



TEST SPECIFICATIONS

Black Diamond Gathering, LLC - Pressure Test

PDC Judy

Rev3

Date:

13-Jan-2020

Select Routing:

Test Number: 1 of 1

Project Name:

PDC Judy

Project I.D. / AFE Number

5000369

Facility Name or Number

Judy Connect - BDO-04-RVL-100-L2-1

Contractor / Testing Company:

Northwinds

Technician

Installation Location
(M.P. or S.S.):

0+00 to 3+44

State:
CO

County/Parish:
Weld

Class Location
Designation

N/A

Selected
Design
Pressure

1480

Planned
MAOP

1480

Lat: 40°20'28.34"N to Lat: 40°20'26.15"N
Long: 104°35'23.00"W to Long: 104°35'22.27"W

Project Description:

Hydrostatic pressure test of 344' of 4" Carbon Steel.

Testing at 1.25*MAOP = 1850 psig minimum test pressure. 2036 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 ☐ STRENGTH TEST ☐ FABRICATION ☐ NEW CONSTRUCTION ☒ REPLACEMENT ☐ RETEST ☐ REFERENCE DRAWINGS ATTACHED ☐

POST-INSTALLATION TEST ☒ PRE-INSTALLATION TEST ☐

Minimum Component Characteristics

Pipe Information

O.D.	4.5
Wall Thickness	0.188
SMYS	52,000
Grade	X52

Valve/Flange ANSI Class Rating
600# Valves/Fittings

Test Design Criteria

Test Pressure Calculations

- ☐ Input minimum and maximum pressure of test
☐ Input minimum and maximum %SMYS of test

	Pressure (psig)	% PIPE SMYS
Max. Test Pressure (Pipe)	2220	51.1%
Max. Test Pressure (Valves and Fittings)	2220	51.1%
Min.	1850	42.6%

Test Section - Reference Data

Test Medium	Water		
Test Duration	8 hour	Hours (min)	
Section Length	344	Ft.	
Section Fill Volume	284	Gal	
Max. Elevation Change	7	Ft.	
Station Equations:	1	2	3
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	4791	2,220	51.1%	1,853	42.6%	367	2,036	46.9%
HIGH ELEVATION	3+44	4798	2,217	51.0%	1,850	42.6%	367	2,033	46.8%
LOW ELEVATION	0+00	4791	2,220	51.1%	1,853	42.6%	367	2,036	46.9%
END	3+44	4798	2,217	51.0%	1,850	42.6%	367	2,033	46.8%
Chart Location (Test Point)	0+00	4791	2,220	51.1%	1,853	42.6%	367	2,036	46.9%

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) Craig Melton	Date: 01/06/2020	Test Performed by (Signature): <i>[Signature]</i>	Date: 1-14-20	Construction Manager (Signature): <i>[Signature]</i>	Date: 1-14-2020
Designed Reviewed if applicable (Signature)	Date:	Company Name (for Contractor or for Employee): North Wind of Wyoming	Date: 1-14-20		
Compliance (Signature)	Date:	Witnessed & Accepted by Company Representative (Signature): <i>[Signature]</i>	Date: 1-14-2020	Actual MAOP	



Pipeline Pressure Test Documentation

Pressure Test Report

Form :

Revision
3

Revision Date

Project Name : PDC Judy

AFE No. : 5000369

Contractor / Testing Company : Northwinds

Technician : PHILLIP MACKEY

Test Section No. : 0

From Station No. : 0+00

Test Description: Hydrostatic pressure test of 344' of 4" Carbon Steel.

To Station No. : 3+44

Test Type : Subpart E Test

Start of Test Period :

Date : 1-14-2020

Time : 6:32 AM

Min. Test Duration : 8 hour

End of Test Period :

Date : 1-14-2020

Time : 2:47 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 #: 805319

Calibration Date : 1/3/2020

Deadweight Tester Location : Station No. (ESN) :

0+00

Elevation (ft) :

4,791

Pressure Recorder : Mfg: Barton

Serial #: 2024-12123

Calibration Date : 1/6/2020

Pipe Temp. Recorder : Mfg: Precision

Serial #: 265A-3511

Calibration Date : 1/2/2020

Pre-approved Target Test Pressure : 2,036.0 psig

Max Elevation Change: 7

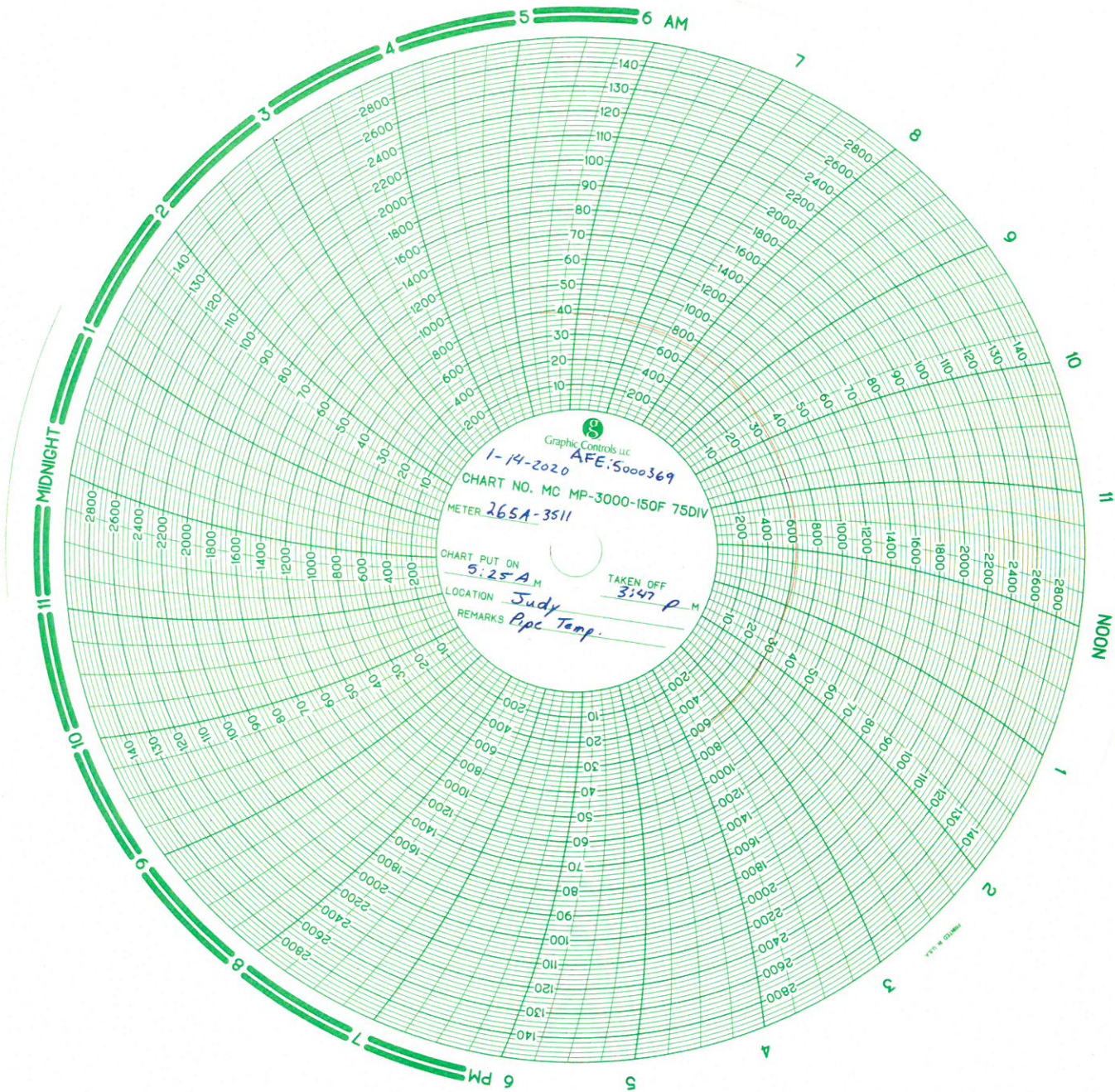
Target Test Pressure Range

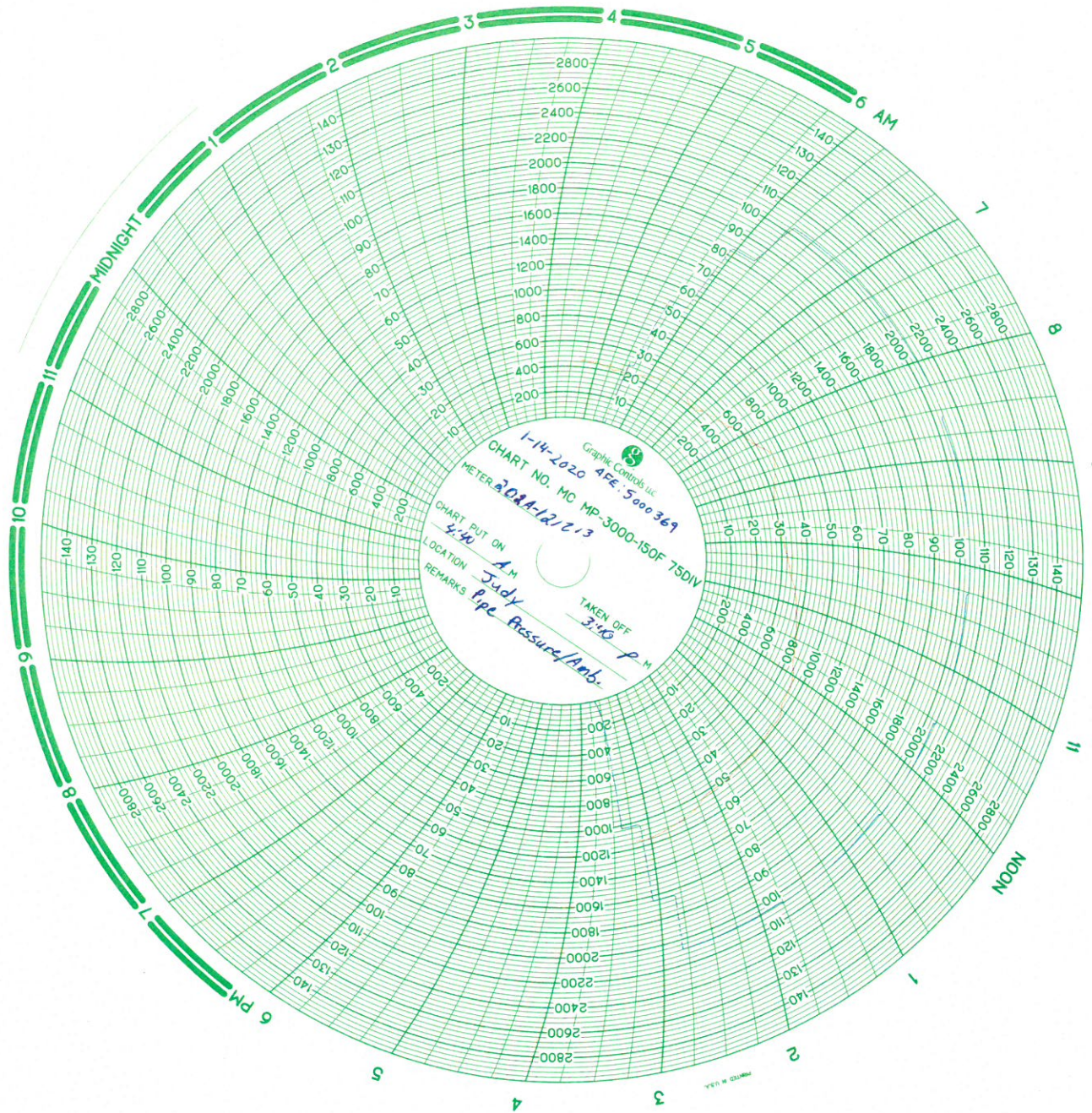
Maximum Test Pressure : 2,220.0 psig

Minimum Test Pressure : 1,850.0 psig

Time	Pressure (psig)	Pipe Temp.	Amb. Temp.	Weather	Visual Inspection	Comments
5:15	0	40	23	Dark/cold	good	
5:33	0	40	22			Pressure up to 501'
5:39	1030	40	23	Dark	good	hold 15 min
5:54	1032	40	23			pressure up to 20.1"
5:57	1633	40	23	Dark/cold		hold 15 min
6:12	1634	40	22		good	pressure up to 100.1"
6:17	2042	40	23			hold
* 6:32	2044	40	23		good	Start test *
6:45	2044	40	24			
7:00	2045	39	25	Sun Rise		
7:15	2046	38	25			
7:30	2048	38	25		good	
7:45	2050	38	22			
8:00	2053	38	24			
8:15	2057	36	24			
8:30	2061	36	30	Sunny	good	Bleed Down to 2044
8:45	2046	36	29			
9:00	2048	35	33			
9:30	2054	34	32		good	
10:00	2059	33	35			
10:15	2061	32	36	Sunny		Bleed Down to 2044
10:30	2045	32	34			
11:00	2054	32	34			
11:30	2061	32	37	Sunny	good	Bleed to 2044
12:00	2051	32	40			

[illegible]





Cross Country Pipeline Supply CO. Inc

Sales and Service

2251 Rifle Street - Aurora, Colorado 80011

Phone 303.361.6797 Fax 303.361.6836

C-1

NIST CALIBRATION DATA

Model Number	Serial Number	Customer	Range	Accuracy
PRECISION	265A-3511	North Winds	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	
		58 DEG	58 DEG	
		105 DEG	105 DEG	
		150 DEG	150 DEG	
PO Number		Sales Order Number	Date of Test	
Recalibrated		Recerted	1/2/2020 9:05:05 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	03/01/2019	17-043
Tech Instrumentation	TM99A	Thermometer	03/01/2019	59448

Kolton.H

Signature

Kolton Hughton

1-2-2020



9829 E. Easter Ave. • Centennial, CO 80112

303.794.8833 • Fax 303.730.1220

Toll Free 1.800.327.7257

www.jmcinstruments.com

CR-3

CERTIFIED CALIBRATION

CUSTOMER Cross Country ORDER NO. _____

ITEM Digital Gauge RANGE 0-5000PSIG ITEM NO. 5039-5

TRUE VALUE	INDICATED VALUE	
	INCREASING READINGS	DECREASING READINGS
PSIG		
0.00		
500.00	498.9	499.5
1000.00	998.3	998.9
1500.00	1497.5	1498.1
2000.00	1997.1	1997.4
2500.00	2495.8	2496.4
3000.00	2995.2	2995.9
3500.00	3493.6	3495.0
4000.00	3995.3	3994.7
4500.00	4491.6	4493.3
5000.00	4993.8	4993.8

Tested On: Deadweight Tester S/N# 1GA4474

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

Tested By: BMK Date 3 January 2020

Remarks:

Crystal	mod. X P2i	SN 805319
Accuracy is +/-	.25	% of Full Scale or Better
Test Conditions	67 °F; 611	mmHg Atm. Pressure

Cross Country Pipeline Supply CO. Inc

Sales and Service

2251 Rifle Street - Aurora, Colorado 80011

Phone 303.361.6797 Fax 303.361.6836

C-2

NIST CALIBRATION DATA

Model Number	Serial Number	Customer	Range	Accuracy
ITT Barton	202A-121213	Northwinds of Wyo.	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	1200 PSI	
		1800 PSI	1800 PSI	
		2400 PSI	2400 PSI	
		3000 PSI	3000 PSI	
		33 Deg	32 DEG	
		56 DEG	56 DEG	
		100 DEG	100 DEG	
		148 DEG	148 DEG	
PO Number		Sales Order Number	Date of Test	
Recalibrated		Recerted	1/6/2020 2:08:19 PM	

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

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Standard Used:

Manufacturer	Model	Instrument	Calibration Date	Certification #
Perma-Cal	101FTM15B21	Pressure Gauge	03/01/2019	17-043
Tech Instrumentation	TM99A	Thermometer	03/01/2019	59448

Don F.

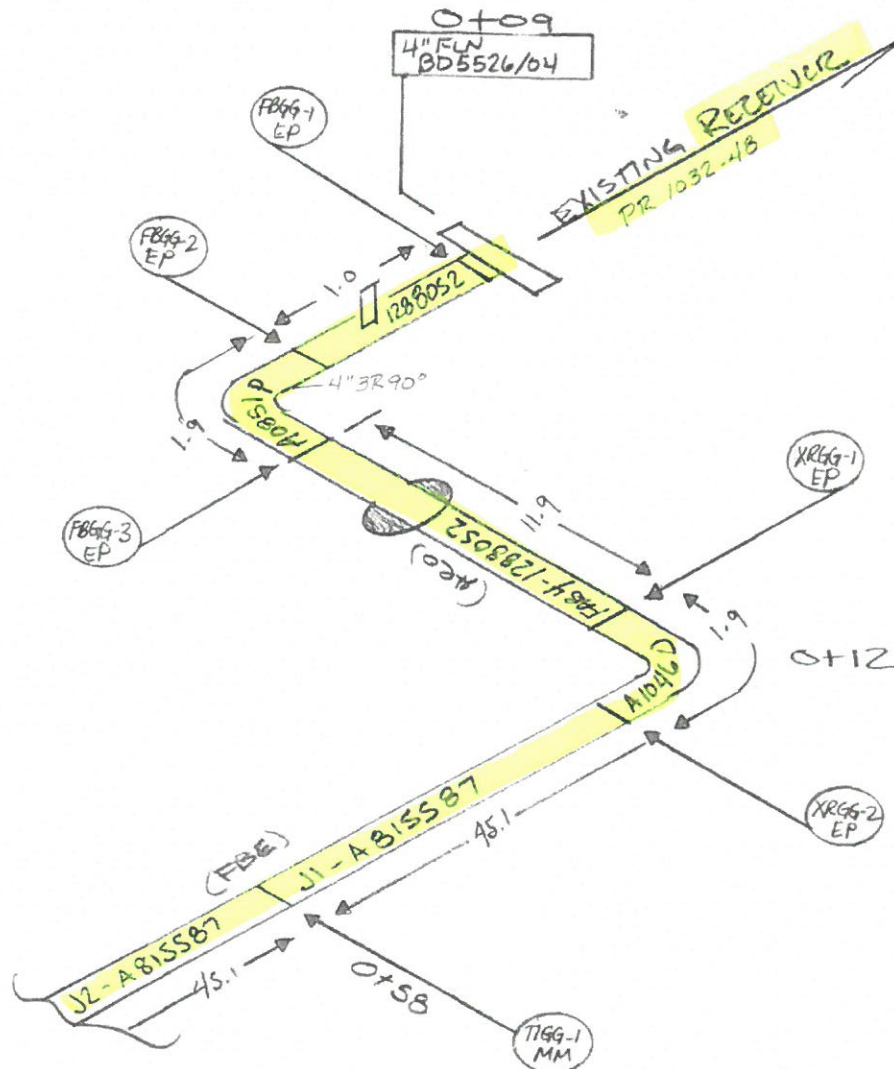
Signature Don Erick 1-6-20

Client: BLACK DIAMOND
 Project: JUDY
 WO#: 122008
 Comments: DOWN LEG OFF RECEIVER
@ BOL
(0+09 - 0+58)



TOPOGRAPHIC
 LOYALTY INNOVATION LEGACY

P.C.- T. MARTINEZ
 I-MAN- S. MCKNIGHT
 R-MAN- _____
 Weather: 40° SW
 Date: 12-10-19



JUDY
 4" DOWN LEG OFF
 RECEIVER
 @ BOL
 0+09 - 0+58

AFE 5000369
 CIS Inspector: Johnny Austin

