



ACADEMY PETROLEUM INDUSTRIES

4066-78 AVENUE, EDMONTON, ALBERTA T6B 3M8
PHONE: (780) 466-6360 FAX: (780) 466-6380
E-mail: api@academypetroleum.com

A B S A REGISTERED

CER 1304

Certificate of Compliance

Date: August 14, 2013	Customer: Caliber Energy Systems	Academy W/O #: 62761
Part Description: Spacer Spool 7 1/16" 3000 R45 X 4 1/16" 3000 R37 X 9.0" OAL.		Cust. P.O. #: 1458
Quantity: 1	Serial #'s: 62761-ACD	S/O Item #: 1

This is to certify that the above noted part has been:

- Manufactured in accordance with all in-house policies and procedures and in compliance with the customer's requirements and/or specifications and;
- Inspected in accordance with Academy Petroleum Industries Inspection Procedure and found to be acceptable.

The following indicated procedures have been performed and documentation is attached as required:

Procedure		Comments
Dimensional Verification	<input checked="" type="checkbox"/>	As per all applicable drawings
Visual Inspection	<input checked="" type="checkbox"/>	
Hardness Testing	<input checked="" type="checkbox"/>	See attached report (AS PER NACE)
Non-Destructive Examination	<input type="checkbox"/>	See attached report
Stress Relieving	<input type="checkbox"/>	See attached report
Hydrostatic Testing	<input checked="" type="checkbox"/>	See attached report
Material Test Reports	<input checked="" type="checkbox"/>	See attached report

Notes:


Quality Assurance

Academy Petroleum Industries



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Hardness Inspection Report

Date: August 14, 2013	Customer: Caliber Energy Systems	Academy W/O #: 62761
Part Description: Spacer Spool 7 1/16" 3000 R45 X 4 1/16" 3000 R37 X 9.0" OAL.		Cust. P.O. #: 1458
Reference Drawing/Sheet: <input type="checkbox"/> Attached <input checked="" type="checkbox"/> N/A		Part #/ Serial #: 62761-ACD


Examination Standard: ASTM E-10 or ASTM E-18

Acceptance Standard:

- API Specification 6A 20th Edition (see Table 11 for applicable section)
- API Specification 16A Third Edition (Section 8.5.1.4)
- API Specification 16C First Edition (Section 6.3.6.4.1)
- NACE MR0175 / ISO 15156 Latest Edition

Dwg Ref. # or Location	Brinell Hardness					Comments
	Parent Metal	HAZ	Weld Metal	HAZ	Parent Metal	
Spacer Spool	202					4130 HT# E3455

Interpretation is done in accordance with the above mentioned standards. As this is a subjective analysis the final interpretation of these measurements is the responsibility of the customer.



 Quality Assurance

Academy Petroleum Industries



TITLE	NO.:	QF902
HYDROSTATIC PRESSURE TEST CERTIFICATE	REVISION:	1
	DATE	SEPT./2012
	PAGE	1 of 1

Customer: Caliber Energy Systems Customer PO#: 1458 Academy W/O #: 62761

Part Description: Spacer Spool 7 1/16" 3000 R45 X 4 1/16" 3000 R37 X 9.0" OAL.

Serial #: 62761-ACD Working Pressure (psi): 3000

Hydrostatic Test Spec: API 6A (Section 7.4.9.3.3) APP3009
 API 16A (Section 8.5.8.6) Other
 API 16C (Section 6.4.4) As per Customer Requirements

Flange Type: API ANSI Other API 6A PSL: 1 2 3 N/A

Recording Device: *CS 222*

Description of Tested Components

Component (body, flange, EFSO, etc.)	Material Grade & Yield Strength	Heat #
Spacer Spool	4130	E3455

Hydrostatic Test

Required Test Pressure (psi)	Actual Test Pressure (psi)	Required Test Duration (min.)	Actual Test Duration (min.)
6000	<i>6200</i>	3	<i>3 min</i>
6000	<i>6200</i>	3	<i>3 min</i>

Comments

No visible leakage at time of test. No evidence of damage by visual inspection after testing.

We hereby certify that the above tests have been conducted and that the results satisfy the applicable specification at the time of testing.

Tested By: *Charles* Date: *Aug 14, 2013*

Academy Quality Assurance: *[Signature]* Date: *AUG. 14/13*



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A B S A REGISTERED

Certified Material Test Report

Date: August 14, 2013		Academy W/O #: 62761		Mill Test Report No.: 52607-3	
Customer: Caliber Energy Systems				Customer P.O. No.: 1458	
Description: Spacer Spool 7 1/16" 3000 R45 X 4 1/16" 3000 R37 X 9.0" OAL.					
API 6A PSL: 3		API Temp Class: L	API Fluid Rating: DD		API Mat'l Designation: 80k
Mat'l Grade: 4130		Heat #: E3455		Academy Mat'l APP #: 301-1	Size: 15
Mat'l Form: Bar <input checked="" type="checkbox"/> Casting <input type="checkbox"/> Forging <input type="checkbox"/> Other: _____					

Heat Treatment Specifications

AUSTENITIZED: 1616 DEG.F FOR 13 HRS.-WATER COOLED, TEMPERED: 1202 DEG.F FOR 17 HRS.-AIR COOLED, STRESS RELIEVE: 1112 DEG.F FOR 9 HRS.-AIR COOLED.

Mechanical Test Results

Property	Results
Yield Strength @ 0.2% Offset (psi)	89,175
Tensile Strength (psi)	110,345
Elongation (% in 2 inches)	34.0
Reduction Of Area (%)	71.0

Property	Results
CVN Impact @ -75°F (ft-lb)	42,51,38
Lateral Expansion	.6,.68,.62
Shear (%)	15,30,10
Brinell Hardness	235

NACE MR0175 / ISO 15156 compliant: Yes No

Chemical Analysis

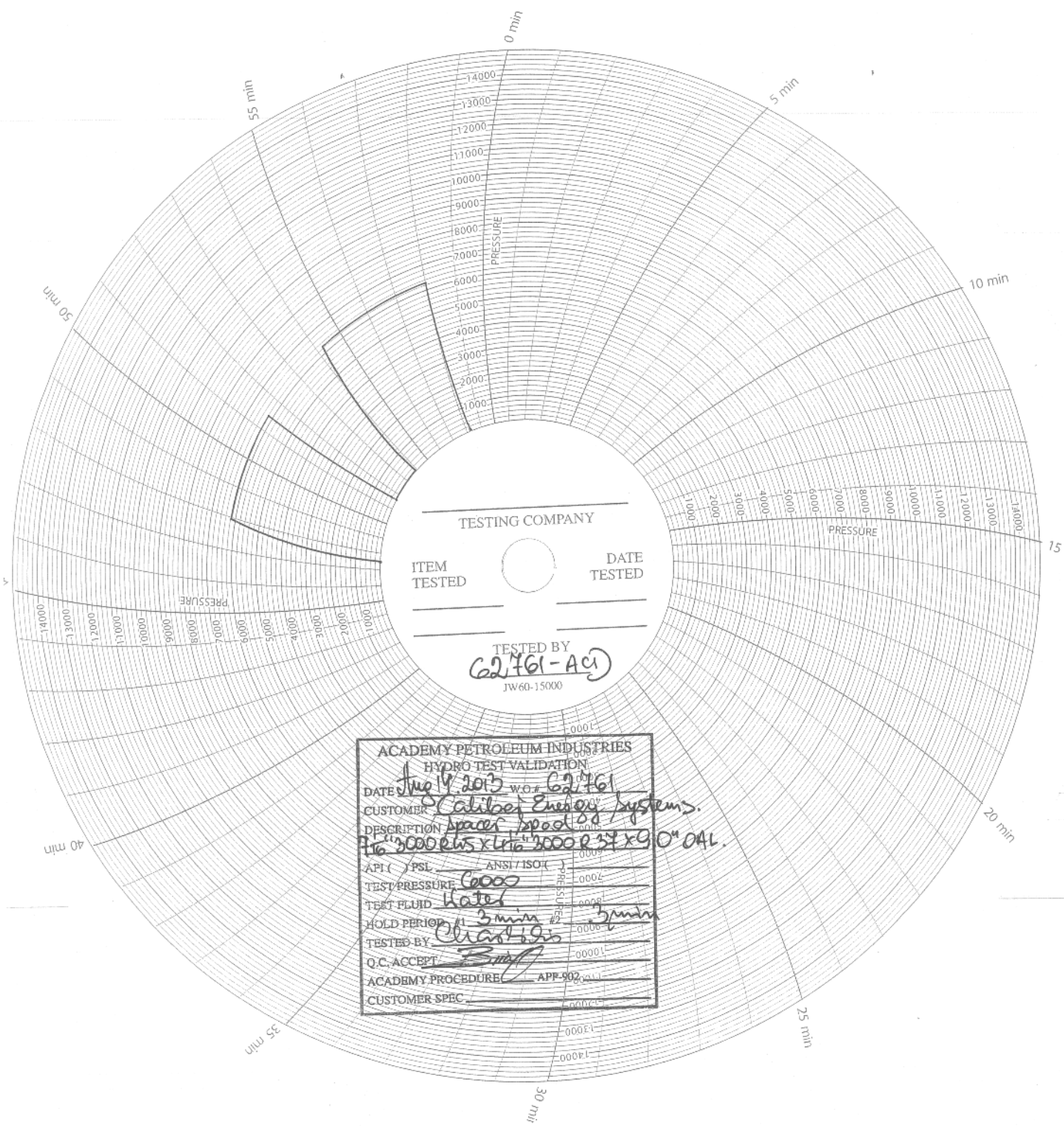
C	Mn	P	S	Si	Cr	Ni	Mo	Cu	V	Sn	Al			
.31	.57	.013	.001	.28	1.1	.23	.23	.17	.023		.019			

Comments

All mechanical properties are as per Qualification Test Coupon. EFVD

We certify that the foregoing is a true and correct report of the values obtained and/or as is contained on file in our records and that they comply with the requirements of the specifications unless noted.

Signed:  Date: August 14, 2013
Academy Quality Assurance



TESTING COMPANY _____
 ITEM TESTED _____ DATE TESTED _____
 TESTED BY **G2761-ACJ**
 JW60-15000

ACADEMY PETROLEUM INDUSTRIES	
HYDRO TEST VALIDATION	
DATE	Aug 14, 2013 w.o. G2761
CUSTOMER	Caliber Energy Systems
DESCRIPTION	Space Head
	16" 3000 R/S x 16" 3000 R/S x 90" OAL
API (PSL)	ANSI / ISO
TEST PRESSURE	6000
TEST FLUID	Water
HOLD PERIOD	3 min
TESTED BY	Chant 19
Q.C. ACCEPT	SM
ACADEMY PROCEDURE	APP-902
CUSTOMER SPEC	