03-03-11P12:46 RCVD

SENT TO COMPLIANCE REGISTRY
Hardcopy__ Electronically J
# of Copies 1 / Date 3.3.11

February 16, 2011

Mr. Chris Hoidal
Director, Western Region
Pipeline and Hazardous Materials Safety Administration
12300 W. Dakota Ave., Suite 110
Lakewood, Co 80228

Re: CPF 5-2011-6001

Dear Mr. Hoidal:

Merit Energy Company is in receipt of your "Notice of Probable Violation" and "Proposed Compliance Order" dated January 6, 2011, Probable Violations of the Pipeline Safety Regulations, Title 49 CFR, found within Merit Energy Company's Bairoil CO2 Pipeline System in Wyoming during an inspection in May 2010.

In regard to the subject inspection, Merit Energy Company has undertaken an in-depth evaluation of its pipeline operations and has addressed each of the inadequacies indentified during the inspection. To fully explain the steps taken by Merit Energy Company in rectifying the issues, we have included the following:

1. A copy of the "Notice of Probable Violation" and "Proposed Compliance Order" letter dated January 6, 2011.
   File Name – ***CPF5-2011-6001.pdf***

2. Hard copy and electronic documentation addressing items 1,2,5,7,8 and 9 of the NOPV

   NOPV Items 1, 5 & 8 are addressed together:
   File name – ***NOPVItems1,5,8.docx***
   Documentation explaining how items 1, 5 & 8 were addressed

   File name – ***BairoilHydrotestRecord1986.pdf***
   Documentation of the original hydrostatic test records

   File name – ***BairoilC02Alignment.pdf***
   Updated alignment sheets of the pipeline

   File name - ***BairoilResetReliefDevices.pdf***
   Documentation of the re-set relief devices

   File name - ***BairoilMOPCalc.pdf***
   Documentation of the lowered MOP

NOPV Item 2
File name - ***NOPVItem2.docx***
Documentation explaining how item #2 was addressed

File names – ***BairoilConstructionPlan1986.pdf &***
BairoilWallThicknessChangeLocation .pdf
Documentation of the original pipeline Construction Plan detailing wall thickness change

File name – ***BairoilC02Alignment.pdf***
A copy of the updated alignment sheets showing wall thickness documentation on Page 8

NOPV Item 7
File name – ***NOPVItem7.docx***
Documentation explaining how item #7 was addressed

File name – ***CorrosionTraining2010.pdf***
A copy of the Corrosion Training documentation conducted by Optimized Pipeline Solutions dated 8/9/2010

NOPV Item 9
File name – ***NOPVItem9.docx***
Documentation describing how item #9 was addressed.

File name – ***BairoilAnodeInstall2010***
Operation & Maintenance Manual updates detailing anode installation in 2010

File name – ***BairoilDeepwellGB.pdf***
Ground bed installation information by installer

3. A document detailing the cost associated with fulfilling this compliance order.

File name – ***CPF-5-2011-6001Costs.docx***
Total costs associated with fulfilling this compliance order

File name – ***ComplianceCostsCPF5-2011-6001.pdf***
Invoice documentation of the costs associated with fulfilling this compliance order

Should there be any questions or if additional information is required, please contact me at the address below.

Sincerely,

Jay Prudhome
Vice President Northern Rockies
13727 Noel Rd., Suite 500
Dallas, TX 75240

NOPV Items #1, 5 & 8

The pressure test records for the Merit Energy Bairoil C02 Pipeline tested in September 1986, did not take into account the elevation differences along the route. The pipeline test records indicate that the line was tested to 3604 psig and this pressure reading was measured at the end of the pipeline (referred to on pressure recordings as the Bairoil Plant Site). The original MOP was established at 2883 psig. During the DOT inspection, it was discovered that an elevation increase of 851 feet existed and was not accounted for in the original pressure test. Merit Energy re-calculated the MOP of the pipeline based on this elevation difference shortly after the inspection. The MOP has now been established at 2588 psig and consequentially, the relief devices were reset to 2588 psig. The alignment of the pipeline was re-surveyed in May 2010 with modern technology and new alignment sheets of the pipeline were created that depict the accurate profile and elevation differences of the pipeline. These alignment sheets also show the locations of bonds, rectifiers, ground beds, test stations and piping wall thickness changes. Included with this response are electronic copies of the original pipeline hydro-test records, the updated alignment sheets of the pipeline, copies of the lowered relief device settings and a copy of the re-calculated MOP.

PIPELINE DEHYDRATORS, INC.
Hydrostatic Test Report

Page No. 1

Job
PLD Contract No. C-647

Owner Amoco Pipeline Co. Customer Flint Eng. + Const. Co.

Location of Test Bairoil, Wy to Exxon's Bairoil Jct. Station

Pipe Data: Diameter 12 3/4 " Wall Thickness .604-in (.402-15.9m) " Length 19.9 mile

Test Pressure 3550 psig Varriation ~~±0~~ +50 ±psig

Test Instrument Serial Numbers

Dead Weight Tester 12403
Pressure Recorder 242A-7892
Temperature Recorder 3121778

PLD Operator Ray B. Secsc.

Customer Representative John Moore

Year 1986	Time	Pres. Dead Wt. Tester psig Pipeline	Pressure Suction ~~Pressure~~	~~Pressure~~ ~~Recorder~~ ~~psig~~ Flow Rate	~~Temp.~~ ~~of~~ Gallons Pumped	Remarks
Date We ~~Tues~~ 8-27	1200					Started Hooking up to
						pipeline with Southeast's
						Pressure Fill Pump
	1545					Hook up completed - We
						have water up to Reciever
	1600	-0-	300+		-	barrel. Launch 1- SCC Polly Pig
	1610	0	300+		670	
	1620					Load 2nd SCC Polly Pig
	1630	0	300+		1530 ~~670~~	Launched 2nd SCC Polly Pig
	1844	165		549	0	Started Filling 12-inch
	1850	-0-	100			Kick in Pump - No Head Pressure on pipeline
	1900	-0-	200			Shut Pump down - Free Flow Through the pump. Free Flowing
	2000	40	175	628	32000	Close all Valves on Reciever
	2030	79	730	576	61,000	EXCEPT 2-inch bypass on 6-inch - Kick in Big Pump
	2100	70	232	593	73900	
	2130	168	222	611	95508	Increased Pump RPMs
	2200	138	198	682	114,950	

PIPELINE DEHYDRATORS, INC.
Hydrostatic Test Report

Job
PLD Contract No. C-647

Owner Amoco Pipeline Co. Customer Flint Eng. and Const. Co.

Location of Test Bairoil, Wyo. to Exxon's Bairoil Sct. Station

Pipe Data: Diameter 12 " Wall Thickness .402 - 10.2mm. .609 - 15.4m " Length 19.9 mi.

Test Pressure 3550 psig Varriation +50 ±psig

Test Instrument Serial Numbers

Dead Weight Tester 12403
Pressure Recorder 242A-7892
Temperature Recorder 3121778

PLD Operator Ray Secse

Customer Representative John Moore

Year 1986	Time	Pres. Dead Wt. Tester psig Pipeline	Suction Pressure	~~Pressure Recorder~~ psig GPM Flow Rate	~~Temp. or~~ Gallons Pump	Remarks
Date Weds. 8-27	2230	165	200	664	135580	Filling Pipeline
	2300	181	184	717	156,680	
	2330	230	180	735	178,340	
	2400	220	205	655	199,210	
Thurs. 8-28	0030	329	214	638	219400	
	0100	352	212	638	239950	
	0200	387	187	700	277800	
	0300	402	187	700	323200	
	0400	387	185	709	361410	
	0430	386	187	709	382980	
	0500	387	187	709	403210	
	0530	386	186	709	427150	
	0660	387	187	709	445580	
	0630	388	193	717	465720	
	0700	389	193	709	486330	
	0730	389	193	717	509520	
	0800	390	192	717	533880	

PIPELINE DEHYDRATORS, INC.
Hydrostatic Test Report

Job
PLD Contract No. C-647

Owner Amoco Pipeline Co Customer Flint Eng. & Const Co.

Location of Test Baroil, Wyo. to Exxon's Baroil Junction Station
.402 - 12.7m

Pipe Data: Diameter 12" " Wall Thickness .604 in " Length 19.9 mi.

Test Pressure 3550 psig Varriation +50 ±psig

Test Instrument Serial Numbers

Dead Weight Tester 12 403
Pressure Recorder 242A-7892
Temperature Recorder 3121778

PLD Operator RAY B. SEESE

Customer Representative John Moore

Year 1986	Time	Pres. Dead Wt. Tester psig Pipeline	Suction Pressure	~~Pressure Recorder psig~~ Flow Rate	~~Temp. °F~~ Gallons Pumped	Remarks
Date 8-28	0830	385	168	660	552560	Filling Pipeline
	0845	375	210	354	56340	Receiving H_2O @ fan end Idle pump back-check
	0900	373	298	401	569100	for pig. Rec 1 2x4 block of wood 18" long 1st pig is in.
	0915	373	298	401	573560	Rec 1 Block of wood 3"x6" long 2nd Pig is in.
	0930	393	180	735	581880	Increase pump rate and squeeze line
	0945	395	178	744	592920	water is clear; Roll Halibuton Valve on plane
	1000	450↑	179	735	609240	Risen @ fan end
	1000					start Squeeze on pipe-Line
	1010		268	257	609370	
	1015		290	141	610310	
	1016	1751		∅.∅∅	Final Vol. 610490	Pressure Fill pump shut-in reached it's max. psi.
	1031	1750				Begin Rig-down of Fill Pump.
	1130					Rig-up pressure pump WP-3
	1245	1709				standby cut o/f 4-inch 900# Flg. and Weld on 4-inch cap
	1300	1709				
	1400	1709				Start Pressuring Up
	1415	1860				2700 psig - Stabilization pressure

H/S TEST REPORT

PIPELINE DEHYDRATORS, INC.
Hydrostatic Test Report

Job
PLD Contract No. C-647

Owner Amoco Pipeline Co. Customer Flint Eng. and Const. Co.

Location of Test Bairoil, Wyo. to Exxon's Bairoil Junction Station

Pipe Data: Diameter 12 " Wall Thickness .402 8.9mi. " Length 19.9 '

Test Pressure 3550 psig Varriation +50 ±psig

Test Instrument Serial Numbers

Dead Weight Tester 12403
Pressure Recorder 242A-7892
Temperature Recorder 312 1778

PLD Operator Ray B. Seese

Customer Representative John Moore

Year 1986	Time	Pres. Dead Wt. Tester psig	Pressure Recorder psig	Temp. °F	Remarks
Date Thurs 8-28	1430	1950	1950	68°	Pressuring line to 2700 PSIG
	1445	2110	2110	69°	
	1500	2250	2250	68°	
	1515	2465	2465	70°	
	1530	2710	2710	70°	Reached stabilization pressure
	1600	2727	2727	70°	Pressure pump shut in
	1630	2727	2727	69°	
	1700	2726	2726	70°	Secured location for stabilization of line
Friday 8-29	0700	2718	2718	66°	Tighten Belt on Test Pump
	0750	2750	2750	66°	Start pressuring to test pressure.
	0800	2785	2785	66°	Pressure line
	0815	2930	2930	67°	10 lb rise/1min 15sec.
	0830	3030	3030	69°	
	0845	3135	3135	64°	
	0900	3240	3240	64°	
	0910	3300	3300	64°	Shift pump to lower gear
	0915	3346	3340	64°	10 lb./1min 57 sec.

PIPELINE DEHYDRATORS, INC.
Hydrostatic Test Report

Page No. 5

Job
PLD Contract No. C-647

Owner Amoco Pipeline Co. Customer Flint Eng. and Const. Co.

Location of Test Bairoil, Wyo to Exxon's Bairoil Junction Station

Pipe Data: Diameter 12 " Wall Thickness .402-19 mi. .602-1 mi " Length 19.9 mi.

Test Pressure 3550 psig Varriation +50 ±psig

Test Instrument Serial Numbers PLD Operator Ray B. Seese

Dead Weight Tester 12403
Pressure Recorder 242A-7892
Temperature Recorder 3121778

Customer Representative John Moore

Year 1986	Time	Pres. Dead Wt. Tester psig	Pressure Recorder psig	Temp. °F P/L	Temp. °F Amb.	Remarks
Date 8-29	0930	3465	3465	64°	72°	Pressuring to test Pres. Sunny - high clouds wind - light
	0945	3480	3480	64°	73°	Sunny - high clouds wind - 5 to 10 mph
	0950	3500	3500	64°	74°	slow test pump down
	1000	3550	3550	64°	75°	slow test pump down
	1005	3575	3575	64°	75°	
	1011	3595	3595	64°	75°	slow test pump down
	1014	3604	3604	64°	75°	Shut-in at test press. Calibrate Recorder to Dead Weight
	1018	3604	3604	64°	75°	1 lb surges - Closure bleed valve has slight leak - Tightened
	1030	3604	3604	64°+	76°	3-4 drops H_2O/min. Weather High Clouds - Partly
	1045	3604	3604	65°	76°	Cloudy to clear 2-5 knot wind
	1100	3604	3604	65°	75°	Conditions Same as above On Test
	1115	3604	3604	65°	75°	Conditions Same as above
	1130	3604	3604	65°	78°	conditions Same as above
	1145	3604	3604	65°	79°	conditions same as above
	1200	3604	3604	66°	79°	conditions same as above
	1215	3604	3604	66°	78°	conditions same as above
	1230	3604	3604	66°	78°	Condition Same as above

PIPELINE DEHYDRATORS, INC.
Hydrostatic Test Report

Job
PLD Contract No. C-647

Owner Amoco Pipeline Co. Customer Flint Eng and Const Co.

Location of Test Baircil, Wyo. to Exxon's Baircil Junction Station

Pipe Data: Diameter 12 " Wall Thickness .402 18.8mi. .602 1mi. " Length 19.9mi

Test Pressure 3550 psig Varriation +50 ±psig

Test Instrument Serial Numbers

Dead Weight Tester 12403
Pressure Recorder 242A-7892
Temperature Recorder 312178

PLD Operator Ray B. Seese

Customer Representative John Moore

Year 1986	Time	Pres. Dead Wt. Tester psig	Pressure Recorder psig	Temp. °F P/L	Temp. °F Amb.	Remarks
Date Friday 8-29	1245	3604	3604	66°	79°	12" Line on Test Weather - High clouds partly cloudy. Winds - 5-8 knots
	1300	3604	3604	66°	80°	SAME AS Above
	1315	3604	3604	65°	80°	Same as Above
	1330	3605	3605	66°	81°	Weather High Clouds cloudy - winds 6-8 knots
	1345	3605	3605	66°	81°	Same as above
	1400	3605	3605	66°	81°	SAME AS Above
	1415	3605	3605	67°	84°	SAME AS Above
	1430	3605	3605	67°	84°	SAME AS Above
	1445	3605	3605	67°	83°	SAME AS above
	1500	3605	3605	67°	83°	SAME AS Above
	1515	3605	3605	67°	83°	weather - RAIN clouds cloudy - wind - 8-10 knots
	1530	3605	3605	67°	82°	SAME AS Above
	1545	3604	3604	67°	82°	SAME AS Above
	1600	3604	3604	68°	81°	SAME AS Above
	1615	3604	3604	68°	81°	SAME AS Above
	1630	3604	3604	68°	80°	SAME AS Above
	1645	3604	3604	68°	79°	SAME AS Above

PIPKLINE DEHYDRATORS, INC.
Hydrostatic Test Report

Job
PLD Contract No. C-647

Owner Amoco Pipeline Co. Customer Flint Eng. and Const. Co

Location of Test Bairoil, Wyo. to Exxon's Bairoil Junction Station

Pipe Data: Diameter 12 " Wall Thickness .402-18.8mi; .602-1mi." Length 19.9mi

Test Pressure 3550 psig Varriation +50 ±psig

Test Instrument Serial Numbers

Dead Weight Tester 12403
Pressure Recorder 242A-7892
Temperature Recorder 2131978

PLD Operator Ray B. Seese

Customer Representative John Moore

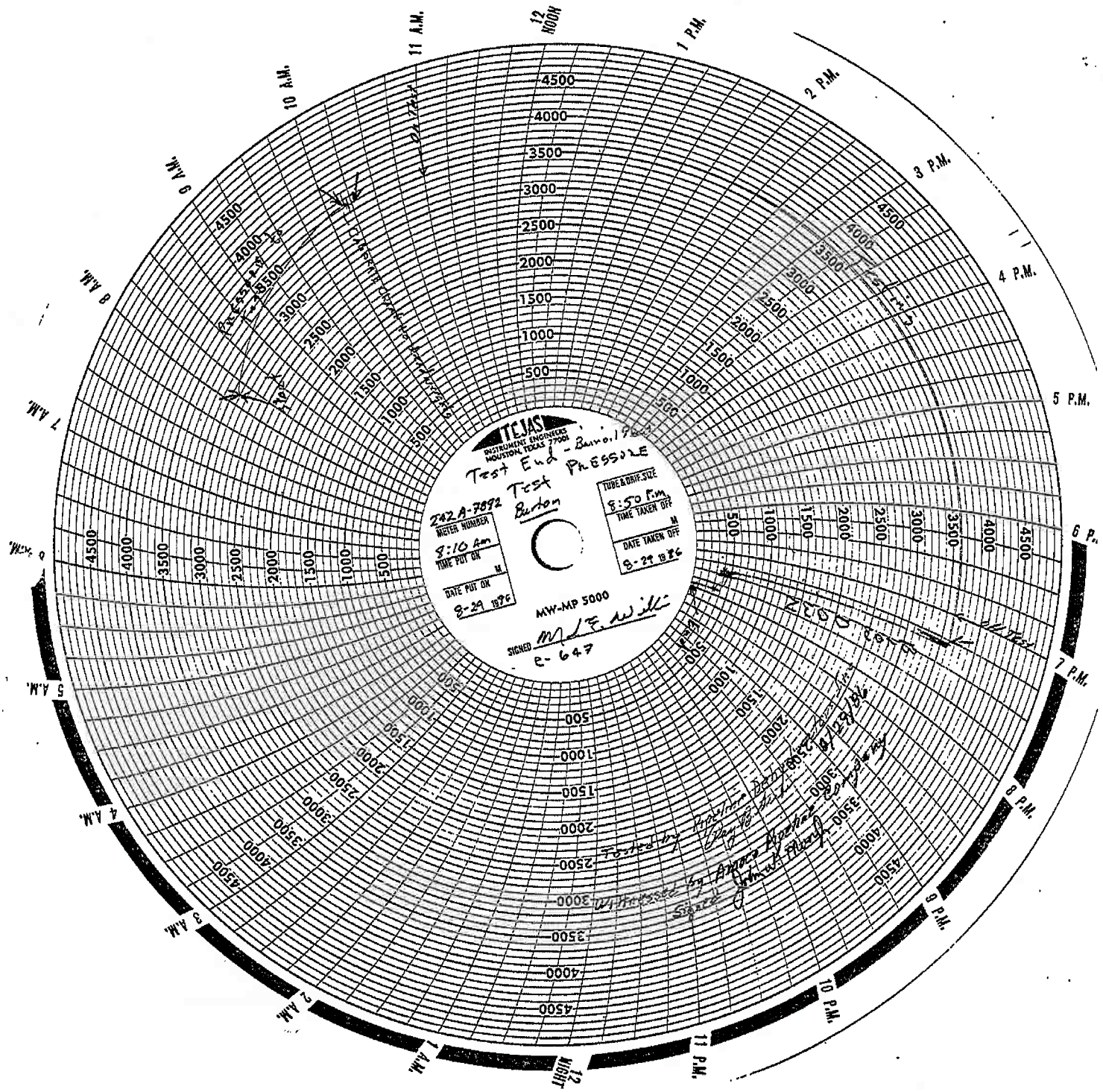
Year 1986	Time	Pres. Dead Wt. Tester psig	Pressure Recorder psig	Temp. °F P/L	Temp. °F Amb.	Remarks
Date Friday 8-29	1700	3604	3604	68°	78°	Pipeline on Test Weather - cloudy - Rain clouds - wind 8-10 knots
	1715	3604	3604	68°	77°	SAME AS ABOVE
	1730	3603	3603	68°	77°	SAME AS ABOVE
	1745	3603	3603	68°	75°	SAME AS ABOVE
	1800	3603	3603	68°	75°	SAME AS ABOVE
	1815	3603	3603	68°	74°	Cloudy overcast Wind 8-10 knots
	1830	3603	3603	68°	72°	SAME AS ABOVE
	1845	3603	3603	68°	71°	SAME AS ABOVE
	1900	3602	3602	68°	71°	SAME AS ABOVE
	1915	3602	3602	68°	70°	SAME AS ABOVE off test - test good
	1916					Rig-down test and start blow-down
	1930		350			Blowing down time to appx 280 psi.
						SDH In @
		Tested by Pipeline Dehydrators, Inc				
		Signed Ray B. Seese				
		Witnessed by Amoco Pipeline Company				
		Signed John W. Marsh				

SERVICE TO THE
PIPELINE INDUSTRY

PIPELINE DEHYDRATORS, INC.
414 PINCKNEY - P. O. BOX 8898
HOUSTON, TEXAS 77009

AREA CODE 713
224-1105
TLX: 762 158
PLDHOU

TEST CHARTS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INSTRUMENT ENGINEERS
HOUSTON, TEXAS 77001
Test End - Burner
Test Pressure
Test
Burton
242-A-7892
METER NUMBER
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TIME PUT ON
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DATE PUT ON
8-29 1976
TUBE & ORIF. SIZE
8:50 P.m.
TIME TAKEN OFF
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8-29 1976
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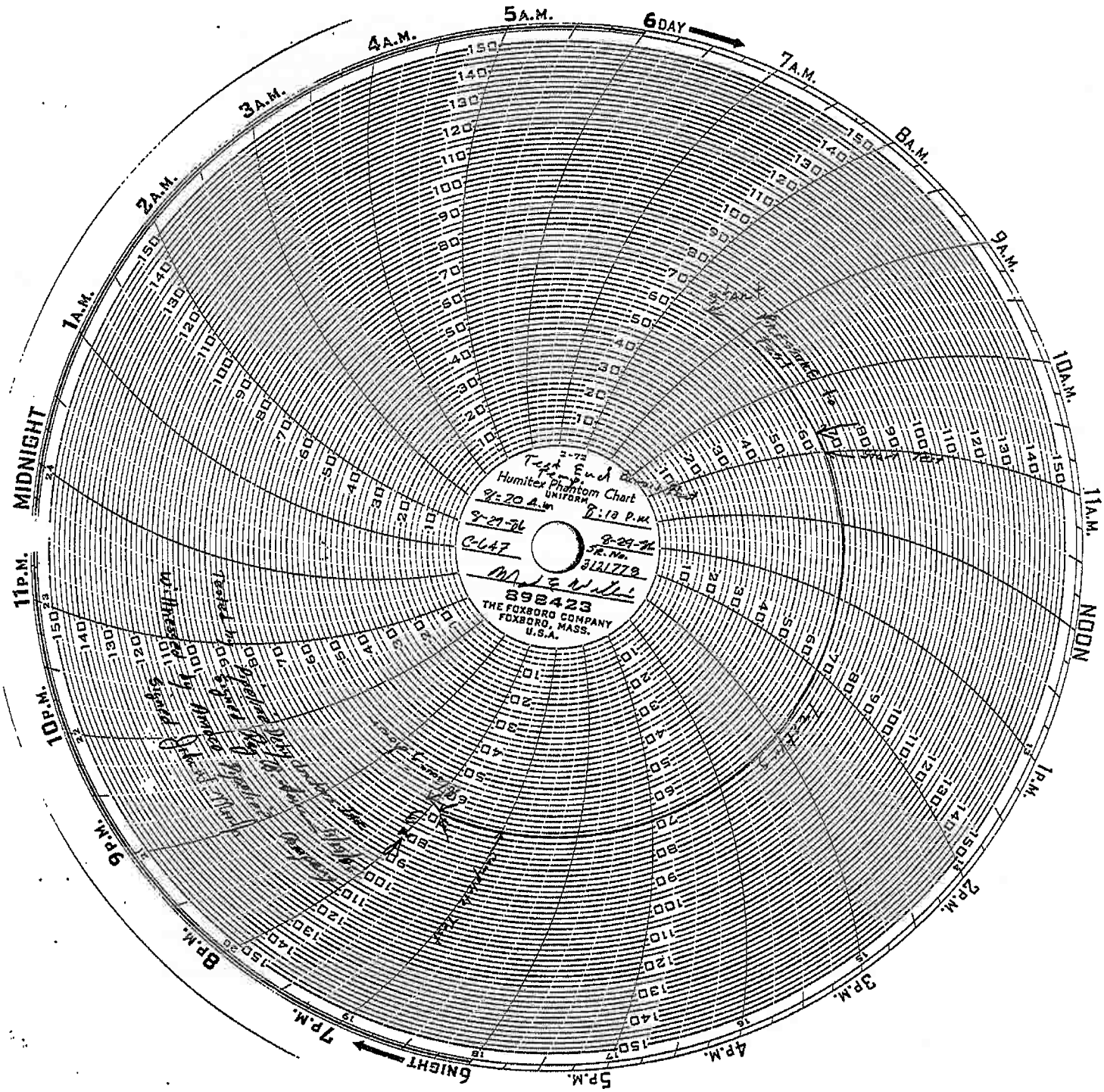
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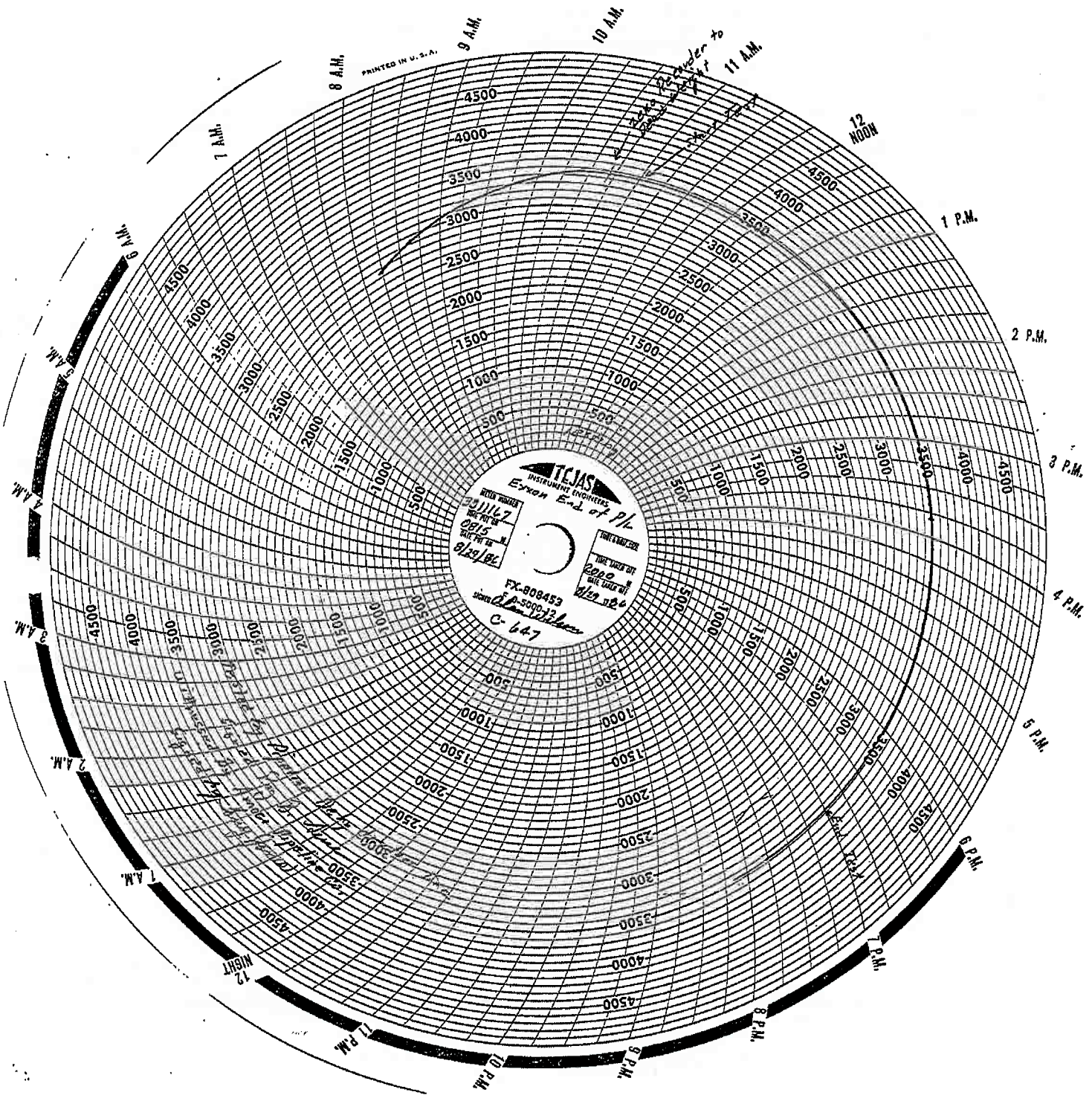
8:10 P.M
7-29-76
8-29-76
C-647
898423
THE FOXBORO COMPANY
FOXBORO, MASS.
U.S.A.


TEJAS
INSTRUMENT ENGINEERS
Exxon
End of P/L
FX-808453
C-647
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10 A.M.
11 A.M.

TEJAS
INSTRUMENT ENGINEERS
HOUSTON, TEXAS 77001
Testing End
Bainoil coz plant
METER NUMBER
2424.3892
TIME PUT ON
1.50 P.M.
DATE PUT ON
3-22-82
TUBE & ORIFICE SIZE
TIME TAKEN OFF
2.00 P.M.
DATE TAKEN OFF
3-22-82
MW-MP 5000
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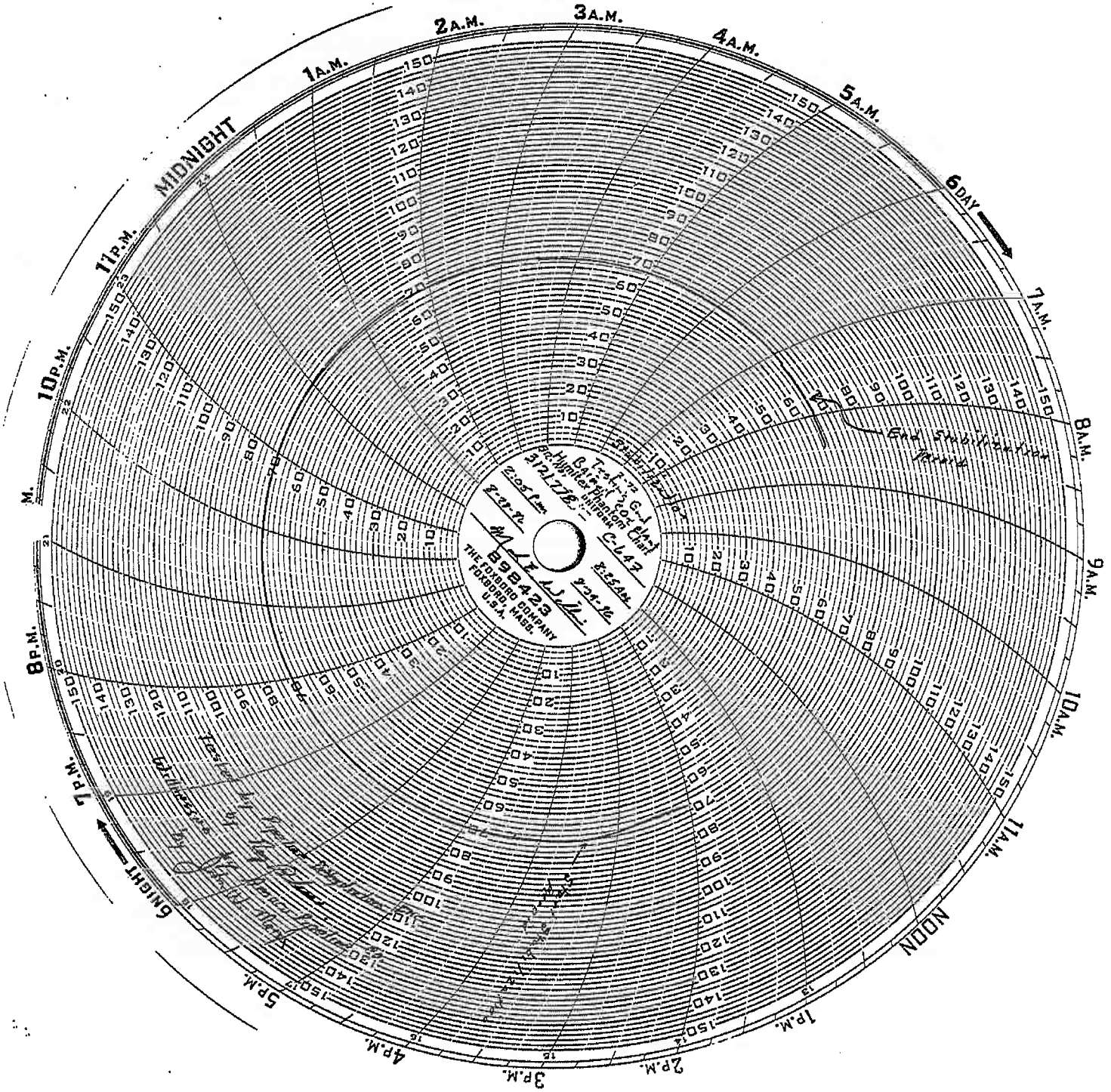

MIDNIGHT
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2P.M.
3P.M.
4P.M.
5P.M.
6NIGHT
7P.M.
8P.M.
10P.M.
11P.M.
End Stabilization Period
898423
THE FOXBORO COMPANY
FOXBORO, MASS.
U.S.A.

CUSTOMER: Merit Energy
ADDRESS: Bairoil Plant
PO#:

QUADCO, INC.

SAFETY RELIEF VALVE REPORT ©

Rush: ☑Yes ☐No Quote: ☐Yes ☑No

R.O NO: 20001403
DATE REC'D: 9/20/2010
ITEM 78 OF 108

IDENTIFICATION

CUST. ID# 1403-78
LOC. CO2 pipeline Bairoil plant

MFG A.G.CO
TYPE NO 27315-344
SERIAL NO 86/06031
ORIFICE 3" Full Bore
INLET: 3" 1500 RF FLG
OUTLET 4" 300# RF FLG
Previous RO:2000075 Item: 3
P & ID #:

VALVE DATA

	Current	Required
SET PRESS	2840	2588
BACK PRESS	Atm.	Atm.
C.D. PRESS	2840	2588
TEMP	Amb.	Amb.
BLOWDOWN	Adj.	Adj.
CAPACITY	309579 scfm	309579 scfm
MEDIA	Vapor	Vapor

MEDIA CONVERSION ☐Yes ☑No

CODE STAMP
☐V ☑UV ☑NB ☐

MATERIAL / DESIGN

☐CONVENTIONAL
☑PILOT
BASE C.S BODY C.S.
TRIM: UBO
SPRING: S.S.
CAP & LEVER
☐L.L. ☑CLOSED
☐P.L. ☐NONE
COMPLETED BY:
Dana Knifer
DATE: 9/20/2010

ORIGINAL NAMEPLATE DATA

TYPE 27315-344
SET PRESS 2840
BACK PRE Atm.
C.D. PRESS 2840
TEMP Amb.
CAP. 309579 scfm
BLOWDOWN Adj.

CODE STAMP
☐V ☑UV ☑NB ☐

WORK REQUIRED

☑PRETEST
☑RESET ONLY
☐OVERHAUL
☐WARRANTY

PRELIMINARY TEST RESULTS

TEST MEDIA Nitrogen
SET PRESSURE 2840
BLOWDOWN 7-10 %
TIGHTNESS Good
GAUGE S/N 310
CAL DUE 11/5/2010
TESTED BY Dana Knifer
TEST DATE 9/20/2010

SPRING DATA

☐CHECKED?
SPRING #
REPLACE
☐Yes ☑No

AS FOUND ADJ.

COMP. SCREW
LOWER ADJ RING
UPPER ADJ RING
OVERLAP COLLAR

DISASSEMBLY AND INSPECTION RESULTS (PARTS NOT NOTED ARE GOOD)

Note: N.M.T.=No Manafactuers Tag N.O.T.=Not On Tag

DISASSEMBLED BY: DATE: INSPECTED BY: DATE:

ITEM	AS FOUND COND	WORK PERFORMED	INSPECTOR COMMENTS
BONNET			
BODY			
ITERNAL PARTS			
			Reset to 2588#s.
PILOT ASSY.			

RECORD OF PARTS REQUIRED FOR REPAIR

PART NUMBER	DESCRIPTION	P.O. #

RECEIVED BY: DATE

FINAL ASSY. ADJUSTMENT

COMPRESSION SCREW:
LOWER ADJUSTING RING:
UPPER ADJUSTING RING:
OVERLAP COLLAR:

ASSEMBLED BY:
DATE:

DUPLICATE TAG INSTALLED?
☐Yes ☑No

RECORD OF FINAL TEST RESULTS

TEST MEDIA	Nitrogen	GAUGE S/N	310
SET PRESSURE	2588	CAL DUE	11/5/2010
BLOWDOWN	7-10 %	TESTED BY	Dana Knifer
TIGHTNESS	Good	TEST DATE	9/20/2010

RECORD OF FINAL ASSY.

If No VR Cert. is issued, Give Reason Below: Reset & Test

ADJ LKD & SEALED ☑
NAMEPLATE INSTALLED ☑
VR'D ☑No ☐Yes DATE: 9/20/2010
FINAL ASSEM. BY: Dana Knifer EU

CUSTOMER: Merit Energy
ADDRESS: Bairoil Plant
O#:

QUADCO, INC.

SAFETY RELIEF VALVE REPORT ©

Rush: ☑Yes ☐No Quote: ☐Yes ☑No

R.O NO: 20001403
DATE REC'D: 9/20/2010
ITEM 79 OF 108

IDENTIFICATION

CUST. ID# 1403-79
LOC. CO2 pipeline receiver

MFG A.G.CO
TYPE NO 89844-2
SERIAL NO 86/08642
ORIFICE -2
INLET: 1/2" FNPT
OUTLET 1/2" FNPT
Previous RO:2000075 Item: 2
P & ID #:

VALVE DATA

	Current	Required
SET PRESS	2840	2588
BACK PRESS	Atm.	Atm.
C.D. PRESS	2840	2588
TEMP	Amb.	Amb.
BLOWDOWN	Fixed	Fixed
CAPACITY	NOT	NOT
MEDIA	Vapor	Vapor

MEDIA CONVERSION ☐Yes ☑No

CODE STAMP
☐V ☑UV ☑NB ☐

MATERIAL / DESIGN

☑CONVENTIONAL
☐PILOT
BASE S.S. BODY S.S.
TRIM: E.O.O.
SPRING: S.S.
CAP & LEVER
☐L.L. ☑CLOSED
☐P.L. ☐NONE
COMPLETED BY:
Dana Knifer
DATE: 9/20/2010

ORIGINAL NAMEPLATE DATA

TYPE 89544-2
SET PRESS 2840
BACK PRE Atm.
C.D. PRESS 2840
TEMP Amb.
CAP. NOT
BLOWDOWN Fixed

CODE STAMP
☐V ☑UV ☑NB ☐

WORK REQUIRED

☑PRETEST
☑RESET ONLY
☐OVERHAUL
☐WARRANTY

PRELIMINARY TEST RESULTS

TEST MEDIA Nitrogen
SET PRESSURE 2840
BLOWDOWN 7-10 %
TIGHTNESS Good
GAUGE S/N 310
CAL DUE 11/5/2010
TESTED BY Dana Knifer
TEST DATE 9/20/2010

SPRING DATA

☐CHECKED?
SPRING #
REPLACE
☐Yes ☑No

AS FOUND ADJ.

COMP. SCREW
LOWER ADJ RING
UPPER ADJ RING
OVERLAP COLLAR

DISASSEMBLY AND INSPECTION RESULTS (PARTS NOT NOTED ARE GOOD)

Note: N.M.T.=No Manafactuers Tag N.O.T.=Not On Tag

DISASSEMBLED BY: DATE: INSPECTED BY: DATE:

ITEM	AS FOUND COND	WORK PERFORMED	INSPECTOR COMMENTS
BONNET			
BODY			
TERNAL PARTS			
			Reset to 2588#s.
PILOT ASSY.			

RECORD OF PARTS REQUIRED FOR REPAIR

PART NUMBER	DESCRIPTION	P.O. #

FINAL ASSY. ADJUSTMENT

COMPRESSION SCREW:
LOWER ADJUSTING RING:
UPPER ADJUSTING RING:
OVERLAP COLLAR:

ASSEMBLED BY:
DATE:

DUPLICATE TAG INSTALLED?
☐Yes ☑No

RECEIVED BY: DATE

RECORD OF FINAL TEST RESULTS

TEST MEDIA	Nitrogen	GAUGE S/N	310
SET PRESSURE	2588	CAL DUE	11/5/2010
BLOWDOWN	7-10 %	TESTED BY	Dana Knifer
TIGHTNESS	Good	TEST DATE	9/20/2010

RECORD OF FINAL ASSY.

If No VR Cert. is issued, Give Reason Below:

ADJ LKD & SEALED ☑
NAMEPLATE INSTALLED ☑
VR'D ☑No ☐Yes DATE: 9/20/2010
FINAL ASSEM. BY: Dana Knifer EU

Reset & Test

CUSTOMER: Merit Energy

ADDRESS: Bairoil Plant

O#:

QUADCO, INC.

SAFETY RELIEF VALVE REPORT ©

Rush: ☑Yes ☐No Quote: ☐Yes ☑No

R.O NO: 20001403

DATE REC'D: 9/21/2010

ITEM 95 OF 108

IDENTIFICATION

ST. ID# 1403-95

LOC. CO2 pipeline rec @ Jeffery City

MFG A.G.CO

TYPE NO 81MS46-4

SERIAL NO N8914604

ORIFICE -4

INLET: 1/2" MNPT

OUTLET 3/4" FNPT

Previous RO 20000756 Item 1

P & ID #:

VALVE DATA

	Current	Required
SET PRESS	2840	2588
BACK PRESS	Atm.	Atm.
C.D. PRESS	2840	2588
TEMP	Amb.	Amb.
BLOWDOWN	Adj.	Adj.
CAPACITY	2300 scfm	2300 scfm
MEDIA	Vapor	Vapor

MEDIA CONVERSION ☐Yes ☑No

CODE STAMP

☐V ☑UV ☑NB ☐

MATERIAL / DESIGN

☑CONVENTIONAL ☐PILOT

BASE S.S. BODY S.S.

TRIM: WTO

SPRING: S.S.

CAP & LEVER

☐L.L. ☑CLOSED

☐P.L. ☐NONE

COMPLETED BY:

Dana Knifer

DATE: 9/21/2010

ORIGINAL NAMEPLATE DATA

TYPE 81MS48-4

SET PRESS 2840

BACK PRE. Atm.

C.D. PRESS 2840

TEMP Amb.

CAP. 2300 scfm

BLOWDOWN Adj.

CODE STAMP

☐V ☑UV ☑NB ☐

WORK REQUIRED

☑PRETEST

☐RESET ONLY

☐OVERHAUL

☐WARRANTY

PRELIMINARY TEST RESULTS

TEST MEDIA Nitrogen

SET PRESSURE 2840

BLOWDOWN 7-10 %

TIGHTNESS Good

GAUGE S/N 310

CAL DUE 11/5/2010

TESTED BY Dana Knifer

TEST DATE 9/21/2010

SPRING DATA

☐CHECKED?

SPRING #

REPLACE ☐Yes ☑No

AS FOUND ADJ.

COMP. SCREW

LOWER ADJ RING

UPPER ADJ RING

OVERLAP COLLAR

DISASSEMBLY AND INSPECTION RESULTS (PARTS NOT NOTED ARE GOOD)

Note: N.M.T.=No Manafactuers Tag N.O.T.=Not On Tag

DISASSEMBLED BY: Dana Knifer DATE: 9/21/2010 INSPECTED BY: Dana Knifer DATE: 9/21/2010

ITEM	AS FOUND COND	WORK PERFORMED	INSPECTOR COMMENTS
BONNET			
BODY			
TERNAL PARTS			
Spring	Out of Range	Replaced	
PILOT ASSY.			

RECORD OF PARTS REQUIRED FOR REPAIR

PART NUMBER	DESCRIPTION	P.O. #
03-0052-002	Spring	2000690

FINAL ASSY. ADJUSTMENT

COMPRESSION SCREW:

LOWER ADJUSTING RING:

UPPER ADJUSTING RING:

OVERLAP COLLAR:

ASSEMBLED BY: Dana Knifer

DATE: 9/21/2010

DUPLICATE TAG INSTALLED?

☐Yes ☑No

RECEIVED BY: DATE

RECORD OF FINAL TEST RESULTS

TEST MEDIA	Nitrogen	GAUGE S/N	33
SET PRESSURE	2588	CAL DUE	11/5/2011
BLOWDOWN	7-10 %	TESTED BY	Dana Knifer
TIGHTNESS	Good	TEST DATE	9/21/2010

RECORD OF FINAL ASSY.

If No VR Cert. is issued, Give Reason Below:

ADJ LKD & SEALED ☑

NAMEPLATE INSTALLED ☑

VR'D ☐No ☑Yes DATE: 9/21/2010

FINAL ASSEM. BY: Dana Knifer EU

MAOP/MOP Calculation,Steel

Field:	Merit Energy - Bairoil Oil Production	Date	2/10/2010
Location	Bairoil, Wyoming		

Insert data in the cells in red. Cells in blue are calculated cells. Design pressure is calculated using the following equation as specified in DOT 192.105 AND 192.111 & 195.106: P = (2*S*t/D)*F*E*T.

AREA NAME: Bairoil Enhanced Production
PIPE SEGMENT: Biroil CO2 Pipeline
COUNTY: Freemont and Sweetwater County, WY

		Class I & All Liquid	Class II	Class III
S = Yield Strength (psi)	=	60000		
D = Nominal outside diameter of pipe (in.)	=	12.75		
t = Nominal wall thickness (in.)	=	0.42		
F = Design Factor (based on Class Location)	=	0.72	0.60	0.50
E = Longitudinal joint factor as specified in 192.115 (1.0)	=	1		
T = Temperature derating factor as specified in 192.115 (1.0)	=	1		
Actual Hydrostatic Test Pressure (psi)	=	3604		
Valve and Fitting Series(300, 600, 900, 1500)	=	1500		
P = Design pressure, (psi)	=	2846	2372	1976
100% SMYS 3953	MAOP % of SMYS =	65.5%		

HYDROSTATIC TEST PRESSURE REQUIRED TO ALLOW UTILIZATION OF 100% OF DESIGN PRESSURE PER DOT 192.619

Class I	110% MAOP	3131	psi
Class II	125% MAOP	2965	psi
Class III	150% MAOP	2965	psi

ACTUAL MAOP OF ENTIRE LINE

	Class 1	Class 2	Class 3
MAOP/MOP Based on Design	2846	2372	1976
MAOP/MOP Based on Pressure Test	3276	2883	2403
MAOP/MOP Based on Valves and	3705	3705	3705

Note: Liquid lines are tested to Class 2 levels

Comments: Design pressure for this pipe (.420" WT) is equal to 2846 psi. Pressure test to confirm MOP was 3604 psi less 368 psi (851' difference) resulting in 3236 psi which would confirm a MOP of 2588 psi.

Maximum MAOP/MOP: 2846 **Actual MAOP/MOP: 2588**

Calculations by: Michael Reagan 2/10/11 Date

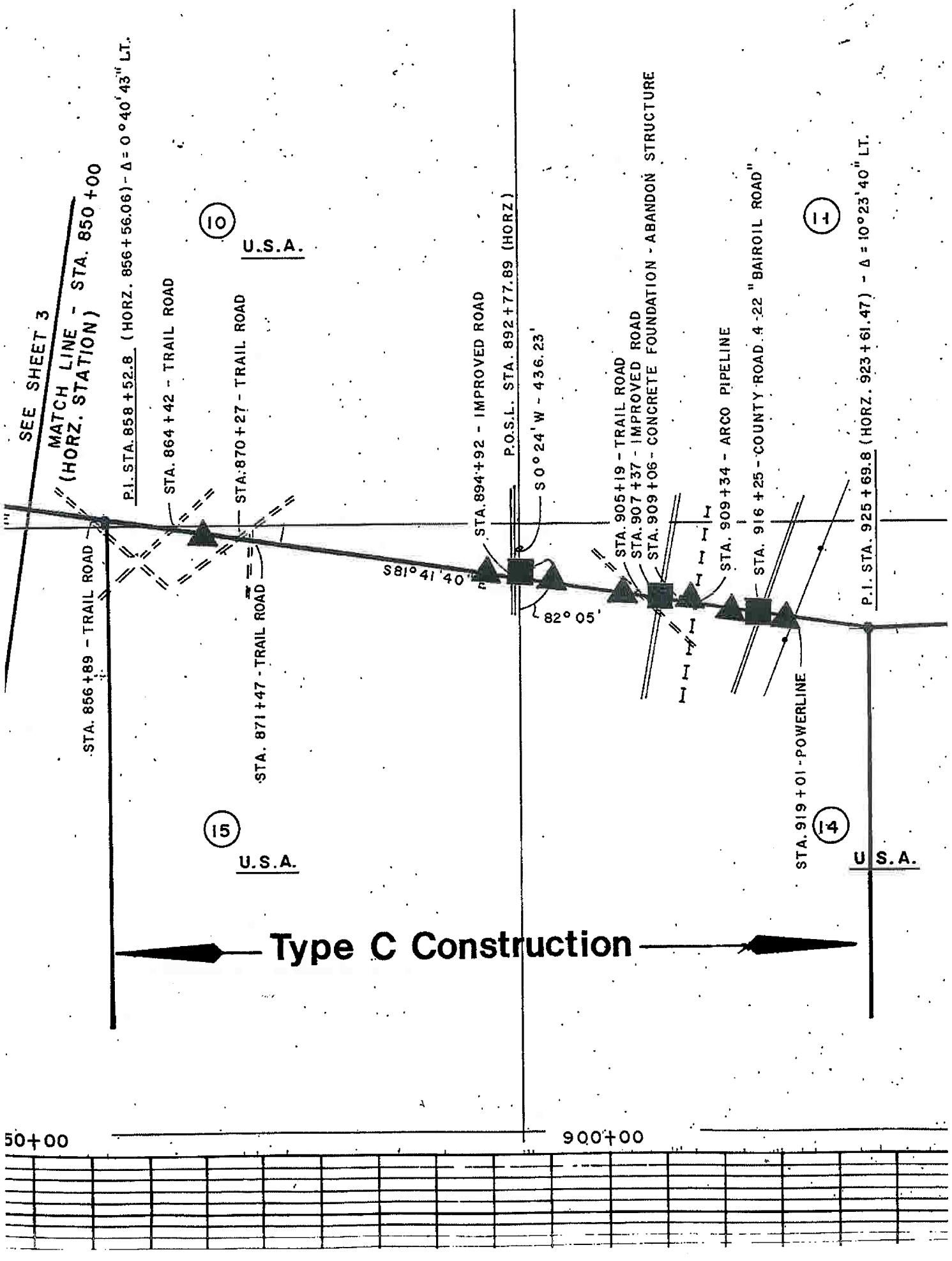
Reviewed by: Eric Ellsworth 2/10/11 Date

NOPV Item #2

After the inspection in May 2010, Merit Energy was able to locate information regarding the piping wall thickness changes in the Bairoil C02 Pipeline system. A document located in the Bairoil C02 Construction Plan depicted that the pipe section between Sta. 858 + 53 and Sta. 925 + 70 would be constructed per ANSI B31.8 for Type C construction as an extra safety precaution. The original alignment sheet 4 of 4 in Appendix A also illustrates the location of the Type C Construction. Hard copy and electronic copies of page 5 of the Bairoil Spur Pipeline Construction Plan and alignment sheet 4 of 4 from Appendix A are included in this submission. The wall thickness changes are now reflected on the updated alignment sheets referred to in Compliance Item #1.

A Class 2 location includes areas on the fringes of towns and cities which describes the portion of the pipeline corridor which runs parallel to the Town of Bairoil in Sections 14 and 15, T26N, R90W. In this area, the spur pipeline will pass generally within 1/4 mile of the portion of the Town known as South Camp.

Although ANSI codes recommend Type B construction in Class 2 areas, Amoco has opted to utilize more stringent Type C construction in this area to add an additional safety margin to the pipeline and to be consistent with the construction type Amoco will use in those portions of the field near Town. The section of the right-of-way which will consist of Type C construction is between Sta. 858 + 53 and Sta. 925 + 70. This 6700 foot portion of corridor is illustrated on Sheet 4 OF 4 of the pipeline alignment sheets in Appendix A of this CUP. The location factor recommended for ANSI B31.8 for Class 3 locations is 0.5 (50 percent of specified minimum yield strength of the pipe). The Class 1 area ANSI B31.8 recommendation is 0.72 (72 percent of specified minimum yield strength of the pipe).


SEE SHEET 3
MATCH LINE - STA. 850+00
(HORZ. STATION)
P.I. STA. 858+52.8 (HORZ. 856+56.06) - Δ = 0°40'43" LT.
STA. 856+89 - TRAIL ROAD
STA. 864+42 - TRAIL ROAD
STA. 870+27 - TRAIL ROAD
STA. 871+47 - TRAIL ROAD
10
U.S.A.
15
U.S.A.
S81°41'40"
STA. 894+92 - IMPROVED ROAD
P.O.S.L. STA. 892+77.89 (HORZ)
S0°24'W - 436.23'
82°05'
STA. 905+19 - TRAIL ROAD
STA. 907+37 - IMPROVED ROAD
STA. 909+06 - CONCRETE FOUNDATION - ABANDON STRUCTURE
STA. 909+34 - ARCO PIPELINE
STA. 916+25 - COUNTY ROAD 4-22 "BAIROIL ROAD"
STA. 919+01 - POWERLINE
11
P.I. STA. 925+69.8 (HORZ. 923+61.47) - Δ = 10°23'40" LT.
14
U.S.A.
Type C Construction
50+00
900+00

Section Line
N89°46'58"W – 2610.56' (Meas.)
S89°44'19"W – 2666.86' (Meas.)
S89°29'36"W – 2640.20' (Meas.)
N – 2637.04' (Meas.)
N00°C
Pipeline Wall Thickness = 0.502"
Pipeline Wall Thickness = 0.402"
Pipeline Wall Thickness = 0.375"
Pipeline Wall Thickness Change
Deep Well Ground Bed & Anodes
RECTIFIER
TEST POINT
Cable STA: 925+73
STA: 925+68.50
P.I. 924+67.70
Exist. Road STA: 924+00
P.I. 923+56.45
Exist. Powerline STA: 917+00
P.I. 916+52.88
P.I. 916+89.22
Exist. Road STA: 915+00
P.I. 914+57.25
Exist. Powerline STA: 911+93
Exist. Powerline STA: 907+59
Exist. Road STA: 902+87
P.I. 902+82.51
P.O.S.L. 902+62.70
1.5" Alum. Cap
Exist. Road STA: 892+03
Exist. Powerline STA: 881+04
P.I. 880+91.94
Exist. Pipeline STA: 868+34
Exist. Pipeline STA: 865+43
1964 Brass Cap 0.8' High
TEST POINT STA: 877+02
Exist. 2"-Trace STA: 877+79
P.I. 876+11.57
P.O.S.L. 873+28.09
Exist. 2"-Trace STA: 872+01
P.I. 865+53.57
Exist. Fence STA: 860+47
STA: 858+62.80
P.I. 853+26.70
L01
L02
L03
L04
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L38
L39
L40

NOPV Item # 7

Merit Energy Company conducted corrosion control training for employees supervising pipeline operations on the Bairoil C02 Pipeline and the Sage Creek NGL Pipelines on September 8, 2010. This training was conducted by Mike Reagan of Optimized Pipeline solutions. The training information included a variety of topics including 195.402 (c)(3) qualifications for supervisors, evaluation and mitigation of external and internal corrosion, use of inhibitors & coupons, sulfate reducing bacteria, atmospheric corrosion, external coatings, cathodic protection systems and inspection and repair techniques. Hard copy and electronic copies of certificates of completion for Merit Energy Supervisors are included in this submission.

Optimized Pipeline Solutions, LLC

presents

Certificate of Completion

to

Craig Davidson

for

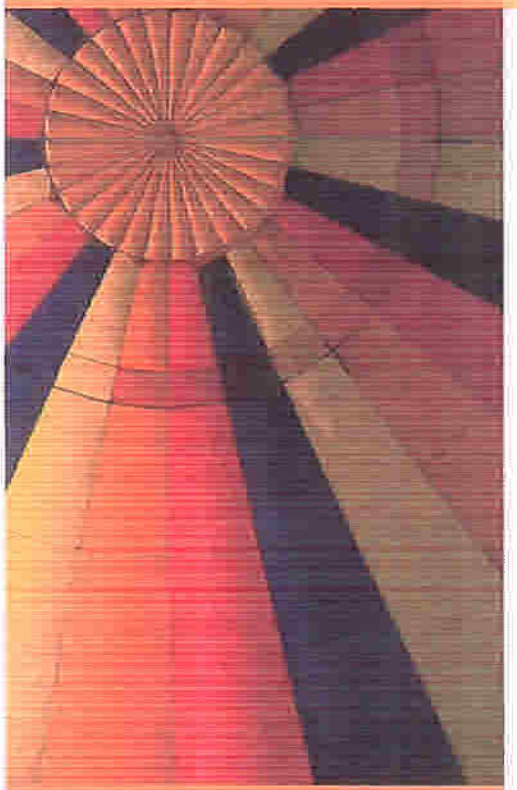
DOT Corrosion Training

M. Ley

Presenter Name and Title

September 9, 2010

Optimized Pipeline Solutions, LLC



presents

Certificate of Completion

to

Bill Ellsworth

for

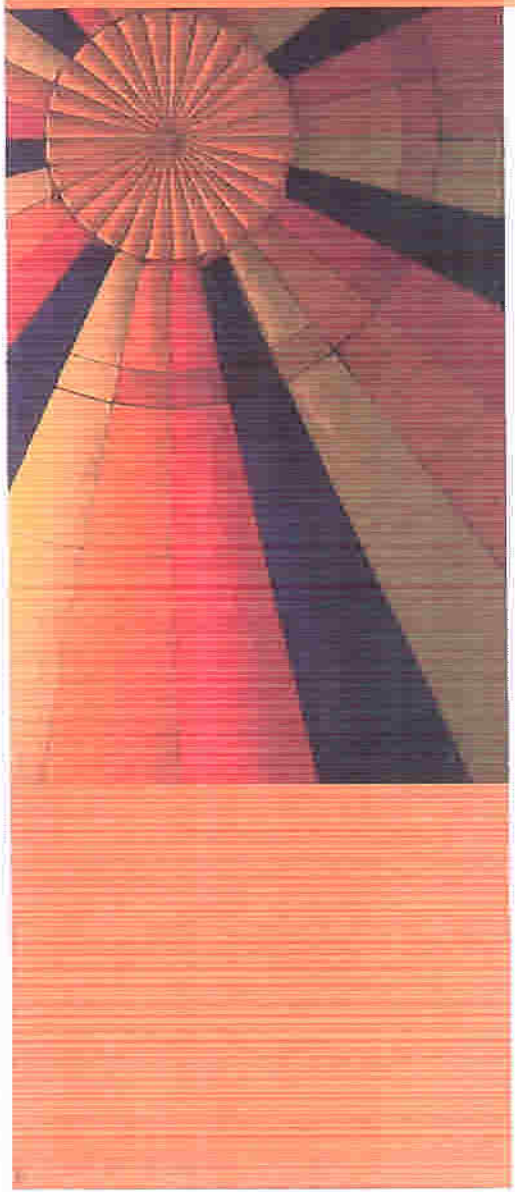
DOT Corrosion Training

M. Reay

Presenter Name and Title

September 9, 2010

Optimized Pipeline Solutions, LLC



presents

Certificate of Completion

to

Dennis Longwell

for

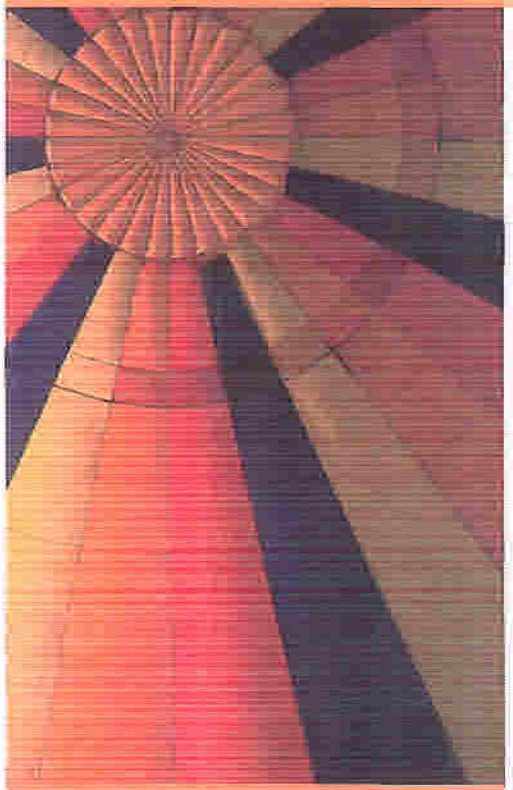
DOT Corrosion Training

M. Reg

Presenter Name and Title

September 9, 2010

Optimized Pipeline Solutions, LLC



presents

Certificate of Completion

to

Kenneth Ivie

for

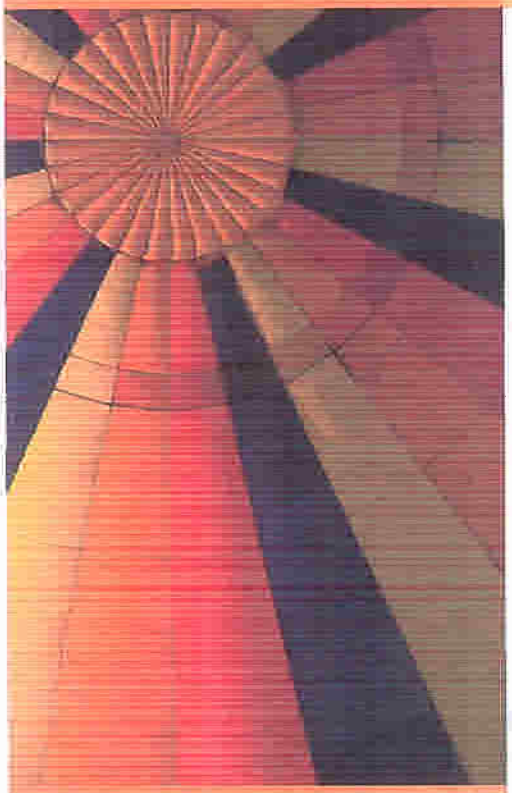
DOT Corrosion Training

M. Ray

Presenter Name and Title

September 9, 2010

Optimized Pipeline Solutions, LLC



presents

Certificate of Completion

to

Scott Robinson

for

DOT Corrosion Training

M. Reay

Presenter Name and Title

September 9, 2010

NOPV Item #9

Documentation has been added to the Bairoil Operations and Maintenance Manual Section 1.3.1, detailing the installation technique of the new deep well ground bed installed in the Bairoil Pipeline System in March 2010. The construction and testing information has now been placed in Appendix A of the O &M manual. The alignment sheets for the pipeline have also been updated to depict the location of the ground bed.

individual job titles. The individual in each of these functions is identified in Section 4A of the manual. Emergency phone numbers are also included in Section 4A.

1.3 SYSTEM DESCRIPTION

The Merit Energy, Bairoil CO2 Pipeline is located in Carbon and Freemont Counties, Wyoming. The pipeline transports commercial grade Carbon Dioxide from a connection with the ExxonMobil, Chute Creek Plant discharge to the Merit Energy CO2 recycling plant near Baroil, Wyoming. The pipeline consists of one (1) individual pipeline as described below.

1.3.1 SYSTEM DETAIL [195.402(c)(4)

The Bairoil CO2 Pipeline System consists of one (1) pipeline which is approximately 19.8 miles in length and transports commercial grade CO2 to the Merit Energy CO2 recycling plant near Bairoil, Wyoming. The pipeline begins at a connection with the ExxonMobil Chute Creek CO2 Pipeline located in the northwest quarter of Section 4, T27N, R92W which is south of Jeffrey City, Wyoming and ends at the Merit Energy CO2 Recycling Plant near Bairoil, Wyoming in Section 18, T26N, R89W. The pipeline is equipped with operational pressure shutdowns and other control devices; however the device which limits operations to MOP or less is two (2) pressure relief valves: one located at the Merit Energy CO2 Recycling Plant and the other at the launcher at the ExxonMobil tie in. Both are set to activate at 2588 psig and relieve to atmosphere.

The pipeline was constructed and placed into service in 1986. The pipeline is constructed of pipe with the following specifications;

Size: 12.75"
Grade: API 5L-X60
Wall Thickness: .420" to .604"

The pipeline is cathodically protected with an impressed current CP system for corrosion protection.

A pressure test conducted on September, 1986 confirmed a test pressure at the Bairoil end of 3604 psi. This pressure would establish a MOP of 2883 psi. Due to an elevation change of 851 feet, the MOP has been adjusted to 2588 psi.

The MOP for the pipeline is 2588 psi and is further discussed in Section 2A.4

In March of 2010, a new Deep Well Ground Bed was installed for the Bairoil Pipeline System. 6- 2" x 60" cast iron anodes were installed on 10 foot centers and buried to 150 feet. Carbo 60 Coke Breeze was utilized for backfill. Documentation of this upgrade is included in Appendix A of this manual.

1.3.1.1 PUMP STATIONS

The Bairoil CO2 Pipeline System contains no jurisdictional pump stations.

1.3.2 ADDRESSES FOR THE PIPELINE

The Bairoil CO2 Pipeline System operated by Merit Energy has offices located as follows:

Home Office

Merit Energy Company
13727 Noel Rd., Suite 500
Dallas, TX 75240

Telephone: (972) 701-8377
Fax: 972-960-1252

Field Office

Merit Energy Company
P. O. Box 189
101 Primrose
Bairoil, WY

Phone: 307-324-6645
Fax: 307-328-2303

UNITED CONTRACTING - ROY GRANGER - 307-787-7200

CATHODIC PROTECTION DRILLING REPORT

CUSTOMER: Merit Energy	COMPANY REP: Bill Ellsworth
LOCATION NAME: Buried Rectifier	MILE POST:
DRILLING COMPANY: United Contracting INC	DRILLERS NAME: Roy Granger
DRILLING COMPANY PHONE NUMBER: 307-787-7200	AQUIFER FOUND: @ TO @
CASING SIZE AND TYPE: 6 inch PVC	SEAL SET AT: 0-20
CASING SET AT SURFACE TO: 20 Feet	DATE: 3-1-11

DRILLING DATA

DEPTH	FORMATION	AMPS	VOLTS	OHMS	DEPTH	FORMATION	AMPS	VOLTS	OHMS	COMMENTS
5	Casing				255					
10					260					
15					265					
20					270					
25			2.1		275					
30			2.0		280					6 2 x 60
35			1.7		285					
40	Gray		1.8		290					Dur Iron Anodes
45	Clay		2.0		295					where Installed.
50			2.2		300					
55			2.0		305					90 Bags of
60			1.9		310					Carbo 60 Coke
65			1.7		315					For Back Fill
70	Sand		.8		320					
75	Stone		.9		325					Anodes where set
80			.7		330					on 10 Foot Centers.
85			1.2		335					
90			1.8		340					
95			1.9	6	345					
100			2.1		350					
105	Gray		2.1	5	355					
110	Shale		2.2		360					
115			2.4	4	365					
120			2.0		370					
125			1.9	3	375					
130			1.6		380					
135			2.5	2	385					
140			2.1		390					
145			2.2	1	395					
150			2.3		400					
155					405					
160					410					
165					415					
170					420					
175					425					
180					430					
185					435					
190					440					
195					445					
200					450					
205					455					
210					460					
215					465					
220					470					
225					475					
230					480					
235					485					
240					490					
245					495					
250					500					

NOTE: INDICATE ANY DRILLING PROBLEMS AT DEPTH ENCOUNTERED

Safety Improvement Costs Associated With Compliance Order CPF-5-2011-6001	
Revision of Plans	
Survey and Update Alignment Sheets	$18,150.00
Update O&M, Update MOP	$ 490.00
Corrosion Training for Supervisors	$ 4097.73
Total Cost, Revision of Plans	$22,737.73
Changes to Pipeline Infrastructure	
Reset Relief Valves to new MOP	$ 579.00
Total Cost Change to Pipeline Infrastructure	$ 579.00

Optimized Pipeline Solutions, LLC
59 Joshua Ct
Lake Jackson, TX 77566
Phone: 979-583-8839
Fax: 979-299-1564
rromero@ops-services.com
EIN: 27-0388862

RECEIVED
JUL 22 2010

Invoice

Date	Invoice #
7/16/2010	1401

Bill To:

Merit Energy Company
Bill Ellsworth
101 Primrose
PO Box 189
Bairoil, WY 82322

Terms
Due on receipt

Serviced	Item	Qty	Description	Rate	Amount
6/26/2010	Senior Consultant	2	Work on IMP Issues	140.00	280.00
6/27/2010	Senior Consultant	3	Work on Millis Pipeline Data	140.00	420.00
7/6/2010	Senior Consultant	8.5	Work on various manuals in Burleson (Mike R)	140.00	1,190.00
7/6/2010	Senior Consultant	10	Update Bairoil, Millis and Sage Creek O&M Manuals (Richard R)	140.00	1,400.00
7/7/2010	Senior Consultant	8.5	Work on various manuals in Burleson (Mike R)	140.00	1,190.00
7/7/2010	Senior Consultant	8.5	Update Bairoil, Millis and Sage Creek O&M Manuals (Richard R)	140.00	1,190.00
7/15/2010	Senior Consultant	3.5	Revise Bairoil, Millis and Sage Creek O&M Manuals for audit findings	140.00	490.00

Total $6,160.00

Optimized Pipeline Solutions, LLC
59 Joshua Ct
Lake Jackson, TX 77566
Phone: 979-583-8839
Fax: 979-299-1564
rromero@ops-services.com
EIN: 27-0388862

Invoice

Date	Invoice #
9/10/2010	1431

SEP 14 2010

Bill To:

Merit Energy Company
Bill Ellsworth
101 Primrose
PO Box 189
Bairoil, WY 82322

Terms
Due on receipt

Serviced	Item	Qty	Description	Rate	Amount
9/2/2010	Senior Consultant	6	Prepare supervisor corrosion training presentation	140.00	840.00
9/7/2010	Senior Consultant	8	Travel to Casper for corrosion training	140.00	1,120.00
9/8/2010	Senior Consultant	8	Conduct corrosion training	140.00	1,120.00
9/9/2010	Senior Consultant	5	Return to Fort Worth	140.00	700.00
9/9/2010	Expenses	1	Expense report attached	1,207.73	1,207.73

1001038880 # 88400 825

GL Code: 83002525

AFE #: 21963

AFE Type: WFC

Description Corrosion Training

Approved By [signature]

[signature]

Total $4,987.73

1/KP

Remit To:
Quadco, Inc.
P. O. Box 576
Brighton, CO 80601
Phone:(303)659-3339 Fax:(303)659-4099

INVOICE

Customer Copy

[illegible]	20000756-00
[illegible]	04/30/10
[illegible]	1 of 1

Bill To: MERIT ENERGY
PO BOX 189
BAIROIL, WY 82322

RECEIVED
MAY 3 [illegible]

Ship To: MERIT ENERGY
101 PRIMROSE/DOT VALVES
BAIROIL, WY 82322

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
628	04/26/10	ATTN: BILL ELLSWORTH	04/30/10	3 DOT RELIEF VALVES	Net 30	Delivery-OT

Line	Item #/Description/Comments	UM	Ordered	Back Ordered	Shipped	Unit Price	Amount
1	LABOR-PRV LABOR - PRV *TRAVEL TO BAIROIL, JEFFERY CITY & RETURN.* *TEST, RESET/ADJUST, TAG, SEAL & PROVIDE REPORT.* *THREE (3) D.O.T. RELIEF VALVES* *	HOUR	4	0	4	60.00	240.00
2	MILEAGE Mileage *TRAVEL TO BAIROIL, JEFFERY CITY & RETURN* *	EACH	218	0	218	1.50	327.00
	Total						567.00
	Taxes						12.00
	Invoice Total						579.00

Plant Loc
8000220
E #
Type
Inspect DOT Valves.
Approved

Lines Total 2 Qty Shipped Total 222

Quadco, Inc. - Wyoming, 2278 N. Clover RD, Westgate Park I, Casper, WY 82601.
Phone:(307)472-3110 Fax:(307)237-5597

[illegible]	579.00

TERMS: Customer agrees to pay a service charge of 1-1/2% per month, a true rate of 18% per annum on any amount past due and to pay reasonable attorney's fees if it becomes necessary to file suit to enforce collection. Accounts past due may be placed on a COD basis without notice. A $35 fee will be charged for returned checks. Special orders may not be returned or payment refunded. No items will be accepted for return without authorization. All returns are subject to a restocking charge plus any freight charges incurred. Orders below minimum level are subject to a delivery charge.

Uintah Engineering & Land Surveying
85 South 200 East
Vernal, Utah 84078
Phone (435) 789-1017
Fax (435) 789-1813

MERIT ENERGY COMPANY
ATTN: MATT WATSON
13727 NOEL ROAD
SUITE 500
DALLAS, TX 75240

Invoice number MERK101650
Date July 30, 2010
Customer: MERK

Project # : 210-1650

12" CO2 PL ASBUILT, MERIT

PROVIDE SURVEY AND DRAFTING SERVICES FOR THE 10" CO2 PIPELINE LOCATED IN T27N, R92W, T27N, R92W, T26N, R91W, AND T26N, R90W.

		Hrs/Units	Rate	Amount
1 SURVEY				
PROVIDE SURVEY.				
Labor				
Office Staff				
Gwen L Harrison				
REPRODUCTION AND MAIL	7/8/2010	0.50	75.00	37.50
Survey Party Chief				
Bart C. Hunting				
SURVEYING INDUSTRIAL	5/18/2010	12.00	95.00	1,140.00
SURVEYING INDUSTRIAL	5/19/2010	12.00	95.00	1,140.00
SURVEYING INDUSTRIAL	5/20/2010	12.00	95.00	1,140.00
SURVEYING INDUSTRIAL	5/21/2010	11.00	95.00	1,045.00
SURVEYING INDUSTRIAL	5/24/2010	12.00	95.00	1,140.00
SURVEYING INDUSTRIAL	5/25/2010	11.50	95.00	1,092.50
Survey Party Helper				
Robert K Davis				
SURVEYING INDUSTRIAL	5/18/2010	12.00	75.00	900.00
SURVEYING INDUSTRIAL	5/19/2010	12.00	75.00	900.00
SURVEYING INDUSTRIAL	5/20/2010	12.00	75.00	900.00
SURVEYING INDUSTRIAL	5/21/2010	11.00	75.00	825.00
SURVEYING INDUSTRIAL	5/24/2010	12.00	75.00	900.00
SURVEYING INDUSTRIAL	5/25/2010	11.50	75.00	862.50

SEE BACK PAGE FOR INVOICE TOTAL

MERIT ENERGY COMPANY
ATTN: MATT WATSON
13727 NOEL ROAD
SUITE 500
DALLAS, TX 75240

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12" CO2 PL ASBUILT, MERIT

Senior Draftsman				
Tracy D. Henline				
SURVEY COMPUTATION	7/7/2010	4.00	95.00	380.00
SURVEY COMPUTATION	7/8/2010	4.00	95.00	380.00
	Labor Subtotal			12,782.50
		Subtotal for SURVEY		12,782.50

		Hrs/Units	Rate	Amount
3	DRAFTING			

PROVIDE DRAFTING SERVICES FOR THE 12" CO2 PIPELINE ASBUILT.

Labor

Associate Draftsman				
Chase Henline				
DRAFTING INDUSTRIAL	6/14/2010	5.00	85.00	425.00
DRAFTING INDUSTRIAL	6/15/2010	2.00	85.00	170.00
DRAFTING INDUSTRIAL	6/16/2010	4.00	85.00	340.00
DRAFTING INDUSTRIAL	6/17/2010	6.00	85.00	510.00
DRAFTING INDUSTRIAL	6/18/2010	2.50	85.00	212.50
DRAFTING INDUSTRIAL	6/22/2010	3.00	85.00	255.00
DRAFTING INDUSTRIAL	6/24/2010	8.00	85.00	680.00
DRAFTING INDUSTRIAL	6/25/2010	6.00	85.00	510.00
DRAFTING INDUSTRIAL	6/26/2010	4.00	85.00	340.00
DRAFTING INDUSTRIAL	6/28/2010	6.00	85.00	510.00
DRAFTING INDUSTRIAL	7/2/2010	2.00	85.00	170.00
DRAFTING INDUSTRIAL	7/7/2010	3.00	85.00	255.00
	Labor Subtotal			4,377.50

Reimbursable

COMPUTER CHARGE	6/14/2010	5.00	20.00	100.00
COMPUTER CHARGE	6/15/2010	2.00	20.00	40.00

SEE BACK PAGE FOR INVOICE TOTAL

MERIT ENERGY COMPANY
ATTN: MATT WATSON
13727 NOEL ROAD
SUITE 500
DALLAS, TX 75240

Invoice number MERK101650
Date July 30, 2010
Customer: MERK

Project # : 210-1650

12" CO2 PL ASBUILT, MERIT

COMPUTER CHARGE	6/16/2010	4.00	20.00	80.00
COMPUTER CHARGE	6/17/2010	6.00	20.00	120.00
COMPUTER CHARGE	6/18/2010	2.50	20.00	50.00
COMPUTER CHARGE	6/22/2010	3.00	20.00	60.00
COMPUTER CHARGE	6/24/2010	8.00	20.00	160.00
COMPUTER CHARGE	6/25/2010	6.00	20.00	120.00
COMPUTER CHARGE	6/26/2010	4.00	20.00	80.00
COMPUTER CHARGE	6/28/2010	6.00	20.00	120.00
COMPUTER CHARGE	7/7/2010	3.00	20.00	60.00
	Reimbursable Subtotal			990.00
			Subtotal for DRAFTING	5,367.50
	Invoice total			**18,150.00**