

NORDIC NDT CORP.
Box 32 RR2 Site 7
Grande Prairie, AB T8V 2Z9
Phone780-402-0256
FAX780-402-0356
Toll Free1-866-888-0256
3arrhead780-305-3710



RADIOGRAPHIC
EXAMINATION
REPORT

3902

PAGE 1 OF 1

Client: BLUESTAR WELDING

Date: FEB 19/05

Exposure Device # D1464

Acceptance Code

Location: GRANDE PRAIRIE

Job/AFE#: 10252-P

Source # 178408

☒ ASME B31.3 Severe Cyclic
☐ ASME Sect. VIII Div.1 UW51
☐ ASME Sect. VIII Div.1 UW52

Description: 7-8 x 1.00" COIL TUBES

P.O.#:

Ir¹⁹² EFSS: .145"

☐ CSA Z.662 (sweet service)
☐ 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	Type and location of inclusions, discontinuities (circle rejectable locations)	Reject
XA-1	4" x 1.00"	AS	R-3a			4	✓		
2		AW				1	✓		
3		AP					✓		
4		BA					✓		
5		AS					✓		
6		AP					✓		
7		BC					✓		
8		BA					✓		
9		AS					✓		
10		AP					✓		
11		AP					✓		
12		AW					✓		
13		AS					✓		
14		AW					✓		
15		AS					✓		
16		AP					✓		

Legend:

AB - Arc Burns
BT - Burn Through
CK - Crack
MA - Misalignment
HB - Hollow 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:

SOD = source to object distance
OFD = object to film distance
OFD + SOD = source to film dist.

All procedures use one film per cassette unless otherwise specified

Welds	Film	Summary
-2" welds	-3.5" x 8.5"	Unit # <u>4</u> Kilometers: <u>0</u>
-3" welds	-3.5" x 17"	In <u>0900</u> Out <u>1300</u> Hrs. <u>4</u>
<u>16</u> -4" welds	-4.5" x 8.5"	In _____ Out _____ Hrs. _____
-6" welds	-4.5" x 17"	Technician: <u>D. Baird</u>
-8" welds		Assistant: <u>L. Karpisek</u>
-10 welds		
-12 welds		Cost Estimate: \$ <u>452.00</u> (+ GST)

Radiograph Interpretation by:

SNT-TC-1A II

C.G.S.B. Lev. II

C.G.S.B. No. 379

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 22 RR2 Site 7
Grande Prairie, AB T8V 2Z9
Phone780-402-0256
FAX780-402-0356
Toll Free1-866-888-0256
Barhead780-305-3710



**RADIOGRAPHIC
EXAMINATION
REPORT**

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PAGE 1 OF 1

Client: <u>BLUESTAR WELDING</u>	Date: <u>FEB 22/05</u>	Exposure Device # <u>J1464</u>	Acceptance Code ☐ ASME B31.3 Normal Serv. ☒ ASME B31.3 Offshore Equip. ☐ ASME Sect. VIII Div.1 UW51 ☐ ASME Sect. VIII Div.1 UW52
Location: <u>GRANDE PRAIRIE</u>	Job/AFE #: <u>10252-P</u>	Source # <u>178408</u>	☐ CSA Z.662 (sweet service) ☐ CSA Z.662 (sour service) ☐ Other:
Description: <u>4" x 1.00" COIL TUBES</u>	P.O. #:	Ir ¹⁹² EFSS: <u>.145"</u>	
Material: <u>CS</u>		Kodak ☒ AGFA ☐ Class <u>1</u>	

Film No.	Size, Location Thickness	Welder Sym.	Tech. No.	SOD Inches	OFD Inches	# of Exp.	Accept	Type and location of inclusions, discontinuities (circle rejectable locations)	Reject
<u>XB-1</u>	<u>4" x 1.00"</u>	<u>BA</u>	<u>R3a</u>			<u>4</u>	☒		
<u>2</u>		<u>BA</u>					☒		
<u>3</u>		<u>AJ</u>					☒		
<u>4</u>		<u>AJ</u>					☒		
<u>5</u>		<u>BA</u>					☒		
<u>6</u>		<u>BA</u>					☒		
<u>7</u>		<u>BA</u>					☒		
<u>8</u>		<u>AP</u>					☒		
<u>9</u>		<u>AJ</u>					☒		
<u>10</u>		<u>AJ</u>					☒		
<u>11</u>		<u>AJ</u>					☒		
<u>12</u>		<u>AP</u>					☒		
<u>13</u>		<u>AJ</u>					☒		
<u>14</u>		<u>AW</u>					☒		
<u>15</u>		<u>AJ</u>					☒		
<u>16</u>		<u>AP</u>					☒		
<u>17</u>		<u>AP</u>					☒		

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

Techniques: Single Wall Exposure: R-1, -2, -2a, -6, -7
Double Wall Exposure: R-3, -3a, -4, -5, -8
All procedures utilize one film per cassette unless otherwise specified

SOD = source to object distance
OFD = object to film distance
OFD + SOD = source to film dist.

Welds	Film	Summary		Radiograph Interpretation by:	
_____ -2" welds	_____ -3.5" x 8.5"	Unit # <u>4</u>	Kilometers: <u>0</u>	SNT-TC-1A _____	 (Print) C.G.S.B. Lev. <u>II</u> C.G.S.B. No. <u>397A</u> (Sign) 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: <u>CZB</u>
_____ -3" welds	_____ -3.5" x 17"	In <u>1900</u>	Out <u>2300</u> Hrs. <u>4</u>		
<u>17</u> -4" welds	_____ -4.5" x 8.5"	In _____	Out _____ Hrs. _____		
_____ -6" welds	_____ -4.5" x 17"	Technician: <u>D. Baird</u>			
_____ -8" welds		Assistant: <u>L. Karpach</u>			
_____ -10 welds		Cost Estimate: \$ <u>496.50</u> (+ GST)			
_____ -12" welds					

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NORDIC NDT

CORP.

RADIOGRAPHIC EXAMINATION REPORT

3923

PAGE 1 OF 1

Client: BLUESTAR WELDINGDate: MAR 01/05Exposure Device # D1464

Acceptance Code
☐ ASME B31.3 Normal Serv.
☒ ASME B31.3 Severe Cyclic
☐ ASME Sect. VIII Div.1 UW51
☐ ASME Sect. VIII Div.1 UW52
☐ CSA Z.662 (sweet service)
☐ CSA Z.662 (sour service)
☐ Other:

Location: Grande PrairieJob/AFE #: 10252-PSource # 1784NBDescription: 4" x 1.0" Coil Tubes

P.O.#:

Ir¹⁹² EFSS: .145"Material: CSKodak ☒ AGFA ☐ Class 1

Film No.	Size, Location Thickness	Welder Sym.	Tech. No.	SOD Inches	OFD Inches	# of Exp.	Accept	Type and location of inclusions, discontinuities (circle rejectable locations)	Reject
<u>XH-24</u>	<u>4" x 1.0"</u>	<u>AP</u>	<u>R-3a</u>			<u>4</u>	☒		
<u>25</u>	<u>↓</u>	<u>AP</u>	<u>↓</u>			<u>↓</u>	☒		
<u>XB-18</u>	<u>4" x 1.0"</u>	<u>BA</u>	<u>R-3a</u>			<u>4</u>	☒		
<u>19</u>		<u>BA</u>					☒		
<u>20</u>		<u>BA</u>					☒		
<u>21</u>		<u>BA</u>					☒		
<u>22</u>		<u>AS</u>					☒		
<u>23</u>		<u>AS</u>					☒		
<u>24</u>		<u>AS</u>					☒		
<u>25</u>		<u>AP</u>					☒		
<u>26</u>	<u>↓</u>	<u>AP</u>	<u>↓</u>			<u>↓</u>	☒		

Legend:

AB - Arc Burns
 BT - Burn Through
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 MA - Misalignment
 HB - Hollow Bead

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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, -8

SOD = source to object distance
 OFD = object to film distance
 OFD + SOD = source to film dist.

All procedures utilize one film per cassette unless otherwise specified

Welds	Film	Summary
_____ -2" welds	_____ -3.5" x 8.5"	Unit # <u>4</u> Kilometers: <u>0</u>
_____ -3" welds	_____ -3.5" x 17"	In <u>1700</u> Out <u>2000</u> Hrs. <u>3</u>
<u>11</u> -4" welds	_____ -4.5" x 8.5"	In _____ Out _____ Hrs. _____
_____ -6" welds	_____ -4.5" x 17"	Technician: <u>D. Baird</u>
_____ -8" welds		Assistant: <u>L. Karpisek</u>
_____ -10 welds		
_____ -12" welds		Cost Estimate: \$ <u>364.50</u> (+ GST)

Radiograph Interpretation by:

SNT-TC-1A IIC.G.S.B. Lev. IC.G.S.B. No. 3979

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: CZle

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 présente certifie que
Dwayne Marie Baird
has qualified according to the CAN/CGSB Standard 48.9712-2000 as follows:
est qualifié selon la norme CAN/CGSB 48.9712-2000 comme suit:

TEST TYPE	NO. OF TESTS	TEST DATE	TEST DATE
RT	2	ENC	09/12/01
ET	2	ENC	91/10/11
ET	2	ENC	90/05/22
			05/12/31
			05/12/31
			05/12/31

REG. NO. 3979
REGISTRATION NO. 3979

ISSUE DATE
DATE D'ÉMISSION

03/01/23

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

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 Marie Baird

Reg. No./
No. matricule 3979

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

Expiry Date/
Expiration 2005/12/31

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

Qualified Operator
Opérateur qualifié

Dwayne Baird
1986 08 18

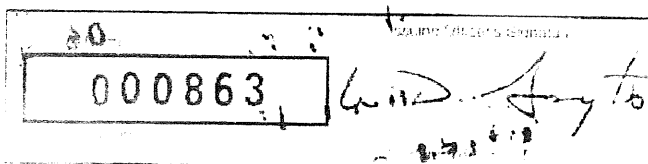
Canada

Qualified Operator

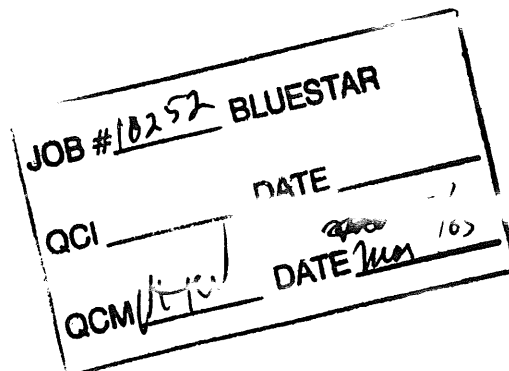
Opérateur qualifié

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

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





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	LENGTH	WEIGHT
1936-01	4 1/2" O.D.	1.031"	AISI 4130	10'	

TYPE OF HEAT TREATMENT:

STRESS RELIEVE

Temperature to be 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 240 minutes.

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.
- 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, 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: 11056

Furnace Operator Signature:

A. Muller

Date: March 02, 05

Q.C. Inspector Signature:

C. Zie

Date: March 2, 2005

JOB # 10252 BLUESTAR
1
QCI DATE
QCM DATE March 8 / 05

Chart # 11656
March 02, 05
Miller

4hr 5min Soak
@ 1150 + 25 -

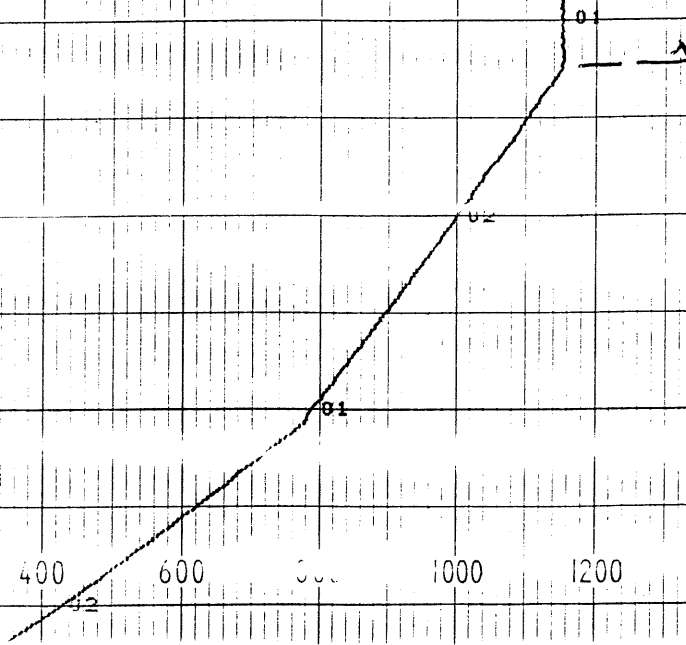
10252 P
02/03/05
Cde

BSC 10K4MM-05 A/B

JOB #10 252 BLUESTAR	
QCI	DATE
QCM 1/14/05	DATE May 8/05

11.01.05
01 1147°F
02 1147°F
03 CH
04 0mm/h

11.01.05
01 1031°F
02 1030°F
03 CH
04 50mm/h



Remain of Cycle

11.01.05

Chart No 10244

YOKOGAWA

--End of Cycle

Mar. 02. 05

13:00

01 716°F

02 716°F

50mm/h

02

01

02

Mar. 02. 05

16:00

01 1146°F

02 1146°F

50mm/h

02

01

02

Norweid Stress Ltd.

11434 91st Ave.

Richie AB

T8V PK6

Ph. (780) 539-5525

Chart # 11656

March 02, 05

Smullin

Mar. 02. 05

14:00

1147°F

02CH

50mm/h

01

02

4 hr 5 min soak
@ 1150 + 25 -

10252 P

02/03/05

cm

1490

00

BSC 10K4MM-05 A/B

10252 BLUESTAR

TEL: (250) 787-0609 OR 785-1753
FAX: (250) 787-0610
CELL: (250) 787-6882 OR 262-6855

heat treatment report

CLIENT <i>Blue Star Welding</i>	JOB NO. <i>10252-P</i>
SHIP	CUST P.O. NO. <i>02103/05</i>
STATE/ PROVINCE	

PROCEDURE REFERENCE		
RATE OF RISE UNRESTRICTED SOAK TEMP.	400 °F HR. MAX 800 °F °F	RATE OF COOL UNRESTRICTED FROM °F
1150 + 25-		
SOAK PERIOD HRS.		MIN.
4 hr		5 min
FINISH HEAT °F MIN.	PREHEAT °F MAX	INSULATION REMOVED AT °F
SPECIAL REMARKS		
Left in Oven until ambient temp.		
RECORDER NUMBER	CHART SPEED	CALIBRATED
12-1343397	50 mm/hr	July/05

[illegible]

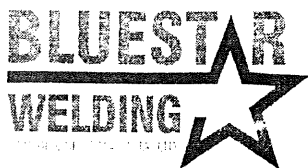
EQUIPMENT CONSUMABLES	QUANTITY
Stress Over 35'	
Stress relief 1-10,000 PSI	
1" Coil as requested	

SIGHT TIME				HOURS	
TECH	DATE	START	FINISH	REGULAR	O.T.
L.M.	03/02/01	12 PM			

TRAVEL TIME		HOURS	VEHICLE	MILEAGE
TECH	DATE			

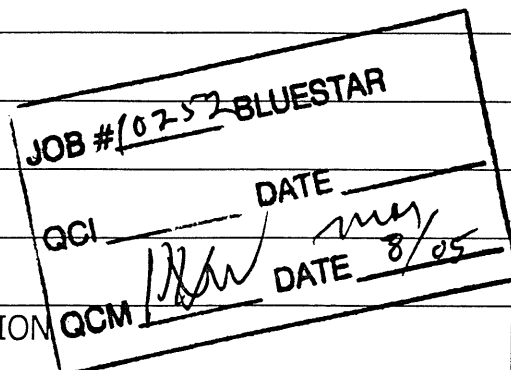
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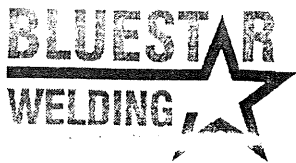
SIGNED (TECHNICIAN) *J. Muller*
NAME LEE MULLER DATE March 02, 05
SIGNED (ACCEPTING AUTHORITY) *[Signature]*
NAME _____ DATE _____



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).	✓
Q. C. Inspector Signature: <i>C. [Signature]</i>		Date: <i>MARCH 4, 2005</i>





PRESSURE TEST REPORT

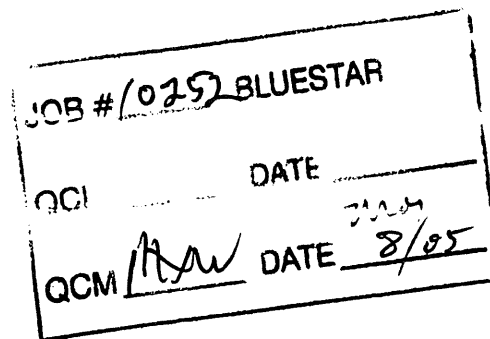
Customer: Pure Energy Services

Job No: 10152-P

Location/Test No: _____

Date: March 4, 2005

Line Drawing No: 1931-06



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 WAODY

Date: _____

Quality Control Inspector: C76

Date: MARCH 4, 2005

Owners/AI Inspector: _____

Date: _____



EQUIPMENT CALIBRATION LOG			
EQUIPMENT DESCRIPTION: <i>W61 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>W61 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>75258</i>	<i>FEB 24, 2005</i>	<i>AUG 2005</i>
Calibration requirements and Instructions:			

JOB # 10252 BLUESTAR

QCI _____ DATE _____

QCM *[Signature]* DATE *mm/8/05*



10252-1
03/04/05
C/L

B510K4MM-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.

**CUSTOMER STANDARD DOCUMENT CS-004.



10252-P
03/04/05
CZL

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

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: