



SW Colorado - CO2
Kinder Morgan Energy Partners, L. P.

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Interoffice Correspondence

Date Issued or Revised:

Version	Date	Author (initials)	Description of Change
A	05/02/20	BDM	Initial Revision

To: Mgr. Risk Engineering – Houston **From:** Bryan Moon, Houston, TX

CC:

(via upload folder at \\Houlimsgl1\data\Upload Folder, and email confirmation)

(Note: Mgr. Risk Engineering will email link to: IMP Group, Integrity Field Processes Manager, Corrosion Process Manager, Regional Pipeline Maintenance Manager and PODS/GIS gatekeepers when document is placed in its respective folder.)

Subject: Hydrostatic Testing Action Plan: DC-16 Flow Line, ~6,300 feet in length of 6"-1500 MXL FlexSteel Pipe, Hydrostatic test to test the structural integrity of the new line pipe and flanges.

This action plan summarizes the actions taken to complete hydrostatic testing in accordance with Federal and State regulations and KMEP specifications. This plan also documents the results and identifies any follow-up requirements. Procedures to follow this plan are covered in L-O&M 903, L-O&M 914, L-O&M 918, and L-O&M 1600.

If this test is required to satisfy integrity reassessment requirements, Parts A and B of this plan must be completed and retained as detailed below. If this test is being performed to satisfy the requirement for hydrostatic testing of a new or altered pipeline facility, only Part A of this plan must be completed and retained.

Part A – Hydrostatic Testing Action Plan

Critical Action Plan Dates (to be filled in as action plan process progresses, add lines as required)

Step in Process	Date Step Occurred	Comments/Clarifications
<u>Proposed</u> minimum and maximum deadweight assessment pressures selected, reviewed and approved.	05/02/20	Segment Critical MOP: 1,440 psi <u>Proposed</u> minimum deadweight pressure: 1810 psi <u>Proposed</u> maximum deadweight pressure: 2100 psi Elevation of deadweight tester: 7,410 ft Location of tester: DC-16 Well Pad Alignment Sheet Number: n/a Alignment Sheet Revision Date: n/a Calculated by B. Moon
Attach hydrostatic pressure profile, if elevation change exceeds 100ft, per 195.310(b)(9).	N/A	N/A
Identified and informed people who live and work within 100 ft of the pipeline.	N/A	N/A
Informed state and local law enforcement.	Month/Day/Year	State the law enforcement agency contacted.
Informed local agencies as required by that State.	N/A	N/A
Reviewed the quality and effectiveness of the corrosion control program.	N/A	N/A
Hydrostatic test completed		Minimum hydrostatic test pressure at what elevation. Describe any leaks or ruptures.
Repair of any failures		State N/A if not applicable
Metallurgical testing lab results of any failures and samples		State N/A if not applicable or state metallurgical testing company
Establish Reassessment Interval	N/A	N/A

Hydrostatic Test Plan

Attach Hydrostatic Test plan or attach equivalent Hydrostatic Test procedure.

Hydrostatic Test Report

Attach complete Hydrostatic Test Report. See Attachment 1.

Hydrostatic Test Results Documentation Checklist

- 1) Hydrostatic Test Report.
- 2) Log of dead weight pressure readings and temperature readings
Include within the completed Hydrostatic Test Report
- 3) Test instrument calibration certifications and serial numbers (pressure
and temperature recorders and deadweight tester)
Include within the completed Hydrostatic Test Report
- 4) The carrier's name, the name and signature of the person responsible
for the test and the name of the test company used
Include within the completed Hydrostatic Test Report
- 5) The date and time of the test
Include within the completed Hydrostatic Test Report form
- 6) The minimum test pressure observed during the test period
Include within the completed Hydrostatic Test Report
- 7) The test medium
Include within the completed Hydrostatic Test Report
- 8) Continuous pressure versus time record and continuous temperature
versus time record (items 4-7 above should be included on the charts)
- 9) A detailed description of the facility tested and the test apparatus.
A drawing should be included which clearly identifies each tested
section, delineating the tested from the non-tested segments as well
as the location of the deadweight tester.
- 10) An explanation of any pressure discontinuities that appear on any chart.
Including any test failures that appear on chart.
Include within the completed Hydrostatic Test Report
- 11) Where the elevation difference in the test section exceeds 100 ft, a profile
of the pipeline that shows the elevation and test sites over the entire length
of the test section.

Embed all hydrostatic testing documentation items covering 1-11 here

Note: The report number recorded on the Hydrostatic Test Report should be written on each page of the hydrostatic test documentation.

Pipe Failures Summary

For the hydrostatic test, there were a total of enter # pipe failures (not associated with a flange or gasket or other type of non welded fitting). In the case of pipe failure, the project manager, with the assistance of the Manager of Pipeline Integrity, shall identify any and all specimens to be collected for further metallurgical investigation. In order to facilitate an adequate analysis of any leaks or failures, the Project Manager will contact the Manager of Pipeline Integrity or Company Metallurgist to set up a metallurgical protocol, pick a lab to perform the analysis, and determine the sample handling requirements. A detailed Failure Report for each failure is to be attached to the Hydrostatic Test Report. Use the information gathered at the failure site and from the metallurgical examination to determine if additional sites should be excavated and inspected. Retest the pipeline to achieve successful results upon completion of pipeline repairs. Attach additional hydrostatic test Report for any follow-up hydrostatic tests performed. See Attachment 1.

Reassessment Schedule

The reassessment interval for the enter line segment segment is enter years till next assessment. The reassessment schedule is based Federal and State regulations (Note: Some states may dictate a reassessment interval based on a State defined classification of risk) and KMEP specifications. The Business Unit Integrity Management Team is responsible for initiating the Assessment Interval Form. The Manager Risk Engineering is responsible for providing risk related data and recoding the final reassessment interval.

Attach a completed Assessment Interval Form (See attached L-OM900-12 Assessment Interval Form).
Assessment Interval Assessment Form Template LO&M 900-12

Closure Report (upon completion of action plan):

The recommended follow-up actions within this action plan are to be summarized in the attached Closure Report. See Attachment 2.

Distribution (Product Pipelines):

1. Original Hydrostatic Test Records to Regional Manager Pipeline Integrity
2. Copy of Test Records to Director of Engineering
3. Copy of Test Records to State, if required by State Regulation
4. Copy of Test Records to Manager of Risk Engineering

Distribution (CO2):

1. Original Hydrostatic Test Records to Manager Regulatory Compliance
2. Copy of Test Records to Area Field Office
3. A Copy of the Hydrostatic Test Records to State, if required by State Regulation
4. Copy of Test Records to Manager of Risk Engineering

Part B – Supplemental Requirements for Integrity Reassessment

This part must be completed if the testing is required to satisfy integrity reassessment requirements, as prescribed by the IMP manual and LO&M 914.

Integrity Reassessment Method Selection Record

The Business Unit Integrity Management Team is responsible for completing the Assessment Selection Form. The Manager Risk Engineering shall provide all risk related data.

Attach a completed Assessment Selection Form (LOM 900-11).
Assessment Selection Form Template LO&M 900-11

Quality and Effectiveness of Corrosion Control Program for Integrity Assessments

Step in Process	Date Step Occurred	Comments/Clarifications
Provide a review of last 5 years cathodic protection annual survey records.	N/A	Reviewed by N/A
Provide a list of actions taken or adjustments made, based on the 5 year review of annual CP surveys.	N/A	Reviewed by N/A Actions taken or Adjustments made: N/A
Cathodic Protection current demand study.	N/A	Results from CP current demand study : N/A
Review Close Interval Survey results, for CIS surveys completed within past 5 years.	N/A	Reviewed by N/A Results from CIS: N/A
Note any releases within this segment with the root cause	N/A	Reviewed by N/A Describe release due to corrosion and actions

Step in Process	Date Step Occurred	Comments/Clarifications
recorded to be corrosion.		taken to remediate corrosion: N/A
Review coating condition as recorded in pipeline inspection and repair reports from date of last Hydrostatic Test (form LO&M 200-02)	N/A	Reviewed by N/A Coating condition or repairs N/A
Review for external corrosion as recorded in pipeline inspection and repair reports from date of last Hydrostatic Test (form LO&M 200-02)	N/A	Reviewed by N/A External Corrosion Inspection results or repairs N/A
Review Internal Corrosion Inspections as recorded in pipeline inspection and repair reports from date of last Hydrostatic Test (form LO&M 200-02)	N/A	Reviewed by N/A Internal Corrosion Inspection results or repairs N/A
Review atmospheric inspection records (LO&M 200-03)	N/A	Reviewed by N/A Actions based on Atmospheric Inspections N/A

Step in Process	Date Step Occurred	Comments/Clarifications
If available, review prior ILI assessment results	N/A	Reviewed by N/A

NOTE: All reports associated with "Quality and Effectiveness of Corrosion Control Program for Integrity Assessments" are to be included/appended electronically with the Hydrostatic Testing Action Plan Template when it is distributed.

This page is to be completed by the Project Manager prior to the initiation of the pressure test.

COMPANY NAME/NUMBER:		Kinder Morgan CO2 0470			REPORT NO:	DC-16 FlexSteel ~6,300ft			
AFE NO:	218198 – DC-16 Flow Line Construction				COUNTY:	Dolores	STATE:	CO	
FACILITY NAME:	DC-16 Flow Line, Doe Canyon Gathering System				LINE NO:	DC-16 Flow Line			
PROJECT DESCRIPTION:		DC-16 flow line constructed of 6"-1500 MXL FlexSteel pipe with stainless steel piping on both ends.							
From Eng. STA. #:	N/A	PLMP:	N/A	TO: Eng STAT. #:	N/A	PLMP:	N/A		
OPERATING OFFICE:		Cortez, CO			REFERENCE DRAWING:	n/a			
DESCRIPTION OF FACILITY TESTED (Attach map or diagram of assessed segments):		DC-16 FlexSteel 6" flow line. Approximately ~6.300ft.							
TEST MEDIUM:		Water			SG:	1.00			
SERVICE OF LINE:		CO2							
DESCRIPTION OF TEST APPARATUS:		Provide serial numbers of deadweight tester; pressure and temperature chart recorder.							
SEGMENT MOP:		1,440 psig			Reference appropriate LO&M procedure. Procedure reference: 1600				
125% MOP: 1,800 psig				110% MOP: 1,584 psig					
Note: Minimum test pressures over the segment shall be defined to ensure that the minimum pressures defined above is achieved over the entire segment.									
TEST PRESSURES									
MIN PRESSURE AT GAUGE [Pmin]: 1,810 PSIG				MAX PRESSURE AT GAUGE [Pmax]: 2,100 PSIG					
GAUGE LOCATION: (STATION #): 0				ELEVATION [Hg]: 7410 FT					
Hydrostatic Test: As per 195.304, pressure test to be maintained throughout the segment for at least 4 continuous hours at a pressure equal to or more than 125% MOP.									
Leak Test: As per 195.304, if pipeline segment is not visually inspected for leakage during the 4 hour pressure test, the test shall be continued for an additional 4 hours at 110% MOP or greater.									
PIPE TESTING									
Start and End Station	Outside Dia (in)	Min Elev. [Hmin] (ft)	Max Elev. [Hmax] (ft)	Wall (inches)	GRADE	Seam Type	Pressure @ 100% SMYS (psig)	Max Pressure = Pmax + 0.433 X SG X (Hg - Hmin) (psig)	Min Pressure = Pmin + 0.433 X SG X (Hg - Hmax) (psig)
00+00, 63+00	6.94	7200	7410	0.365	X46	HFW/E RW	2733	2190	1810
FITTINGS, VALVES, FLANGES, etc TESTING									
TYPE/ DESCRIPTION	CLASS/ RATING (ANSI Rating/psig)	Min Elev. [Hmin] (ft)	Max Elev. [Hmax] (ft)	Max Pressure = Pmax + 0.433 X SG X (Hg - Hmin) (psig)	Min Pressure = Pmin + 0.433 X SG X (Hg - Hmax) (psig)				
Flange, RFWN, 6"	600#	6684	6684	2100	1810				
Max and Min Pressure Check:									
Maximum Limits: 1.5 X Flange Pressure Rating or 100% of SMYS, whichever is less.									
Minimum Limit: 1.25 X MOP									

**ATTACHMENT 1 (cont'd)
HYDROSTATIC TEST REPORT**

Report No: DC-16 FlexSteel ~6,300ft

This page is to be completed by the Project Manager prior to the initiation of the pressure test.

SPIKE TEST (if Applicable)		
Refer to LO&M 917 and LO&M 1600, for SCC related testing requirements.		
INITIAL SPIKE PERIOD		
MINIMUM TEST PRESSURE:	N/A psig	Test to be maintained throughout the segment for at least 15 minutes at a pressure equal to or more than 105% SMYS of any portion of the segment under test.
MAXIMUM TEST PRESSURE:	N/A psig	The maximum test pressure to be maintained throughout the segment for the first 15 minutes shall not be greater than 110% SMYS of any portion of the segment under test.
FINAL TEST PERIOD		
MINIMUM TEST PRESSURE:	N/A psig	Test to be maintained throughout the segment for at least 8 hours at a pressure equal to or more than 90% SMYS of any portion of the segment under test.

HYDROSTATIC TEST RESULTS

COMPLETED ON THE DAY OF TEST:

DATE OF TEST: FROM 2:45 am pm Date: 5/20/20 TO 2:45 am pm Date: 2/2/20

ACTUAL TEST PRESSURE:

ACTUAL MIN. GAUGE PRESSURE	<u>1886</u> psig	ACTUAL MAX. GAUGE PRESSURE	<u>1904</u> psig
ELEV. PRESSURE CORR. (High Pt)	- _____ psig	ELEV. PRESSURE CORR. (Low Pt)	+ _____ psig
ACTUAL MIN. TEST PRESSURE	= _____ psig	ACTUAL MAX. PRESSURE	= _____ psig

ANY PRESSURE DISCONTINUITIES? NO YES

IF YES, EXPLAIN:

Any test failures shall be explained on the Failure Data Sheet below.

Technician Performing Test: Bob Lutgen Bob Lutgen Date: 5-21-2020
 (Print Name) (Signature)

Testing Company: Halo Services
 (Print Name)

KMEP Inspector: Timmy Burton [Signature] Date: 5-21-20
 (Print Name) (Signature)

Attach:

1. Test Instrument Calibration Certification & Serial Numbers
2. Elevation Profile (where elevation differences are greater than 100ft)
3. Continuous pressure verses time record and continuous temperature verses time record (Circular Chart). Report to include:
 - a. Date and time of test
 - b. Minimum test pressure observed
 - c. Maximum test pressure observed
 - d. Temperature observed

PRESSURE TEST RESULTS

PRESSURE TEST LOG

Date: 5-21-2020 Completed By: Bob Lutgen Page 1

Time	Deadweight (psig)	Pipe/Medium Temperature (°F)	Ambient Temperature (°F)	Remarks (weather, medium added or removed, etc)
6:00 am	1750	38°	28°	Continued From 5-20-2020
6:15 am	1750	38°	28°	
6:30 am	1904	38°	28°	START 8 hour TEST
6:45 am	1903	38°	28°	
7:00 am	1902	38°	32°	
7:15 am	1901	38°	35°	
7:30 am	1900	39°	39°	
7:45 am	1899	39°	45°	
8:00 am	1898	39°	51°	
8:15 am	1897	41°	51°	
8:30 am	1896	44°	51°	
9:00 am	1895	47°	53°	
9:30 am	1895	48°	57°	
10:00 am	1886	50°	56°	
10:30 am	1886	50°	56°	
11:00 am	1887	53°	57°	
11:30 am	1888	58°	59°	
12:00 pm	1890	62°	60°	
12:30 pm	1892	65°	60°	
1:00 pm	1895	68°	63°	continued next page

Comments on testing or additional pipe, fitting, valve, flange, etc. descriptions:

FAILURE DATA

Date: 5-21-20 Completed By: Jimmy Burton

Requirements

Identify any and all specimens to be collected for further metallurgical investigation. In order to facilitate an adequate analysis of any leaks or failures, contact the Region Manager of Pipeline Integrity and consult with the Corporate Metallurgist to set up a metallurgical protocol, pick a lab to perform the analysis, and determine the sample handling requirements. Provide one failure report for each failure identified during testing.

Describe Test Failures: None

Leakage rate: _____ Initial Check _____ psi/min @ _____ Psi @ dw = _____ Gal/24 hrs. _____

Specimen Index

No.	Eng Station	Elevation	Pressure @ Deadweight	Remarks
		ft	psig	
		ft	psig	
		ft	psig	
		ft	psig	

Explain test failure (was the failure due to hook cracks, selective seam corrosion, internal corrosion, etc?)

NA

Attachments:

1. Metallurgical Review Report
2. Photos of failure and repair
3. Any drawings that may aid in the understanding of the failure

CLOSURE REPORT



Enter Region and/or Buisness unit
Kinder Morgan Energy Partners, L. P.

ENTER OFFICE ADDRESS

Phone: Enter phone number • Fax: Enter fax number

Interoffice Correspondence

Date: Enter date Closure Report generated

To: enter name – Manager, Risk Engineering – Houston

From: Enter name

enter name – Director Pipeline Integrity – Houston

enter name – GIS Database Gatekeeper

Enter names and location for distribution

Enter names and location for distribution

Subject: Closure Report: *KMEP*, Enter line segment number/name/dia.

Hydrostatic Testing of the Kinder Morgan Energy Partners enter line segment and diameter was performed by enter hydrostatic test vendor name on enter the date of the test. This report summarizes and follow-up actions defined within the action plan and recommends project closure.

Follow-up Actions

A summary of any recommended follow-up actions based on the results of the hydrostatic test are presented below, if applicable.

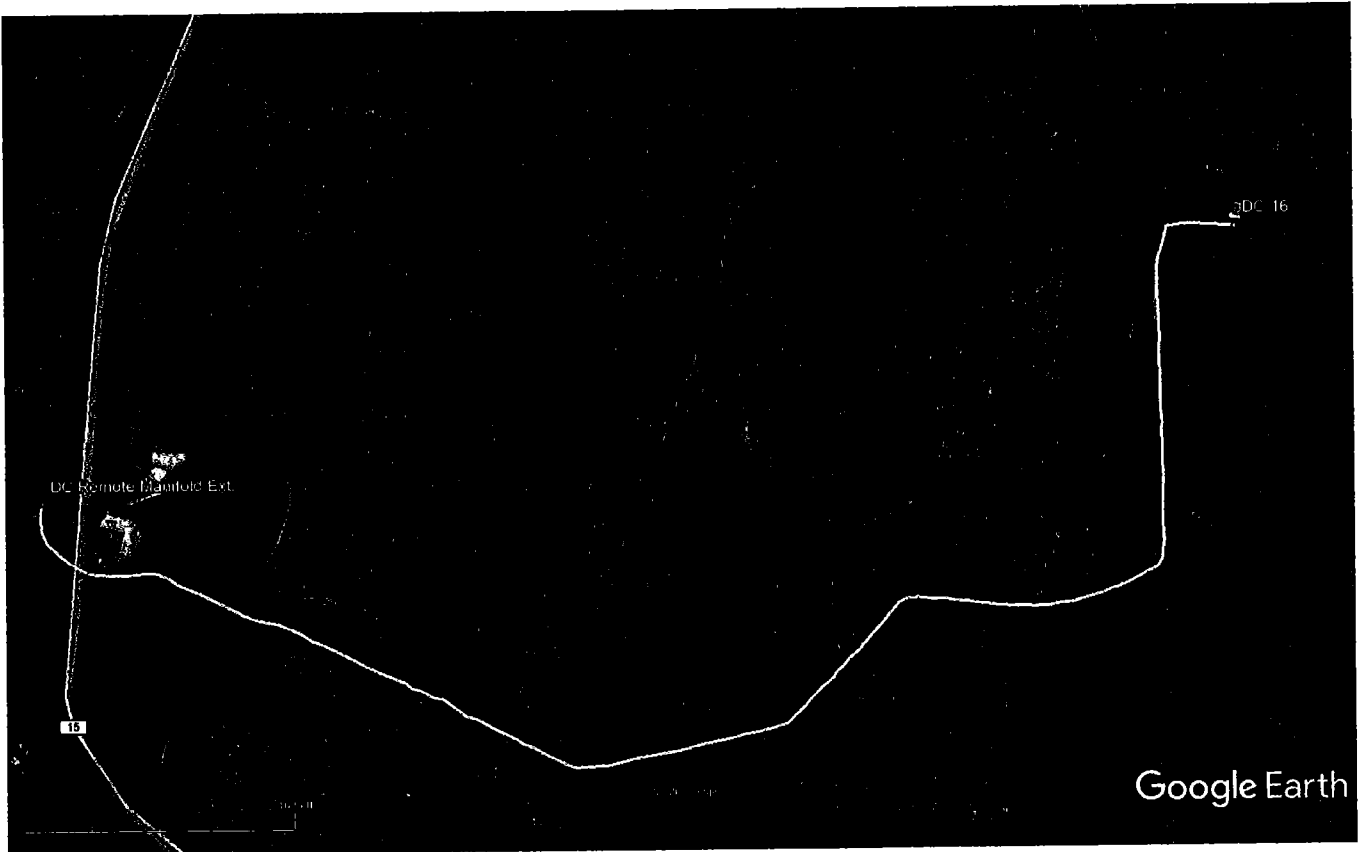


Figure 1 - Test Section (Yellow Line).

PELINE FACILITY TEST REPORT

AM 010 1230 (1-04)

3-WORK ORDER NO.

FACILITY DESCRIPTION

NAME OF FACILITY: Kinder Morgan

3-FACILITY LOCATION: _____ AREA: _____ DISTRICT: _____ COUNTY/STATE: _____

FACILITY TYPE:

Gathering Transmission
 Line Pipe Plant/Station Vessel
 Hot Tap Line Junct. Well Setting
 Fabrication Other _____

3A-SECTION: _____ TOWNSHIP: _____ RANGE: _____

6-PIPE MANUFACTURER: _____

DIAMETER: 6"

WALL THICKNESS: _____

6-PIPE DATA: _____

SPEC. & GRADE: _____

LENGTH OF TEST SECTION: _____

DESCRIPTION OF PORTION TESTED (FROM - TO): 6" Flex steel DC Remote manifold ext. to DC-16

1-TYPE OF TEST:

Strength Leak Both 9-TEST STATIONS AND ELEVATION

10-REASON FOR TEST:

New Facility Pre-Test Repair Retest

BEGIN LOCATION: _____ END LOCATION: _____ DEAD WEIGHT: _____

HIGH POINT: _____ LOW POINT: _____ PRESSURE PUMP: _____

11-PRESSURE DATA:

PRELIMINARY LEAK PRESSURE: 380, 760, 1140, 1520, 1900

REQUIRED TEST PRESSURE: 1810 min / 1900 2100 max

REQUIRED TEST DURATION: 8 Hour

BEGIN STATION MINIMUM PRESSURE: _____ END STATION MINIMUM PRESSURE: _____

HIGH POINT MINIMUM PRESSURE: _____ LOW POINT MAXIMUM PRESSURE: _____

TEST LIMITATIONS (VALVES, FITTINGS, ETC.): _____ TEST MEDIUM: H₂O

12-TEST START DATE: 5-21-2020 HOUR: 6:30am

13-TEST COMPLETED DATE: 5-21-2020 HOUR: 2:45pm

14-WEATHER: Clear cool

15-COMMENTS: _____

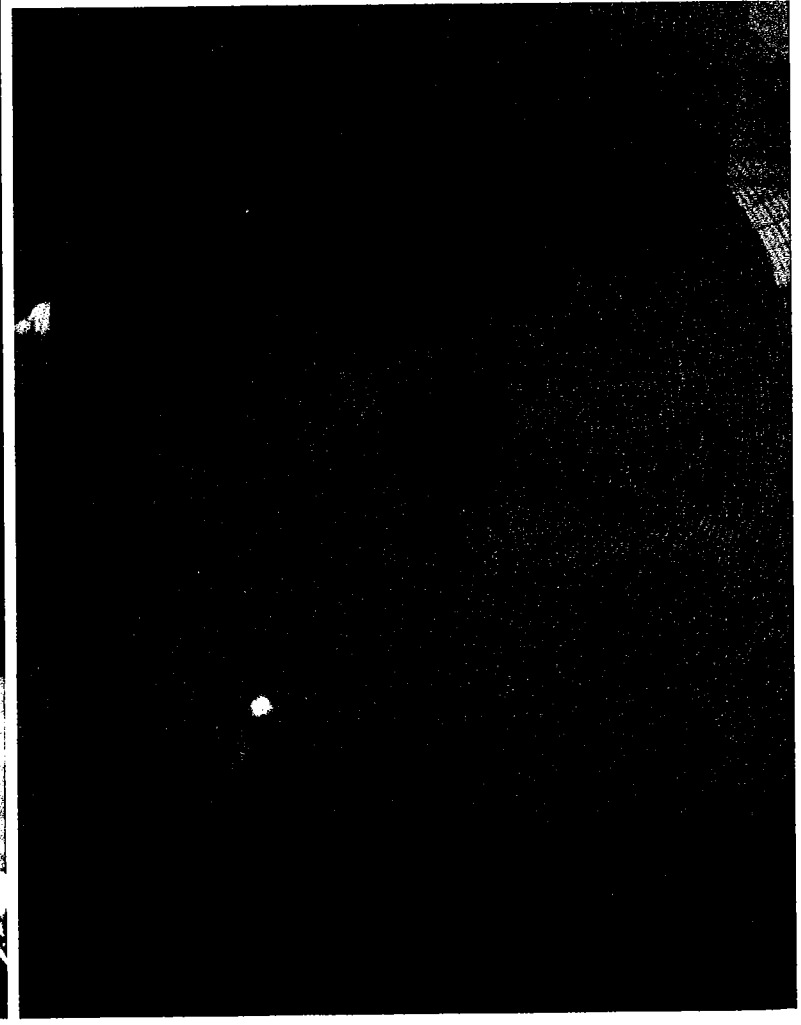
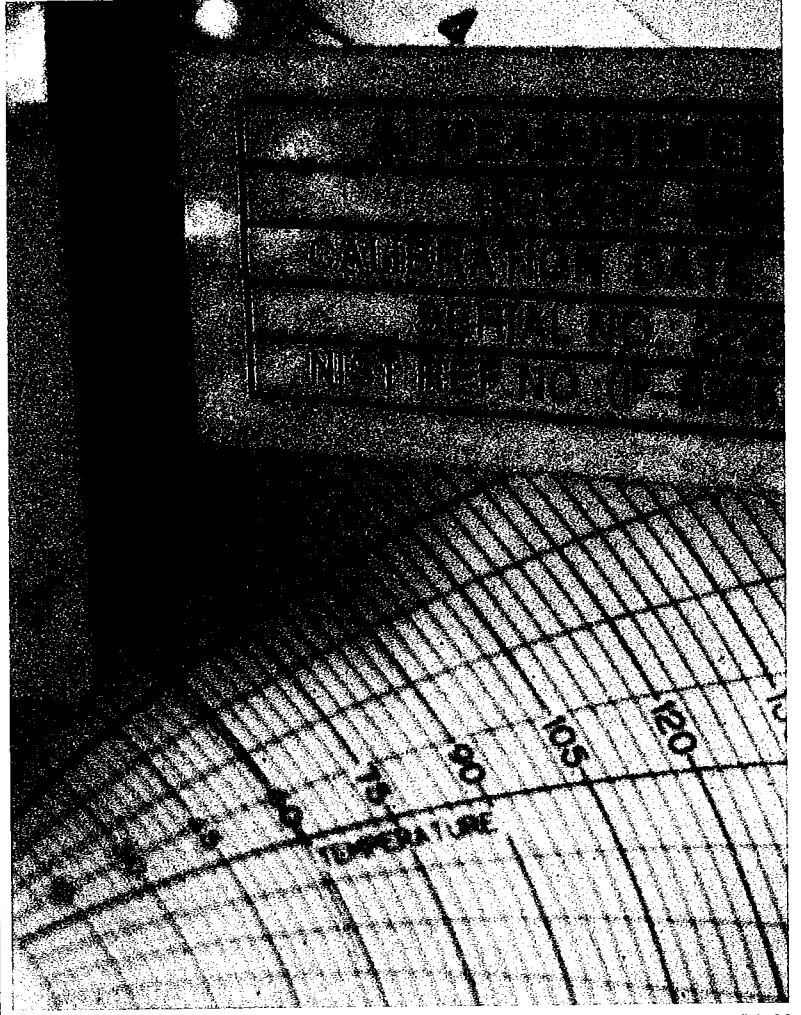
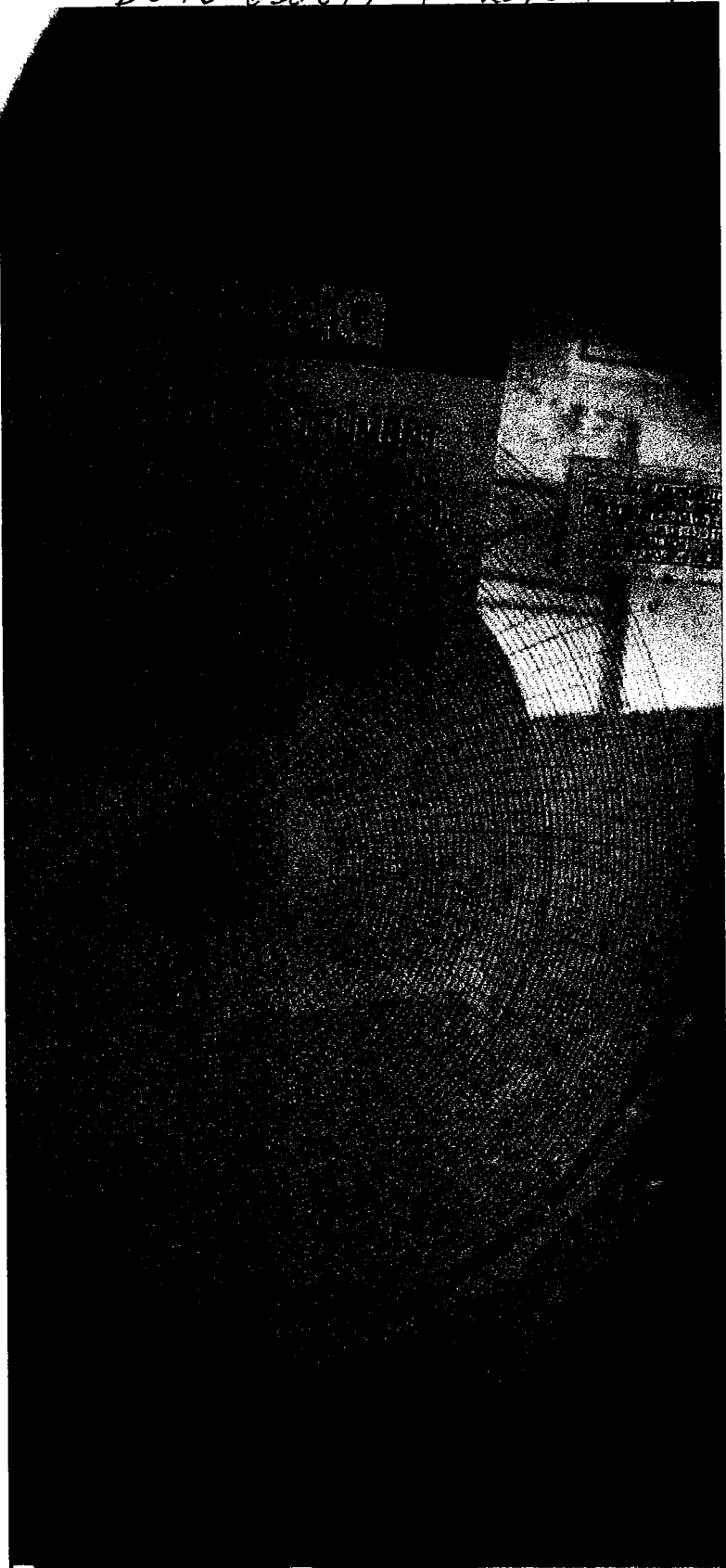
TIME	D.W. PRESSURE	AMB. TEMP, °F	PIPE TEMP	REMARKS
6:00am	1750	28°	38°	continued From 5-20-2020 bumped up pressure back to 1904 start 8 hour test
6:15am	1750	28°	38°	
6:30am	1904	28°	38°	
6:45am	1903	28°	38°	
7:00am	1902	32°	38°	
7:15am	1901	35°	38°	
7:30am	1900	39°	39°	
7:45am	1899	45°	39°	
8:00am	1898	51°	41°	
8:15am	1897	51°	44°	
8:30am	1896	51°	47°	
9:00am	1895	53°	48°	
9:30am	1895	57°	50°	
10:00am	1886	56°	50°	
10:30am	1886	56°	53°	
11:00am	1887	57°	58°	
11:30am	1888	59°		continued next page

DATA TAKEN BY: Bob Zutzan

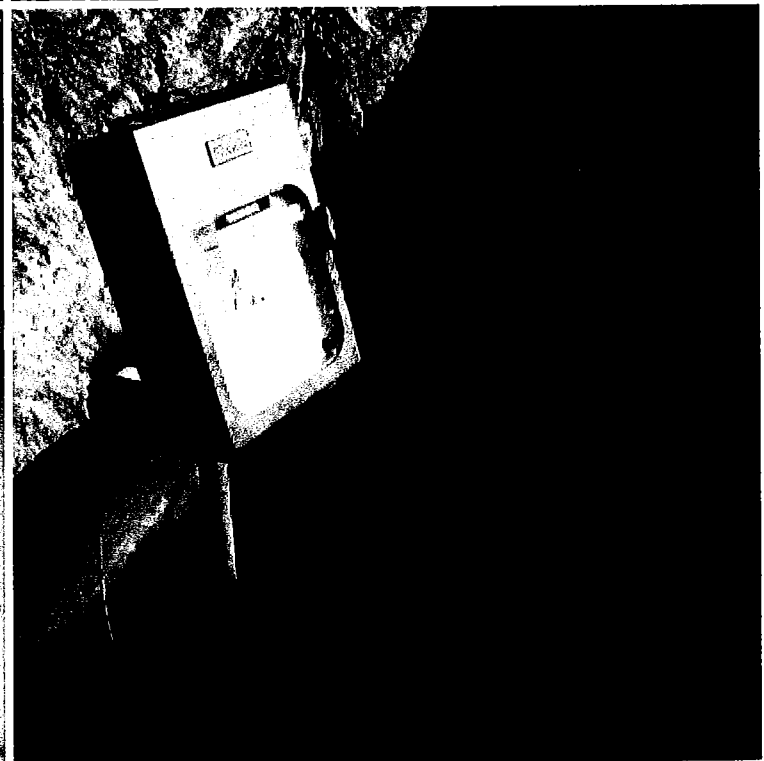
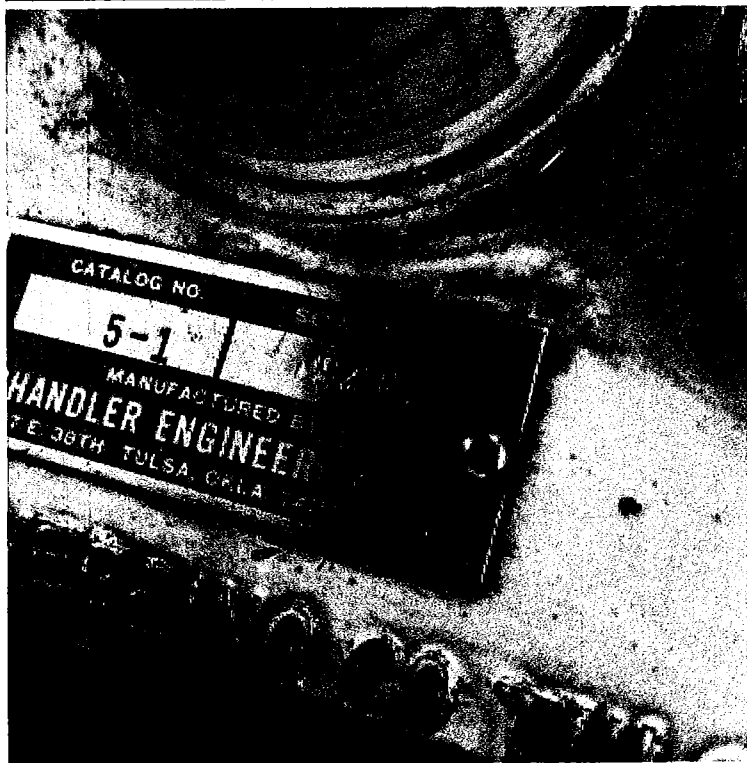
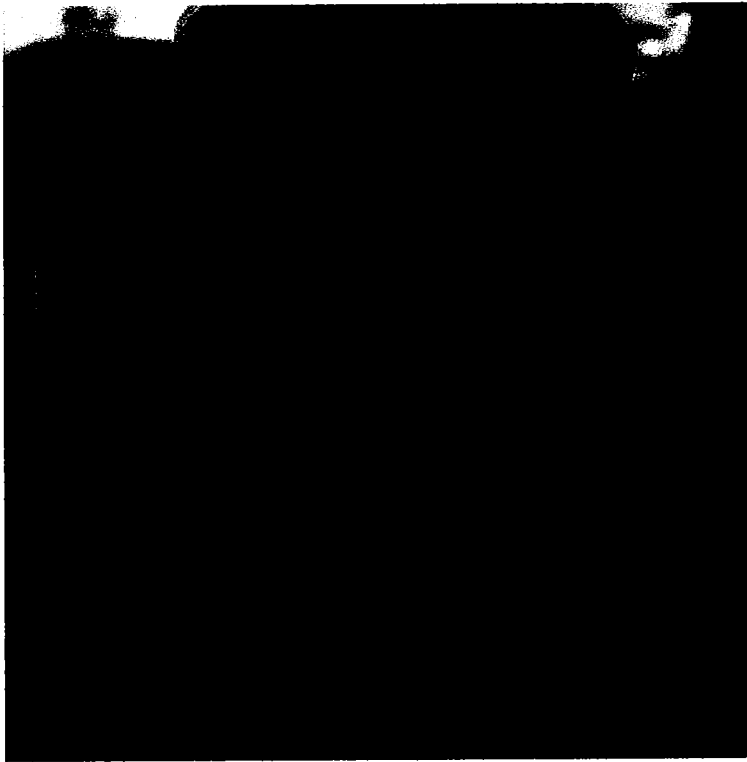
TEST APPROVED BY: _____ DATE: _____

TEST COMPANY: Habo

DC-16 6300 ft flexsteel 6in



DC-16
6300ft. Flexsteel bin



SJ MEASUREMENT LLC
STANDARDS FACILITY

Certificate of Calibration

Pipe temp

SJ MEASUREMENT LLC * STANDARDS FACILITY

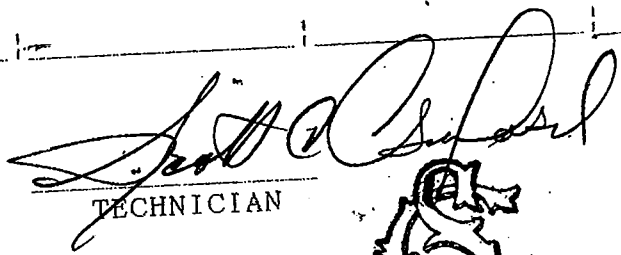
CERTIFICATION OF PHYSICAL MEASURING INSTRUMENTS
HYDRAULIC DEADWEIGHT TEST CERTIFICATE
0.025% I.V. MASTER ACCURACY LEVEL GUARANTEED

CHART RECORDER TEST CERTIFICATE

CAL DATE	:	01-22-20	CUSTOMER	:	HALO SERVICES INC.
RECAL DATE	:	07-22-20	PO Number	:	BOB LUTGEN
MFG.Type	:	Barton 242E	Technician	:	BOB LUTGEN
Description	:	Chart Recorder	Accuracy	:	0.5% of Full Scale
Serial No.	:	223027	Temperature	:	72.3 F
PRESS.RANGES	:	150F/2000 PSIG	Relative Humidity	:	26.0 %

This Instrument was Calibrated by a Primary Pressure Standard Traceable to the National Institute of Standards and Technology. (N.I.S.T.) Area Reference Numbers (P-8365, P-8109) Mass Report Reference Numbers (106354, 106354A, 106354B) Transfer Standard: Chandler Model 58-100 (S/N:22638) Pressure Referenced @ 980.665 cm/sec² Standard Gravity Temperature Traceability Reference No. 227121

NOMINAL PRESSURE APPLIED	BARTON STATIC READING	JOFFRA TEMPERATURE APPLIED	BARTON TEMPERATURE READING
200.0	200.0	15.0	15.0
400.0	400.0	30.0	30.0
600.0	600.0	45.0	45.0
800.0	800.0	60.0	60.0
1000.0	1000.0	75.0	75.0
1200.0	1200.0	90.0	90.0
1400.0	1400.0	105.0	105.0
1600.0	1600.0	120.0	120.0
1800.0	1800.0	135.0	135.0
2000.0	2000.0	150.0	150.0

ATTESTED BY : 
TECHNICIAN



SJ MEASUREMENT LLC

STANDARDS FACILITY

Certificate of Calibration

Pressure Amb temp

SJ MEASUREMENT LLC * STANDARDS FACILITY

CERTIFICATION OF PHYSICAL MEASURING INSTRUMENTS
HYDRAULIC DEADWEIGHT TEST CERTIFICATE
0.025% I.V. MASTER ACCURACY LEVEL GUARANTEED

CHART RECORDER TEST CERTIFICATE


CAL DATE	:	05-11-20	CUSTOMER	:	HALO SERVICES
RECAL DATE	:	11-11-20	PO Number	:	Verbal Bob Lutgen
MFG.Type	:	Barton 202A	Technician	:	Bob Lutgen
Description	:	Chart Recorder	Accuracy	:	0.5% of Full Scale
Serial No.	:	223099	Temperature	:	74.1 F
PRESS.RANGES	:	150F/3000 PSIG	Relative Humidity	:	25.0 %

This Instrument was Calibrated by a Primary Pressure Standard Traceable to the National Institute of Standards and Technology. (N.I.S.T.) Area Reference Numbers (P-8365, P-8109) Mass Report Reference Numbers (106354, 106354A, 106354B) Transfer Standard: Chandler Model 58-100 (S/N:22638) Pressure Referenced @ 980.665 cm/sec² Standard Gravity Temperature Traceability Reference No. 227121

NOMINAL PRESSURE APPLIED	BARTON STATIC READING	JOFFRA TEMPERATURE APPLIED	BARTON TEMPERATURE READING
300.0	300.0	15.0	15.0
600.0	600.0	30.0	30.0
900.0	900.0	45.0	45.0
1200.0	1200.0	60.0	60.0
1500.0	1500.0	75.0	75.0
1800.0	1800.0	90.0	90.0
2100.0	2100.0	105.0	105.0
2400.0	2400.0	120.0	120.0
2700.0	2700.0	135.0	135.0
3000.0	3000.0	150.0	150.0

ATTESTED BY :

[Handwritten Signature]
TECHNICIAN





PIPELINE SUPPLY & SERVICE

Dead Weight Calibration Certificate

Date Calibrated: 03/06/2020 Due Date: 09/06/2020

Indicated Instrument Range Calibrated: 05-3000PSI

Serial No: 9202 Tag: NA

Manufacture: Chandler Brass Deadweight Gauge

Instrument Findings / Status: Weights and Stabilities are in tolerance +/-0.10%, unit meets or exceeds specifications.

Type of standard used to Calibrate (PSS): Refinery Supply Dead Weight test unit 50-5000 spt. (35255-3) Serial No. 5278

Based on International Standings of Gravity: (979320cm. /sq.)

Reference Height (IN/CM): 2.5 (6.4CM)

Based on Calibrated piston area: (CM/SQ 0.079332) (IN/SQ 0.012297)

All Standards directly traceable to National Institute of Standards & Technologies Test No. N.I.S.T.2.6/172490 & 6.6/139577 Calculated using mass Values, Area, AO, and Stated Gravity. PSS calibration certificates are on file and may be obtained by calling 505.3332200 or sending an email written request to:

brandon.baker@psscompanies.com

Calibrated by: Brandon Baker 03/06/2020

Brandon Baker, PSS Calibration Repair Technician

ISNetworld OQ Report



Collect. Verify. Connect.

Kinder Morgan

Project Site: General - GENERAL - 2020
DC-16 Flow Line Construction (JS-46167)
Report Date: 4/20/2020 2:44:06 PM
Report Run By: Jonathan Martinez
Form ID: 128390-AO-97B5B2F0



Lutgen, Robert L.
Halo Services Inc. dba Vaughn
Oilfield Services (ISN-00803543)

Task	Qualification Method	Type	Evaluation Date	Expiration Date	Class
101.01 - Abnormal Operating Conditions - Outside of Control Room	Energy Worldnet - 13052 - EWN-CBT- Abnormal Operating Conditions: Liquid AOCs	O	01/18/2019	12/31/2022	V
103.14 - Conduct DOT pipeline pressure tests (Span of Control: 1 to 2)	Energy Worldnet - 2312 - EWN-CBT- Pressure Testing of Facilities (1181, 0591, 0571, 0561)	W	06/18/2019	12/31/2022	V
103.14 - Conduct DOT pipeline pressure tests	Energy Worldnet - 2614 - EWN-PE- Conduct Pressure Test (41, 0591, 0581, 0571, 0561)	P	08/09/2019	12/31/2102	V
103.14 - Conduct DOT pipeline pressure tests	Energy Worldnet - 10903 - EWN-CBT- Pressure Test- Liquid Medium (41,0581)	W	08/09/2019	12/31/2022	V

Prepared By: Jonathan Martinez

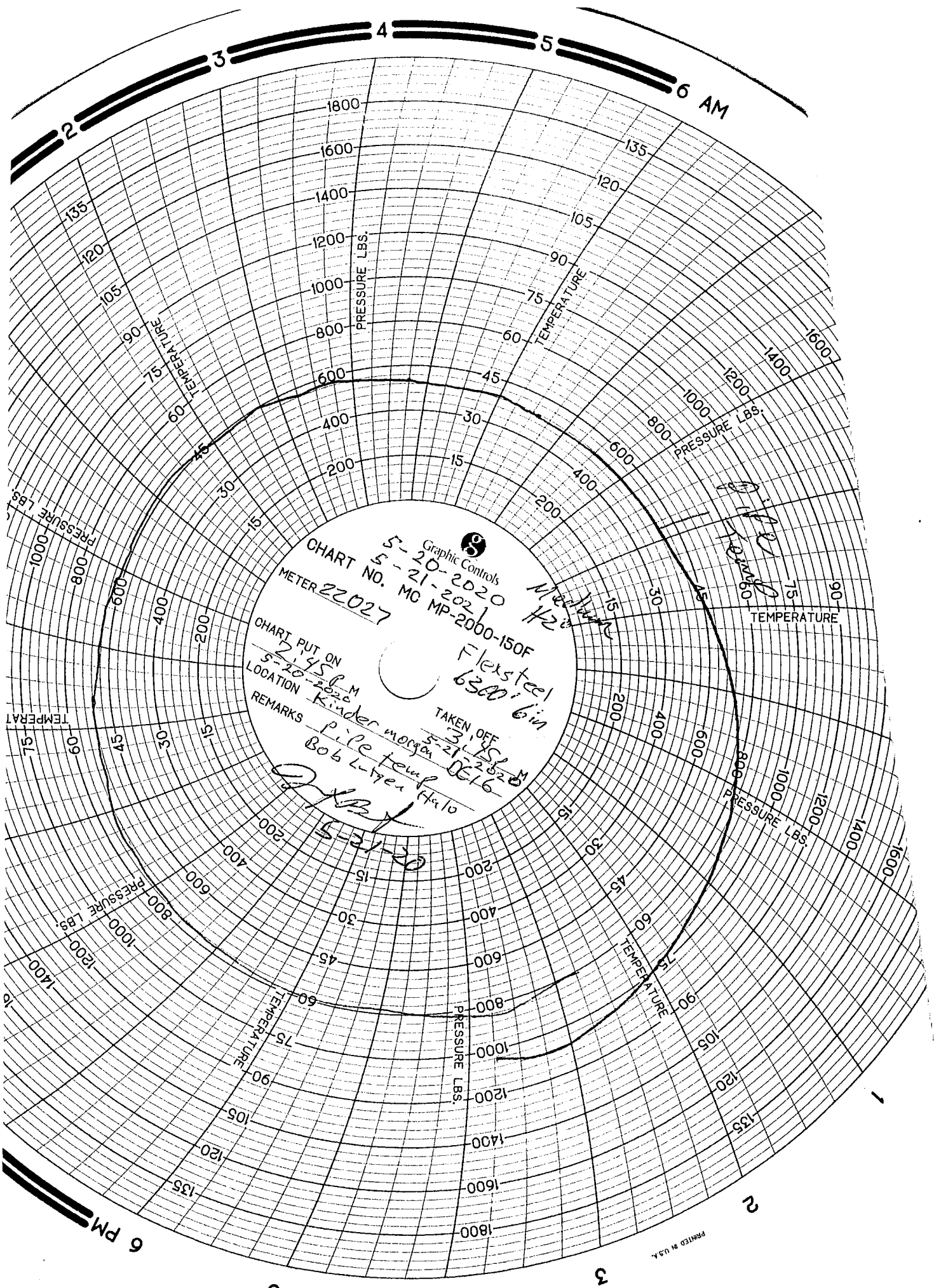
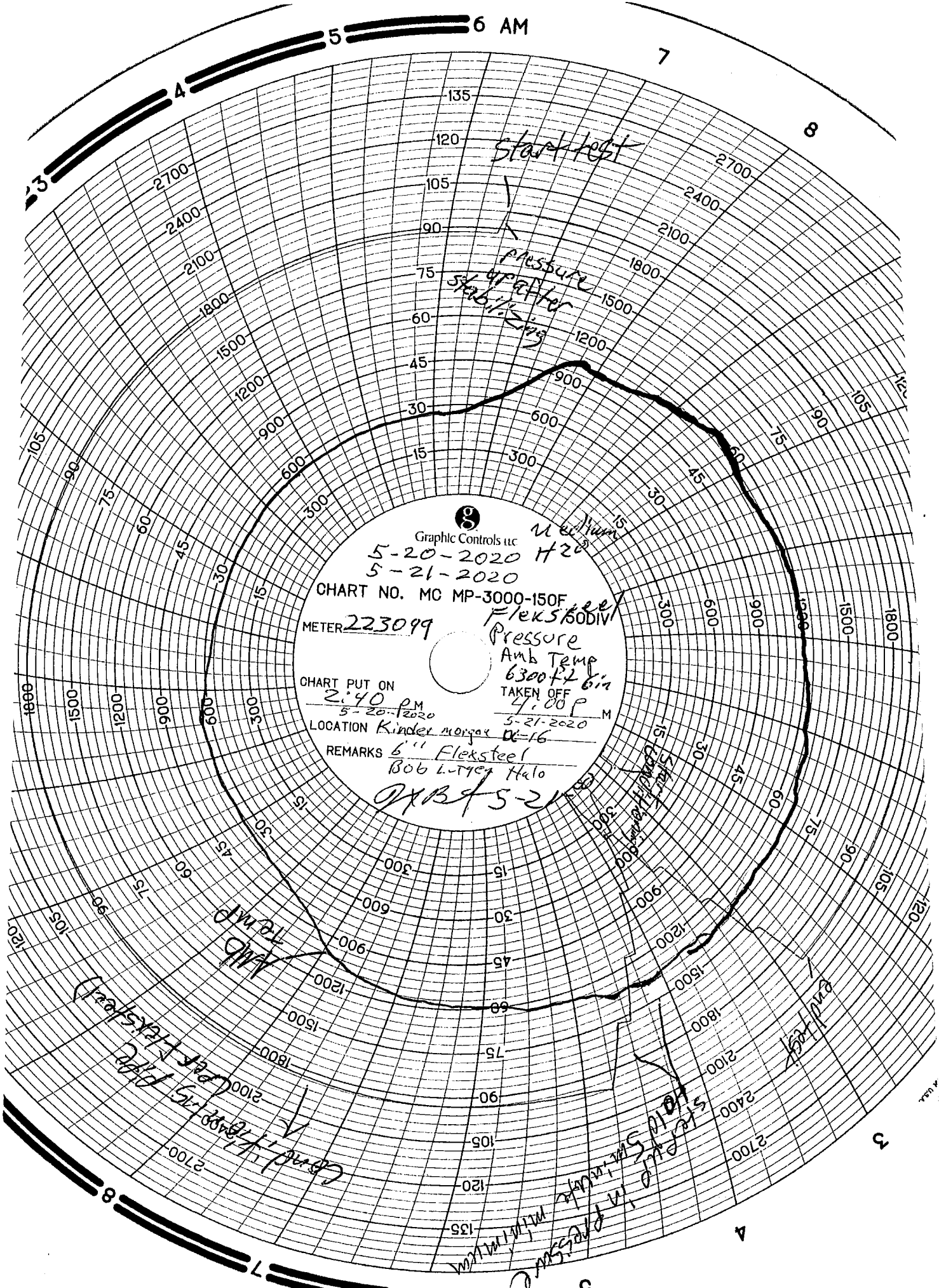


CHART NO. 5-20-2020
 METER 22027
 FLEXSTEEL 6300' 6in
 KINDER MORGAN PIPE TEMP
 TAKEN OFF 5-21-2020
 Bob Luter H410

CHART PUT ON 5-20-2020
 LOCATION Kinder Morgan
 REMARKS Pipe Temp

5 6 AM



Start test

Pressure
stabilizing

Graphic Controls Inc
5-20-2020 H2O
5-21-2020

CHART NO. MC MP-3000-150F

METER 223099

Flexsteel
Pressure
Amb Temp
6300 PL 6in

CHART PUT ON
2:40 PM
5-20-2020

TAKEN OFF
4:00 P
5-21-2020

LOCATION Kinder Morgan #16

REMARKS 6" Flexsteel
Bob Lutter Halo

QXB 5-21-20

MP
3000

Handwritten notes in the bottom-left quadrant, including "2100" and "2700".

Handwritten notes in the bottom-right quadrant, including "2100", "2700", and "2400".

6 PM