

HUSKY OIL OPERATIONS LTD.

LSD:

Q.C. INFORMATION

**16" x 7'6" s/s, 600# ANSI, 1440 PSI, 3-PHASE
VERTICAL MISTEX, SWEET SERVICE, SINGLE
SEPARATOR-METERING/15,000L TANK SKID UNIT**

Manufactured By:

R.J.V. Gas Field Services

4901-47th Street, Vegreville, Alberta, T9C 1C3
Phone (780)632-7774 - Fax (780)632-6820

R.J.V JOB# NO.: 05-3412

UNIT NO.: 12285

R.J.V. GAS FIELD SERVICES LTD.
UNIT IDENTIFICATION SHEET

COMPANY: HUSKY OIL OPERATIONS		JOB # 05-3412		UNIT# 12285	
PO#	AFE#	SO#		DRAWING# 05-3412-1 (R1)	
REQUESTED BY:		LOCATION:		AREA:	
DESCRIPTION: 16"x7'6" s/s, 600# ANSI, 1440 PSI, 3-PHASE VERTICAL MISTEX, SWEET SERVICE, SINGLE SEPARATOR/METERING/15,000L TANK SKID UNIT c/w 3" 600 ANSI SENIOR METER RUN, 3" 600# ANSI INLET AND OUTLET CONNECTIONS					
DESCRIPTION		MAKE	MODEL	SERIAL	
METER RUN		Nu Flo	3" 600# Sch 40 SR, FIG# 3D	XJ54563-16	
SEPARATOR		R.J.V. Gas Field	16" x 7'6"s/s 600# 3 PHASE	9635	A#540836
LEVEL CONTROL		Fisher	2" NPT, Type L2	17573237	17573239
LEVEL CONTROL VALVE		Fisher	1" NPT Type D2 FloPro	6373905	6494205
SIGHT GLASS		Penburthy	#1TM5 & 1RL5 Reflex c/w #330J GAUGE COCKS		
PRESSURE	VESSEL	Taylor	1" x 1" NPT, Model T-8200-1	23955-254	1440 PSI
SAFETY VALVE	FUEL GAS	Taylor	1" x 1" NPT, Model T-8200-1	26922-35	150 PSI
PRESSURE CONTROL VALVE		Dyna Flo	Type 4000R	1010122	
TURBINE		Nu Flo	1" x 1" NPT	1RSTA64108	
ELECTROMAGNETIC PICK UP		Nu Flo	K-Factor	K876.61	
TOTALIZER		Nu Flo	Model MCI	MC-003106	
PRESSURE REGULATOR VALVE		Kimray	3" 600# Motor Valve	2051240489	
HI LO PRESSURE PILOT		Fisher	Model 4660	R102011	
SWITCHING VALVE		Amot	1/4" NPT, Model 4057D025H2	L9207	
PNEUMATIC PRESSURE PILOT		CVS	Model 7970	PP2625	
METHANOL INJECTOR		Bruin	Model BR5103	51-7892	1500 PSI
METHANOL INJECTOR		Bruin	Model BR5113	51-9581	6000 PSI
CHECK VALVE		Wheatley	3" 600# ANSI RFF	VW-5628-22	
HEATER		Catadyne	2 BX24X24 24,000 BTU, 12 VDC	310446	310452
TANK		Westeel	15,000L DW Above Ground	63062192	
HIGHLEVEL SHUT DOWN		Wellmark	2" NPT, Model 7400, ST2TP		
FUEL GAS SCRUBBER		R.J.V. Gas Field	8" x 30" s/s 975 PSI Design Press.	10232	

COMPANY: HUSKY OIL OPERATIONS			JOB # 05-3412	UNIT# 12285
PO#	AFE#		SO#	DRAWING# 05-3412-1 (R1)
REQUESTED BY:		LOCATION:		AREA:
PRESSURE	<i>INSTRUMENT</i>	Bel Gas	1" NPT, P627, 70-150 PSI, SPRING RANGE	
REGULATOR	<i>INSTRUMENT</i>	Bel Gas	1/4" NPT, Type P50, 0-60 PSI, SPRING RANGE	
VALVES	<i>INSTRUMENT</i>	Bel Gas	1/4" NPT, Type P50, 0-120 PSI, SPRING RANGE	
	<i>INSTRUMENT</i>	Bel Gas	5	1/4" NPT, Type P50, 0-60 PSI, SPRING RANGE
SKID		R.J.V. Gas Field	10'x21'4" c/w 6"@ 8.2 CH, 6"@15 Tank Beams, 3/16" CH PL	
BUILDING		R.J.V. Gas Field	10' x 16' x 10' -9'6" EAVE PANEL TYPE WHITE/WHITE	
MANUFACTURE DATE: March 8/06		TESTER: DAVE HAUCA		TANK: 500 GAL c/w LG
TESTING DATE: March 8/06		SHIPPING DATE:		DELIVERY:

Taylor Valve Technology, Inc

8300 Southwest 8th Street

Oklahoma City, Oklahoma

Serial Number : 26922-35 telephone: 405.787.0145 facsimile: 405.789.8198

Certificate Number: 38777.5867

CRN#: OG1316.2C email: info@taylorvalve.com

Customer : Kings Valve Services

Date : 01-Mar-06

6785 - 52 Avenue

Red Deer, AB

T4N 4K8

Sales Order # : 26922

Customer P.O. # : 000856

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 : 82E4351311	Orifice Area :	0.212 in ²
Body Configuration : 1" MNPT X 1" FNPT	Operating Temperature :	70 °F
	Spring Range :	101-225 PSI
	Set Pressure :	150 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 :	150 psig	Set Pressure :	150 psig
ASME High Set Limit :	155 psig	ASME High Set Limit :	155 psig
ASME Low Set Limit :	146 psig	ASME Low Set Limit :	146 psig
ASME (90%) rated capacity at set pressure for indicated fluid, specific gravity and temperature.			
Certifying Fluid : Air	582 SCFM	Spec Gravity : 1.00	Temp : 60 oF
API 520 (100%) calculated capacity at set pressure for indicated fluid, specific gravity and temperature.			
Test Fluid : Air	640 SCFM	Spec Gravity : 1.00	Temp : 60 oF

Prepared by : Jennifer Dykens

Department : Customer Service

Signed *Jennifer Dykens*

Approved by : Mason Buerger

Department : Quality

Signed *Mason Buerger*

Taylor Valve Technology, Inc

8300 Southwest 8th Street

Oklahoma City, Oklahoma

Serial Number : 23955-254 telephone: 405.787.0145 facsimile: 405.789.8198

email: info@taylorvalve.com

Certificate Number: 38615.6189

Customer : King's Valve Services Ltd.

6785-52nd Ave.

Red Deer, Alberta, Canada

T4N 4K8

Date : 20-Sep-05

Sales Order # : 23955

Customer P.O. # : 000773

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 : 82E8351311	Orifice Area :	0.212 In ²
Body Configuration : 1" MNPT X 1" FNPT	Operating Temperature :	70 °F
	Spring Range :	1201-1600 PSI
	Set Pressure :	1440 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 :	1440 psig	Set Pressure : 1440 psig
ASME High Set Limit :	1483 psig	ASME High Set Limit : 1483 psig
ASME Low Set Limit :	1397 psig	ASME Low Set Limit : 1397 psig

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

Certifying Fluid : Air	5,180 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	5,698 SCFM	Spec Gravity : 1.00	Temp : 60 oF
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Prepared by : Jennifer Dykens

Department : Customer Service

Signed *Jennifer Dykens*

Approved by : Mason Buerger

Department : Quality

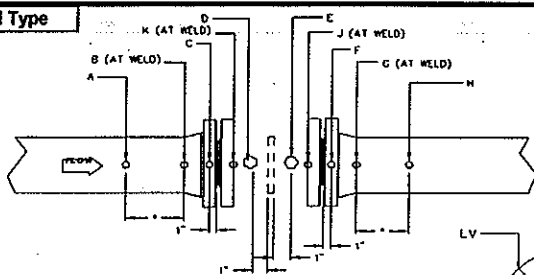
Signed *Mason Buerger*

Meter Tube Calibration Record

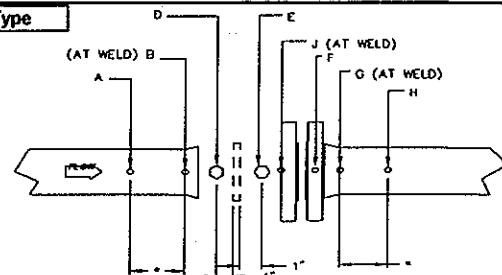
General Specifications

Customer:	RJV GASFIELD SERVICES	Date:	JANUARY 26/ 2006
Location:	HUSKY- TAG: 3677	P.O. Number:	095874
Serial No.	XJ54563-16	Work Order No.	XJ54563
Assembly Part No.	40993-000-A0074	Part No.	40553-34121
Orifice Fitting:	3" 600# SCH. 40 DUAL CHAMBER	Meter Tube Type No.	2
Straightening Vane::		Yes	No
			X

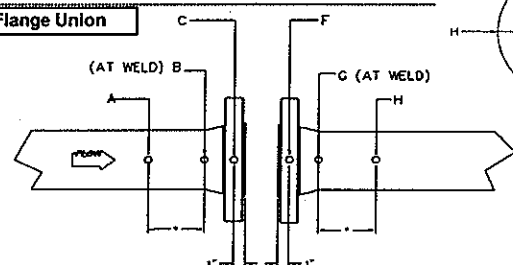
Type 1 Flanged Type



Type 2 Flangeweld Type



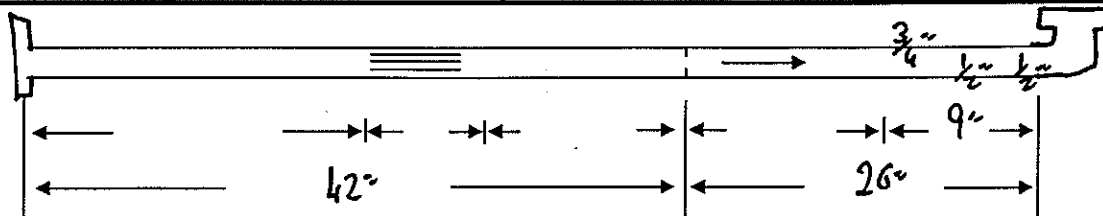
Type 3 Orifice Flange Union



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	3.071	3.075		3.070		3.069	3.073	3.088	3.070	3.070
LV	3.070	3.078		3.070		3.069	3.073	3.080	3.070	3.062
RV	3.069	3.071		3.070		3.069	3.073	3.073	3.068	3.065
H	3.068	3.070		3.070		3.069	3.073	3.060	3.064	3.063
Average	3.069	3.073		3.070		3.069	3.073	3.075	3.068	3.065
Upstream Mean Average to Stamp on I.D. Plate			3.070			Downstream Mean Average to Stamp on I.D. Plate			3.069	



AGA/API Figure	30	BETA	0.70	Meter Tap Location	
Remarks:		Inspector:		Upstream	1"
68°F				Downstream	1"

Certificate of Authorization

Quality Control Program

Expiry Date: **December 9, 2007**

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

This is to certify that:

**NUFLO MEASUREMENT SYSTEMS
A NUFLO TECHNOLOGIES COMPANY
9207 - 34A AVENUE
EDMONTON, 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 3rd day of March, 2005

Chief Inspector and Administrator

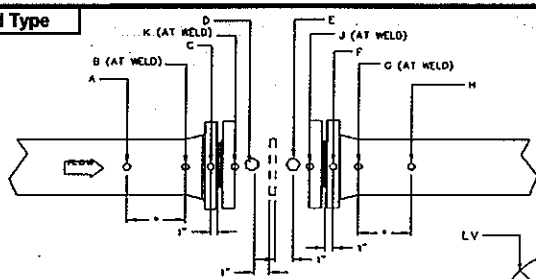
Certificate No.: 4486

Meter Tube Calibration Record

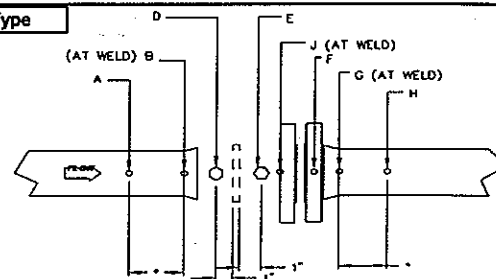
General Specifications

Customer:	RJV GASFIELD SERVICES	Date:	JANUARY 26/ 2006
Location:	HUSKY- TAG: 3677	P.O. Number:	095874
Serial No.	XJ54563-16	Work Order No.	XJ54563
Assembly Part No.	40993-000-A0074	Part No.	40553-34121
Orifice Fitting:	3" 600# SCH. 40 DUAL CHAMBER	Meter Tube Type No.	2
Straightening Vane::		Yes	No
			X

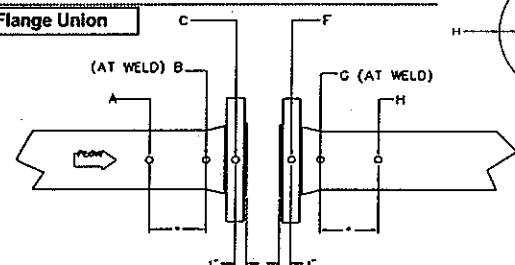
Type 1 Flanged Type



Type 2 Flangeweld Type



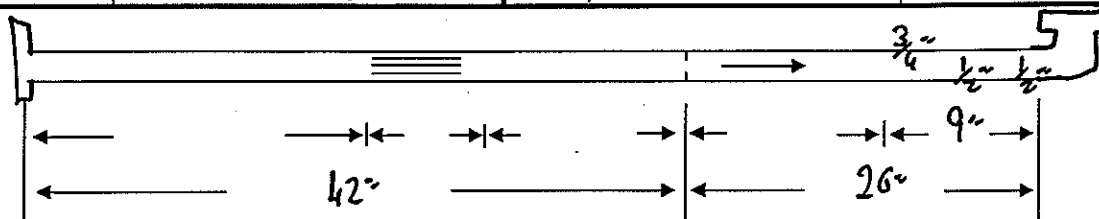
Type 3 Orifice Flange Union



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	3.071	3.075		3.070		3.069	3.073	3.088	3.070	3.070
LV	3.070	3.078		3.070		3.069	3.073	3.080	3.070	3.062
RV	3.069	3.071		3.070		3.069	3.073	3.073	3.068	3.065
H	3.068	3.070		3.070		3.069	3.073	3.060	3.064	3.063
Average	3.069	3.073		3.070		3.069	3.073	3.075	3.068	3.065
Upstream Mean Average to Stamp on I.D. Plate		3.070				Downstream Mean Average to Stamp on I.D. Plate		3.069		



AGA/API Figure	30	BETA	0.70	Meter Tap Location	Upstream	1"	Downstream	1"
Remarks:	68°F				Inspector: 			

**NuFlo Measurement Systems**

PRODUCT OF CANADA

P.T. NO. **40553-34121** SIZE **3.0** BORE **3.068**
W.P. **1480** FLG. **600** SER. NO. **XJ54563-16**
C.R.N. NO. **OF1120.213** TRIM **SWEET**

TO REMOVE PLATE FROM DUAL CHAMBER

(1) CLOSE ORIFICE CHAMBER (INDEX ORIFICE OUT OF OPERATION)
(2) OPEN BLEED VALVE (3) OPEN CHAMBER LID (REMOVE ONLY TWO TOP NUTS) (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 RETAINER FACING UPWARD (2) CLOSE LID (3) CLOSE BLEED VALVE (4) OPEN EQUALIZING VALVE (MAKES INDEXING EASY) (5) OPEN ORIFICE CHAMBER (INDEX ORIFICE INTO OPERATION) (6) CLOSE EQUALIZING VALVE

**NuFlo Measurement Systems**

EDMONTON, ALBERTA, CANADA

METER RUN ASSY. NO.	40993-000-A0074			MAX. BORE	
SER. NO.	XJ54563-16	U.S. (D)	3.070	D.S. (D)	3.069
PIPE SIZE	3.0	SCH.	40	RATING	600
AGA / API	3 D	d / D	0.70	CALIBRATION CERTIFIED BY	NuFlo
W.O. NO.	XJ54563	DATE	01 / 06		

A schematic diagram of a vertical pipe assembly. The assembly consists of a main vertical pipe with several components: a top flange, a central section with a cross-hatched pattern, and a bottom section with a cross-hatched pattern. A large arrow labeled "FLOW" points downwards, indicating the direction of flow. The pipe is supported by a base at the bottom.



NuFlo Measurement Systems
9207 - 34A AVENUE
EDMONTON, ALBERTA
T6E 5T6



Grade "C" Pressure Welder's
Certificate of Competency

ABSA

This is to Certify that **PATRICK MITCHELL**
(Name of Welder)
has passed a Performance Qualification Test and is permitted to engage in pressure
welding in accordance with the prescribed Regulations while in the employment of
NUFLO Mgmt at **Edmonton**
(Name of Company) (Location of Job)
who have complied with the provisions of The Safety Codes Act.



CERTIFICATE No
15980

Dated this **NOV 15/2005**

Chief Inspector and Administrator

THIS CERTIFICATE EXPIRES **May 15/2006** Form No AB-114 Rev (02/05)

PERFORMANCE QUALIFICATION
GRADE "C" PRESSURE WELDER

(In accordance with Section IX A S M E Code)

This qualification becomes null and void on termination of employment with the company named on
the Certificate on the reverse side or upon the expiry date of the Certificate

Process(es) **GTAW FLAW** Material (P No) **P1**
Max Deposited **0.2" 0.672"** Minimum **1" O.D.**
Weld Metal Pipe Dia
Filler Metal **F6 F6** Position(s) **1G**
Group (F No) Qualified
Backing **NO YES** Progression
NOV 15/2005 Date of Test
Signature of Safety Codes Officer



Grade "C" Pressure Welder's
Certificate of Competency

ABSA

This is to Certify that **PATRICK MITCHELL**
(Name of Welder)
has passed a Performance Qualification Test and is permitted to engage in pressure
welding in accordance with the prescribed Regulations while in the employment of
NUFLO Mgmt at **Edmonton**
(Name of Company) (Location of Job)
who have complied with the provisions of The Safety Codes Act



CERTIFICATE No
15981

Dated this **NOV 15/2005**

Chief Inspector and Administrator

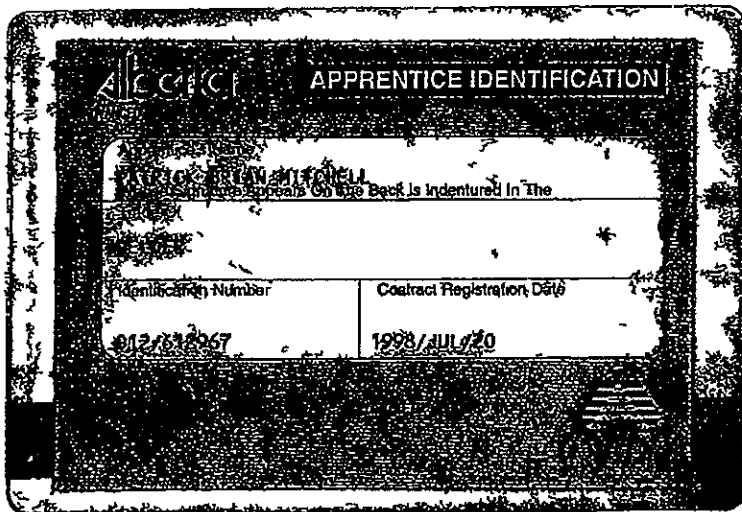
THIS CERTIFICATE EXPIRES **May 15/2006** Form No AB-114 Rev (02/05)

PERFORMANCE QUALIFICATION
GRADE "C" PRESSURE WELDER

(In accordance with Section IX A S M E Code)

This qualification becomes null and void on termination of employment with the company named on
the Certificate on the reverse side or upon the expiry date of the Certificate

Process(es) **GTAW SAW** Material (P No) **P1**
Max Deposited **0.188" 0.676"** Minimum **1" O.D.**
Weld Metal Pipe Dia
Filler Metal **F3 F4** Position(s) **1G**
Group (F No) Qualified
Backing **NO YES** Progression
NOV 15/2005 Date of Test
Signature of Safety Codes Officer



MST1201
5/19/05

Highland Foundry Ltd.
CHEMICAL AND PHYSICAL ANALYSIS

Page 1
12:59:45

Product# . . . : 40713-001
Customer Part#: 40713-001
Customer . . . : NuFlo Measurement Systems
9207 - 34A Avenue
Edmonton AB T6E 5T6
Canada

Order/Item# . . : 26101 / 3
Customer P.O.#: XP50113

Prepared by:


Quality Assurance Technician

3" D/C BODY

Heat Treatment: NORMALIZED AND TEMPERED

Melt#	Quantity	Date	Heat Treat	BATCH #	:	Specification
6-7717	14	4/26/05		ZJ1	-	ASTM A216 GRADE WCB

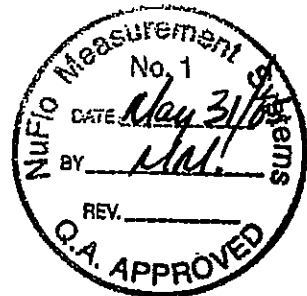
C H E M I C A L S

C :.2200	MN:.9000	SI:.5200	P :.0190
S :.0150	NI:.0500	CR:.1600	MO:.0400
CU:.1100	V :.0100		

P H Y S I C A L S

YIELD KSI	48.1	TENSILE KSI	79.7
ELONGATION %	30	RED OF AR. %	56

CE: .4226



MATERIAL TEST REPORT

9670-187th Street, Surrey, BC Canada V4N 3N6
Phone 604-888-8444 Fax 604-888-3634
www.highlandfoundry.com

ISO 9001:2000

MST1201
5/16/05

Highland Foundry Ltd.
CHEMICAL AND PHYSICAL ANALYSIS

Page 1
10:47:50

Product# . . . : 40703-005
Customer Part#: 40703-005
Customer . . . : NuFlo Measurement Systems
9207 - 34A Avenue
Edmonton AB T6E 5T6
Canada

Order/Item# . . : 26101 / 2
Customer P.O.#: XP50113

Prepared by: 
Quality Assurance Technician

3" D/C LID

Heat Treatment: NORMALIZED AND TEMPERED

Melt#	Quantity	Date	Heat Treat	BATCH #	:	Specification
3-2214	7	4/27/05		ZG4	-	ASTM A216 GRADE WCB

C H E M I C A L S

C : .1720	MN : .6910	SI : .4740	P : .0140
S : .0110	NI : .0710	CR : .1690	MO : .0480
CU : .1260	V : .0080		

P H Y S I C A L S

YIELD KSI	51	TENSILE KSI	53.2
ELONGATION %	29	RED OF AR. %	56

CE: .3452



MATERIAL TEST REPORT

9670-187th Street, Surrey, BC Canada V4N 3N6
Phone 604-888-8444 Fax 604-888-3634
www.highlandfoundry.com

ISO 9001:2000

HEAT NUMBER 4154
 TRANS AM PIPING PRODUCTS - REV'D BY
 Shipment/Seq #: S 5 - 6034 1

3" STD LR 90 BW ELBOW
 A234-WPB



INSPECTION CERTIFICATE

(MILL TEST)

Customer TRANS AM PIPING PRODUCTS LTD
 Product SEAMLESS STEEL PIPE FITTING
 Spec ASTM/A234/A234 WPB-00
 EN10228/DIN 50029/3.1B1

CHUP HSIEN ENTERPRISE CO., LTD
 17, TUNG LI ROAD HSIAO KANG
 KAOHSIUNG, TAIWAN R O C
 TEL (07) 831-9157-9
 FAX (07) 831-2942 821-7500

Certificate No 09300158 0201
 Order No PI 04-35367
 Date 2005/5/25

Specification for Raw Material		Specification for Inspection		Visual Examination		Dimensional Inspection											
ASTM A106 GRB		ASME B16-9-2001		GOOD		GOOD											
Item	Description	Quantity	Heat ID	Heat No	Raw Material Mfg	Raw Certificate NO											
1	90 E L/R STD	150	4154	14K154	SUMITOMO	BYR8817											
2	90 E L/R STD	100	4625	14K4625	SUMITOMO	BYR6606											
3	90 E L/R STD	8	0391	15K0391	SUMITOMO	BYR10185											
3	90 E L/R STD	86	5252	15K5252	SUMITOMO	BYR0050											
5	90 E L/R STD	80	3688	15K0368	SUMITOMO	BYR00101											
6	90 E L/R STD	100	633B	15K7633	SUMITOMO	WYR00205											
7	90 E L/R STD	3	816A	15K0816	SUMITOMO	WYR00206											
9	90 E L/R STD	9	C715	14K0715	SUMITOMO	WYR06625											
11	90 E L/R STD	5	C055	14C055	SUMITOMO	WYR06627											
12	45 E L/R STD	20	3931	14K3931	SUMITOMO	BYR7895											
Specifi cation	Chemical Composition %									Tension Test			HARD NESS TEST	Heat Treatment	Magnetic Particle Exam	Remark	
	C	Si	Mn	P	S	Cu	Ni	Cr	Mo	V	Nb	CE					Y S
MIN	×100	×100	×100	×1000	×1000	×100	×100	×100	×100	×1000	×1000	×100	PSI	PSI	%		
MAX	30	10	106	30	38	40	40	40	15	80	20	30	3500	6000	30	197	
1	13	18	80	9	2	10	4	5	2	0	0	28	45300	68000	41	137	
2	2	13	15	77	11	4	7	3	4	0	0	28	41200	64700	42	135	
3	18	23	54	8	5	19	6	4	1	0	0	30	46400	69000	40.5	136	
3	13	17	78	8	3	7	3	4	2	0	0	28	44400	68300	40.3	133	
5	19	23	52	12	6	5	3	2	4	1	0	30	49500	69500	42	140	
6	20	21	47	11	6	5	3	2	2	10	0	31	46700	71800	39.1	141	
7	19	21	45	10	8	5	3	2	1	0	0	28	41500	65300	40.1	140	
9	20	8	64	15	6	2	2	5	0	0	0	32	48700	68600	40	143	
11	20	20	73	13	5	2	2	5	1	0	0	34	40800	65400	47	145	
12	13	16	76	9	3	7	3	4	2	0	0	28	47400	70600	41	136	

CE=C+Mn/6+(CR+MO+V)/5+(NI+CU)/15
 We hereby certify that the product described herein has manufactured in accordance with the specifications concerned and also with the purchaser's requirements and that the test results shown herein are correct.

Chief of Quality Assurance Section
L. S. Jai





ASCOMETAL

TEST CERTIFICATE

Usine des Dunes
Boite postale 41
59941 Dunkerque cedex 2

GROUPE LUCCHINI

CERTIFICATE Nr 4/63136	CUSTOMER INTEGRIS META S. LTD A DIVISION OF RIO ALGOM LTD 7945, CORONET ROAD T6E-4N7 EDMONTONALB CANADA	CUSTOMER Nr 13832 329663/178B HEAT Nr A6605
WORKS Nr 500/2228 /06-01		
DESCRIPTION SIZES WEIGHTS	20 BARS 6"250 x18'08"/20'11" =19,960 MT	
GRADE	A105	

CHEMICAL COMPOSITION %

C	Mn	Si	S	P	Ni	Cr	Mo	Va	Cu	Nb	Al	
0.164	1.135	0.268	0.012	0.013	0.134	0.096	0.040	0.030	0.197	0.020	0.022	

MECHANICAL PROPERTIES

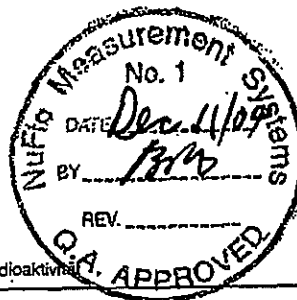
* TC	HEAT TREATMENT	* L	Y S	U T S	E %	R.A.	* L	Temp.	IMPACT	HARDNESS
PR		T	PSI .2%	PSI	IN 2"	%	T	F	CVN* FT.LBF	BHN
PR	Normalized	L	52200	76560	32,6	68,6	L	50	70.4- 70.9- 59.9	152/ 156
PR	Mid-radius	L					L	60	89.2- 52.4- 60.2	
PR		T					T	60	19.0- 26.6- 39.6	

* CHECKED ON => TC=TEST COUPON PR=PRODUCT AS DELIVERED L=LONGITUD. T=TRANSVER.

OTHER RESULTS

Electric arc furnace - Vacuum degassed
Grain size 7 M-quaid - CEC : 0.408 (<=0.430%)
Conforms to ASTM A 105-95b - ASTM A 696-90A gr C
ASTM A350-95b grade LF2 supp S6&S10
Conforms to ASME SA 350/89 - SA 105 - SA 696 gr C
Conforms to API 6A
NACE MR01-75/Ultrasonic testing per ASTM A388 OK
Lateral expansion : 0.048"-0.048-0.039" at -50F
No weld repair - Reduction ratio : 7.04
Heat treatment : normalized 1652 F / 3.00 hrs
SOC-10736/CPO: 329663
Conforms to NACE MR-01-75

Country of origin : FRANCE



Acier exempt de radioactivité anormale - Steel free from abnormal radioactivity - Stahl Frei von anormaler Radioaktivität

WE HEREBY CERTIFY THAT THE
ABOVE-MENTIONED PRODUCTS COMPLY
WITH THE ORDER REQUIREMENTS

DATE
03/09/04

STAMP OF INSPECTION SUPERVISOR

G. GIROUD

GG

0114-8750/430+43523 - 4350+4340
11211000/2025/00701

3" 600# W/N FLANGE -RF STD
BORE A105N



METALFAR

PRODOTTI INDUSTRIALI S.P.A.
23061 CESANA BRIANZA (LC) ITALY
TEL. 031 656411 FAX 031 656149
MATERIAL TEST DEPARTMENT
SALA PROVE ED ANALISI MATERIALI

COMPANY
WITH QUALITY MANAGEMENT
SYSTEM CERTIFIED BY DNV
= ISO 9001 2000 =

THAS AN FPIRG PRODUCTS LN
7025 14TH STREET SE 92C488
CNSAET-33887A

INSPECTION CERTIFICATE EN 10204/3.1

CERTIFICATO DI COLLAUDO

NAME	2763/	26/07/2005
IMMUNE/PATHOLOGY	2533/	25/07/2005
S	42618	
DATE NOTE/POICLA	4381/	25/07/2005

[illegible]

HEAT NUMBER : 56539
TRANS AM PIPING PRODUCTS - REV'D BY: 1/2X3/4-36 3000# FS THREADED PIPET
Shipment/Seg #: S 5 - 1696 5 A105N



Manufacturer of Piping & Pressure Vessel Components
4407 Haygood St Houston, TX 77022
Phone 713-695-3633 Fax 713 695 3528
A Division of **RONNEY FORGE**

SOLD TO: TRANS AM PIPING (CALGARY)
7025 - 44TH STREET S E
CALGARY, AB, CN T2C 4E8

This product has not come in direct contact with mercury or any of its compounds, nor with any mercury containing device employing a single boundary of containment No welding performed

MTR #: 101195

We certify that the contents of this report are correct and accurate and that all test results and operations performed by WFI or its subcontractors are in compliance with the material specification and requirements of the referenced code or standard and that the material conforms to the dimensional requirements of the order This document is in accordance with EN10204 3 1

PO #: CI-05-738

SALES ORDER #: C510977 DATE: 11/04/2005

CERTIFIED MATERIAL TEST REPORT

MATERIAL: A/SA105N 01

HEAT CODE: 56539

ITEM	Quantity
13	

Description

36 - 3/4 X 1/2 3000 THP
A/SA105N

CHEMICAL COMPOSITION:

LADLE	C	MN	P	S	SI	CU	NI	CR
	0.200	0.990	0.008	0.021	0.260	0.140	0.030	0.050
	0.016	0.024	0.001					

CARBON EQUIVALENCY: LADLE 0.394

	TENSILE PSI	YIELD PSI	ELONG %	RA %	HARDNESS
PRODUCT	75,000	49,500	35.00%	66.00%	144 BHN 147 BHN

CHARPY V-NOTCH PROPERTIES: TEST TEMPERATURE: - 50 F

FT LBS: 75/83/114

Normalized

Marie Dehmer
Quality Assurance Representative



HEAT NUMBER : 56593
 TRANS AM PIPING PRODUCTS - REV'D BY: 3/4X1 1/2-36 3000# FS THREADED PIPET
 Shipment/Seq #: S 5 - 1725 2 A105N



Manufacturer of Piping & Pressure Vessel Components
 4407 Haygood St Houston, TX 77022
 Phone 713 695 3633 Fax 713 695 3528
 A Division of BONNEY FORGE

Page: 1

SOLD TO: TRANS AM PIPING (CALGARY)
 7025 - 44TH STREET S E
 CALGARY, AB, CN T2C 4E8

This product has not come in direct contact with mercury or any of its compounds, nor with any mercury containing device employing a single boundary of containment No welding performed

We certify that the contents of this report are correct and accurate and that all test results and operations performed by WFI or its subcontractors are in compliance with the material specification and requirements of the referenced code or standard and that the material conforms to the dimensional requirements of the order This document is in accordance with EN10204 3.1

MTR #: 101149
 PO #: CI-05-738
 SALES ORDER #: C510977 DATE: 11/04/2005

CERTIFIED MATERIAL TEST REPORT

MATERIAL: A/SA105N 01

HEAT CODE: 56593

ITEM	Quantity	Description
14		36 - 1 1/2 X 3/4 3000 THP A/SA105N

CHEMICAL COMPOSITION:

LADLE	C	MN	P	S	SI	CU	NI	CR
	0.200	1.050	0.007	0.021	0.220	0.070	0.020	0.030
	0.010	0.000	0.014					

CARBON EQUIVALENCY: LADLE 0.389

MECHANICAL PROPERTIES:

	TENSILE PSI	YIELD PSI	ELONG %	RA %	HARDNESS
PRODUCT	74,000	49,400	33.00%	67.00%	144 BHN 147 BHN

Normalized

Marie Dehmer
 Quality Assurance Representative





vallourec
précision
étriage

Vallourec Precision Littrage
(44) 377 21 VITRY MAIROLLES
51303 Vitry-le-François France
tel: 03.26.41.23.00
fax: 03.26.41.23.10

MATERIAL TEST REPORT

INSPECTION CERTIFICATE EN 10204 3.1.B

ISO 9001 AQ
ISO 9002 AQ
ISO 9001 AQ
Ref: 45-03-350014 1/2
N° V.L.R.: 211025

Customer : CAPITOL PIPE & STEEL PRODUCTS

Order n° : 702645/VR0739 DU 29.09.2003

SEAMLESS STEEL TUBES, COLD DRAWN (KILLED STEEL),
NORMALIZED 925C

Specification : ASTM A/ASME SA 106 (last edition) - GRADE B - NACE MR 01.75 - API 5L

Marking in continuous : VF - VALLOUREC - ASA 106 - API 5L - GRADE B - SIZE - **** - HEAT - FRANCE
Marking on labels :

**** = NPS 3 STD SCH 40 (item 01)
**** = NPS 3 XS SCH 80 (item 02)

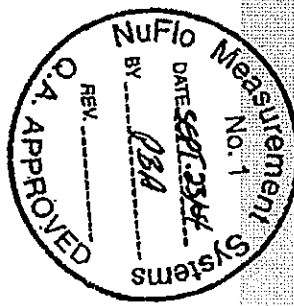
QUANTITY PER ITEM

Y/R	Q/R	Size	(B13) single length	(B10) Quantity	length ft	(B14) Weight lb	dispatch	(B08) Heat
1	01	88.900 X 5.490 MM NPS 3 " X SCH 40	5486/6706 MM 18 to 22	272	5262.746	41144.906	20328551	21286 : 30 tub. 21496 : 242 tub.
2	02	88.900 X 7.620 MM NPS 3 " X SCH 80	5486/6706 MM 18 to 22	100	1963.320	20483.165	20328552	21493 : 82 tub. 21180 : 18 tub.

**(C1-C2)
EADIE ANALYSIS**

(C3: CR+CU+MO+NI+V) (C70) (B08) Process Heat												
MIN.	C	Si	Mn	P	S	Cr	Mo	NI	Cu	V	034	
MAX.	0.30	0.10	0.29	1.06	0.035	0.035	0.40	0.15	0.40	0.080	1.00	
	%	%	%	%	%	%	%	%	%	%	%	
E	21180	0.16	0.20	0.76	0.010	0.003	0.11	0.02	0.08	0.20	0.000	0.41
E	21286	0.15	0.18	0.75	0.009	0.004	0.07	0.03	0.05	0.16	0.000	0.31
E	21493	0.16	0.18	0.78	0.011	0.004	0.11	0.02	0.07	0.14	0.000	0.34
E	21496	0.15	0.17	0.78	0.012	0.005	0.14	0.02	0.08	0.17	0.001	0.42

CAPITOL PIPE
ISO 9003 - 1994
Date: 12/05/2004



3" S/40 C.D.

**vallourec
précision
étirage**

BP77 ZI VITRY MAROLLES
51303 Vitry-le-François France
tél: 03.26.41.23.00
fax: 03.26.41.23.10

INSPECTION CERTIFICATE EN 10204 3.1.B

9002 200 9001 200
Norme Ref: 45-03-350014 2 / 2
Norme N° V.R. 211025

**(C10-C02-C03)
FULL SECTION LONGITUDINAL TENSILE TEST AT ROOM TEMPERATURE**

(C00) Test	(B08) Heat	lot	(C11) Y.S.	(C12) T.S.	(C13) Elong. 2"
MIN.			35000	60000	30
MAX.					
01	21286	ITEM 01	49579	69391	34
02	21286		51150	69143	38
01	21496		52584	70061	38
02	21496		51114	69792	37
01	21180	ITEM 02	48852	68747	40
02	21180		48980	68773	38
01	21493		50077	69218	40
02	21493		51012	69802	40

FLATTENING TEST

result	
OK	

**(D01-D99)
NON DESTRUCTIVE TESTS**

test	test rate	specification	conditions	result
APPEARANCE & DIMENSIONS	100% LOT			OK
EDDY CURRENT TEST	100% LOT	E309		OK
ULTRASONIC TEST	100% LOT	SA450	5% DEPTH	OK

ROCKWELL C HARDNESS MAX. 22 GUARANTEED

(201) 16/12/2003

Capitol Pipe
ISO 9003 - 1994
Date: Feb 17/04

(202) Original computer copy - Authenticity is guaranteed by the Vallourec logo. All the pipes/tubes conform to the requirements of the order and standard regarding the grade, quality and heat treatment throughout their whole length.	(A05) The agent of the service Quality MME SICARD Véronique
---	---

Sicard

SHIPPING DETAILS

TOTAL WIDTH- 10'-8" TOTAL LENGTH- 21'-4"
TOTAL HEIGHT- 12'-4" APROX. WEIGHT- 14800 LBS

REV	DATE	DESCRIPTION	BY
1.	JULY 20/05	AS BUILT DIMENSIONS	SI

***AS BUILT**

RJV

GAS FIELD SERVICES LTD.

4901- BRUCE RD. VEGREVILLE, ALTA
T9C-1C3
PHONE (780) 632-7774
FAX (780) 632 6820

TITLE: HUSKY OIL OPERATIONS

16"x7'6" S/S 600 ANSI SEPARATOR/METER
SKID UNIT, 3 PHASE CONTROLS, STD. SERVICE
3" SENIOR METER RUN, 15,000 LITRE TANK

DWG. # 3412-1

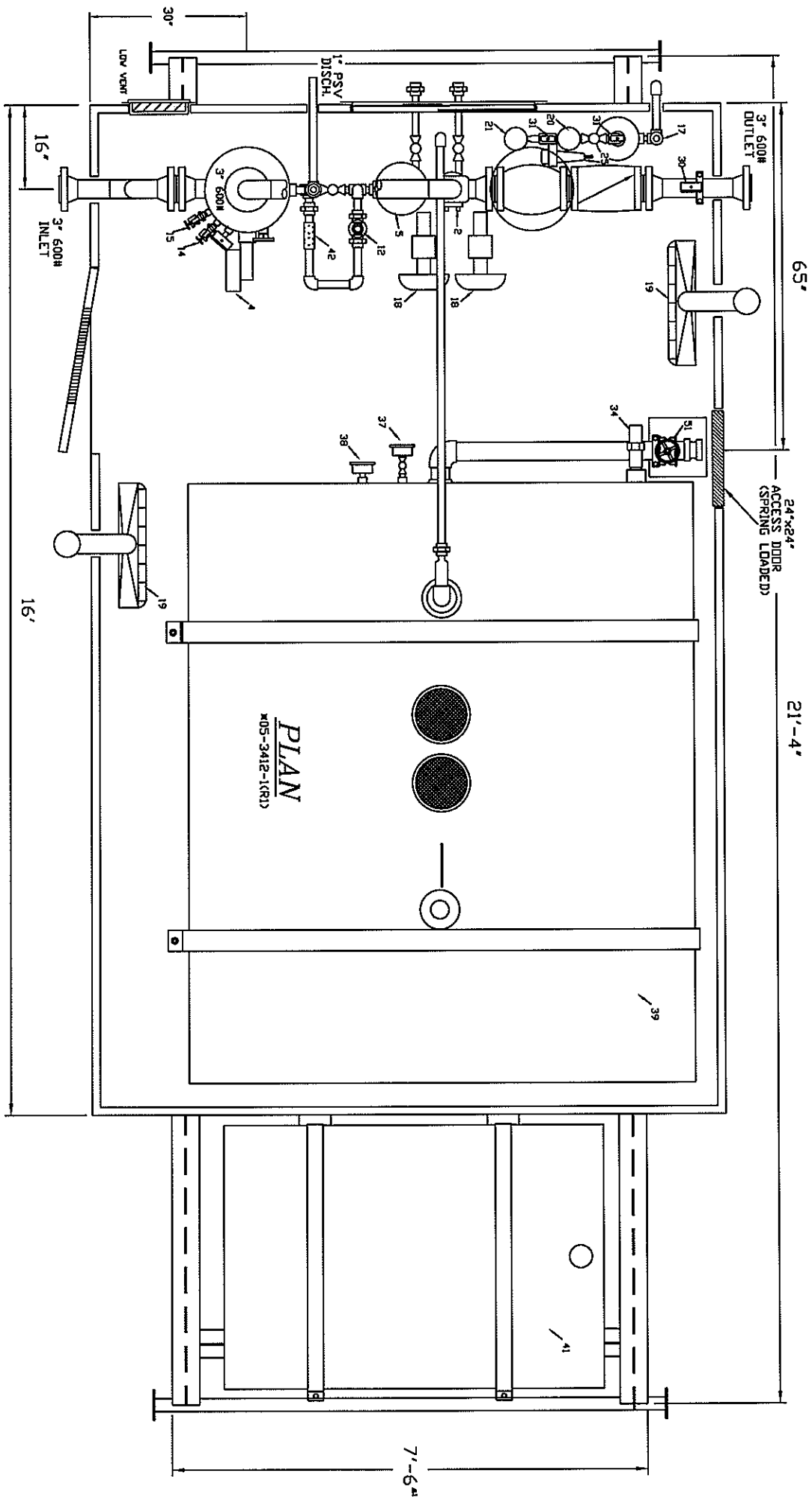
REV. #

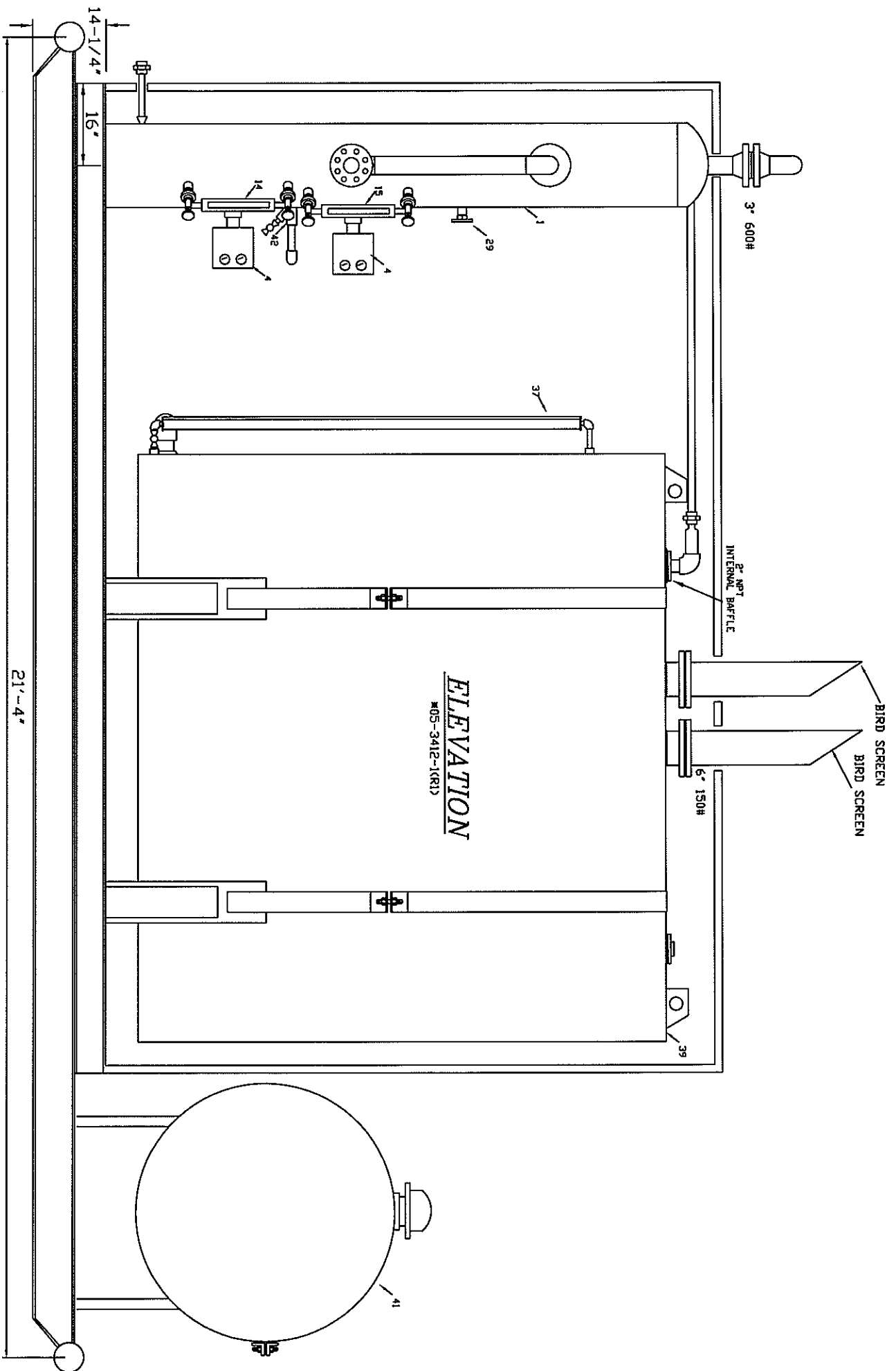
RJV
JOB # 05-3412

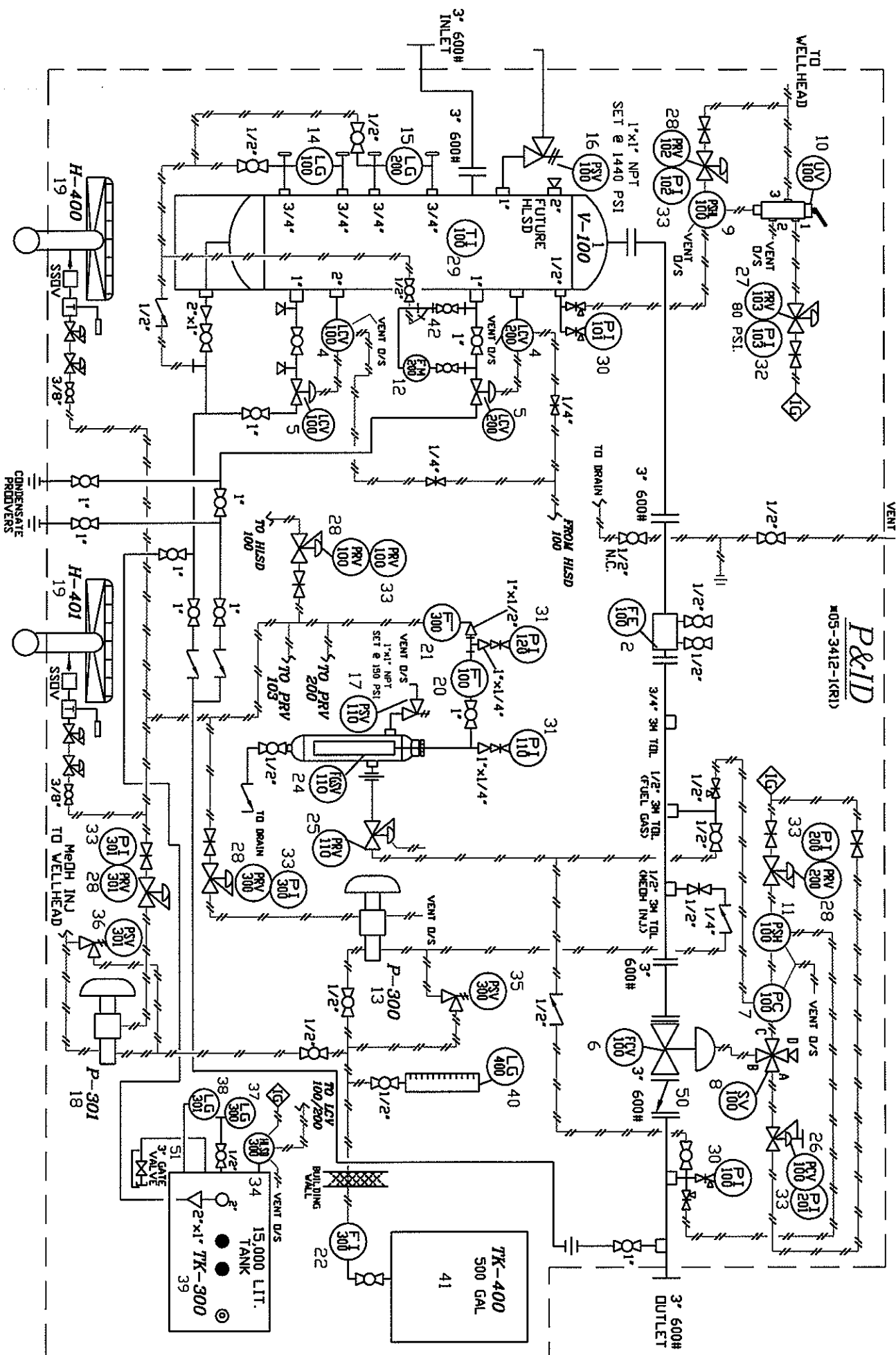
WARNING !

This drawing and the design it covers are confidential and shall shall not be disclosed in any manner, or used for any purpose, except with written consent of, R.J.V. Gas Field Services Ltd.

DWN. BY: SI DATE: APRIL 4/05 SCALE: NTS







EQUIPMENT & MATERIAL

TAG#	ITEM	QTY	DESCRIPTION
V-100	1	1	RJV 16"x7'6" s/s 600 ANSI, 1440 PSI, 3 PHASE VERTICAL MISTEX SEPARATOR c/w 1/16" CORROSION ALLOWANCE.
FE-100	2	1	NORTHSTAR 3" 600 ANSI SCH 40 (SENIOR) ORIFICE FITTING AGA FIG 3D, .7 BETA RATIO, 3 TAPS- 1, 3/4" & 2, 1/2" NPT. c/w 1 304 SST ORIFICE PLATE AND PLATE RETAINER (68" O/A) NOT REQUIRED
PR/FR-100	3	1	FISHER 2" NPT TYPE L2 LEVEL CONTROL, LCC LOW TEMP, SNAP ACTING, FAIL CLOSED, c/w 1-7/8" x 12" PVC DISPLACER.
LC-100/200	4	2	FISHER 1" NPT TYPE D2, LCC LOW TEMP, NACE SPEC., RATED 900# ANSI, 0-35 PSI SIGNAL, ADJUSTABLE 1/4"/3/8"/1/2" TRIM.
LCV-100/200	5	2	KIMRAY 3" 600# ANSI RF, MOTOR VALVE, 1,500 PSI. MOP, STD. SERVICE, 2" INNER VALVE, CARBON STEEL BODY.
FCV-100	6	1	FISHER TYPE 4150K-R PRESSURE CONTROLLER, DIRECT ACTING, 0/1500 PSI 316 STAINLESS STEEL BOURDON TUBE, RE-CONDITION CONANT 1/4" NPT. MODEL 38361ALT MANUAL SELECTOR VALVE, 3-WAY SELECTOR/316 SST CONSTRUCTION.
PC-100	7	1	RE-COND. FISHER TYPE 4660 HI-LO PRESSURE PILOT, 0-1500 PSI. BOURDON TUBE, STANDARD, 1380 PSI RISING, 100 PSI FALLING. AMOT 1/4" NPT SWITCHING VALVE, MODEL #4057D025H2, STD. SERVICE, 125 PSIG. ALL PORTS, STD. SERVICE.
SV-100	8	1	CVS 7970 PNEUMATIC PRESSURE PILOT, HIGH PRESSURE SET @ 700 RISING SENSOR, TWO POSITION, 3-WAY PILOT, AUTO RESET.
PSHL-100	9	1	NUFLO 1" x 1" NPT, TURBINE METER 5-50 USGPM FLOW RANGE, DIGITAL RATE FLOW TOTALIZER, ELECTROMAGNETIC PICKUP COIL.
UV-100	10	1	BRUIN MODEL BR5103 METHANOL INJECTION PUMP, 3/8" PLUNGER. c/w PNEUMATIC MICRO VALVE, 16.0 GPD, 1,500 PSI. MWP.
PSH-100	11	1	PENBURTHY MODEL 1TMS TRANSPARENT GAUGE GLASS, c/w 303J GAUGE COCKS, C/W 1/2" NPT DRAIN BALL VALVE.
FM-200	12	1	PENBURTHY MODEL 1RLS REFLEX GAUGE GLASS, c/w 303J GAUGE COCKS, C/W 1/2" NPT DRAIN BALL VALVE.
P-300	13	1	HYDROSEAL 1" FNPT x 1" FNPT MODEL 14E3MOV00, SST BODY, CS BONNET & CAP, .128" ORIFICE, SET @ 1440 PSIG.
LG-100	14	1	HYDROSEAL 1" FNPT x 1" FNPT MODEL 14E3MOV00, SST BODY, CS BONNET & CAP, .128" ORIFICE, SET @ 150 PSIG.
LG-200	15	1	TEXSTEAM 5103 METHANOL INJECTION PUMP, 3/8" PLUNGER. PNEUMATIC MICRO VALVE, 7.9 GPD, HARD PACKING. 6000 PSI MWP.
PSV-100	16	1	CATADYNE BX24X24 24,000 BTU, 12 VDC, NATURAL GAS HEATER c/w STANDS, SSOV, REGULATORS, 25 FT CABLES, THERMOSTAT, GRILL, VENT HOOD & ELECTRICAL AS PER CEC REGULATIONS.
PSV-110	17	1	F-100 WATERGUARD 1" NPT MODEL WGF12100 FILTER HEAD ASSEMBLY, MODEL VG40510SP WATER REMOVING FILTER.
P-301	18	1	F-300 HEADLINE 1/2" NPT. MODEL #360A c/w P/N 25-64-70C ELEMENTS
H-400/401	19	2	F-300 1" NPT. FLEET GUARD METHANOL FILTER/SPIN ON CARTRIDGE.
F-100	20	1	V-100 RJV 8"x30" s/s FUEL GAS SCRUBBER 975 PSI DESIGN PRESS.
F-300	21	1	V-100 RJV 2"x1" FUEL GAS SHUT OFF VALVE, MODEL FGSV 5200.
FI-300	22	1	FGSV-110 BELGAS 1" NPT TYPE P627 REG. CARBON STEEL CONST.
V-100	23	1	FGSV-110 1/8" ORIFICE, 70-150 PSI SPRING RANGE, SET @ 100 PSIG.
FGSV-110	24	1	PRV-100 BELGAS 1/4" NPT TYPE P50 REGULATOR, STD SERVICE, 0-60 PSI SPRING RANGE. MANUAL HAND WHEEL.
PRV-100	25	1	PRV-103 BELGAS 1/4" NPT TYPE P50 REGULATOR, STD SERVICE, 0-120 PSI SPRING RANGE. SET @ 90 PSI. (UV-100 SUPPLY)
PRV-100/102	26	5	PRV-100/300 BELGAS 1/4" NPT TYPE P50 REGULATOR, STD SERVICE, 0-60 PSI. RANGE (P-300/301, PSHL-100, HUSD-300, PSH-100)
200/300/301	27	1	TI-100 TREND MOD 33, 3" DIAL, DS, -40/120°F, c/w 304 SST TOW, 4" STEM ON SEPARATOR.
TI-100	28	1	PI-100/101 WIKA #233.54 4" DIAL 1/2" NPT BOT CONN. LIQUID FILLED, DS, 0/15000 PSI c/w AGCO M918C-44 1/2" NPT ISOLATION/BLEED VALVES, (SEPARATOR & OUTLET PIPING).
PI-100/101	29	2	PI-110/120 WIKA #233.53 2 1/2" DIAL 1/4" NPT BOT CONN. LIQUID FILLED, DS, c/w AGCO HSRDC-2 1/4" ISOLATION/BLEED VALVES
PI-110/120	30	2	PI-103 WIKA #233.53 2 1/2" DIAL 1/4" NPT BOT CONN. LIQUID FILLED, 0/200 PSI (FUEL GAS SCRUBBER/ON DOWNSTREAM OF FILTER).
PI-103	31	1	PI-100/102/200 WIKA #233.53 2 1/2" DIAL 1/4" NPT BOT CONN. LIQUID FILLED, 0/200 PSI (UV-100 IG REGULATOR).
201/300/301	32	6	HLSD-300 WELLAIR 2" NPT SHAPTRON 7400 SERIES PNEUMATIC LEVEL SWITCH, STANDARD SERVICE, c/w PNEUMATIC MICRO VALVE.
HLSD-300	33	1	PSV-300 NUPRO 1/4" #SS-4R3A5-EP/177-R3A-KI-C, SET @ 1,440 PSIG.
PSV-300	34	1	PSV-301 NUPRO 1/4" #SS-4R3A5-EP/177-R3A-KI-C, SET @ 3,700 PSIG.
LG-300	35	1	LG-300 RJV 5700-84-CVR METH. TANK METERING/LEVEL GAUGE, 7FT.
TK-300	36	1	TK-300 RJV 5700-4-CVR METH. TANK METERING/LEVEL GAUGE, 4IN.
LG-400	37	1	TK-400 WESTEEL 15,000 LITRE DOUBLE VALLED ABOVE GROUND TANK c/w 2-6" 150 ANSI VENT STACKS AND 3" NPT PUMP OUT/DRAIN
TK-400	38	1	RJV #5428 METERING/LEVEL GAUGE, 48" VISIBLE LENGHT.
	39	1	WESTEEL 500 GAL SINGLE WALL METH. STORAGE TANK.
	40	1	ALBERTA STRAINER 1" NPT. FIG# YS600, 1,480 PSI. WP.
	41	1	FLOMORE 1/4" NPT #A-676 BALL CHECK (METHANOL INJ. POINT).
	42	3	PLAINSMAN 1/2" NPT 3000# CB-50 BALL CHECK.
	43	2	NAVCO 1" FNPT 3,000# MODEL CSP10508AB, SWING TYPE CHECK.
	44	16	NAVCO 1/2" NPT 2000# MH1-F05S20-B BALL VALVES.
	45	12	NAVCO 1" NPT 2000# MH1-R10S20-B BALL VALVES.
	46	8	AGCO 1/4" NPT 6000# MHSRDC-2 NEEDLE VALVES.
	47	5	AGCO 1/2" NPT 6000# MH7VC-440 NEEDLE VALVES.
	48	1	WHEATLEY 3" 600# ANSI RF, FIG# 910-035 144101 SWING CHECK
	49	1	3" CLIP GATE VALVE
	50	1	TUBING- 3/8" & 1/2" OD .035 WT STAINLESS STEEL.
	51	1	TUBE FITTINGS- SWAGelok STAINLESS STEEL
			FR PRESSURE SENSING LINES & FG TAKE-OFFS SHALL BE 1/2" OD
			SKID- RJV 10"x21'4" c/w 6"BB2 CHANNEL IRON(PERIPHERY), 6"815
			TANK BEAMS) 6"815 CHANNEL IRON(CHECKER FLOORING SUPPORTS)
			8"815 WF BEAM FLOOR RUNNERS
			3/16" CHECKERED PLATE(FLOORING), 3" POLYURETHANE
			UNDERSKID INSULATION AND 3 1/2" PULL BARS EACH END
			BUILDING- 10'x16'x10'-9'6" URETHANE INJECTED PANEL TYPE c/w
			SHED ROOF, 30 GAUGE PREPAINTED STEEL EXTERIOR WHITE WALLS
			R12 INSULATION VALUE 30 GAUGE WHITE STEEL INTERIOR
			DOOR- 3'x7' URETHANE INJECTED PANEL TYPE, c/w PANIC LOCK
			WEATHER STRIPPING, 1WG WINDOW, DOOR SWEEP, DOG DOOR.
			WINDOW- 1, 36"x36" DG SLIDER c/w SCREENS. 1WG WINDOW
			VENTS- 2, 12"x12" INSULATED ALUMINUM LOUVRED c/w SCREENS.
			FLANGES: SA-105N 600 ANSI: 2" SCH 80, & 3" SCH 40.
			WELD FITTINGS: SA-234-WPB 2" SCH 80 & 3" SCH 40.
			SCREWED FITTINGS: SA-105N 3000# FS.
			SCREWED UNIONS: SA-105N 3000# FS.
			O-LETS: SA-105N 3000# FS.
			PIPE AND NIPPLES: SA-106 GR B SEAMLESS.
			WELDED: 2" SCH 80, & 3" SCH 40.
			THREADED PIPE/NIPPLES/SWAGES: 150#- SCH 80, 600#- SCH 160
			BOLTING: ASTM A193 GR B7 STUDS/ASTM A194 GR 2H NUTS.
			GASKETS: 304 SST FLEXATALLIC GRAPHITE.
			ALL PIPING DESIGNED TO B31-3 CODE
			WELDED PIPING SHALL BE SUBJECTED TO 10% RADIOGRAPHY.
			WELDED PIPING SHALL BE HYDRO-TESTED TO 2160 PSI.
			ALL VENTING CONTROLS AND INSTRUMENTS SHALL BE VENTED TO
			SKID EDGE AND ALL CONTROLS OPERATIONALLY AIR TESTED.
			ALL METAL SURFACES SHALL BE MECHANICALLY CLEANED TO
			SSPC-SP-2, 1 COAT OF ZINC CHROMATE PRIMER AND 1 FINISH
			COAT OF ENAMEL PAINT SHALL BE APPLIED AS FOLLOWS-
			CHECKERED PLATE FLOORING: WARM GREY
			STEEL SKIDS, EQUIPMENT, PIPING & TANKS: WARM GREY

#04-3412-1(R1)

DESIGN DATA

DESIGN & FABRICATE TO ASME SECTION VIII, DIV. I, 2001 EDITION

DESIGN PRESSURE: 10,204 KPA (1480 PSI)

HYDROTEST: 15,307 KPA (2220 PSI) LONG'L JOINT EFF: 100%

RADIOGRAPHY-CIRC. SEAMS-SPOT UW11(a)5(b) CORR. ALLOWANCE: .063" (1.6mm)

RADIOGRAPHY-LONG SEAMS- SMLS LIMITED BY: SHELL

P.W.H.T: OPTIONAL-60 MINUTES @ 1150°F (621°C) FLANGES: SA-105

M.A.W.P: 10,204 KPA (1480 PSI) NOZZLES: SA-106-B

HEADS: SA-516-70 MIN: 20.63mm NOM: 22.23mm STUDS: 193-B7

SHELL: SA-106-B NOM: 21.4mm NUTS: 194-2H

MIN. DESIGN METAL TEMP: -29C (-20F) MISC. PLATE: SA-36

EXEMPT FROM IMPACT TEST REQUIREMENTS AS PER UG 20(f)

DESIGN TEMP: 38C (100F)

WELD FITTINGS: SA-234-WPB/SA-105

COUPLINGS (T.O.L): SA-105

INTERNAL: SA-36

PRE-HEAT: 10C (50F)

SHIPPING WT: 685KG (1507lbs)

CAPACITY: .262 CUBIC METER (9.268 CU FT)

PAINT:

CRN:



GAS FIELD SERVICES LTD.

4901- 47 ST VEGREVILLE, ALTA

T9C-1C3

PHONE (780) 632-7774

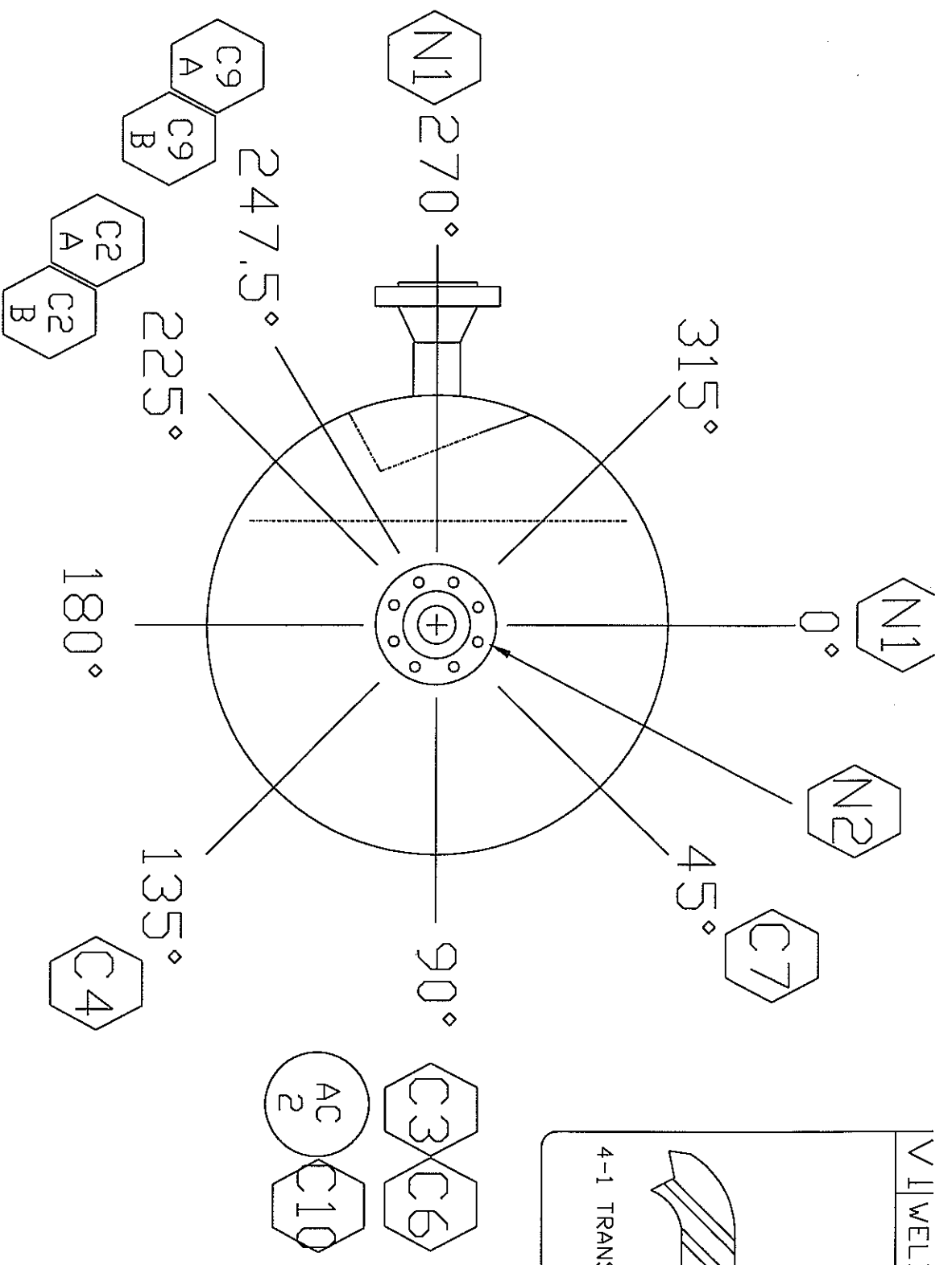
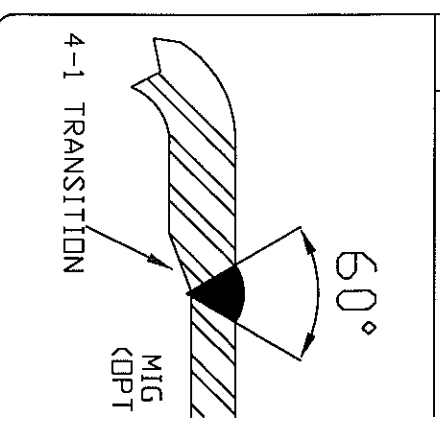
FAX (780) 632 6820

TITLE: 406 OD X 2285 sm/sm 10,204 KPA
3 PHASE VERTICAL SEPARATOR

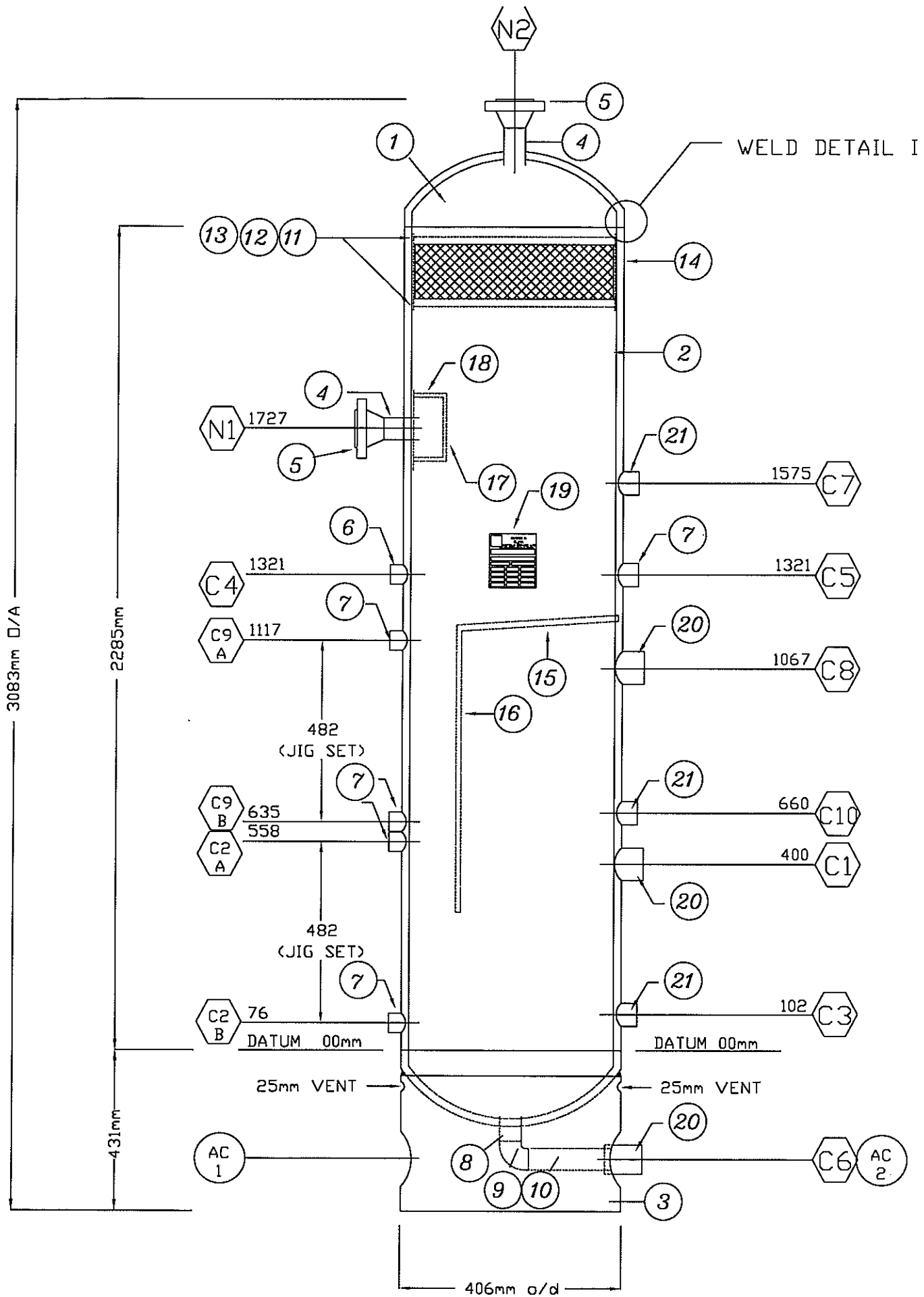
DWG. # V01-381

REV. #

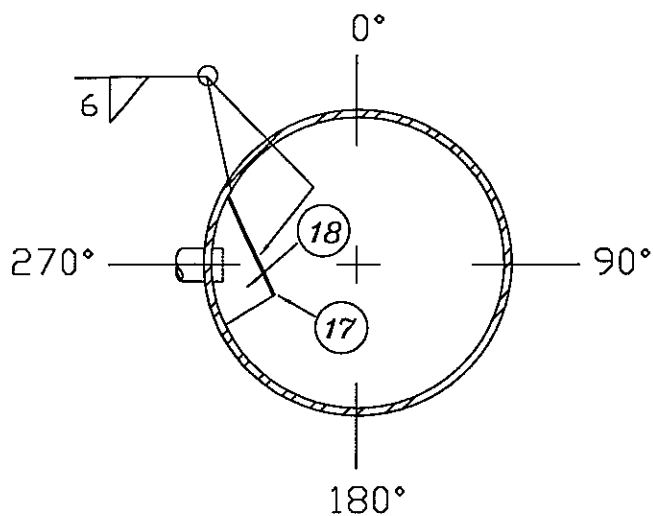
SHEET OF



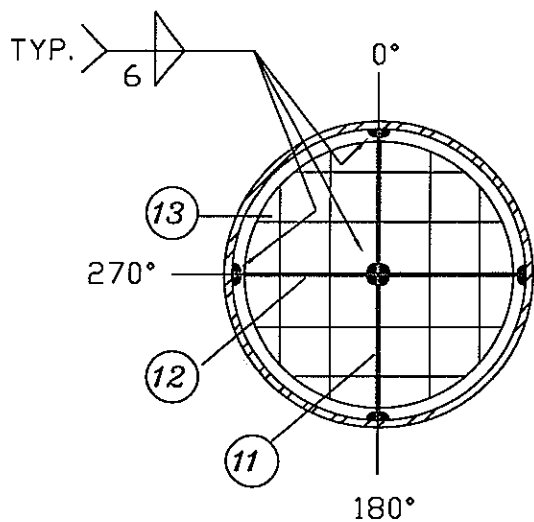
ORIENTATION



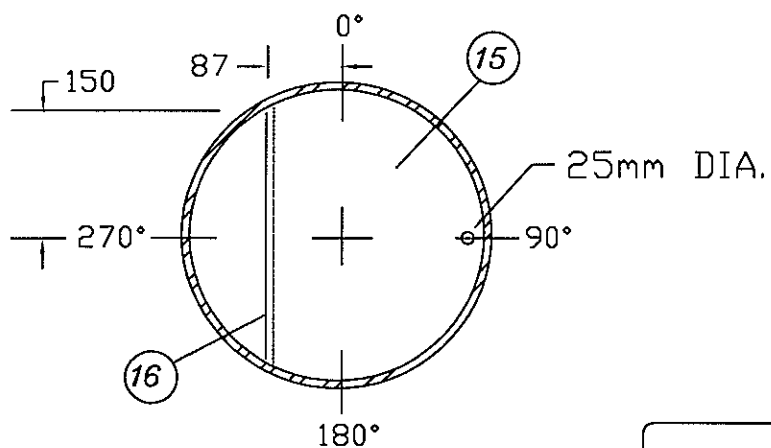
ELEVATION



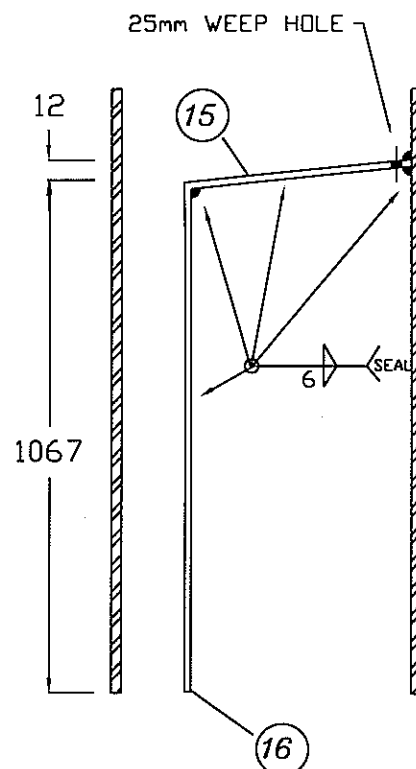
DETAIL-INLET DEFLECTOR



DETAIL-MISTEX SUPPORT



DETAIL-FLOAT BAFFLE



ELEVATION
FLOAT BAFFLE

BOILER BRANCH APPROVAL STAMP

WARNING!

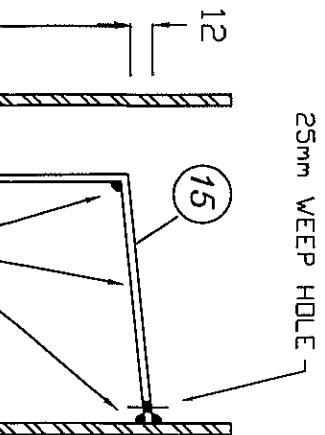
THIS DRAWING AND THE DESIGN IT COVERS ARE CONFIDENTIAL AND SHALL NOT BE DISCLOSED TO OTHERS OR REPRODUCED IN ANY MANNER OR USED FOR ANY PURPOSE WHATSOEVER EXCEPT BY WRITTEN CONSENT OF RJV GASFIELD SERVICE LTD.

NOZZLE SCHEDULE

MARK	SIZE	RATING	TYPE	SERVICE	NOZZLE BORE	ITEM	PROJN I/S	WELD DETAIL	WELD SIZE	REMARKS
N1	60.3mm	600#	RFWN	INLET	SCH160	4,5	16mm/135mm	III, IV	10mm/6mm	
N2	60.3mm	600#	RFWN	OUTLET	SCH160	4,5	16mm/150mm	III, IV	10mm/6mm	
N3	88.9mm	600#	RFWN	INLET(OPTIONAL)	SCHXXS	22,23	13mm/200mm	III, IV	10mm/6mm	
N4	88.9mm	600#	RFWN	OUTLET(OPTIONAL)	SCHXXS	22,23	6mm/200mm	III, IV	10mm/6mm	
N5	114.3mm	600#	RFWN	INLET(OPTIONAL)	SCHXXS	24,25	25mm/200mm	III, IV	10mm/6mm	
N6	114.3mm	600#	RFWN	OUTLET(OPTIONAL)	SCHXXS	24,25	6mm/200mm	III, IV	10mm/6mm	
C1	60.3mm	6000#	CPLG	L.L.G. (WATER)INSPECTION		20	6mm/50mm	IV	10mm/6mm	
C2A,B	26.7mm	6000#	CPLG	L.L.G. (WATER)		7	6mm/25mm	IV	10mm/6mm	
C3	33.4mm	6000#	CPLG	LIQUID OUT(WATER)		21	6mm/25mm	IV	10mm/6mm	
C4	21.4mm	6000#	CPLG	P.PRESSURE INDICATOR		6	6mm/22mm	IV	10mm/6mm	
C5	26.7mm	6000#	CPLG	TEMP. INDICATOR		7	6mm/25mm	IV	10mm/6mm	
C6	60.3mm	6000#	CPLG	DRAIN	SCH160	8,9,10,20	SET 50mm FLUSH 50mm	IV	10mm/6mm	
C7	33.4mm	6000#	CPLG	P.S.V.		21	6mm/25mm	IV	10mm/6mm	
C8	60.3mm	6000#	CPLG	L.L.C. (OIL)INSPECTION		20	6mm/50mm	IV	10mm/6mm	
C9A,B	26.7mm	6000#	CPLG	L.L.G. (OIL)		7	6mm/25mm	IV	10mm/6mm	
C10	33.4mm	6000#	CPLG	LIQUID OUT (OIL)		21	6mm/25mm	IV	10mm/6mm	

BILL OF MATERIALS

ITEM	QTY.	DESCRIPTION	MAT'L
1	2	406mm o/d X 22.23 NOM. SMLS HEAD 21 S.E. 20.63 MIN	SA-516-70
2	1	406mm o/d X 22.85mm SMLS PIPE B.B.E. 21.4 NOM.	SA-106-B
3	1	406mm o/d X 35.6mm LG. 9.5mm WALL ERW BASE	SA-53-B
4	2	60.3mm X 102mm LG. B.D.E. SMLS PIPE SCH 160	SA-106-B
5	2	60.3mm 600 ANSI RFWN FLANGE SCH 160 BORE	SA-105
6	1	21.3mm, 6000# FULL COUPLING	SA-105
7	5	26.7mm, 6000# FULL COUPLING	SA-105
8	1	60.3mm X 76mm LG. B.D.E. SMLS PIPE SCH 160	SA-106-B
9	1	60.3mm 90 BUTT WELD ELBOW SCH 160	SA-234-VPB
10	1	60.3mm X 102mm LG. B.D.E. SMLS PIPE SCH 160	SA-106-B
11	2	360mm LG. X 6mm THK X 25.4mm W. MESH SUPPORT	SA-36
12	4	172mm LG. X 6mm THK X 25.4mm W. MESH SUPPORT	SA-36
13	2	360mm o/d X 25.4mm W. MESH PAD SUPPORT GRIDS	SA-36
14	1	360mm o/d X 152mm THK MISTEX PAD	304SS
15	1	KNITTED WIRE MESH @9lbs/CU. FT. DENSITY	
16	1	360mm o/d X 270mm LG. X 6mm THK FLOAT BAFFLE	SA-36
17	1	318mm o/d X 106.7mm LG. X 6mm THK FLOAT BAFFLE	SA-36
18	1	178mm LG X 178mm W X 6mm THK INLET DEFLECTOR	SA-36
19	2	178mm LG. X 130mm W X 6mm THK INLET DEFLECTOR	SA-36
20	1	NAME PLATE & 165mm LG. X 152mm WIDE CHANNEL	SA-36
21	3	60.3mm, 6000# FULL COUPLING	SA-105
22	3	33.4mm, 6000# FULL COUPLING	SA-105
23	2	88.9mm X 152mm LG. B.D.E. SMLS PIPE SCH XXS	SA-106-B
24	2	88.9mm 600 ANSI RFWN FLANGE SCH XXS BORE	SA-105
25	2	114.3mm X 152mm LG. B.D.E. SMLS PIPE SCH XXS	SA-106-B
26	2	114.3mm 600 ANSI RFWN FLANGE SCH XXS BORE	SA-105





16

TO: RJV GASFIELD SERVICE LTD
4901 47TH ST (BRUCE RD) BOX 295
VEGREVILLE AB
T9C 1C3

Registered: 2002/09/16
Journal #: 29589
Account #: 24578

Attn: WES MARKOWSKY

Re: RJV GASFIELD SERVICE LTD

DESIGN REGISTRATION

C.R.N.

P7217.21

Drawings / Documents	Description			
3 PHASE SEPARATOR V01-381 REV 0	MDMT ----- -20 F	MAWT ----- 100 F	MAWP ----- 1480 psi	EXT PRESS -----
REGISTERED	Code: ASME Sec VIII Div 1, 01 Ed.			

Remarks: This design has been registered as noted above. An invoice for survey will follow in the amount of \$ 60.00

dc

Yours truly,

R. TUAZON

Design Surveyor

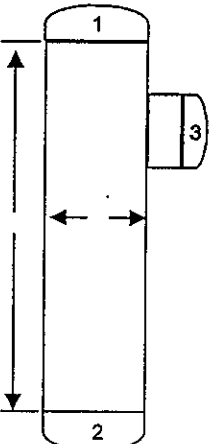
Authorized Inspector to be given travel sheet prior to construction so that he can indicate hold points with an asterik (*)

Hold points established - Sign & Date AUG 16 2005

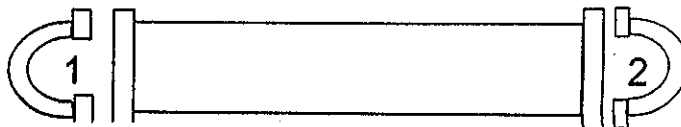
(Authorized Inspector)

Vessel Serial # 9636 DWG # V01-381 (A) # 540866
Vessel Title 16" 3 Phase Separator CRN # P 7217.2

ITEM	COMMENTS	AUTH. INS. HOLD POINTS	DATE FUNCTION COMPLETE & INSPECTORS INITIALS	
			QC INSPECTOR	AUTHORIZED INSPECTOR
APPROVED DRAWING			AUG 10 2005 DC	
MATERIAL CHECKED AGAINST DRAWING, MATERIAL LIST			AUG 10 2005 DC	
MILL TESTS CHECKED			AUG 10 2005 DC	AUG 16 2005
VESSEL LAYOUT			AUG 13 2005 DC	
NOZZLES & FITTING	ORIENTATION		AUG 13 2005 DC	
	RATINGS		AUG 13 2005 DC	
FIT UP	NOZZLES & FITTINGS		AUG 13 2005 DC	
	SHELL & HEAD		AUG 18 2005 DC	
INTERNALS (tray, baffles, etc.)			AUG 16 2005 DC	
INTERNAL INSPECTION		(*)	AUG 16 2005 DC	AUG 16 2005
WELD SIZES			AUG 23 2005 DC	
WELDERS I.D.			AUG 23 2005 DC	
EXTERNAL AFTER COMPLETION OF ALL WELDING			AUG 23 2005 DC	AUG 20 2005
RADIOGRAPHS			AUG 25 2005 DC	AUG 20 2005
OTHER N.D.E.				
IMPACT TESTS				
PWHT CHART CHECKED				
NAMEPLATE			AUG 23 2005 DC	AUG 20 2005
HYDROSTATIC TEST		(*)	AUG 30 2005 DC	AUG 30 2005
DATA REPORT			AUG 30 2005 DC	AUG 30 2005



		SPECIFICATION	HEAT NUMBER	THICKNESS
SHELL	C1	SA-106-B	J5K3341	21.44 mm
	C2			
	C3			
HEADS	1	SA-516-70	23692	20.63 mm
	2	SA-516-70	23692	20.63 mm
	3			
REPADS	1			
	2			
	3			
		SPECIFICATION	SIZE	SCHEDULE
NOZZLES		SA-106-B	2" 3"	sch. 160 / sch. XXS
FITTINGS		SA-105	1/2", 3/4", 1", 2"	# 6000 cplg.
TUBES				



INSPECTION CERTIFICATE



SUMITOMO METAL INDUSTRIES, LTD.
PIPE & TUBE WORKS
1850, MINATO, WAKAYAMA, JAPAN

130974
112130

CERTIFICATE NO.: WYK0418-01 PAGE: 1 DATE: 2005-04-11

CUSTOMER : CE FRANKLIN LTD.
ORDER NO. : 1203816-OR-2100 ITEM NO. 10
SHIPPER : SUMITOMO CORPORATION 057 KEE 2244/1 4PIYS369208
COMMODITY : SEAMLESS STEEL PIPE

STANDARD : CSA Z245.1-98 CAT. I GR. 290 ASTM A106-99 / ASME 2001(A03) SA-106 GR. B NDE
ASTM A53-01 / ASME 2001(A03) SA-53 GR. B NDE
SPECIFICATION : CUSTOMER'S SPEC

MILL WORK NO. : WYK0418 O.D.: 16inch W.T.: 0.844inch LENGTH: 40feet QUANTITY: 34pcs. MASS: 84347kg

HEAT NO. PRODUCTS PCS.
J5K3341 34

580

16" x .844" wall
HT * J5K3341

HEAT TREATMENT: AS ROLLED
DEOXIDATION: KILLED

CHEMICAL COMPOSITION(%)

		C	Si	Mn	P	S	Cu	Cr	Ni	Mo	Ti	V	Nb	B	*U4	*CEQ	*CEL	*1 R:LADLE & PRODUCT ANALYSIS L:LADLE ANALYSIS P:PRODUCT ANALYSIS	
*1					*2	*2									*2				
SPEC. MIN.	R	-	10	29	-	-	-	-	-	-	-	-	-	-	-	-	-		
MAX.	R	26	50	106	30	35	40	40	40	15	11	8	11	1	100	40	40		
HEAT NO.																			
J5K3341	L	19	23	97	14	4	2	6	2	1	0	0	1	0	11	37	37	*2: X1000	
	P	19	22	99	16	3	1	7	2	1	0	0	1	0	11	38	38	*3: X1	
	P	20	22	99	15	4	2	5	2	1	0	0	1	0	10	39	39	OTHER:X100	
	Mn/C																		
*1	*3																		
SPEC. MIN.		R	3																*U4:Cu+Ni+Cr+Mo+V
MAX.		R	-																*CEQ:C+F(Mn/6+Si/24+Cu/15+Ni/20+(Cr+Mo+V+Nb)/5+5B) F=COEFFICIENT BY CSA STANDARD
HEAT NO.																			
J5K3341	L	5																	*CEL:C+Mn/6+(Cr+Mo+V)/5+(Cu+Ni)/15
	P	5																	
	P	5																	

TENSILE TEST HARDNESS TEST

	YS			TS	EL	HV	TYPE OF SPECIMEN
	*1	*2	*3				
SPEC. MIN.	L	B	M	M	30	C	STRIP 1-1/2" (38mm)
MAX.	L	B	M	M	-	C	WIDTH
HEAT NO.							GAUGE LENGTH
J5K3341	L	B	M	M	51	C	50.8mm
							KIND OF YS
							0.5% EXTENSION
							UNDER LOAD
							*1 DIRECTION
							L: LONGITUDINAL
							*2 SAMPLING POSITION
							B: BASE METAL
							*3 UNIT

WE HEREBY CERTIFY THAT THE MATERIAL HEREIN DESCRIBED HAS BEEN MANUFACTURED, SAMPLED, TESTED, AND INSPECTED IN ACCORDANCE WITH ABOVE STANDARD AND SPECIFICATION AND SATISFIES THE REQUIREMENTS.

JUN 08 2005

Y. Komoto
MANAGER, QUALITY ASSURANCE SECTION

FABRICATION & ENGINEERING

RJV GASFIELD
4901 - 47 STREET
VEGREVILLE, ALBERTA T9C 1C3

Material Certification Cover Sheet

Date: June 16, 2005

Attention: Quality Control Manager

Subject: Customer P.O.: 2196

These items shipped on our sales order:

\$17911

Please find the enclosed Documents & Reports covering items supplied, as detailed below, for the above noted purchase order.

[illegible]

We Certify that the conditions stated below have been met as applicable.

The above items were formed to meet the requirements of ASME Section VIII, Division 1, UCS 79 (d)

Tack welds were welded using procedures and welders qualified to ASME Section IX.

Parts are supplied and identified in accordance with ASME Section VIII, Div. 1, Para UG 11 (b).

Shells Cold formed NO

Stress relieved NO

Hot Formed Above 900°F YES

Yours truly,

Chris Adams

Chris Adams
Q.C. Documentation

An Affiliate of Canadian Erectors Limited

JUN 21 2005

FABRICATION & ENGINEERING

RJV GASFIELD
4901 - 47 STREET
VEGREVILLE, ALBERTA T9C 1C3

Same

CUSTOMER P.O. NO.	2196
CESSCO W.O. NO.	S17911
DATE CERT. ORIGINATED	16-Jun-05

MILL TEST REPORTS ATTACHED

The chemical and physical properties as indicated on the attached report are the results of the Mill Tests of the raw material used in the manufacture of these products and are certified to meet only the minimum requirements of the ASME and ASTM specifications for this material

- | | | | |
|-------------------------------------|--|-------------------------------------|---|
| ☒ | The items listed above were formed in strict accordance with all applicable requirements of the ASME Boiler and Pressure Vessel Code Section VIII, Div 1. | ☐ | We hereby certify that these heads were heated to 1950°F and water quenched in strict accordance with all applicable specifications |
| ☒ | We hereby certify that these heads were hot formed at the required normalizing temperature and air cooled, in accordance with all applicable specifications. | ☐ | We hereby certify that these heads were heated to 1950°F and rapid air cooled in strict accordance with all applicable specifications |
| ☐ | We hereby certify that these heads were cold formed in compliance with ASME Boiler and Pressure Vessel Code, Section VIII, Div. 1 paragraph UCS - 79 (d). | ☒ | We hereby certify that these heads comply with tolerances of UG - 81 of ASME Section VIII, Div. 1. |

HOT FORMING (NORMALIZING) TEMP. OF 1650° F IS HELD FOR 1 HOUR/INCH OF THICKNESS PRIOR TO FORMING

WE HEREBY CERTIFY THAT THIS REPORT COVERING THE ABOVE AND ATTACHED INFORMATION IS TRUE AND CORRECT AS SHOWN AND CONTAINED IN OUR RECORDS.

Chris Adams
QUALITY CONTROL



1. Smead Steel, S.A. 6200, ROMANIA
Phone: +40 238 407 633
Fax: +40 238 407 635
http://www.lhm.com.ro e-mail: office@lhm.com.ro

1. Smead Steel, S.A. 6200, ROMANIA
Phone: +40 238 407 633
Fax: +40 238 407 635
http://www.lhm.com.ro e-mail: office@lhm.com.ro

ASME B1.1
@ Cessco By 06
DEC 2 2 2004

CESSCO
PLATE LOG
NO:



INSPECTION CERTIFICATE: 20019834
ACCORDING TO: EN 10204/2.1.B

CUSTOMER: TO WHOM IT MAY CONCERN
PRODUCT: HOT ROLLED PLATES
EXTERNAL ASPECT: SUITABLE
DATE: 23-06-04

ORDER: 900712 / 16001075
STANDARD: ASME/2001 : ASTM A202/2000 : EN 10163-2/1991
DELIVERY STATE: NORMALIZED
LOT: 48

MECHANICAL TESTS

Total number of pieces: = 96										Total weight: 488374 kg									
No. of	No.	No.	No.	No.	Width	Length	Thickness	Weight	No.	Rm	Re	Yield	Temp.	KV 10J	KV 20J	KV 30J			
Prod.	Fig.	Sheet	Heat	Quality	[mm]	[mm]	[mm]	[kg]	Test	[MPa]	[MPa]	[MPa]	[°C]	Long	Long	Long	Long	Long	Long
23943c	1	1	915315	SA516Gr70	3048.000	12192.000	12.700	3705	6289	522	377	28	-46	76	82	71	-23666		
23943c	1	2	915315	SA516Gr70	3048.000	12192.000	12.700	3705	6289	524	386	25	-46	80	74	82	-23664		
23943c	2	1	915315	SA516Gr70	3048.000	12192.000	12.700	3705	6270	524	386	25	-46	80	74	82	-23664		
23943c	2	2	915315	SA516Gr70	3048.000	12192.000	12.700	3705	6270	524	386	25	-46	80	74	82	-23664		
23943c	3	1	915315	SA516Gr70	3048.000	12192.000	12.700	3705	6271	523	383	28	-46	84	52	50	-23668		
23943c	3	2	915315	SA516Gr70	3048.000	12192.000	12.700	3705	6271	523	383	28	-46	84	52	50	-23668		
23943c	4	1	915315	SA516Gr70	3048.000	12192.000	12.700	3705	6272	516	377	26	-46	88	100	84	-23665		
23943c	4	2	915315	SA516Gr70	3048.000	12192.000	12.700	3705	6272	516	377	26	-46	88	100	84	-23665		
23943c	5	1	915315	SA516Gr70	3048.000	12192.000	12.700	3705	6273	515	370	27	-46	88	104	98	-23662		
23943c	5	2	915315	SA516Gr70	3048.000	12192.000	12.700	3705	6273	515	370	27	-46	88	104	98	-23662		
23943c	6	1	915315	SA516Gr70	3048.000	12192.000	12.700	3705	6274	526	382	27	-46	124	120	118	-23669		
23943c	6	2	915315	SA516Gr70	3048.000	12192.000	12.700	3705	6274	526	382	27	-46	124	120	118	-23669		
23943c	7	1	915315	SA516Gr70	3048.000	12192.000	12.700	3705	6275	495	369	29	-46	88	84	90	-23675		
23943c	7	2	915315	SA516Gr70	3048.000	12192.000	12.700	3705	6275	495	369	29	-46	88	84	90	-23675		
23943c	8	1	915315	SA516Gr70	3048.000	12192.000	12.700	3705	6276	512	377	27	-46	88	104	98	-23674		
23943c	8	2	915315	SA516Gr70	3048.000	12192.000	12.700	3705	6276	512	377	27	-46	88	104	98	-23674		
23943c	9	1	915315	SA516Gr70	3048.000	12192.000	12.700	3705	6277	513	380	26	-46	106	84	82	-23673		
23943c	9	2	915315	SA516Gr70	3048.000	12192.000	12.700	3705	6277	513	380	26	-46	106	84	82	-23673		
23943c	10	1	915315	SA516Gr70	3048.000	12192.000	12.700	3705	6278	517	384	27	-46	88	48	82	-23672		
23943c	10	2	915315	SA516Gr70	3048.000	12192.000	12.700	3705	6278	517	384	27	-46	88	48	82	-23672		
23943c	11	1	915315	SA516Gr70	3048.000	12192.000	12.700	3705	6279	526	385	27	-46	88	84	80	-23671		
23943c	11	2	915315	SA516Gr70	3048.000	12192.000	12.700	3705	6279	526	385	27	-46	88	84	80	-23671		
23943c	12	1	915315	SA516Gr70	3048.000	12192.000	12.700	3705	6280	528	378	27	-46	100	98	104	-23670		
23943c	12	2	915315	SA516Gr70	3048.000	12192.000	12.700	3705	6280	528	378	27	-46	100	98	104	-23670		

CUSTOMER: TO WHOM IT MAY CONCERN
 PRODUCT: HOT ROLLED PLATES
 EXTERNAL ASPECT: SUITABLE
 DATE: 23-Nov-04

ORDER: 900702/ 60001076
 STANDARD: ASME/ASTM : ASTM A202/2000 : EN 10163-2/1994
 DELIVERY STATE: NORMALIZED
 LOT: 48

MECHANICAL TESTS

Total number of pieces = 98										Total weight: 48574 kg									
No. of Prod.	No. Plate	No. Sheet	No. Heat	Quality	Width (mm)	Length (mm)	Thickness as (mm)	Weight (kg)	No. Test	Rim Re (MPa)	A (%) B	Temp. test °C	Long	Long	Long	Long	Long	Long	Long
24	23843c	13	1	915315	SA516Gr70	3048.000	9754.000	12.700	2864	6281	518	369	28					-23653	
25	23843c	13	2	915315	SA516Gr70	120.000	384.016	0.500	2864	6281								-23658	
26	23843c	13	3	915315	SA516Gr70	120.000	384.016	0.500	2864	6281								-23671	
27	23843c	14	1	915315	SA516Gr70	3048.000	9754.000	12.700	2864	6282	522	378	28					-23656	
28	23843c	14	2	915315	SA516Gr70	120.000	384.016	0.500	2864	6282									
29	23843c	14	3	915315	SA516Gr70	3048.000	9754.000	12.700	2864	6282								-23660	
30	23843c	15	1	915315	SA516Gr70	120.000	384.016	0.500	2864	6283	528	375	27					-23657	
31	23843c	15	2	915315	SA516Gr70	3048.000	9754.000	12.700	2864	6283								-23680	
32	23843c	15	3	915315	SA516Gr70	120.000	384.016	0.500	2864	6283								-23659	
33	23843c	16	1	915315	SA516Gr70	3048.000	9754.000	12.700	2864	6284	533	386	26					-23652	
34	23843c	16	2	915315	SA516Gr70	120.000	384.016	0.500	2864	6284									
35	23843c	16	3	915315	SA516Gr70	3048.000	9754.000	12.700	2864	6284								-23655	
36	23843c	14	1	915315	SA516Gr70	120.000	480.000	0.750	5557	9870	489	341	25					-23683	
37	23843c	14	2	915315	SA516Gr70	3048.000	12182.000	18.050	5557	9870									
38	23843c	15	1	915315	SA516Gr70	120.000	480.000	0.750	5557	9871	504	346	26					-23682	
39	23843c	15	2	915315	SA516Gr70	3048.000	12182.000	18.050	5557	9871								-23681	
40	23843c	16	1	915315	SA516Gr70	120.000	480.000	0.750	5557	9872	489	341	25					-23679	
41	23843c	16	2	915315	SA516Gr70	3048.000	12182.000	18.050	5557	9872									
42	23843c	17	1	915315	SA516Gr70	120.000	480.000	0.750	5557	9873	508	348	26					-23686	
43	23843c	1	1	915486	SA516Gr70	120.000	480.000	0.750	6485	9851	513	350	28					-23690	
44	23843c	2	1	915486	SA516Gr70	120.000	480.000	0.875	6485	9852	487	342	34						
45	23843c	3	1	915486	SA516Gr70	120.000	480.000	0.875	6485	9853	505	350	34					-23688	
46	23843c	4	1	915486	SA516Gr70	120.000	480.000	0.875	6485	9854	487	344	30					-23684	
47	23843c	5	1	915486	SA516Gr70	120.000	480.000	0.875	6485	9855	501	350	30					-23687	
48	23843c	6	1	915486	SA516Gr70	120.000	480.000	0.875	6485	9856	500	342	26					-23689	
49	23843c	8	1	915486	SA516Gr70	120.000	480.000	0.875	6485	9858	487	342	32					-23685	
50	23843c	9	1	915486	SA516Gr70	120.000	480.000	0.875	6485	9859	501	354	32					-23695	
51	23843c	10	1	915486	SA516Gr70	120.000	480.000	0.875	6485	9860	505	350	30					-23691	
52	23843c	11	1	915486	SA516Gr70	120.000	480.000	0.875	6485	9861	501	350	32					-23694	

CUSTOMER: TO WHOM IT MAY CONCERN
PRODUCT: HOT ROLLED PLATES
EXTERNAL ASPECT: SUITABLE
DATE: 23-09-94

ORDER: 900702 / E0004076
STANDARD: ASME/2001 ; ASTM A202/2000 ; EN 10163-2/1994
DELIVERY STATE: NORMALIZED
LOT: 48

MECHANICAL TESTS

Total number of plates: = 98										Total weight: 485374 kg									
No. of Prod.	No. Plate	No. Sheet	No. Heat	Quality	Width [mm]	Length [mm]	Thickness [mm]	Weight [kg]	No. Test	Rm [MPa]	Re [MPa]	A ₁₀ [%]	Temp. test °C	KV1 [J] Long	KV2 [J] Long	KV3 [J] Long			
53	23963b	12	1	B15486	SAS16Grade70	120.000	480.000	0.875	6485	8962	487	336	32	-46	70	66	80	-23693	
54	23963b	13	1	B15486	SAS16Grade70	120.000	480.000	0.875	6485	8963	501	350	34	-48	83	88	83	-23700	-23692
55	23963c	14	1	B15486	SAS16Grade70	120.000	480.000	0.875	6485	8963	501	350	34	-48	83	88	83	-23700	-23692
56	23964d	9	1	B20159	SAS16Grade70	120.000	480.000	1.000	7410	8748	509	334	30	-46	50	44	78	-23717	
57	23964d	10	1	B20159	SAS16Grade70	120.000	480.000	1.000	7410	8749	497	310	32	-48	88	54	64	-23718	-23719
58	23964d	11	1	B20159	SAS16Grade70	120.000	480.000	1.000	7410	8750	513	334	32	-48	110	64	80	-23710	
59	23964d	12	1	B20159	SAS16Grade70	120.000	480.000	1.000	7410	8751	505	350	30	-46	80	94	90	-23697	
60	23964e	13	1	B20159	SAS16Grade70	120.000	480.000	1.000	7410	8908	522	350	30	-48	78	72	72	-23697	
61	23964e	13	2	B20159	SAS16Grade70	120.000	480.000	1.000	7410	8909								-23696	
62	23964e	14	1	B20159	SAS16Grade70	120.000	480.000	1.000	7410	8910	513	353	24	-48	40	38	30	-23696	
63	23964e	14	2	B20159	SAS16Grade70	120.000	480.000	1.000	7410	8910								-23699	
64	23964e	14	2	B20159	SAS16Grade70	120.000	480.000	1.000	7410	8910								-23699	
65	23964e	14	2	B20159	SAS16Grade70	120.000	480.000	1.000	7410	8910								-23699	
66	23964e	14	2	B20159	SAS16Grade70	120.000	480.000	1.000	7410	8910								-23699	
67	23964e	14	2	B20159	SAS16Grade70	120.000	480.000	1.000	7410	8910								-23699	
68	23964e	14	2	B20159	SAS16Grade70	120.000	480.000	1.000	7410	8910								-23699	
69	23964e	14	2	B20159	SAS16Grade70	120.000	480.000	1.000	7410	8910								-23699	
70	23964e	14	2	B20159	SAS16Grade70	120.000	480.000	1.000	7410	8910								-23699	
71	23964e	14	2	B20159	SAS16Grade70	120.000	480.000	1.000	7410	8910								-23699	
72	23964e	14	2	B20159	SAS16Grade70	120.000	480.000	1.000	7410	8910								-23699	
73	23964e	14	2	B20159	SAS16Grade70	120.000	480.000	1.000	7410	8910								-23699	
74	23964e	14	2	B20159	SAS16Grade70	120.000	480.000	1.000	7410	8910								-23699	
75	23964e	14	2	B20159	SAS16Grade70	120.000	480.000	1.000	7410	8910								-23699	
76	23964e	14	2	B20159	SAS16Grade70	120.000	480.000	1.000	7410	8910								-23699	
77	23964e	14	2	B20159	SAS16Grade70	120.000	480.000	1.000	7410	8910								-23699	
78	23964e	14	2	B20159	SAS16Grade70	120.000	480.000	1.000	7410	8910								-23699	
79	23964e	14	2	B20159	SAS16Grade70	120.000	480.000	1.000	7410	8910								-23699	
80	23964e	14	2	B20159	SAS16Grade70	120.000	480.000	1.000	7410	8910								-23699	

CUSTOMER: TO WHOM IT MAY CONCERN
 PRODUCT: HOT ROLLED PLATES
 EXTERNAL ASPECT: SUITABLE
 DATE: 21-Nov-14

ORDER: 800701 / 02001076
 STANDARD: ASME/2001 : ASTM A572/2000 : EN 10163-2/1991
 DELIVERY STATE: NORMALIZED
 LOT: 48

MECHANICAL TESTS

Total number of pieces: = 85										Total weight: 485374 kg									
No. of	No.	No.	No.	No.	Quality	Width	Length	Thickness	Weight	No.	Rm	Re	A1%	Temp	KV1 [J]	KV2 [J]	KV3 [J]		
Plat.	Plat.	Sheet	Heat			[mm]	[mm]	[mm]	[kg]	[kg]	[MPa]	[MPa]	%	[°C]	Long	Long	Long		
81	23942c	5	1	830607	SAS16Grnd70	3048,000	12192,000	25,400	7410	8651	488	331	30	-46	42	40	32	-23712	
82	23942c	8	1	830607	SAS16Grnd70	3048,000	12192,000	25,400	7410	8652	488	331	32	-46	40	32	30	-23703	
83	23942c	7	1	830607	SAS16Grnd70	3048,000	12192,000	25,400	7410	8653	488	334	30	-46	32	30	30	-23708	
84	23942c	8	1	830607	SAS16Grnd70	3048,000	12192,000	25,400	7410	8654	487	340	26	-46	32	30	30	-23715	
85	23942c	9	1	830607	SAS16Grnd70	3048,000	12192,000	25,400	7410	8655	489	331	30	-46	30	30	30	-23716	
86	23942c	10	1	830607	SAS16Grnd70	3048,000	12192,000	25,400	7410	8656	488	340	32	-46	32	60	60	-23705	
87	23942c	11	1	830607	SAS16Grnd70	3048,000	12192,000	25,400	7410	8657	488	340	32	-46	44	40	36	-23704	
88	23942c	12	1	830607	SAS16Grnd70	3048,000	12192,000	25,400	7410	8658	488	331	32	-46	28	20	20	-23713	
89	23942c	13	1	830607	SAS16Grnd70	3048,000	12192,000	25,400	7410	8659	488	331	30	-46	36	32	30	-23706	
90	23942c	14	1	830607	SAS16Grnd70	3048,000	12192,000	25,400	7410	8660	488	323	32	-46	24	20	20	-23706	
91	23942c	15	1	830607	SAS16Grnd70	3048,000	12192,000	25,400	7410	8661	488	331	32	-46	20	24	24	-23707	
92	23942c	16	1	830607	SAS16Grnd70	3048,000	12192,000	25,400	7410	8662	488	331	34	-46	20	24	24	-23708	
93	23942c	17	1	830607	SAS16Grnd70	3048,000	12192,000	25,400	7410	8663	487	331	30	-46	54	40	42	-23701	
94	23942c	17	2	830607	SAS16Grnd70	3048,000	12192,000	25,400	7410	8663	488	340	30	-46	66	80	52	-23701	
95	23942c	18	1	830607	SAS16Grnd70	3048,000	12192,000	25,400	7410	8664	488	340	30	-46	66	80	52	-23701	
96	23942c	18	2	830607	SAS16Grnd70	3048,000	12192,000	25,400	7410	8664	488	340	30	-46	66	80	52	-23701	

-23698

-23714



CESSCO
FABRICATION & ENGINEERING LIMITED

A

INSPECTION & TEST PLAN

CUSTOMER: <u>RJV GASFIELD</u>	JOB NO.: <u>517911</u>
DESCRIPTION: <u>HEADS</u> <u>18 pcs 16"OD x 7/8"nom (.812"min) 2:1SE 2SF</u>	TAG NO.:
	P.O. NO. <u>2196</u>
	PAGE NO.

INSP. POINT	INSPECTION, EXAMINATION OR TESTING INSTRUCTIONS AND ACCEPTANCE CRITERIA	CESSCO				
		HOLD	SIGN	DATE	LOG NO.	MIN THK *
1	MATERIAL RECEIVED, INSPECTION COMPLETED		DM	6/10/05	24172	1840
2	MILL TEST REPORTS CHECKED AND TRACEABLE				✓	1843
3	CHECK HEAD FOR DEFECTS		DM	6/10/05	✓	1843
4	VERIFY ALL STAMPING ON HEAD		DM	✓	✓	1848
5	CIRCLE STAMPING ON HEAD		DM	✓	✓	1847
6	BEVEL DEGREES: IN: _____ OUT: <u>30° NL</u>		BK	6/15/05	✓	1849
7	STRAIGHT FLANGE LENGTH REQUIREMENT: <u>2"</u>		BK	✓	✓	1845
8	CUSTOMER REQUIREMENTS:				✓	1847
	HIC: _____ SELECT CHEM: _____				✓	1849
	U.T. GRID: _____ B.H.N.: _____ MISC.: _____					
	B.H.N. TEST:				23692	1844
	IMPRESSION DIA. _____ B.H.N.: _____					
	TO MATCH: <u>0.843"</u> /SCH: <u>80 Pipe</u>		BK	✓	✓	1841
9	CHECK HEAD FOR DEFECTS AFTER MACHINING		BK	✓	✓	1842
10	CHECK FINISHED BEVEL		BK	✓	✓	1847
11	FINISHED DIAMETER CHECK		BK	✓	24172	1844
12	MACHINING TOLERANCE	O.D.	I.D.	HEIGHT	BK	✓
		+1/8"	+1/8"	+1"		
		-1/8"	-1/8"	-1/4"		
						23692 1848
					✓	1842
	CLEAR TO SHIP			18 JUN 16 05	✓	1847

* NOTE: MIN t DETERMINED AFTER HOT FORMING.

REMARKS: _____



B

INSPECTION & TEST PLAN

CUSTOMER: RJV GASFIELD

JOB NO.: 517911

DESCRIPTION: HEADS

TAG NO.:

14 pcs 16"OD x 7/8"nom (.812"min) 2:1SE 2"SF

P.O. NO. 2196

PAGE NO.

INSP. POINT	INSPECTION, EXAMINATION OR TESTING INSTRUCTIONS AND ACCEPTANCE CRITERIA	CESSCO				
		HOLD	SIGN	DATE	LOG NO.	MIN THK
1	MATERIAL RECEIVED, INSPECTION COMPLETED		DM	6/10/05	24172	1841
2	MILL TEST REPORTS CHECKED AND TRACEABLE				✓	1846
3	CHECK HEAD FOR DEFECTS		DM	6/10/05	✓	1845
4	VERIFY ALL STAMPING ON HEAD		DM	✓	✓	1841
5	CIRCLE STAMPING ON HEAD		DM	✓	✓	1847
6	BEVEL DEGREES: IN: _____ OUT: <u>30° NL</u>		DM	06/10/05	✓	1846
7	STRAIGHT FLANGE LENGTH REQUIREMENT: <u>2"</u>		DM	✓	✓	1844
8	CUSTOMER REQUIREMENTS:				✓	1848
	HIC: _____ SELECT CHEM: _____				✓	1848
	U.T. GRID: _____ B.H.N.: _____ MISC.: _____				✓	1846
	B.H.N. TEST:				✓	1846
	IMPRESSION DIA. _____ B.H.N.: _____					
	TO MATCH: <u>0.843"</u> /SCH: <u>80 Pipe</u>		DM	✓	23192	1842
9	CHECK HEAD FOR DEFECTS AFTER MACHINING		DM	✓	✓	1849
10	CHECK FINISHED BEVEL		DM	✓	✓	1841
11	FINISHED DIAMETER CHECK		DM	✓	✓	1845
12	MACHINING TOLERANCE		DM	✓	✓	1845
					✓	1842
					✓	1844
					✓	1846
	OK TO SHIP		DM	06/10/05	✓	1846

* NOTE: MIN t DETERMINED AFTER HOT FORMING.

REMARKS: _____

INSPECTION & TEST PLAN

CUSTOMER: RJV Gasfield

JOB NO.: 517911

DESCRIPTION: HEADS

TAG NO.:

18 pcs 16"OD x 7/8"nom (.812"min) 2:1SE 2"SF

P.O. NO. 2196

PAGE NO.

INSP. POINT	INSPECTION, EXAMINATION OR TESTING INSTRUCTIONS AND ACCEPTANCE CRITERIA				CESSCO				
					HOLD	SIGN	DATE	LOG NO.	MIN THK
1	MATERIAL RECEIVED, INSPECTION COMPLETED					DM	6/10/05	23692	1847
2	MILL TEST REPORTS CHECKED AND TRACEABLE								1848
3	CHECK HEAD FOR DEFECTS					DM	6/10/05		1842
4	VERIFY ALL STAMPING ON HEAD					DM			1845
5	CIRCLE STAMPING ON HEAD					DM			1842
6	BEVEL DEGREES: IN: _____ OUT: <u>30° NL</u>					BK	8/14/09		1848
7	STRAIGHT FLANGE LENGTH REQUIREMENT: <u>2"</u>					BK			1841
8	CUSTOMER REQUIREMENTS:								1849
	HIC: _____ SELECT CHEM: _____								1840
	U.T. GRID: _____ B.H.N.: _____ MISC.: _____								1846
	B.H.N. TEST:								1841
	IMPRESSION DIA. _____ B.H.N.: _____								1844
	TO MATCH: <u>0.843"</u> /SCH: <u>80 Pipe</u>					BK			1843
9	CHECK HEAD FOR DEFECTS AFTER MACHINING					BK			1847
10	CHECK FINISHED BEVEL					BK			24172
11	FINISHED DIAMETER CHECK					BK			1847
12	MACHINING TOLERANCE	O.D.	I.D.	HEIGHT		BK			1848
		+1/8"	+1/8"	+1"					1849
		-1/8"	-1/8"	-1/4"					
	CLEAR TO SHIP								

* NOTE: MIN t DETERMINED AFTER HOT FORMING.

REMARKS: _____



JOB NO.: 517911

TAG NO.:

P.O. NO. 2196

PAGE NO.

HOLD

SIGN

DATE _____

LOG NO. MIN. THK *

23692.845

1

2

3

4

5

6

7

8

CUSTOMER REQUEST: _____
HIC: _____ SELECT CHEM: _____
P.N.: _____ MISC.: _____

U.T. GRID: _____ B.H.N.: _____

B.H.N. TEST: _____ B.H.N.: _____
IMPRESSION DIA. 0.125" /SCH: 80 Pipe

B.H.N. TEST: _____ B.H.N.: _____
IMPRESSION DIA. _____ /SCH: 80 P.P.P.
TO MATCH: 0.843" _____
_____ MACHINING

TO MATCH: _____
CHECK HEAD FOR DEFECTS AFTER MACHINING

9

10

11

O.D.

I.D.

HEIGHT

12

MACHINING TOLERANCE

 $+1/8''$

+1/8"

+1"

 $+1/8''$ $+1/8$
 $1/8^N$
$$-1/4^m$$

CLEAR TO SHIP

*NOTE: MIN t DETERMINED AFTER HOT FORMING.

REMARKS:

**CESSCO**

FABRICATION & ENGINEERING LIMITED

D

INSPECTION & TEST PLANCUSTOMER: RJV GASFIELDJOB NO.: 517911

DESCRIPTION: HEADS

TAG NO.:

2 pcs 16" OD x 7/8" nom (.812" min) 2:1 SE 25FP.O. NO. 2196

PAGE NO.

INSP. POINT	INSPECTION, EXAMINATION OR TESTING INSTRUCTIONS AND ACCEPTANCE CRITERIA	CESSCO				
		HOLD	SIGN	DATE	LOG NO.	MIN THK
1	MATERIAL RECEIVED, INSPECTION COMPLETED		DM	6/1/05	2362	.845*
2	MILL TEST REPORTS CHECKED AND TRACEABLE				2412	.847
3	CHECK HEAD FOR DEFECTS		DM	6/1/05		
4	VERIFY ALL STAMPING ON HEAD		DM	✓		
5	CIRCLE STAMPING ON HEAD		DM	✓		
6	BEVEL DEGREES: IN: _____ OUT: <u>30° NL</u>		DM	06/15/05		
7	STRAIGHT FLANGE LENGTH REQUIREMENT: <u>2"</u>		DM	✓		
8	CUSTOMER REQUIREMENTS: HIC: _____ SELECT CHEM: _____ U.T. GRID: _____ B.H.N.: _____ MISC.: _____ B.H.N. TEST: IMPRESSION DIA. _____ B.H.N.: _____ TO MATCH: <u>0.843"</u> /SCH: <u>80 Pipe</u>		DM	✓		
9	CHECK HEAD FOR DEFECTS AFTER MACHINING		DM	✓		
10	CHECK FINISHED BEVEL		DM	✓		
11	FINISHED DIAMETER CHECK		DM	✓		
12	MACHINING TOLERANCE	O.D.	I.D.	HEIGHT		
		+1/8"	+1/8"	+1"		
		-1/8"	-1/8"	-1/4"		
	CLEAR TO SHIP			DM	6/15/05	

* NOTE: MIN t DETERMINED AFTER HOT FORMING.

REMARKS: _____



Ph:(780) 632-7774

3/10/20

May 31/05

0550

Team

16"	Stock	Heads
-----	-------	-------

JOB NUMBERS

[illegible]

1. The above items are to be formed to meet the requirements of ASME Section VIII, Div.1 USC 79(d).
2. Tack welds that are welded must use procedures and welders qualified to ASME Section IX

**Authorized
Signature**

Authorized Signature _____



Ph:(780) 632-7774

- 6- Compton
- 8- Apache
- 4- Husky

PURCHASE ORDER # 2222

DATE Aug. 8 1905

VENDOR V.E.G. Oilfield Supply

CONTACT A

DATE REQUIRED 16th 3 Phase Separator

JOB NUMBERS **Scr. # 9622-9639**

[illegible]

1. The above items are to be formed to meet the requirements of ASME Section VIII, Div. 1 USC 79(d).
2. Tack welds that are welded must use procedures and welders qualified to ASME Section IX

**Authorized
Signature**



W
BT-2

CERTIFIED BY

RJV

**GAS FIELD
SERVICES LTD**

VEGREVILLE, ALBERTA
PHONE (403) 632-7774

A540866

UNIT NAME

Vert. 3 Phase Separator

C. R. NO.

P7217.2

SERIAL NO.

9636

M.A.W.P.

1480 p.s.i.
10204 Kpa

HYDRO TEST

2220 p.s.i.
15307 Kpa

DESIGN TEMP.

100 °F
38 °C

CORR. ALLOW.

1.6 mm

HEAT TREATMENT

Nil

SIZE

406 x 2285 mm

SHELL MAT'L

SA-106-B

HEAD MAT'L

SA-516-70

WEIGHT

685 Kg

SHELL THICK.

21.44 mm

M. D. M. T.

-20 °F
-29 °C

HEAD THICK.

20.63 mm

DATE MFG.

2005-08

ALBERTA MUNICIPAL AFFAIRS

ABSA - the pressure equipment safety authority

200, 4208 - 97 Street

Edmonton, Alberta

T6E 5Z9

RJV GAS FIELD SERVICES LTD.**A 540866**
MANUFACTURER'S DATA REPORT
FOR PRESSURE VESSELS

Partial/Partiel



Upon shipment of a pressure vessel, this form fully and correctly filled in must be mailed to the office of the Chief Inspector in the province of installation in accordance with the regulations under the Act, governing the construction and installation of pressure vessels.

Manufactured By Name & address of Manufacturer	R.J.V. Gas Field Services Ltd. 4901 - 47th Street Vegreville, Alberta T9C 1C3		
Manufactured For Name & Address of Purchaser/Consignee	R.J.V. Gas Field Services Ltd. 4901 - 47th Street Vegreville, Alberta T9C 1C3		
Ultimate Owner Name & Address	STOCK		
Location Of Installation Address	STOCK		

Pressure Vessel			
Type: Vertical 3-Phase Separator	Serial Number: 9636	Year Built: 2005	Overall Length: 3150 mm
Provincial Registration No. - C.R.N.: P7217.2	National Board No.: N/A	Drawing No.: V01-381	Diameter: 406 mm O.D.

The chemical and physical properties of all parts meet the requirements of material specifications of the A.S.M.E. code.			
The design, construction and workmanship conform to CSA B51.	ASME 2004 Edition Section VIII	Division: 1	Addenda: Code Case No.: N/A
Manufacturers partial data reports properly identified and signed by authorized inspectors have been furnished for the following items of the report, and attached to this report.			
Names of parts:	Item No.:	Manufacturers Name:	Identifying Stamp:

Shell												
Description	Material	Thickness	Corrosion Allowance	Diameter	Overall Length	Number Of Courses	Girth Joints		Longitudinal Joints		P.W.H.T.	
							Type	R.T.	Type	R.T.	Efficiency	Temp.
Shell	SA-106-B	21.44 mm	1.6 mm	406 mm	2285 mm	1	1	RT-2		SMLS	100%	

Heads										
Description	Material	Minimum Thickness	Corrosion Allowance	Crown Radius	Knuckle Radius	Ellipse Ratio	Conical Apex Angle	Hemisph. Radius	Flat Diameter	Side To Pressure
Top	SA-516-70	20.63mm	1.6 mm			2:1				Concave
Bottom	SA-516-70	20.63mm	1.6 mm			2:1				Concave
Removable bolts used (describe other fastenings):				Material Spec.:			Grade:		Size/Dimension:	

Pressure - Temperature				
Pressure Vessel Part:	Constructed for Maximum Allowable Working Pressure:	At Maximum Temperature:	Minimum Temperature (when less than 29° C)	Test Pressure (Hydro/ Pneumatic or combination)
Vessel	10,205 Kpa	38° C	-29° C	15,307 Kpa

Supports

Remarks / Observations

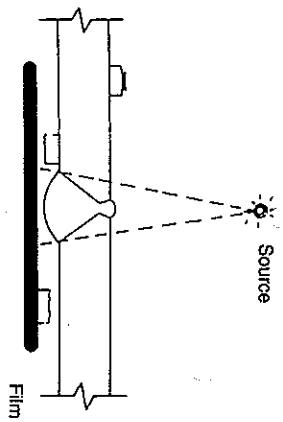
Nozzle to Shell Weld is Full Penetration

Certificate Of Compliance

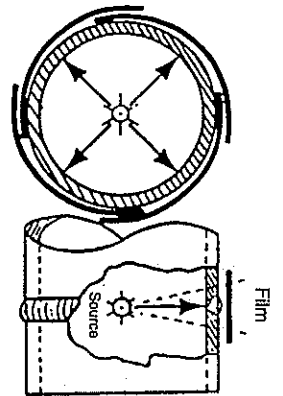
~~AUG 30 2005~~

Certificate Of Shop Inspection

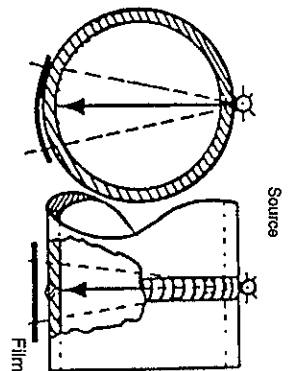
AUG 30 2005



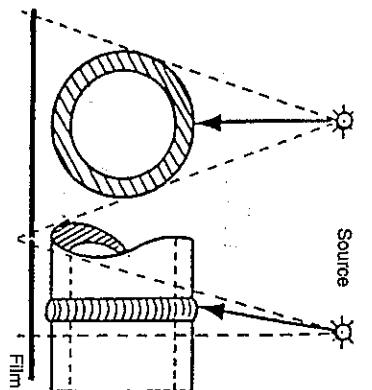
Technique "1"
SWE-SWV



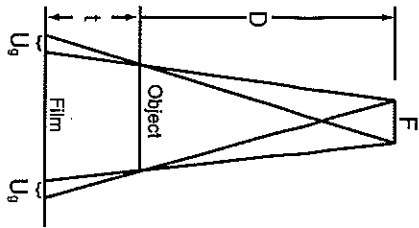
Technique "2"
SWE-SWV



Technique "3"
DWE-SWV



Technique "4"
DWE-DWV



Technique "5"
DWE-DWV

DEFECT LEGEND		OTHER LEGENDS	
CRK	Crack	SWE	Single Wall Exposure
LF	Lack of Fusion	DWE	Double Wall Exposure
IP	Incomplete Penetration	SWV	Single Wall Viewing
P	Porosity	DWV	Double Wall Viewing
S	Slag	EXP	Exposures
UC	Undercut	REIN	Reinforcement
CR	Concave Root	DIA	Diameter
EP	Excessive Penetration	SOD	Source Object Distance
BT	Burn Through	OFD	Object to Film Distance
HB	Hollow Bead		
PH	Pinhole		

SCOPE OF SERVICES:

The agreement of Canspec to perform services extends only to those services provided for in writing. Under no circumstances shall such services extend beyond the performance of the requested inspection of specific equipment provided for in writing and the preparation of reports or similar documents reflecting the inspection data obtained or the opinion formulated on the basis of such inspection. It is expressly understood that all descriptions, comments and expressions of opinion reflect the opinion or observations of the examiner and are not intended nor can they be construed as representations or warranties as to the actual circumstances. Canspec is not assuming any responsibilities of the owner/operator and the owner/operator retains complete responsibility for the engineering, repair and use decisions as a result of the inspection data or other information provided by Canspec. In no event shall Canspec's liability in respect of the services referred to herein exceed the amount paid for such services.

STANDARD OF CARE:

In performing the services provided, Canspec uses the degree, care and skill ordinarily exercised under similar circumstances by others performing such services in the same or similar locality. No other warranty, expressed or implied, is made or intended by Canspec.

U_g = Geometric Unsharpness
 D = source to object distance
 t = object to film distance
 F = Focal Spot Size
 $U_g = Ft/D$

*Note: If t is omitted from this report, the Pipe Schedule shall apply as t .

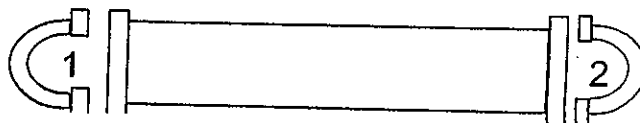
Authorized Inspector to be given travel sheet prior to construction so that he can indicate hold points with an asterik (*)

Hold points established - Sign & Date _____

(Authorized Inspector)

Vessel Serial # <u>10232</u>		DWG # <u>V8505 Rev.2</u>	(A) # _____
Vessel Title <u>8" Fuel Gas Scrubber</u>		CRN # <u>F6388.2</u>	
ITEM	COMMENTS	AUTH. INS. HOLD POINTS	DATE FUNCTION COMPLETE & INSPECTORS INITIALS
			QC INSPECTOR
APPROVED DRAWING			FEB 23 2006 DC
MATERIAL CHECKED AGAINST DRAWING, MATERIAL LIST			FEB 23 2006 DC
MILL TESTS CHECKED			FEB 23 2006 DC
VESSEL LAYOUT			FEB 27 2006 DC
NOZZLES & FITTING	ORIENTATION		FEB 27 2006 DC
	RATINGS		FEB 27 2006 DC
FIT UP	NOZZLES & FITTINGS		FEB 27 2006 DC
	SHELL & HEAD		MAR 01 2006 DC
INTERNALS (tray, baffles, etc.)			FEB 27 2006 DC
INTERNAL INSPECTION		(*)	FEB 27 2006 DC
WELD SIZES			MAR 01 2006 DC
WELDERS I.D.			MAR 01 2006 DC
EXTERNAL AFTER COMPLETION OF ALL WELDING			MAR 01 2006 DC
RADIOGRAPHS			
OTHER N.D.E.			
MPACT TESTS			
PHWT CHART CHECKED			
NAMEPLATE			MAR 01 2006 DC
HYDROSTATIC TEST		(*)	MAR 06 2006 DC
DATA REPORT			MAR 06 2006 DC

		SPECIFICATION	HEAT NUMBER	THICKNESS
SHELL	C1	SA-106-B	P911792	8.1 mm
	C2			
	C3			
HEADS	1	SA-234-WPB	04M30009	7.16 mm
	2	SA-516-70	5205488N-C515332	19.05 mm
	3			
REPADS	1			
	2			
	3			
		SPECIFICATION	SIZE	SCHEDULE
NOZZLES				
FITTINGS		SA-105	1", 2"	#3000 cplg.
TUBES				



Contract No: 05MPM06163

Name of Customer: IMEX CANADA INC

HUNAN HENGYANG STEEL TUBE (GROUP) CO., LTD

LATEST

INSPECTION AND TEST CERTIFICATES

DESCRIPTION: SEAMLESS STEEL PIPE

Date: JUL 29, 2005

TOTAL: 667PIECES, 205BUNDLES, 378,880MT, 24796.25FT

Page: 1/2

Add: 10 Dalixincun, Hengyang City, Hunan, China
Tel and Fax: +86 734 8873739 8872942
Cable: 6993
P.C. 421001

SPEC: ASTM A53A106-02A GR.B AND ASME SA53/SA106B GR.B AND API 5L GR.B, NACE MR-0175-1999

CERTIFICATE NO: 0507036

SPECIFICATION FOR 0.25% C AND 0.005% S STEEL AND ASME SA533AT06B GR.B AND API 5L GR.B, NACE MR-0175-1999													CERTIFICATE NO: 0507036					
NO.	BATCH NO.	HEAT NO.	STEEL GRADE	SIZE	BUNDLES	PIECES	FEET	QUANTITY (MT)		ACTUAL WEIGHT(MT)								
2	257102204	P521863	B	8 STD BE DRL	31	93	3720	48.174										
	257102205	P911792	B	8 STD BE DRL	25	74	2960	38.332										
3	257302301	P911792	B	8 STD BE DRL	43	129	5160	66.822										
4	257100705	P521408	B	10 STD BE DRL	59	177	7080	130.001										
	257300907	P511693	B	10 STD BE 8M	19	95	2493.75	45.790										
5	257102205	P911792	B	10 STD BE 8M	9	42	1102.5	20.235										
			B	8 STD BE DRL	19	57	2280	29.526										
DELIVERY CONDITION		NONDESTRUCTIVE TEST				PHYSICAL TEST RESULTS												
		EDDY CURRENT TEST		ULTRASONIC TEST		C	SI	Mn	P	S	Cu	Ni	Cr	Mo	V	Al	CE	CE≤
2	HOT-ROLLED	OK				0.19	0.23	0.52	0.021	0.025	0.07	0.02	0.03	0.01	0.001	0.000		
	HOT-ROLLED	OK				0.19	0.20	0.51	0.012	0.033	0.03	0.02	0.01	0.01	0.001	0.000		
3	HOT-ROLLED	OK				0.19	0.20	0.51	0.012	0.033	0.03	0.02	0.01	0.01	0.001	0.000		
4	HOT-ROLLED	OK				0.19	0.20	0.50	0.016	0.028	0.02	0.02	0.03	0.01	0.001	0.000		
	HOT-ROLLED	OK				0.18	0.23	0.49	0.015	0.025	0.02	0.02	0.01	0.01	0.001	0.000		
5	HOT-ROLLED	OK				0.18	0.22	0.54	0.017	0.035	0.02	0.01	0.02	0.01	0.001	0.000		
	HOT-ROLLED	OK				0.19	0.20	0.51	0.012	0.033	0.03	0.02	0.01	0.01	0.001	0.000		
NO.	σ b (PSI)		σ s (PSI)		δ (%)		AK (J)		HARDNESS		HYDROSTATIC TEST		FLATTEN TEST		BEND TEST			
2	TENSILE STRENGTH		YIELD STRENGTH		ELONGATION		IMPACT											
	70325		45675		36				HRC 7.5		2800 PSI		OK					
	71050		46400		35				HRC 8.5		2800 PSI		OK					
3	69600		44950		38				HRC 7.5		2800 PSI		OK					
4	68150		44225		40				HRC 138		2800 PSI		OK					
	71050		46400		33.5				HB 140		2800 PSI		OK					
	70325		45675		38				HB 140		2800 PSI		OK					
5	71050		46400		35				HRC 8.5		2800 PSI		OK					
REMARKS: 1. We hereby certify that the material has been manufactured, sampled, tested and found to conform to the above specification.																		

REMARKS: 1. We hereby certify that the material has been manufactured, sampled, tested and inspected in accordance with the required standards.

2. Properties compliance to DIN 50049 3.1, B/UNI EN 10204 3.1B.

3. BRINELL/Rockwell hardness certified to NACE MR-0175-99.

4. SPECIMEN SIZE: (Pipe end, Longitudinal, Gauge Length=2")

A. For pipes ≤ 1" full length specimen were used;

B. For pipes > 1" longitudinal strip specimen were used; the width of the gauge length portion is 3/4".

QUALITY MANAGEMENT
HUNAN HENGYANG STEEL TUBE (GROUP) CO., LTD

ORIGINAL

8" std. wall
HT # P911792

JAN 12 2006

Contract No: 05MPM06163

Name of Customer: IMEX CANADA INC

DESCRIPTION: SEAMLESS STEEL PIPE

TOTAL: 484PIECES, 112BUNDLES, 223.211MT, 12900FT

HUNAN HENGYANG STEEL TUBE (GROUP) CO., LTD

**LATEST
INSPECTION AND TEST CERTIFICATES**

Date: JUL 29, 2005

Page: 2/2

Add: 10 Dalixincun, Hengyang City, Hunan, China
Tel and Fax: +86 734 8873739 8872942
Cable: 6993
P.C. 421001

SPEC: ASTM A53/A106-02A GR.B AND ASME SA53/SA106B GR.B AND API 5L GR.B, NACE MR-0175-1999

NACE MR-0175-1999													CERTIFICATE NO. 0507036																
NO.	BATCH NO	HEAT NO	STEEL GRADE	SIZE	BUNDLES	PIECES	FEET	QUANTITY (MT)	ACTUAL WEIGHT(MD)																				
6	257200601	P511510	B	10"STD BE DRL	12	36	1440	26.436																					
10	257200602	P511510	B	10"STD BE DRL	2	5	200	3.677																					
11	257300704	P511517	B	10"STD BE SRL	18	126	2520	32.634																					
12	257300705	P511517	B	10"STD BE SRL	1	5	100	1.838																					
12	257300704	P511517	B	10"STD BE SRL	17	84	1680	30.845																					
13	257300706	P511702	B	10"STD BE SRL	14	68	1360	24.973																					
13	257100703	P511678	B	10"STD BE DRL	8	40	800	14.688																					
NO.	DELIVERY	P511678	B	10"STD BE DRL	40	120	4800	88.120																					
CONDITION				NONDESTRUCTIVE TEST				CHEMICAL ANALYSIS																					
EDDY CURRENT TEST				ULTRASONIC TEST				C				Si	Mn	P	S	Cu	Ni	Cr	Mo	V	Al	CE	CE≤						
6	HOT-ROLLED		OK					0.19	0.20	0.50	0.016	0.028	0.02	0.02	0.03	0.01	0.001	0.000											
10	HOT-ROLLED		OK					0.19	0.20	0.50	0.016	0.028	0.02	0.02	0.03	0.01	0.001	0.000											
11	HOT-ROLLED		OK					0.19	0.20	0.51	0.012	0.033	0.03	0.02	0.01	0.01	0.001	0.000											
12	HOT-ROLLED		OK					0.18	0.20	0.50	0.020	0.026	0.02	0.02	0.02	0.01	0.002	0.000											
12	HOT-ROLLED		OK					0.18	0.20	0.50	0.020	0.026	0.02	0.02	0.02	0.01	0.001	0.000											
13	HOT-ROLLED		OK					0.20	0.21	0.56	0.019	0.030	0.03	0.02	0.02	0.01	0.002	0.000											
13	HOT-ROLLED		OK					0.19	0.25	0.58	0.015	0.029	0.02	0.01	0.02	0.01	0.002	0.000											
TENSILE STRENGTH				YIELD STRENGTH				ELONGATION				AK (J)				HARDNESS				HYDROSTATIC TEST				FLATTEN TEST				BEND TEST	
6	67425		43500			41																							
10	68150		44225			40																							
11	71050		46400			35																							
11	66700		43500			35																							
12	66600		45675			33																							
12	66700		43500			35																							
13	68150		44225			33																							
13	67425		43500			41																							
REMARKS: 1. We hereby certify that the material has been manufactured according to the requirements of the specification.																													

REMARKS: 1. We hereby certify that the material has been manufactured, sampled, tested and inspected in accordance with the required standards.

2. Properties compliance to DIN 50049 3.1 B/UNI EN 10204 3.1B.

3. BRINELL /Rockwell hardness certified to NACE MR-0175-99.

4. SPECIMEN SIZE: (Pipe end, Longitudinal, Gauge Length=2")

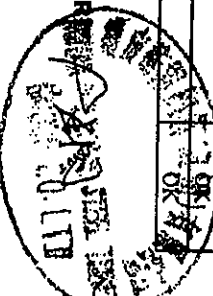
A. For pipes ≤ 1" full length specimen were used:

B. For pipes > 1" longitudinal strip specimen were used; the width of the gauge length portion is 3/4".

5. Origin: Made in China.

正 本
ORIGINAL

QUALITY MANAGER



04M30009

88628

8" std caps
HT # 04M30009

Purchaser: NATIONAL OILWELL, INC.

INSPECTION CERTIFICATE

EN 10204 3.1B

E.No. Purchase Order No. Job No.
M-872 10619271

D M Y Certificate No.

15/11/2004 T-2004200984

NATIONAL OILWELL

No.	MFG. No. (Heat Identification No.)	Specification for Material Made from 8" standard plate ASTM A334-03/ASME B16.3 V13 CSA Z24.11 GR41 CATT NACS DR017E-2000										Specification for Inspection ASME / ANSI B16.3		Visual Examination	Dimensional Inspection	
		Product & Size (T-1)										Quantity	Heat Treatment (Note 1)			Symbol No.
1		C WPB 3 S40										330	N	7515588	COLD FORGING	
2		C WPB 6 S40										40/617	N	7515669	COLD FORGING	
3		C WPB 6 S40										360/617	N	7515669	COLD FORGING	
4		C WPB 6 S40										180	N	7515685	COLD FORGING	
5																
Specification	C	SI	Mn	P	S	Cu	Ni	Cr	Mo	V	Nb	SE	Tensile Test 2		B	
													YS	TS		
Min.	X 100	X 100	X 100	X 1000	X 1000	X 100	X 100	X 100	X 100	X 1000	X 1000	X 100	MPa		%	
Max.		10	29										240	415	80	
Material Heat No.	28		106	50	58	40	40	40	15	80	20		585			
1	35	14	29	03	9	15	2	2	11	2	<0	28	288	442	44	
2	G8861	15	21	100	10	4	1	1	2	0	0	1	32	285	425	38
3	126180	6	27	36	18	9	26	8	6	<0.4	<2	3	15	291	428	45
4	119480	6	19	35	9	5	34	6	7	<0.4	<2	2	16	296	416	46
5																

NATIONAL OILWELL

NOTE 1) A: HOT FORGED WITH FINAL TEMPERATURE BETWEEN 850 C - 980 C, AIR COOLING
 N: NORMALIZING 910 C X 0.5 HR, AIR COOLING S: STRESS RELIEVING 675 C X 0.5 HR, AIR COOLING
 CE: CEMENTITIZATION 950 C X 0.5 HR, AIR COOLING
 We hereby certify that the product described herein has been manufactured in accordance with the specifications concerned
 and also with the purchaser's requirements and that the test results shown herein are correct.

85233

By: Heat Treated Operator

Quality Assurance Manager
 Thea Benton Co. Ltd
 48 Scot Industrial Estate, Princes Risborough

FEB 02 2006

Edmonton Exchanger & Manufacturing Ltd.

5545-89 Street, Edmonton, Alberta T6E 5W9

Telephone (780) 468-6722 Fax (780) 466-5155

QCC-004
Rev.4
Date: April 1, 2005
Approved By: S.Z.

Certificate of Compliance

Customer RJV GASFIELD LTD.

Purchase Order 2269

Work Order C60965

Date 2005/11/21

Page 1 of 1

Item#	Description	Qty	Heat#
P60965-1	DISC(S) - 0.7500" NOM X 12" OD (Material Spec: SA 516-70 Normalized)	30	5205488N-C515332
		5	50597_-236811-1

Supplementary Requirements

The items listed above comply with the requirements of ASME Code Section I (PG-80) and Section VIII, Div. 1, UCS-79(d), UG-79 & UG-80. All welders and procedures are qualified to ASME Code Section IX. For tacking carbon steel items, roundbar used is 1018 Cold Rolled. Material being supplied conforms to the latest ASME Code Section II, Part A, 2004-07-01 Edition.

Steve Zubrycky (QAM)

Supplementary Examination - Items



NOV 21 2005

No.40478689

舞阳钢铁有
WUYANG IRON AND限责任公司
STEEL CO. LTD.

质量

证明 书

收货单位: ORDER NO. 7697-V
 合同编号: 05WYFC-06
 技术条件: ASTM A516 Gr.70/A335 A516 Gr.70
 (EDITION 2001+2003A)

地址: 中国河南舞钢 邮编: 462500 电话(Tel): 0375-8111264
 ADDRESS: WUGANG HENAN CHINA ZIPCODE: 462500 传真(Fax): 0375-8111269

证书号: 05K2560
 证明号: NO.:
 许可号: NO.:
 车号: NO.:
 TRAIN

QR /C07E05



11737

QUALITY CERTIFICATE

钢号 STEEL GRADE	炉号 HEAT NO.	批号 BATCH NO.	尺 寸 DIMENSIONS INCHES	块 数 PCS	重 量 WEIGHT KGS	化 学 成 份 CHEMICAL COMPOSITIONS										0.001% 份			机 械 性 能 MECHANICAL PROPERTIES			弯曲试验 BEND TEST U=2a 180°	冲击试验 IMPACT TEST AKV	超声波试验 ULTRASONIC TEST	判定结果 JUDGE RESULT		
						C	Si	Mn	P	S	Cr	Al	Mo	Ti	Cu	Nb	As	V	Ceq	Re (ksi)	Rm (ksi)					A %	
A516Gr. 70/ SA516Gr. 70	5205488H	C516332	0.750*120.50*180.00	1	5.580	160	200	1080	12	6	60	45	11	3	150	1	250	6		55	72	28		-50.8	58 51 70	ASTM A435 PASS	合格 PASS
A516Gr. 70/ SA516Gr. 70	5205235H	C516178	0.500*120.50*180.00	1	3.720	170	250	1050	10	10	60	30	12	2	160	1	230	4		50	78	24		-50.8	66 55 77	ASTM A435 PASS	合格 PASS
以下空白																											

1. PRIME QUALITY, HEAVY FORGOTTEN, HOT ROLLED KILLED STEEL P. V. Q. PLATES TO ASTM A516 Gr. 70/ASME A516 Gr. 70 (EDITION 2001+2003A)
 2. TOLERANCES TO A20, FLATNESS TOLERANCE AS PER 1/2 OF A20, NORMALISED WITH CHARPY V-NOTCH TEST TO A20 CAT. IV. INNOVATING ON NOMINAL THEORETICAL WEIGHT OF 7.85 KGS/MTG.
 3. ALL MATERIAL WAS TOTALLY VACUUM DEGAUSSED AND THAT ALL PLATES WERE ULTRASONICALLY INSPECTED ACCORDING TO ASTM A335.
 4. COLOR CODE: YELLOW/YELLOW OR STRIPE CODE.
 5. INFORMATION ON STEEL PLATE NORMALISING CYCLE:
 1) SOAKING TEMPERATURE: 900°C +/- 10°C. 2) SOAKING TIME: 1.5 HOURS/INCH 3) COOLING MEANS: AIR COOLING
 6. QUALITY CERTIFICATE ISSUED AS PER EN10204/3.1B



判定
QUALITY CONTROL INSPECTOR
审核
QUALITY CHECKER

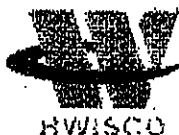
质量检验负责人: Xie Liangfa
 PERSON-IN-CHARGE OF QUALITY EXAMINATION:
 注: 1. 本质量证明书无产品质保书专用章及判定员专用章无效。
 2. 证书复印件无效, 涂改处必须加盖判定员专用章。

Wang Dongshuang
 Gu Fanyi

日期: 7 月 11 日 2005 年
 DATE: MONTH DAY YEAR

NOTE: 1. This certificate will not be valid unless marked with special seal of quality certification and quality control inspector.
 2. The duplicated copy of the certificate shall be invalid. Corrected area must be marked with special seal of quality control inspector.

第三联 商检、船检或顾客



舞阳钢铁有限责任公司

WUYANG IRON AND STEEL CO., LTD

地址: 中国河南省舞钢市 Add: Wugang City, Henan Pro., P. R. China 462500

E-mail: wgieco66@vip.163.com

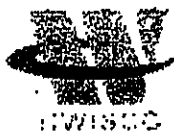
CERTIFICATION

WE HEREBY CERTIFY THAT ELONGATION "A" IS 8" FOR PLATE THICKNESS LESS THAN 3/4" AND 2" FOR PLATE THICKNESS MORE THAN 3/4" INCLUSIVE UNDER PO# 7637-WO, 7639-WO & 7640-V.

舞阳钢铁有限责任公司
WUYANG IRON AND STEEL CO. LTD.

NOVEMBER 4, 2005

张会峰



舞阳钢铁有限责任公司

WUYANG IRON AND STEEL CO., LTD

地址: 中国河南省舞钢市 Add: Wugang City, Henan Pro., P. R. China 462500

E-mail: wgieco66@vip.163.com

CERTIFICATION

WE HEREBY CERTIFY THAT THE NORMAL LEVEL FOR THE THREE
ELEMENTS TO YOUR ORDER 7607-V/7608-V AS FOLLOWS:

B: 0.0001-0.0002

SN: 0.008-0.009

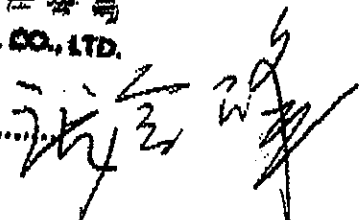
N: 50-70PPM.

WUYANG IRON AND STEEL CO., LTD.

OCTOBER 28, 2005

For and on behalf of
舞阳钢铁有限责任公司
WUYANG IRON AND STEEL CO., LTD.

Authorized Signature(s)


28/10-05



4901-47th Street Vegreville, Alberta T9C 1C3

Ph:(780) 632-7774

369

Nov. 15 105

Edmonton Exchange

CONTACT

DATE REQUIRED 8th Fuel Gas Scrubber

JOB NUMBERS

[illegible]

1. The above items are to be formed to meet the requirements

of ASME Section VIII, Div. 1 USC 79(d).

2. Tack welds that are welded must use procedures and welders qualified to ASME Section IX

Authorized Signature

1

Authorized Signature

W

CERTIFIED BY

RJV

**GAS FIELD
SERVICES LTD**

VEGREVILLE, ALBERTA
PHONE (780) 632-7774

UNIT NAME

Fuel Gas Scrubber

C. R. NO.

F6388.2

SERIAL NO.

10232

M.A.W.P.

150 p.s.i.

1035 Kpa

HYDRO TEST

225 p.s.i.

1555 Kpa

DESIGN TEMP.

100 °F

38 °C

CORR. ALLOW.

3.17 mm

HEAT TREATMENT

SIZE

219 x 760 mm

SHELL MAT'L

SA-106-B

HEAD MAT'L

**Top-SA-234-WPB
Bottom-SA-516-70**

WEIGHT

50 Kg

SHELL THICK.

8.1 mm

M. D. M. T.

-20 °F

HEAD THICK.

**Top - 7.16
Bottom - 19.05** mm

DATE MFG.

2006-03

-29 °C

ALBERTA MUNICIPAL AFFAIRS 8" Typical Scrubber

ABSA, the pressure equipment safety authority

200, 4208 - 97 Street

Edmonton AB T6E 5Z9

Partial/ Partiel ☐**MANUFACTURER'S DATA REPORT****FOR PRESSURE VESSEL****DÉCLARATION DE CONFORMITÉ DU CONSTRUCTEUR****D'APPAREILS SOUS PRESSION**

Upon shipment of a pressure vessel, this form fully and correctly filled in must be mailed to the office of the Chief Inspector in the province of installation in accordance with the regulations under the Act, governing the construction and installation of pressure vessels.

Au moment de l'expédition d'un appareil sous pression, ce formulaire complété correctement, doit être envoyé au bureau de l'inspecteur en chef de la province d'installation tel que prévu dans les règlements de la loi sur les appareils sous pression.

Manufactured by Construit par	Name and address of Manufacturer/ Nom et adresse du constructeur RJV Gas Field Services 4901-47th St. Bruce Rd. Vegreville, Alberta T9C 1C3
Manufactured for Construit pour	Name and address of Purchaser or Consignee/ Nom et adresse du client ou de son représentant RJV Gas Field Services 4901-47th St. Bruce Rd. Vegreville, Alberta T9C 1C3
Ultimate owner Utilisateur	Name and address/ Nom et adresse Stock
Location of installation Lieu d'installation	Address/ Adresse Stock

Pressure vessel/ Appareil

Type/ Genre Vertical Fuel Gas Scrubber	Overall Length/Longueur totale 762 mm sm/sm	Serial No./ N° de série 10232	Year built/Année de fabrication 2006
Provincial Registration No. - C.R.N./N° d'enregistrement provincial - N.E.C. F6388.2		National Board No./ N° National Board N/A	Drawing No./ N° de dessin V8505 Rev.2

The chemical and physical properties of all parts meet the requirements of material specifications of the A.S.M.E. Code.

Les propriétés chimiques et physiques de toutes les composantes respectent les exigences des spécifications de matériaux de code ASME.

The design, construction and workmanship conform to CSA B51. La conception, la construction et la façon sont conformes à ACNOR B51.	ASME Section VIII 2004 Edition	Division 1	Addenda/Supplément 2005	Code case No. N° de cas N/A
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Manufacturer's partial data reports properly identified and signed by authorized inspectors have been furnished for the following items of the report, and attached to this report:

Les rapports partiels du constructeur adéquatement identifiés et signés par les inspecteurs autorisés ont été produits pour les items suivants du rapport, et attachés à ce rapport:

Names of parts/ Nom de la composante	Item No./ NO d'item	Manufacturer's Name/ Nom du constructeur	Identifying Stamp/ Estampe d'identification

Shell/ Virole

Description	Material Matériau	Thickness Épaisseur	Corr. Allow. Surépais. de corr.	Diameter Diamètre	Longitudinal Joints Joints longitudinaux			P.W.H.T. Traitement therm		Girth Joints Joints de circonférence		Number of courses Nombre de sections
					Type	R.T. Radlog.	Efficiency Efficacité	Temp.	Time Durée	Type	R.T. Radlog.	
Shell	SA-106-B	8.1 mm	3.17 mm	219 mm	1	smi's	100 %	—	—	None	None	1
											70 %	

Heads/ Têtes

Description	Material Matériau	Min. Thickn. Épais. minim.	Corr. Allow. Surép. Corr.	Crown. Radius Rayon couron.	Knuckle Radius Petit rayon	Ellipse Ratio Rapp. ellipse	Conical Apex Angle Angle conique	Hemisph. Radius Ray. Hémisph	Flat Diameter Diam. plat	Side to pressure Côte sous pression
Top	SA-234-WPB	7.16 mm	3.17 mm	—	—	Weld cap	—	—	—	Concave
Bottom	SA-516-70	19.05 mm	3.17 mm	—	—	—	—	—	305 mm	Flat
Removable bolts used (describe other fastenings) Boulons amovibles utilisés (décrire tout autre attache)					Mat'l Spec./ Spéc. du mat.			Grade		Size/ Dimension

Pressure - Temperature/ Pression - température

Pressure Vessel Part Partie de l'appareil	Constructed for max. allowable working pressure Construit pour une pression maximale de marche permise	At max. temp. A une temp. max.	Min. Temp. (when less than -29°C) Temp. min. (inférieure à -29°C)	Test pressure (hydro-pneumatic or combination) Pression d'épreuve (hydro-pneumatique ou combinaison)
Vessel	1035 Kpa	38° C	-29° C	1555 Kpa

Tube Section/ Faisceau tubulaire

Tube sheet/ Plaque tubulaire	Material/ Matériau	Diameter/ Diamètre	Nominal Thickness Épaisseur nominale	Corr. Allow. Surépais. corrosion	Attachment Mode d'attachement
Tube material/ Matériau des tubes	Diameter/ Diamètre	Nominal Thickness (gauge) Épaisseur nominale (calibre)	Number/ Nbre	Type (Straight or U) Type (Droit ou U)	Heating Surface Surface de chauffe

Jacket/ Chemise

Type of jacket/ Genre de chemise	Jacket closure Fermeture de chemise	Proof Test Pression d'épreuve	Heating Surface Surface de chauffe	Sketch/ Schéma
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Safety Valve Outlets/ Soupapes de sûreté

Number/ Nombre 1	Dimension 33.4 mm	Location/ Endroit Shell
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Nozzles and Openings/ Tubulures et ouvertures

Purpose/ But	Number Nombre	Dimension	Type	Material Matériau	Nominal Thickness Épaisseur nominale	Reinforcement material Matériau de renfort	How attached Genre d'attaches	Location/ Endroit
Outlet	1	60.3 mm	Coupling	SA-105	CL3000	N/A	UW16.1 (c)	Top Head
Inlet/Drain/P.S.V.	3	33.4 mm	Coupling	SA-105	CL3000	N/A	UW16.1 (c)	Bottom Head/Shell

Supports/ Supports

Skirt/ Jupe Yes/ Oui No/ Non ☐ ☒	Lugs/ Oeilles No./ Nbre No	Legs/ Pieds No./ Nbre No	Other/ Autres (Description) N/A	Attached/ Attaches (Where and How/ Méthode et endroit) Flat bottom head welded to shell
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Remarks/ Observations (Cubical capacity/ Volume)

Volume- (.022 cubic meters)

Except from impact test requirements as per UG 20(f) 1 to 5

Hydrostatically tested in the Vertical Position

Certificate of Compliance/ Certificat de conformité

We certify that the statements made in this data report are correct and that the said vessel has been constructed in accordance with the Provincial Registered design below and the requirements of standard CSA B51.

Nous certifions que les données de la déclaration de conformité sont correctes et que l'appareil a été construit en accord avec l'enregistrement provincial ci-dessous et les exigences de la norme ACNOR B51.

Provincial Registered Design
Enregistrement provincial F6388.2

Manufacturer
Constructeur RJV Gas Field Services

Signature [Signature] Date MAR 06 2006

Certificate of Compliance - Field Work/ Certificat de conformité - Installation au chantier

We certify that the field installation of all parts of the vessel conforms with the requirements of Provincial Regulations.

Nous certifions que l'installation au chantier de toutes les composantes de l'appareil est conforme aux règlements provinciaux.

Installer's Name
Nom de l'installateur _____

Signature _____

Date _____

Certificate of Shop Inspection/ Certificat d'inspection en usine

I, the undersigned, a duly authorized Boiler and Pressure Vessel Inspector
Je, soussigné, inspecteur autorisé de chaudières et appareil sous pression
employed by
employé par ABSA

of/ de Alberta

have inspected the above vessel and state that to the best of my knowledge and belief, the manufacturer has constructed the vessel in accordance with the Provincial registration CRN F6388.2 and the requirements of standard CSA B51.

ai inspecté l'appareil précité et autant que je sache, crois que le constructeur a construit l'appareil en accord avec l'enregistrement provincial NEC et les exigences de la norme ACNOR B51.

Inspector's Name

Nom de l'inspecteur _____

Signature _____ Date _____

Certificate of Field Inspection/ Certificat d'inspection - Installation au chantier

I, the undersigned, a duly authorized Boiler and Pressure Vessel Inspector
Je, soussigné, inspecteur autorisé de chaudières et appareil sous pression
employed by

employé par _____ have inspected the items not covered by the Shop Inspection Certificate and the installation of the items and state that to the best of my knowledge and belief the construction and assembly of the items are in accordance with the Provincial Regulations.

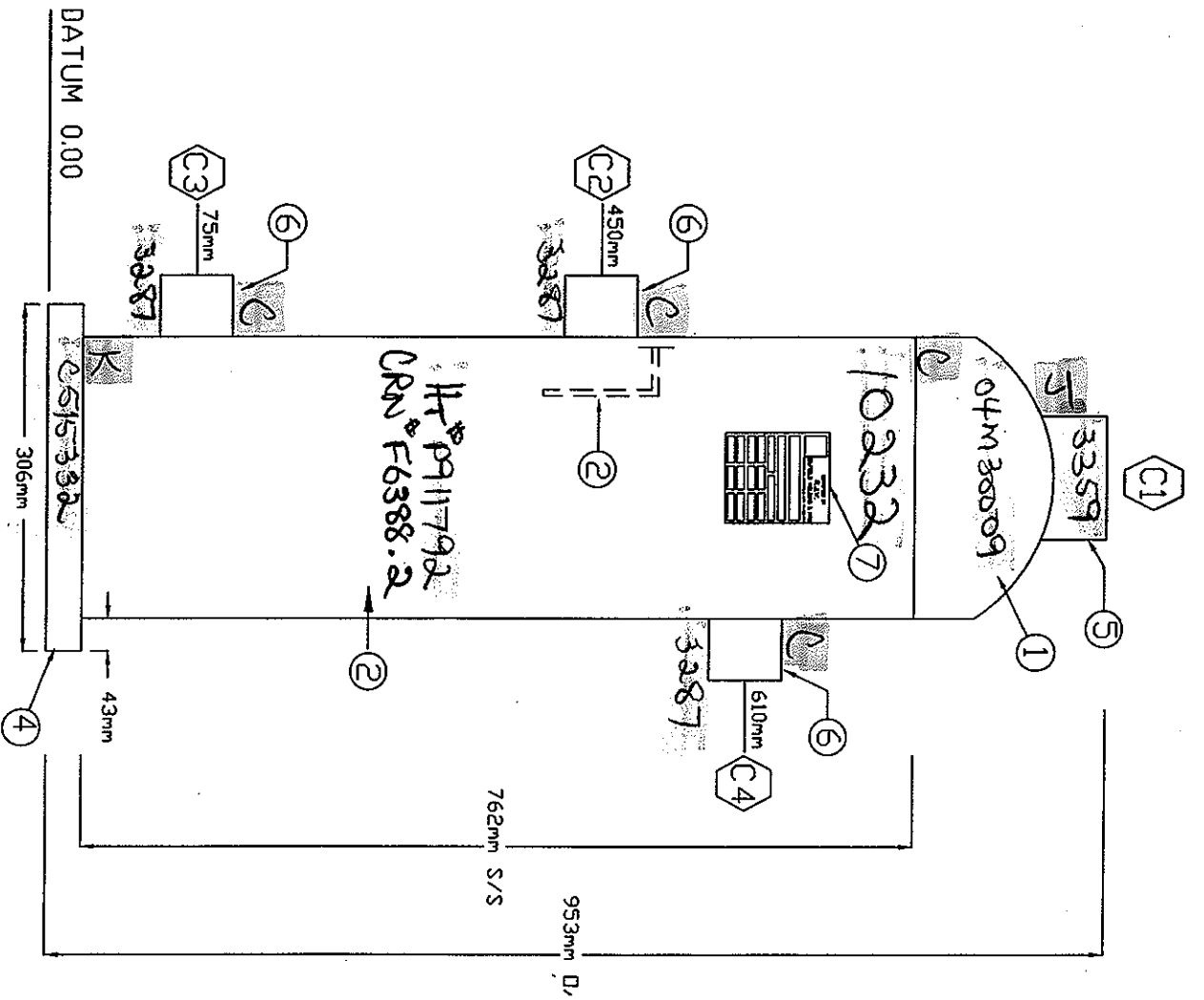
ai inspecté les composantes non couvertes par le certificat d'inspection en usine et l'installation de l'appareil et, autant que je sache, la construction et l'assemblage de l'appareil sont en accord avec les règlements provinciaux.

Inspector's Name

Nom de l'inspecteur _____

Signature _____ Date _____

V8505-R2



ELEVATION

DESIGN DATA

DESIGN & FABRICATE TO ASME SECTION VIII, DIV. I, 1992 EDITION 1992 ADDENDA

DESIGN PRESSURE: 1035 KPA (150 PSI)
HYDROTEST: 1555 KPA (225 PSI) LONG'L JOINT EFF:
RADIOGRAPHY-CIRC. SEAMS-NONE CORR. ALLOWANCE: 3.17MM(.125")
RADIOGRAPHY-LONG SEAMS-SMLS LIMITED BY: SHELL
P.W.H.T: NONE FLANGES: SA-105
M.A.W.P: 1035 KPA (150 PSI) NOZZLES: SA-106-B
HEADS: SA-234-WP MIN: 7.16mm NDM: 8.1mm STUDS: 193-B7
SHELL: SA-516-70 NDM: 15.6mm NDM: 19.05mm NUTS: 194-2H
MIN. DESIGN METAL TEMP: -29C (-20F) MISC. PLATE: SA-36
EXEMPT FROM IMPACT TEST REQUIREMENTS AS PER UG 20(F)

DESIGN TEMP: 38C (100F)
WELD FITTINGS: SA-234-WPB
COUPLINGS(T.O.L): SA-105
INTERNAL: SA-36
PRE-HEAT: 93C (200F)
SHIPPING WT: 50KG (110lbs)
CAPACITY: .22 CUBIC METER (7.78CU FT)
PAINT: ONE COAT PRIMER
CRN: F6388.23

RJV

GASFIELD SERVICE LTD.

4901 BRUCE RD VEGREVILLE, ALTA

T9C-1C3

PHONE (403) 632-7774

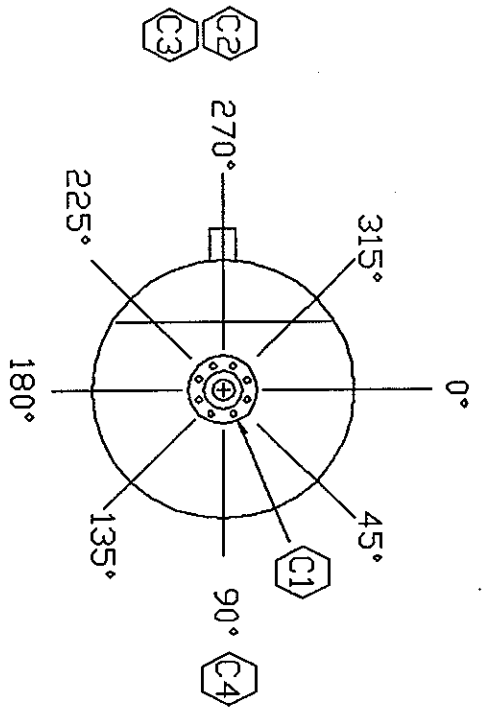
FAX (403) 632 6820

TITLE: 219 OD X 762 sm/sm 1035 KPA
FUEL GAS SCRUBBER

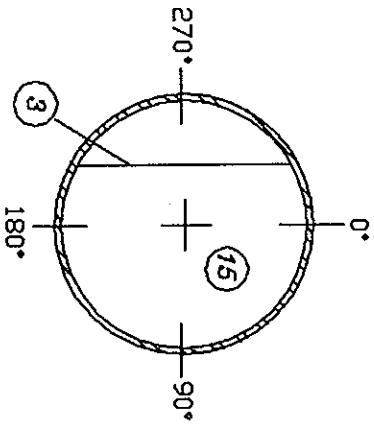
DWG. # V8505

REV. # 2

SHEET OF



ORIENTATION

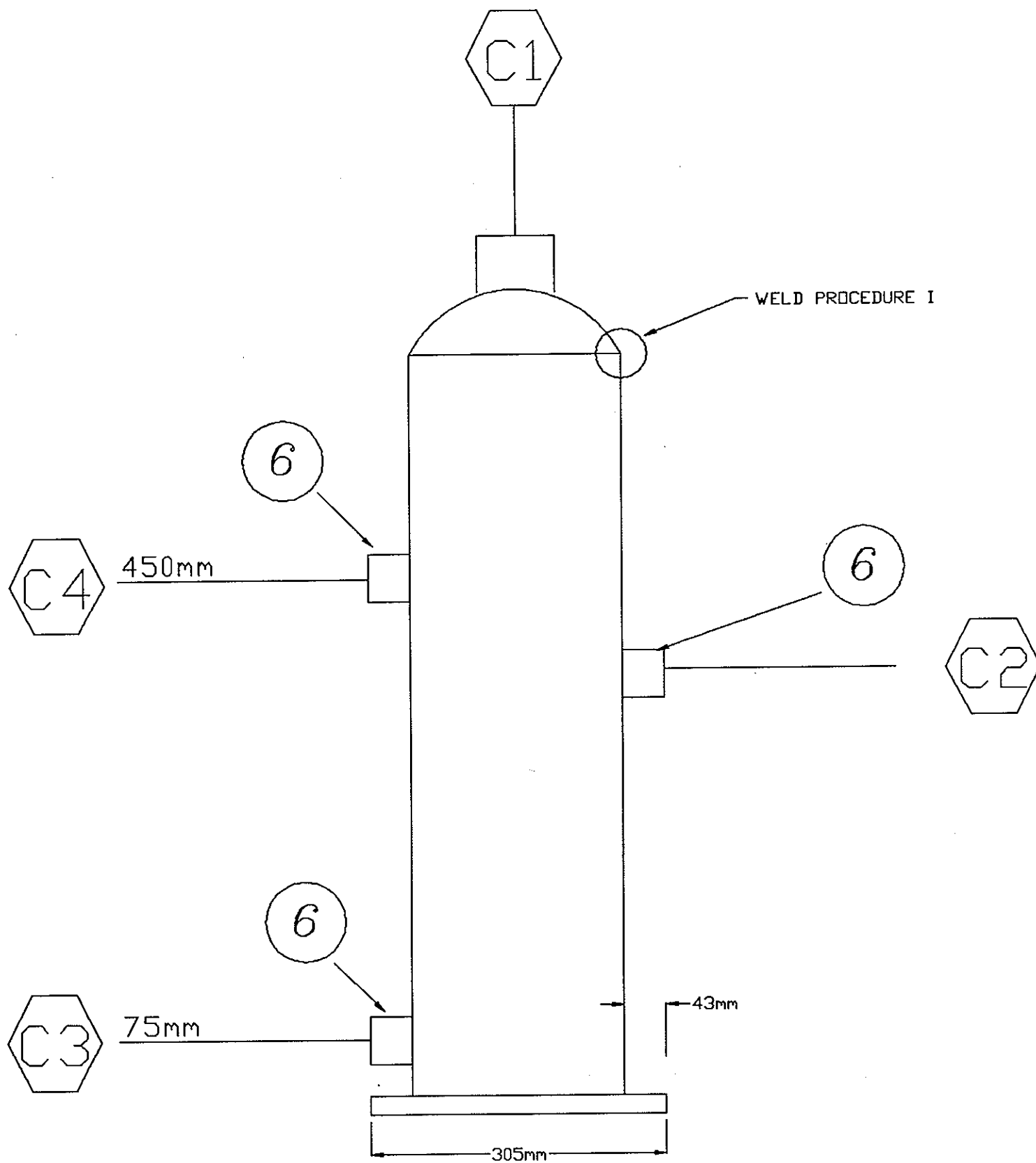


DETAIL-INLET DEFLECTOR

BOILER BRANCH APPROVAL STAMP

WARNING!
THIS DRAWING AND THE DESIGN IT COVERS ARE CONFIDENTIAL AND SHALL NOT BE DISCLOSED TO OTHERS OR REPRODUCED IN ANY MANNER OR USED FOR ANY PURPOSE WHATSOEVER EXCEPT BY WRITTEN CONSENT OF RJV GASFIELD SERVICE LTD.

REFERENCE DWG.		REVISIONS		ENGINEERING	
DWG. #	DESCRIPTION	#	DESCRIPTION	DATE	BY
				AUG. 01/94	GARY ZUK
				SCALE	
				CHECKED BY	
				APPROVED BY	



[illegible]

BILL OF MATERIALS			
ITEM	QTY.	DESCRIPTION	MAT'L
1	1	219mm O.D. SCH 40 WELD CAP	SA-234-WPB
2	1	219mm O.D. SCH 40 ERW PIPE X 610mm LG(BBE)	SA-308-ENK
3	1	1100mm X 100mm X 6.4mm THK X 165mm LG(CUT TO FIT)	SA-36
4	1	305mm O.D. X 19.05mm NOM.(MIN15.6mm) THK PLATE	SA-516-70
5	1	NPS 2 3000# FULL COUPLING	SA-105
6	3	NPS 1 3000# FULL COUPLING	SA-105

[illegible]

GENERAL NOTES:



TO: RJV GASFIELD SERVICE LTD
 4901 47TH ST (BRUCE RD) BOX 295
 VEGREVILLE AB
 T9C 1C3

Registered: 2004/02/09
 Journal #: 32931
 Account #: 24578

Attn: WES MARKOWSKY

Re: RJV GASFIELD SERVICE LTD

DESIGN REGISTRATION

C.R.N.

F6388.21

Drawings / Documents	Description			
FUEL GAS SCRUBBER 8"OD V8505 REV.2	MDMT	MAWT	MAWP	EXT PRESS
	-20 F	100 F	150 psi	
REGISTERED				

Remarks: This design has been registered as noted above. An invoice for survey will follow in the amount of \$ 60.00

Yours truly,

E. HURD

Design Surveyor

SS

RJV GASFIELD SERVICES LTD.

4901-47st VEGERVILLE, ALBERTA T9C-1C3
PHONE (780) 632-7774 FAX (780) 632-6820

HYDRO TEST REPORT

SKID IDENTIFICATION NO.: 12285-12287

RJV JOB NO.:	<u>05-3412</u>	TEST PRESSURE:	<u>2160 PSIG</u>
CUSTOMER:	<u>HUSKY OIL OPERATIONS LTD.</u>	TEMPERATURE:	<u>AMBIENT</u>
DATE OF TEST:	<u>March 8, 2006</u>	DURATION OF TEST:	<u>1 HOUR</u>
TEST FLUID:	<u>WATER</u>	CHARTED / <u>WITNESSED</u>	
DESIGN PRESSURE:	<u>1440 PSI</u>	PIPING ONLY/ <u>ASSEMBLED UNIT</u>	
PRESSURE GAUGE NO.:	<u>#24</u>	DATE LAST CALIBRATED:	<u>31-Aug-01</u>

STATEMENT OF COMPLIANCE

I/ We the undersigned, declare that the described pressure piping system has been subjected to a Hydrotesting Procedure in accordance with the ASME Code, and find that it complies in all respects with the regulations for construction, installation, testing and inspection, and in this to be acceptable as to the specification of the said codes.

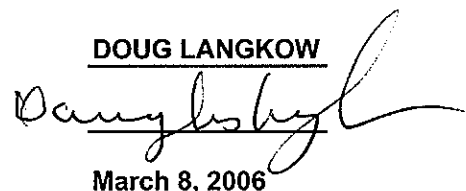
HYDROTEST PERFORMED BY:

HYDROTEST INSPECTION PERFORMED BY:

NAME: ROY ZUKIWSKY

NAME: DOUG LANGKOW

SIGNATURE: 

SIGNATURE: 

DATE: March 8, 2006

DATE: March 8, 2006

In accordance with the provisions of the Safety Codes Act

Shop Construction ☒; Field Construction ☐; Final Data Report ☐;
Partial Data Report ☐ (from one ABSA-authorized Contractor to another ABSA-authorized Contractor).

1. Constructed By: R.J.V. Gas Field Services Ltd. Owner's Job No: _____
(Name of ABSA authorized primary contractor or subcontractor)
4901 - 47 Street Vegreville, Alberta T9G 1C3 Job # 05-3412
(Address)
Alberta Quality Program No. AQP-1129 Expiry Date: August 12, 2008
2. Constructed For: Husky Oil Operations
(Name of primary contractor if different from above)
P.O. Box 4490 Stn. 'D' Calgary, Ab. T2P 3G7
(Address)
Alberta Quality Program No. AQP- Expiry Date: _____
(Required when the primary contractor undertakes some/all of the quality functions, e.g., Mat'l supply, NDE, PWHT, Tie-in, fabrication, hydro test, final assembly etc.)
3. Owner: Husky Oil Operations
(Name and address)
P.O. Box 4490 Stn. 'D' Calgary, Ab. T2P 3G7 Shed # 12285
(Location of installation)
Alberta Quality Program No. AQP- Expiry Date: _____
(Required when the owner undertakes some/all of the quality functions, e.g., Mat'l supply, NDE, PWHT, Tie-in, fabrication, hydro test, final assembly etc.)
4. Piping Design Alberta Registration No.: PP-N/A
(Required if aggregate piping volume is over 0.5m³)
5. WP No.: WP-1312.2 ; Company: R.J.V. Gas Field Services Ltd. ; Owner's WP No. (If used): WP-
(Alberta Registration No.) (Alberta Registration No.)
WPS No(s). used: 100 ; Owner's WPS No(s). (If used): _____
6. Code: ASME B31.1 Non Boiler External Piping ☐ ; ASME B31.1 Boiler External Piping ☐ ;
ASME B31.3 ☒ - Service category: Normal ☒ , D ☐ , M ☐ , High Pressure ☐ ; B31.5 ☐ ; B31.9 ☐ .

[illegible]

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. 05-3412 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: March 8, 2006 RJV Gasfield Serv.

Anthony Hrabok Primary Contractor

Print Authorized Representative's Name Signature

CERTIFICATE OF INSPECTION

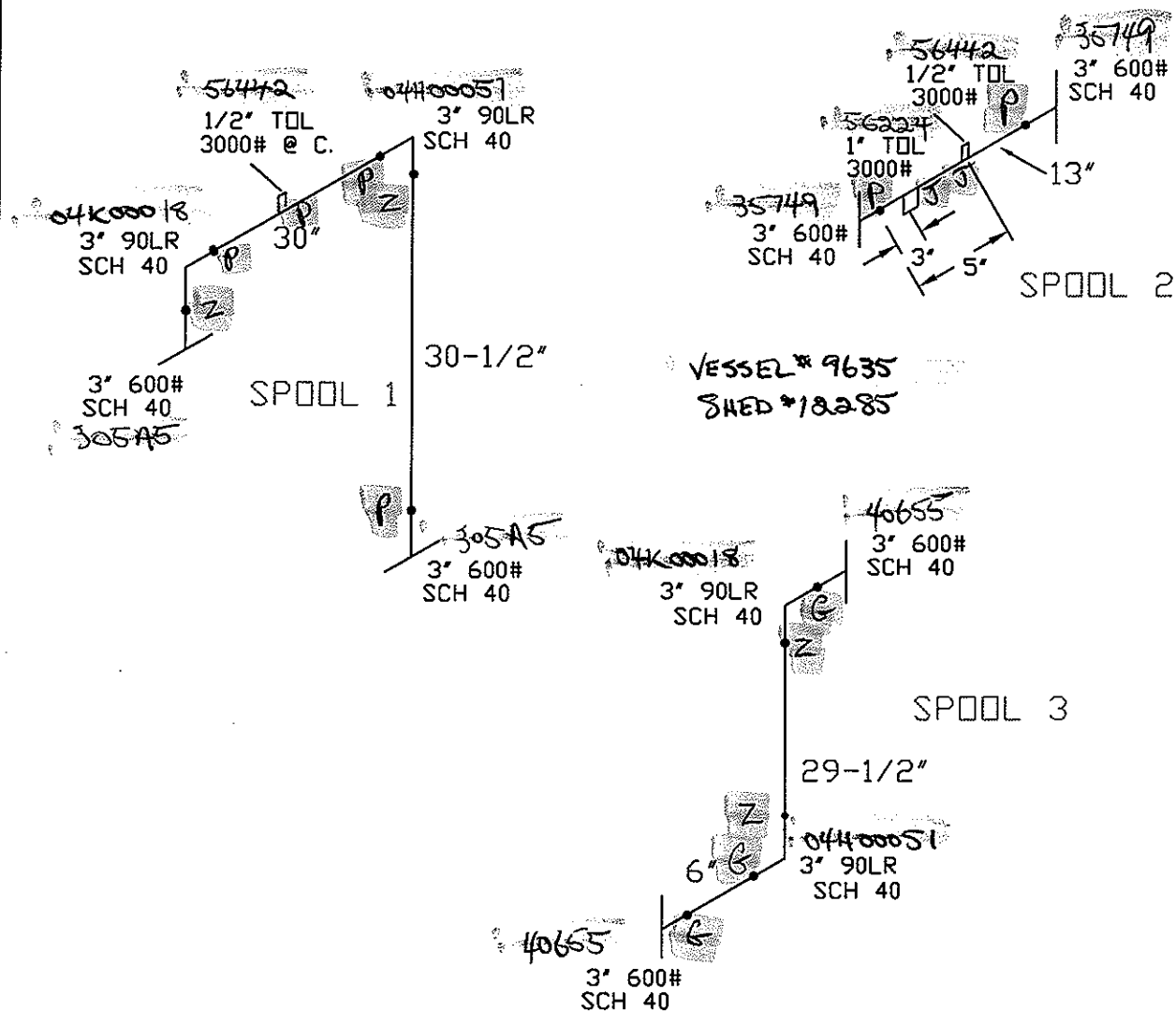
I, the undersigned, employed by _____ have inspected the piping job no. 05-3412, # 12285 described in this Construction Data Report and state that, to the best of my knowledge and belief, the Contractor has constructed this piping in accordance with the applicable Sections of the ASME Piping Codes and Province of Alberta Safety Codes Act and Regulations.

Date: _____ Date: _____

Print Owner's Inspector's Name Owner's Inspector's Signature Name: _____ Sign.: _____
ABSA Safety Codes Officer
(BOILER EXTERNAL PIPING ONLY)

HUSKY
JOB# 05-3412

20 SETS



216



INDUSTRIA MECCANICA LIGURE SPA

INSPECTION CERTIFICATE DIN 60049/3.18 - EN 10204.1B
COMPANY WITH QUALITY SYSTEM ISO 9001:2000
CERTIFIED BY RINA

SEYBOLD INTERNATIONAL CORP.
20 Holy Street, Unit 205
TORONTO M4S 3B1 CANADA
CA

Certificate No. 14672
Invoice No. 1613
Det. No. 2065
Date 05.11.2004
Date 05.11.2004

16030 CASARCA LIGURE - Genova - Italy - P.zza Marco Capelli, 4 - Tel. 010.66.467061 - Fax 010.66.46610 MATERIAL TEST DEPARTMENT This certificate has been generated by computer and need not to be signed for validity according to DIN EN 10204 Page 13 - 22

HEAT CODE	HEAT	ITEM	YOUR P.O.	OUR REFERENCE	Q.TY	DESCRIPTION	DIM. ACC. TO	VISUAL & DIMENS.
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GE9	73480	122	4231	2004-2E208-0003020-122	10	FITTING 90 ELB. THRD NPT 6M 1" A350/LF2 CODE: 7141	SEE NOTE	SATISFACTORY
L608	72071	123	4231	2004-2E208-0003020-123	8	FITTING UNION F/F THRD NPT 6M 1" A350/LF2 CODE: 7143	SEE NOTE	SATISFACTORY
BID	77906	018	4231	2004-2E208-0003020-018	60	FITTING 90 ELB. THRD NPT 2M 2" A105N CODE: 3960	SEE NOTE	SATISFACTORY
BMI	79409	018	4231	2004-2E208-0003020-018	98	FITTING 90 ELB. THRD NPT 2M 2" A105N CODE: 3960	SEE NOTE	SATISFACTORY
66U	78702	062	4231	2004-2E208-0003020-062	32	FITTING UNION F/F THRD NPT 3M 1 1/2" A105N CODE: 8908	SEE NOTE	SATISFACTORY
UE8	76177	063	4231	2004-2E208-0003020-063	365	FITTING UNION F/F THRD NPT 3M 2" A105N CODE: 8909	SEE NOTE	SATISFACTORY
BMI	79409	018	4231	2004-2E208-0003020-018	444	FITTING 90 ELB. THRD NPT 2M 2" A105N CODE: 3960	SEE NOTE	SATISFACTORY
ZU6	76568	042	4231	2004-2E208-0003020-042	105	FITTING 90 ELB. THRD NPT 3M 1" A105N CODE: 3969	SEE NOTE	SATISFACTORY

HEAT CODE	HEAT	ITEM	MATERIAL	C%	SI%	MN%	S%	P%	C%	NI%	MO%	TI%	CU%	V%	NI%	N%	AI%	C.E%	OTHER ELEMENTS
GE9	73480	122	ASTM A350 LF2 cl.1	0.200	0.210	1.110	0.016	0.018	0.090	0.060	0.010	0.020	0.160	0.027	0.000	0.000	0.025	0.425	
L608	72071	123	ASTM A350 LF2 cl.1	0.165	0.230	1.040	0.015	0.012	0.070	0.050	0.010	0.018	0.200	0.022	0.001	0.000	0.025	0.375	
BID	77906	018	ASTM A105	0.185	0.180	0.890	0.019	0.010	0.070	0.080	0.010	0.012	0.230	0.002	0.001	0.000	0.005	0.369	
BMI	79409	018	ASTM A105	0.180	0.190	0.950	0.024	0.010	0.080	0.010	0.009	0.010	0.150	0.002	0.001	0.000	0.005	0.373	
66U	78702	062	ASTM A105	0.190	0.200	1.060	0.013	0.011	0.080	0.050	0.000	0.019	0.180	0.025	0.000	0.000	0.025	0.405	
UE8	76177	063	ASTM A105	0.190	0.210	1.040	0.015	0.008	0.050	0.010	0.010	0.190	0.170	0.021	0.000	0.000	0.280	0.396	
BMI	79409	018	ASTM A105	0.180	0.190	0.950	0.024	0.010	0.080	0.080	0.010	0.009	0.150	0.002	0.001	0.000	0.005	0.373	
ZU6	76568	042	ASTM A105	0.200	0.190	1.180	0.015	0.016	0.080	0.060	0.010	0.021	0.160	0.023	0.001	0.000	0.000	0.430	

HEAT CODE	HEAT	ITEM	TEST SPECIFICATION	YIELD POINT	TENSILE STRENGTH	ELONGATION	REDUCTION OF AREA	HARDNESS	BRINELL TEST	TATLUMING TEST	IMPACT TEST - JOULES	SHORE	YIELD POINT
GE9	73480	122	122.65	50.00	316.0	569.0	32.0	57.0	160-164	0.0	0.0	46	54
L608	72071	123	122.65	50.00	316.0	510.0	32.0	67.0	160-164	0.0	0.0	46	54
BID	77906	018	122.65	50.00	311.0	523.0	32.0	65.0	158-159	0.0	0.0	20	96
BMI	79409	018	122.65	50.00	321.0	513.0	32.0	62.0	158-159	0.0	0.0	20	107
66U	78702	062	122.65	50.00	366.0	567.0	31.0	64.0	160-162	0.0	0.0	20	98
UE8	76177	063	122.65	50.00	348.0	587.0	32.0	64.0	160-162	0.0	0.0	20	106
BMI	79409	018	122.65	50.00	321.0	513.0	32.0	62.0	158-159	0.0	0.0	20	107
ZU6	76568	042	122.65	50.00	321.0	532.0	31.5	62.0	152-181	0.0	0.0	20	98

HEAT CODE	HEAT	ITEM	MATERIAL IN ACCORDANCE TO	HEAT TREATMENT	FURNACE	STEEL MILL	OUR Ref.
GE9	73480	122	ASME SA ASTM A350-02b Gr. LF2 cl.1	Normalized at 900°C / Air Cool	ELECTRIC FURNACE	RIVA ACCIAI	031304
L608	72071	123	ASME SA ASTM A350-02b Gr. LF2 cl.1	Normalized at 900°C / Air Cool	ELECTRIC FURNACE	RIVA ACCIAI	042042
BID	77906	018	ASME SA ASTM A105-02	Normalized at 880-920°C / Air Cool	ELECTRIC FURNACE	RIVA ACCIAI	042065
BMI	79409	018	ASME SA ASTM A105-02	Normalized at 880-920°C / Air Cool	ELECTRIC FURNACE	RIVA ACCIAI	042065
66U	78702	062	ASME SA ASTM A105-02	Normalized at 880-920°C / Air Cool	ELECTRIC FURNACE	RIVA ACCIAI	021432
UE8	76177	063	ASME SA ASTM A105-02	Normalized at 880-920°C / Air Cool	ELECTRIC FURNACE	RIVA ACCIAI	041038
BMI	79409	018	ASME SA ASTM A105-02	Normalized at 880-920°C / Air Cool	ELECTRIC FURNACE	RIVA ACCIAI	042065
ZU6	76568	042	ASME SA ASTM A105-02	Normalized at 880-920°C / Air Cool	ELECTRIC FURNACE	RIVA ACCIAI	041121

NOTES ASME B16.1/101 - BS 3799 - ANSI B31.1/BS1.3 - IML STD - ANSI B1.1-B18.2.2 - NACE MR0175 ISO 15166/1

85807 BORIS FIZZOTTI

FITTINGS IML

STUDBOLTS



MEGA

CERTIFICATO DI COLLAUDO
TEST CERTIFICATE
CERTIFICAT DE CONTROLE

COMPANY
WITH QUALITY SYSTEM
CERTIFIED BY ISO 9001

CLIENT
Customer
Client

W.F.F. FITTINGS & FLANGES
(CANADA) LTD.
7004K-5TH. STREET S.E.
CALGARY, ALBERTA T2H 2G9

ORDER
Purchase order
Commande

E03945KD

CERTIFICATE N. 239548
Certificate N.
Certificat N.
Date / Date 10/10/03

COMMERCE
Job N.
Confirmation de commande 70243

ITEM Test Epreuve	MATERIAL Steel quality / Matériau	ORDER Heat / Coudée	C %	Si %	Mn %	S %	P %	Cr %	Ni %	Mo %	Ti %	Cu %	V %	CE %
DBSB	ASTM A105/01	03/70212	0.190	0.200	0.910	0.010	0.013	00.10	00.06	0.010	0.000	0.170	0.020	0.024
DCTD	A350/00c LF2 C7.1	03/70299	0.180	0.210	0.890	0.010	0.013	00.09	00.05	0.000	0.000	0.130	0.019	0.026
DCUN	ASTM A105/01	03/70980	0.200	0.180	0.870	0.010	0.009	00.07	00.05	0.000	0.000	0.140	0.022	0.022
DCXC	ASTM A105/01	78108	0.185	0.200	0.920	0.010	0.009	00.07	00.04	0.010	0.000	0.130	0.020	0.022
DFAR	ASTM A105/01	0279838	0.185	0.200	0.910	0.007	0.014	00.10	00.05	0.010	0.000	0.130	0.021	0.022
DFAS	ASTM A105/01	03/70983	0.180	0.210	0.910	0.007	0.013	00.08	00.05	0.000	0.000	0.170	0.020	0.028
DFBF	ASTM A234/00a WPB	03/35552	0.190	0.250	0.950	0.009	0.010	00.12	00.08	0.020	0.016	0.160	0.016	0.027

DIBF	ASTM A234/008 WPB		03/35552	0.190	0.250	0.350	0.005	0.000	0.000	MATERIAL				
	PROPERTY		MECHANICAL Yield point Limite d'élasticité	TENSILE Tensile strength Rupture	ELONGATION % Elongation Allongement	REDUCTION % Reduction of area Striction	TORSION Hardness Dureté	PIEZA Bore test Pneum.	SCALD Flue test Appliqué	Impact test / Résistance				
	Test equipment / Equipement	SECTION Section / Sect.								LENGTH Length / Longueur	VERT. test Unit system	TYPE	T °C Test temp	VALUE / Valeur / Quantité
DBSB	1	59.4	35.0	328.8	503.4	34.0	62.9	146-148			J	KV	0	58-54-50
DCTD	1	58.0	35.0	283.8	497.5	31.2	68.8	148-152			J	KV	-50	74-86-62
DCUN	1	122.7	50.0	321.5	507.2	30.0	60.0	146-149			J	KV	0	80-74-82
DCXC	1	30.0	25.0	302.5	488.5	36.8	69.4	138-140			J	KV	0	132-136-156
DFAR	1	122.6	50.0	321.5	518.6	29.6	67.2	148-156			J	KV	0	58-58-56
DFAS	1	30.6	25.0	312.0	534.0	28.6	65.9	148-156			J	KV	0	83-82-48
DFBF	1	122.3	50.0	317.0	528.4	30.0	62.0	156-158			J	KV	0	112-124-100

ITEM Test Epreuve	NOTE / Remarks / Notes
	EN10204/3.1B ** DIN 50049 3.1B.
DBSB	ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR. /CERT.94.03 ISMA*209945 MEGA*NB:0.0001*
DCTD	ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR. /CERT.116.03 ISMA*236854 MEGA*NB:0.0001*
DCUN	ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR. /CERT.159.03 ISMA*236464 MEGA*NB:0.0001*
DCXC	ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR. /CERT.26.03 EVASI*209952 MEGA*NB:Abs.*B:0.0005Ca:
DFAR	ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR. /CERT.298.03 ISMA*236897 MEGA*NB:0.0001*
DFAS	ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR. /CERT.250.03 ISMA*236873 MEGA*NB:0.0001*
DFBF	ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR. /CERT.31516.03 RIVA*209983 MEGA*NB:0.0021*B:0.0005

ITEM Test Epreuve	PROF. Spec. Prof.	QUANTITY Quantity Quantité	CUSTOMER Customer code Code client	DESCRIPTION / Description / Description	VISUAL AND DIMENSIONAL
DBSB	052	1000	113005201	TEE S. 3000 NPT A/SA105N 1	OK
DCTD	093	10	121026202	TEE S. 3000 SW LF2 CL1 1x3/4	OK
DCTD	099	100	123005202	TEE S. 3000 SW LF2 CL1 1	OK
DCUN	013	24	163008201	TEE S. 3000 NPT A105N hot-d 2	OK
DCXC	012	5	11FA33202	MEGALET S. 3000 SW A/SA105N 2x14-36	OK
DCXC	025	25	11HB32010	MEGALET Sch. STD A/SA105N 2x8-12	OK
DCXC	038	5	11HC30020	MEGALET Sch. XS A/SA105N 2x3.1/2-4	OK
DFAR	065	200	11H007201	90 DEG. ELBOM S. 3000 NPT A/SA105N 1.1/2	OK
DFAS	062	1000	11M003201	90 DEG. ELBOM S. 3000 NPT A/SA105N 1.1/2	OK
DFBF	071	12	110008301	CAP S. 6000 NPT A/SA105N 2	OK

NOTE / Remarks / Notes	DATE DIFFERENCE BY COLLAUDO Inspection Authority Service Inspection Official	DATE COLLAUDO Chief Inspection DPT Responsible inspection official
------------------------	--	--

IMIL INDUSTRIA MECCANICA LIGURE SPA

18030 CASAPAZA LIGURE

Gentora - ITALY
Piazza Marco Capelli, 4
Tel. (0185) 467861
Fax (0185) 466510
SALA PROVE E ANALISI MATERIALI



CERTIFICATE N° 23/01

INSPECTION CERTIFICATE DIN 50049/3.1B - EN 10204/3.1B ** CERTIFICAT DE RECEPTION

SEYBOLD INTERNATIONAL CORP.

3489, JUNE 21, 2015 2014
TORONTO MARINE CANADA

Nº 7880 / 24/01/2001
FATTURA / INVOICE / FACTURE 46 / 24/01/2001

4534
BOLLA 79/ 24/01/2001

ALLA 179/ 24/01/2001

ALLA 179/ 24/01/2001

ALLA 179/ 24/01/2001

[illegible]



IML INDUSTRIA MECCANICA LIGURE SPA

16030 CASARZA LIGURE - Genova - Italy

Piazza Marco Cappelletti, 4

Tel. 0185/467861 - Fax 0185/466510

MATERIAL TEST DEPARTMENT

SALA PROVE E ANALISI MATERIALI

Sede Legale: 25036 ERBA (CO) Italy - Via Vitoriosa della Libertà, 1

INSPECTION CERTIFICATE DIN 90469/3.18 - EN 10204/3.18 **

SEYBOLD INTERNATIONAL CORP.
3080, YONGE ST., SUITE 2044
TORONTO M4S1N1 CANADA

COMPANY
WITH QUALITY SYSTEM
CERTIFIED BY RINA
ISO 9002

11532/
INVOICE / FATURA 214/
31586
DEL. NOTE / BOLTA 261/
06/02/2003

IC - 01 - 06

04

Scheda Legale: 22004 ERPA (CO) Italy - Via Veneranda della Libertà, 1										22												
HEAT CODE COD. CALDA	HEAT CALDA	ITEM POS.	YOUR P.O. VS. ORDER	OUR REFERENCE VS. ORDER	QUANTITY QUANTITÀ	DESCRIPTION DESCRIZIONE	DIN. ACCORDANCE TO DIN. ACCORDO A	VISUAL & DIMENSIONAL VISIVO E DIMENSIONALE														
04	78556	0038	9731	21001945 0042	120	CODE: 3468 UNION SCR 3M 1" A105N	SEE NOTE	SATISFACTORY														
		0049	9731	21001945 0053	150	90°ST. ELBOW SCR 3M 1/4" A105N CODE: 3982	SEE NOTE	SATISFACTORY														
		0050	9731	21001945 0054	3	90°ST. ELBOW SCR 3M 1.1/2 A105N	SEE NOTE	SATISFACTORY														
HEAT CODE COD. CALDA	HEAT CALDA	ITEM POS.	MATERIAL MATERIALE		%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%		
04	400699 78556 24614	0038 0049 0050	ASTM A105 ASTM A105 ASTM A105		0.187 0.180 0.200	0.219 0.200 0.190	1.097 0.900 1.050	0.021 0.020 0.014	0.011 0.011 0.018	0.025 0.050 0.090	0.030 0.030 0.080	0.008 0.010 0.015	0.001 0.000 0.000	0.030 0.170 0.140	0.001 0.002 0.001	0.002 0.000 0.001	0.000 0.000 0.000	0.024 0.000 0.000	0.382 0.357 0.410			
04	400699 78556 24614	0038 0049 0050	122.65 122.65 122.65	50.00 50.00 50.00	356.0 313.0 320.0	526 504 512	31.0 33.0 32.0	59.0 57.0 58.0	160-164 162-166 154-158	0.0 0.0 0.0	0.0 0.0 0.0	0.0 0.0 0.0	20 20 20	88 106 104	92 100 100	90 100 100	1 1 1	0.0 0.0 0.0	202047			
MATERIAL IN ACCORDANCE TO MATERIALE IN ACCORDO A																						
04	400699 78556 24614	0038 0049 0050	ASME SA-AS7N A105/A105N-01 ASME SA-AS7N A105/A105N-01 ASME SA-AS7N A105/A105N-01	HEAT TREATMENT TRATTAMENTO TERMICO																	FURNACE FORNO	
NORMALIZED at 900 C Air Cool NORMALIZED at 900 C Air Cool NORMALIZED at 900 C Air Cool																						
ELECTRIC FURNACE ELECTRIC FURNACE ELECTRIC FURNACE																						
NOTES / NOTE																						
ASME B16.11-96-BS.3799-ANSI B31.1/B31.3-1M STD NACE MR0175-99-ANSI B1.1-B18.2.2-NACE MR0175-02																						
BORIS FIZZOTTI																						
TIRANTI																						

Certificato generato da un sistema informativo secondo la norma EN 10204, valido senza firma. - This certificate has been generated by computer and need not to be signed for validity according to DIN EN 10204.

L.M.L. INDUSTRIA MECCANICA LIGURE SPA

TRANS AM PIPING PRODUCTS
7025 - 44th STREET S.E.
CALGARY T2C4E8 CANADA

DEL. NOTE / BOLLA	130/	29/01/2003
INVOICE / FATTURA	107/	29/01/2003
	S13496	
	M11461/	21/01/2003

09

[illegible]



INDUSTRIA MECCANICA LIGURE SPA

INSPECTION CERTIFICATE DIN 50043.1B - EN 10204.1B

COMPANY WITH QUALITY SYSTEM ISO 9001:2000
CERTIFIED BY RINA

SEYBOLD INTERNATIONAL CORP.
20 Holly Street, Unit 205
TORONTO M4S 3B1 CANADA

CA

Certificate Nr 14451
Invoice Nr 1344
Del. Note Nr 1740
Date 23.08.2004
Date 21.09.2004
Date 21.09.2004

Page 14 - 18

HEAT CODE	HEAT	ITEM	YOUR P.O.	OUR REFERENCE	QTY	DESCRIPTION	DIN ACC. TO	VISUAL & DIMENS.										
ZU	76526	120	4227	2004-2E208-0003018-120	50	FITTING TEE THIRD NPT 3M 1/2" A350LF2 CODE: 8425	SEE NOTE	SATISFACTORY										
TE4	79069	121	4227	2004-2E208-0003018-121	15	FITTING TEE THIRD NPT 3M 3/4" A350LF2 CODE: 8428	SEE NOTE	SATISFACTORY										
LE08	72071	128	4227	2004-2E208-0003018-128	8	FITTING UNION F/F THIRD NPT 6M 1" A350LF2 CODE: 7143	SEE NOTE	SATISFACTORY										
TE2	74148	024	4227	2004-2E208-0003018-024	16	FITTING TEE THIRD NPT 23M 1/4" A105N CODE: 4023	SEE NOTE	SATISFACTORY										
TE5	78927	026	4227	2004-2E208-0003018-026	350	FITTING TEE THIRD NPT 2M 1/2" A105N CODE: 4025	SEE NOTE	SATISFACTORY										
TE8	033101	056	4227	2004-2E208-0003018-056	25	FITTING TEE THIRD NPT 3M 1/2" A105N CODE: 4025	SEE NOTE	SATISFACTORY										
86U	78702	067	4227	2004-2E208-0003018-067	40	FITTING UNION F/F THIRD NPT 3M 1/2" A105N CODE: 8508	SEE NOTE	SATISFACTORY										
ABG	0370288	128	4227	2004-2E208-0003018-128	100	FITTING CAP THIRD NPT 3M 3/4" A105N CODE: 8580	SEE NOTE	SATISFACTORY										
ABG	0370288	129	4227	2004-2E208-0003018-129	250	THREADOLET NPT 3M 1/2" 3/8" A105N CODE: 5481	SEE NOTE	SATISFACTORY										
ABG	0370288	130	4227	2004-2E208-0003018-130	300	THREADOLET NPT 3M 1/2" 3/8" A105N CODE: 5587	SEE NOTE	SATISFACTORY										
HEAT CODE	HEAT	ITEM	MATERIAL	C%	SI%	NI%	S%	P%	C%	NI%	Mo%	TI%	Cu%	V%	Nb%	Al%	C.E.%	OTHER ELEMENTS
ZU	76526	120	ASTM A350 LF2 c.1	0.200	0.200	0.200	0.024	0.015	0.080	0.050	0.010	0.013	0.160	0.003	0.000	0.005	0.385	
TE4	79069	121	ASTM A350 LF2 c.1	0.185	0.200	0.200	0.028	0.016	0.100	0.060	0.010	0.010	0.220	0.003	0.001	0.005	0.388	
LE08	72071	128	ASTM A350 LF2 c.1	0.185	0.230	0.230	0.040	0.015	0.070	0.050	0.010	0.018	0.200	0.022	0.001	0.025	0.375	
TE2	74148	024	ASTM A105	0.185	0.190	0.190	0.050	0.010	0.080	0.050	0.020	0.015	0.140	0.028	0.000	0.021	0.382	
TE5	78927	026	ASTM A105	0.185	0.200	0.200	0.080	0.022	0.070	0.060	0.010	0.008	0.180	0.003	0.001	0.005	0.382	
TE8	033101	056	ASTM A105	0.200	0.260	0.260	0.028	0.022	0.120	0.035	0.000	0.008	0.088	0.000	0.000	0.005	0.381	
86U	78702	067	ASTM A105	0.180	0.200	0.200	0.180	0.013	0.013	0.080	0.000	0.019	0.180	0.025	0.000	0.025	0.405	
ABG	0370288	128	ASTM A105	0.180	0.170	0.170	0.330	0.021	0.016	0.110	0.070	0.010	0.000	0.270	0.002	0.001	0.000	0.392
ABG	0370288	129	ASTM A105	0.185	0.210	0.210	0.310	0.010	0.010	0.100	0.070	0.000	0.020	0.200	0.020	0.000	0.379	
ABG	0370288	130	ASTM A105	0.185	0.210	0.210	0.310	0.010	0.010	0.100	0.070	0.000	0.020	0.200	0.020	0.000	0.378	
HEAT CODE	HEAT	ITEM	TEST SPECIMEN	YIELD POINT	TENSILE STRENGTH	ELONGATION	REDUCTION OF AREA	HARDNESS	BEAD TEST	FLATTENING TEST	TYPE 1010mm	IMPACT TEST - JOULES	SHAKE	YIELD POINT				
ZU	76526	120	SECT. 1mm2	50.00	564.0	31.0	64.0	160-188	0.0	0.0	KV	-48	59	63	60	1	0.0	
TE4	79069	121	SECT. 1mm2	50.00	518.0	33.0	59.8	152-156	0.0	0.0	KV	-46	56	54	51	1	0.0	
LE08	72071	128	SECT. 1mm2	50.00	510.0	32.0	57.0	160-184	0.0	0.0	KV	-46	54	50	54	1	0.0	
TE2	74148	024	SECT. 1mm2	50.00	503.0	33.5	54.5	158-164	0.0	0.0	KV	20	96	88	103	1	0.0	
TE5	78927	026	SECT. 1mm2	50.00	528.0	33.0	57.0	154-180	0.0	0.0	KV	20	100	88	103	1	0.0	
TE8	033101	056	SECT. 1mm2	50.00	500.0	31.0	57.0	160-164	0.0	0.0	KV	20	81	86	101	1	0.0	
86U	78702	067	SECT. 1mm2	50.00	567.0	31.0	64.0	160-162	0.0	0.0	KV	20	96	88	94	1	0.0	
ABG	0370288	128	SECT. 1mm2	50.00	513.0	32.6	56.8	155-160	0.0	0.0	KV	20	80	85	95	1	0.0	
ABG	0370288	129	SECT. 1mm2	50.00	507.0	32.9	57.8	152-155	0.0	0.0	KV	20	88	105	110	1	0.0	
ABG	0370288	130	SECT. 1mm2	50.00	507.0	32.9	57.8	152-155	0.0	0.0	KV	20	88	105	110	1	0.0	
HEAT CODE	HEAT	ITEM	MATERIAL IN ACCORDANCE TO	HEAT TREATMENT	FURNACE	STEEL MILL	Our Ref.											
ZU	76526	120	ASME SA ASTM A350-LF2 c.1	Normalized at 800°C / Air Cool	ELECTRIC FURNACE	RIVA ACCIAI	021448											
TE4	79069	121	ASME SA ASTM A350-LF2 c.1	Normalized at 800°C / Air Cool	ELECTRIC FURNACE	RIVA ACCIAI	041285											
LE08	72071	128	ASME SA ASTM A350-LF2 c.1	Normalized at 800°C / Air Cool	ELECTRIC FURNACE	RIVA ACCIAI	042042											
TE2	74148	024	ASME SA ASTM A105-02	Normalized at 880-920°C / Air Cool	ELECTRIC FURNACE	RIVA ACCIAI	042056											
TE5	78927	026	ASME SA ASTM A105-02	Normalized at 880-920°C / Air Cool	ELECTRIC FURNACE	RIVA ACCIAI	041242											
TE8	033101	056	ASME SA ASTM A105-02	Normalized at 880-920°C / Air Cool	ELECTRIC FURNACE	RIVA ACCIAI	880106											
86U	78702	067	ASME SA ASTM A105-02	Normalized at 880-920°C / Air Cool	ELECTRIC FURNACE	RIVA ACCIAI	021432											
ABG	0370288	128	ASME SA ASTM A105-02	Normalized at 880-920°C / Air Cool	ELECTRIC FURNACE	RIVA ACCIAI	041113											
ABG	0370288	129	ASME SA ASTM A105-02	Normalized at 880-920°C / Air Cool	ELECTRIC FURNACE	RIVA ACCIAI												
ABG	0370288	130	ASME SA ASTM A105-02	Normalized at 880-920°C / Air Cool	ELECTRIC FURNACE	RIVA ACCIAI												

81211

INSPECTION AUTHORITY

QUALITY CONTROL DEPARTMENT

MANUFACTURER'S SYMBOL

MANUFACTURER'S SYMBOL

ANISI B1.1-B18.2.2 - NACE MR0175-02 - MSS SP93

ANISI B1.1-B18.2.2 - NACE MR0175-02 - MSS SP93

ANISI B1.1-B18.2.2 - NACE MR0175-02 - MSS SP93

ANISI B1.1-B18.2.2 - NACE MR0175-02 - MSS SP93

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ANISI B1.1-B18.2.2 - NACE MR0175-02 - MSS SP93

ANISI B1.1-B18.2.2 - NACE MR0175-02 - MSS SP93

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ANISI B1.1-B18.2.2 - NACE MR0175-02

NOTES ASME B16.11-96 - BS 3799 - ANSI B31.1/B31.3 - IMI STD - NACE MR0175-98 -
ANSI B31.1-98-2.2 - NACE MR0175-02 - MSS SP83

INSPECTION AUTHORITY

QUALITY CONTROL DEPARTMENT

MANUFACTURER'S SYMBOL

MANUFACTURER'S SYMBOL

BORIS FIZZOTTI

FITTINGS

IMI

STUDBOLTS



NK2



INDUSTRIA MECCANICA LIGURE SPA

INSPECTION CERTIFICATE DIN 50048/3.1B - EN 10204/3.1B
COMPANY WITH QUALITY SYSTEM ISO 9001:2000
CERTIFIED BY BINA

SETBOLD INTERNATIONAL CORP.
20 Hwy. 104, Unit 208
TORONTO M4B 3H1 CANADA

Certificate No. 15245
Revision No. 400
Date: 04/04/2006
Date: 04/04/2006

16030 CASARZA LIGURE - Genova - Italy - P.zza Marco Capellini, 4 - Tel.010.65.4617651 - Fax 010.65.466510 / MATERIAL TEST DEPARTMENT This certificate has been generated by computer and need not to be signed for validity according to DIN EN 10204 Page 5 - 8

HEAT CODE		HEAT	ITEM	YOUR P.O.	OUR REFERENCE	QTY	DESCRIPTION										DIM. ACC. TO		VISUAL & DIMENS.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
BNP	79898	011	4658	2004-2E208-0003033-011	2004-2E208-0003033-017	126	FITTING 90 ELB. THRD NPT 3M 1 1/2" A105N CODE: 3871										SEE NOTE	SATISFACTORY																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
UHZ	76569	017	4658	2004-2E208-0003033-017	2004-2E208-0003033-020	30	FITTING UNION F/F THRD NPT 3M 1 1/2" A105N CODE: 6802										SEE NOTE	SATISFACTORY																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
	78926	020	4658	2004-2E208-0003033-020	2004-2E208-0003033-016	180	FITTING CAP THRD NPT 3M 1 1/2" A105N CODE: 6378										SEE NOTE	SATISFACTORY																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
04	72513	016	4658	2004-2E208-0003033-016	2004-2E208-0003033-016	1515	FITTING UNION F/F THRD NPT 3M 1" A105N (NUT-FEMALE) CODE: 6468										SEE NOTE	SATISFACTORY																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
05	76320	016	4658	2004-2E208-0003033-016	2004-2E208-0003033-009	1515	FITTING UNION F/F THRD NPT 3M 1" A105N (MALE) CODE: 6468										SEE NOTE	SATISFACTORY																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
H35	79948	009	4658	2004-2E208-0003033-009	2004-2E208-0003033-012	1515	FITTING 90 ELB. THRD NPT 3M 1" A105N CODE: 3869										SEE NOTE	SATISFACTORY																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
CAE	75817	012	4658	2004-2E208-0003033-012	2004-2E208-0003033-006	505	FITTING 90 ELB. THRD NPT 3M 2" A105N CODE: 3872										SEE NOTE	SATISFACTORY																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
NK2	79210	006	4658	2004-2E208-0003033-006		5600	FITTING HEX.H.PLUG THRD NPT 3/8M 1/2" A105N CODE: 4004										SEE NOTE	SATISFACTORY																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
HEAT CODE		HEAT	ITEM	MATERIAL	C%	SI%	Mn%	SV%	P%	C%	Ni%	Mo%	Ti%	CU%	V%	Nb%	N%	AN%	C.E.%	OTHER ELEMENTS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
BNP	79898	011	ASTM A105	0,180	0,180	0,950	0,022	0,014	0,110	0,050	0,010	0,007	0,140	0,002	0,001	0,000	0,006	0,385																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
UHZ	76569	017	ASTM A105	0,185	0,220	1,100	0,012	0,009	0,090	0,070	0,010	0,023	0,130	0,023	0,000	0,000	0,025	0,406																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
	78926	020	ASTM A105	0,185	0,220	0,950	0,022	0,013	0,080	0,050	0,010	0,010	0,130	0,009	0,001	0,000	0,006	0,384																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
04	72513	016	ASTM A105	0,180	0,190	0,880	0,009	0,012	0,070	0,060	0,010	0,000	0,180	0,016	0,000	0,000	0,000	0,364																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
05	76320	016	ASTM A105	0,195	0,230	1,130	0,010	0,008	0,080	0,060	0,010	0,028	0,180	0,028	0,002	0,000	0,024	0,423																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
H35	79948	009	ASTM A105	0,180	0,210	0,910	0,020	0,018	0,130	0,080	0,010	0,009	0,230	0,002	0,001	0,000	0,006	0,361																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
CAE	75817	012	ASTM A105	0,200	0,190	1,140	0,012	0,011	0,060	0,050	0,010	0,022	0,170	0,028	0,001	0,000	0,025	0,424																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
NK2	79210	006	ASTM A105	0,180	0,220	1,120	0,010	0,015	0,100	0,070	0,010	0,017	0,180	0,028	0,000	0,000	0,025	0,411																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
HEAT CODE		HEAT	ITEM	TEST SPECIFICATION	YIELD POINT	TENSILE STRENGTH	ELONGATION	REDUCTION OF AREA	HARDNESS HB	BEND TEST	FLATTENING TEST	TYPE TEST			IMPACT TEST - JOULES			SHAPE	YIELD POINT																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
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87515



W.L.

INDUSTRIA MECCANICA LIGURE SPA

INSPECTION CERTIFICATE DIN 50049/3.1B - EN 10204/3.1B

**COMPANY WITH QUALITY SYSTEM ISO 9001-2000
CERTIFIED BY IRCA**

SEYBOLD INTERNATIONAL CORP.

20 Holly Street, Unit 205
TORONTO M4B 3B1 CANADA

3

Certificate No. 15083

Del. Notes for 1864

Dated 28.02.2004

Dated 07.02.2008

NO 8

HEAT CODE	HEAT	ITEM	YOUR P.O.	OUR REFERENCE	QTY	DESCRIPTION	DIM. ACC. TO	VISUAL & DIMENS.																		
N20	AL1470	038	4651	2004-2E206-0003029-038	2700	FITTING HEX.H.PLUG THRD NPT 23M 3/4" A105N SAP 400SDADDED 500 PCS. NOT SHIP...	SEE NOTE	SATISFACTORY																		
BM1	79409	006	4651	2004-2E206-0003029-006	398	FITTING 90 ELB. THRD NPT 2M 2" A105N CODE: 3980	SEE NOTE	SATISFACTORY																		
NM2	79210	012	4651	2004-2E206-0003029-012	5600	FITTING HEX.H.PLUG THRD NPT 23M 1/2" A105N CODE: 4004	SEE NOTE	SATISFACTORY																		
NK3	73186	013	4651	2004-2E206-0003029-013	1150	FITTING HEX.H.PLUG THRD NPT 23M 1" A105N CODE: 4006	SEE NOTE	SATISFACTORY																		
N26	78178	015	4651	2004-2E206-0003029-015	120	FITTING HEX.H.PLUG THRD NPT 23M 2" A105N CODE: 4008DADDED 675 PCS. NOT SHIP...	SEE NOTE	SATISFACTORY																		
N08	78927	015	4651	2004-2E208-0003029-015	150	FITTING HEX.H.PLUG THRD NPT 23M 2" A105N CODE: 4008DADDED 675 PCS. NOT SHIP...	SEE NOTE	SATISFACTORY																		
N40	79624	015	4651	2004-2E208-0003029-015	555	FITTING HEX.H.PLUG THRD NPT 23M 2" A105N CODE: 4008DADDED 675 PCS. NOT SHIP...	SEE NOTE	SATISFACTORY																		
Z27	78923	024	4651	2004-2E209-0003029-024	30	FITTING TEE THRD NPT 3M 1 1/4" A105N CODE: 4088	SEE NOTE	SATISFACTORY																		
HEAT CODE	HEAT	ITEM	MATERIAL	C%	3%	MN%	9%	P%	C1%	N1%	MO%	TK%	C2%	V%	NB%	N%	AN%	C.E.%	OTHER ELEMENTS							
N20	AL1470	038	ASTM A105	0.200	0.190	0.980	0.008	0.018	0.100	0.140	0.060	0.000	0.150	0.000	0.000	0.000	0.004	0.415								
BM1	79409	006	ASTM A105	0.180	0.190	0.950	0.024	0.010	0.090	0.070	0.010	0.009	0.150	0.002	0.001	0.000	0.065	0.373								
NM2	79210	012	ASTM A105	0.180	0.220	0.100	0.010	0.015	0.100	0.070	0.010	0.017	0.180	0.026	0.000	0.000	0.026	0.411								
NK3	73186	013	ASTM A105	0.220	0.210	0.880	0.005	0.018	0.100	0.060	0.010	0.014	0.200	0.016	0.000	0.000	0.018	0.409								
N26	78186	015	ASTM A105	0.210	0.210	0.923	0.010	0.014	0.110	0.180	0.020	0.012	0.220	0.003	0.001	0.000	0.006	0.378								
N08	78927	015	ASTM A105	0.185	0.200	0.980	0.022	0.010	0.070	0.060	0.010	0.009	0.190	0.003	0.001	0.000	0.065	0.382								
N40	79624	015	ASTM A105	0.180	0.180	0.900	0.017	0.013	0.080	0.060	0.010	0.012	0.180	0.003	0.001	0.000	0.066	0.366								
Z27	78923	024	ASTM A105	0.195	0.170	0.920	0.022	0.016	0.180	0.100	0.010	0.012	0.230	0.003	0.000	0.000	0.066	0.405								
HEAT CODE	HEAT	ITEM	TEST SPECIFICATION SECT. 9, para 2	YIELD POINT Normal min. 50,000	TENSILE STRENGTH Normal min. 53,000	ELONGATION % min. 32.5	REDUCTION OF AREA % min. 54.0	HARDNESS 154 - 160	BEND TEST	FLATTENING TEST	TENSILE TYPES (min. max.)	IMPACT TEST - CHARPY ° C	1	2	3	SHAPE 1/4" O.D. 2" L	YIELD POINT Normal min. 50,000									
N20	AL1470	038	122.65	50.00	530.0	32.5	54.0	154 - 160	0.0	0.0	KV	20	100	86	102	1	0.0									
BM1	79409	006	122.65	50.00	530.0	32.0	52.0	156 - 159	0.0	0.0	KV	20	107	105	103	1	0.0									
NK3	73186	013	122.65	50.00	530.0	36.0	58.0	160 - 166	0.0	0.0	KV	20	86	80	90	1	0.0									
N26	78186	015	122.65	50.00	530.0	36.0	70.0	160 - 166	0.0	0.0	KV	20	86	106	105	1	0.0									
N08	78927	015	122.65	50.00	530.0	32.5	56.5	162 - 168	0.0	0.0	KV	20	108	102	104	1	0.0									
N40	79624	015	122.65	50.00	530.0	30.5	65.5	159 - 165	0.0	0.0	KV	20	99	101	103	1	0.0									
Z27	78923	024	122.65	50.00	520.0	31.5	55.0	154 - 160	0.0	0.0	KV	20	103	106	107	1	0.0									
HEAT CODE	HEAT	ITEM	MATERIAL IN ACCORDANCE TO					HEAT TREATMENT					FURNACE					STEEL MILL		OUR Ref.						
N20	AL1470	038	ASME SA ASTM A105-02					Normalized at 880°-920 °C / Air Cool					ELECTRIC FURNACE					ORI MARTIN		021362						
BM1	79409	006	ASME SA ASTM A105-02					Normalized at 880°-920 °C / Air Cool					ELECTRIC FURNACE					RIVA ACCIAI		042085						
NM2	79210	012	ASME SA ASTM A105-02					Normalized at 880°-920 °C / Air Cool					ELECTRIC FURNACE					RIVA ACCIAI		N10023						
NK3	73186	013	ASME SA ASTM A105-02					Normalized at 880°-920 °C / Air Cool					ELECTRIC FURNACE					RIVA ACCIAI								
N26	78186	015	ASME SA ASTM A105-02					Normalized at 880°-920 °C / Air Cool					ELECTRIC FURNACE					RIVA ACCIAI		041176						
N08	78927	015	ASME SA ASTM A105-02					Normalized at 880°-920 °C / Air Cool					ELECTRIC FURNACE					RIVA ACCIAI		041242						
N40	79624	015	ASME SA ASTM A105-02					Normalized at 880°-920 °C / Air Cool					ELECTRIC FURNACE					RIVA ACCIAI		031507						
Z27	78923	024	ASME SA ASTM A105-02					Normalized at 880°-920 °C / Air Cool					ELECTRIC FURNACE					RIVA ACCIAI		041273						
NOTES ASME B16.1/01 - BS.3799 - ANSI B31.1/BS1.3 - IMI STD. - ANSI																			INSPECTION AUTHORITY		QUALITY CONTROL DEPARTMENT		MANUFACTURERS SYMBOL		MANUFACTURERS SYMBOL	
B1.1-B18.2.2 - NACE MR0175 ISO 15166/1 - MSS SP83																			BOHIS FIZZOTTI		FITTINGS		IMI		STUDBOLTS	
																										

K669

KEDCO MFG. LTD.
PO Box 998
645 Kedco St.
Sarnia, Ontario N7T 7K6
Tel: (519) 336-2960
Fax: (519) 344-3181
Toll Free: 1-866-511-1381



KEDCO MFG. LTD.
4120 - 78 Av.
Edmonton, AB T6B 3M8
Tel: (780) 438-4944
Fax: (780) 435-3917
Toll Free: 1-800-661-3809

Material Test Report

Report Number: 11356
Description: 2" SWAGES & BULL PLUGS
Specification: A234-WPB/SA234-WPB
Date: 7-Nov-03
Heat Treatment: H.R.
Material: C1018
CRN: OA7470.5C

Chemical Analysis

Element	Value	Element	Value	Element	Value
C	0.180	Cu	0.210	Al	0.005
Mn	0.800	Ni	0.090	Sn	0.009
P	0.011	Cr	0.100	Ti	0.000
S	0.025	Mo	0.030		
Si	0.190	V	0.021		
N	0.000	Nb	0.000		

Mechanical Tests

Yield PSI: 47800
Elongation @ 2": 25
Size: 2.375" RND
Brinell Hardness: 151
Tensile PSI: 73100
Reduction of Area %: 41
CE = 0.370

Charpy Impact Test

Individual Values (ft/lbs.): (1) (2) (3) @ N/A

We hereby Certify that the material described has been tested in accordance with the specifications, and the results are correct as contained in the records of the Company.

[Signature]
Ian Shields
Quality Assurance Manager

KEDCO MFG LTD

This Material Test Report
meets DIN50049/en10204
3.1B Standard 1991



http://apps.kedco.com/details.asp?RecordNumber=11356

4/5/2004

http://www.natool.com/mtr/heatMTR.asp?url=12/D/82588&pages=1

9/7/2005

82588



16030 CASARZA LUSURE - Genova - Italy
Piazza Marco Capelli, 4
Tel. 0185.447661 - Fax 0185.498510
SALA PROVE E ANALISI MATERIALI

SEYBOLD INTERNATIONAL CORP.
3080, YONGE ST. SUITE 2044
TORONTO M4M3M1 CANADA

40655/	22/07/2002
INVOICE / FATURA 1361/	18/07/2002
812610	
GRN. NOTE / BOLTA 1593/	18/07/2002

INSPECTION CERTIFICATE DMI B0049/3.12 - EN 10204/2.1B

Sede Legale: 22038 ERBA (CO) | Italy
Via Viceré Luigi 1

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[illegible]

Certificates generated by us contain information accurate in accordance with the data in the system. This certificate has been generated by computer and must not be signed for validity according to DIN EN ISO 9001.

Alfa Laval
Tri-Lad Inc.

P.O. BOX 430, 220 WAYNE GRETZKY PARKWAY
BRANTFORD, ONTARIO N3T 5P3
TELEPHONE (519) 753-4154
FAX (519) 759-8709

CERTIFIED MATERIAL TEST REPORT

CUSTOMER WESTLUND IND SUPPLY
5407 - 53 RD N.W.
EDMONTON AB T6B 3G2

CUSTOMER ORDER # 9159445
TRI-LAD ORDER # 408175 LINE 1

DATE OF REPORT 1/24/2001

SPECIFICATION A350-98 LF2 CL1
HEAT TREATMENT NORMALISED AND TEMPERED
HEAT CODE X826
1650 F 1150 F
898 C 621 C C.E. .39

QUANTITY	DESCRIPTION	SPECIFICATION										HEAT TREATMENT	
3	24 150 BL RF LF2 C1	A350-98 LF2 CL1										NORMALISED AND TEMPERED	
												1650 F 1150 F	
												898 C 621 C	
												C.E. .39	
CHEMICAL COMPOSITION													
HEAT PRODUCT		C	Mn	P	S	SI	CU	NI	Cr	MO	V		
		.22	.98	.011	.016	.22	.02	.01	.01	.010	.000		
HEAT PRODUCT		Nb											
		.000											
HEAT PRODUCT													
MECHANICAL PROPERTIES													
SPECIMEN SIZE FULL SIZE													
YIELD		TENSILE	ELONGATION	AREA REDUCTION	HARDNESS	TEMPERATURE	IMPACT VALUES	SHEAR FRACTURE		LATERAL EXPANSION			
KSI	62.8	KSI	79.1	28.0 x	68.9 x	BHN	159	M50 F	FT-LBS	35	44	40	
Mpa	433.3	Mpa	545.7	STD RD			159	M45 C	Joules	46	58	53	

NOTES

WE HEREBY CERTIFY THE RESULTS TO BE A CORRECT COPY OF THE RECORDS OF THE COMPANY

...ISO 9002 REGISTERED

B. PANCOE, Q.A. MANAGER

Form No. CTR-5904