

NORDIC NDT CORP.
Box 32 RR2 Site 7
Grande Prairie, AB T8V 2Z9
Phone780-402-0256
FAX780-402-0353
Toll Free1-866-888-0256
Barrhead780-305-3710



RADIOGRAPHIC
EXAMINATION
REPORT

PAGE 1 OF 1

Client: BLUESTAR WELDING

Date: 11/14/05

Exposure D1464

Acceptance Code
☐ ASME B31.1
☒ ASME B31.3 Severe Cyclic

Location: GRANDE PRAIRIE

Job/APE#: 10252-P

Source # 178408

☐ ASME Sect. VIII Div.1 UW51
☐ ASME Sect. VIII Div.1 UW52

Description: 3" x .75" LINE HEATER MANIFOLD

P.O.#:

Ir¹⁹² EFSS: .145"

☐ CSA Z662
☐ CSA Z.662 (sour service)
☐ Other:

Material: CS

Kodak ☒ AGFA ☐ Class 1

Film No.	Size, Location Thickness	Welder Sym.	Tech. No.	SOD Inches	OFD Inches	# of Exp.	Accept.	Time and location of exposure (circle rejectable locations)
XM-1	3" x .75"	BC	R-3a			4	✓	
2		AW				1	✓	
3		BC						
4		BC					✓	
5		AW					✓	
6		AW					✓	
7		AS					✓	
8		AS					✓	
9		BC					✓	
10		BC					✓	
11		BC					✓	
12		BC					✓	
13		BC					✓	
14		BC					✓	
15		BC					✓	
16		BC					✓	
17		BC					✓	
18		BC					✓	
19		BC					✓	
20		BC					✓	
21		BA					✓	
22		BA					✓	

Legend: AB - Arc Burns
BT - Burn Through
CK - Crack
MA - Misalignment
HB - Hatched Bead
IC - Internal Concavity
IP - Inadequate Penetration
EP - Excessive Penetration
LF - Lack of Fusion
LC - Low Cover
IUC - Internal Undercut
EUC - External Undercut
POR - Porosity
SL - Slag

Techniques: Single Wall Exposure: R-1, -2, -2a, -6, -7
Double Wall Exposure: R-3, -3a, -4, -5, -6
SOD = source to object distance
OFD = object to film distance
*All procedures utilize one film per cassette unless otherwise specified

Welds	Film	Summary
22 - 3" welds	-3.5" x 8.5"	Unit # <u>4</u> Kilometers: <u>0</u>
-4" welds	-3.5" x 17"	In <u>1900</u> Out <u>2300</u> Hrs. <u>4</u>
-4.5" welds	-4.5" x 8.5"	In _____ Out _____ Hrs. _____
-4.5" welds	-4.5" x 17"	Technician: <u>D. Baird</u>
-8" welds		Assistant: <u>L. Karpisek</u>
-10 welds		
-12 welds		Cost Estimate: \$ <u>508⁰⁰</u> (+ GST)

Radiograph Interpretation by:

SNT-TC-1A II

C.G.S.B. Lev. II

C.G.S.B. No. 3479

Report contents are the interpretation of the technician and do in no way imply a guarantee

I am in full agreement with report contents:

Client Representative:

NORDIC NDT CORP.

Box 32, R.R.2, Site 7, Grande Prairie AB. T8V 2Z9
Phone: (780) 402-0256 Fax: (780) 402-0356

Natural Resources Canada
Ressources naturelles Canada

This certifies that
Le présent certifie que
Dwayne Merle Baird
has qualified according to the CAN/CSB Standard 48.9712-2000 as follows:
est qualifié selon la norme CAN/CSB 48.9712-2000 comme suit:

TEST	GRADE	TEST DATE	EXPIRATION DATE
ET	2	ENC 09/12/01	05/12/31
ET	2	ENC 91/10/11	05/12/31
ET	2	ENC 90/05/22	05/12/31



Natural Resources Canada
Ressources naturelles Canada

Your certification card is only valid when presented with this identity card
Votre certificat de poche est valide seulement s'il est présenté avec cette carte d'identité



Name/
Nom Dwayne Merle Baird

Reg. No./
No. matricule 3979

Issue Date/
Date d'émission 2002/02/14

Expiry Date/
Expiration 2005/12/31

3979
NO MATRICULE
ISSUE DATE
DATE D'ÉMISSION
03/01/23

Richard V. Murphy
MANAGER, CERTIFYING AGENCY
GESTIONNAIRE, ORGANISME DE
CERTIFICATION

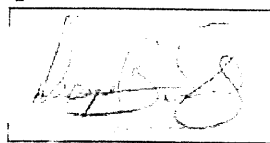
Atomic Energy
Control Board
Commission de contrôle
de l'énergie atomique

Qualified Operator
Opérateur qualifié

Dwayne Baird

1986.04.18

Canada

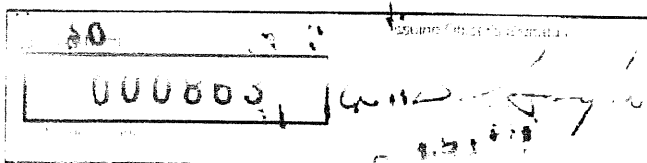


Qualified Operator

pursuant to Section 18 of the Atomic
Energy Control Regulations, for the
purpose of operating an exposure
device containing a prescribed
substance

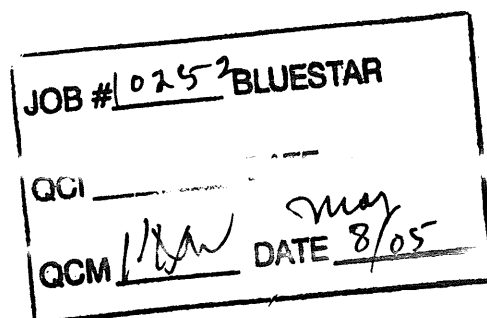
Opérateur qualifié

en vertu de l'article 18 du
Règlement sur le contrôle de
l'énergie atomique afin d'utiliser un
dispositif d'exposition contenant une
substance prescrite.



Dwayne Baird

CGSB# 3979



Norweld Stress Ltd.
11434 91st Ave.
Grande Prairie, AB
T8V 6K6
Ph. (780) 539-5525

Chart # 11656
March 02, 05

Smullen

Mar. 02. 05

4 hr 5 min Soak
@ 1150 + 25 -

10252 P

02/08/05

CLK

1990

BSC 10K4mm - 25 A/B

10252-P

02/03/05

CLK

JOB # 10252 BLUESTAR

QCI _____

DATE _____

QCM 11/11/05

DATE Mar 8/05

Mar. 02. 05

12:00

01 1031°F

02 1030°F

01 CH
50mm/h

1990

200

400

600

800

1000

1200

1400

1600

1800

2000

- start of Cycle

-- End of Cycle

Mar. 02. 05

18:00

01 716°F

02 716°F

50mm/h

0 200 400 600 800 1000 1200 1400 1600 1800 2000

CHART NO. E 906A1

Mar. 02. 05

16:00

01 1146°F

02 1146°F

50mm/h

11

10

Norweld Stress Ltd.

11434 91st Ave.

Grande Prairie, AB

T5V 0K0

Ph. (780) 539-5525

Chart # 11656

March 02, 05

Muller

Mar. 02. 05

14:00

01 1147°F

02 1147°F

02CH

50mm/h - 200

400

600

800

1000

1200

1400

1600

1800

2000

CHART NO. E 906A1

4 hr 5 min Soak
@ 1150 + 25 -

10252 P

02/03/05

CH

BSC 10K4MM-05 A/B

10252 P

02/03/05

CH



HEAT TREATMENT INSTRUCTIONS

JOB NO.: 10252-P

CUSTOMER: Pure Energy Services Ltd.

DESCRIPTION: 10,000 Psi Heater Coil

DATE: March 2, 2005

COMPONENT DESCRIPTION:

DWG. NO. AND LINE NO.	DIAMETER	THICKNESS	MATERIAL	LENGHT	WEIGHT
1936-01	4 1/2" O.D.	1.031"	AISI 4130	10'	

TYPE OF HEAT TREATMENT:

STRESS RELIEVE

Temperature to raised from 800°F (426°C) to 1150°F (621°C) at maximum rate of 400°F

(°C) per hour. NOTE: MUST NOT EXCEED 400°F (222°C) PER HOUR.

(Calculated rate=400°F/h. Divided by governing metal thickness)

Temperature to be held at 1150°F (621°C) plus or minus 25°F (14°C) for
240minutes.

Temperature to be lowered from 1150°F (621°C) to 800°F (426°C) at a maximum rate of 400°F

(°C) per hour. NOTE: MUST NOT EXCEED 500°F (278°C) PER HOUR.

(Calculated rate=500°F/h. Divided by governing metal thickness)

Additional requirements:

- Job number and description required on heat treatment charts along with operator signature & date.
- Verification of furnace thermocouple calibration required.
 - 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, center and top of the furnace charge in accordance with the ASME Code.
- No welding shall be performed on vessels or parts.

Furnace Heat Number: 11656

Furnace Operator Signature: A. Muller

Date: March 02, 05

QC Inspector Signature: C. He

Date: March 2, 2005

JOB # 10252 - BLUESTAR

QC DATE Mar 8

QC DATE Mar 8

10252-P
02/03/05
C/He

FAX: (780) 539-5916

CH

T/C	T/C	T/C
1 2	1 Over	

JOB # 10252 **BLUESTAR**

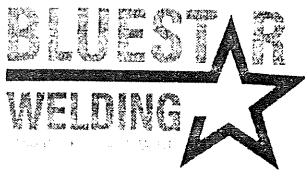
QGI _____ DATE _____

QCM [Signature] DATE Mar 8 / 05

[illegible]

NAME _____

DATE _____



PRESSURE TEST EXAMINATION GUIDE

PRESSURE TEST PREPARATION		Q.C. INSP.
1.	All punch list items corrected.	✓
2.	Test blinds are of correct thickness.	✓
3.	All items which could be damaged by test isolated or removed (control valves, safety valves, instruments, expansion joints, etc.)	✓
4.	Equipment with internals (i.e. filters) that could be damaged isolated as required.	✓
5.	Vents and drains correctly installed.	✓
6.	Open and Closed position of all valves verified.	✓
7.	Shipping bars in place - bellows.	✓
8.	Hanger stops in place.	✓
PRESSURE TEST COMPLETION		Q.C. INSP.
1.	All temporary blinds (blanks) removed.	✓
2.	Temporary gaskets changed for correct gaskets.	✓
3.	Temporary supports removed.	✓
4.	Shipping bars removed from bellows.	✓
5.	Spring hanger stops removed - cold setting checked.	✓
6.	Safety valves - "UV" or "V" symbol and correct set pressure and capacity installed.	✓
7.	Safety valve vents are correct size - adequately supported - drain holes and or weather hoods installed.	✓
8.	Screens for pumps and compressors installed (initial start-up and permanent screens).	✓

BLUESTAR

JOB # 152

QCI _____ DATE Mar 8/05

QCM MW DATE _____

Q. C. Inspector Signature: CJB

Date: MAR 4-2005



PRESSURE TEST REPORT

Customer: Pure Energy Services

Job No: 10252-P

Location/Test No: _____

Date: March 4, 2005

Line Drawing No: 1931-06

10252-P
02/04/05
CZL

Vessel CRN: ALD-05-001

Gauge S/N: BSPG 20000 1

Gauge S/N: BSPG 20000 2

Recorder S/N: _____

Calibration No: _____

Dead Weight S/N: _____

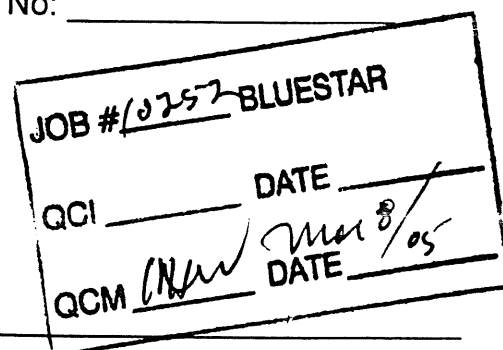
Calibration No: _____

Test Pressure: 15.000 PSI

Test Medium: H2O

Duration Time: 1 Hr.

Results: No Leaks



Authorized Inspector: HARVEY WADDY

Date: _____

Quality Control Inspector: CZL

Date: MARCH 4, 2005

Owners/AI Inspector: _____

Date: _____

EQUIPMENT CALIBRATION LOG			
EQUIPMENT DESCRIPTION: <i>WGI 20,000 PSI PRESSURE GAUGE</i>			
IDENTIFICATION NO.: <i>BSPG 20000 1</i>		CALIBRATION INTERVAL:	

Calibration Date	Calibration Record Verified	Date of First Use	Calibration Expiry Date
<i>FEB 18, 2005</i>	<i>43237</i>	<i>FEB 24, 2005</i>	<i>AUG 2005</i>

Calibration requirements and Instructions:

EQUIPMENT CALIBRATION LOG			
EQUIPMENT DESCRIPTION: <i>WGI 20,000 PSI PRESSURE GAUGE</i>			
IDENTIFICATION NO.: <i>BSPG 20000 2</i>		CALIBRATION INTERVAL:	

Calibration Date	Calibration Record Verified	Date of First Use	Calibration Expiry Date
<i>FEB 18, 2005</i>	<i>43238</i>	<i>FEB 24, 2005</i>	<i>AUG 2005</i>

Calibration requirements and Instructions:

JOB # *10252* **BLUESTAR**

QCI _____ **DATE** _____

QCM *MM* **DATE** *8/05*



10252-P

03/04/05

CJL

BS10K4MM-05 A/B

CERTIFICATE OF CALIBRATION
#43237

BSPG 20000 1

ORDER NO.	102414	AMBIENT TEMPERATURE	20C
SERIAL NUMBER	JW050217-5	DEADWEIGHT	SN# 8604
DIAL SIZE	4" WGI	TEST MEDIUM	OIL
PRESSURE RANGE	0-20,000 PSI	MAXIMUM ERROR	+140 PSI
SUB DIVISIONS	2000 PSI	DATE	February 18, 2005
CONNECTION	1/2" NPT	LOCATION TESTED	9535 - 42 AVE
INSPECTOR	G.J.P. WOWK	EDMONTON, ALBERTA, T6E 5R2	

TESTED GAUGE**DEADWEIGHT****UPSCALE ERROR**

0

0

0

2000	PSI	2000	PSI	0	PSI
4000	PSI	4000	PSI	0	PSI
6000	PSI	6000	PSI	0	PSI
8000	PSI	8000	PSI	0	PSI
10,000	PSI	10,000	PSI	0	PSI
12,000	PSI	12,000	PSI	0	PSI
14,000	PSI	14,000	PSI	0	PSI
16,000	PSI	16,000	PSI	0	PSI
18,000	PSI	17,970	PSI	+30	PSI
20,000	PSI	19,860	PSI	+140	PSI

TECHNICIAN:

Michael Kowalski

Q.C. Manager:

Lynn Wowk

Invoice: PCL-50227

**ALL TEST EQUIPMENT IS TRACEABLE TO N.I.S.T. STANDARDS.

DOCUMENT CS-004.



10252-P
03/04/05
11

BS10K 4mm-05 A/B

CERTIFICATE OF CALIBRATION
#43238

BSPG 20000 2

ORDER NO.	102414	AMBIENT TEMPERATURE	20C
SERIAL NUMBER	JW050217-6	DEADWEIGHT	SN# 8604
DIAL SIZE	4" WGI	TEST MEDIUM	OIL
PRESSURE RANGE	0-20,000 PSI	MAXIMUM ERROR	-100 PSI
SUB DIVISIONS	2000 PSI	DATE	February 18, 2005
CONNECTION	1/2" NPT	LOCATION TESTED	9535 - 42 AVE
INSPECTOR	G.J.P. WOWK	EDMONTON, ALBERTA, T6E 5R2	

TESTED GAUGE

DEADWEIGHT

UPSCALE ERROR

0

0

0

2000	PSI	2100	PSI	-100	PSI
4000	PSI	4030	PSI	-30	PSI
6000	PSI	6000	PSI	0	PSI
8000	PSI	8000	PSI	0	PSI
10,000	PSI	10,000	PSI	0	PSI
12,000	PSI	12,000	PSI	0	PSI
14,000	PSI	14,000	PSI	0	PSI
16,000	PSI	16,000	PSI	0	PSI
18,000	PSI	18,000	PSI	0	PSI
20,000	PSI	20,000	PSI	0	PSI

TECHNICIAN: Michael Kowalski Q.C. Manager: Lynn Wowk

Invoice: PCL-50227

**ALL TEST EQUIPMENT IS TRACEABLE TO N.I.S.T. STANDARDS.

**CUSTOMER STANDARD DOCUMENT CS-004.



NCR #

NONCONFORMITY REPORT

JOB NUMBER:

DESCRIPTION OF NONCONFORMANCE:

N/A

SIGNATURE OF ORIGINATOR:

DATE:

PROPOSED DISPOSITION, REPAIRS OR METHOD OF IDENTIFICATION:

QCM APPROVAL:

DATE:

AUTHORIZATION INSPECTORS ACCEPTANCE:

DATE:

NONCONFORMANCE RECTIFIED:

QCM VERIFICATION:

DATE:

AUTHORIZED INSPECTORS ACCEPTANCE:

DATE: