

Issuing Authority: Marvin J. (Ty) DeBelser

Date of Issue: March 13, 2008



Quality Control

QCFO Final Inspection Release Certificate R00

FINAL INSPECTION RELEASE CERTIFICATE

CUSTOMER: Murphy Oil & H2 Projects

SALES ORDER# R61102577

PRODUCT: 1.5 mm btu/hr Sour Service Pre-heater Pkg. 48"x16'. 3" ANSI 1500# RTJ x 3" ANSI 1500# RTJ.

WO# 06281

DATE: Feb 04/09

FINAL INSPECTION DOCUMENTATION

REVIEWED BY:

ACCEPTED:

REJECTED:

STANDARD DOCUMENTATION REQUIREMENTS: (SEE DOCUMENT REQUIREMENT LIST)

ADDITIONAL DOCUMENT REQUIREMENTS: (TO BE RECORDED HERE IF APPLICABLE I.E. DOCUMENT PACKAGE

REQUIRED BY CUSTOMER ETC.)

Q.C. FILE CLOSURE BY:

DATE: Feb 04/09

LOOSE COMPONENTS REQUIRED / PREPARED

ITEMS REQUIRED:

NO. OF BOXES OR PKGS. 1

1.5 mm btu/hr Sour Service pre-heat pkg 48"x16' - 3" ANSI 1500# RTJ x 3" ANSI 1500# RTJ

ADDITIONAL HARDWARE OR FASTENERS REQUIRED

YES ☐ NO ☒

PREPARATION FOR SHIPMENT / STORAGE

PREPARATION NEEDED / COMPLETED

Ref: Quality Control Manual Section 15 Rev 6.

S/N # NWP-1564

PART # MANF50

INVENTORY TAGS ATTACHED

YES ☒

NO ☐

SHIPPING INSTRUCTIONS

CUSTOMER P.O. REVIEWED

YES ☒

N/A ☐

CONTACT PERSON AUTHORIZED TO RELEASE PRODUCT:

N/A

PHONE:

FAX:

RELEASED TO INVENTORY:

DATE:

RELEASED TO CUSTOMER:

Dustin Reuttsche

DATE: Feb 3/09



OF

OF - 426

DATE _____

2/FEL/05

CLIENT

NAO RPT by CAC / J12 page 15

Method: Vehicle Inspection

PRINT NAME _____



RAE Engineering and Inspection Ltd.

#111, 4808 - 87th Street, Edmonton, Alberta T6E 5W3
 Telephone: (780) 469-2401 • Fax: (780) 468-2422

REPORT #
 JOB # 0426
 CLIENT

GIC Review

[2287]

- 1. Technicals with report → completed
- 2. Stress Relief chart reviewed → OK
- 3. Tensile files → OK
- 4. RT reports reviewed → Pass
- 5. MTR checked → Acceptable
- 6. Blasting & priming report → OK

Q28 → problems solved

- 1. RT reports reviewed → Dec 2/8 → Pass
- 2. Welder 22's → 4, 5, 9, 15 → no indications on rejecter keys
- 3. Stress Relief chart reviewed → OK
- 4. MTR reviewed → OK
- 5. MTR checked → OK

AB-83 have signed off for

628 and 629

M 01985

SIGNATURE OF REPRESENTATIVE

NWP INDUSTRIES INCORPORATED

SKIDDED EQUIPMENT TRAVEL SHEET

APPROVED BY: Opeddyorko

DATE: Oct 27/08

SIN NWP-1564

WIO#: 06281 DESCRIPTION: 1.5mm btu/hr Sour Service Preheater Pkg, 48" x 16',
DRAWING #: NWP-1559 REV 0 + NWP 1559-1 ^{REV 0} 3" ANSI 1500# RTJ x 3" ANSI 1500# RTJ

	REQ.	HOLD	EMPLOYEE INT.	DATE COMPLETE	QC INIT.	DATE
QUOTATION REVIEWED	N/A				N/A	
WORK INSTRUCTIONS ISSUED	✓		<u>JS</u>	<u>Nov 11</u>	<u>DP</u>	<u>Oct 27</u>
WORK INSTRUCTIONS REVIEWED	✓		<u>JS</u>	<u>Nov 11</u>	<u>DP</u>	<u>Oct 27</u>
ABSA NOTIFIED FOR INSTALLATION INSPECTION	N/A				N/A	
MATERIAL & PARTS RELEASED	✓		<u>JS</u>	<u>Nov 11</u>	<u>DP</u>	<u>Feb 3</u>
HYDRO TEST PIPING	N/A				N/A	
INSTRUMENTATION	✓		<u>aw</u>	<u>Jan 28/09</u>	<u>DP</u>	<u>Feb 3</u>
PNEUMATIC LEAK TEST	✓		<u>N/A</u>		N/A	
INSTRUMENTATION VALVES / FUNCTION TEST	✓	✓	<u>N/A</u>		<u>DP</u>	<u>Feb 3</u>
VISUAL INSPECTION P & ID CHECKED	✓		<u>JS</u>	<u>Feb 4</u>	<u>DP</u>	<u>Feb 3</u>
VISUAL INSPECTION OF BUILDING & RECEIVING OF P.O.	✓		<u>JS</u>	<u>Feb 4</u>	<u>DP</u>	<u>Feb 3</u>
ANY CHANGE ORDERS VERIFIED COMPLETE	N/A			<u>1</u>	N/A	
PREPARED FOR SHIPMENT & PACKAGE LOOSE ITEMS, TEST, CRATED AND DOCUMENTED	✓		<u>JS</u>	<u>Feb 4</u>	<u>DP</u>	<u>Feb 3</u>
VISUAL INSPECTION AFTER PAINT & RECEIVING OF P.O.	✓		<u>JS</u>	<u>Feb 4</u>	<u>DP</u>	<u>Feb 3</u>
PACKAGING / PRESERVATION REQUIREMENTS COMPLETE	✓		<u>JS</u>	<u>Feb 4</u>	<u>DP</u>	<u>Feb 3</u>
SERVICING REQUIREMENTS DEFINED AND APPROVED	N/A				N/A	
QC INSPECTION AND FINAL RELEASE AND STICKER ATTACHED.	✓	✓	<u>JS</u>	<u>Feb 4</u>	<u>DP</u>	<u>Feb 3</u>

ACCEPTED BY CUSTOMER _____

DATE _____

NWP INDUSTRIES INCORPORATED

SKID TRAVEL SHEET

APPROVED
BY: D. Feitzyche

DATE: OCT 27 1988

WIO#: 06281

DESCRIPTION: 15mm btu/hr Preheater Pkg, 48" x 16', 3" ANSI 1500# RTJ x 3" ANSI 1500# RTJ

DRAWING #: NWP-1559-3 REV 0

	REQ.	HOLD	EMPLOYEE INT.	DATE COMPLETE	QC INIT.	DATE
WORK INSTRUCTIONS/ DRAWINGS ISSUED	✓				DP	OCT 27
WORK INSTRUCTIONS/ DRAWINGS REVIEWED	✓				DP	OCT 27
MATERIAL & PARTS RELEASED	✓				DP	Dec 12
WELDING PERSONNEL ASSIGNED	✓	DSP BD			DP	Dec 12
VISUAL CHECKS ON WELDS	✓	DSP BD			DP	Dec 12
DIMENSIONAL CHECK (FINAL)	✓	DSP BD			DP	Dec 12
SURFACE PREP. / SANDBLAST ETC. & P.O. RECEIVED	N/A				N/A	
PRIMER PAINT	N/A				N/A	
FINAL PAINT & P.O. RECEIVED	N/A				N/A	
QC INSPECTION & FINAL RELEASE	✓				DP	Dec 12

ACCEPTED BY CUSTOMER _____ DATE _____

NWP Industries Inc.

INDIRECT FIRED HEATER COIL EXAMINATION AND INSPECTION REPORT

DO NOT START CONSTRUCTION WITHOUT AI REVIEW

EXAMINATION AND INSPECTION REPORT

REVISION NO.:

AI REVIEW:

REVIEW DATE:

Oct. 20, 2008

SERIAL NO.: NWP-1564 JOB NO.: 06281

COIL TYPE: 48" x 16' 3" ANSI 150# RTJ x 3" ANSI 150# R

DRAWING NO.: NWP-1559-2 DWG. REVISION NO.: 0

EXAMINATION AND INSPECTION REPORT

INITIATION BY:

Seq.	Item	Comments	Q.C.I.	Date	A.I. Hold Points	A.I.	Date	Owner	Date
1.	Calculations in File		DP	Oct 21/08	*	JP	10.20.08		
2.	Release of App'd Dwg.		DP	Oct 21/08	*	JP	10.20.08		
3.	Heat Numbers Recorded		DP	Jan 16	*	used	09/01/16		
4.	MTRs Checked	HOLD	DP	Jan 16	*	used	09/01/16		
5.	Materials Checked Against Drawings and Specs	HOLD	DP	Jan 16					
6.	W.P.S. Checked		DP	Jan 7					
7.	Welders Qualified		DP	Oct 21/08					
8.	Thicknesses Recorded		DP	Jan 7					
9.	Fit-up Examination(s)		DP	Jan 7					
10.	Impact Tests	NA	NA						
11.	Welds Examined		DP	Jan 16					
12.	Welder I.D. Checked		DP	Jan 16					
13.	Final External Inspection		DP	Jan 21	*	JP	1.21.09		
14.	Radiography	100% HOLD	DP	Jan 16	*	used	09/01/16	2/15/09	
15.	Other N.D.E.	NA	NA						
16.	Final Ext. Prior to P.W.H.T.	HOLD	DP	Jan 9	*	JP	12.29.08		
17.	PWHT Chart Checked	HOLD	DP	Jan 16	*	used	09/01/16	2/02/09	
18.	Hydrostatic Test	4688# HOLD (AHL)	DP	Jan 21	*	JP	1.21.09	2/22/09	
19.	CRN Drawing	PR 407.213	DP	Oct 21/08	*	JP	10.20.08		
20.	N.C.R. #		NA						
21.	Nameplate Stamping		DP	Jan 16	*	used	09/01/16		
22.	Data Report (AB-28) completed		DP	Jan 21	*	JP	1.21.09	2/24/09	
23.	Nameplate Installation		DP	Feb 3					

The Authorized Inspector shall be presented with the Examination and Inspection Report prior to construction so that he can designate additional inspection points and/or Hold Points. Any revisions shall be marked with a delta symbol with revision number and described at the bottom of this page.

* Denotes an A.I. Inspection Point ** Denotes an A.I. Hold Point

O.K. ✓ V/C 3" plate V/C. - needs repair
JA.
1.21.09

Issuing Authority: Marvin J. (Ty) DeBelser / Dale
jrg

Date of Issue: November 30, 2007

Rev Status: 1.0



Manufacturing

FORM-LHTS-001

Line Heater Travel Sheet

(Shell, Skid & Firetube Assembly)

By:

Date:

W.O. # 06281

Description: 115mm b/v/hr Preheater Pkg 48" x 16'
3" ANSI 1500# RTJ x 3" ANSI 1500# RTJ

Drawing # NWP-1559-4 REV 0

SIN NWP-1564	Req.	Hold	Employee Initial	Date Complete	QC Initial	Date
Work Instructions/Drawings Issued			JB		DP	Oct 27/08
Work Instructions/Drawings Reviewed			JB		DP	Oct 27/08
Material & Parts Released					DP	Dec 29
Welding Personnel Assigned			JB cm		DP	Dec 29
Visual Dimension Inspection - Firetube/Stack					DP	Dec 29
Visual Dimension Inspection - Skid					DP	Dec 29
Visual Dimension Inspection - Expansion Tank			JB cm		DP	Dec 29
Visual Dimension Inspection - Preheat Line					DP	Dec 29
Visual Dimension Inspection - Shell Assy.			JB cm		DP	Dec 29
Pneumatic Test - Firetube					DP	Jan 16
Hydro Test - Preheat Line					DP	Jan 16
Pneumatic Test - Shell Assy.					DP	Jan 22
Installation of All Welded Components Complete					DP	Jan 22
Final Inspection Release					DP	Jan 22
Shell HT# W8E761/B8F750						
18" Pipe HT# 4-34628						
HT# DL0710869						

Accepted By Customer:

Date:

Welded piping for 1.5mm bbl/hr sour service Preheater Pkg,
 48" x 16', 3" ANSI 1500# RTJ x 3" ANSI 1500# RTJ.

S/N NWP-1564

PRESSURE PIPING EXAMINATION CHECKLIST

DRWG# NWP-1559-41 REV 0

JOB NUMBER: 06281

NO.	FUNCTION	SIGNATURE OR INITIAL AND DATE	
		Q.C. INSPECTOR	OWNERS INSPECTOR
1	DRAWINGS: ABSA registration over 0.5 Cu.M. Approved by Owner. Approved for Construction (signed & dated).	N/A	
2	Owner's Inspector notified.	DP Jan 5	
3	Registered Welding Procedure Specifications, Q.C. Manual and Forms available at site, Job File started.	DP Jan 5	
4	Welders qualified for WPS's and have valid Performance Qualification cards. Welders Log completed. WPS reviewed with Welders.	DP Jan 5	
5	Material checked against P.O., drawings, and specifications. Identification confirmed. Colour coding applied.	DP Jan 5	
6	Sample of each Welder's work examined, including root spacing, alignment, cleaning, joint preparation, preheat and electrode control.	DP Jan 5	
7	Nondestructive Examination completed. Reports and radiographs reviewed, signed by Level II or III, Radiograph I.D. detailed on drawings.	N/A	
8	Visual Examination of all completed welds. Welders I.D. stamped and recorded on drawings.	DP Jan 5	
9	Heat Treatment verified and recorded on drawings.	N/A	
10	Each system checked against specifications and drawings before test.	DP Jan 5	
11	All deficiencies recorded and signed off by Q.C.I. and Owner's Inspector before test.	N/A	
12	Pressure Test checked. Gauge calibration verified, gauge #'s recorded.	DP Jan 5	
13	System checked after test. Deficiencies recorded and corrected.	DP Jan 5	
14	Construction data reports (AB-83) prepared and signed by Q.C.I. and Owner's Inspector.	DP Feb 3	
15	Declaration form (AB-81) submitted to ABSA	N/A	
16	As built drawings accepted by Owner.	DP Feb 3	

Partial Data Reports, properly identified and certified by ABSA-authorized contractors, as listed below are attached to and form part of this Data Report ☐

No.	Line No.	Spool No.	Drg. No. (with Rev. No.)	Contractor (Name)	AQP No.	Expiry date

Remarks: Provide additional comments including noting any code work that was not performed by the ABSA- authorized contractor(s) supplying this document as a Partial Data Report but which must be completed by another ABSA-authorized contractor who assumes overall responsibility for conformance with the Safety Codes Act & Regulations and applicable ASME Codes, and who assures that all required code work is completed prior to putting the piping system into service.

Endorse certificate 'A' or 'B'

A. CERTIFICATE OF COMPLIANCE

Signed by the subcontractor when supplying this certificate as a
Partial Data Report

We certify that the statements in this Data Report are correct and that materials, construction and workmanship of the piping fabrication conform to the registered quality system and the applicable Piping code(s).

Date: _____
Subcontractor

Print Authorized Representative's Name _____ Signature _____

This certificate is not valid unless it forms part of a Final Data Report signed by Primary Contractor

B. CERTIFICATE OF COMPLIANCE

Signed by the primary contractor when supplying this certificate as a
Final Data Report

We certify that the statements in this Data Report are correct and that piping job no. 06281 described in this Data Report was constructed in accordance with the Province of Alberta Safety Codes Act and Regulations, and applicable ASME Piping Code(s).

Date: Jan 16, 2009 NWP Industries Inc

Primary Contractor

Dustin Peitzsche

Print Authorized Representative's Name _____ Signature _____

CERTIFICATE OF INSPECTION

I, the undersigned, employed by Rae Engineering have inspected the piping

job no. 06281 described in this Construction Data Report and state that, to the best of my knowledge and belief, the Contractor has constructed this piping in accordance with the applicable Sections of the ASME Piping Codes and Province of Alberta Safety Codes Act and Regulations.

Date: January 16th, 2009

Demuni Jayasinghe

Print Owner's Inspector's Name _____ Owner's Inspector's Signature _____

Date: _____

Name: _____

Sign.: _____

ABSA Safety Codes Officer
(BOILER EXTERNAL PIPING ONLY)

Issuing Authority: Marvin J. (Ty)
DeBelser / Dale Karg
Date of Issue: November 30, 2007
Rev Status: 1.0



ABSA
FORM-NDE-001
N.D.E. Requirements

CLIENT:

W.O. # 6281

PROJECT: Line heater coil

DATE: Jan 2/09

PIPING: ☒

PRESSURE VESSEL:

TANK:

OTHER:

☐ X-RAY

☒ 100%

☐ ASME SECTION VIII-UW-51

☒ GAMMA RAY

☐ FULL

☐ ASME SECTION VIII-UW-52

☐ ULTRASONICS

☐ 25%

☐ ASME B31.1

☐ LIQUID PENETRANT

☐ 10%

☒ ASME B31.3 NFS

☐ MAGNETIC PARTICLE

☐ OTHER (DEFINE)

☐ OTHER (SPECIFY)

☐ ACOUSTIC EMISSION

GENERAL INSTRUCTIONS:

Vessel s/n

Nwp 1564

P1 Material

Welder ID

Shell-T=

3" Sch 160

Pipe-T=

Total Welds

1 weld that was missed on spliced pipe in middle will be x38

Please use wire type IQ1

Please note all indications on films on reports

Please include O.F.D - S.O.D S.F.D on reports

SPECIAL REQUIREMENTS:

P.O#

PREPARED BY:

DATE:

RADIOGRAPHIC INSPECTION REPORT

DATE: 03-JAN-09 PAGE 1 OF 1

JOB #: 4138 P.O. # _____

CLIENT: NWP Industries Inc. CODE: 5304 Wb# 6281

LOCATION: Innisfail, Line heater coil

DEFECT LEGEND						CODE LEGEND						TECHNIQUES			
IF - INCOMPLETE FUSION	P - POROSITY	C - CRACK	1. ASME B31.3 NORMAL	5. ASME B31.1	1. SINGLE WALL EXPOSURE	3. SINGLE WALL VIEWING									
IP - INCOMPLETE PENETRATION	HL - HIGH / LOW	AC - ARC BURNS	2. ASME B31.3 SEVERE	6. CSA Z 662	2. DOUBLE WALL EXPOSURE	4. DOUBLE WALL VIEWING									
UC - UNDERCUTTING	IC - INTERNAL CONCAVITY	EP - EXCESSIVE PENETRATION	3. ASME VIII DIV I UW 51	7. API 650											
S - SLAG	LC - LOW COVER	SH - SHRINKAGE	4. ASME VIII DIV UW 52	8. OTHER _____											
BT - BURN THROUGH	HB - HOLLOW BEAD	1 - SLIGHT, 2 - MEDIUM, 3 - SEVERE													

FILM #	LOCATION	THK	DIA	WLDR SYM	IF	IP	UC	S	BT	P	IC	LC	TECH #	CODE #	ACC.	REMARKS	REJECT
1															☐	1	
2															☐	2	
3															☐	3	
4															☐	4	
5															☐	5	
6															☐	6	
7	X38 NWP 1564	438	3"										2/3	1	☒	7	Pellam
8															☐	8	
9															☐	9	
10															☐	10	
11															☐	11	
12															☐	12	
13															☐	13	
14															☐	14	
15															☐	15	
16															☐	16	
17															☐	17	
18															☐	18	
19															☐	19	
20															☐	20	
21															☐	21	
22															☐	22	
23															☐	23	
24															☐	24	
25															☐	25	

No. of Exp.	Film Brand & Design	Screen Type & Thickness	No. of Film per Cassette	Type of Energy	Physical Size	Activity or K.V.	Maximum Source To Object Distance	Minimum Source To Object Distance	Material	Thickness			IQI		Exp. Time C/min (mAs)
										Base	Weld	R.F.	Type	Size	
4	AGFA	Pb	1	1.92	0.150"	55Ci	.563"	2.937"	c/s	.438"	.125"	.563"	ASTM	B	
	D4	005" (F) 010" (B)													

This Certificate or Report is valid only for that work which was specifically requested. The Company is not responsible for any views or opinions expressed by employees performing this work which fall outside the contract terms or reference. All Certificates and / or reports are the result of work performed in conformance with applicable specifications and standards to the best of our ability and intent. However, the Company will not be responsible for deviation within the normal limits of accuracy in accordance with the standard practices. Final Code Acceptance shall require Client and Manufacturer Representative's signatures.

A.M.		P.M.		TOTAL HOURS	KILOMETERS	SUBSISTENCE		FILM	
TIME IN	TIME OUT	TIME IN	TIME OUT	S.T. hrs.		MANDAY	OT / MEALS		
0800	0900			O.T. 1.00 hrs.				4x (2 3/4" x 5.5") D4	

Film Interpretation is done in accordance with the specified code, to the best of my professional ability.
 Radiographer: Charles Mallett II, RT Reg. No.: 11295 Assistant: Craig Olsen
 The above interpretation is a professional opinion, final film interpretation is the responsibility of the client.
 I am in full agreement with the contents of this report and accept receipt of the associated film. Client Representative: [Signature]

Issuing Authority: Marvin J. (Ty)
DeBelser / Dale Karg
Date of Issue: November 30, 2007
Rev Status: 1.0



ABSA
FORM-NDE-001
N.D.E. Requirements

CLIENT:		W.O. # 06281
PROJECT: 1.5 mm lineheater Coil		DATE: Dec 22/08
PIPING: ☒	PRESSURE VESSEL: ☒	TANK: ☐
☐ X-RAY	☒ 100%	☒ ASME SECTION VIII-UW-51
☒ GAMMA RAY	☒ FULL	☐ ASME SECTION VIII-UW-52
☐ ULTRASONICS	☐ 25%	☐ ASME B31.1
☐ LIQUID PENETRANT	☐ 10%	☒ ASME B31.3 NFS
☐ MAGNETIC PARTICLE	☐ OTHER (DEFINE)	☐ OTHER (SPECIFY)
☐ ACCOUSTIC EMISSION		

GENERAL INSTRUCTIONS:

Vessel s/n

sin# NWP - 1564

P1 Material

Welder ID

3+L

Shell-T=

Pipe-T=

31 sch 160

Total Welds

36 shots

Please use wire type iQi

Please note all indications on films on reports

Please include O.F.D - S.O.D S.F.D on reports

SPECIAL REQUIREMENTS:

P.O.#

61-50130

PREPARED BY:

[Signature]

DATE:

Dec 22/09

RADIOGRAPHIC
INSPECTION REPORT

DATE: DEC 22/08 PAGE 1 OF 2

JOB #: 5804-4111 P.O. # 01-50130

CLIENT: NWP INDUSTRIES

CODE: 20200

LOCATION: INALISEAL

3" LINEHEATED COIL WT 06281 3/4 NWP-1564

DEFECT LEGEND

IF - INCOMPLETE FUSION
IP - INCOMPLETE PENETRATION
UC - UNDERCUTTING
S - SLAG
BT - BURN THROUGHP - POROSITY
HL - HIGH / LOW
IC - INTERNAL CONCAVITY
LC - LOW COVER
HB - HOLLOW BEADC - CRACK
AC - ARC BURNS
EP - EXCESSIVE PENETRATION
SH - SHRINKAGE
1 - SLIGHT, 2 - MEDIUM, 3 - SEVERE

CODE LEGEND

1. ASME B31.3 NORMAL
2. ASME B31.3 SEVERE
3. ASME VIII DIV 1 UW 51
4. ASME VIII DIV UW 525. ASME B31.1
6. CSA Z 662
7. API 650
8. OTHER

TECHNIQUES

1. SINGLE WALL EXPOSURE
2. DOUBLE WALL EXPOSURE
3. SINGLE WALL VIEWING
4. DOUBLE WALL VIEWING

FILM #	LOCATION	THK	DIA.	WLDR SYM	IF	IP	UC	S	BT	P	IC	LC	TECH #	CODE #	ACC.	REMARKS	REJECT
1	8-1	438	3"	L									2/3	1	☒		
2	2			L											☒		
3	3			L											☒		
4	4			3											☒		
5	5			L											☒		
6	6			L						1					☒	Por @ 2cm	
7	7			L											☒		
8	8			3											☒		
9	9			3											☒	dryer mark 6.12cm	
10	10			3						1					☒	Por @ 0.12cm	
11	11			3						1					☒	Por @ 14cm	
12	12			L				1							☒	slag @ 28cm	
13	13			L											☒		
14	14			L						1					☒	Por @ 23cm	
15	15			L						1					☒	Por @ 14cm	
16	16			3				1							☒	slag @ 4cm	
17	17			L						1					☒	Por @ 12.14cm dryer mark 6.12cm	
18	18			3											☒		
19	19			L											☒		
20	20			3											☒		
21	21			3						1					☒	Por @ 16cm	
22	22			L											☒		
23	23			3											☒		
24	24			L											☒	Film mark @ 4cm	
25															☐		

No. of Exp.	Film Brand & Design	Screen Type & Thickness	No. of Film per Cassette	Type of Energy	Physical Size	Activity or K.V.	Maximum Source to Object Distance	Minimum Source to Object Distance	Material	Thickness			IQI		Exp. Time C/min (mAs)
										Base	Weld	R.F.	Type	Size	
4	AGFA D19	Lead 0.010"	1	121kV	27mm	300k	contact	P.	P.	AS	ABOVE		ASTM	B	

This Certificate or Report is valid only for that work which was specifically requested. The Company is not responsible for any views or opinions expressed by employees performing this work which fall outside the contract terms or reference. All Certificates and / or reports are the result of work performed in conformance with applicable specifications and standards to the best of our ability and intent. However, the Company will not be responsible for deviation within the normal limits of accuracy in accordance with the standard practices. Final Code Acceptance shall require Client and Manufacturer Representative's signatures.

A.M.		P.M.		TOTAL HOURS	KILOMETERS	SUBSISTENCE		FILM	
TIME IN	TIME OUT	TIME IN	TIME OUT	S.T. 8:50 hrs.		MANDAY	OT / MEALS	37-3" welds	
				O.T. 2:50 hrs.					

Film Interpretation is done in accordance with the specified code, to the best of my professional ability.

Radiographer: NEAL FLEMING

SNT/CGSB Level: 11 RT, RT, ET

Reg. No.: 10617

Assistant: STEVE LEMOND

The above interpretation is a professional opinion, final film interpretation is the responsibility of the client.

I am in full agreement with the contents of this report and accept receipt of the associated film. Client Representative: [Signature]

RADIOGRAPHIC INSPECTION REPORT

DATE: DEC 22/08 PAGE 2 OF 2

JOB #: 5304-4111 P.O. # 61-50130

CLIENT: NWP INDUSTRIES

CODE: R0200

LOCATION: INU.SKAIL

3 LINE HEATER COIL WO# 06281 S/W NWP-1564

DEFECT LEGEND

IF - INCOMPLETE FUSION
IP - INCOMPLETE PENETRATION
UC - UNDERCUTTING
S - SLAG
BT - BURN THROUGH
P - POROSITY
HL - HIGH / LOW
IC - INTERNAL CONCAVITY
LC - LOW COVER
HB - HOLLOW BEAD

C - CRACK
AC - ARC BURNS
EP - EXCESSIVE PENETRATION
SH - SHRINKAGE
1 - SLIGHT, 2 - MEDIUM, 3 - SEVERE

CODE LEGEND

1. ASME B31.3 NORMAL
2. ASME B31.3 SEVERE
3. ASME VIII DIV 1 UW 51
4. ASME VIII DIV UW 52
5. ASME B31.1
6. CSA Z 662
7. API 650
8. OTHER

TECHNIQUES

1. SINGLE WALL EXPOSURE
2. DOUBLE WALL EXPOSURE
3. SINGLE WALL VIEWING
4. DOUBLE WALL VIEWING

FILM #	LOCATION	THK	DIA.	WLDR SYM	IF	IP	UC	S	BT	P	IC	LC	TECH #	CODE #	ACC.	REMARKS	REJECT
1	X-25	433	3	L									33	1	✓	1	
2	26			3						1					✓	2	Por @ 13cm
3	27			L											✓	3	
4	28			3											✓	4	
5	29			L											✓	5	
6	30			L											✓	6	
7	31			3						1					✓	7	Por @ 13cm
8	32			3				1							✓	8	slag @ 12cm
9	33			L											✓	9	
10	34			3											✓	10	
11	35			3											✓	11	
12	36			L											✓	12	
13	37	✓	✓	3									✓	✓	✓	13	
14																14	
15																15	
16																16	
17																17	
18																18	
19																19	
20																20	
21																21	
22																22	
23																23	
24																24	
25																25	

No. of Exp.	Film Brand & Design	Screen Type & Thickness	No. of Film per Cassette	Type of Energy	Physical Size	Activity or K.V.	Maximum Source Side Object To Film Distance	Minimum Source to Object Distance	Material	Thickness			IQI		Exp. Time C/min (mAs)
										Base	Weld	R.F.	Type	Size	
4	AGFA 04	Lead - 0.10"	1	10192	27mm	300.	contact	Pi	AS	AS	AS	ASTM	B		

This Certificate or Report is valid only for that work which was specifically requested. The Company is not responsible for any views or opinions expressed by employees performing this work which fall outside the contract terms or reference. All Certificates and / or reports are the result of work performed in conformance with applicable specifications and standards to the best of our ability and intent. However, the Company will not be responsible for deviation within the normal limits of accuracy in accordance with the standard practices. Final Code Acceptance shall require Client and Manufacturer Representative's signatures.

A.M.	P.M.	TOTAL HOURS	KILOMETERS	SUBSISTENCE	FILM
TIME IN	TIME OUT	TIME IN	TIME OUT	MANDAY	OT / MEALS
		S.T. / hrs.			
		O.T. / hrs.			

Film Interpretation is done in accordance with the specified code, to the best of my professional ability.
 Radiographer: NEAL ELENOR SNT/CGSB Level: 11 RT, RT, RT Reg. No: 10617 Assistant: STEVE LONARD
 The above Interpretation is a professional opinion, final film interpretation is the responsibility of the client.
 I am in full agreement with the contents of this report and accept receipt of the associated film. Client Representative: [Signature] DEC 24.08



HEAT TREATMENT REQUIREMENTS

Lin # NWP-1554

JOB NO: 06281

CUSTOMER:

DATE: Dec 30/09

COMPONENT DESCRIPTION

DWG. NO. AND LINE NO.	DIAMETER	THICKNESS	MATERIAL	LENGTH	WEIGHT
NWP-1554-2	3"	800160	SA106	198.25	4343.125

TYPE OF HEAT TREATMENT:

PRESSURE VESSEL STRESS RELIEVE P-NO. 1

HEATING

Temperature to be raised from 800-F (427-C) to 1100-F (594-C) at a maximum rate of 400 °F

() °C per hour. NOTE: THIS VALUE MUST NEVER EXCEED 400-F (222-C) PER HOUR.

[Calculated rate = 400 degrees F/hr. (222 degrees C/hr) Divided by the maximum metal thickness of the shell or head plate in inches]

HOLDING

Temperature to be held at a minimum of 1100-F (594-C) for 60 minutes.

[Holding time to be determined by Table UCS-56 for Nominal Thickness as specified in UW-40(f)]

COOLING

Temperature to be lowered from 1100-F (594-C) to 800-F (427-C) at a maximum rate of 500 °F

() °C per hour. NOTE: THIS VALUE MUST NEVER EXCEED 500-F (278-C) PER HOUR.

[Calculated rate = 500 degrees F/hr. (278 degrees C/hr.) Divided by the maximum metal thickness of the shell or head plate in inches]

From 800-F (427-C) items may be cooled in still air.

Additional Requirements:

- ☐ Job number and description required on heat treatment charts along with the operator's signature & date.
- ☐ Reporting of thermocouple attachment method and location, and verification of furnace thermocouple calibration is required.
- ☐ A sufficient number of thermocouples shall be located to control and maintain uniform distribution of temperature on all vessels and parts. Thermocouples shall be directly attached to the item or provision shall be made for thermocouple placement at bottom, centre and top of the furnace charge in accordance with the ASME Code.
- ☐ During the heating period, there shall not be a greater variation in temperature throughout the portion of the vessel being heated than 250° F (139° C) within any 15 ft. (4.6 m) interval of length. An adequate number of thermocouples must be used to ensure this Code requirement is met.
- ☐ During the holding period, there shall not be a greater difference than 150° F (83° C) between the highest and lowest temperature throughout the portion of the vessel being heat treated, except where the range is further limited by these instructions.
- ☐ If Capacitor Discharge welding is used to attach thermocouples an ASME Code Section IX Welding Procedure Specification is required (WPS qualification is not required), and the energy output must be limited to 125 Watt-Seconds.
- ☐ No other welding is permitted on vessels or parts. [$0.5 \times \text{Capacitance in farads} \times \text{Voltage}^2 = \text{W-Sec.}$]
- ☐ The method of thermocouple removal shall not damage the heat treated item.

Q.C. Inspector Signature

Date:

Thermocouple Attachment Method: Capacitor discharge

Location (s)

Furnace Heat Number BF32-09-017

Furnace Operator Signature [Signature]

Date: Jan 9/09

RE 164 of TCS 2 *Shane*
 R. H. Cross Parking

Chart: NWP

Date: Jan 9/09 Job #:

APE

Operator: Shane Stimson

18.2

Chart: 50 mm/hr

Description: RF 32-09-017

- (1) coil s/n: NWP 1564 Job # 06281 PO # 61-49294
- (1) coil s/n: NWP 1579 Job # 06398 PO # 61-50334
- (1) vessel s/n: NWP 1631 Job # 06533 PO # 61-50077
- (1) vessel s/n: NWP 1632 Job # 06534 PO # 61-50078

- End Soak
 - 1 hr Soak

- Start Soak

Red 09/1/09

Jan 12/09

1000 9.01.09.13.12



R & R Stress Relieving Service Ltd.

Nisku: 2103 - 6th Street, T9E 7X8 Tel: (780) 955-7559 Fax: (780) 955-2903
Blackfalds: #13 Burbank Industrial Park Tel: (403) 885-2280 Fax: (403) 885-0177
Calgary: (403) 236-8986 Toll Free: 1-800-499-HEAT(4328)

CERTIFICATE OF CONFORMANCE OF RECORDING INSTRUMENTS

CERTIFIED BY: R & R Stress Relieving Service Ltd.
TEST NUMBER: RR0708
DATE: July 28, 2008
DATE DUE: January 28, 2009
INSTRUMENT MFG: Chino
MODEL NUMBER: AH-2725-N00
SERIAL NUMBER: AH-02XA233
RECORDER NUMBER: IR-164

This instrument has been calibrated and it is within the manufacturers specifications.

REFERENCE STANDARDS

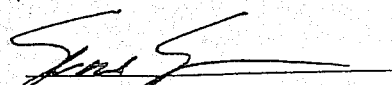
DIGI MITE 311600 S/N48430-5522

CERT DATE Nov 21/07

DIG. INDICATOR/CALIR. 028-8427113

CERT DATE Nov 21/07

The calibration of all standards and measuring instruments used in the calibration are traceable to the National Research Council of Canada in Ottawa or to the National Bureau of Standards in Washington, D.C.


Shane Stimson



HEAT TREATMENT REQUIREMENTS

JOB NO.: 06281 CUSTOMER: _____ DATE: JAN 19/09

COMPONENT DESCRIPTION <u>Localized Heat treatment on Repaired Well</u>					
DWG. NO. AND LINE NO.	DIAMETER	THICKNESS	MATERIAL	LENGTH	WEIGHT
<u>nwp-1559-2</u>	<u>3"</u>	<u>sch 160</u>	<u>SA-106</u>	<u>198.25</u>	<u>4383.1bs</u>

TYPE OF HEAT TREATMENT: PRESSURE VESSEL STRESS RELIEVE P-NO. 1

HEATING

Temperature to be raised from 800°F (427°C) to 1100°F (594°C) at a maximum rate of 400 °F

(_____ °C) per hour. NOTE: THIS VALUE MUST NEVER EXCEED 400°F (222°C) PER HOUR.

[Calculated rate = 400 degrees F/hr. (222 degrees C/hr) Divided by the maximum metal thickness of the shell or head plate in inches]

HOLDING

Temperature to be held at a minimum of 1100°F (594°C) for 60 minutes.

[Holding time to be determined by Table UCS-56 for Nominal Thickness as specified in UW-40(f)]

COOLING

Temperature to be lowered from 1100°F (594°C) to 800°F (427°C) at a maximum rate of 500 °F

(_____ °C) per hour. NOTE: THIS VALUE MUST NEVER EXCEED 500°F (278°C) PER HOUR.

[Calculated rate = 500 degrees F/hr. (278 degrees C/hr.) Divided by the maximum metal thickness of the shell or head plate in inches]

From 800°F (427°C) items may be cooled in still air.

Additional Requirements:

- ☐ Job number and description required on heat treatment charts along with the operator's signature & date.
- ☐ Reporting of thermocouple attachment method and location, and verification of furnace thermocouple calibration is required.
- ☐ A sufficient number of thermocouples shall be located to control and maintain uniform distribution of temperature on all vessels and parts. Thermocouples shall be directly attached to the item or provision shall be made for thermocouple placement at bottom, centre and top of the furnace charge in accordance with the ASME Code.
- ☐ During the heating period, there shall not be a greater variation in temperature throughout the portion of the vessel being heated than 250° F (139° C) within any 15 ft. (4.6 m) interval of length. An adequate number of thermocouples must be used to ensure this Code requirement is met.
- ☐ During the holding period, there shall not be a greater difference than 150° F (83° C) between the highest and lowest temperature throughout the portion of the vessel being heat treated, except where the range is further limited by these instructions.
- ☐ If Capacitor Discharge welding is used to attach thermocouples an ASME Code Section IX Welding Procedure Specification is required (WPS qualification is not required), and the energy output must be limited to 125 Watt-Seconds.
- ☐ No other welding is permitted on vessels or parts. [0.5 x Capacitance in farads X Voltage ² = W-Sec.]
- ☐ The method of thermocouple removal shall not damage the heat treated item.

Q.C. Inspector Signature _____

Date: _____

Thermocouple Attachment Method: metal banded

Location (s) _____

Furnace Heat Number _____

Furnace Operator Signature NWP 105

Date: JAN 19/09

°F

500

1000

1500

2000

376cm

2000

7

14:00

1088°F

2:

999°F

3:

999°F

4:

999°F

5:

999°F

6:

999°F

6

5

4

3

2000

13:00

1111°F

2:

1109°F

3:

999°F

4:

999°F

5:

999°F

6:

999°F

50MM/H

12

11

10

9

8

380cm

2000

12:00

847°F

2:

841°F

3:

999°F

4:

999°F

5:

999°F

6:

999°F

6

5

4

3

300cm

R&R Stress Relieving Service Ltd.

Client: NWP Industries

Date: Jan 19/09

Owning Co.:

Unit #: MU-105

Client Ref #: 00281

Job #: RD9-015-013

Operator (print): Nigel Malone

Recorder #: 12-181

Operator (sign): NWP MB

Chart Speed: 50mm/hr

Weld Line ID #	Weld Size	SCII	S/R #	TC #	Total Welds	Comment
NWP-KS9-2	3"	160		1,2		2 4615

1390cm

500

11:00

847°F

2:

841°F

3:

999°F

4:

999°F

5:

999°F

6:

999°F

50MM/H

2009.01.19.11:01



R & R Stress Relieving Service Ltd.

Nisku: 2103 - 6th Street, T9E 7X8 Tel: (780) 955-7559 Fax: (780) 955-2903

Blackfalds: #13 Burbank Industrial Park Tel: (403) 885-2280 Fax: (403) 885-0177

Calgary: (403) 236-8986 Toll Free: 1-800-499-HEAT(4328)

CERTIFICATE OF CONFORMANCE OF RECORDING INSTRUMENTS

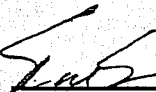
CERTIFIED BY: R & R Stress Relieving Service Ltd.
TEST NUMBER: RR12078
DATE: December 30, 2008
DATE DUE: March 30, 2009
INSTRUMENT MFG: Chino
MODEL NUMBER: AH-3725 N00
SERIAL NUMBER: AH-057C171
RECORDER NUMBER: IR-181

This instrument has been calibrated and it is within the manufacturers specifications.

REFERENCE STANDARDS

<u>DIGI MITE 311600 S/N48430-5522</u>	<u>CERT DATE Nov 19/08</u>
<u>DIG. INDICATOR/CALIR. 028-8427113</u>	<u>CERT DATE Nov 19/08</u>

The calibration of all standards and measuring instruments used in the calibration are traceable to the National Research Council of Canada in Ottawa or to the National Bureau of Standards in Washington, D.C.


Shane Stimson



HYDROSTATIC TEST AFFIDAVIT

CUSTOMER: <u>Murphy Oil 1/4 H3 projects</u>		W.O. #: <u>06281</u>
PROJECT: <u>1.5mm 10th/11th well heater (coil)</u>		PROJECT #
TEST PRESSURE: <u>4688 psig</u>		HOLD TIME: <u>15</u>
CODE REQUIREMENTS: <u>Cansi 10smr 381.3 nts 2006 Edition</u>		DATE: <u>Jan 21/09</u>
ALL PERSONNEL ADVISED OF TEST: ☒		
ALL SIGNS & FLAGGING POSTED: ☒		
PRIOR TO FILLING - FITTINGS / HOSES & COMPONENT MEET REQUIRED TEST PRESSURE		
SIGN-OFF	SUPERVISOR: <u>[Signature]</u>	TESTER: <u>Andrew Clark</u>

PRODUCT DESCRIPTION

50% TEST PRESSURE LEAK / SYSTEMS CHECK COMPLETED ☒

50% Test pressure = 2344

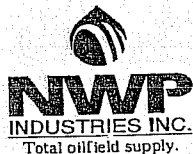
EQUIPMENT DRAINED & FLUSHED TO PREVENT FREEZING YES ☐ NO ☐

START TIME: 11:45 FINISH TIME: 1:35

TEST GAUGE IDENT.	PRESSURE RANGE	CALIBRATION DATE
<u>NWP-10000-1</u>	<u>0-10000 psig</u>	<u>Oct. 24/2009</u>
<u>NWP-10000-3</u>	<u>0-10000 psig</u>	<u>April 04/2009</u>

TEST BY: <u>[Signature]</u>	DATE: <u>Jan 21/09</u>
APPROVED BY: <u>[Signature]</u>	DATE: <u>Jan 21/09</u>

Jan 21/09



HYDROSTATIC TEST AFFIDAVIT

CUSTOMER:	Murphy Oil	W.O. #	06281
PROJECT:	1" preheat line	PROJECT #	
TEST PRESSURE:	435 psig	HOLD TIME:	15 min
CODE REQUIREMENTS	API/ASME B31.3 NPS 2006 Edition	DATE:	Jan. 14/09
ALL PERSONNEL ADVISED OF TEST		☐	
ALL SIGNS & FLAGGING POSTED		☐	
PRIOR TO FILLING - FITTINGS / HOSES & COMPONENT MEET REQUIRED TEST PRESSURE			
SIGN OFF	SUPERVISOR	TESTER	

PRODUCT DESCRIPTION

1" preheat line

50% TEST PRESSURE LEAK / SYSTEMS CHECK COMPLETED ☐

50% Test pressure - 217.5

EQUIPMENT DRAINED & FLUSHED TO PREVENT FREEZING YES ☐ NO ☐

START TIME: 1:15 pm

FINISH TIME: 1:30 pm

TEST GAUGE IDENT.	PRESSURE RANGE	CALIBRATION DATE
NWPG - 1000-5	0-1000 psig	December. 04/09
NWPG - 1000-4	0-1000 psig	December. 04/09
TEST BY:	DATE: Jan 16/09	
APPROVED BY:	DATE:	



PNEUMATIC TEST AFFIDAVIT

CUSTOMER:		W.O. #:	06280 & 06281
PROJECT:	fire tubes	PROJECT #:	
TEST PRESSURE:	16 on 3 (1 psi)	HOLD TIME:	As per Reg.
CODE REQUIREMENTS:	NONE code	DATE:	Dec 12 / 00 08

PRODUCT DESCRIPTION:

TANK SER. # _____ DWG. # _____ REV. # _____

TEST -

REPAIRS AND COMMENTS

#1. fire tube (NWP-1563)

REPAIR PROCEDURE (BRIEF EXPLANATION)

#2. Fire tube (NWP-1564)

PROCEDURE APPROVED BY QC

COMPLETED REPAIR CHECKED BY QC

ADDITIONAL COMMENTS

Start Time: _____ Finish Time: _____

TEST #	TEST BY:	Q.C.	DATE	TEST GAUGE ID.	RANGE	CALIBRATION DUE:
1	Chris	CP	Dec 12/08	NWpg 27	0-5 psi	May 14 2009
2	Chris	CP	Dec 12/08	NWpg 28	0-5 psi	May 14 2009

TEST (S) APPROVED BY: Justin Reutysche DATE: Dec 12 / 08

PNEUMATIC TEST AFFIDAVIT

CUSTOMER:	W.O. #: 6281
PROJECT: Lineheater Shell	PROJECT #: NA
TEST PRESSURE: 16 oz (1 psi)	HOLD TIME: As Req
CODE REQUIREMENTS: Non-Code	DATE: Jan 22 / 2 / 009

PRODUCT DESCRIPTION:

TANK SER. # _____ DWG. # _____ REV. # _____

TEST -

1 - All weldments, bolts, plugs

No indications

REPAIRS AND COMMENTS

REPAIR PROCEDURE (BRIEF EXPLANATION)

PROCEDURE APPROVED BY QC

COMPLETED REPAIR CHECKED BY QC

ADDITIONAL COMMENTS

Start Time: _____ Finish Time: _____

TEST #	TEST BY:	Q.C.	DATE	TEST GAUGE ID.	RANGE	CALIBRATION DUE:
1		DP	Jan 22/09	Nwpg 27328	0-5psi	May 27/09

TEST (S) APPROVED BY: Justin Petysche DATE: Jan 22 / 2009

PARTIAL ☐

A# 588817

Manufactured By: NWP Industries Inc 4017 60th Ave Innisfail, AB T4G 1S9

Manufactured For: HZ Projects #700,400-5th Ave SW Calgary, AB T2P0L6

Ultimate Owner: Murphy Oil Company Ltd

Location of Installation: D-11-B/93-P-9

Manufacturer's Serial No.	Construction Drawing No.	CODE: ASME B31.3			Year Built
NWP-1564	NWP-1559-2Rev0	Edition	2006	Addenda	2009

CONSTRUCTION

Coil ID/Purpose	Design Pressure	Design Temp	Design Minimum Temp	Corrosion Allowance	Registered Drawing No.	CRN
a Coil A	3125psig	200F	-20F	0.125"	BDD-300Rev10	P9407.213
b Coil B	3125psig	200F	-20F	0.125"	BDD-300Rev10	P9407.213
c Coil C	3125psig	200F	-20F	0.125"	BDD-300Rev10	P9407.213
d Coil D	3125psig	200F	-20F	0.125"	BDD-300Rev10	P9407.213
e						

	Tubes			End Closures				Openings		
				Return Bend		Flanges				
	Mat'l Spec.	Diameter	Thickness	Mat'l Spec.	Thickness	Mat'l Spec.	Rating	Mat'l Spec.	Size/Type	Rating
a	SA106B	3"NPS	0.438"	SA234WPB	0.438"	SA105N	CL1500	NA		
b	SA106B	3"NPS	0.438"	SA234WPB	0.438"	SA105N	CL1500	NA		
c	SA106B	3"NPS	0.438"	SA234WPB	0.438"	SA105N	CL1500	NA		
d	SA106B	3"NPS	0.438"	SA234WPB	0.438"	SA105N	CL1500	NA		
e										

HEADERS/MANIFOLDS

Purpose	Size	Shell	Ends				Openings		
		Mat'l Spec.	Thickness	Mat'l Spec.	Thickness	No	Mat'l Spec.	Size/Type	Rating
f NA									
g NA									

TEST PRESSURE, NDE, POSTWELD HEAT TREATMENT AND SIZE

Hydrostatic Test Pressure	Radiography (100% or % Random)	Other NDE (MT) (PT) (UT)	Postweld Heat Treatment		Overall Length	Heating Surface	Volume
			Temp.	Time			
a 4688psig	100%	NA	1125F	60mins	210.75"	56.79Ft2	2.46Ft3
b 4688psig	100%	NA	1125F	60mins	198.25"	55.25Ft2	2.36Ft3
c 4688psig	100%	NA	1125F	60mins	210.75"	56.79Ft2	2.46Ft3
d 4688psig	100%	NA	1125F	60mins	198.25"	55.25Ft2	2.36Ft3
e							
f							
g							

IMPACT TESTING: Exempt as per Table 323.2.2 Column A

REMARKS: Weight 4383 lbs WO#06281 PO#61-50387 Splice on 2nd pass coil D

CERTIFICATE OF COMPLIANCE

We certify that the statements in this report are correct and that all details of design, material, construction, and workmanship of this coil bundle are in accordance with the above Provincial Registered Design.

Date Jan 21/09 Signed [Signature] For NWP Industries Inc
(Representative) (Manufacturer)

CERTIFICATE OF SHOP INSPECTION

I, the undersigned, a duly authorized Safety Codes Officer employed by ABSA has inspected the above Heater Coils and state that, to the best of my knowledge and belief, the construction is in accordance with the Alberta Safety Codes Act and Regulations.

JAN 21, 2009

[Signature]

AB #261

W
RT-1337
T

CERTIFIED BY



NWP
INDUSTRIES INC.

MADE IN CANADA

6 CL 1500 4 PASS COIL (B)

MAWP 3125 PSIAT 200 °F

MAEWP PSIAT °F

MDMT -20 °F AT 3125 PSI

SERIAL NO. NWP- 1564 YEAR BUILT 200

CRN P-9407-213



CERTIFIED BY



NWP

INDUSTRIES INC.

MADE IN CANADA

WATER

HTF

300 1500 4 PASS COLL C

MAWP 3125 PSI AT 200 °F

MAEWP [] PSI AT [] °F

MDMT 20 °F AT 3125 PSI

SERIAL NO. NWP- 1567 YEAR BUILT 2005

CRN 59407215



CERTIFIED BY



NWP
INDUSTRIES INC.

MADE IN CANADA

W

RT = 100%

HS

304 500 4 PASS 6011 D

MAWP

3125

PSI AT

200

°F

MAEWP

PSI AT

°F

MDMT

20

°F AT

3125

PSI

SERIAL NO. NWP-

564

YEAR BUILT

2009

CRN

P 0107216

CERTIFIED BY



NWP
INDUSTRIES INC.

MADE IN CANADA

W

100%

1

312500 & PASS 3015 &

MAWP

3125

PSI AT

200

°F

MAEWP

PSI AT

°F

MDMT

-20

°F AT

3125

PSI

SERIAL NO. NWP-

1566

YEAR BUILT

2009

CRN

P-9407215

5053

BLASTING AND PRIMING REPORT "A"

Job Number: 6281 Unit #: NWP 1564
 Customer: NWP
 Job Foreman: Steve
 Painter: Chelsey Jensen

Description: Line Header
 Customer Inspector: Dustin
 Customer Phone #:
 Date: January 22/09

SANDBLAST:

Time blasting began: 9:00 AM

Time blasting complete: 10:15 AM

CONDITIONS:
(Record Every 4 Hrs.)

	1 st Reading	2 nd Reading	3 rd Reading	4 th Reading
Time:	<u>9:00 AM</u>	<u>10:20 AM</u>		
Temperature:	<u>40°</u>	<u>40°</u>		
Relative Humidity:	<u>36%</u>	<u>36%</u>		
Dew Point:	<u>N/A</u>	<u>N/A</u>		

☐ Field Work
☒ Shop Work

Surface Preparation Method: SANDBLAST

Sandblast Specification Required:

☐ SSPC 1 ☐ SSPC 2 ☐ SSPC 3 ☐ SSPC 4 ☐ SSPC 5
☒ SSPC 6 ☒ SSPC 7 ☐ SSPC 8 ☐ SSPC 9 ☐ SSPC 10 ☐ SSPC 11

Anchor profile depth, sharpness and density acceptable as required by paint manufacturer? ☒ Yes ☐ No
 (Attach sample of TESTEX Surface Profile Tape.)

Abrasive being used: SILICA 4-7 mix

Compressor air clean / dry / oil-free? (Attach blotting paper sample.) Acceptable? ☒ Yes ☐ No

Comments:

SANDBLASTING ACCEPTABLE TO SPECIFICATION:

Sub-Contractor's Inspector: <u>Larry Paff</u> (Print, Sign and Date)	Inspector: <u></u> (Print, Sign and Date)	Customer's Inspector: <u></u> (Print, Sign and Date)
--	---	--

PRIME COAT: Time priming began: 10:56 AM (Must be within 8 hrs of sandblasting) Time complete: 12:21 PM

CONDITIONS
(Record Every 4 Hrs.)

	1 st Reading	2 nd Reading	3 rd Reading	4 th Reading
Time:	<u>10:50 AM</u>	<u>12:30 PM</u>		
Temperature:	<u>44°</u>	<u>44°</u>		
Relative Humidity:	<u>36%</u>	<u>36%</u>		
Dew Point:	<u>N/A</u>	<u>N/A</u>		
Surface Temp:	<u>40°</u>	<u>40°</u>		

☐ Field Work
☒ Shop Work

(Surface temperature must NOT be less than 5°F (2°C) above Dew Point.)

Spray gun used: Citaco

Fluid Tip: 5-15

Air Cap:

Was all sandblasting grit and slag removed prior to painting? ☒ Yes ☐ No

Were all laminations removed after first blast? ☒ Yes ☐ No

Any defects noted in the steel? ☐ Yes ☒ No

Primer Used: Manufacturer: Cloverdale

Type: Epoxy

Batch #:

Mils of primer specified: 2-3

Mils of primer measured, average Wet Mils: 4.3-6.4

Dry Mils: 4.0-6.1

Were all areas of low film thickness re-coated satisfactorily? ☒ Yes ☐ No

Did any dirt or abrasive particles get imbedded in the paint film? ☐ Yes ☒ No

If so, note areas.

Time priming complete: 12:21 PM

Any difficulties with job? No

Explain:

Remarks:

PRIME COAT ACCEPTABLE

Inspector:

Chelsey Jensen
(Print, Sign and Date)

Customer's Inspector:

(Print, Sign and Date)

OVERCOATING REPORT "B"

Job Number: 6281 Unit #: NWP 1564 Description: Rincheader
 Customer: NWP Customer Inspector: Dustin
 Job Foreman: Steve Customer Phone #: _____
 Painter: Relsey Jensen Date: January 22/09

☐ **FIRST COAT** Time Painting Began: 4:35pm Time Painting Complete: 5:26pm

CONDITIONS	1 st Reading	2 nd Reading	3 rd Reading	4 th Reading	
Record Every 4 Hrs.					
Time:	<u>4:30pm</u>	<u>5:40pm</u>			☐ Field Work
Temperature:	<u>46°</u>	<u>46°</u>			☒ Shop Work
Relative Humidity:	<u>34%</u>	<u>34%</u>			
Dew Point:	<u>N/A</u>	<u>N/A</u>			
Surface Temp.	<u>42°</u>	<u>42°</u>			

Surface temperature must be NOT less than 5°F (2°C) above dew point.)

Dry time of primer before applying overcoat? 4 1/2 hours

Time painting began: 4:35pm

Spray gun used: Graco Fluid Tip: 5-15 Air Cap: _____

Thinning ratio: 10%

Paint Used - Manufacturer: Claerdale Type: Epoxy Batch #: _____

Mils of overcoat specified: 2-3 Type Overcoat: _____

Mils of overcoat measured, average WET: 4.6-6.8 DRY: 4.3-6.4

Were all areas of low film build re-coated satisfactorily? ☒ Yes ☐ No

Did any abrasive particles get imbedded in paint film? ☐ Yes ☒ No

If so, note areas: _____

Inspect for defects: Runs, sags, embedded debris, voids, overspray, mud cracking, inadequate cure, lack of adhesion.

☒ Acceptable

☐ Requires re-work. Give details: _____

Difficulties with job? ☐ Yes ☒ No Explain: _____

Remarks: _____

☐ **SECOND COAT** Time Painting Began: _____ Time Painting Complete: _____

CONDITIONS	1 st Reading	2 nd Reading	3 rd Reading	4 th Reading	
Record Every 4 Hrs.					
Time:					☐ Field Work
Temperature:					☐ Shop Work
Relative Humidity:					
Dew Point:					
Surface Temp.					

(Surface temperature must be NOT less than 5°F (2°C) above dew point.)

Dry time of first coat before applying second coat: _____

Spray gun used: _____ Fluid Tip: _____ Air Cap: _____

Thinning ratio: _____

Paint Used - Manufacturer: _____ Type: _____ Batch #: _____

Mils of overcoat specified: _____ Type Overcoat: _____

Mils of overcoat measured, average WET: _____ DRY: _____

Were all areas of low film build re-coated satisfactorily? ☐ Yes ☐ No

Did any abrasive particles get imbedded in paint film? ☐ Yes ☐ No

If so, note areas: _____

Inspect for defects: Runs, sags, embedded debris, voids, overspray, mud cracking, inadequate cure, lack of adhesion.

☐ Acceptable

☐ Requires re-work. Give details: _____

Difficulties with job? ☐ Yes ☐ No Explain: _____

Remarks: _____

INSPECTION SIGNOFF

Inspector

Customer's Inspector

(Print, Sign and Date)

(Print, Sign and Date)

Taylor Valve Technology, Inc

8300 Southwest 8th Street

Oklahoma City, Oklahoma

Serial Number : 42803-215 telephone: 405.787.0145 facsimile: 405.789.8198

Certificate Number: 39716.6101

OG1316.2C email: info@taylorvalve.com

Customer : KINGS ENERGY SERVICES

Date : 25-Sep-08

277, 28042 HWY 11

RED DEER COUNTY, ALBERTA

T4S 2L4

Sales Order # : 42803

Customer P.O. # : 61-49070

Safety Relief Valve Certification

Taylor Valve Technology, Inc. Safety Relief Valves are designed, manufactured and tested in accordance with the provisions of the ASME Boiler and Pressure Vessel Code, Section VIII. This Valve is certified to relieve within plus or minus 2 psi of the set pressure 70 psig or below, and plus or minus 3% of set point for pressures above 70 psig, as allowed for within the provisions of ASME. The published relieving capacities have been certified by the National Board of Boiler and Pressure Vessel Inspectors.

Valve Specifications

Model Number : Taylor Model 8200 Soft Seat	Orifice : E
Body Size : 1 Inch	Orifice Diameter : 0.520 Inches
Part Number : 82E5351311	Orifice Area : 0.212 In ²
Body Configuration : 1" MNPT X 1" FNPT	Operating Temperature : 70 °F
	Spring Range : 226-450 PSI
	Set Pressure : 285 PSIG

Materials

Body : WCB Carbon Steel	Spring : 17.7 PH Stainless Steel
Seat Frame : Carbon Steel	Guide : 304 Stainless Steel
Seat Housing : 17.4 PH H900 Stainless Steel	Adjustment Screw : Carbon Steel with EN Plating
Trim : Standard	Options : None
Seat : FKM 90d	

Set Pressure Specifications

Customer Units		ASME Units	
Set Pressure :	285 psig	Set Pressure :	285 psig
ASME High Set Limit :	294 psig	ASME High Set Limit :	294 psig
ASME Low Set Limit :	276 psig	ASME Low Set Limit :	276 psig

ASME (90%) rated capacity at set pressure for indicated fluid, specific gravity and temperature.

Certifying Fluid : Air	1,063 SCFM	Spec Gravity : 1.00	Temp : 60 oF
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API 520 (100%) calculated capacity at set pressure for indicated fluid, specific gravity and temperature.

Test Fluid : Air	1,170 SCFM	Spec Gravity : 1.00	Temp : 60 oF
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Prepared by : MELISSA BREWER

Department : Customer Service

Signed

MELISSA BREWER

Approved by : MELISSA BREWER

Department : Quality

Signed

MELISSA BREWER