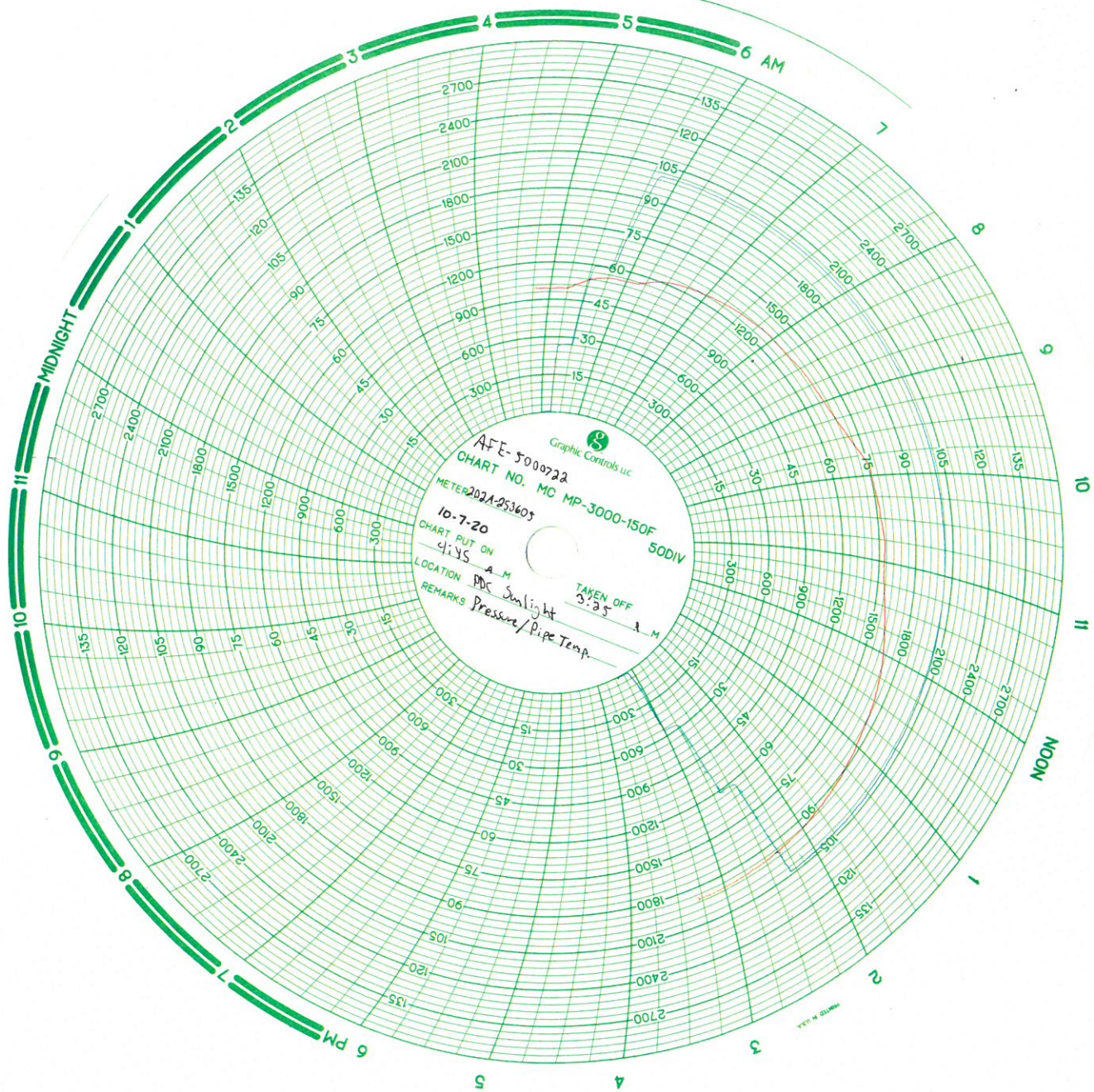
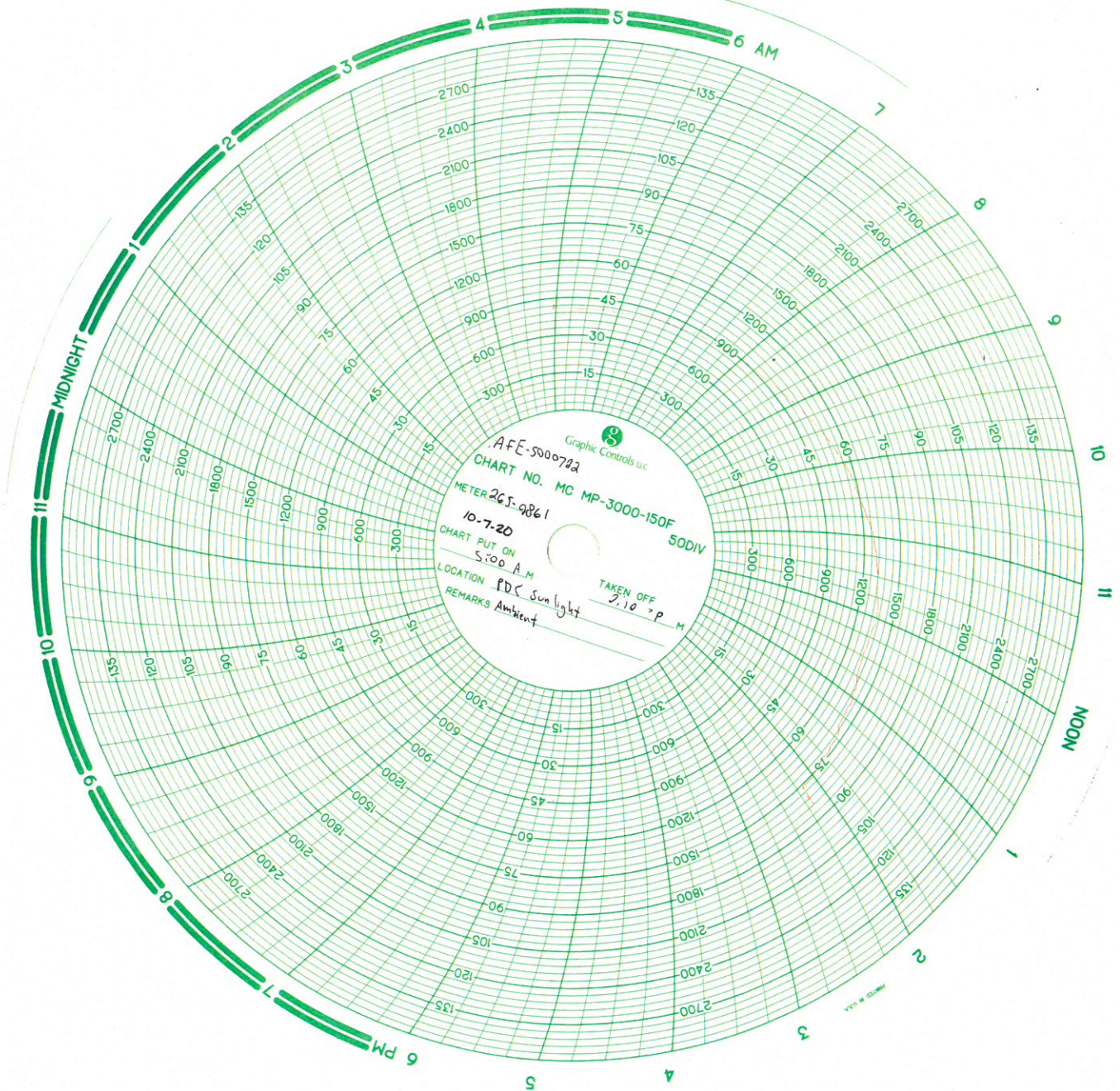


<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="text-align: center;"> <p>TEST SPECIFICATIONS Black Diamond Gathering, LLC - Pressure Test PDC Sunlight</p> </div> <div style="text-align: right;">Rev3</div> </div>						Date:		Select Routing:	
						29-Sep-2020			
						Test Number: 1 of 1			
Project Name:				Project I.D. / AFE Number		Facility Name or Number			
PDC Sunlight - OIL - 4" Lateral				5000722		PDC Sunlight - BDO-04-RVA-200-L4-3			
Contractor / Testing Company:				Technician					
Northwinds of Wyoming Construction									
Installation Location (M.P. or S.S.):			State:	County/Parish:	Class Location Designation	N/A	Selected Design Pressure		
0+00 to 32+82			CO	Weld			1480		
Lat: 40.40373 to Lat: 40.41076									
Long: -104.57942 to Long: -104.58244									
Project Description:									
Hydrostatic pressure test of 3282' of 4" Carbon Steel.									
Testing at 1.25*MAOP = 1850 psig minimum test pressure. 2,026 psig Target Test Pressure at Chart Location									
Max Test Pressure for ANSI 600 Valves and Fittings is 2660 psig where they are located.									
LEAK ONLY TEST <input type="checkbox"/> STRENGTH TEST <input type="checkbox"/> FABRICATION <input type="checkbox"/> NEW CONSTRUCTION <input checked="" type="checkbox"/> REPLACEMENT <input type="checkbox"/> RETEST <input type="checkbox"/> REFERENCE DRAWINGS ATTACHED <input checked="" type="checkbox"/>									
POST-INSTALLATION TEST <input checked="" type="checkbox"/> PRE-INSTALLATION TEST <input type="checkbox"/>									
Test Design Criteria				Test Section - Reference Data					
Minimum Component Characteristics		Test Pressure Calculations							
Pipe Information				Test Medium Water					
O.D.	4.5	<input type="checkbox"/> Input minimum and maximum pressure of test		Test Duration 8 hour Hours (min)					
Wall Thickness	0.188	<input type="checkbox"/> Input minimum and maximum %SMYS of test		Section Length 3,282 Ft.					
SMYS	52,000			Section Fill Volume 2,711 Gal					
Grade	X52			Max. Elevation Change 37 Ft.					
Valve/Flange ANSI Class Rating				Station Equations: 1 2 3					
600# Valves/Fittings				Back 0+00 0+00 0+00					
				Ahead 0+00 0+00 0+00					
Test Pressures									
Location	Station	Elevation (feet)	Max. psig.	% SMYS @ Max.	Min. psig.	% SMYS @ Min.	Variance psig.	Target psig.	% SMYS @ Target
BEGIN -	0+00	4617	2,204	50.7%	1,850	42.6%	354	2,026	46.6%
HIGH ELEVATION	0+00	4617	2,204	50.7%	1,850	42.6%	354	2,026	46.6%
LOW ELEVATION	12+00	4580	2,220	51.1%	1,866	42.9%	354	2,043	47.0%
END	32+82	4593	2,214	51.0%	1,860	42.8%	354	2,037	46.9%
Chart Location (Test Point)	0+00	4617	2,204	50.7%	1,850	42.6%	354	2,026	46.6%
REMARKS:									
ASME B16.5 2.6 System Hydrostatic Testing 2003:									
Flanged joints and flanged fittings may be subjected to system hydrostatic tests at a pressure of 1.5 times the 38°C (100°F) rating rounded off to the next higher 1 bar (25 psi) increment. Testing at any higher pressure is the responsibility of the user, taking into account the requirements of the applicable code or regulation.									
PRE-TEST APPROVAL / REVIEWED BY:			TEST PERFORMED / ACCEPTED BY:			POST-TEST REVIEWED BY:			
Originator/Project Manager (Signature)		Date:	Test Performed by (Signature):		Date:	Construction Manager (Signature)		Date:	
Craig Melton		09/29/2020	Emmanuel Baah		10-7-20	Ralph L. Carr		10-8-2020	
Designed Reviewed if applicable (Signature)		Date:	Company Name (for Contractor or for Employee):		Date:				
			Northwinds of Wyoming		10-7-20				
Compliance (Signature)		Date:	Witnessed & Accepted by Company Representative:		Date:	Actual MAOP			
			(Signature) [Signature]		10-7-20				







Pipeline Pressure Test Documentation

Pressure Test Report

Form :

Revision
3

Revision Date

Project Name : PDC Sunlight

AFE No. : 5000722

Contractor / Testing Company : Northwinds of Wyoming Construction

Technician : Emmanuel Zepeda

Test Section No. : 0

From Station No. : 0+00

Test Description: Pressure test of 3282' of 4" pipe

To Station No. : 32+82

Test Type : Subpart E Test

Start of Test Period : Date : 10-7-20

Time : 6:00 AM

Min. Test Duration : 8 hour

End of Test Period : Date : 10-7-20

Time : 2:06 PM

Class Location : Not Applicable (Liquids)

Low Strength Pipe : O.D. : 4.500 W.T. : 0.188 SMYS : 52,000 Grade : X52 Station Piping : Yes

Test Medium : Water Source of Medium : N/A

Corrosion Inhibitor : No Inhibitor Type : N/A Rate : N/A

Leak Detection : No Material Type : N/A Rate : N/A

Deadweight Tester : Mfg : Crystal Serial : 352036 Calibration Date : 7-31-20

Deadweight Tester Location : Station No. (ESN) : 0+00 Elevation (ft) : 4,617

Pressure Recorder : Mfg : Barton Serial : 202A-253605 Calibration Date : 7-8-20

Pipe Temp. Recorder : Mfg : Barton Serial : 202A-253605 Calibration Date : 7-8-20

Target Test Pressure Range

Pre-approved Target Test Pressure : 2,026.0 psig

Maximum Test Pressure : 2,220.0 psig

Max Elevation Change : 37

Minimum Test Pressure : 1,850.0 psig

Time	Pressure (psig)	Pipe Temp.	Amb. Temp.	Weather	Visual Inspection	Comments
5:00	0	50	40			Run chart on 0 for 15 mins
5:15	0	50	40	Cool	Heater on	Pressure up to 30% test
5:16	545	50	40		check for leaks	Hold 15 mins
5:31	547	54	40		Heater on	Pressure up to 60% test
5:35	1200	54	40	Cool		Hold 15 mins
5:47	2026	55	41		check for leaks	Pressure up to test target
6:00	2026	56	42		Heater on	Hold Pressure
6:15	2027	57	42	Cool		Start 8 hour test
6:30	2027	60	42		Heater on	
6:45	2027	63	42	sun rise	check for leaks	
7:00	2027	63	42			
7:30	2027	65	43	Clear		
8:00	2028	66	45			
8:30	2028	67	47		check for leaks	
9:00	2029	67	49	Clear		
9:30	2030	71	54			
10:00	2032	75	57			
10:30	2035	76	60			
11:00	2037	77	63	Clear	check for leaks	
11:30	2040	78	66			
12:00	2044	82	68			
12:30	2048	86	68			
1:00	2052	88	69	Clear		
1:30	2057	90	72		check for leaks	
2:00	2060	93	75			8 hr test over / Hold 15 mins
2:15	2061	93				Bleed down to 60% test
2:20	1202	93				Hold 15 mins

Made a mark on chart at 2:10 pm while removing chart out of recorder



9829 E. Easter Ave. • Centennial, CO 80112
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Toll Free 1.800.327.7257
www.jmcinstruments.com

CR-1

CERTIFIED CALIBRATION

CUSTOMER Cross Country ORDER NO. _____

ITEM Digital Gauge RANGE 0-5000PSIG ITEM NO. 5067-1

TRUE VALUE	INDICATED VALUE	
	INCREASING READINGS	DECREASING READINGS
PSIG		
0.00	0	
500.00	499.8	499.9
1000.00	999.5	999.6
1500.00	1498.9	1499.2
2000.00	1998.9	1999.2
2500.00	2499.0	2499.7
3000.00	2999.1	2999.5
3500.00	3499.3	3499.3
4000.00	3999.0	3990.2
4500.00	4498.5	4498.5
5000.00	4998.6	4498.6

Tested On: Deadweight Tester S/N# 1GA4474

Traceable to National Institute of Standards and Technology certificate
17-043

Tested By: Brian McLain Date 7/31/20

Remarks:

Crystal	XP2i	SN 352036
Accuracy is +/-	.25	% of Full Scale or Better
Test Conditions	71 °F; 620	mmHg Atm. Pressure

Cross Country Infrastructure Services. Inc

Sales and Service

2251 Rifle Street - Aurora, Colorado 80011

Phone 303.361.6797 Fax 303.361.6836

NIST CALIBRATION DATA

Model Number	Serial Number	Customer	Range	Accuracy
Barton	265-9861	Cross Country Rental	3000# - 150F	1/2%
Work Performed:		Calibration: Output/Reading	Results: Pressure	
Calibrate to Mfg. Spec.		0 PSI	0 PSI	
		600 PSI	600 PSI	
		1200 PSI	1200 PSI	
		1800 PSI	1800 PSI	
		2400 PSI	2400 PSI	
		3000 PSI	3000 PSI	
		33 Deg	33 DEG	
		74 DEG	74 DEG	
		110 DEG	110 DEG	
		150 DEG	150 DEG	
PO Number		Sales Order Number	Date of Test	
Rental Unit		Certified	10/6/2020 11:37:42 AM	

Remarks: ALL CALIBRATIONS ARE GOOD FOR ONE YEAR FROM DATE OF TEST

Standard Used:

Manufacturer	Model	Instrument	Calibration Date	Certification #
Perma-Cal	101FTM15B21	Pressure Gauge	03/06/2020	17-043
Tech Instrumentation	TM99A	Thermometer	03/06/2020	59448

Don F.

Signature

Don Erick 10-6-2020

Cross Country Infrastructure Services. Inc

Sales and Service

2251 Rifle Street - Aurora, Colorado 80011

Phone 303.361.6797 Fax 303.361.6836

NIST CALIBRATION DATA

Model Number	Serial Number	Customer	Range	Accuracy
Barton	202A-253605	Cross Country	3000# - 150F	1/2%
Work Performed:		Calibration: Output/Reading	Results: Pressure	
Calibrate to Mfg. Spec.		0 PSI	0 PSI	
		600 PSI	600 PSI	
		1200 PSI	1200 PSI	
		1800 PSI	1800 PSI	
		2400 PSI	2400 PSI	
		3000 PSI	3000 PSI	
		33 Deg	32 DEG	
		60 DEG	60 DEG	
		108 DEG	108 DEG	
		147 DEG	147 DEG	
PO Number		Sales Order Number	Date of Test	
Recalibrated		Certified	7/8/2020 10:22:25 AM	

Remarks: ALL CALIBRATIONS ARE GOOD FOR ONE YEAR FROM DATE OF TEST

Standard Used:

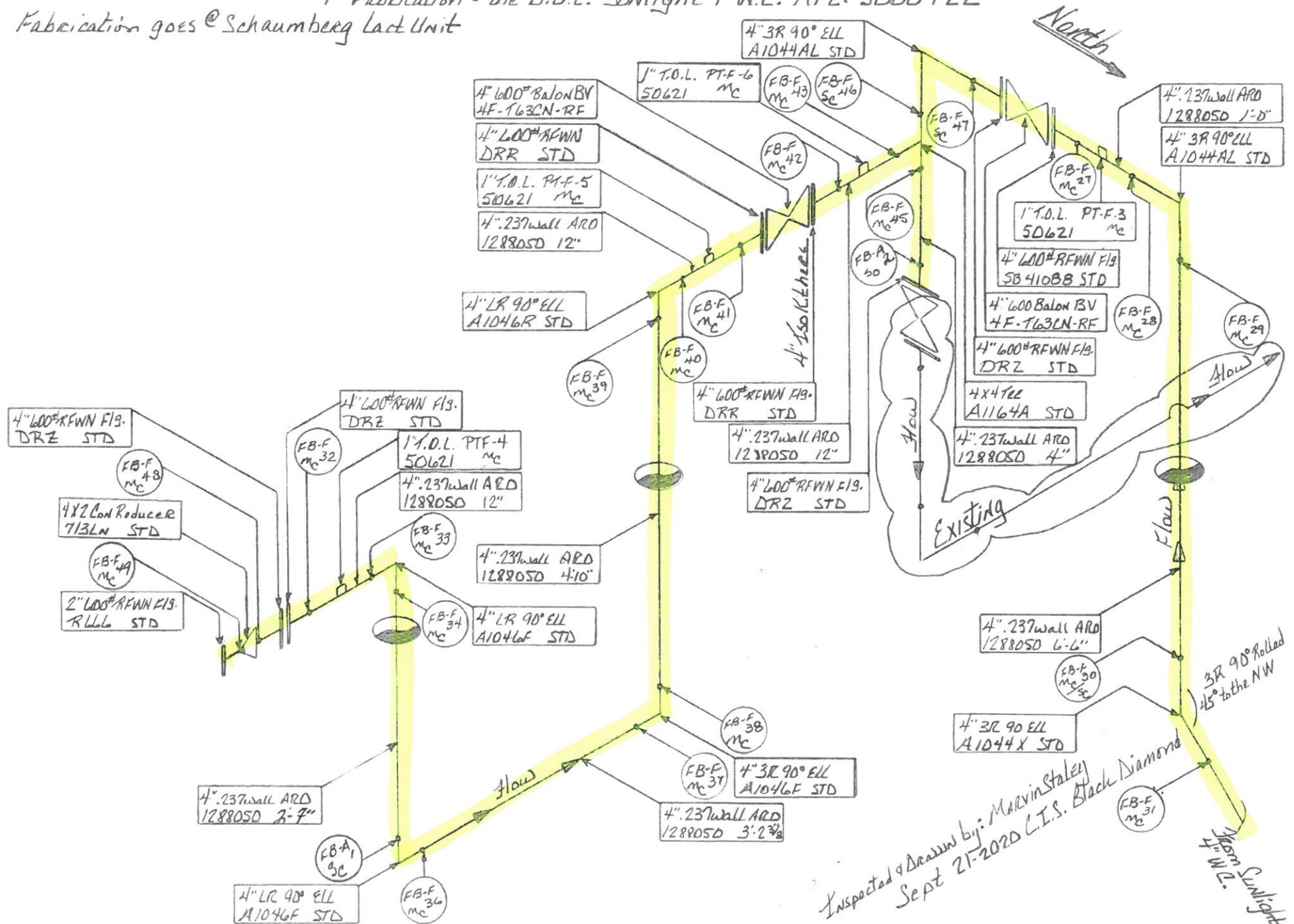
Manufacturer	Model	Instrument	Calibration Date	Certification #
Perma-Cal	101FTM15B21	Pressure Gauge	03/06/2020	17-043
Tech Instrumentation	TM99A	Thermometer	03/06/2020	59448

Don F.

Signature

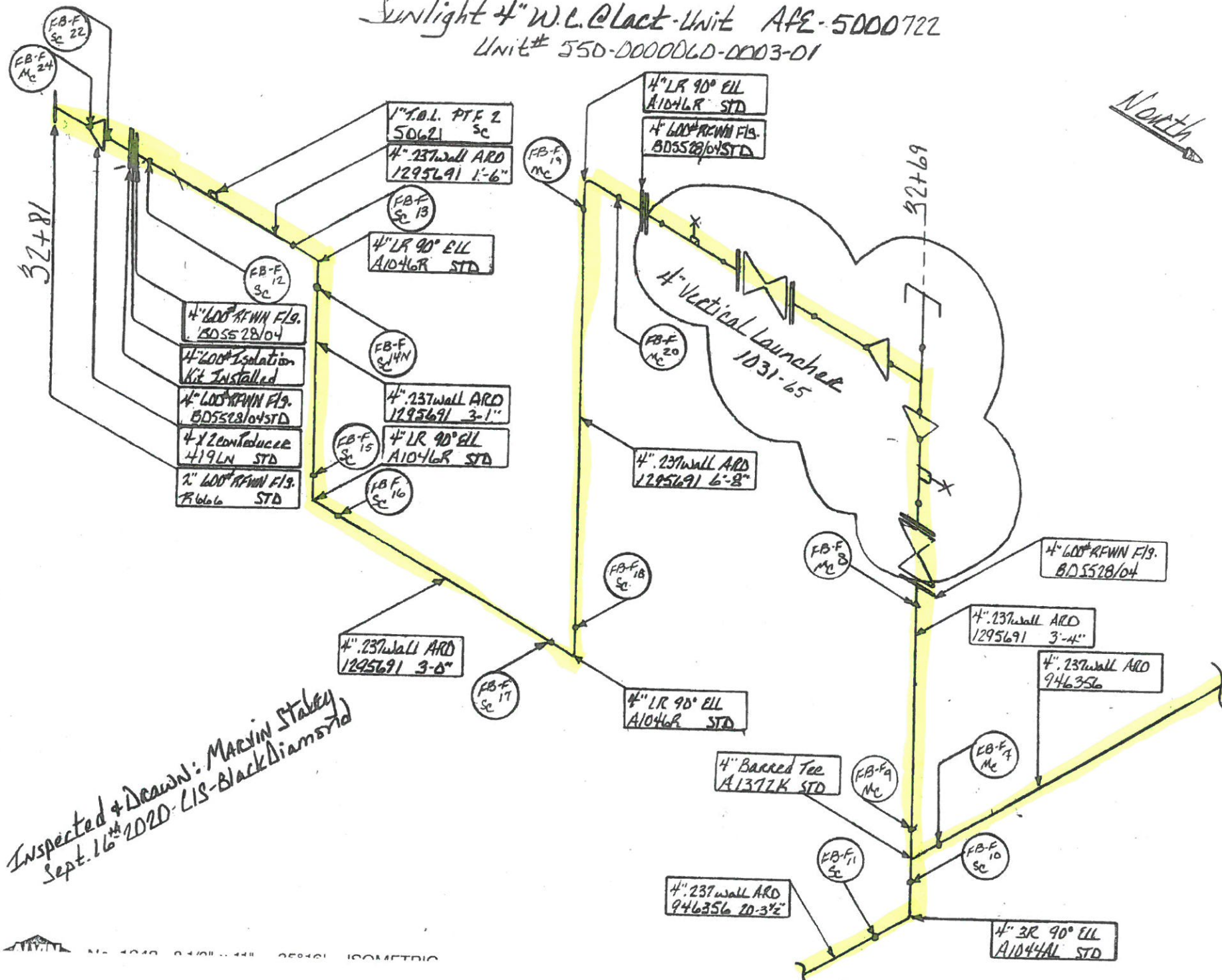
Don Fries 7-8-20

4" Fabrication @ the B.O.L. - Sunlight 4" W.C. AFE: 5000722
 Fabrication goes @ Schaumburg Last Unit



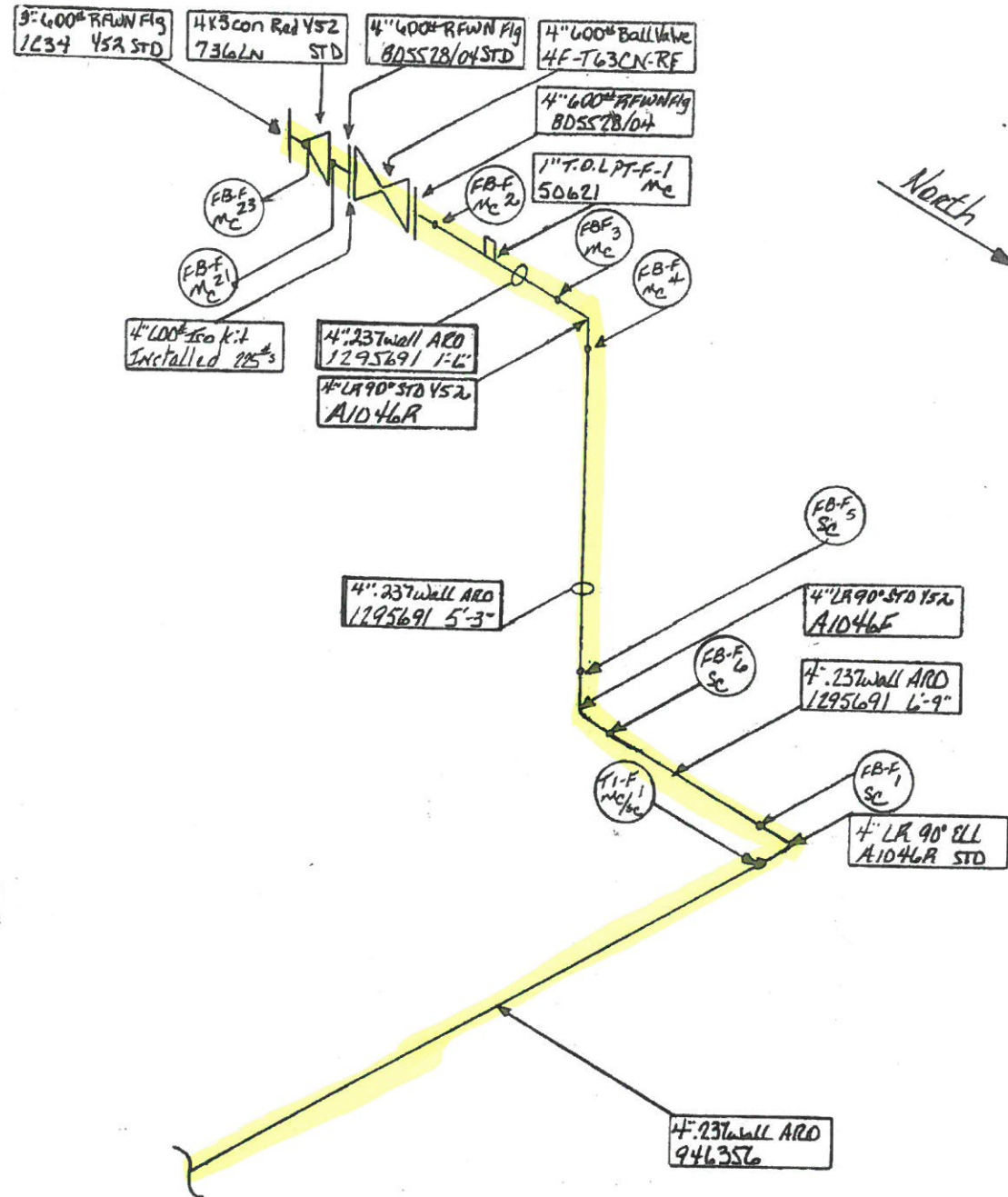
Inspected & Drawn by: Marvin Staley
 Sept 21-2020 C.I.S. Black Diamond
 Sunlight

Unit# 550-0000060-0003-01

A hand-drawn arrow pointing towards the top right, with the word "North" written above it in a cursive script.

Inspected & Drawn: MARVIN STALEY
Sept. 16th 2020 - LIS-Black Diamond

Sunlight 4" WC AFE: 5000722
 Lact Unit 550-0000048-0003-01



Inspected & Drawn by Marvin R. Staley
 Sept. 15-2020 C.I.S. - Black Diamond