator/Contractor:	Strike Group		
Testing Supervisor:	Duane Learning (TC Energy) / Cherish Little (Strike)		
Comments:	No leaks were observed throughout the duration of this test.		

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Hydrostatic Test Details			
Test Number:	STRIKE_2021S115		
Description:	Fuel Gas System		
	Field Piping		
Spool Control Numbers:	3438, 3439, 3584, 3585		
Reference Drawings:	0629-01-B7-04-FG-0721-04 Rev. 00		
	0629-01-B7-04-FG-0721-05 Rev. 00		
	0629-01-B7-02-102 Rev. 03		
	0629-01-B7-05-700 Rev. 03		
TC Energy Representative:	Duane Learning		
Pipe Information:	Line Numbers:		
	B7-4-D1-FG-721-N		
	Pipe Data:		
	NPS 4 x 6.02 mm WT, Grade 359 CAT II (M45C)		
Design Pressure:	6,274 kPa		
Test Achieved Pressure:	Theoretical Minimum: 9,415 kPa(g)	Theoretical Maximum: 10,115 kPa(g)	
	Actual Minimum: 9,480 kPa(g)	Actual Maximum: 9,726 kPa(g)	
Test Medium:	Water		
Test Location:	Didsbury Compressor Station		
Test Date and Time:	June 3, 2021 – 16:10 – 17:10 hours		
Test Ambient Temperature:	26.0 deg C – 28.3 deg C		
Fabricator/Contractor:	Strike Group	Strike Group	
Testing Supervisor:	Duane Learning (TC Energy) / Mike Karlstrom (Strike)		
Comments:	No leaks were observed throughout th	ne duration of this test.	

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Hydrostatic Test Details		
Test Number:	STRIKE_2021S119	
Description:	High Pressure Gas System Field Piping	
Spool Control Numbers:	3360, 3362, 3363	
Reference Drawings:	0629-01-B7-04-HG-0108-01 Rev. 00 0629-01-B7-04-HG-0107-09 Rev. 01 0629-01-B7-04-HG-0107-10 Rev. 00 0629-01-B7-02-004 Rev. 04 0629-01-B7-05-100 Rev. 01	
TC Energy Representative:	Duane Learning	
Pipe Information:	Line Numbers: B7-48-D1-HG-107-N B7-48-D1-HG-108-N Pipe Data:	
	NPS 36 x 19.70 mm WT, Grade 483 CAT II (M45C)	
Design Pressure:	9,560 kPa	
Test Achieved Pressure:	Theoretical Minimum: 14,340 kPa(g)	Theoretical Maximum: 15,040 kPa(g)
	Actual Minimum: 14,588 kPa(g)	Actual Maximum: 14,618 kPa(g)
Test Medium:	Water	
Test Location:	Didsbury Compressor Station	
Test Date and Time:	June 1, 2021 – 14:24 – 15:24 hours	
Test Ambient Temperature:	21.6 deg C – 23.0 deg C	
Fabricator/Contractor:	Strike Group	
Testing Supervisor:	Duane Learning (TC Energy) / Phil Lough (Strike)	
Comments:	No leaks were observed throughout the duration of this test.	

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Hydrostatic Test Details		
Test Number:	STRIKE_2021S120	
Description:	High Pressure Gas System Field Piping	
Spool Control Numbers:	3301, 3302, 3303, 3304, 3534, 3535, 3536	
Reference Drawings:	0629-01-B7-04-HG-0186-01 Rev. 01 0629-01-B7-04-HG-0186-02 Rev. 01 0629-01-B7-04-HG-0186-03 Rev. 01 0629-01-B7-04-HG-0186-04 Rev. 01 0629-01-B7-02-601 Rev. 04 0629-01-B7-05-100 Rev. 03	
TC Energy Representative:	Duane Learning	
Pipe Information:	Line Numbers: B7-1-SF6S-HG-186-N	
	Pipe Data: NPS 1 x 4.55 mm WT, ASTM A312 Grade 316/316L	
Design Pressure:	15,000 kPa	
Test Achieved Pressure:	Theoretical Minimum: 22,500 kPa(g)	Theoretical Maximum: 23,200 kPa(g)
	Actual Minimum: 22,651 kPa(g)	Actual Maximum: 23,130 kPa(g)
Test Medium:	Water	
Test Location:	Didsbury Compressor Station	
Test Date and Time:	June 4, 2021 – 16:10 – 17:10 hours	
Test Ambient Temperature:	32.9 deg C – 34.0 deg C	
Fabricator/Contractor:	Strike Group	
Testing Supervisor:	Duane Learning (TC Energy) / Jordan Golinowski (Strike)	
Comments:	No leaks were observed throughout the duration of this test.	

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Hydrostatic Test Details		
Test Number:	STRIKE_2021S121	
Description:	Hydrocarbon Condensate System Field Piping	
Spool Control Numbers:	3374, 3375, 3376, 3377, 3378, 3550, 3551	
Reference Drawings:	0629-01-B7-04-HC-0271-01 Rev. 01 0629-01-B7-04-HC-0271-02 Rev. 00 0629-01-B7-04-HC-0271-03 Rev. 00 0629-01-B7-04-HC-0271-04 Rev. 00 0629-01-B7-02-102 Rev. 03 0629-01-B7-05-250 Rev. 02	
TC Energy Representative:	Duane Learning	
Pipe Information:	Line Numbers: B7-1-D1-HC-271-N	
	Pipe Data: NPS 1 x 4.55 mm WT, ASTM A106 Grade B	
Design Pressure:	9,560 kPa	
Test Achieved Pressure:	Theoretical Minimum: 14,340 kPa(g)	Theoretical Maximum: 15,040 kPa(g)
	Actual Minimum: 14,703 kPa(g)	Actual Maximum: 14,781 kPa(g)
Test Medium:	Water	
Test Location:	Didsbury Compressor Station	
Test Date and Time:	June 5, 2021 – 11:55 – 12:55 hours	
Test Ambient Temperature:	12.0 deg C – 12.6 deg C	
Fabricator/Contractor:	Strike Group	
Testing Supervisor:	Duane Learning (TC Energy) / Jordan Golinowski (Strike)	
Comments:	No leaks were observed throughout the duration of this test.	

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Test Number: STRIKE_2021S122 Description: Gas Vent System Field Piping Spool Control Numbers: 3389, 3390, 3391, 3392, 3393, 3394, 3395, 3396, 3397, 3556, 3557, 3558 3559, 3560, 3561, 3562, 3563, 3564 Reference Drawings: 0629-01-B7-04-GV-0225-01 Rev. 01 0629-01-B7-04-GV-0226-01 Rev. 01 0629-01-B7-04-GV-0226-02 Rev. 01 0629-01-B7-04-GV-0229-01 Rev. 01 0629-01-B7-04-GV-0229-02 Rev. 01 0629-01-B7-04-GV-0230-01 Rev. 01 0629-01-B7-04-GV-0230-02 Rev. 01 0629-01-B7-04-GV-0230-02 Rev. 01 0629-01-B7-04-GV-0230-04 Rev. 01 0629-01-B7-04-GV-0230-04 Rev. 01 0629-01-B7-04-GV-0232-01 Rev. 01			
Field Piping \$pool Control Numbers: 3389, 3390, 3391, 3392, 3393, 3394, 3395, 3396, 3397, 3556, 3557, 3558 3559, 3560, 3561, 3562, 3563, 3564 Reference Drawings: 0629-01-B7-04-GV-0225-01 Rev. 01 0629-01-B7-04-GV-0226-02 Rev. 01 0629-01-B7-04-GV-0229-01 Rev. 01 0629-01-B7-04-GV-0229-02 Rev. 01 0629-01-B7-04-GV-0230-01 Rev. 01 0629-01-B7-04-GV-0230-02 Rev. 01 0629-01-B7-04-GV-0230-04 Rev. 01 0629-01-B7-04-GV-0230-04 Rev. 01			
\$\frac{3389, 3390, 3391, 3392, 3393, 3394, 3395, 3396, 3397, 3556, 3557, 3558, 3559, 3560, 3561, 3562, 3563, 3564}{\frac{3569, 3560, 3561, 3562, 3563, 3564}{0629-01-B7-04-GV-0225-01 Rev. 01 0629-01-B7-04-GV-0226-02 Rev. 01 0629-01-B7-04-GV-0229-01 Rev. 01 0629-01-B7-04-GV-0229-02 Rev. 01 0629-01-B7-04-GV-0230-01 Rev. 01 0629-01-B7-04-GV-0230-02 Rev. 01 0629-01-B7-04-GV-0230-02 Rev. 01 0629-01-B7-04-GV-0230-04 Rev. 01 0629-01-B7-04-GV-0230-04 Rev. 01			
3559, 3560, 3561, 3562, 3563, 3564 Reference Drawings: 0629-01-B7-04-GV-0225-01 Rev. 01 0629-01-B7-04-GV-0226-01 Rev. 01 0629-01-B7-04-GV-0226-02 Rev. 01 0629-01-B7-04-GV-0229-01 Rev. 01 0629-01-B7-04-GV-0229-02 Rev. 01 0629-01-B7-04-GV-0230-01 Rev. 01 0629-01-B7-04-GV-0230-02 Rev. 01 0629-01-B7-04-GV-0230-02 Rev. 01	Field Piping		
0629-01-B7-04-GV-0226-01 Rev. 01 0629-01-B7-04-GV-0226-02 Rev. 01 0629-01-B7-04-GV-0229-01 Rev. 01 0629-01-B7-04-GV-0229-02 Rev. 01 0629-01-B7-04-GV-0230-01 Rev. 01 0629-01-B7-04-GV-0230-02 Rev. 01 0629-01-B7-04-GV-0230-04 Rev. 01	3389, 3390, 3391, 3392, 3393, 3394, 3395, 3396, 3397, 3556, 3557, 3558, 3559, 3560, 3561, 3562, 3563, 3564		
0629-01-B7-04-GV-0226-02 Rev. 01 0629-01-B7-04-GV-0229-01 Rev. 01 0629-01-B7-04-GV-0229-02 Rev. 01 0629-01-B7-04-GV-0230-01 Rev. 01 0629-01-B7-04-GV-0230-02 Rev. 01 0629-01-B7-04-GV-0230-04 Rev. 01	0629-01-B7-04-GV-0225-01 Rev. 01		
0629-01-B7-04-GV-0229-01 Rev. 01 0629-01-B7-04-GV-0229-02 Rev. 01 0629-01-B7-04-GV-0230-01 Rev. 01 0629-01-B7-04-GV-0230-02 Rev. 01 0629-01-B7-04-GV-0230-04 Rev. 01			
0629-01-B7-04-GV-0229-02 Rev. 01 0629-01-B7-04-GV-0230-01 Rev. 01 0629-01-B7-04-GV-0230-02 Rev. 01 0629-01-B7-04-GV-0230-04 Rev. 01			
0629-01-B7-04-GV-0230-01 Rev. 01 0629-01-B7-04-GV-0230-02 Rev. 01 0629-01-B7-04-GV-0230-04 Rev. 01			
0629-01-B7-04-GV-0230-02 Rev. 01 0629-01-B7-04-GV-0230-04 Rev. 01			
0629-01-B7-04-GV-0230-04 Rev. 01			
0629-01-B7-04-GV-0232-01 Rev. 01			
0629-01-B7-04-GV-0232-02 Rev. 01			
0629-01-B7-02-600 Rev. 03	0629-01-B7-02-600 Rev. 03		
0629-01-B7-02-601 Rev. 04			
	0629-01-B7-05-200 Rev. 03		
TC Energy Duane Learning Representative:	Duane Learning		
Pipe Information: Line Numbers: B7-6-SA62S-GV-225-N B7-2-SA62S-GV-226-N B7-2-SA62S-GV-229-N B7-2-SA62S-GV-230-N B7-4-SA62S-GV-232-N	B7-6-SA62S-GV-225-N B7-2-SA62S-GV-226-N B7-2-SA62S-GV-229-N B7-2-SA62S-GV-230-N		
	Pipe Data:		
NPS 2 x 3.91 mm WT, A312-TP316/316L	'		
NPS 4 x 6.04 mm WT, A312-TP316/316L	1		
NPS 6 x 7.11 mm WT, A312-TP316/316L			
Design Pressure: 1,035/1,090 kPa	1,035/1,090 kPa		
Test Achieved Pressure: Theoretical Minimum: 1,635 kPa(g) Theoretical Maximum: 2,255 kPa(g)		
Actual Minimum: 1,964 kPa(g) Actual Maximum: 2,045 kPa(g)			
Test Medium: Water			
Test Location: Didsbury Compressor Station	Didsbury Compressor Station		
Test Date and Time: June 5, 2021 – 15:25 – 16:25 hours	June 5, 2021 – 15:25 – 16:25 hours		
Test Ambient 16.1 deg C – 19.9 deg C Temperature:	16.1 deg C – 19.9 deg C		
Fabricator/Contractor: Strike Group	Strike Group		
Testing Supervisor: Duane Learning (TC Energy) / Tatenda Bvuma (Strike)			
Comments: No leaks were observed throughout the duration of this test.			

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Hydrostatic Test Details		
Test Number:	STRIKE_2021S127	
Description:	Fuel Gas System Field Piping	
Spool Control Numbers:	3432, 3433, 3580, 3581	
Reference Drawings:	0629-01-B7-04-FG-0724-02 Rev. 01 0629-01-B7-04-FG-0725-01 Rev. 01 0629-01-B7-02-601 Rev. 04 0629-01-B7-05-700 Rev. 03	
TC Energy Representative:	Duane Learning	
Pipe Information:	Line Numbers: B7-4-D1S-FG-724-N B7-1-D1S-FG-725-N	
	Pipe Data: NPS 1 x 4.55 mm WT, A312-TP316/316L NPS 2 x 5.54 mm WT, A312-TP316/316L NPS 4 x 6.02 mm WT, A312-TP316/316L	
Design Pressure:	6,274 kPa	
Test Achieved Pressure:	Theoretical Minimum: 9,415 kPa(g)	Theoretical Maximum: 10,115 kPa(g)
	Actual Minimum: 9,555 kPa(g)	Actual Maximum: 9,883 kPa(g)
Test Medium:	Water	
Test Location:	Didsbury Compressor Station	
Test Date and Time:	June 6, 2021 – 13:15 – 14:15 hours	
Test Ambient Temperature:	19.4 deg C – 20.3 deg C	
Fabricator/Contractor:	Strike Group	
Testing Supervisor:	Duane Learning (TC Energy) / Michael Karlstrom (Strike)	
Comments:	No leaks were observed throughout the duration of this test.	

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Hydrostatic Test Details		
Test Number:	STRIKE_2021S128	
Description:	Gas Vent System	
	Field Tubing	
Spool Control Numbers:	N/A	
Reference Drawings:	0629-01-B7-02-601 Rev. 04	
	0629-01-B7-05-200 Rev. 03	
TC Energy Representative:	Shabu Sivasankaran	
Pipe Information:	Line Numbers:	
	B7-1-S6T-GV-227-N	
	B7-1-S6T-GV-228-N	
	Pipe Data: NPS 1 x 2.77 mm WT, ASTM A-269 Grade TP316/316L (Tubing)	
Design Pressure:	6.274 kPa	
Test Achieved Pressure:	Theoretical Minimum: 9,415 kPa(g)	Theoretical Maximum: 10,115 kPa(g)
	Actual Minimum: 9,602 kPa(g)	Actual Maximum: 9,830 kPa(g)
Test Medium:	Water	
Test Location:	Didsbury Compressor Station	
Test Date and Time:	June 17, 2021 – 09:10 – 10:10 hours	
Test Ambient Temperature:	14.2 deg C – 15.8 deg C	
Fabricator/Contractor:	Strike Croup	
	Strike Group	
Testing Supervisor:	Shabu Sivasankaran (TC Energy) / Jordan Golinowski (Strike)	
Comments:	No leaks were observed throughout the duration of this test.	

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Hydrostatic Test Details		
Test Number:	STRIKE_2021S129	
Description:	High Pressure Gas System (Seal Gas Tubing) Field Tubing	
Spool Control Numbers:	N/A	
Reference Drawings:	0629-01-B7-02-004 Rev. 04 0629-01-B7-02-601 Rev. 04 0629-01-B7-05-101 Rev. 03	
TC Energy Representative:	Duane Learning	
Pipe Information:	Line Numbers: N/A – Seal Gas Tubing	
	Pipe Data: NPS 1/2 x 1.80 mm WT, ASTM A-269 Grade TP316/316L (Tubing) NPS 3/4 x 2.50 mm WT, ASTM A-269 Grade TP316/316L (Tubing) NPS 1 x 2.77 mm WT, ASTM A-269 Grade TP316/316L (Tubing)	
Design Pressure:	9,560 kPa	
Test Achieved Pressure:	Theoretical Minimum: 14,340 kPa(g)	Theoretical Maximum: 15,040 kPa(g)
	Actual Minimum: 14,637 kPa(g)	Actual Maximum: 14,678 kPa(g)
Test Medium:	Water	
Test Location:	Didsbury Compressor Station	
Test Date and Time:	June 20, 2021 – 12:37 – 12:47 hours	
Test Ambient Temperature:	15.8 deg C – 15.9 deg C	
Fabricator/Contractor:	Strike Group	
Testing Supervisor:	Duane Learning (TC Energy) / Tatenda Bvuma (Strike)	
Comments:	No leaks were observed throughout the duration of this test.	

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Hydrostatic Test Details		
Test Number:	STRIKE_2021S131	
Description:	Gas Vent System	
	Field Piping	
Spool Control Numbers:	1466	
Reference Drawings:	0629-01-B7-04-GV-0234-01 Rev. 00	
	0629-01-B7-02-102 Rev. 03	
	0629-01-B7-05-200 Rev. 03	
TC Energy Representative:	Kevin Cheung	
Pipe Information:	Line Numbers:	
	B7-6-A1-GV-234-N	
	Pipe Data:	
	NPS 6 x 7.11 mm WT, Grade 359 CAT II (M45C)	
Design Pressure:	1,800 kPa	
Test Achieved Pressure:	Theoretical Minimum: 2,700 kPa(g)	Theoretical Maximum: 3,000 kPa(g)
	Actual Minimum: 2,748 kPa(g)	Actual Maximum: 2,897 kPa(g)
Test Medium:	Water	
Test Location:	Didsbury Compressor Station	
Test Date and Time:	June 15, 2021 – 11:50 – 12:50 hours	
Test Ambient Temperature:	22.8 deg C – 24.8 deg C	
Fabricator/Contractor:	Strike Group	
Testing Supervisor:	Kevin Cheung (TC Energy) / Jordan Golinowski (Strike)	
Comments:	No leaks were observed throughout the duration of this test.	

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Hydrostatic Test Details			
Test Number:	STRIKE_2021S135		
Description:	High Pressure Gas System & Separation Drain Tubing		
	Field Tubing		
Spool Control Numbers:	N/A		
Reference Drawings:	0629-01-B7-04-HG-0182-03 Rev. 00		
	0629-01-B7-04-HG-0185-02 Rev. 00		
	0629-01-B7-02-004 Rev. 04		
	0629-01-B7-02-100 Rev. 02		
	0629-01-B7-05-101 Rev. 03		
TC Energy Representative:	Duane Learning		
Pipe Information:	Line Numbers:		
	N/A – Tubing		
	Pipe Data:		
	NPS 1/2 x 1.80 mm WT, ASTM A-269 Grade TP316/316L		
Design Pressure:	9,560 kPa		
Test Achieved Pressure:	Theoretical Minimum: 14,340 kPa(g)	Theoretical Maximum: 15,040 kPa(g)	
	Actual Minimum: 14,480 kPa(g)	Actual Maximum: 14,930 kPa(g)	
Test Medium:	Water	Water	
Test Location:	Didsbury Compressor Station		
Test Date and Time:	June 21, 2021 – 09:18 – 10:20 hours		
Test Ambient Temperature:	16.8 deg C – 20.9 deg C		
Fabricator/Contractor:	Strike Group		
Testing Supervisor:	Duane Learning (TC Energy) / Tatenda Bvuma (Strike)		
Comments:	No leaks were observed throughout the duration of this test.		

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Hydrostatic Test Details			
Test Number:	STRIKE_2021S136		
Description:	Gas Vent System Field Piping		
Spool Control Numbers:	3387, 3555		
Reference Drawings:	0629-01-B7-04-GV-0233-01 Rev. 00 0629-01-B7-02-601 Rev. 04 0629-01-B7-05-200 Rev. 03		
TC Energy Representative:	Kevin Cheung		
Pipe Information:	Line Numbers: B7-2-D1-GV-233-N		
	Pipe Data: NPS ½ x 3.73 mm WT, A106 Grade B NPS 1 x 4.55 mm WT, A106 Grade B NPS 2 x 8.74 mm WT, A333 Grade 6		
Design Pressure:	6,274 kPa		
Test Achieved Pressure:	Theoretical Minimum: 9,415 kPa(g)	Theoretical Maximum: 9,715 kPa(g)	
	Actual Minimum: 9,548 kPa(g)	Actual Maximum: 9,677 kPa(g)	
Test Medium:	Water		
Test Location:	Didsbury Compressor Station		
Test Date and Time:	June 19, 2021 – 14:56 – 15:56 hours		
Test Ambient Temperature:	14.3 deg C – 15.0 deg C		
Fabricator/Contractor:	Strike Group		
Testing Supervisor:	Kevin Cheung (TC Energy) / Jordan Golinowski (Strike)		
Comments:	No leaks were observed throughout the duration of this test.		

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Hydrostatic Test Details			
Test Number:	Peerless_B7-HG-MS-Y01		
Description:	Unit B7 Suction Scrubber Drain Line Pi	ping- Factory Pressure Test	
Spool Control Numbers:	NA (Factory Pressure Test)		
Reference Drawings:	0629-01-B7-02-003 Rev. 02		
	8258-3 Rev. 03 (Vendor Hydrotest Schematic)		
	8258-3J Rev. 03		
	8258-3K Rev. 03		
	8258-3L Rev. 03		
	8258-3M Rev. 03		
	8258-3N Rev. 03 8258-3P Rev. 03		
	8258-3O Rev. 03		
	8258-3R Rev. 03		
	8258-3S Rev. 03		
	8258-3T Rev. 03		
TC Energy	Dean Labbe (Velosi Third Party Inspector)		
Representative:	,		
Pipe Information:	Line Numbers:		
	N/A		
	Pipe Data: NPS 2 x 8 74mm WT SCH 160 ASTM A333 GP 6		
	NPS 2 x 8.74mm WT, SCH 160, ASTM A333 GR.6 NPS 1 x 6.35mm WT, SCH 160, ASTM A333 GR.6		
	NPS 4 x 8.56mm WT, SCH 80, ASTM A333 GR.6		
Design Pressure:	NPS 1/2 x 4.75mm WT, SCH 160, AST	M A333 GR.6	
	9,650 kPa(g)	<u> </u>	
Test Achieved Pressure:	Theoretical Minimum: 15,040 kPa(g)	Theoretical Maximum: 15,175 kPa(g)	
	Actual Minimum: 15,079 kPa(g)	Actual Maximum: 15,169 kPa(g)	
Test Medium:	Water		
Test Location:	Braeside Fabricators		
Test Date and Time:	Oct 27, 2020 – 07:15 – 11:15 hours		
Test Ambient Temperature:	20.32 - 20.87 deg C		
Fabricator/Contractor:	Exchanger Industries		
Testing Supervisor:	Dean Labbe (Velosi) / Exchanger Industries		
Comments:	No leaks were observed throughout the duration of this test.		

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Hydrostatic Test Details		
Test Number:	Test for Valve Serial Number 19465-13-1-001	
Description:	Unit B7 NPS 4 Gas Generator/Turbine Skid Fuel Gas Shut-Off Valve B7-FBV-3040 – Factory Pressure Test	
Spool Control Numbers:	NA (Factory Pressure Test)	
Reference Drawings:	0629-01-B7-02-601 Rev. 04 0629-01-B7-04-FG-0724-1 Rev. 02	
TC Energy Representative:	E. Robert Fraser (Velosi Third Party Inspector)	
Pipe Information:	Line Numbers: B7-4-D1S-FG-724-N	
	Valve Data: NPS 4 PN 100 Ball Valve	
Design Pressure:	7,100 kPa(g) (Service Design Pressure)	
Test Pressure:	15,513 kPa(g) (Valve Body)	
Test Achieved Pressure:	15,513 kPa(g)	
Test Medium:	Water	
Test Location:	Spartan Controls	
Test Date and Time:	Jan 16, 2020 – 18:33 – 19.41 hours	
Test Ambient Temperature:	22.5 deg C	
Fabricator/Contractor:	Spartan Controls	
Testing Supervisor:	E. Robert Fraser (Velosi) / Nathanael Tweed (Spartan Controls)	
Comments:	No leaks were observed throughout the duration of this test.	

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Hydrostatic Test Details		
Test Number:	Test for Valve Serial Number F002541345	
Description:	Unit B7 NPS 1 Fuel Gas Generator/Turbine Skid Vent Valve B7-FBV-3041 – Factory Pressure Test	
Spool Control Numbers:	NA (Factory Pressure Test)	
Reference Drawings:	0629-01-B7-02-601 Rev. 04 0629-01-B7-04-FG-0725-01 Rev. 01	
TC Energy Representative:	E. Robert Fraser (Velosi Third Party Inspector)	
Pipe Information:	Line Numbers: B7-1-D1S-FG-725-N	
	NPS 1 PN 100 Globe Valve	
Design Pressure:	7,100 kPa(g) (Service Design Pressure)	
Test Pressure:	15,513 kPa(g) (Valve Body)	
Test Achieved Pressure:	14,996 kPa(g)	
Test Medium:	Water	
Test Location:	Emerson Automation Solutions, Sherman TX	
Test Date and Time:	Jan 16, 2020 – 1 hour test	
Test Ambient Temperature:	22.0 deg C	
Fabricator/Contractor:	Emerson Automation Solutions, Sherman TX	
Testing Supervisor:	E. Robert Fraser (Velosi) / Garrett Bostelaar (Emerson)	
Comments:	No leaks were observed throughout the duration of this test.	

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Hydrostatic Test Details		
Test Number:	Test for Valve Serial Number F002439653	
Description:	Unit B7 NPS 3 Pressurization Valve B7-PV-2705 – Factory Pressure Test	
Spool Control Numbers:	NA (Factory Pressure Test)	
Reference Drawings:	0629-01-B7-02-004 Rev. 03 0629-01-B7-04-HG-0180-02 Rev. 01	
TC Energy Representative:	E. Robert Fraser (Velosi Third Party Inspector)	
Pipe Information:	Line Numbers: B7-3-D1-HG-180-N	
	NPS 3 PN 100 Control Valve	
Design Pressure:	10,342 kPa(g) (Service Design Pressure)	
Test Pressure:	15,513 kPa(g) (Valve Body)	
Test Achieved Pressure:	15,513 kPa(g)	
Test Medium:	Water	
Test Location:	Emerson Automation Solutions, Sherman TX	
Test Date and Time:	November 6, 2019 – 1 hour test	
Test Ambient Temperature:	20.0 deg C	
Fabricator/Contractor:	Emerson Automation Solutions, Sherman TX	
Testing Supervisor:	E. Robert Fraser (Velosi) / David Melton (Emerson)	
Comments:	No leaks were observed throughout the duration of this test.	

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Hydrostatic Test Details		
Test Number:	Test for Valve Serial Number F002882684	
Description:	Unit B7 NPS 1 Purge Valve B7-PV-2708 – Factory Pressure Test	
Spool Control Numbers:	NA (Factory Pressure Test)	
Reference Drawings:	0629-01-B7-02-004 Rev. 03 0629-01-B7-04-HG-0187-01 Rev. 00	
TC Energy Representative:	Tom Evora (Velosi Third Party Inspector)	
Pipe Information:	Line Numbers: B7-2-D1-HG-187-N	
	NPS 1 PN 100 Control Valve	
Design Pressure:	10,342 kPa(g) (Service Design Pressure)	
Test Pressure:	15,513 kPa(g) (Valve Body)	
Test Achieved Pressure:	15,513 kPa(g)	
Test Medium:	Water	
Test Location:	Emerson Automation Solutions, Sherman TX	
Test Date and Time:	February 5, 2021 – 1 hour test	
Test Ambient Temperature:	-	
Fabricator/Contractor:	Emerson Automation Solutions, Sherman TX	
Testing Supervisor:	Tom Evora (Velosi) / William McFarland (Emerson)	
Comments:	No leaks were observed throughout the duration of this test.	

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Hydrostatic Test Details		
Test Number:	Test for Valve Serial Number R19097-0002-0001	
Description:	Unit B7 NPS 30 CAS Mainline Loop Low Pressure Suction Side Valve CAS60-0-7SS-DBY (B7-FBV-0010) – Factory Valve Test	
Spool Control Numbers:	N/A (Factory Valve Test)	
Reference Drawings:	0629-01-00-04-GP-0104-04 Rev. 01 0629-01-B7-02-001 Rev. 01	
TC Energy Representative:	Osvaldo Oldani (Velosi Third Party Inspector)	
Pipe Information:	Line Numbers: B7-30-D1-GP-104-N	
	Valve Data: NPS 30, PN 100, BW x RF, Ball Valve	
	Design Pressure: 9930 kPa(g)	
	Test Pressure: 14,900 kPa(g)	
Test Achieved Pressure:	15,500 kPa(g)	
Test Medium:	Water	
Test Location:	Valvitalia Shop	
Test Date and Time:	July 16, 2019 – 8:35 – 9:35 hours	
Test Ambient Temperature:	21.5 – 22 deg C	
Fabricator/Contractor:	Valvitalia Group	
Testing Supervisor:	Callegher Giuseppe (Valvitalia) / Osvaldo Oldani (Velosi)	
Comments:	No leaks were observed throughout the duration of this test. The valve is on the station side of the location factor break. Per the piping design, the design pressure of the station side is 9560 kPag. The valve is a PN 100 valve (9930 kPag cold working pressure) and it was therefore pressure tested per CSA Z245.15's Table 10 test pressures.	

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Hydrostotic Test Details			
Hydrostatic Test Details			
Test Number:	Test for Valve Serial Number R19097-0003-0001		
Description:	Unit B7 NPS 42 CAS Mainline Loop Low Pressure Suction Side Valve CAS60-1-7SS-DBY (B7-FBV-0011) – Factory Valve Test		
Spool Control Numbers:	N/A (Factory Valve Test)		
Reference Drawings:	0629-01-B7-02-001 Rev. 01 0629-01-00-04-GP-0102-04 Rev. 01		
TC Energy Representative:	Osvaldo Oldani (Velosi Third Party Inspector)		
Pipe Information:	Line Numbers: B7-42-D1-GP-102-N		
	Valve Data: NPS 42, PN 100, BW x RF, Ball Valve		
	Design Pressure: 9930 kPa(g)		
	Test Pressure: 14,900 kPa(g)		
Test Achieved Pressure:	15,500 kPa(g)		
Test Medium:	Water		
Test Location:	Valvitalia Shop		
Test Date and Time:	July 10, 2019 – 8:40 – 10:40 hours		
Test Ambient Temperature:	26.5 – 27 deg C		
Fabricator/Contractor:	Valvitalia Group		
Testing Supervisor:	Alberto Dellagiovanna (Valvitalia) / Osvaldo Oldani (Velosi)		
Comments:	No leaks were observed throughout the duration of this test. The valve is on the station side of the location factor break. Per the piping design, the design pressure of the station side is 9560 kPag. The valve is a PN 100 valve (9930 kPag cold working pressure) and it was therefore pressure tested per CSA Z245.15's Table 10 test pressures.		

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Hydrostatic Test Details			
Test Number:	Test for Valve Serial Number R19097-0002-0002		
Description:	Unit B7 NPS 30 CAS Mainline Loop Low Pressure Discharge Side Valve CAS60-0-7SD-DBY (B7-FBV-0020) – Factory Valve Test		
Spool Control Numbers:	N/A (Factory Valve Test)		
Reference Drawings:	0629-01-00-04-GP-0138-01 Rev. 01 0629-01-B7-02-002 Rev. 01		
TC Energy Representative:	Osvaldo Oldani (Velosi Third Party Inspector)		
Pipe Information:	Line Numbers: B7-30-D1-GP-138-N		
	Valve Data: NPS 30, PN 100, BW x RF, Ball Valve		
	Design Pressure: 9930 kPa(g)		
	Test Pressure: 14,900 kPa(g)		
Test Achieved Pressure:	15,500 kPa(g)		
Test Medium:	Water		
Test Location:	Valvitalia Shop		
Test Date and Time:	July 16, 2019 – 13:50 – 14:50 hours		
Test Ambient Temperature:	29.3 – 29.8 deg C		
Fabricator/Contractor:	Valvitalia Group		
Testing Supervisor:	Callegher Giuseppe (Valvitalia) / Osvaldo Oldani (Velosi)		
Comments:	No leaks were observed throughout the duration of this test. The valve is on the station side of the location factor break. Per the piping design, the design pressure of the station side is 9560 kPag. The valve is a PN 100 valve (9930 kPag cold working pressure) and it was therefore pressure tested per CSA Z245.15's Table 10 test pressures.		

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Hydrostatic Test Details		
Test Number:	Test for Valve Serial Number R19097-0003-0002	
Description:	Unit B7 NPS 42 CAS Mainline Loop Low Pressure Discharge Side Valve CAS60-1-7SD-DBY (B7-FBV-0021) – Factory Valve Test	
Spool Control Numbers:	N/A (Factory Valve Test)	
Reference Drawings:	0629-01-00-04-GP-0140-01 Rev. 00 0629-01-B7-02-002 Rev. 01	
TC Energy Representative:	Osvaldo Oldani (Velosi Third Party Inspector)	
Pipe Information:	Line Numbers: B7-42-D1-GP-140-N	
	Valve Data: NPS 42, PN 100, BW x RF, Ball Valve	
	Design Pressure: 9930 kPa(g)	
	Test Pressure: 14,900 kPa(g)	
Test Achieved Pressure:	15,500 kPa(g)	
Test Medium:	Water	
Test Location:	Valvitalia Shop	
Test Date and Time:	July 11, 2019 – 9:50 – 11:50 hours	
Test Ambient Temperature:	28 – 28.5 deg C	
Fabricator/Contractor:	Valvitalia Group	
Testing Supervisor:	Callegher Giuseppe (Valvitalia) / Osvaldo Oldani (Velosi)	
Comments:	No leaks were observed throughout the duration of this test. The valve is on the station side of the location factor break. Per the piping design, the design pressure of the station side is 9560 kPag. The valve is a PN 100 valve (9930 kPag cold working pressure) and it was therefore pressure tested per CSA Z245.15's Table 10 test pressures.	

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Standards and Specifications List

Name	EDMS No.
TEN-CP-BUILD-GL Corrosion Prevention Construction Standard (CAN-US-MEX)	1003439376
TEN-CP-DESGN-GL TEN Corrosion Prevention Design (CAN-US-MEX)	1003455877
TEN-MATL Materials Standard	1001755803
TEN-ME-HGCS-G Compressor Station High Pressure Gas Piping Design Standard (CAN US MEX)	1006335523
TEN-ME-OPPCS-G Compressor Station OPP Standard (CAN-US-MEX)	1006158290
TEN-NDT NDT Standard (CDN-US-MEX)	1001828336
TEN-PRES Pressure Testing Standard (CDN)	1001810598
TEP-ME-OPPMS-G Engineering Review and Assessment of Customer PC and OPP Procedure (CAN)	1006170305
TES-CO-EPU-GL Field-Applied External Liquid Coating Systems for Steel Pipe Specification (CAN-US-MEX)	3671710
TES-CO-FBE-GL External Fusion Bond Epoxy For Steel Pipe Specification (CAN-US-MEX)	3670892
TES-CO-PAINT-GL Paint Systems For Above Ground Facilities (Coastal And Non-Coastal) Specification (CAN-US-MEX)	3694704
TES-CT-EXC-GLE Excavation Specification (CDN-US-MEX)	5890120
TES-FITG-CIF Contoured Insert Fittings Specification (CDN-US-MEX)	4424021
TES-FITG-EC1 End Closures Specification (CDN-US-MEX)	3779256
TES-FITG-SAD Full Encirclement Reinforcing Saddles Specification (CDN-US-MEX)	3779258
TES-MA-EWPI-GL Electric-Welded Pipe Specification (CAN-US-MEX)	3670788
TES-MA-FITG-GL Carbon Steel Butt-Welding Fittings Specification (CAN-US-MEX)	3671270
TES-MA-FLGEC-GL Carbon Steel Butt-Welding Flanges Specification (CAN)	3671966
TES-MA-SAWPI-GL Double Submerged Arc Welded Pipe Specification (CAN-US-MEX)	3776714
TES-MATL-COMP Materials Requirements of Pressure Containing Equipment Components Specification (CAN-US-MEX)	8071725
TES-MATL-MD1 Piping System Materials for Pipeline, Compression and Metering Facilities (CDN-US-MEX)	3764909
TES-MA-VALV-G Steel Valves for Gas Service Specification (CAN-US-MEX)	1001891682
TES-ME-CV-GL Control Valve Equipment and Design Specification (CAN-US-MEX)	1001969647
TES-ME-PV1-GLE Pressure Vessels Specification (CAN-US-MEX)	6406
TES-ME-STRCO-G Pipe Stress Engineering Analysis and Design of Compressor Stations (CAN-US-MEX)	7697565
TES-NDT-RT Radiographic Examination of Welds Specification (CDN)	3671368
TES-WELD-PL Welding of Pipelines and Tie-ins Specification (CDN)	3670960
TES-WL-AS-GL Welding of Assemblies and Station Piping Specification (CAN)	3670962

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Summary of Pipe Manufacturers

Pipe Size	Pipe Description	Pipe Heat No.	Pipe Manufacturer
NPS 1/2	1/2" SCH 80 (3.73mm) SMLS PIPE ASME SA 106 B	607182, 616442	Benteler
NPS 1/2	1/2 SCH 80 (3.73mm WT) SMLS PIPE, ASME A312 TP316/316L	130508D02	Changshu Walsin Specialty Steel Co. Ltd.
NPS 1	1" SCH 80S (4.55mm) SMLS PIPE, ASME SA312 TP316/316L	11U988	Changshu Walsin Specialty Steel Co. Ltd.
NPS 1	1" SCH 80 (4.55mm) SMLS PIPE, ASME SA-106-B	48146	Tenaris
NPS 1 1/2	1 1/2" SCH 160 (7.14mm) SMLS PIPE ASME SA 106 B	619103	Benteler
NPS 1 1/2	1 1/2" SCH 160 (7.14mm) SMLS PIPE ASME SA-106-B	179084	Vallourec
NPS 2	2" SCH 160 (8.74mm) SMLS PIPE, ASME A-333 - 359 CAT II	11915, 46757, 48710	Tenaris
NPS 2	2" SCH 160 (8.74mm) SMLS PIPE, ASME A333 Gr. 6	625821	Benteler
NPS 2	2" SCH 80S (5.54mm) SMLS PIPE, ASTM A312 TP316/316L	11V382	Changshu Walsin Specialty Steel Co. Ltd.
NPS 2	2" SCH 40S (3.91mm) SMLS PIPE, ASTM A312 TP316/316L	E21897	Nippon Steel & Sumitomo Metal Corporation
NPS 3	3" SCH 40 (5.49mm) SMLS PIPE, ASME A333 - 359 CAT II	42915, 89598, 48666, 92426, 47512, 92426	Tenaris
NPS 3	3" SCH 40 (5.49mm) SMLS PIPE, ASME A333 - 359 CAT II	607075	Benteler
NPS 4	4" SCH 40 (6.02mm) SMLS PIPE, ASME A-333 GR. 6 - CSA Z245.1 359 CAT II	49003, 49963	Tenaris
NPS 4	4" SCH 40S (6.02mm) SMLS PIPE, ASTM A312 TP316/316L	11V381	Changshu Walsin Specialty Steel Co. Ltd.
NPS 6	6" SCH 40 (7.11mm) SMLS PIPE, ASME A333 - 359 CAT II	186116, 181281	Vallourec
NPS 6	6" SCH 40 (7.11mm) SMLS PIPE, A312 TP316/316L	11V778	Changshu Walsin Specialty Steel Co. Ltd.
NPS 6	6" SCH 40 (7.11mm) SMLS PIPE, ASME A333 - 359 CAT II	13595	Tenaris
NPS 12	12" SCH 40 (10.31mm) SMLS PIPE, ASME A333 - 359 CAT II	96512	Tenaris
NPS 12	12" SCH 40 (10.31mm) SMLS PIPE, ASME A333 - 359 CAT II	J8K7205	Nippon Steel & Sumitomo Metal Corporation
NPS 16	16" 14.3mm WT EW PIPE, CSA Z245 - GR.414 CAT II	ZM2885	Nippon Steel
NPS 24	24" 15.9mm WT SAW PIPE, CSA Z245.15 - GR.414 CAT II	G07591, G07592,	Nippon Steel

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Pipe Size	Pipe Description	Pipe Heat No.	Pipe Manufacturer
		G00381	
NPS 30	30" 16.4mm WT SAW PIPE, CSA Z245 - GR.483 CAT II	6-4224	JFE Steel Corp
NPS 36	36" 19.7mm WT SAW PIPE, CSA Z245 - GR.483 CAT II	G07351	Nippon Steel
NPS 36	36" 19.7mm WT SAW PIPE, CSA Z245 - GR.483 CAT II	5-7078, 5- 6413	JFE Steel Corp
NPS 42	42" 23.0mm WT SAW PIPE, CSA Z245 - GR.483 CAT II	1C12416	Sumitomo Metal Industries
NPS 48	48" 26.2mm WT SAW PIPE, CSA Z245 - GR.483 CAT II	9211531, 9211519, 9212023, 9211524, 9211423, 9211501, 9211704, 9211522, 9211435, 9211433, 9211521	Nippon Steel
NPS 48	48" 26.2mm WT SAW PIPE, CSA Z245 - GR.483 CAT II	6-3841, 6- 3838	JFE Steel Corp
Tubing			
NPS 1/2	1/2" SMLS TUBING, ASTM A-269 GR. TP316/316L	556070	Sandvik
NPS 3/4	3/4" SMLS TUBING, ASTM A-269 GR. TP316/316L	555223	Sandvik
NPS 1	1" SMLS TUBING, ASTM A-269 GR. TP316/316L	557199	Sandvik

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Summary of Piping, Welds and Valves Not Tested Following Installation

For a summary of piping, weld and valves not subject to pressure testing following installation, please see below. There were no non-pressure tested welds associated with this LTO Application.

Summary of Piping, Welds and Valves Not Subjected to a Pressure Test Following Installation and Justification for Not Pressure Testing

Item	Rationale
PSVs B7-PSV-3029 B7-PSV-0050	Engineering Assessment as per CSA Z662_2019 Clause 8.1.7
Control Valve B7-FBV-3040 (Unit B7 Gas Generator/Turbine Skid Fuel Gas Shut-Off Valve)	Item has been shop (Manufacturer) tested in test "Spartan_B7-FBV-3040" and a field hydrotest is considered redundant to the shop test as it will not provide additional information.
	Due to the sensitivity and complexity of the item/assembly, a field hydrotest would negatively affect the devices, components calibration or damage to the components.
	No modifications were made to the assembly and/or single item after testing was completed.
Control Valve B7-FBV-3041 (Unit B7 Gas Generator/Turbine Skid Fuel Gas Shut-Off Valve)	Item has been shop (Manufacturer) tested in test "Spartan_B7-FBV-3041" and a field hydrotest is considered redundant to the shop test as it will not provide additional information.
	Due to the sensitivity and complexity of the item/assembly, a field hydrotest would negatively affect the devices, components calibration or damage to the components.
	No modifications were made to the assembly and/or single item after testing was completed.
Pressurization Valve B7-PV-2705	Item has been shop (Manufacturer) tested in test "Spartan_B7-PV-2705" and a field hydrotest is considered redundant to the shop test as it will not provide additional information.
	Due to the sensitivity and complexity of the item/assembly, a field hydrotest would negatively affect the devices, components calibration or damage to the components.
	No modifications were made to the assembly and/or single item after testing was completed.
Purge Valve B7-PV-2708	Item has been shop (Manufacturer) tested in test "Spartan_B7-PV-2708" and a field hydrotest is considered redundant to the shop test as it will not provide additional information.
	Due to the sensitivity and complexity of the item/assembly, a field hydrotest would negatively affect the devices, components calibration or damage to the components.
	No modifications were made to the assembly and/or single item after testing was completed.

Item	Rationale
Unit B7 NPS 30 CAS Mainline Low Pressure Suction Side Valve CAS60-0- 7SS-DBY (B7-FBV-0010) – Factory Valve Test, See P&ID 0629-01-B7-02-	Item has been shop tested in test "VALVITALIA_B7-FBV-0010_B7-FBV-0020" and a field hydrotest after installation would not provide additional information.
001	No modifications were made to the assembly and/or single item after testing was completed.
	Valve is on high pressure side of spec break, test STRIKE_2021S106 was low pressure, thus this factory test is required for the valve.
Unit B7 NPS 30 CAS Mainline Low Pressure Discharge Side Valve CAS60-0-7SD-DBY (B7-FBV-0020) –	Item has been shop tested in test "VALVITALIA_B7-FBV-0010_B7-FBV-0020" and a field hydrotest after installation would not provide additional information.
Factory Valve Test. See PID 0629-01- B7-02-002	No modifications were made to the assembly and/or single item after testing was completed.
	Valve is on high pressure side of spec break, test STRIKE_2021S107 was low pressure, thus this factory test is required for the valve.
Unit B7 NPS 42 CAS Mainline Loop Low Pressure Suction Side Valve CAS60-1-7SS-DBY (B7-FBV-0011) –	Item has been shop tested in test "VALVITALIA_B7-FBV-0011_B7-FBV-0021" and a field hydrotest after installation would not provide additional information.
Factory Valve Test. See P&ID 0629- 01-B7-02-001	No modifications were made to the assembly and/or single item after testing was completed.
	Valve is on high pressure side of spec break, test STRIKE_2021S105 was low pressure, thus this factory test is required for the valve.
Unit B7 NPS 42 CAS Mainline Loop Low Pressure Discharge Side Valve CAS60-1-7SD-DBY (B7-FBV-0021) – Factory Valve Test. See PID 0629-01-	Item has been shop tested in test "VALVITALIA_B7-FBV-0011_B7-FBV-0021" and a field hydrotest after installation would not provide additional information.
B7-02-002	No modifications were made to the assembly and/or single item after testing was completed.
	Valve is on high pressure side of spec break, test STRIKE_2021S103 was low pressure, thus this factory test is required for the valve.
Unit B7 Suction Scrubber drain piping B7-HG-MS-Y01	Item has been shop (Manufacturer) tested in test "PEERLESS_ B7-HG-MS-Y01" and a field hydrotest is considered redundant to the shop test as it will not provide additional information.
	Due to the sensitivity and complexity of the item/assembly, a field hydrotest would negatively affect the devices, components calibration or damage to the components.
	No modifications were made to the assembly and/or single item after testing was completed.
Blind Flanges Tag: BL 13 (PID 0629-01-B7-02-004) Tag: BL 24 (PID 0629-01-B7-02-004) Orifice Plates FO-2705 (PID 0629-01-B7-02-004) FO-2708 (PID 0629-01-B7-02-004) FO-3026 (PID 0629-01-B7-02-102)	Testing of the item has been accounted for in the calculation and/or burst design of the product. The component was manufactured under a quality control system that ensures that each item manufactured is at least equal in strength to a prototype and that the prototype was tested to at least the pressure required for the pipeline system to which it is being added. The component carries a pressure rating established through applicable CSA, API, ASME/ANSI standards, Manufacturers Standardization Society of the Valve and Fittings Industry, Inc. (MSS) or by pressure design requirements as described in 4.3.12.1 of CSA
,	Z662.

Item	Rationale
Spacer Rings SR-001 (PID 0629-01-B7-02-001) SR-004 (PID 0629-01-B7-02-002)	Testing of this item has been accounted for in the calculation and/or burst design of the product. The component carries a pressure rating established through applicable CSA, API, ASME/ANSI standards, Manufacturers Standardization Society of the Valve and Fittings Industry, Inc. (MSS) or by pressure design requirements as described in 4.3.12.1 of CSA Z662.
Field Fit Piping STRIKE_2021S76 STRIKE_2021S77	Piping has been shop/field tested in test and a field hydrotest after installation is not possible and would not provide additional information.
STRIKE_2021S78 STRIKE_2021S79	No modifications were made to the assembly and/or single item after testing was completed.
STRIKE_2021S80 STRIKE_2021S83 STRIKE_2021S84	
STRIKE_2021S90 STRIKE_2021S91	
STRIKE_2021S93 STRIKE_2021S94 STRIKE_2021S95	
STRIKE_2021S96 STRIKE_2021S97	
STRIKE_2021S108 STRIKE_2021S109	
STRIKE_2021S110 STRIKE_2021S115 STRIKE_2021S119	
STRIKE_2021S120 STRIKE_2021S122	
STRIKE_2021S127 STRIKE_2021S128 STRIKE_2021S131	
STRIKE_2021S135	

Didsbury Pressure Testing Schematic Legend NOVA Gas Transmission Ltd. 2021 NGTL System Expansion Project 2021S-77 Field Piping 2021S-78 Field Piping 2021S-79 Field Piping 2021S-80 Field Piping 2021S-83 Field Piping 2021S-84 Field Piping 2021S-90 Field Piping / D-D-05 2021S-91 Field Piping 2021S-93 Field Piping / D-D-05 2021S-94 Field Piping 2021S-95 Field Piping 2021S-96 Field Piping 2021S-97 Field Piping 2021S-102 Field Piping 2021S-108 Field Piping 2021S-109 D-F-01/D-F-02/D-F-03/D-F-04 2021S-110 Field Piping 2020S-111 Field Piping / D-F-01 / D-F-02 2021S-114 Field Piping / D-F-04 / D-F-03 2021S-115 Field Piping 2021S-119 Field Piping 2021S-120 Field Piping 2021S-121 Field Piping 2021S-122 Field Piping 2021S-127 Field Piping 2021S-128 Field Tubing 2021S-129 Field Tubing 2021S-131 Field Piping 2021S-135 Field Tubing 2021S-136 Field Piping PEERLESS_B7-HG-MS-Y01 SPARTAN_B7-FBV-3040 ***************** SPARTAN_B7-FBV-3041 SPARTAN_B7-PV-2705

SPARTAN_B7-PV-2708

VALVITALIA_B7-FBV-0010

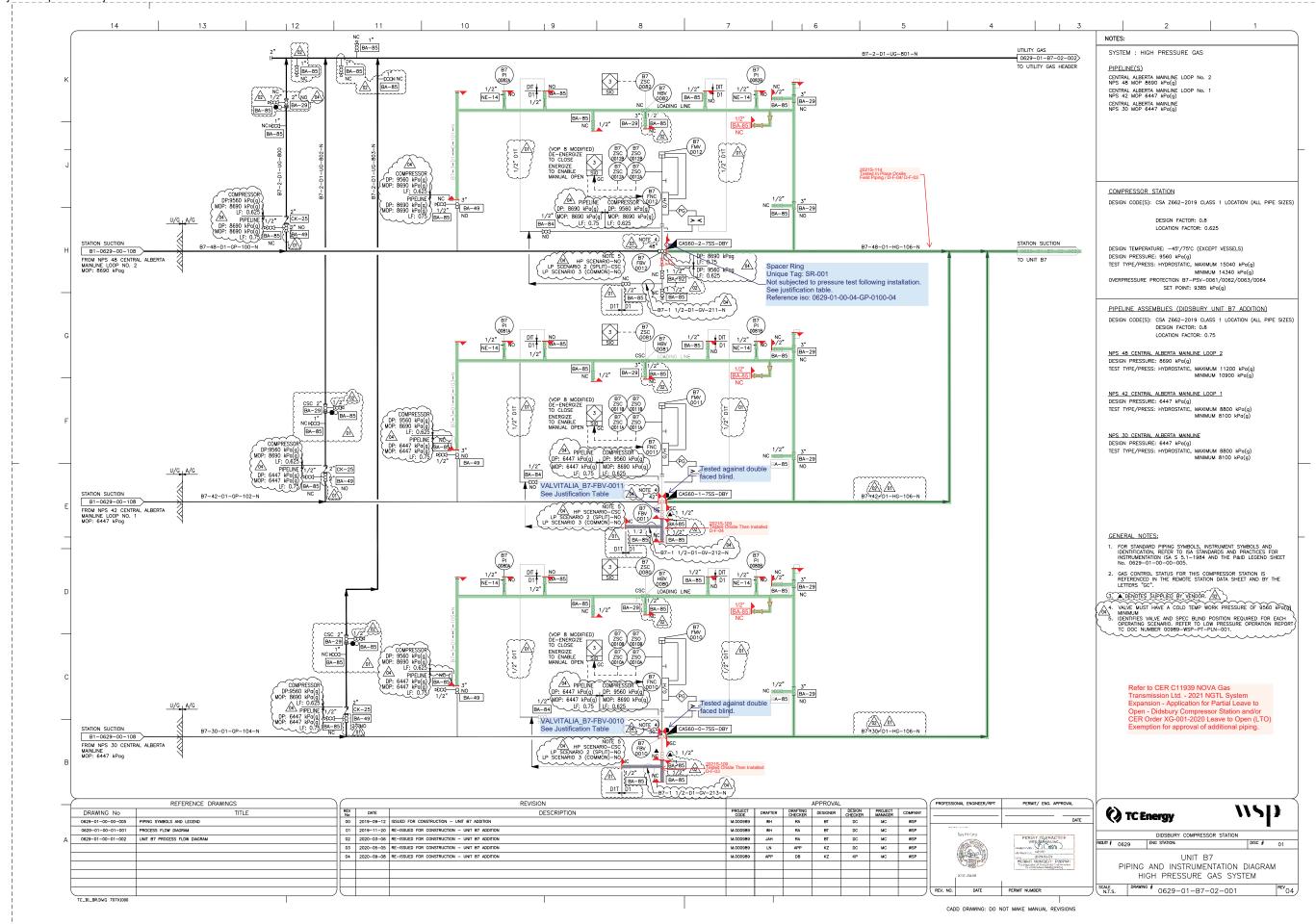
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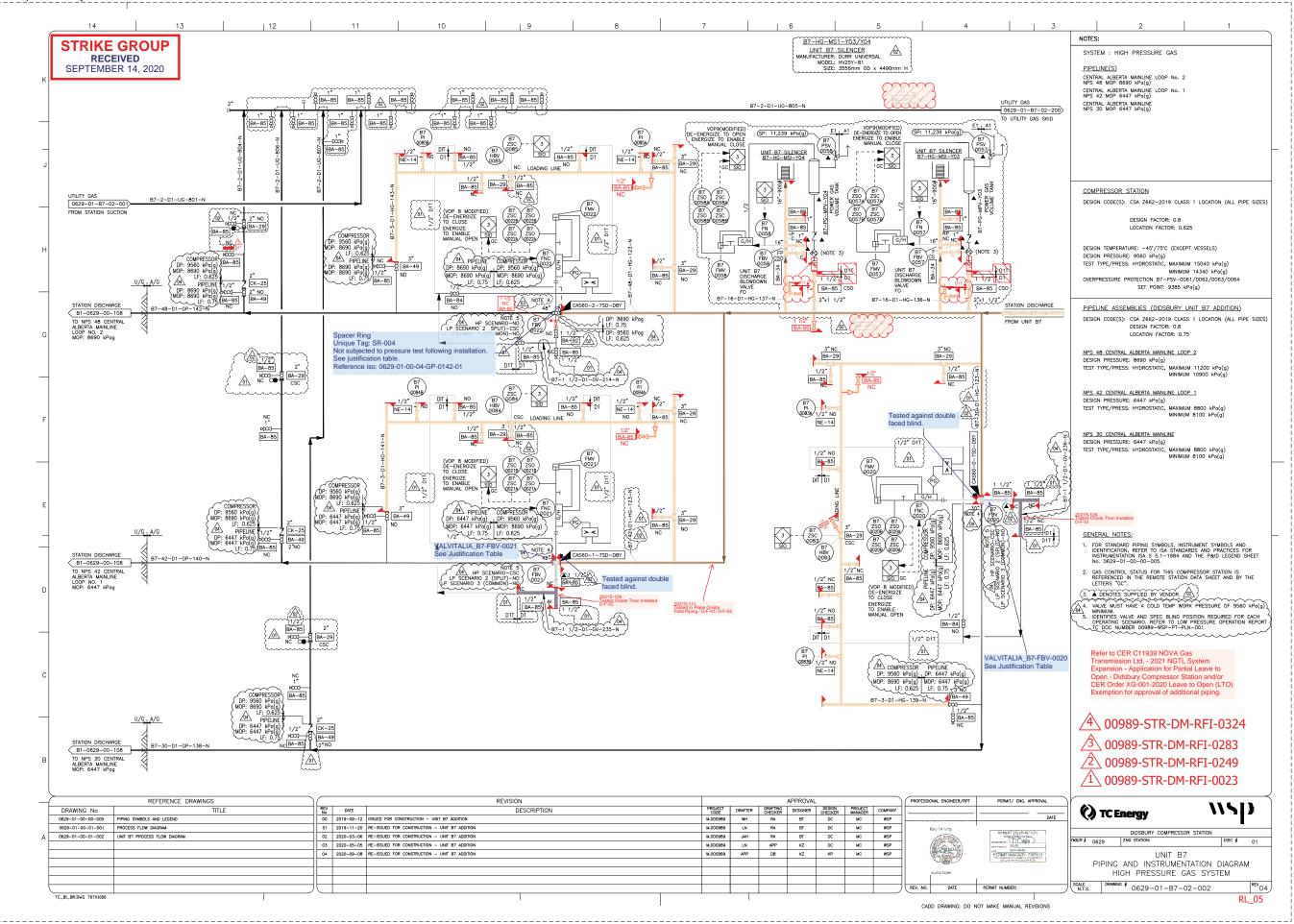
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VALVITALIA_B7-FBV-0021

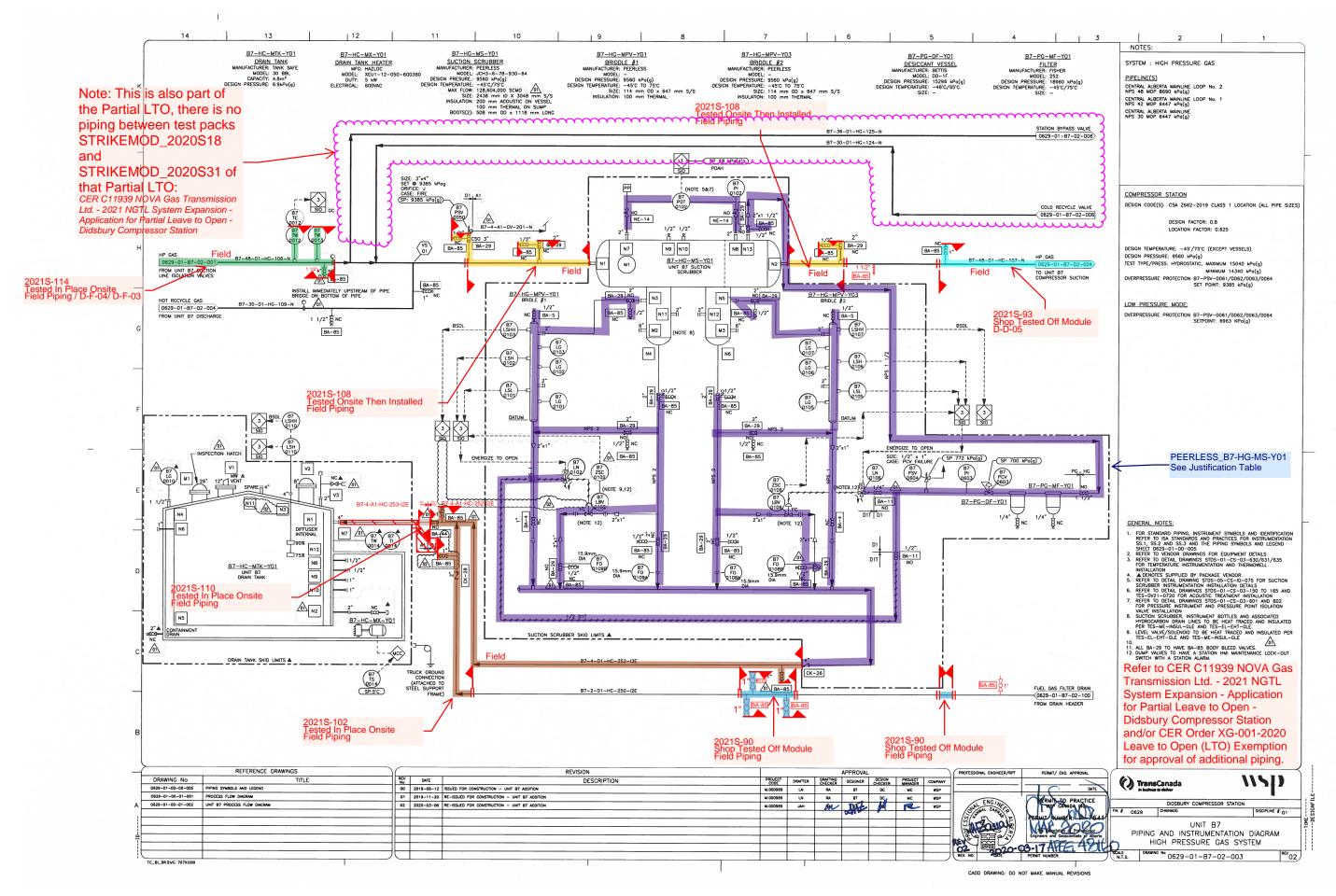
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Tab B - PID Schematics

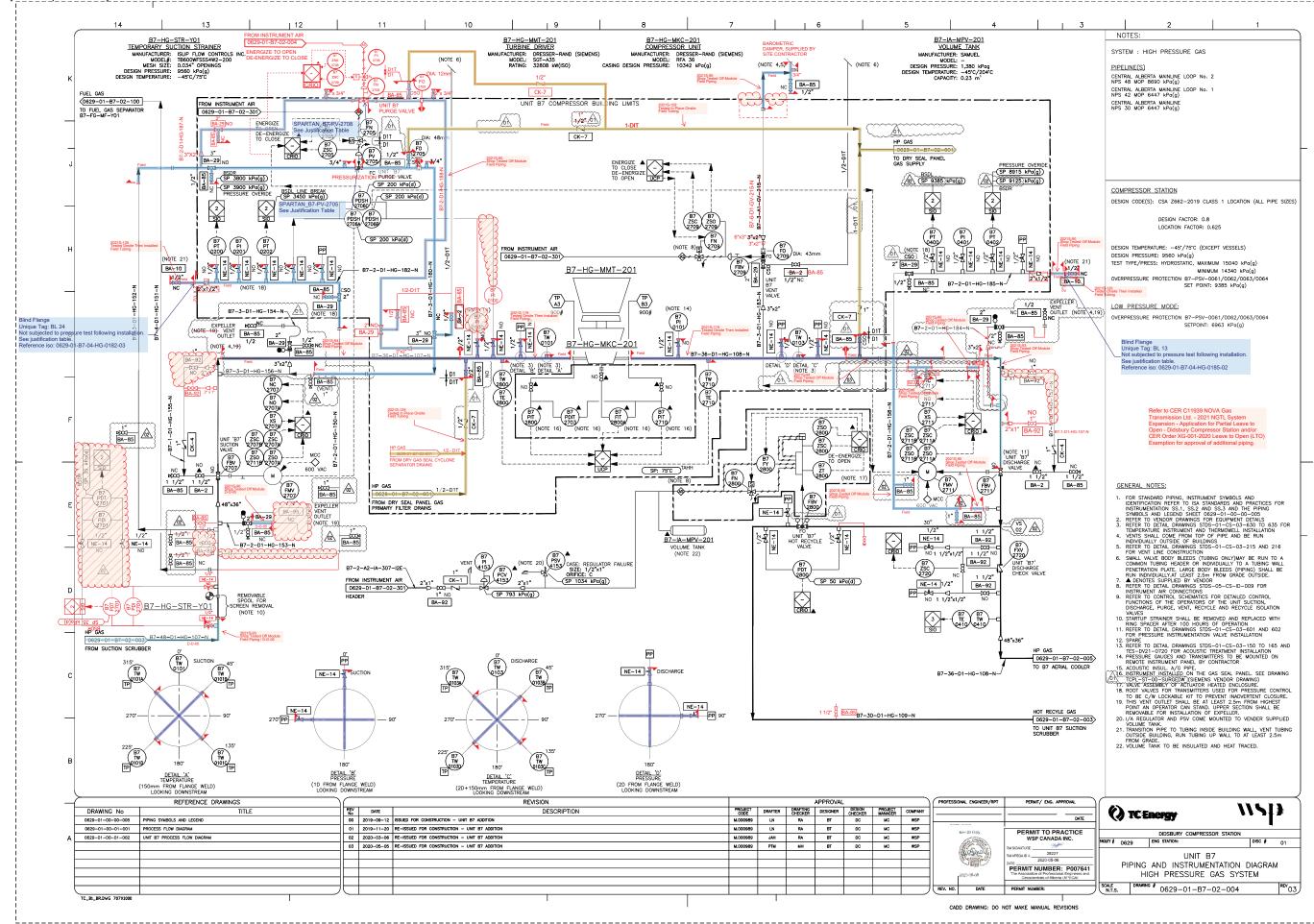


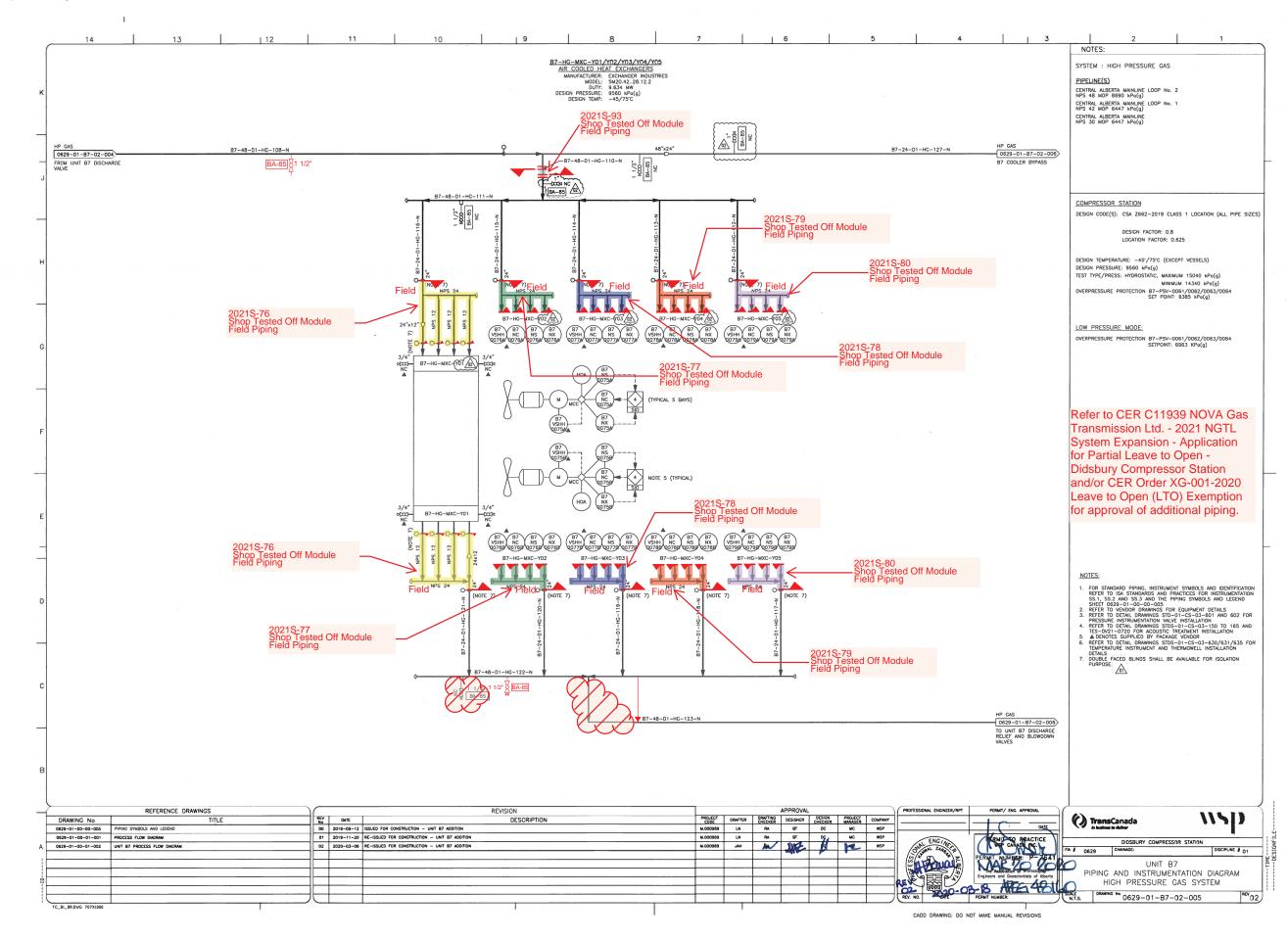


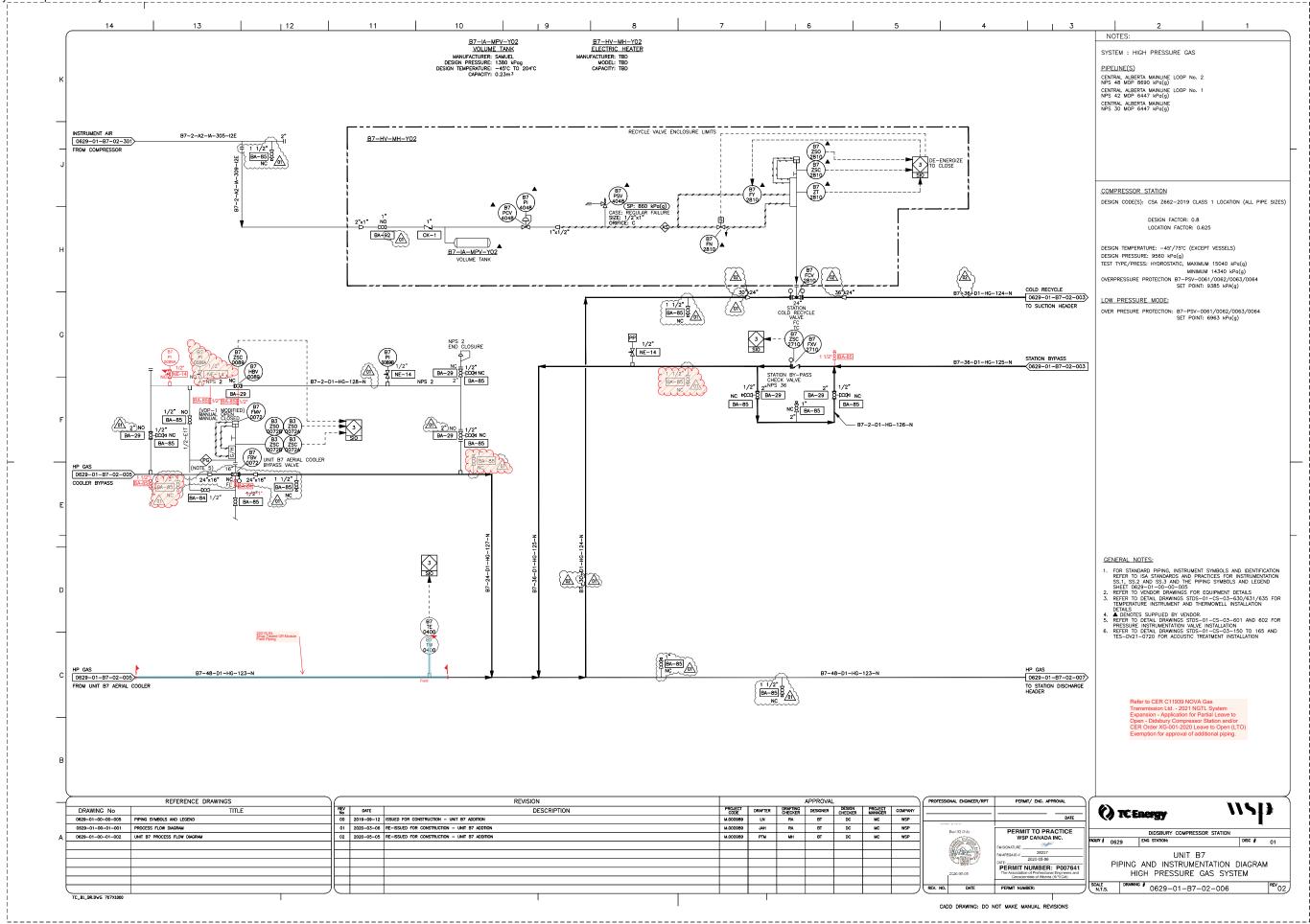
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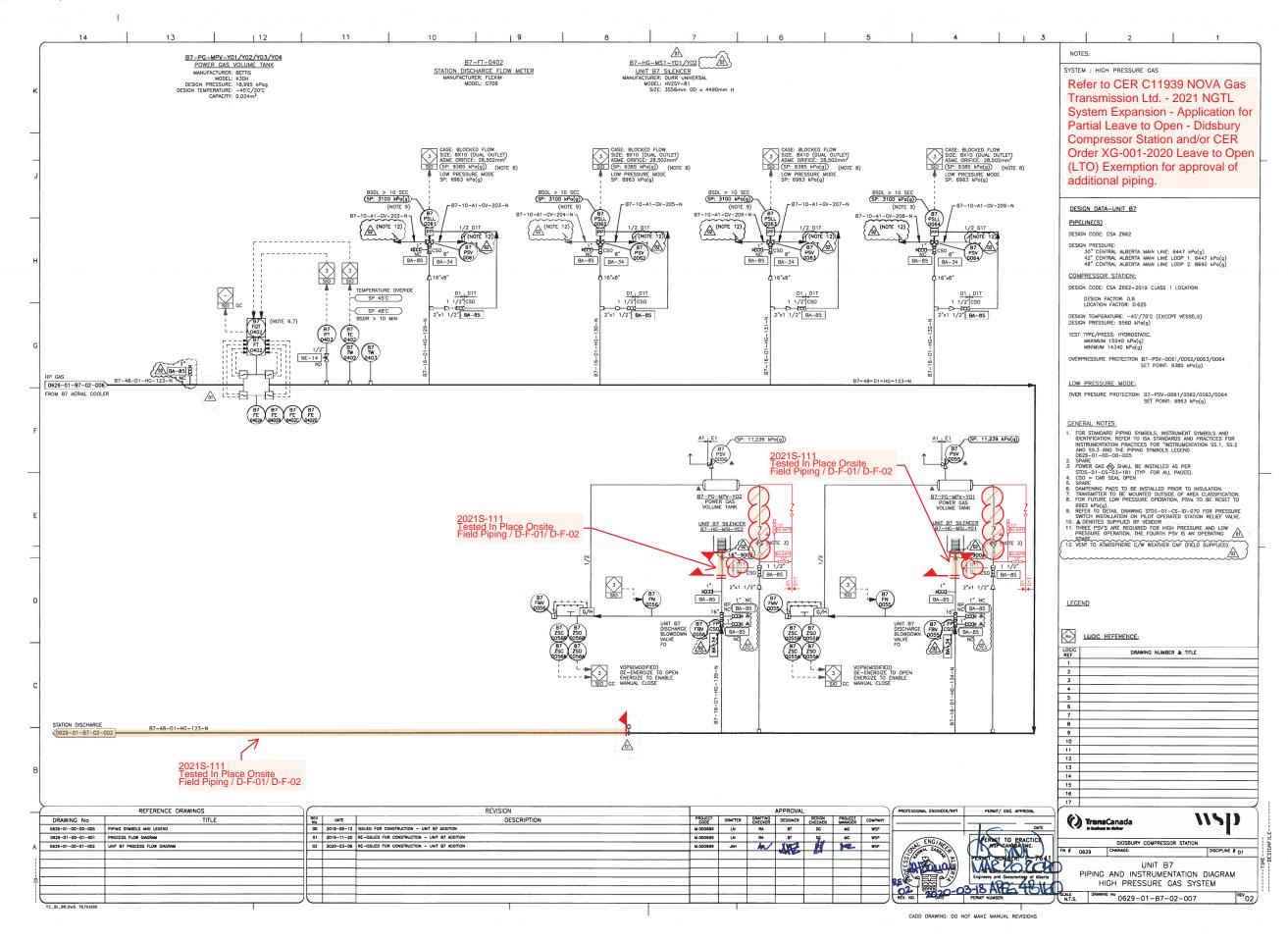


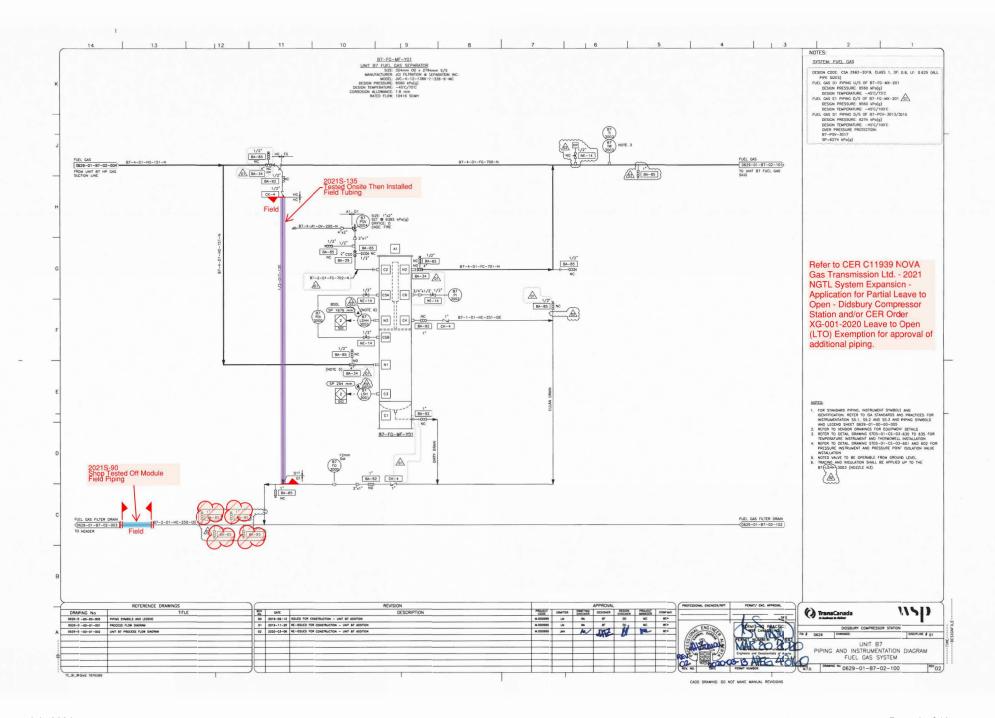
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