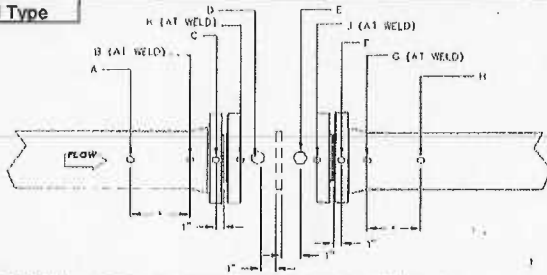
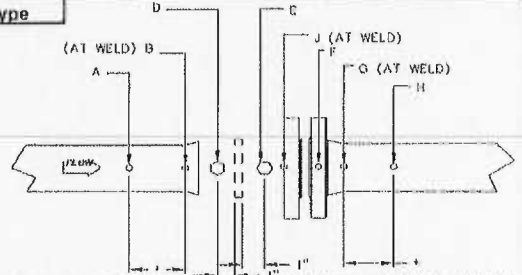
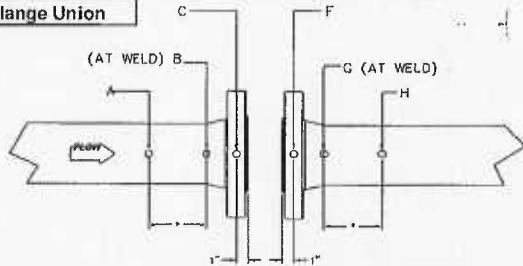


1000038372

Meter Tube Calibration Record
General Specifications

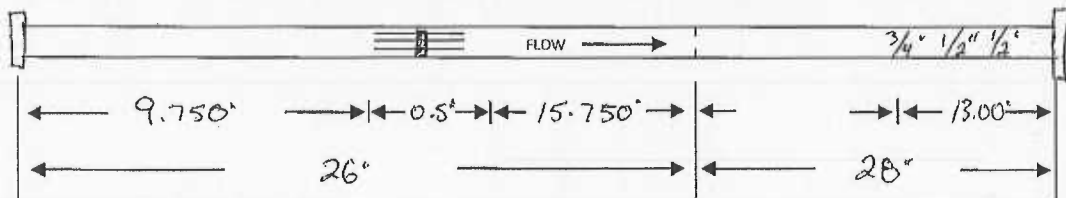
Customer:	RJV Gas Field Svcs	Date:	July 12, 2013
Location:	Husky Energy	P.O. Number:	128512
Serial No.	11282470908	Work Order No.	112824709
Assembly Part No.	9A-MR_52_0133C	Part No.	40552-33221
Orifice Fitting:	2" 600# Sch 80 Dual Chamber Meter Run	Meter Tube Type No.	2
Str. Vane / Flow Cond.:	Yes	X	No

Type 1 Flanged Type

Type 2 Flangeweld Type

Type 3 Orifice Flange Union

Type 4 weldneck Type Valve or Door

Check Location Point A-B-D on Upstream Tube,
Point E-G-H on Downstream Tube

*Cross section 'A' and 'H' shall be one pipe diameter
except if such Cross Section falls within the lifting or weld
it shall be made 1" inside the pipe

Location	Upstream Meter Tube					Downstream Meter Tube					
	A	B	C	D	K	E	F	G	H	J	
V	1.940	1.939		1.937		1.938	1.942	1.944	1.941	1.942	
LV	1.938	1.938		1.937		1.939	1.942	1.945	1.935	1.937	
RV	1.941	1.937		1.942		1.938	1.942	1.943	1.931	1.941	
H	1.944	1.937		1.942		1.940	1.942	1.942	1.925	1.939	
Average	1.941	1.938		1.940		1.939	1.942	1.944	1.933	1.940	
Upstream Mean Average to Stamp on I.D. Plate	1.940					Downstream Mean Average to Stamp on I.D. Plate	1.939				



AGA/API Figure	3 (2000)	0.70	Meter Tap Location	Upstream	N/A	Downstream	N/A
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Remarks: 68* Inspector:

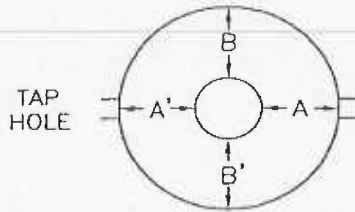


Cameron Measurement Systems
 3707 - 97th Street
 Edmonton, Alberta, Canada T6E 6J2

**QUALITY CONTROL
 INSPECTION REPORT**

Customer: RJV Gas Field Svcs Date: August 15, 2013
 Location: Husky Energy Purchase Order No.: 128512
 Serial No.: 11282470908 Orifice Fitting: 2" 600# Sch 80 Dual Chamber Meter Run
 Assembly No.: 9A-MR_52_0133C Hydrostatic Test Pressure: 2225
 Meter Tube Design Standard API 14.3 Duration: 15 Minutes

ECCENTRICITY



Horizontal $(A - A')/2$

0.003"	0.004"
0.002"	0.005"

Vertical $(B - B')/2$

Measurement Instrument: Mitutoyo Dial Indicator

PRESSURE TAP HOLE VARIATION

Distance from Plate & Hole Diameter

Upstream	Hole	Downstream	Hole
1.004"	0.374"	0.998"	0.373"

Measurement Instrument: PAV Electronic Depth Gauge

SURFACE ROUGHNESS

Roughness Measurement Location

Upstream Tube, One Pipe Diameter from Weld
 Upstream at Pressure Tap Hole
 Downstream at Pressure Tap Hole
 Downstream 1" from End of Flange

Microinches

89
79
129
140

Measurement Instrument: Mitutoyo 212 Surftester

DIFFERENTIAL TEST

Water Hydrostatic Method at 50 psi
 Duration 5 Minutes Minimum Visual: No Leaks

Measurement Instrument: McDaniels Gauge 0 -100 psi

Work Order #: 112824709

Lorne Dagg / Leigha Jarvis

**NUFLO™ DUAL CHAMBER
ORIFICE FITTING**

PART NO. **40552-33221**
 SERIAL NO. **11282470908**
 SIZE **2.0** BORE **1.939**
 SWP **1480** FLG **600**
 TRIM **SWEET**

CRN (ASME CODE) 0F01120.2C



TO REMOVE PLATE FROM CHAMBER

1. CLOSE ORIFICE CHAMBER (INDEX ORIFICE OUT OF OPERATION).
2. OPEN BLEED VALVE.
3. OPEN CHAMBER LID (REMOVE TWO TOP NUTS ONLY).
4. REMOVE ORIFICE PLATE (PRY ON HOLES IN RETAINER HANDLE).

TO PLACE ORIFICE PLATE IN OPERATION

1. REPLACE ORIFICE WITH OUTLET ON PLATE AND SEAL ON RETAINER FACING UPWARD.
2. CLOSE LID.
3. CLOSE BLEED VALVE.
4. OPEN EQUALIZING VALVE.
5. OPEN ORIFICE CHAMBER (INDEX ORIFICE INTO OPERATION).
6. CLOSE EQUALIZING VALVE.

NUFLO™ METER RUN

ASSY NO.

9A-MR_52_0133C

SERIAL NO. **11282470908**
 PIPE SIZE **2.0**
 AGA / API **3 (2000)**
 W.O. NO. **112824709**

U/S DIA.	1.940	D/S DIA.	1.939
SCH	80	RATING	600
MAT'L.	WCB	DATE	08/13

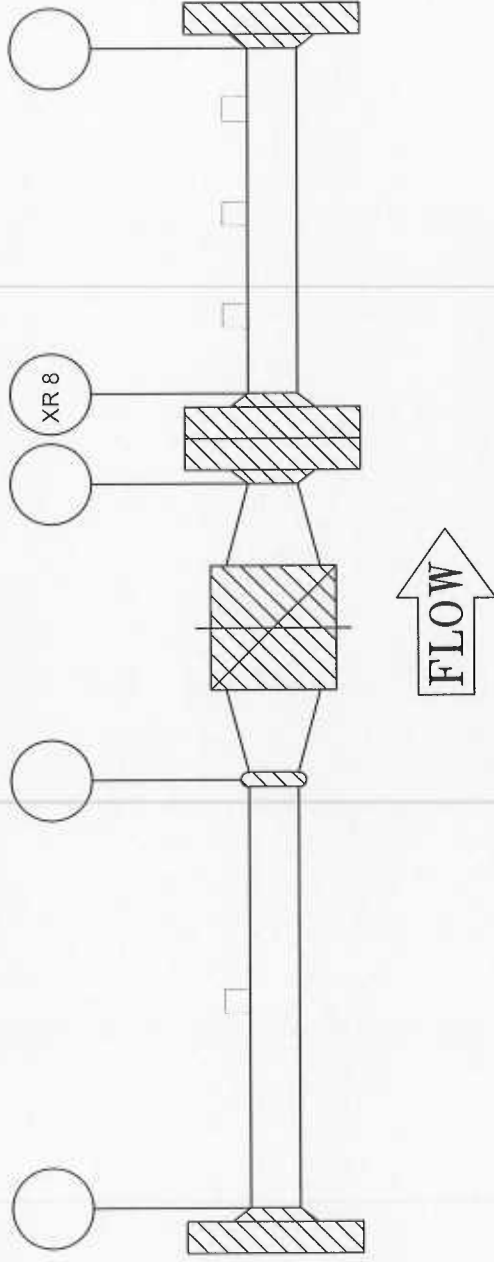
CALIBRATION
CERT'D BY

CAMERON

CRN (ASME CODE) 0F01120.2C



WELD AND RADIOGRAPHY IDENTIFICATION MAP



DESCRIPTION: 2" 600# Sch 80 Dual Chamber Meter Run

SERIAL No.: 11282470908

CUSTOMER: RJV Gas Field Svcs

P/O No.: 128512 TAG No.:

W/O No.: 112824709 END USER: Husky Energy

RADIOGRAPHY UNIT: Western Inspection

WELDER: Jeff Harrington FILE No.: W-23651

DATE: August 2013 Lorne Dagg

SYMBOL: "T" QUALITY ASSURANCE INSPECTOR



CAMERON MEASUREMENT SYSTEMS

7944 - 10th STREET N.E.

CALGARY, AB. T2E 8W1



the pressure equipment safety authority

Certificate of Authorization Permit

Quality Management System

Expiry Date: **December 9, 2013**

Reg. No.: **AQP-5046**

This is to certify that:

**CAMERON
MEASUREMENT SYSTEMS DIVISION
7944 - 10 STREET N.E.
CALGARY, ALBERTA**

having complied with the provisions of the SAFETY CODES ACT, is hereby authorized to:

Manufacture Category 'F' Fittings in accordance with CSA B51

at the above SHOP address.



Dated at Edmonton, this 7th day of December, 2010

Chief Inspector and Administrator

Certificate No.: 7735