



C&W International Fabricators

REPORT INDEX

Purchase Order: **ET2022186-2**

Quantity: **6 EA**

Shipment No. :

Shipment Date:

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METALLURGICAL TEST CERTIFICATE

Serial No. :	ET2022186-2-05...10	PO# :	ET2022186	Date:	2022-12-21							
Part No:		API Monogram:	YES	Report#:	20221221							
Specification:	API Spec 6A/ ASTM A370	Material:	4130 75k per ASTM A29									
Description:	SPACER SPOOL 7 1/16" 15M X 120" EE LU PSL3 PR1			Qty:	6 EA							
TEST CONDITION												
Test Bar Size:	QTC, 4" x 4" x 8"		Bar Di:	12.7 mm (0.5")								
Melt Practice	EF + LF + VD		Reduction Ratio Min:	4:1								
Yield Stress	0.2% offset		Gauge Length	50.8mm								
CHEMICAL COMPOSITION												
Mill No. :	Qty	Test No.	C	Mn	Si	S	P	Ni	Cu	Mo	Cr	V
Spec Min			0.28	0.40	0.15	/	/	/	/	0.15	0.80	/
Spec Max			0.33	0.60	0.35	0.025	0.025	0.50	0.35	0.25	1.10	0.30
220500877	6	1	0.298	0.550	0.240	0.004	0.011	0.030	0.020	0.200	1.010	0.007
MECHANICAL COMPOSITION												
Heat Lot No.	QTY.	Test No.	Yield Strength (Kpsi)	Tensile Strength (Kpsi)	Elongation%	Reduction of Area%	Hardness HB	10mm X 10mm Charpy J (ft. lb) At -46° c	Minimum Lateral	Shear Fraction		
Spec Min			75K	95K	18.0	35.0	197	27J				
Spec Max			/	/	/	/	235	/				
TM2210060301	1	1	81.5K	102.5K	55.5	62.6	221	49;58;43				
TM2210100201	3	1	83.5K	104.5K	47.5	56.8	223	59;47;41				
TM2210160301	2	1	80.5K	100.5K	51.5	59.1	223	55;49;51				
HEAT TREATMENT												
Forgings:	4:1					Test Bar (OTC)						
Normalized:	900°C 6 HRS					Normalized:	900°C 6 HRS					
Austenitized:	870°C 6 HRS					Austenitized:	870°C 6 HRS					
Quenchant:	Water					Quenchant:	Water					
Start Temp:	31 °C					Start Temp:	31 °C					
End Temp:	37 °C					End Temp:	37 °C					
Temper:	670°C 9 HRS AIR					Temper:	670°C 9 HRS AIR					
We hereby certify that all test results and procedure information contained herein are correct and true as in contained the records of the company and also no welding or weld repair was performed on subject parts.												
Inspected by:						Approved by:						



Hardness Test Report

[illegible]



ULTRASONIC EXAMINATION REPORT

[illegible]

Sketch:

UT Code:ASTM A388	Technique:Straight/Contact	Examined BY:	Approved by:
Exam.Stage: After heat treatment	Calibration Block:CSK IA		
Equipment:CTS-2020	Couplant: OIL		
Probe Used :2.5P φ10	Acceptance Criteria: API 6A PSL 3		
Equipment Calibration Date :2022. 09. 09	Test Gain:20db + 5 db	Level as per UT II	Level as per UT II
Equipment Due Date: 2023. 09. 09			



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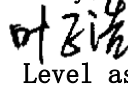
Magnetic Particle Inspection Report

Serial No. :		ET2022186-2-05...10		PO# :		ET2022186		Date:		2022-12-21	
Part No:				API Monogram:		YES		Report#:		20221221	
Specification:		API Spec 6A/ ASTM E709		Material:		4130 75k per ASTM A29					
Description:		SPACER SPOOL 7 1/16" 15M X 120" EE LU PSL3 PR1						Qty:		6 EA	
Item	S/N		Heat Lot No.	Result	Item	S/N		Heat Lot No.	Result		
1	ET2022186-2-05		TM2210060301	Acceptable							
2	ET2022186-2-06		TM2210100201	Acceptable							
3	ET2022186-2-07		TM2210100201	Acceptable							
4	ET2022186-2-08		TM2210100201	Acceptable							
5	ET2022186-2-09		TM2210160301	Acceptable							
6	ET2022186-2-10		TM2210160301	Acceptable							

Sketch/Inspection Coverage:

Fluorescent magnetic particle inspection was performed on all accessible wetted/sealing surface

Evaluation & Disposition : Found to be satisfactory.

Equipment	CJD-9000	MT Code	ASTM E709	Examined BY:  Level as per MT II	Approved by:  Level as per MT II
Test Method	Fulcrum [] Cablel [✓]	Particle Type	Fluorescence Wet		
Exam. Stage	Rough After Ra ≅ 6.3μm	Test Piece	A1-30/100		
Magnetizing time	1-3S	Circular AMPS/Turns	900A/1		
Concentration	0.3ml/100ml	UV-Light Intensity	≥1000Uw/C m²		



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REPORT INDEX

Purchase Order: **ET2022276-1**

Quantity: **6 EA**

Shipment No. :

Shipment Date:

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METALLURGICAL TEST CERTIFICATE

Serial No. :	ET2022276-1-01...06	PO# :	ET2022276	Date:	2023-02-08							
Part No:	SS715-120	API Monogram:	YES	Report#:	2023020801							
Specification:	API Spec 6A/ ASTM A370	Material:	4130 75k per ASTM A29									
Description:	SPACER SPOOL 7 1/16" 15M X 120" EE LU PSL3 PR1			Qty:	6 EA							
TEST CONDITION												
Test Bar Size:	QTC, 4" x 4" x 8"		Bar Di:	12.7 mm (0.5")								
Melt Practice	EF + LF + VD		Reduction Ratio Min:	5:1								
Yield Stress	0.2% offset		Gauge Length	50.8mm								
CHEMICAL COMPOSITION												
Mill No. :	Qty	Test No.	C	Mn	Si	S	P	Ni	Cu	Mo	Cr	V
Spec Min			0.28	0.40	0.15	/	/	/	/	0.15	0.80	/
Spec Max			0.33	0.60	0.35	0.025	0.025	0.50	0.35	0.25	1.10	0.30
220500877	6	1	0.298	0.550	0.240	0.004	0.011	0.030	0.030	0.20	1.01	0.007
MECHANICAL COMPOSITION												
Heat Lot No.	QTY.	Test No.	Yield Strength (Kpsi)	Tensile Strength (Kpsi)	Elongation%	Reduction of Area%	Hardness HB	10mm X 10mm Charpy J (ft. lb) At -46° c	Minimum Lateral	Shear Fraction		
Spec Min			75K	95K	18.0	35.0	197	27J				
Spec Max			/	/	/	/	235	/				
TM2212200201	3	1	79.0K	98.5K	51.0	52.5	218	48;53;68				
TM2212220201	3	1	81.5K	103.5K	49.5	59.4	220	40;58;67				
HEAT TREATMENT												
Forgings:	5:1					Test Bar (OTC)						
Normalized:	900°C 6 HRS					Normalized:	900°C 6 HRS					
Austenitized:	860°C 6 HRS					Austenitized:	860°C 6 HRS					
Quenchant:	Water					Quenchant:	Water					
Start Temp:	27 °C					Start Temp:	27 °C					
End Temp:	36 °C					End Temp:	36 °C					
Temper:	660°C 9 HRS AIR					Temper:	660°C 9 HRS AIR					
We hereby certify that all test results and procedure information contained herein are correct and true as in contained the records of the company and also no welding or weld repair was performed on subject parts.												
Inspected by:	张金龙					Approved by:	徐根					



Hardness Test Report

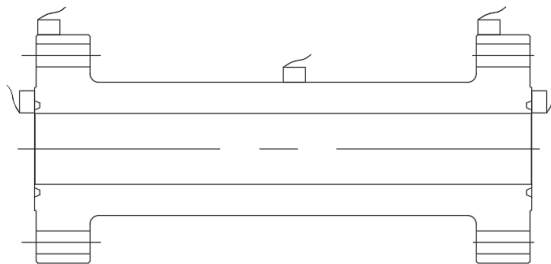
[illegible]



ULTRASONIC EXAMINATION REPORT

[illegible]

Sketch:



ABOVE FORGED ARE ULTRASONICALLY TESTED FOR INTERNAL DEFECTS USSING FLAT-BOTTOM HOLE PROCEDURE;
NO RECORDABLE INDICATION OBSERVED DURING THE TEST. HENCE ACCEPTABLE AS PER STANDARD.

UT Code:ASTM A388	Technique:Straight/Contact	Examined BY:	Approved by:
Exam.Stage: After heat treatment	Calibration Block:CSK IA	  Level as per UT II	Level as per UT II
Equipment:CTS-2020	Couplant: OIL		
Probe Used :2.5Pφ10	Acceptance Criteria: API 6A PSL 3		
Equipment Calibration Date :2022.09.10	Test Gain:20db + 5 db		
Equipment Due Date: 2023.09.09			



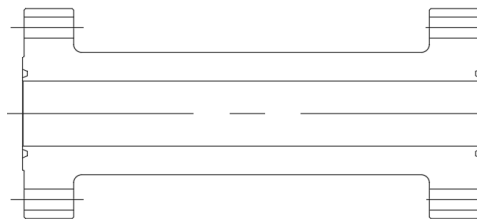
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Magnetic Particle Inspection Report

Serial No. :	ET2022276-1-01...06	PO# :	ET2022276	Date:	2023-02-08
Part No:	SS715-120	API Monogram:	YES	Report#:	2023020801
Specification:	API Spec 6A/ ASTM E709	Material:	4130 75k per ASTM A29		
Description:	SPACER SPOOL 7 1/16" 15M X 120" EE LU PSL3 PR1			Qty:	6 EA

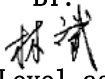
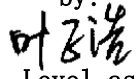
Item	S/N	Heat Lot No.	Result	Item	S/N	Heat Lot No.	Result
1	ET2022276-1-05	TM2212200201	Acceptable				
2	ET2022276-1-06	TM2212200201	Acceptable				
3	ET2022276-1-07	TM2212200201	Acceptable				
4	ET2022276-1-08	TM2212200201	Acceptable				
5	ET2022276-1-09	TM2212200201	Acceptable				
6	ET2022276-1-10	TM2212200201	Acceptable				

Sketch/Inspection Coverage:



Fluorescent magnetic particle inspection was performed on all accessible wetted/sealing surface with acceptable results

Evaluation & Disposition : Found to be satisfactory.

Equipment	CJD-9000	MT Code	ASTM E709	Examined BY:  Level as per MT II	Approved by:  Level as per MT II
Test Method	Fulcrum [] Cable1 [✓]	Particle Type	Fluorescence Wet		
Exam. Stage	Rough After Ra ≤ 6.3μm	Test Piece	A1-30/100		
Magnetizing time	1-3S	Circular AMPS/Turns	900A/1		
Concentration	0.3ml/100ml	UV-Light Intensity	≥1000Uw/C m²		



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Purchase Order: **ET2022301-8**

Quantity: **6 EA**

Shipment No. :

Shipment Date:

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METALLURGICAL TEST CERTIFICATE

Serial No. :	ET2022301-8-16...21	PO# :	ET2022301-8	Date:	2023-03-10							
Part No:	SS715-120	API Monogram:	YES	Report#:	2023031002							
Specification:	API Spec 6A/ASTM A370	Material:	4130 75k per ASTM A29									
Description:	SPACER SPOOL 7 1/16" 15M X 120" EE LU PSL3 PR1			Qty:	6 EA							
TEST CONDITION												
Test Bar Size:	QTC, 4" x 4" x 8"		Bar Di:	12.7 mm (0.5")								
Melt Practice	EF + LF + VD		Reduction Ratio Min:	5:1								
Yield Stress	0.2% offset		Gauge Length	50.8mm								
CHEMICAL COMPOSITION												
Mill No. :	Qty	Test No.	C	Mn	Si	S	P	Ni	Cu	Mo	Cr	V
Spec Min			0.28	0.40	0.15	/	/	/	/	0.15	0.80	/
Spec Max			0.33	0.60	0.35	0.025	0.025	0.50	0.35	0.25	1.10	0.30
220611457	6	1	0.300	0.520	0.230	0.005	0.010	0.030	0.040	0.193	0.970	0.006
MECHANICAL COMPOSITION												
Heat Lot No.	QTY.	Test No.	Yield Strength (Kpsi)	Tensile Strength (Kpsi)	Elongation%	Reduction of Area%	Hardness HB	10mm X 10mm Charpy J (ft. lb) At -46° c	Minimum Lateral	Shear Fraction		
Spec Min			75K	95K	18.0	35.0	197	27J				
Spec Max			/	/	/	/	235	/				
TM2302170301	1	1	76.6K	97.5K	23.0	57.0	222	40;48;55				
TM2302190301	2	2	78.0K	98.0K	24.5	58.5	220	46;51;58				
TM2302210301	2	3	78.5K	98.6K	25.0	57.5	224	62;68;72				
TM2303050301	1	4	79.0K	99.0K	25.6	58.0	225	58;63;69				
HEAT TREATMENT												
Forgings:	5:1					Test Bar (OTC)						
Normalized:	900°C 6 HRS					Normalized:	900°C 6 HRS					
Austenitized:	860°C 6 HRS					Austenitized:	860°C 6 HRS					
Quenchant:	Water					Quenchant:	Water					
Start Temp:	29 °C					Start Temp:	29 °C					
End Temp:	47 °C					End Temp:	47 °C					
Temper:	660°C 9 HRS AIR					Temper:	660°C 9 HRS AIR					
We hereby certify that all test results and procedure information contained herein are correct and true as in contained the records of the company and also no welding or weld repair was performed on subject parts.												
Inspected by:						Approved by:						



Hardness Test Report

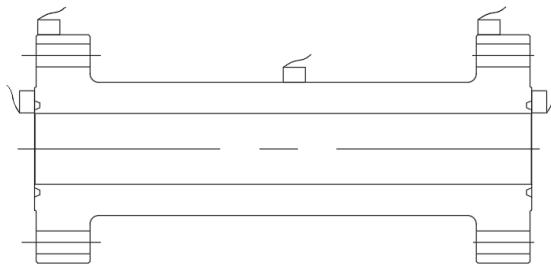
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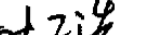
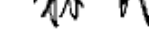
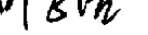
ULTRASONIC EXAMINATION REPORT

[illegible]

Sketch:



ABOVE FORGED ARE ULTRASONICALLY TESTED FOR INTERNAL DEFECTS USSING FLAT-BOTTOM HOLE PROCEDURE;
NO RECORDABLE INDICATION OBSERVED DURING THE TEST. HENCE ACCEPTABLE AS PER STANDARD.

UT Code:ASTM A388	Technique:Straight/Contact	Examined BY:	Approved by:
Exam.Stage: After heat treatment	Calibration Block:CSK IA	 	 
Equipment:CTS-2020	Couplant: OIL		
Probe Used :2.5Pφ10	Acceptance Criteria: API 6A PSL 3		
Equipment Calibration Date :2022.09.10	Test Gain:20db + 5 db		
Equipment Due Date: 2023.09.09			
		Level as per UT II	Level as per UT II



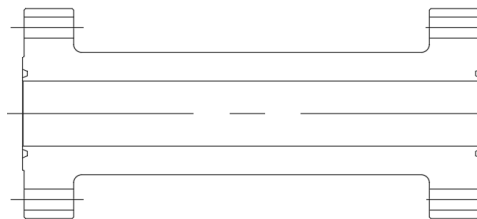
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Magnetic Particle Inspection Report

Serial No. :	ET2022301-8-16...21	PO# :	ET2022301-8	Date:	2023-03-10
Part No:	SS715-120	API Monogram:	YES	Report#:	2023031002
Specification:	API Spec 6A/ASTM E709	Material:	4130 75k per ASTM A29		
Description:	SPACER SPOOL 7 1/16" 15M X 120" EE LU PSL3 PR1			Qty:	6 EA

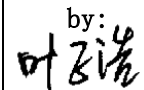
Item	S/N	Heat Lot No.	Result	Item	S/N	Heat Lot No.	Result
1	ET2022301-8-16	TM2302170301	Acceptable				
2	ET2022301-8-17	TM2302190301	Acceptable				
3	ET2022301-8-18	TM2302190301	Acceptable				
4	ET2022301-8-19	TM2302210301	Acceptable				
5	ET2022301-8-20	TM2302210301	Acceptable				
6	ET2022301-8-21	TM2303050301	Acceptable				

Sketch/Inspection Coverage:



Fluorescent magnetic particle inspection was performed on all accessible wetted/sealing surface with acceptable results

Evaluation & Disposition : Found to be satisfactory.

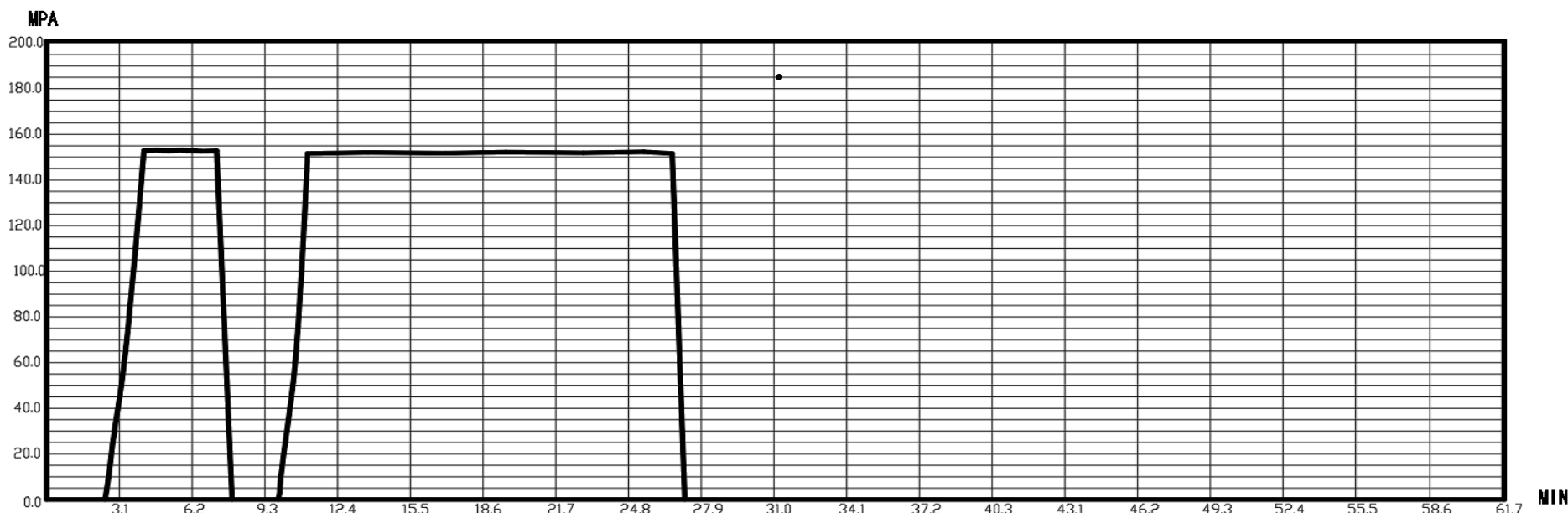
Equipment	CJD-9000	MT Code	ASTM E709	Examined BY:  Level as per MT II	Approved by:  Level as per MT II
Test Method	Fulcrum [] Cable1 [✓]	Particle Type	Fluorescence Wet		
Exam. Stage	Rough After Ra ≤ 6.3μm	Test Piece	A1-30/100		
Magnetizing time	1-3S	Circular AMPS/Turns	900A/1		
Concentration	0.3ml/100ml	UV-Light Intensity	≥1000Uw/C m²		



C&W International Fabricators

HYDRASTATIC TEST REPORT

Description:	SPACER SPOOL 7 1/16" 15M X 120" EE LU PSL3 PR1		Serial NO.:	ET2022301-8-16	
Item	Pressure (Mpa)	Method (Min)	Result	Date:	2023.03.21
BODY TEST	155.8MPa	HOLDINGPERIOD 3	Acceptable	Start Time	17: 18: 21
BODY TEST	155.6MPa	HOLDINGPERIOD 15	Acceptable	End Time	17: 43: 44



Gage SN :	TTA-032	Test Spec:	API6A/PSL3
Test Medium:	Water	Test Temp.:	ROOM

No visible leakage shall occur each holding period

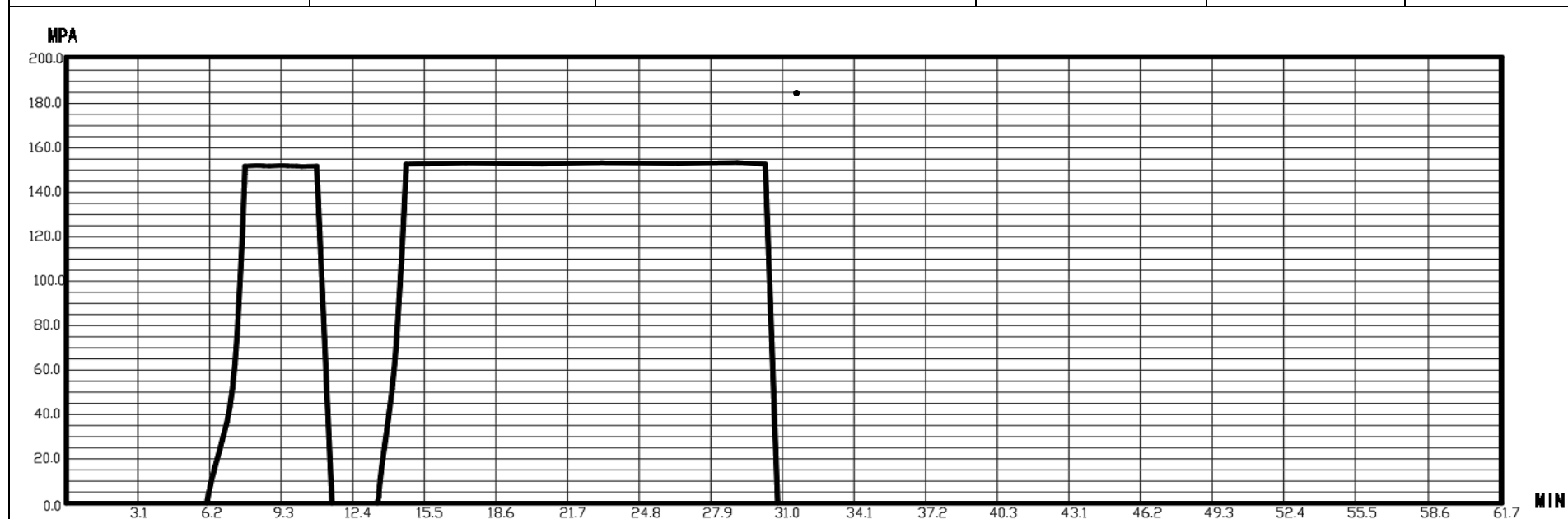
Checker: 朱宇 Date: 2023.03.21



C&W International Fabricators

HYDRASTATIC TEST REPORT

Description:	SPACER SPOOL 7 1/16" 15M X 120" EE LU PSL3 PR1		Serial NO. :	ET2022301-8-17	
Item	Pressure (Mpa)	Method (Min)	Result	Date:	2023.03.21
BODY TEST	155.5MPa	HOLDINGPERIOD 3	Acceptable	Start Time	18: 05: 13
BODY TEST	155.8MPa	HOLDINGPERIOD 15	Acceptable	End Time	18: 30: 35



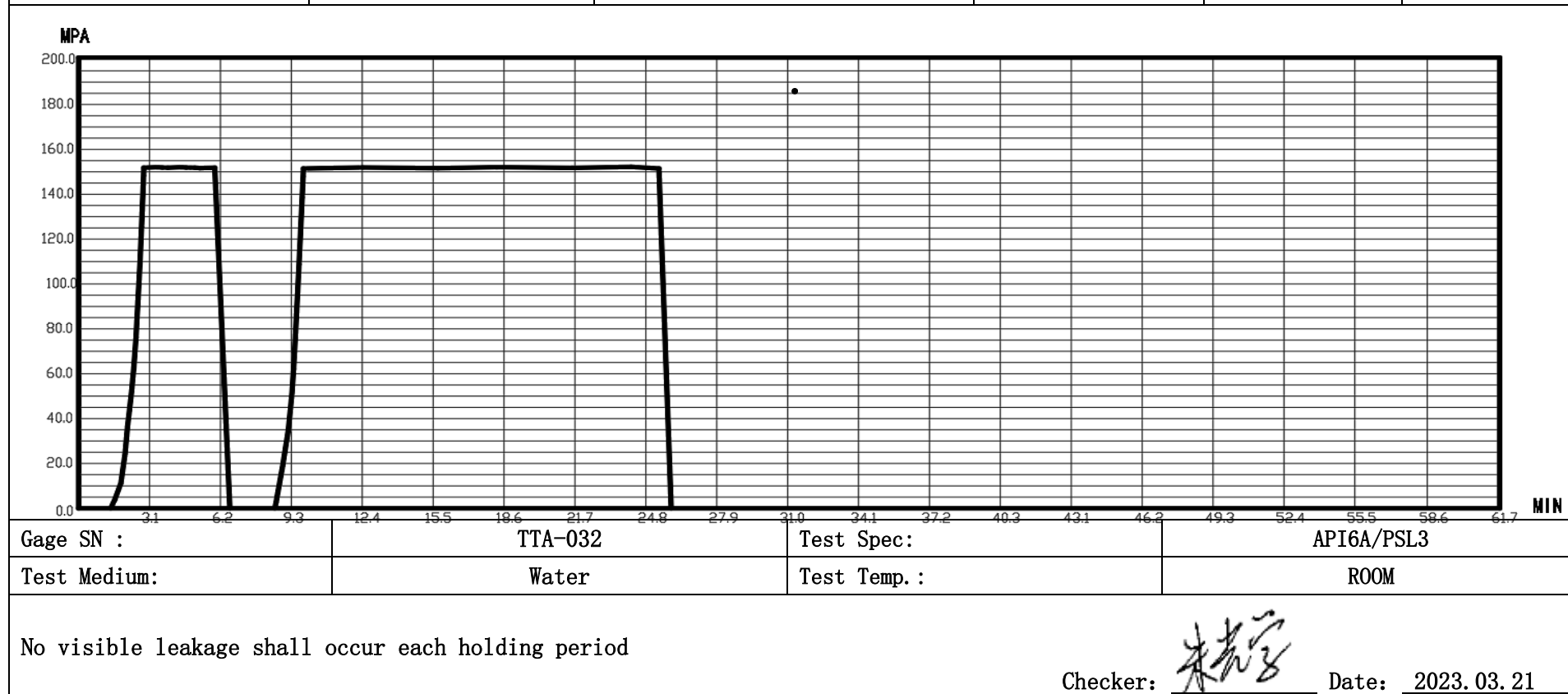
Gage SN :	TTA-032	Test Spec:	API6A/PSL3
Test Medium:	Water	Test Temp. :	ROOM
No visible leakage shall occur each holding period			
Checker:		Date: 2023.03.21	



C&W International Fabricators

HYDRASTATIC TEST REPORT

Description:	SPACER SPOOL 7 1/16" 15M X 120" EE LU PSL3 PR1		Serial NO. :	ET2022301-8-18	
Item	Pressure (Mpa)	Method (Min)	Result	Date:	2023.03.21
BODY TEST	155.5MPa	HOLDINGPERIOD 3	Acceptable	Start Time	18: 44: 00
BODY TEST	155.8MPa	HOLDINGPERIOD 15	Acceptable	End Time	19: 09: 19

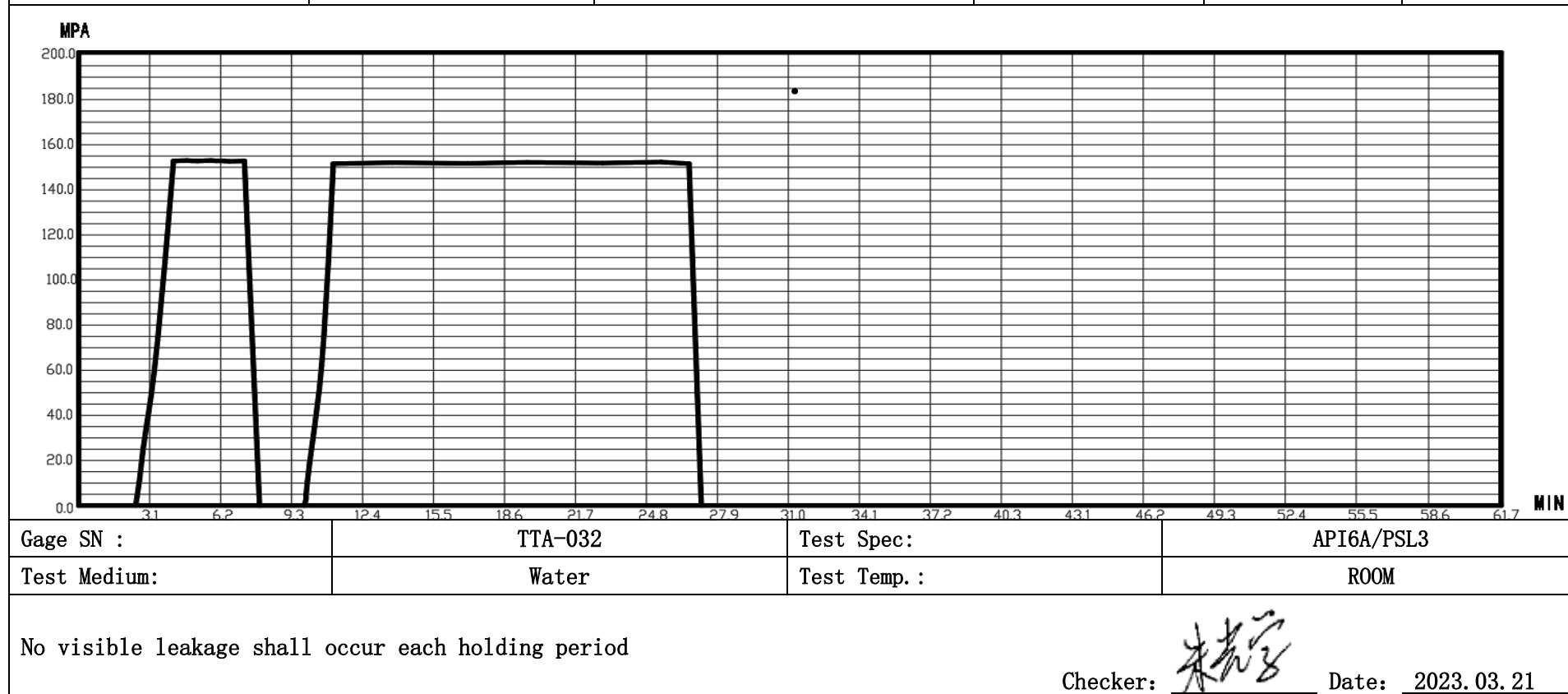




C&W International Fabricators

HYDRASTATIC TEST REPORT

Description:	SPACER SPOOL 7 1/16" 15M X 120" EE LU PSL3 PR1		Serial NO.:	ET2022301-8-19	
Item	Pressure (Mpa)	Method (Min)	Result	Date:	2023.03.21
BODY TEST	155.6MPa	HOLDINGPERIOD 3	Acceptable	Start Time	19: 50: 25
BODY TEST	155.5MPa	HOLDINGPERIOD 15	Acceptable	End Time	20: 15: 51

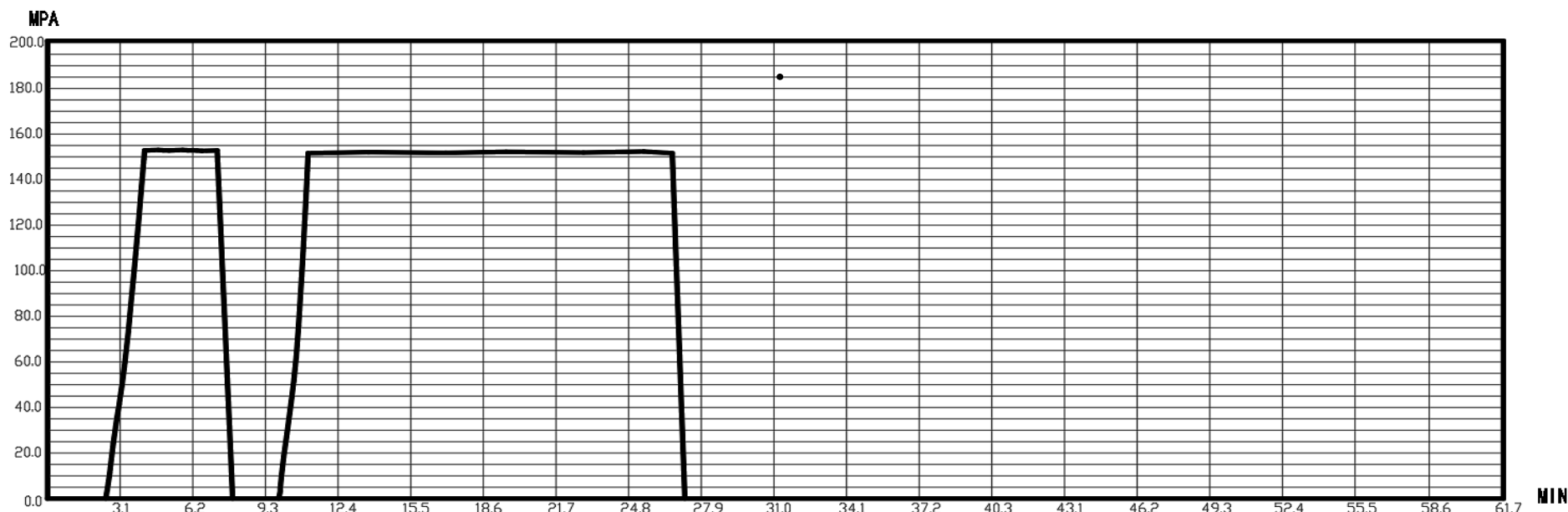




C&W International Fabricators

HYDRASTATIC TEST REPORT

Description:	SPACER SPOOL 7 1/16" 15M X 120" EE LU PSL3 PR1		Serial NO.:	ET2022301-8-20	
Item	Pressure (Mpa)	Method (Min)	Result	Date:	2023.03.22
BODY TEST	155.6MPa	HOLDINGPERIOD 3	Acceptable	Start Time	08: 37: 17
BODY TEST	155.8MPa	HOLDINGPERIOD 15	Acceptable	End Time	09: 02: 43



Gage SN :	TTA-032	Test Spec:	API6A/PSL3
Test Medium:	Water	Test Temp.:	ROOM

No visible leakage shall occur each holding period

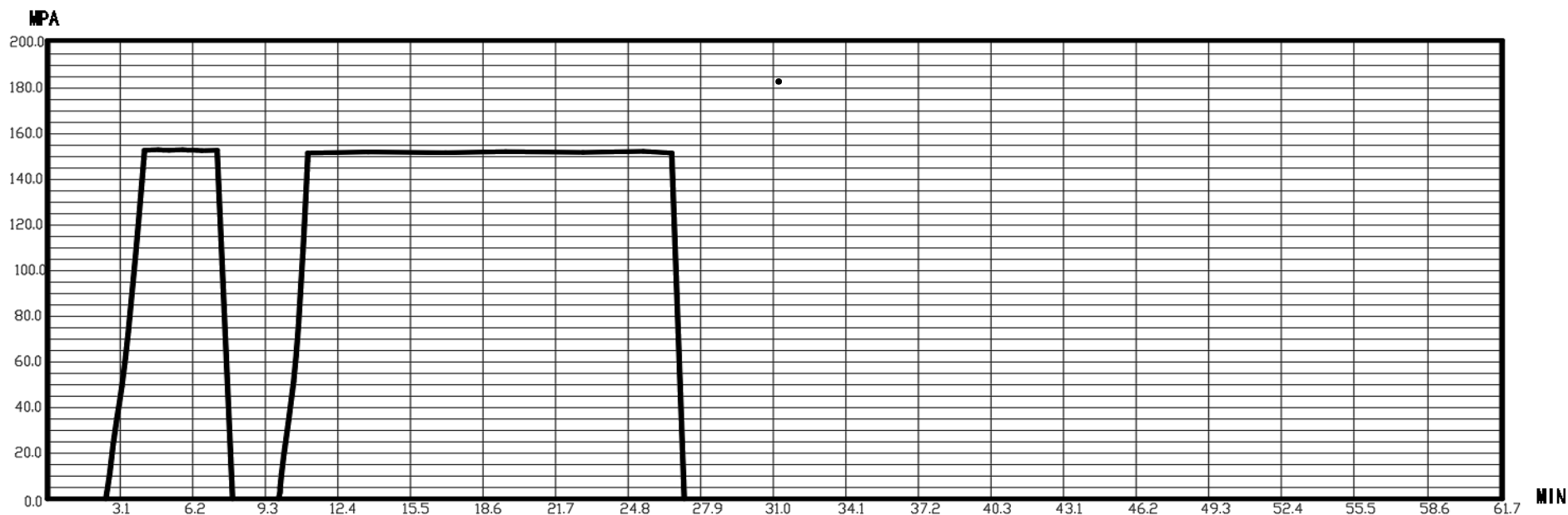
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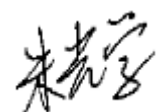
HYDRASTATIC TEST REPORT

Description:	SPACER SPOOL 7 1/16" 15M X 120" EE LU PSL3 PR1		Serial NO.:	ET2022301-8-21	
Item	Pressure (Mpa)	Method (Min)	Result	Date:	2023.03.22
BODY TEST	155.5MPa	HOLDINGPERIOD 3	Acceptable	Start Time	09: 27: 10
BODY TEST	155.8MPa	HOLDINGPERIOD 15	Acceptable	End Time	09: 52: 32



Gage SN :	TTA-032	Test Spec:	API6A/PSL3
Test Medium:	Water	Test Temp. :	ROOM

No visible leakage shall occur each holding period

Checker:  Date: 2023.03.22



C&W International Fabricators

REPORT INDEX

Purchase Order: **ET2022301-8**

Quantity: **8 EA**

Shipment No. :

Shipment Date:

Activity No.	Characteristics	Reference Page
1.1	SPACER SPOOL 7 1/16" 15M X 120"	Page-2
1.1.1	Metallurgical Test Certificate	Page-2
1.1.2	Mechanical Testing	Page-2
1.1.3	Chemical Testing	Page-2
1.1.4	Heat Treatment	Page-2
2.1	Hardness Test	Page-3
2.2	Ultrasonic Testing	Page-4
2.3	Magnetic Particle Inspection Report	Page-5
3.0	Hydrostatic Test Report	Page-6



C&W International Fabricators

METALLURGICAL TEST CERTIFICATE

Serial No. :	ET2022301-8-34...39	PO# :	ET2022301-8	Date:	2023-04-20							
Part No:	SS715-120	API Monogram:	YES	Report#:	2023042001							
Specification:	API Spec 6A/ASTM A370	Material:	4130 75k per ASTM A29									
Description:	SPACER SPOOL 7 1/16" 15M X 120" EE LU PSL3 PR1			Qty:	6 EA							
TEST CONDITION												
Test Bar Size:	QTC, 4" x 4" x 8"		Bar Di:	12.7 mm (0.5")								
Melt Practice	EF + LF + VD		Reduction Ratio Min:	5:1								
Yield Stress	0.2% offset		Gauge Length	50.8mm								
CHEMICAL COMPOSITION												
Mill No. :	Qty	Test No.	C	Mn	Si	S	P	Ni	Cu	Mo	Cr	V
Spec Min			0.28	0.40	0.15	/	/	/	/	0.15	0.80	/
Spec Max			0.33	0.60	0.35	0.025	0.025	0.50	0.35	0.25	1.10	0.30
220611457	6	1	0.300	0.520	0.230	0.005	0.010	0.030	0.040	0.193	0.970	0.006
MECHANICAL COMPOSITION												
Heat Lot No.	QTY.	Test No.	Yield Strength (Kpsi)	Tensile Strength (Kpsi)	Elongation%	Reduction of Area%	Hardness HB	10mm X 10mm Charpy J (ft. lb) At -46° c	Minimum Lateral	Shear Fraction		
Spec Min			75K	95K	18.0	35.0	197	27J				
Spec Max			/	/	/	/	235	/				
TM2303260201	2	1	78.5K	97.6K	26.0	55.0	222	63;68;77				
TM2304080301	2	2	78.0K	98.0K	25.5	53.5	220	49;59;67				
TM2304200201	2	3	79.0K	98.5K	25.0	51.0	225	83;89;96				
HEAT TREATMENT												
Forgings:	5:1					Test Bar (OTC)						
Normalized:	900°C 6 HRS					Normalized:	900°C 6 HRS					
Austenitized:	860°C 6 HRS					Austenitized:	860°C 6 HRS					
Quenchant:	Water					Quenchant:	Water					
Start Temp:	30 °C					Start Temp:	30 °C					
End Temp:	37 °C					End Temp:	37 °C					
Temper:	660°C 9 HRS AIR					Temper:	660°C 9 HRS AIR					
We hereby certify that all test results and procedure information contained herein are correct and true as in contained the records of the company and also no welding or weld repair was performed on subject parts.												
Inspected by:						Approved by:						



Hardness Test Report

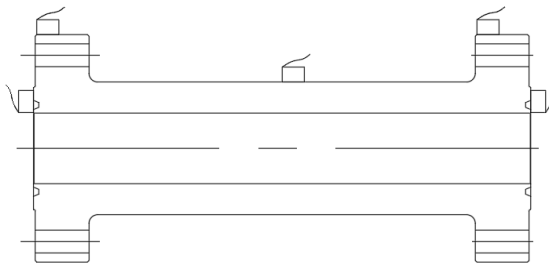
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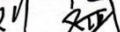
ULTRASONIC EXAMINATION REPORT

[illegible]

Sketch:



ABOVE FORGED ARE ULTRASONICALLY TESTED FOR INTERNAL DEFECTS USSING FLAT-BOTTOM HOLE PROCEDURE;
NO RECORDABLE INDICATION OBSERVED DURING THE TEST. HENCE ACCEPTABLE AS PER STANDARD.

UT Code:ASTM A388	Technique:Straight/Contact	Examined BY:	Approved by:
Exam.Stage: After heat treatment	Calibration Block:CSK IA	 Lin Bin Level as per UT II	 Bin Liu Level as per UT III
Equipment:CTS-2020	Couplant:OIL		
Probe Used :Straight Probe2.5MHz ϕ 24mm DIA	Acceptance Criteria: API 6A PSL 3		
Equipment Calibration Date :2022.09.10	Test Gain:20db + 5 db		
Equipment Due Date: 2023.09.09			

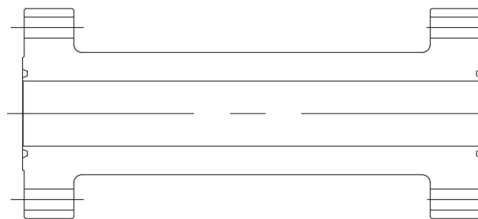


Magnetic Particle Inspection Report

Serial No. :	ET2022301-8-34...39	PO# :	ET2022301-8	Date:	2023-04-20
Part No:	SS715-120	API Monogram:	YES	Report#:	2023042001
Specification:	API Spec 6A/ASTM E709	Material:	4130 75k per ASTM A29		
Description:	SPACER SPOOL 7 1/16" 15M X 120" EE LU PSL3 PR1			Qty:	6 EA

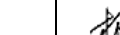
[illegible]

Sketch/Inspection Coverage:



Fluorescent magnetic particle inspection was performed on all accessible wetted/sealing surface with acceptable results

Evaluation & Disposition :	Found to be satisfactory.
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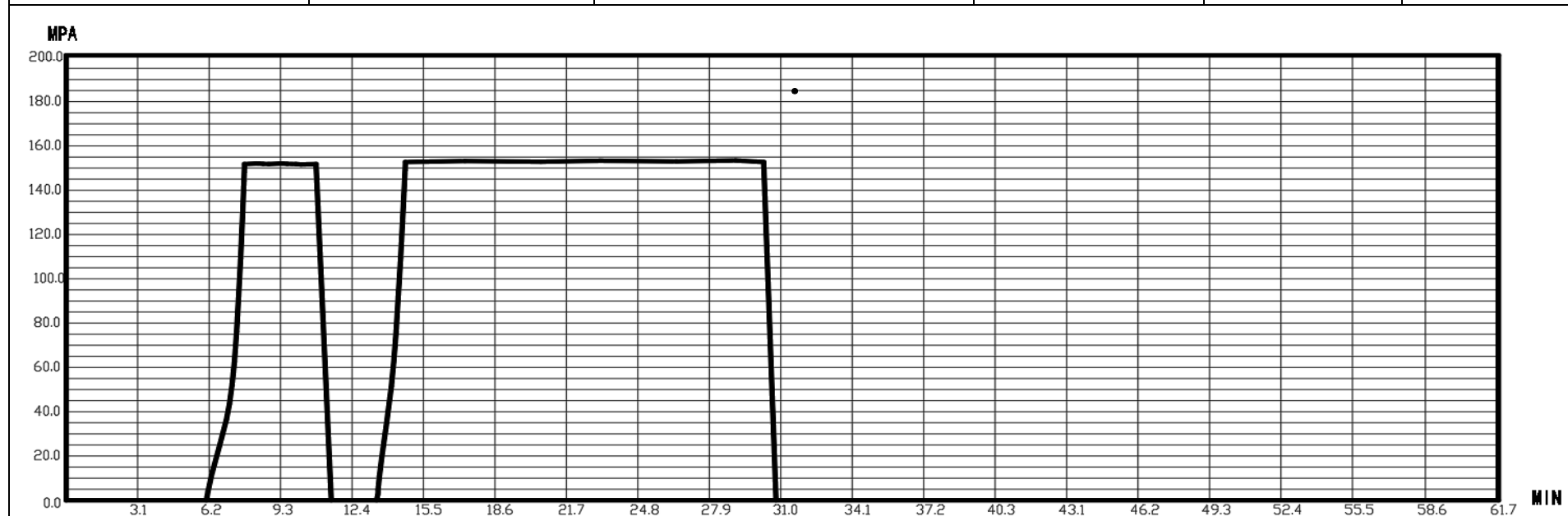
Equipment	CJD-9000	MT Code	ASTM E709	Examined	Approved
Test Method	Fulcrum [] Cable [✓]	Particle Type	Fluorescence Wet	BY:  Lin Bin	by:  Ye Zhenghao
Exam. Stage	Rough After Ra ≤ 6.3μm	Test Piece	A1-30/100	Level as	Zhenghao
Magnetizing time	1-3S	Circular AMPS/Turns	900A/1	per	Level as
Concentration	0.3ml/100ml	UV-Light Intensity	≥1100Uw/C m²	MT II	per MT II

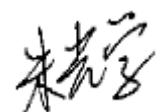


C&W International Fabricators

HYDRASTATIC TEST REPORT

Description:	SPACER SPOOL 7 1/16" 15M X 120" EE LU PSL3 PR1		Serial NO.:	ET2022301-8-34	
Item	Pressure (Mpa)	Method (Min)	Result	Date:	2023.04.22
BODY TEST	155.9MPa-155.5MPa	HOLDINGPERIOD 3	Acceptable	Start Time	11: 10: 14
BODY TEST	156.5MPa-155.8MPa	HOLDINGPERIOD 15	Acceptable	End Time	11: 35: 31



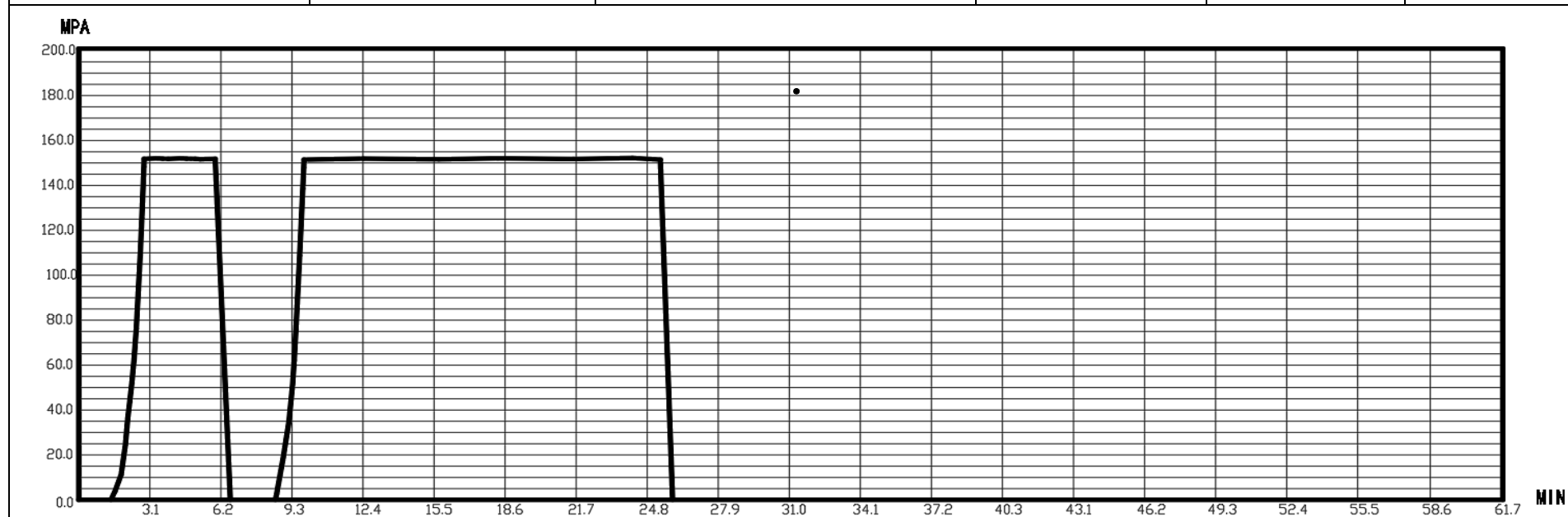
Gage SN :	TTA-032	Test Spec:	API6A/PSL3
Test Medium:	Water	Test Temp.:	ROOM
No visible leakage shall occur each holding period			
Checker: 		Date: 2023.04.22	



C&W International Fabricators

HYDRASTATIC TEST REPORT

Description:	SPACER SPOOL 7 1/16" 15M X 120" EE LU PSL3 PR1		Serial NO.:	ET2022301-8-35	
Item	Pressure (Mpa)	Method (Min)	Result	Date:	2023.04.22
BODY TEST	156.6MPa-155.9MPa	HOLDINGPERIOD 3	Acceptable	Start Time	13: 48: 03
BODY TEST	156.3MPa-155.8MPa	HOLDINGPERIOD 15	Acceptable	End Time	14: 13: 22



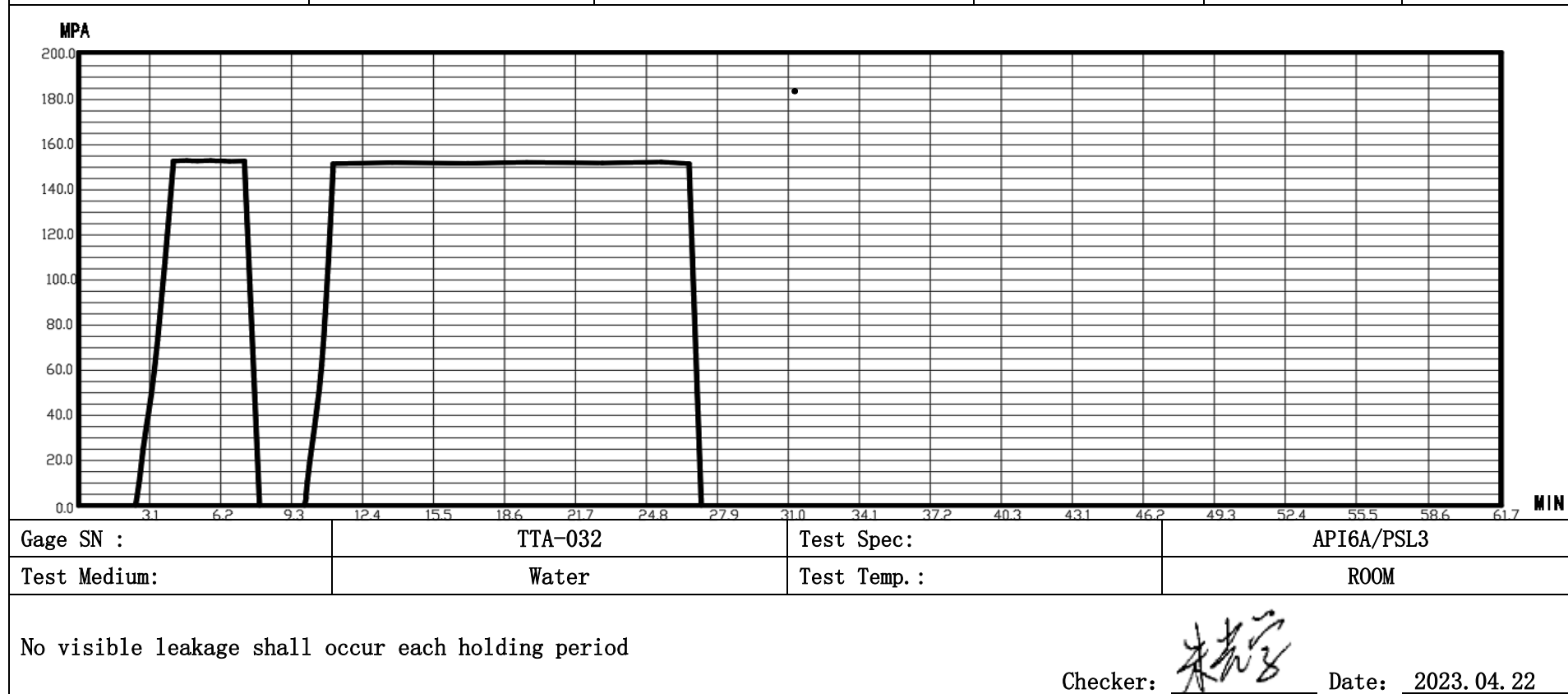
Gage SN :	TTA-032	Test Spec:	API6A/PSL3
Test Medium:	Water	Test Temp.:	ROOM
No visible leakage shall occur each holding period			
Checker:		Date: 2023.04.22	



C&W International Fabricators

HYDRASTATIC TEST REPORT

Description:	SPACER SPOOL 7 1/16" 15M X 120" EE LU PSL3 PR1		Serial NO.:	ET2022301-8-36	
Item	Pressure (Mpa)	Method (Min)	Result	Date:	2023.04.22
BODY TEST	155.9MPa-155.7MPa	HOLDINGPERIOD 3	Acceptable	Start Time	14: 51: 17
BODY TEST	156.6MPa-155.8MPa	HOLDINGPERIOD 15	Acceptable	End Time	15: 16: 38

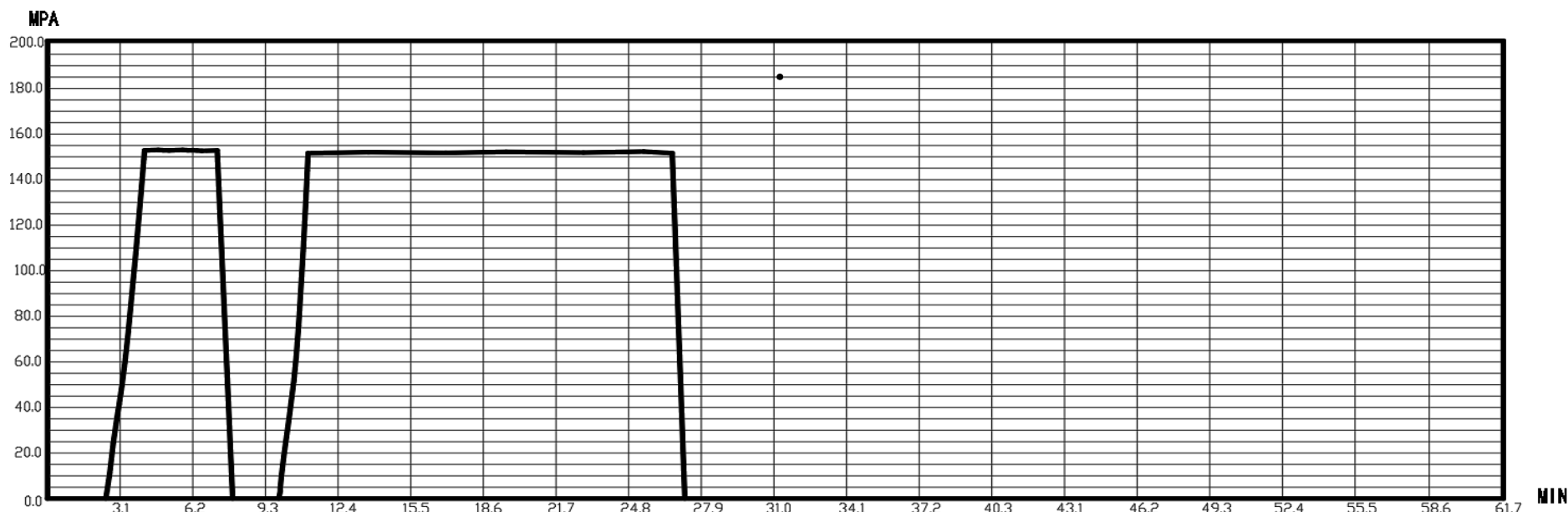




C&W International Fabricators

HYDRASTATIC TEST REPORT

Description:	SPACER SPOOL 7 1/16" 15M X 120" EE LU PSL3 PR1		Serial NO.:	ET2022301-8-37	
Item	Pressure (Mpa)	Method (Min)	Result	Date:	2023.04.22
BODY TEST	156.2MPa-155.6MPa	HOLDINGPERIOD 3	Acceptable	Start Time	15: 29: 02
BODY TEST	156.5MPa-155.8MPa	HOLDINGPERIOD 15	Acceptable	End Time	15: 54: 21



Gage SN :	TTA-032	Test Spec:	API6A/PSL3
Test Medium:	Water	Test Temp.:	ROOM

No visible leakage shall occur each holding period

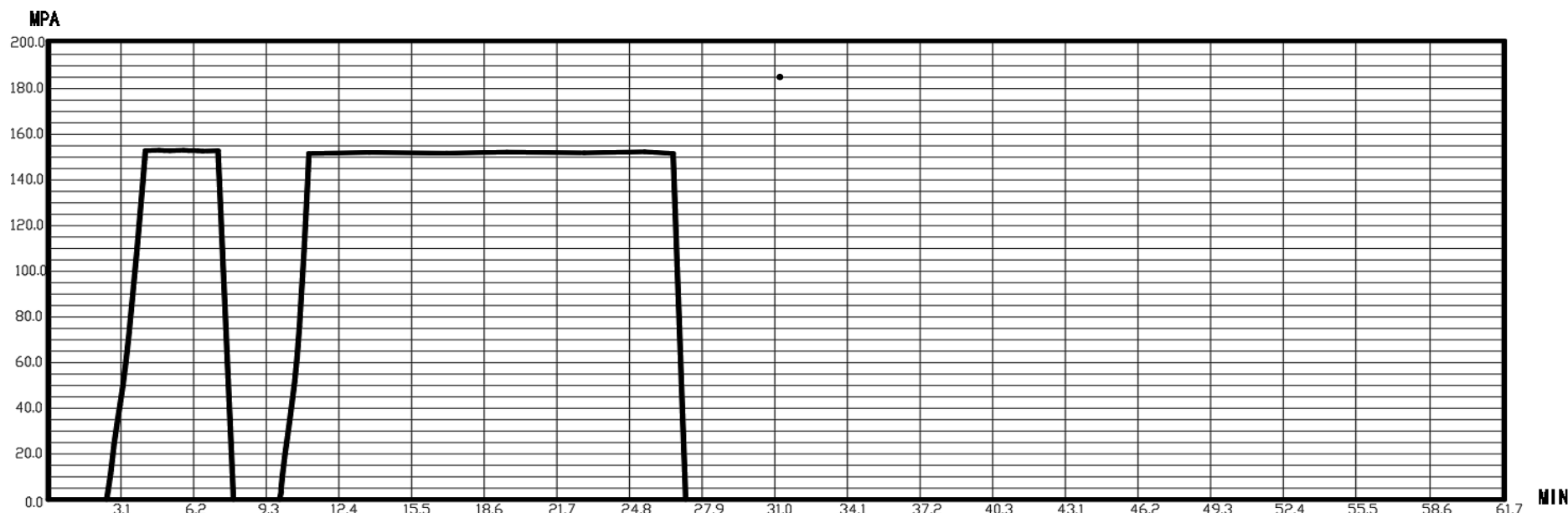
Checker: 朱宇 Date: 2023.04.22



C&W International Fabricators

HYDRASTATIC TEST REPORT

Description:	SPACER SPOOL 7 1/16" 15M X 120" EE LU PSL3 PR1		Serial NO.:	ET2022301-8-38	
Item	Pressure (Mpa)	Method (Min)	Result	Date:	2023.04.22
BODY TEST	156.3MPa-155.7MPa	HOLDINGPERIOD 3	Acceptable	Start Time	16: 29: 31
BODY TEST	156.2MPa-155.6MPa	HOLDINGPERIOD 15	Acceptable	End Time	16: 54: 50



Gage SN :	TTA-032	Test Spec:	API6A/PSL3
Test Medium:	Water	Test Temp.:	ROOM

No visible leakage shall occur each holding period

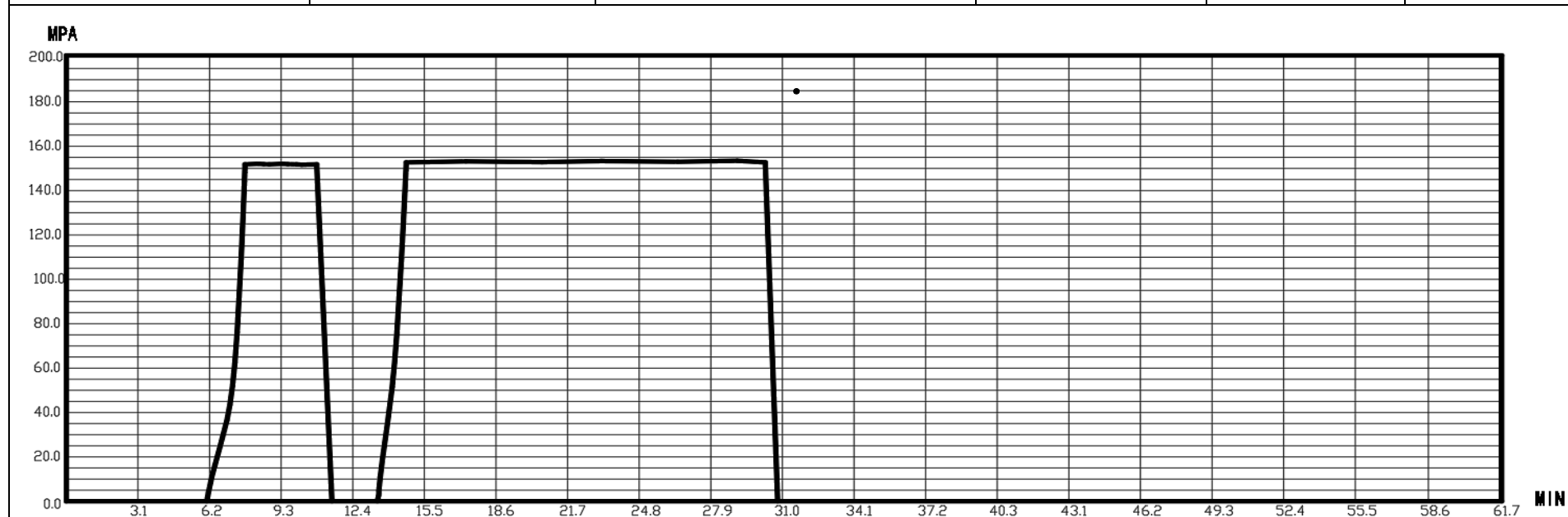
Checker: 朱宇 Date: 2023.04.22



C&W International Fabricators

HYDRASTATIC TEST REPORT

Description:	SPACER SPOOL 7 1/16" 15M X 120" EE LU PSL3 PR1		Serial NO.:	ET2022301-8-39	
Item	Pressure (Mpa)	Method (Min)	Result	Date:	2023.04.22
BODY TEST	156.4MPa-155.6MPa	HOLDINGPERIOD 3	Acceptable	Start Time	17: 17: 19
BODY TEST	156.7MPa-155.9MPa	HOLDINGPERIOD 15	Acceptable	End Time	17: 42: 38



Gage SN :	TTA-032	Test Spec:	API6A/PSL3
Test Medium:	Water	Test Temp.:	ROOM

No visible leakage shall occur each holding period

Checker: 朱宇 Date: 2023.04.22



C&W International Fabricators

REPORT INDEX

Purchase Order: **ET2022276-1**

Quantity: **4 EA**

Shipment No. :

Shipment Date:

Activity No.	Characteristics	Reference Page
1.1	SPACER SPOOL 7 1/16" 15M X 120"	Page-2
1.1.1	Metallurgical Test Certificate	Page-2
1.1.2	Mechanical Testing	Page-2
1.1.3	Chemical Testing	Page-2
1.1.4	Heat Treatment	Page-2
2.1	Hardness Test	Page-3
2.2	Ultrasonic Testing	Page-4
2.3	Magnetic Particle Inspection Report	Page-5



C&W International Fabricators

METALLURGICAL TEST CERTIFICATE

Serial No. :	ET2022276-1-11...14	PO# :	ET2022276	Date:	2023-02-24							
Part No:	SS715-120	API Monogram:	YES	Report#:	2023022401							
Specification:	API Spec 6A/ ASTM A370	Material:	4130 75k per ASTM A29									
Description:	SPACER SPOOL 7 1/16" 15M X 120" EE LU PSL3 PR1			Qty:	4 EA							
TEST CONDITION												
Test Bar Size:	QTC, 4" x 4" x 8"		Bar Di:	12.7 mm (0.5")								
Melt Practice	EF + LF + VD		Reduction Ratio Min:	5:1								
Yield Stress	0.2% offset		Gauge Length	50.8mm								
CHEMICAL COMPOSITION												
Mill No. :	Qty	Test No.	C	Mn	Si	S	P	Ni	Cu	Mo	Cr	V
Spec Min			0.28	0.40	0.15	/	/	/	/	0.15	0.80	/
Spec Max			0.33	0.60	0.35	0.025	0.025	0.50	0.35	0.25	1.10	0.30
220500877	6	1	0.298	0.550	0.240	0.004	0.011	0.030	0.030	0.20	1.01	0.007
MECHANICAL COMPOSITION												
Heat Lot No.	QTY.	Test No.	Yield Strength (Kpsi)	Tensile Strength (Kpsi)	Elongation%	Reduction of Area%	Hardness HB	10mm X 10mm Charpy J (ft. lb) At -46° c	Minimum Lateral	Shear Fraction		
Spec Min			75K	95K	18.0	35.0	197	27J				
Spec Max			/	/	/	/	235	/				
TM2212230301	2	1	78.2K	98.5K	22.5	52.5	222	41;44;48				
TM2212240201	2	1	81.5K	103.5K	23.8	59.4	225	40;48;55				
HEAT TREATMENT												
Forgings:	5:1		Test Bar (OTC)									
Normalized:	900°C 6 HRS		Normalized:									
Austenitized:	860°C 6 HRS		Austenitized:									
Quenchant:	Water		Quenchant:									
Start Temp:	29 °C		Start Temp:									
End Temp:	39 °C		End Temp:									
Temper:	660°C 9 HRS AIR		Temper:									
We hereby certify that all test results and procedure information contained herein are correct and true as in contained the records of the company and also no welding or weld repair was performed on subject parts.												
Inspected by:	张金龙		Approved by:		徐根							



Hardness Test Report

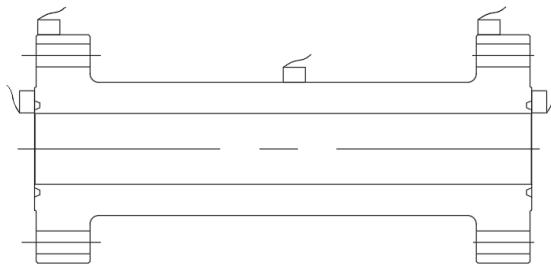
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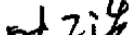
ULTRASONIC EXAMINATION REPORT

[illegible]

Sketch:



ABOVE FORGED ARE ULTRASONICALLY TESTED FOR INTERNAL DEFECTS USSING FLAT-BOTTOM HOLE PROCEDURE;
NO RECORDABLE INDICATION OBSERVED DURING THE TEST. HENCE ACCEPTABLE AS PER STANDARD.

UT Code:ASTM A388	Technique:Straight/Contact	Examined BY:	Approved by:
Exam.Stage: After heat treatment	Calibration Block:CSK IA	 Level as per UT II	 Level as per UT II
Equipment:CTS-2020	Couplant: OIL		
Probe Used :2.5Pφ10	Acceptance Criteria: API 6A PSL 3		
Equipment Calibration Date :2022.09.10	Test Gain:20db + 5 db		
Equipment Due Date: 2023.09.09			

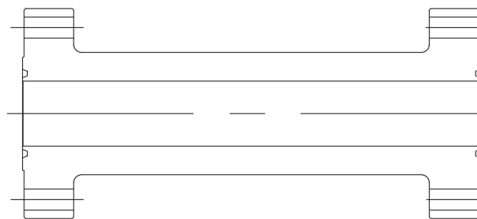


Magnetic Particle Inspection Report

Serial No. :	ET2022276-1-11...14	PO# :	ET2022276	Date:	2023-02-24
Part No:	SS715-120	API Monogram:	YES	Report#:	2023022401
Specification:	API Spec 6A/ ASTM E709	Material:	4130 75k per ASTM A29		
Description:	SPACER SPOOL 7 1/16" 15M X 120" EE LU PSL3 PR1			Qty:	4 EA

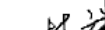
[illegible]

Sketch/Inspection Coverage:



Fluorescent magnetic particle inspection was performed on all accessible wetted/sealing surface with acceptable results

Evaluation & Disposition : Found to be satisfactory.

Equipment	CJD-9000	MT Code	ASTM E709	Examined	Approved
Test Method	Fulcrum [] Cable1 [✓]	Particle Type	Fluorescence Wet	BY: 	by: 
Exam. Stage	Rough After Ra ≤ 6.3μm	Test Piece	A1-30/100	Level as	Level as
Magnetizing time	1-3S	Circular AMPS/Turns	900A/1	per	per
Concentration	0.3ml/100ml	UV-Light Intensity	≥1000Uw/C m²	MT II	MT II



C&W International Fabricators

REPORT INDEX

Purchase Order: **ET2022301-12**

Quantity: **12 EA**

Shipment No. :

Shipment Date:

Activity No.	Characteristics	Reference Page
1.1	SPACER SPOOL 7 1/16" 15M X 36"	Page-2
1.1.1	Metallurgical Test Certificate	Page-2
1.1.2	Mechanical Testing	Page-2
1.1.3	Chemical Testing	Page-2
1.1.4	Heat Treatment	Page-2
2.1	Hardness Test	Page-3
2.2	Ultrasonic Testing	Page-4
2.3	Magnetic Particle Inspection Report	Page-5
3.0	Hydrostatic Test Report	Page-6



C&W International Fabricators

METALLURGICAL TEST CERTIFICATE

Serial No. :	ET2022301-12-01...12	PO# :	ET2022301-12	Date:	2023-03-10
Part No:	SS715-36	API Monogram:	YES	Report#:	2023031003
Specification:	API Spec 6A/ASTM A370	Material:	4130 75k per ASTM A29		
Description:	SPACER SPOOL 7 1/16" 15M X 36" EE LU PSL3 PR1			Qty:	12 EA

TEST CONDITION

Test Bar Size:	QTC, 4" x 4" x 8"	Bar Di:	12.7 mm (0.5")
Melt Practice	EF + LF + VD	Reduction Ratio Min:	5:1
Yield Stress	0.2% offset	Gauge Length	50.8mm

CHEMICAL COMPOSITION

Mill No. :	Qty	Test No.	C	Mn	Si	S	P	Ni	Cu	Mo	Cr	V
Spec Min			0.28	0.40	0.15	/	/	/	/	0.15	0.80	/
Spec Max			0.33	0.60	0.35	0.025	0.025	0.50	0.35	0.25	1.10	0.30
2087148Z	12	1	0.300	0.540	0.260	0.005	0.011	0.050	0.060	0.160	1.060	0.006

MECHANICAL COMPOSITION

Heat Lot No.	QTY.	Test No.	Yield Strength (Kpsi)	Tensile Strength (Kpsi)	Elongation%	Reduction of Area%	Hardness HB	10mm X 10mm Charpy J (ft. lb) At -46° c	Minimum Lateral	Shear Fraction
Spec Min			75K	95K	18.0	35.0	197	27J		
Spec Max			/	/	/	/	235	/		
TM2302280201	12	1	78.5K	99.5K	25.6	53.0	220	43;49;56		

HEAT TREATMENT

Forgings:	5:1	Test Bar (OTC)	
Normalized:	900°C 6 HRS	Normalized:	900°C 6 HRS
Austenitized:	860°C 6 HRS	Austenitized:	860°C 6 HRS
Quenchant:	Water	Quenchant:	Water
Start Temp:	28 °C	Start Temp:	28 °C
End Temp:	48 °C	End Temp:	48 °C
Temper:	660°C 9 HRS AIR	Temper:	660°C 9 HRS AIR

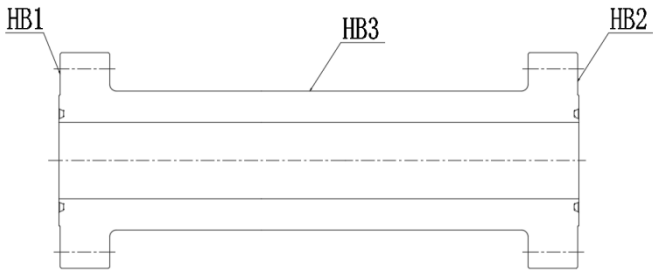
We hereby certify that all test results and procedure information contained herein are correct and true as in contained the records of the company and also no welding or weld repair was performed on subject parts.

Inspected by:	张金龙	Approved by:	徐俊
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C&W International Fabricators

Hardness Test Report

Serial No. :	ET2022301-12-01...12	PO# :	ET2022301-12	Date:	2023-03-10					
Part No:	SS715-36	API Monogram:	YES	Report#:	2023031003					
Specification:	API Spec 6A/ASTM A370	Material:	4130 75k per ASTM A29							
Description:	SPACER SPOOL 7 1/16" 15M X 36" EE LU PSL3 PR1							Qty:	12 EA	
Item	S/N	Heat Lot No.	HB1	HB2	HB3	HB4	HB5	HB6	HB7	HB8
1	ET2022301-12-01	TM2302280201	217	221	219					
2	ET2022301-12-02	TM2302280201	221	223	221					
3	ET2022301-12-03	TM2302280201	215	217	215					
4	ET2022301-12-04	TM2302280201	223	221	221					
5	ET2022301-12-05	TM2302280201	221	217	219					
6	ET2022301-12-06	TM2302280201	225	221	223					
7	ET2022301-12-07	TM2302280201	215	217	215					
8	ET2022301-12-08	TM2302280201	217	212	215					
9	ET2022301-12-09	TM2302280201	221	223	221					
10	ET2022301-12-10	TM2302280201	223	221	223					
11	ET2022301-12-11	TM2302280201	215	217	215					
12	ET2022301-12-12	TM2302280201	217	221	219					
Sketch:										
										
Method Used:	Impact Energy:3000Kg. Diameter of steel ball:10mm									
Acceptable Hardness	197HBW-235HBW		Inspected by:				Approved by:			
Judgments:	[V] Conform		刘永良				徐俊			
	[] Do not conform									

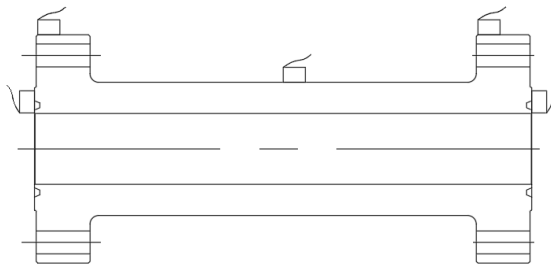


C&W International Fabricators

ULTRASONIC EXAMINATION REPORT

Serial No. :		ET2022301-12-01...12		PO# :		ET2022301-12		Date:		2023-03-10			
Part No:		SS715-36		API Monogram:		YES		Report#:		2023031003			
Specification:		API Spec 6A/ASTM A388		Material:		4130 75k per ASTM A29							
Description:		SPACER SPOOL 7 1/16" 15M X 36" EE LU PSL3 PR1							Qty:		12 EA		
Item	S/N		Heat Lot No.		Result		Item	S/N		Heat Lot No.		Result	
1	ET2022301-12-01		TM2302280201		Acceptable								
2	ET2022301-12-02		TM2302280201		Acceptable								
3	ET2022301-12-03		TM2302280201		Acceptable								
4	ET2022301-12-04		TM2302280201		Acceptable								
5	ET2022301-12-05		TM2302280201		Acceptable								
6	ET2022301-12-06		TM2302280201		Acceptable								
7	ET2022301-12-07		TM2302280201		Acceptable								
8	ET2022301-12-08		TM2302280201		Acceptable								
9	ET2022301-12-09		TM2302280201		Acceptable								
10	ET2022301-12-10		TM2302280201		Acceptable								
11	ET2022301-12-11		TM2302280201		Acceptable								
12	ET2022301-12-12		TM2302280201		Acceptable								

Sketch:



ABOVE FORGED ARE ULTRASONICALLY TESTED FOR INTERNAL DEFECTS USSING FLAT-BOTTOM HOLE PROCEDURE;
NO RECORDABLE INDICATION OBSERVED DURING THE TEST. HENCE ACCEPTABLE AS PER STANDARD.

UT Code:ASTM A388	Technique:Straight/Contact	Examined BY:	Approved by:
Exam. Stage: After heat treatment	Calibration Block:CSK IA		
Equipment:CTS-2020	Couplant: OIL		
Probe Used :2.5P φ10	Acceptance Criteria: API 6A PSL 3		
Equipment Calibration Date :2022.09.10	Test Gain:20db + 5 db	Level as per UT II	Level as per UT II
Equipment Due Date: 2023.09.09			



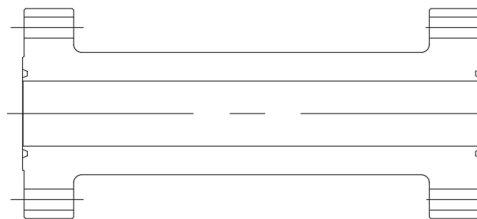
C&W International Fabricators

Magnetic Particle Inspection Report

Serial No. :	ET2022301-12-01...12	PO# :	ET2022301-12	Date:	2023-03-10
Part No:	SS715-36	API Monogram:	YES	Report#:	2023031003
Specification:	API Spec 6A/ASTM E709	Material:	4130 75k per ASTM A29		
Description:	SPACER SPOOL 7 1/16" 15M X 36" EE LU PSL3 PR1			Qty:	12 EA

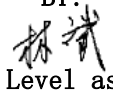
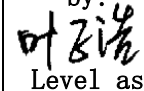
Item	S/N	Heat Lot No.	Result	Item	S/N	Heat Lot No.	Result
1	ET2022301-12-01	TM2302280201	Acceptable				
2	ET2022301-12-02	TM2302280201	Acceptable				
3	ET2022301-12-03	TM2302280201	Acceptable				
4	ET2022301-12-04	TM2302280201	Acceptable				
5	ET2022301-12-05	TM2302280201	Acceptable				
6	ET2022301-12-06	TM2302280201	Acceptable				
7	ET2022301-12-07	TM2302280201	Acceptable				
8	ET2022301-12-08	TM2302280201	Acceptable				
9	ET2022301-12-09	TM2302280201	Acceptable				
10	ET2022301-12-10	TM2302280201	Acceptable				
11	ET2022301-12-11	TM2302280201	Acceptable				
12	ET2022301-12-12	TM2302280201	Acceptable				

Sketch/Inspection Coverage:



Fluorescent magnetic particle inspection was performed on all accessible wetted/sealing surface with acceptable results

Evaluation & Disposition : Found to be satisfactory.

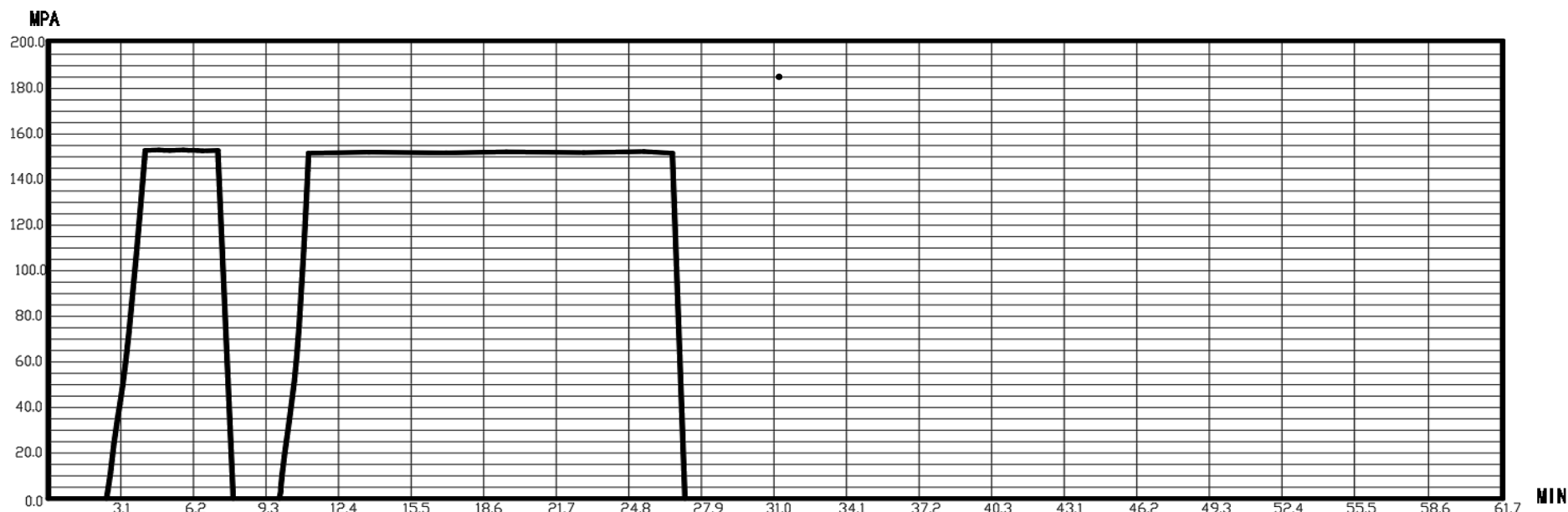
Equipment	CJD-9000	MT Code	ASTM E709	Examined BY:  Level as per MT II	Approved by:  Level as per MT II
Test Method	Fulcrum [] Cable1 [√]	Particle Type	Fluorescence Wet		
Exam. Stage	Rough After Ra ≤ 6.3μm	Test Piece	A1-30/100		
Magnetizing time	1-3S	Circular AMPS/Turns	900A/1		
Concentration	0.3ml/100ml	UV-Light Intensity	≥1000Uw/C m²		



C&W International Fabricators

HYDRASTATIC TEST REPORT

Description:	SPACER SPOOL 7 1/16" 15M X 36" EE LU PSL3 PR1		Serial NO.:	ET2022301-12-01	
Item	Pressure (Mpa)	Method (Min)	Result	Date:	2023.03.21
BODY TEST	155.5MPa	HOLDINGPERIOD 3	Acceptable	Start Time	13: 10: 30
BODY TEST	155.5MPa	HOLDINGPERIOD 15	Acceptable	End Time	13: 35: 56



Gage SN :	TTA-032	Test Spec:	API6A/PSL3
Test Medium:	Water	Test Temp.:	ROOM

No visible leakage shall occur each holding period

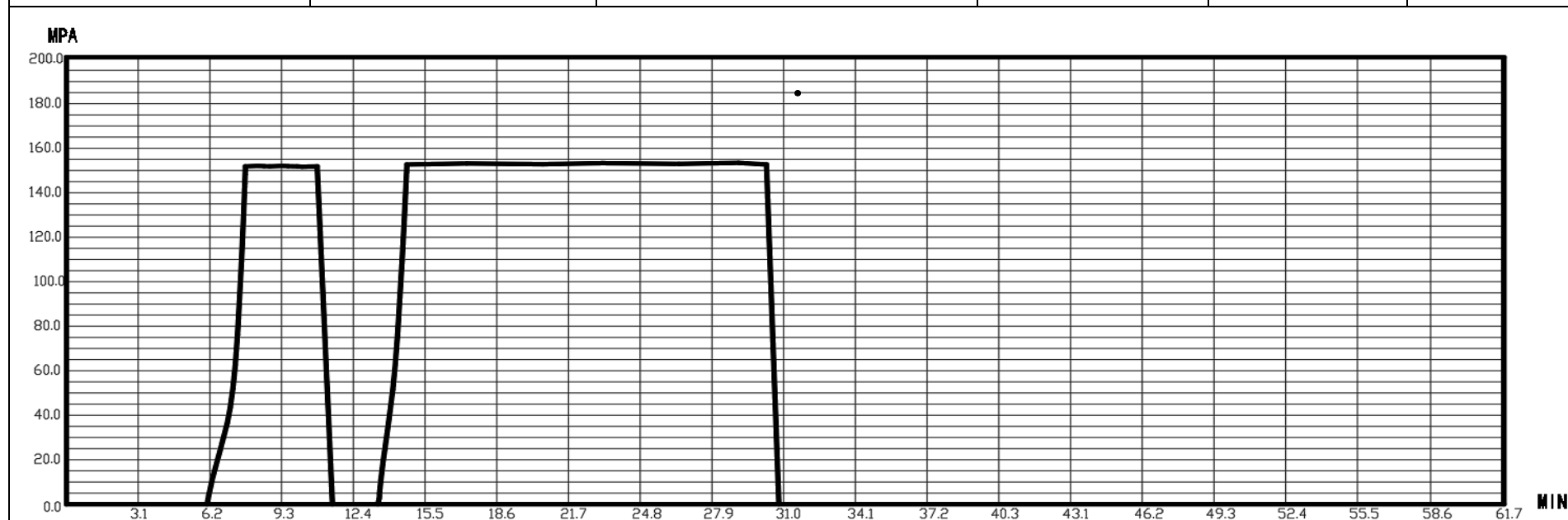
Checker: 朱宇 Date: 2023.03.21

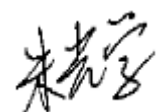


C&W International Fabricators

HYDRASTATIC TEST REPORT

Description:	SPACER SPOOL 7 1/16" 15M X 36" EE LU PSL3 PR1		Serial NO. :	ET2022301-12-02	
Item	Pressure (Mpa)	Method (Min)	Result	Date:	2023.03.21
BODY TEST	155.7MPa	HOLDINGPERIOD 3	Acceptable	Start Time	14: 06: 25
BODY TEST	155.6MPa	HOLDINGPERIOD 15	Acceptable	End Time	14: 31: 49



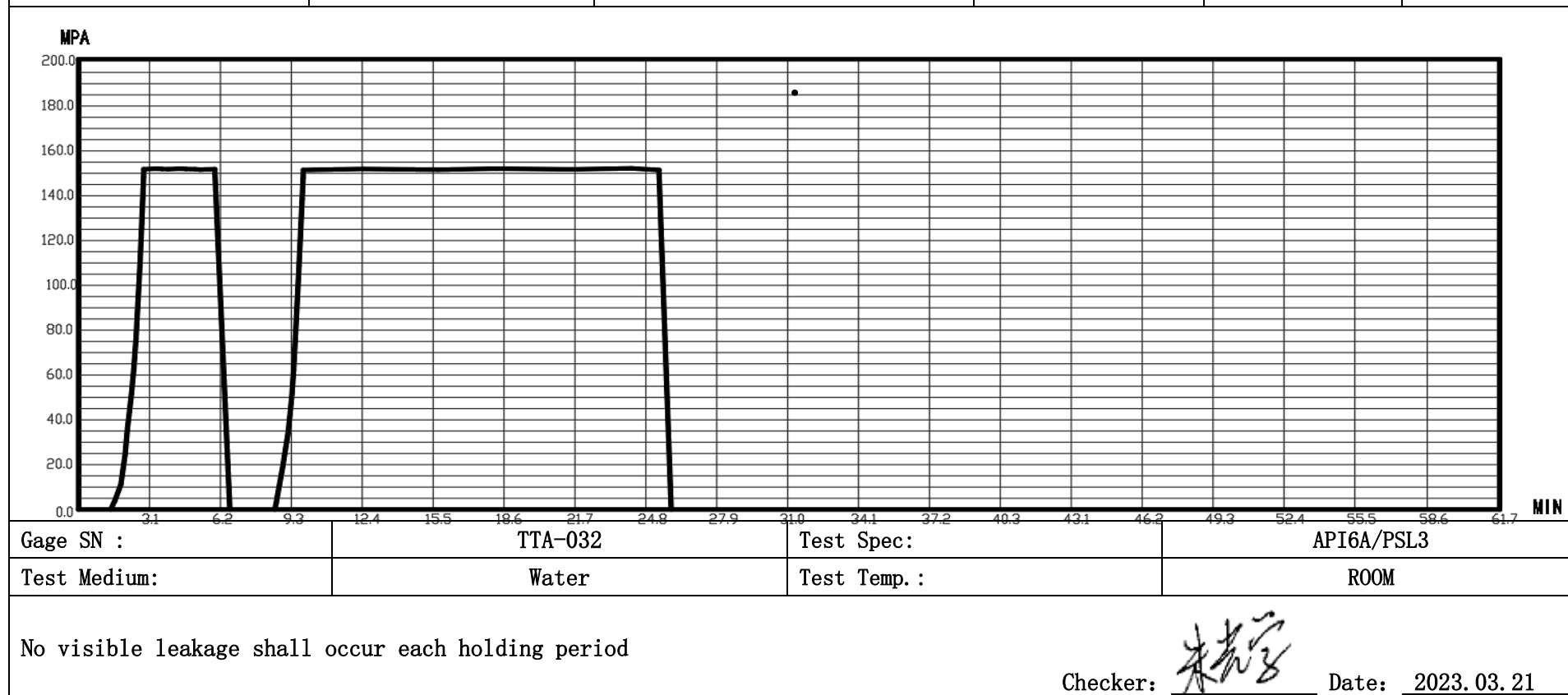
Gage SN :	TTA-032	Test Spec:	API6A/PSL3
Test Medium:	Water	Test Temp. :	ROOM
No visible leakage shall occur each holding period			
Checker: 		Date: 2023.03.21	



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HYDRASTATIC TEST REPORT

Description:	SPACER SPOOL 7 1/16" 15M X 36" EE LU PSL3 PR1		Serial NO.:	ET2022301-12-03	
Item	Pressure (Mpa)	Method (Min)	Result	Date:	2023.03.21
BODY TEST	155.5MPa	HOLDINGPERIOD 3	Acceptable	Start Time	14: 46: 09
BODY TEST	155.8MPa	HOLDINGPERIOD 15	Acceptable	End Time	15: 11: 35

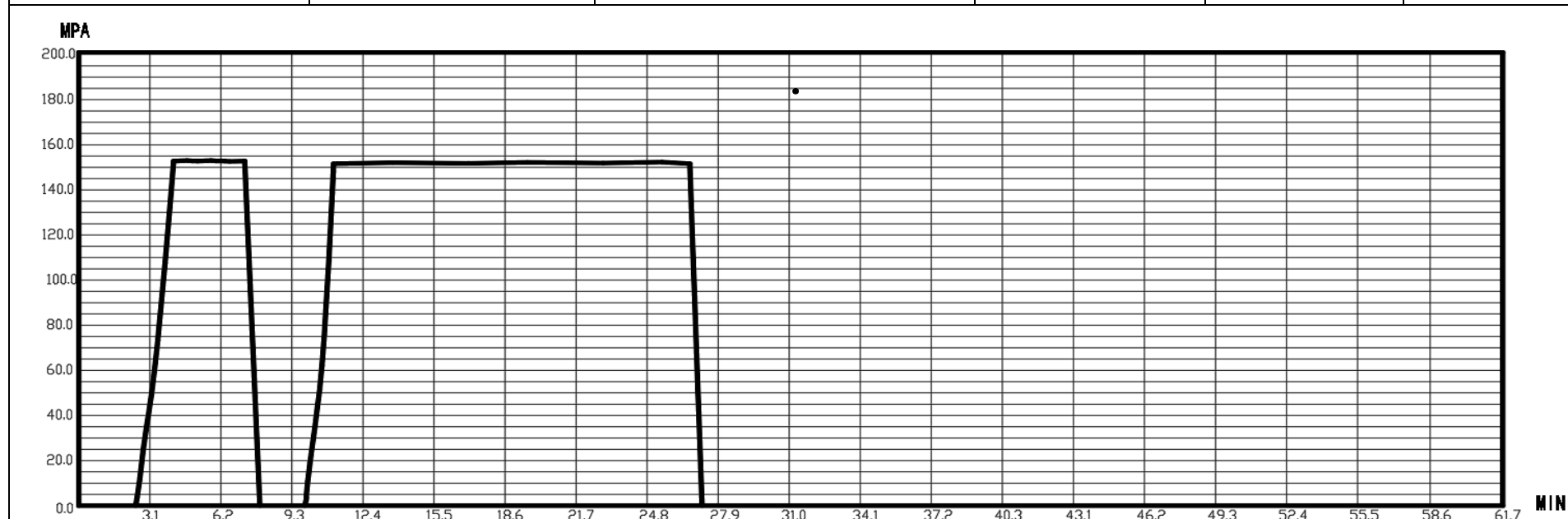




C&W International Fabricators

HYDRASTATIC TEST REPORT

Description:	SPACER SPOOL 7 1/16" 15M X 36" EE LU PSL3 PR1		Serial NO.:	ET2022301-12-04	
Item	Pressure (Mpa)	Method (Min)	Result	Date:	2023.03.21
BODY TEST	155.6MPa	HOLDINGPERIOD 3	Acceptable	Start Time	15: 53: 40
BODY TEST	155.5MPa	HOLDINGPERIOD 15	Acceptable	End Time	16: 18: 58



Gage SN :	TTA-032	Test Spec:	API6A/PSL3
Test Medium:	Water	Test Temp.:	ROOM

No visible leakage shall occur each holding period

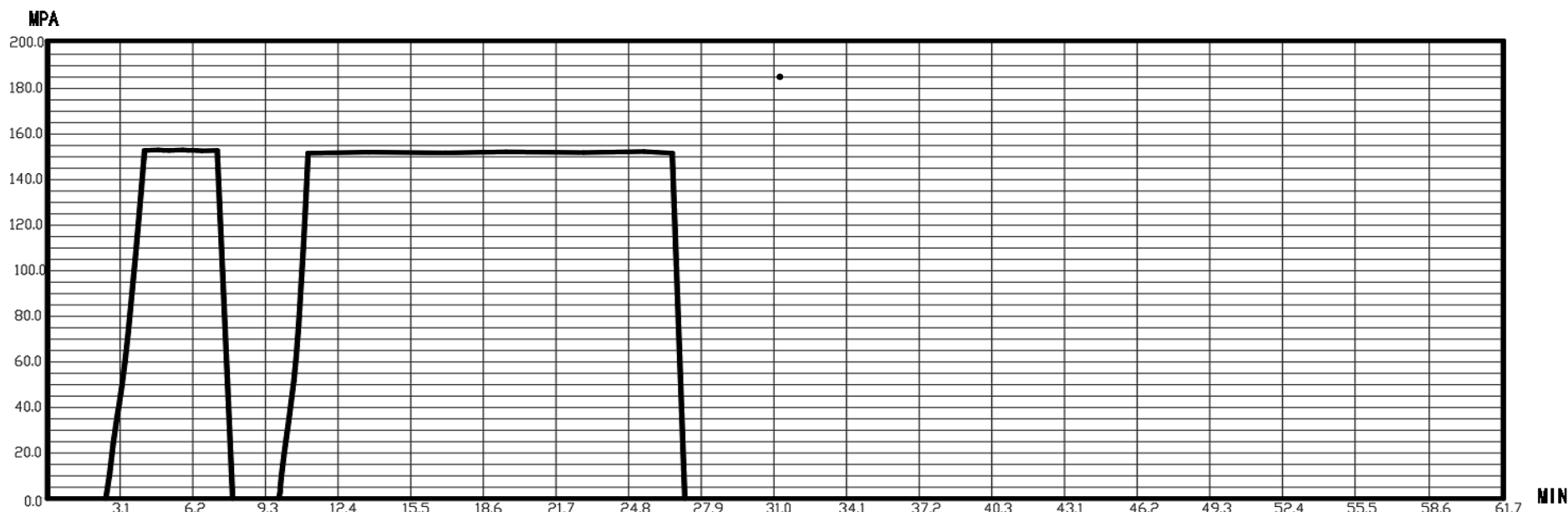
Checker: 朱宇 Date: 2023.03.21



C&W International Fabricators

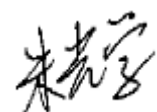
HYDRASTATIC TEST REPORT

Description:	SPACER SPOOL 7 1/16" 15M X 36" EE LU PSL3 PR1		Serial NO.:	ET2022301-12-05	
Item	Pressure (Mpa)	Method (Min)	Result	Date:	2023.03.22
BODY TEST	155.6MPa	HOLDINGPERIOD 3	Acceptable	Start Time	08: 38: 02
BODY TEST	155.8MPa	HOLDINGPERIOD 15	Acceptable	End Time	09: 03: 24



Gage SN :	TTA-032	Test Spec:	API6A/PSL3
Test Medium:	Water	Test Temp. :	ROOM

No visible leakage shall occur each holding period

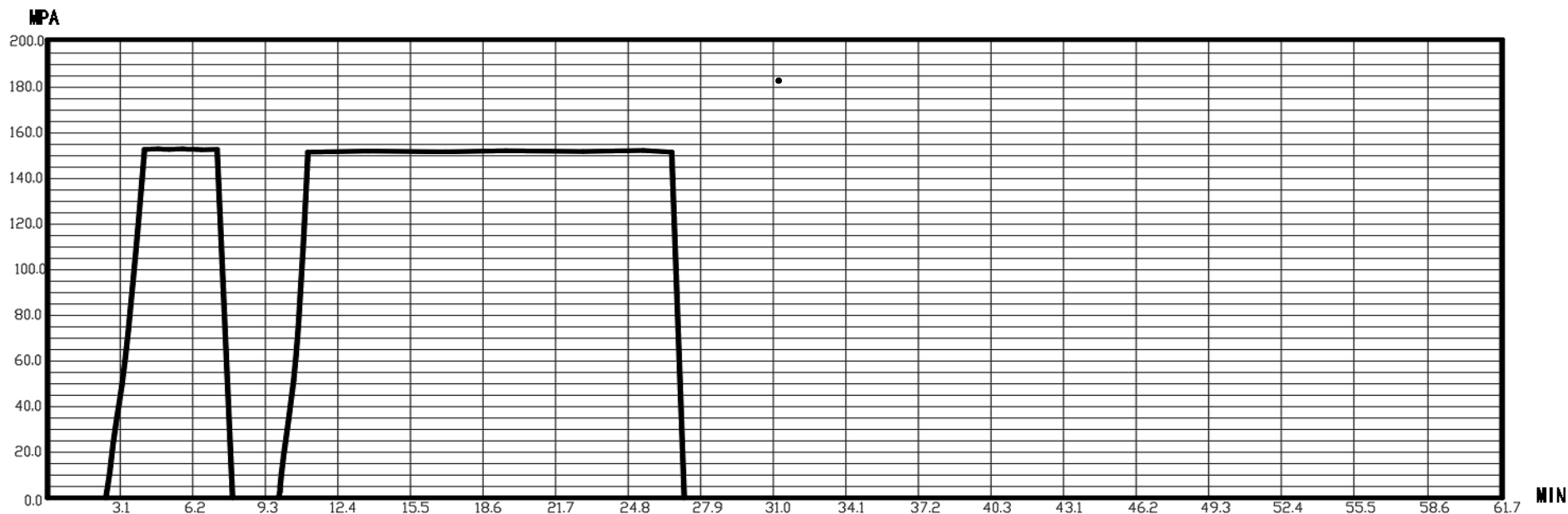
Checker:  Date: 2023.03.22



C&W International Fabricators

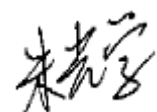
HYDRASTATIC TEST REPORT

Description:	SPACER SPOOL 7 1/16" 15M X 36" EE LU PSL3 PR1		Serial NO.:	ET2022301-12-06	
Item	Pressure (Mpa)	Method (Min)	Result	Date:	2023.03.22
BODY TEST	155.5MPa	HOLDINGPERIOD 3	Acceptable	Start Time	09: 29: 15
BODY TEST	155.8MPa	HOLDINGPERIOD 15	Acceptable	End Time	09: 54: 36



Gage SN :	TTA-032	Test Spec:	API6A/PSL3
Test Medium:	Water	Test Temp.:	ROOM

No visible leakage shall occur each holding period

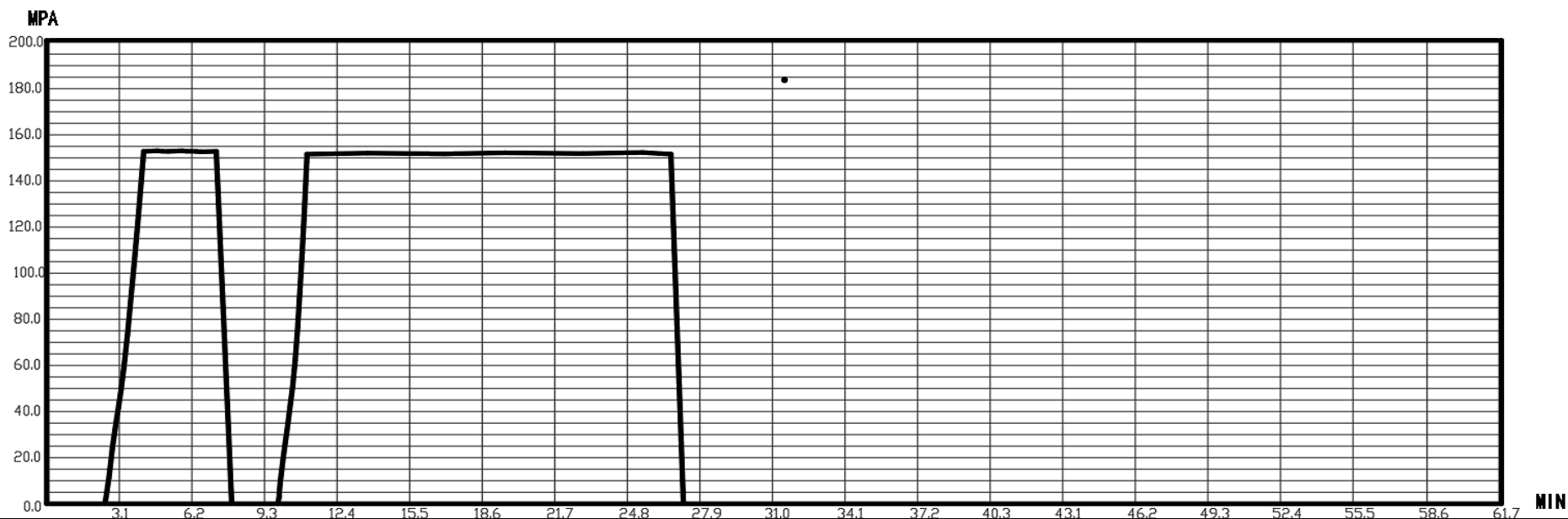
Checker:  Date: 2023.03.22



C&W International Fabricators

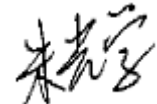
HYDRASTATIC TEST REPORT

Description:	SPACER SPOOL 7 1/16" 15M X 36" EE LU PSL3 PR1		Serial NO.:	ET2022301-12-07	
Item	Pressure (Mpa)	Method (Min)	Result	Date:	2023.03.22
BODY TEST	155.9MPa	HOLDINGPERIOD 3	Acceptable	Start Time	11: 14: 22
BODY TEST	155.5MPa	HOLDINGPERIOD 15	Acceptable	End Time	11: 39: 50



Gage SN:	TTA-032	Test Spec:	API6A/PSL3
Test Medium:	Water	Test Temp.:	ROOM

No visible leakage shall occur each holding period

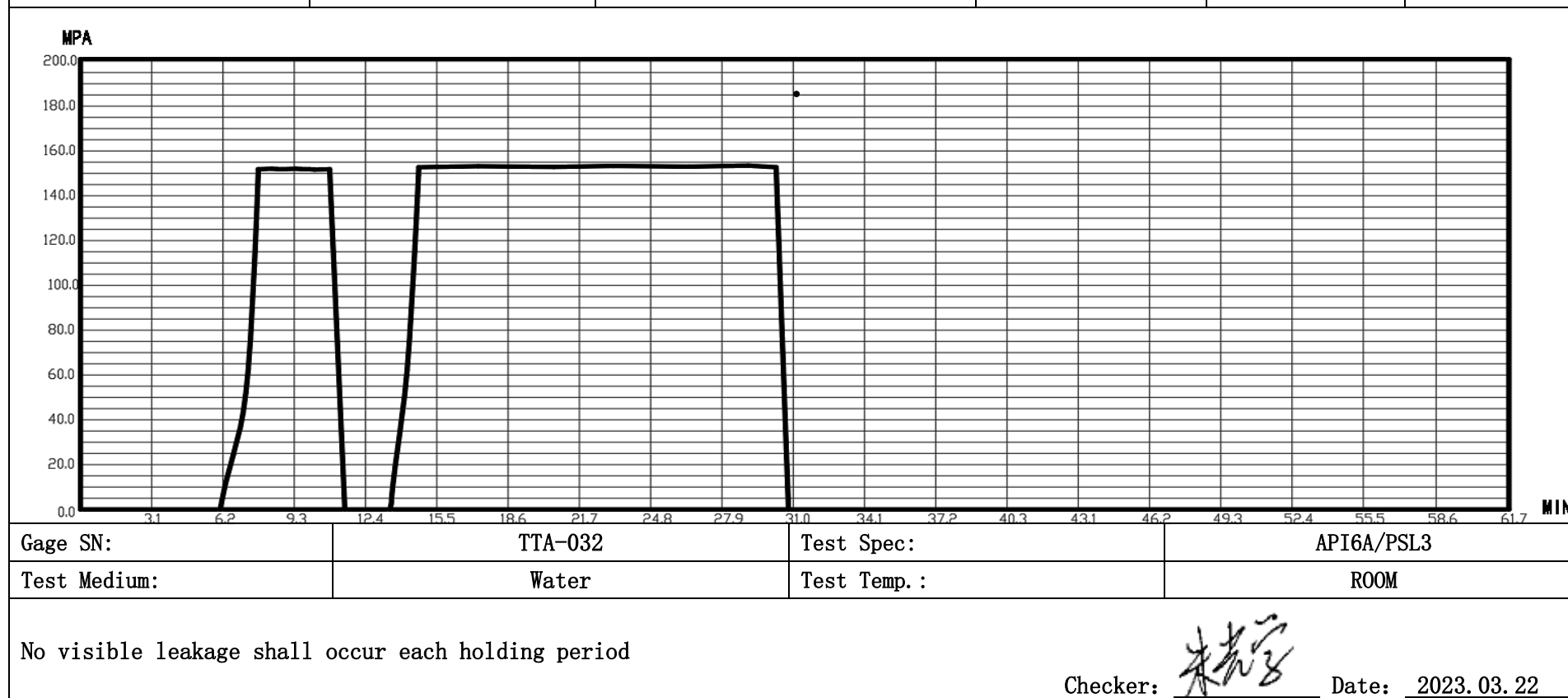
Checker:  Date: 2023.03.22



C&W International Fabricators

HYDRASTATIC TEST REPORT

Description:	SPACER SPOOL 7 1/16" 15M X 36" EE LU PSL3 PR1		Serial NO.:	ET2022301-12-08	
Item	Pressure (Mpa)	Method (Min)	Result	Date:	2023.03.22
BODY TEST	155.8MPa	HOLDINGPERIOD 3	Acceptable	Start Time	13: 03: 41
BODY TEST	155.6MPa	HOLDINGPERIOD 15	Acceptable	End Time	13: 29: 00

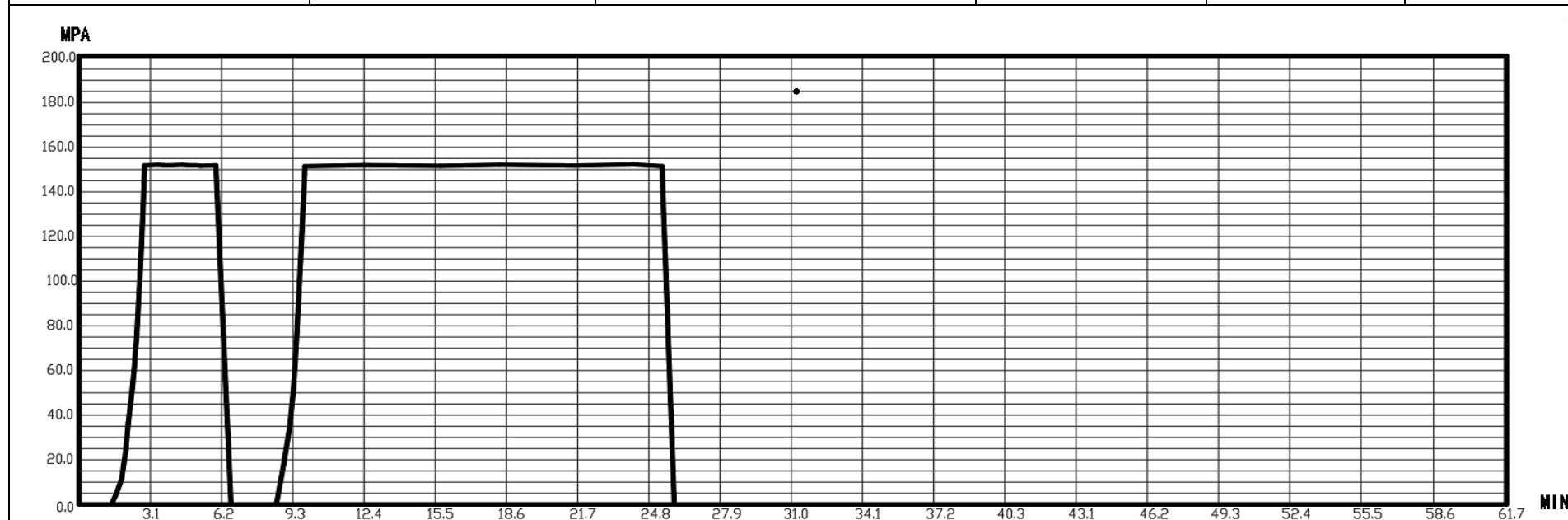




C&W International Fabricators

HYDRASTATIC TEST REPORT

Description:	SPACER SPOOL 7 1/16" 15M X 36" EE LU PSL3 PR1		Serial NO.:	ET2022301-12-09	
Item	Pressure (Mpa)	Method (Min)	Result	Date:	2023.03.22
BODY TEST	155.7MPa	HOLDINGPERIOD 3	Acceptable	Start Time	13: 46: 31
BODY TEST	155.6MPa	HOLDINGPERIOD 15	Acceptable	End Time	14: 11: 56



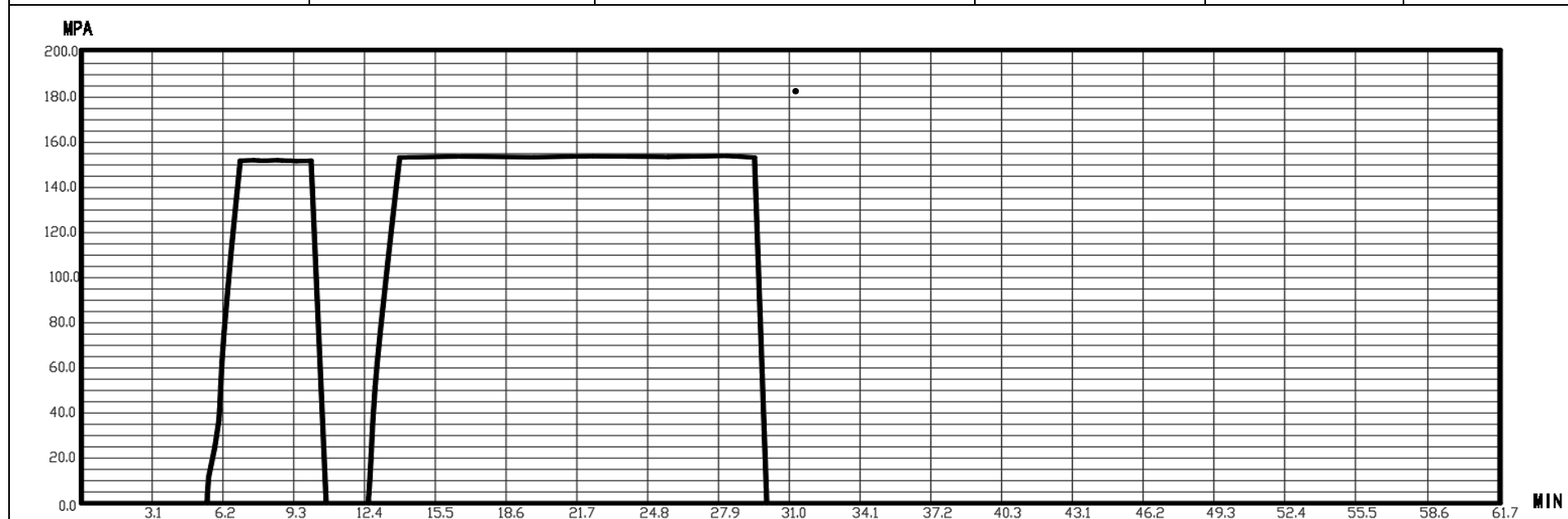
Gage SN:	TTA-032	Test Spec:	API6A/PSL3
Test Medium:	Water	Test Temp.:	ROOM
No visible leakage shall occur each holding period			
Checker: 朱宇		Date: 2023.03.22	



C&W International Fabricators

HYDRASTATIC TEST REPORT

Description:	SPACER SPOOL 7 1/16" 15M X 36" EE LU PSL3 PR1		Serial NO.:	ET2022301-12-10	
Item	Pressure (Mpa)	Method (Min)	Result	Date:	2023.03.22
BODY TEST	155.9MPa	HOLDINGPERIOD 3	Acceptable	Start Time	14: 32: 18
BODY TEST	155.7MPa	HOLDINGPERIOD 15	Acceptable	End Time	14: 57: 39



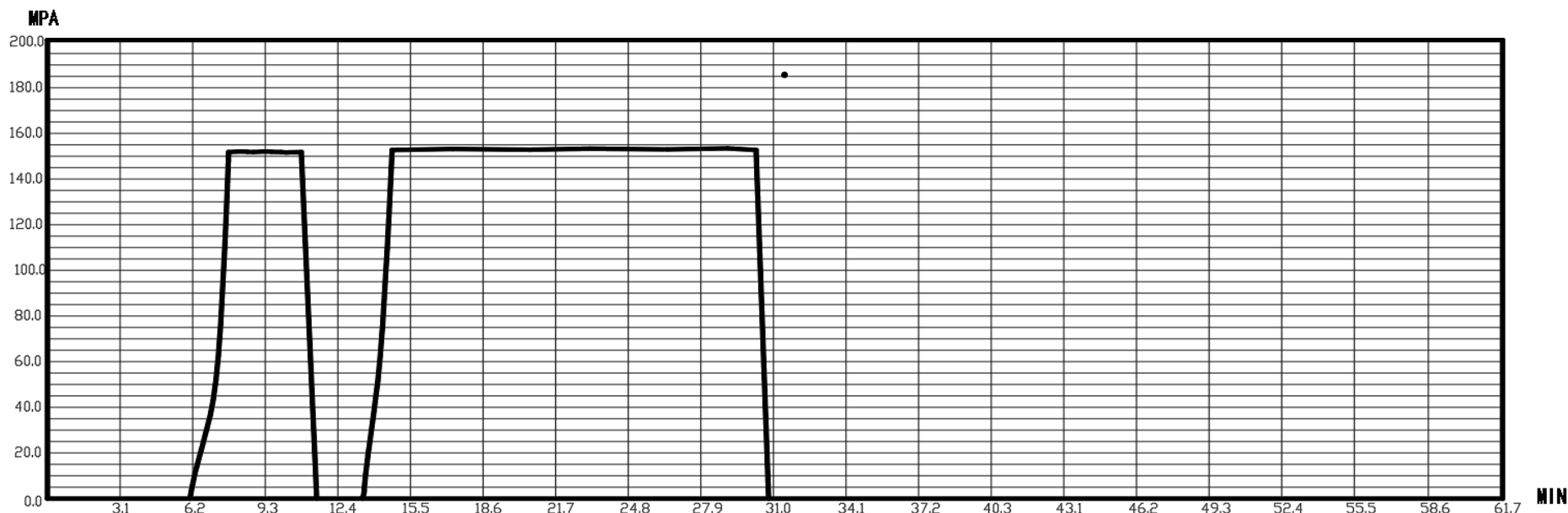
Gage SN:	TTA-032	Test Spec:	API6A/PSL3
Test Medium:	Water	Test Temp.:	ROOM
No visible leakage shall occur each holding period			
Checker:		Date: 2023.03.22	



C&W International Fabricators

HYDRASTATIC TEST REPORT

Description:	SPACER SPOOL 7 1/16" 15M X 36" EE LU PSL3 PR1		Serial NO.:	ET2022301-12-11	
Item	Pressure (Mpa)	Method (Min)	Result	Date:	2023.03.22
BODY TEST	155.5MPa	HOLDINGPERIOD 3	Acceptable	Start Time	15: 16: 32
BODY TEST	155.8MPa	HOLDINGPERIOD 15	Acceptable	End Time	15: 41: 51



Gage SN:	TTA-032	Test Spec:	API6A/PSL3
Test Medium:	Water	Test Temp.:	ROOM

No visible leakage shall occur each holding period

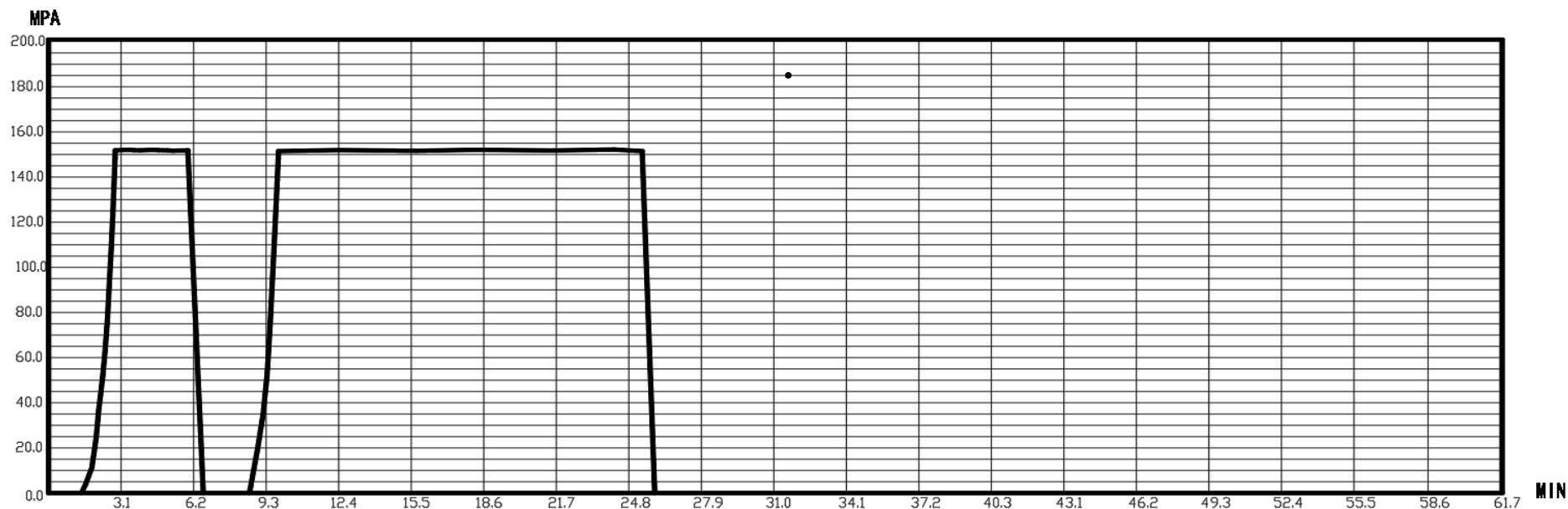
Checker: 朱宇 Date: 2023.03.22



C&W International Fabricators

HYDRASTATIC TEST REPORT

Description:	SPACER SPOOL 7 1/16" 15M X 36" EE LU PSL3 PR1		Serial NO. :	ET2022301-12-12	
Item	Pressure (Mpa)	Method (Min)	Result	Date:	2023.03.22
BODY TEST	155.7MPa	HOLDINGPERIOD 3	Acceptable	Start Time	17: 03: 11
BODY TEST	155.6MPa	HOLDINGPERIOD 15	Acceptable	End Time	17: 28: 35



Gage SN:	TTA-032	Test Spec:	API6A/PSL3
Test Medium:	Water	Test Temp. :	ROOM

No visible leakage shall occur each holding period

Checker: 朱宇 Date: 2023.03.22



C&W International Fabricators

REPORT INDEX

Purchase Order: **ET2022301-12**

Quantity: **12 EA**

Shipment No. :

Shipment Date:

Activity No.	Characteristics	Reference Page
1.1	SPACER SPOOL 7 1/16" 15M X 36"	Page-2
1.1.1	Metallurgical Test Certificate	Page-2
1.1.2	Mechanical Testing	Page-2
1.1.3	Chemical Testing	Page-2
1.1.4	Heat Treatment	Page-2
2.1	Hardness Test	Page-3
2.2	Ultrasonic Testing	Page-4
2.3	Magnetic Particle Inspection Report	Page-5
3.0	Hydrostatic Test Report	Page-6



C&W International Fabricators

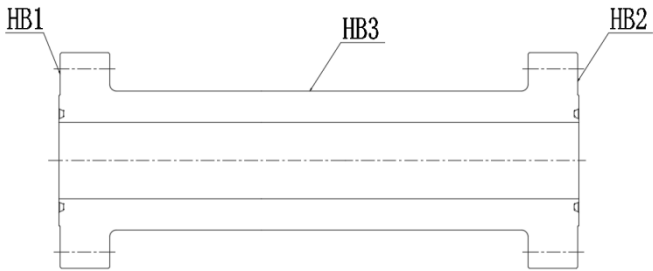
METALLURGICAL TEST CERTIFICATE

Serial No. :	ET2022301-12-01...12	PO# :	ET2022301-12	Date:	2023-03-10							
Part No:	SS715-36	API Monogram:	YES	Report#:	2023031003							
Specification:	API Spec 6A/ASTM A370	Material:	4130 75k per ASTM A29									
Description:	SPACER SPOOL 7 1/16" 15M X 36" EE LU PSL3 PR1			Qty:	12 EA							
TEST CONDITION												
Test Bar Size:	QTC, 4" x 4" x 8"		Bar Di:	12.7 mm (0.5")								
Melt Practice	EF + LF + VD		Reduction Ratio Min:	5:1								
Yield Stress	0.2% offset		Gauge Length	50.8mm								
CHEMICAL COMPOSITION												
Mill No. :	Qty	Test No.	C	Mn	Si	S	P	Ni	Cu	Mo	Cr	V
Spec Min			0.28	0.40	0.15	/	/	/	/	0.15	0.80	/
Spec Max			0.33	0.60	0.35	0.025	0.025	0.50	0.35	0.25	1.10	0.30
2087148Z	12	1	0.300	0.540	0.260	0.005	0.011	0.050	0.060	0.160	1.060	0.006
MECHANICAL COMPOSITION												
Heat Lot No.	QTY.	Test No.	Yield Strength (Kpsi)	Tensile Strength (Kpsi)	Elongation%	Reduction of Area%	Hardness HB	10mm X 10mm Charpy J (ft. lb) At -46° c	Minimum Lateral	Shear Fraction		
Spec Min			75K	95K	18.0	35.0	197	27J				
Spec Max			/	/	/	/	235	/				
TM2302280201	12	1	78.5K	99.5K	25.6	53.0	220	43;49;56				
HEAT TREATMENT												
Forgings:	5:1					Test Bar (OTC)						
Normalized:	900°C 6 HRS					Normalized:	900°C 6 HRS					
Austenitized:	860°C 6 HRS					Austenitized:	860°C 6 HRS					
Quenchant:	Water					Quenchant:	Water					
Start Temp:	28 °C					Start Temp:	28 °C					
End Temp:	48 °C					End Temp:	48 °C					
Temper:	660°C 9 HRS AIR					Temper:	660°C 9 HRS AIR					
We hereby certify that all test results and procedure information contained herein are correct and true as in contained the records of the company and also no welding or weld repair was performed on subject parts.												
Inspected by:	张金龙				Approved by:	徐俊						



C&W International Fabricators

Hardness Test Report

Serial No. :	ET2022301-12-01...12	PO# :	ET2022301-12	Date:	2023-03-10					
Part No:	SS715-36	API Monogram:	YES	Report#:	2023031003					
Specification:	API Spec 6A/ASTM A370	Material:	4130 75k per ASTM A29							
Description:	SPACER SPOOL 7 1/16" 15M X 36" EE LU PSL3 PR1							Qty:	12 EA	
Item	S/N	Heat Lot No.	HB1	HB2	HB3	HB4	HB5	HB6	HB7	HB8
1	ET2022301-12-01	TM2302280201	217	221	219					
2	ET2022301-12-02	TM2302280201	221	223	221					
3	ET2022301-12-03	TM2302280201	215	217	215					
4	ET2022301-12-04	TM2302280201	223	221	221					
5	ET2022301-12-05	TM2302280201	221	217	219					
6	ET2022301-12-06	TM2302280201	225	221	223					
7	ET2022301-12-07	TM2302280201	215	217	215					
8	ET2022301-12-08	TM2302280201	217	212	215					
9	ET2022301-12-09	TM2302280201	221	223	221					
10	ET2022301-12-10	TM2302280201	223	221	223					
11	ET2022301-12-11	TM2302280201	215	217	215					
12	ET2022301-12-12	TM2302280201	217	221	219					
Sketch:										
										
Method Used:	Impact Energy:3000Kg. Diameter of steel ball:10mm									
Acceptable Hardness	197HBW-235HBW		Inspected by:				Approved by:			
Judgments:	[V] Conform		刘永良				徐俊			
	[] Do not conform									

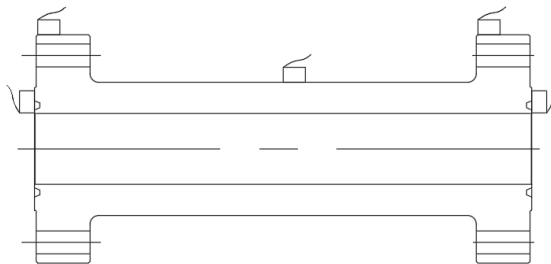


C&W International Fabricators

ULTRASONIC EXAMINATION REPORT

Serial No. :		ET2022301-12-01...12		PO# :		ET2022301-12		Date:		2023-03-10			
Part No:		SS715-36		API Monogram:		YES		Report#:		2023031003			
Specification:		API Spec 6A/ASTM A388		Material:		4130 75k per ASTM A29							
Description:		SPACER SPOOL 7 1/16" 15M X 36" EE LU PSL3 PR1							Qty:		12 EA		
Item	S/N		Heat Lot No.		Result		Item	S/N		Heat Lot No.		Result	
1	ET2022301-12-01		TM2302280201		Acceptable								
2	ET2022301-12-02		TM2302280201		Acceptable								
3	ET2022301-12-03		TM2302280201		Acceptable								
4	ET2022301-12-04		TM2302280201		Acceptable								
5	ET2022301-12-05		TM2302280201		Acceptable								
6	ET2022301-12-06		TM2302280201		Acceptable								
7	ET2022301-12-07		TM2302280201		Acceptable								
8	ET2022301-12-08		TM2302280201		Acceptable								
9	ET2022301-12-09		TM2302280201		Acceptable								
10	ET2022301-12-10		TM2302280201		Acceptable								
11	ET2022301-12-11		TM2302280201		Acceptable								
12	ET2022301-12-12		TM2302280201		Acceptable								

Sketch:



ABOVE FORGED ARE ULTRASONICALLY TESTED FOR INTERNAL DEFECTS USING FLAT-BOTTOM HOLE PROCEDURE;
NO RECORDABLE INDICATION OBSERVED DURING THE TEST. HENCE ACCEPTABLE AS PER STANDARD.

UT Code:ASTM A388	Technique:Straight/Contact	Examined BY:	Approved by:
Exam. Stage: After heat treatment	Calibration Block:CSK IA		
Equipment:CTS-2020	Couplant: OIL		
Probe Used :2.5P Φ10	Acceptance Criteria: API 6A PSL 3		
Equipment Calibration Date :2022.09.10	Test Gain:20db + 5 db	Level as per UT II	Level as per UT II
Equipment Due Date: 2023.09.09			



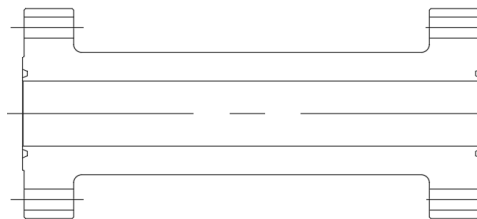
C&W International Fabricators

Magnetic Particle Inspection Report

Serial No. :	ET2022301-12-01...12	PO# :	ET2022301-12	Date:	2023-03-10
Part No:	SS715-36	API Monogram:	YES	Report#:	2023031003
Specification:	API Spec 6A/ASTM E709	Material:	4130 75k per ASTM A29		
Description:	SPACER SPOOL 7 1/16" 15M X 36" EE LU PSL3 PR1			Qty:	12 EA

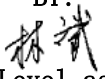
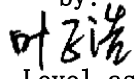
Item	S/N	Heat Lot No.	Result	Item	S/N	Heat Lot No.	Result
1	ET2022301-12-01	TM2302280201	Acceptable				
2	ET2022301-12-02	TM2302280201	Acceptable				
3	ET2022301-12-03	TM2302280201	Acceptable				
4	ET2022301-12-04	TM2302280201	Acceptable				
5	ET2022301-12-05	TM2302280201	Acceptable				
6	ET2022301-12-06	TM2302280201	Acceptable				
7	ET2022301-12-07	TM2302280201	Acceptable				
8	ET2022301-12-08	TM2302280201	Acceptable				
9	ET2022301-12-09	TM2302280201	Acceptable				
10	ET2022301-12-10	TM2302280201	Acceptable				
11	ET2022301-12-11	TM2302280201	Acceptable				
12	ET2022301-12-12	TM2302280201	Acceptable				

Sketch/Inspection Coverage:



Fluorescent magnetic particle inspection was performed on all accessible wetted/sealing surface with acceptable results

Evaluation & Disposition : Found to be satisfactory.

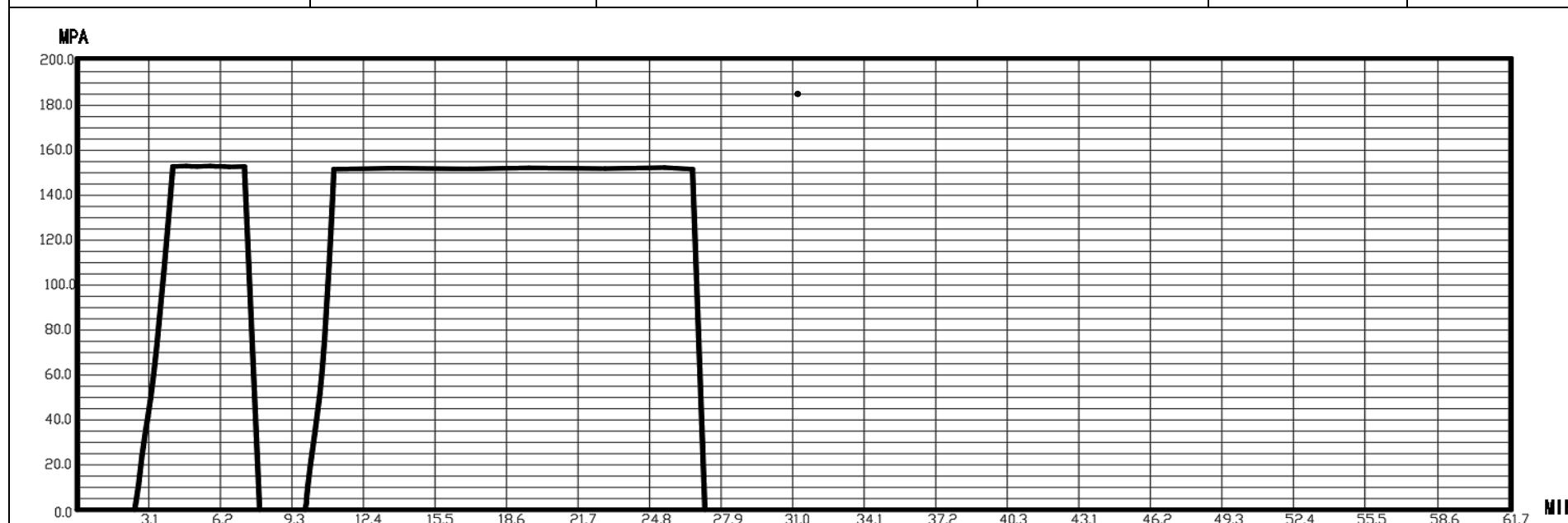
Equipment	CJD-9000	MT Code	ASTM E709	Examined BY:  Level as per MT II	Approved by:  Level as per MT II
Test Method	Fulcrum [] Cable1 [√]	Particle Type	Fluorescence Wet		
Exam. Stage	Rough After Ra ≤ 6.3μm	Test Piece	A1-30/100		
Magnetizing time	1-3S	Circular AMPS/Turns	900A/1		
Concentration	0.3ml/100ml	UV-Light Intensity	≥1000Uw/C m²		



C&W International Fabricators

HYDRASTATIC TEST REPORT

Description:	SPACER SPOOL 7 1/16" 15M X 36" EE LU PSL3 PR1		Serial NO.:	ET2022301-12-01	
Item	Pressure (Mpa)	Method (Min)	Result	Date:	2023.03.21
BODY TEST	155.5MPa	HOLDINGPERIOD 3	Acceptable	Start Time	13: 10: 30
BODY TEST	155.5MPa	HOLDINGPERIOD 15	Acceptable	End Time	13: 35: 56



Gage SN :	TTA-032	Test Spec:	API6A/PSL3
Test Medium:	Water	Test Temp.:	ROOM

No visible leakage shall occur each holding period

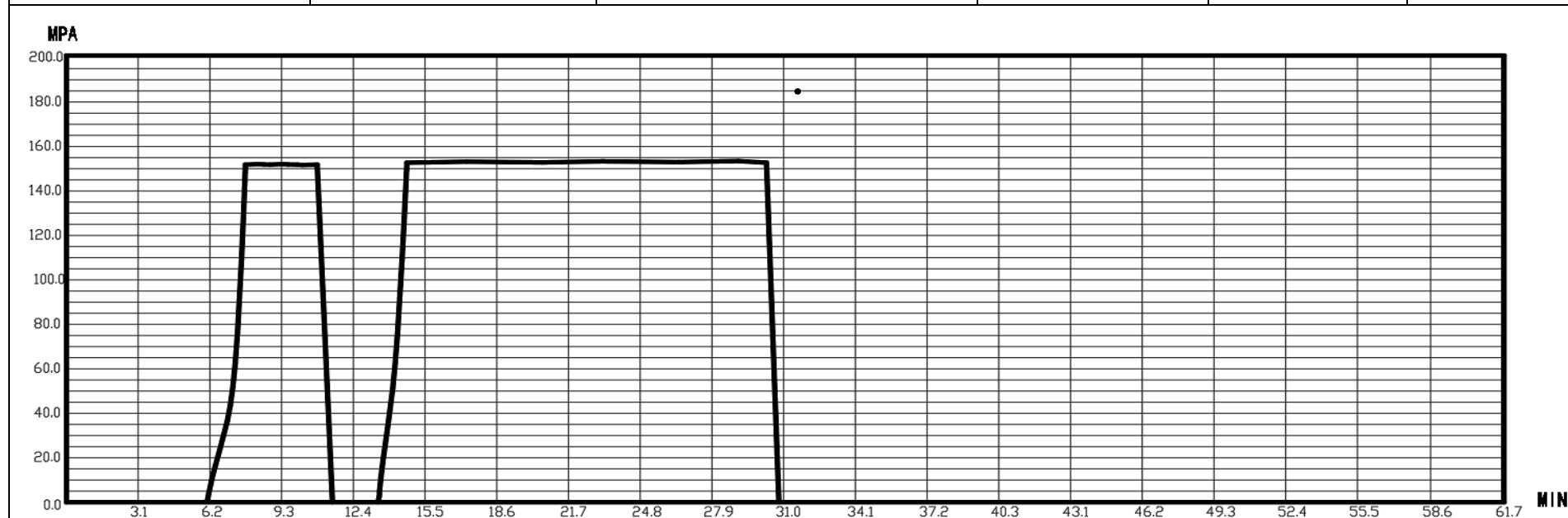
Checker: 朱宇 Date: 2023.03.21



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HYDRASTATIC TEST REPORT

Description:	SPACER SPOOL 7 1/16" 15M X 36" EE LU PSL3 PR1		Serial NO.:	ET2022301-12-02	
Item	Pressure (Mpa)	Method (Min)	Result	Date:	2023.03.21
BODY TEST	155.7MPa	HOLDINGPERIOD 3	Acceptable	Start Time	14: 06: 25
BODY TEST	155.6MPa	HOLDINGPERIOD 15	Acceptable	End Time	14: 31: 49



Gage SN :	TTA-032	Test Spec:	API6A/PSL3
Test Medium:	Water	Test Temp.:	ROOM

No visible leakage shall occur each holding period

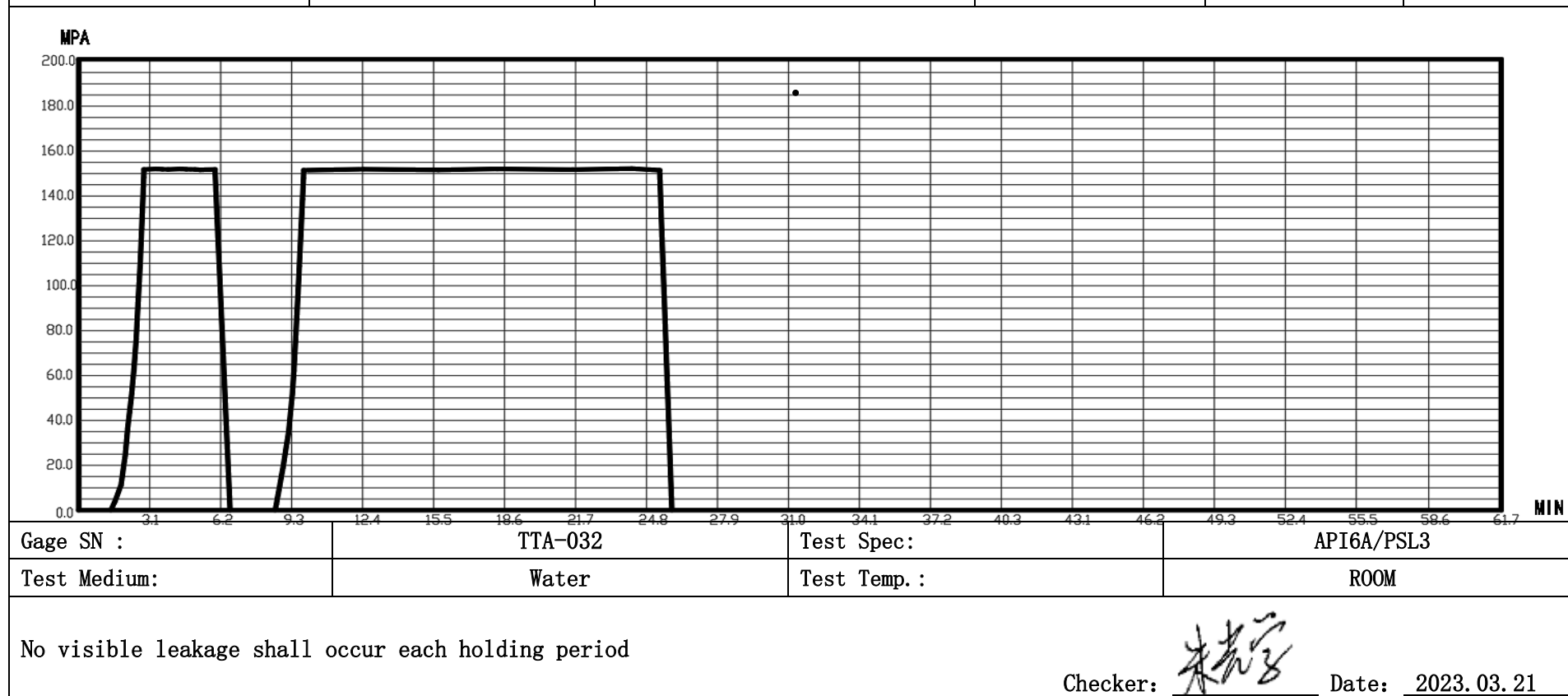
Checker: 朱宇 Date: 2023.03.21



C&W International Fabricators

HYDRASTATIC TEST REPORT

Description:	SPACER SPOOL 7 1/16" 15M X 36" EE LU PSL3 PR1		Serial NO.:	ET2022301-12-03	
Item	Pressure (Mpa)	Method (Min)	Result	Date:	2023.03.21
BODY TEST	155.5MPa	HOLDINGPERIOD 3	Acceptable	Start Time	14: 46: 09
BODY TEST	155.8MPa	HOLDINGPERIOD 15	Acceptable	End Time	15: 11: 35

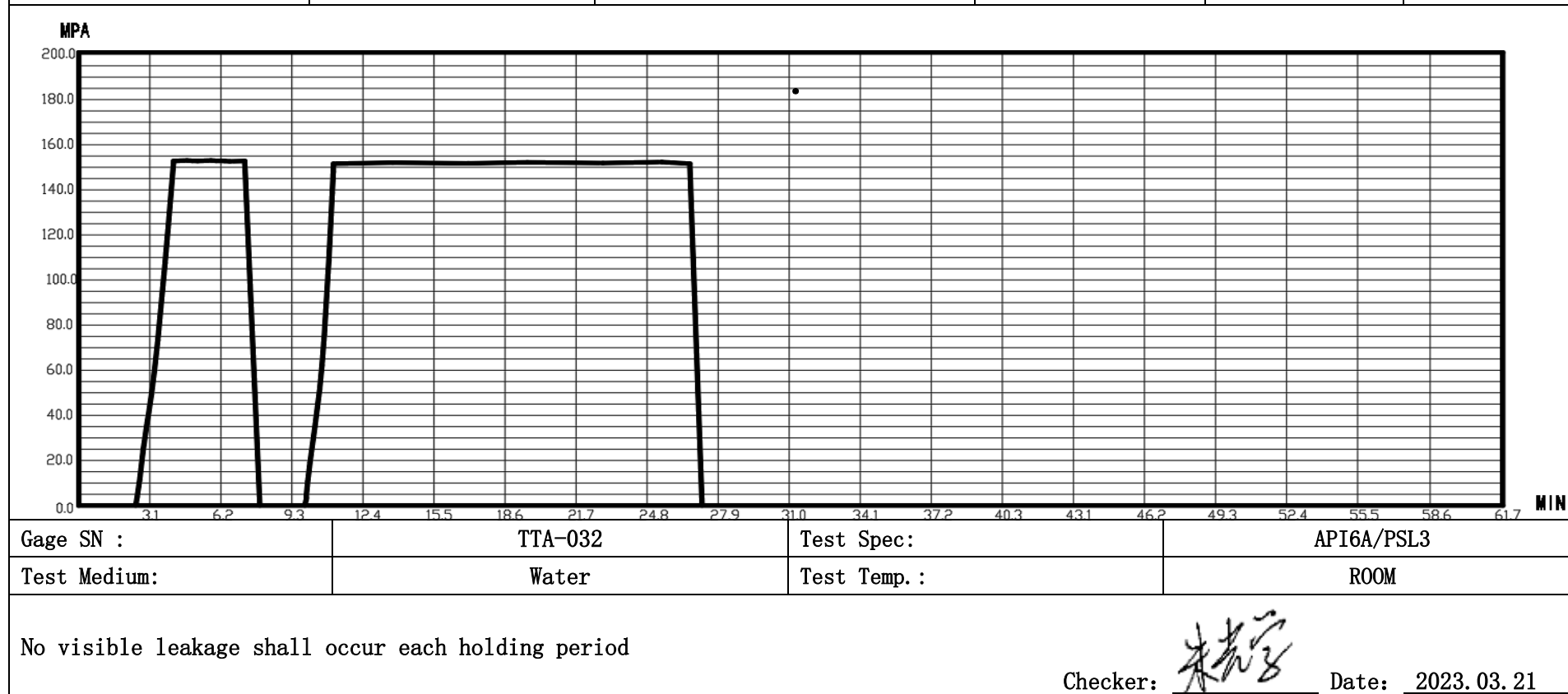




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HYDRASTATIC TEST REPORT

Description:	SPACER SPOOL 7 1/16" 15M X 36" EE LU PSL3 PR1		Serial NO.:	ET2022301-12-04	
Item	Pressure (Mpa)	Method (Min)	Result	Date:	2023.03.21
BODY TEST	155.6MPa	HOLDINGPERIOD 3	Acceptable	Start Time	15: 53: 40
BODY TEST	155.5MPa	HOLDINGPERIOD 15	Acceptable	End Time	16: 18: 58

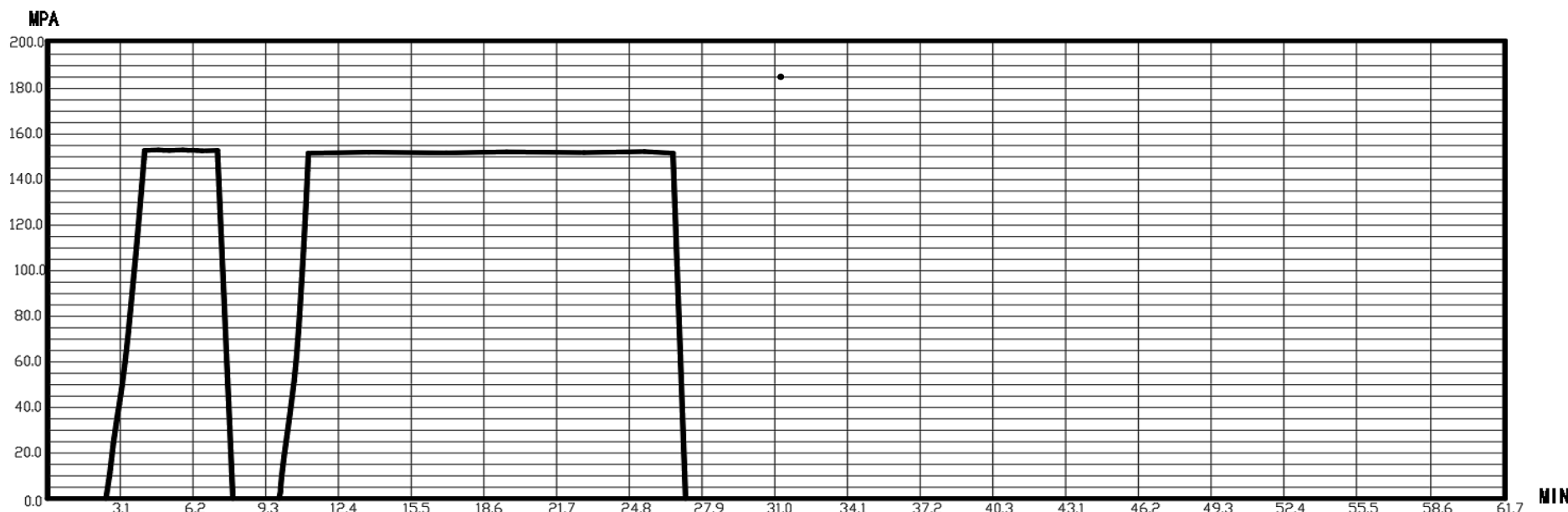




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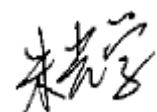
HYDRASTATIC TEST REPORT

Description:	SPACER SPOOL 7 1/16" 15M X 36" EE LU PSL3 PR1		Serial NO.:	ET2022301-12-05	
Item	Pressure (Mpa)	Method (Min)	Result	Date:	2023.03.22
BODY TEST	155.6MPa	HOLDINGPERIOD 3	Acceptable	Start Time	08: 38: 02
BODY TEST	155.8MPa	HOLDINGPERIOD 15	Acceptable	End Time	09: 03: 24



Gage SN :	TTA-032	Test Spec:	API6A/PSL3
Test Medium:	Water	Test Temp. :	ROOM

No visible leakage shall occur each holding period

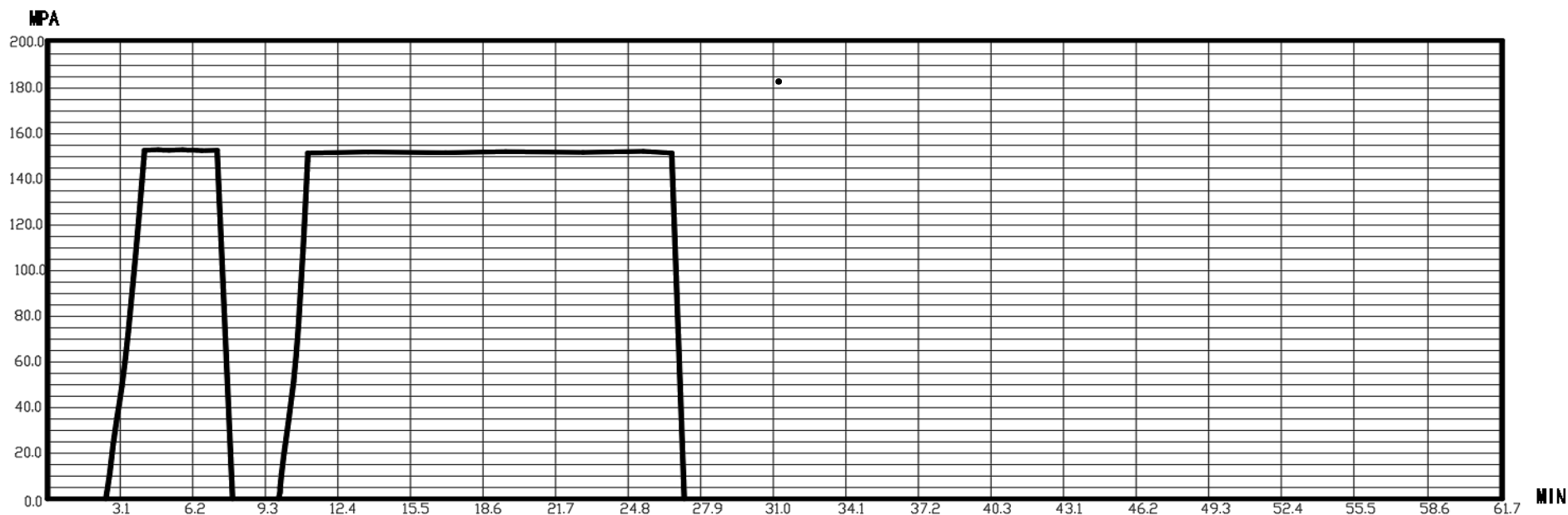
Checker:  Date: 2023.03.22



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HYDRASTATIC TEST REPORT

Description:	SPACER SPOOL 7 1/16" 15M X 36" EE LU PSL3 PR1		Serial NO.:	ET2022301-12-06	
Item	Pressure (Mpa)	Method (Min)	Result	Date:	2023.03.22
BODY TEST	155.5MPa	HOLDINGPERIOD 3	Acceptable	Start Time	09: 29: 15
BODY TEST	155.8MPa	HOLDINGPERIOD 15	Acceptable	End Time	09: 54: 36



Gage SN :	TTA-032	Test Spec:	API6A/PSL3
Test Medium:	Water	Test Temp.:	ROOM

No visible leakage shall occur each holding period

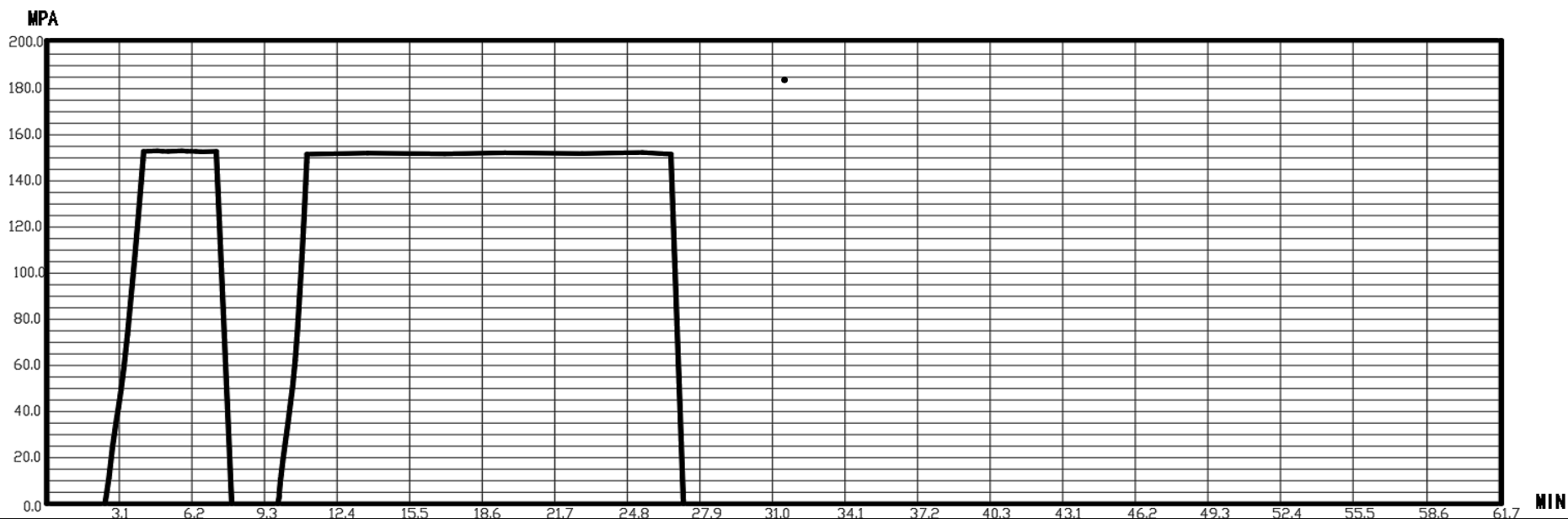
Checker: 朱宇 Date: 2023.03.22



C&W International Fabricators

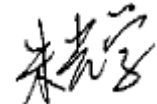
HYDRASTATIC TEST REPORT

Description:	SPACER SPOOL 7 1/16" 15M X 36" EE LU PSL3 PR1		Serial NO.:	ET2022301-12-07	
Item	Pressure (Mpa)	Method (Min)	Result	Date:	2023.03.22
BODY TEST	155.9MPa	HOLDINGPERIOD 3	Acceptable	Start Time	11: 14: 22
BODY TEST	155.5MPa	HOLDINGPERIOD 15	Acceptable	End Time	11: 39: 50



Gage SN:	TTA-032	Test Spec:	API6A/PSL3
Test Medium:	Water	Test Temp.:	ROOM

No visible leakage shall occur each holding period

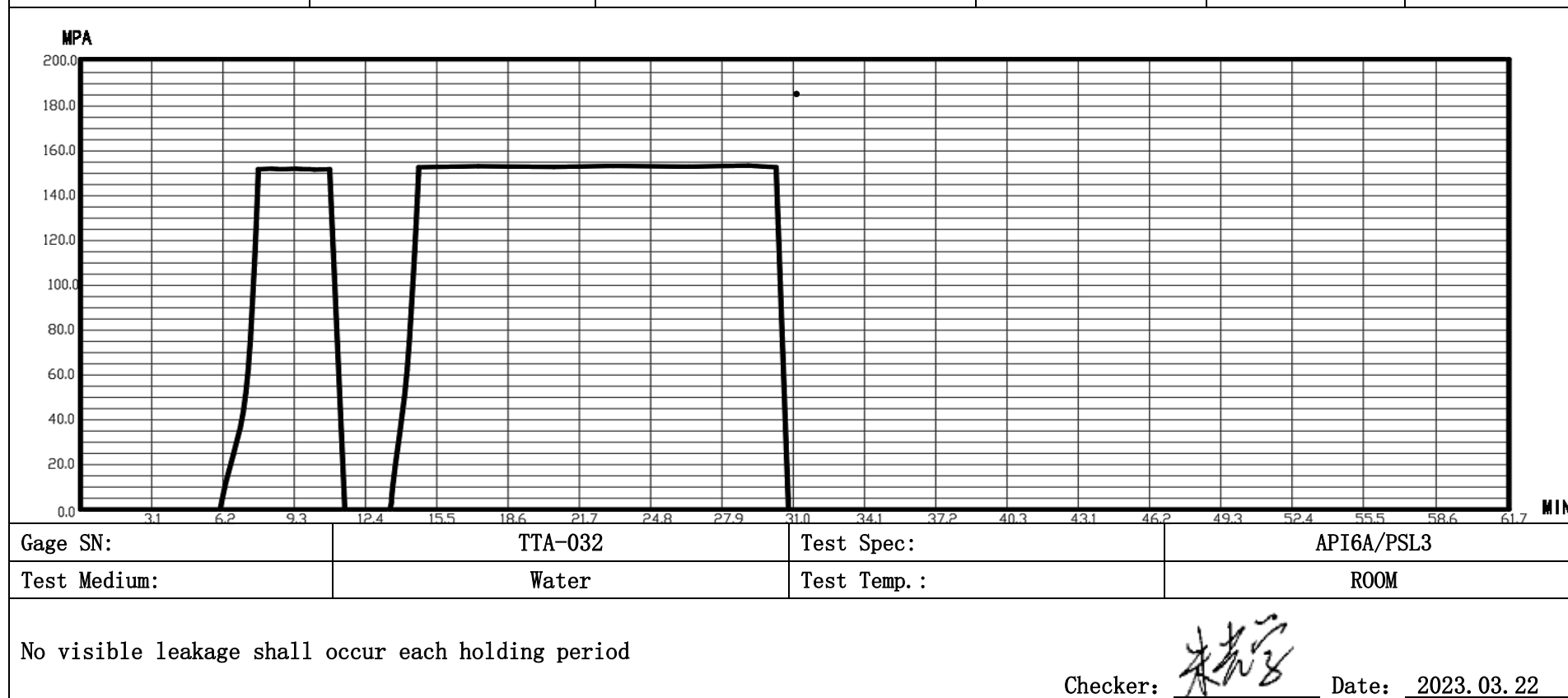
Checker:  Date: 2023.03.22



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HYDRASTATIC TEST REPORT

Description:	SPACER SPOOL 7 1/16" 15M X 36" EE LU PSL3 PR1		Serial NO.:	ET2022301-12-08	
Item	Pressure (Mpa)	Method (Min)	Result	Date:	2023.03.22
BODY TEST	155.8MPa	HOLDINGPERIOD 3	Acceptable	Start Time	13: 03: 41
BODY TEST	155.6MPa	HOLDINGPERIOD 15	Acceptable	End Time	13: 29: 00

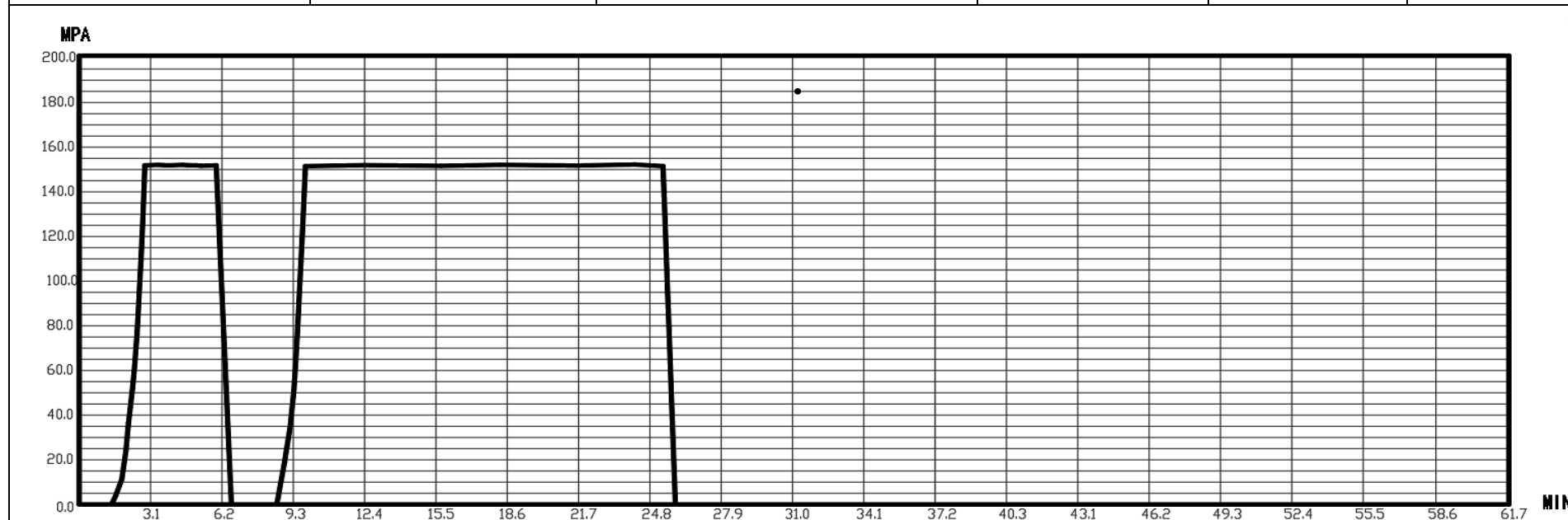




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HYDRASTATIC TEST REPORT

Description:	SPACER SPOOL 7 1/16" 15M X 36" EE LU PSL3 PR1		Serial NO.:	ET2022301-12-09	
Item	Pressure (Mpa)	Method (Min)	Result	Date:	2023.03.22
BODY TEST	155.7MPa	HOLDINGPERIOD 3	Acceptable	Start Time	13: 46: 31
BODY TEST	155.6MPa	HOLDINGPERIOD 15	Acceptable	End Time	14: 11: 56



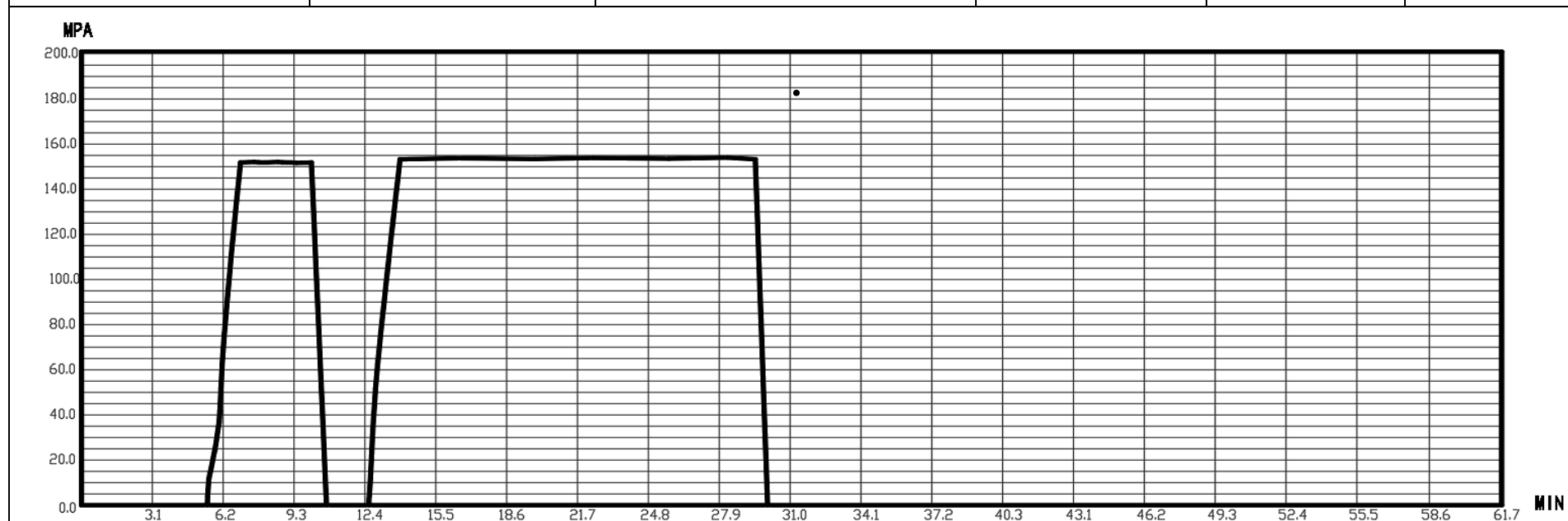
Gage SN:	TTA-032	Test Spec:	API6A/PSL3
Test Medium:	Water	Test Temp.:	ROOM
No visible leakage shall occur each holding period			
Checker:		Date: 2023.03.22	



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HYDRASTATIC TEST REPORT

Description:	SPACER SPOOL 7 1/16" 15M X 36" EE LU PSL3 PR1		Serial NO.:	ET2022301-12-10	
Item	Pressure (Mpa)	Method (Min)	Result	Date:	2023.03.22
BODY TEST	155.9MPa	HOLDINGPERIOD 3	Acceptable	Start Time	14: 32: 18
BODY TEST	155.7MPa	HOLDINGPERIOD 15	Acceptable	End Time	14: 57: 39



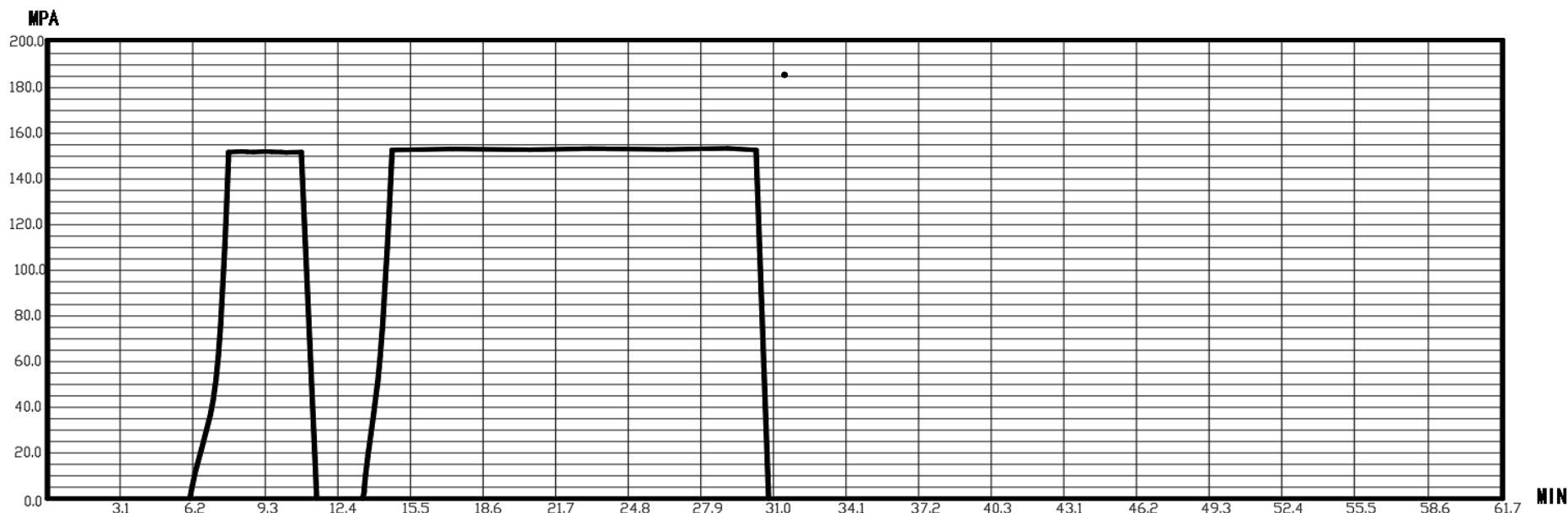
Gage SN:	TTA-032	Test Spec:	API6A/PSL3
Test Medium:	Water	Test Temp.:	ROOM
No visible leakage shall occur each holding period			
Checker:		Date: 2023.03.22	



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HYDRASTATIC TEST REPORT

Description:	SPACER SPOOL 7 1/16" 15M X 36" EE LU PSL3 PR1		Serial NO.:	ET2022301-12-11	
Item	Pressure (Mpa)	Method (Min)	Result	Date:	2023.03.22
BODY TEST	155.5MPa	HOLDINGPERIOD 3	Acceptable	Start Time	15: 16: 32
BODY TEST	155.8MPa	HOLDINGPERIOD 15	Acceptable	End Time	15: 41: 51



Gage SN:	TTA-032	Test Spec:	API6A/PSL3
Test Medium:	Water	Test Temp.:	ROOM

No visible leakage shall occur each holding period

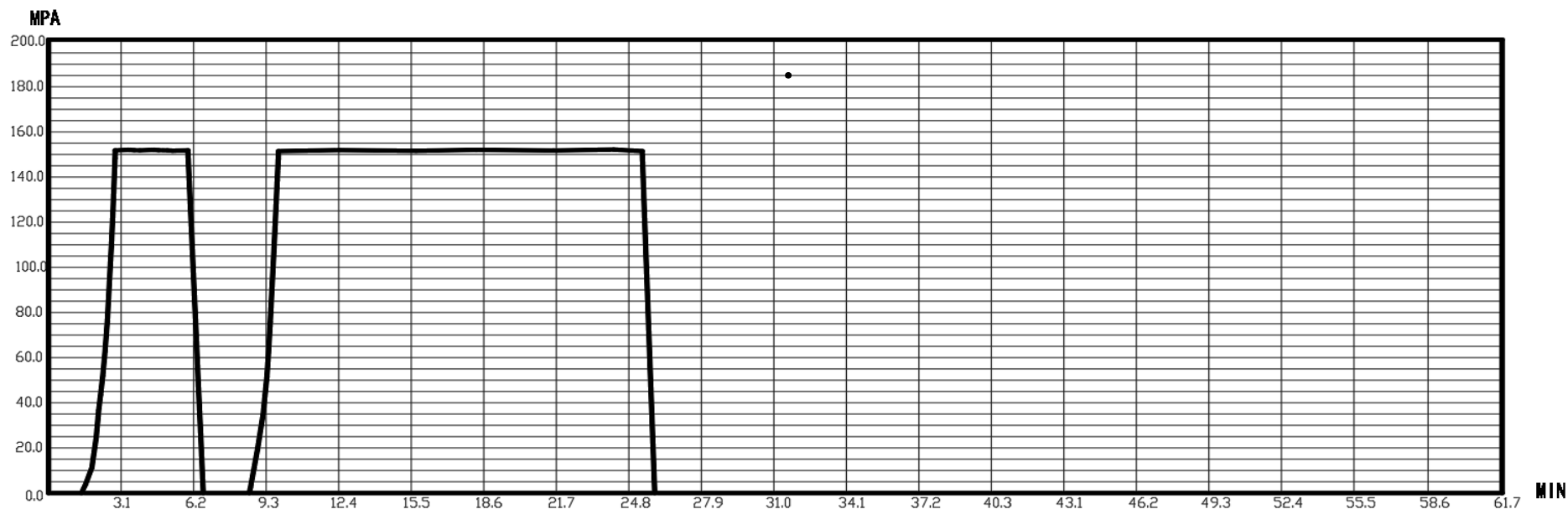
Checker: 朱宇 Date: 2023.03.22



C&W International Fabricators

HYDRASTATIC TEST REPORT

Description:	SPACER SPOOL 7 1/16" 15M X 36" EE LU PSL3 PR1		Serial NO.:	ET2022301-12-12	
Item	Pressure (Mpa)	Method (Min)	Result	Date:	2023.03.22
BODY TEST	155.7MPa	HOLDINGPERIOD 3	Acceptable	Start Time	17: 03: 11
BODY TEST	155.6MPa	HOLDINGPERIOD 15	Acceptable	End Time	17: 28: 35



Gage SN:	TTA-032	Test Spec:	API6A/PSL3
Test Medium:	Water	Test Temp.:	ROOM

No visible leakage shall occur each holding period

Checker: 朱宇 Date: 2023.03.22



C&W International Fabricators

REPORT INDEX

Purchase Order: **ET2022301-8**

Quantity: **8 EA**

Shipment No. :

Shipment Date:

Activity No.	Characteristics	Reference Page
1.1	SPACER SPOOL 7 1/16" 15M X 120"	Page-2
1.1.1	Metallurgical Test Certificate	Page-2
1.1.2	Mechanical Testing	Page-2
1.1.3	Chemical Testing	Page-2
1.1.4	Heat Treatment	Page-2
2.1	Hardness Test	Page-3
2.2	Ultrasonic Testing	Page-4
2.3	Magnetic Particle Inspection Report	Page-5
3.0	Hydrostatic Test Report	Page-6



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METALLURGICAL TEST CERTIFICATE

Serial No. :	ET2022301-8-26...33	PO# :	ET2022301-8	Date:	2023-04-15							
Part No:	SS715-120	API Monogram:	YES	Report#:	2023041511							
Specification:	API Spec 6A/ASTM A370	Material:	4130 75k per ASTM A29									
Description:	SPACER SPOOL 7 1/16" 15M X 120" EE LU PSL3 PR1			Qty:	8 EA							
TEST CONDITION												
Test Bar Size:	QTC, 4" x 4" x 8"		Bar Di:	12.7 mm (0.5")								
Melt Practice	EF + LF + VD		Reduction Ratio Min:	5:1								
Yield Stress	0.2% offset		Gauge Length	50.8mm								
CHEMICAL COMPOSITION												
Mill No. :	Qty	Test No.	C	Mn	Si	S	P	Ni	Cu	Mo	Cr	V
Spec Min			0.28	0.40	0.15	/	/	/	/	0.15	0.80	/
Spec Max			0.33	0.60	0.35	0.025	0.025	0.50	0.35	0.25	1.10	0.30
220611457	8	1	0.300	0.520	0.230	0.005	0.010	0.030	0.040	0.193	0.970	0.006
MECHANICAL COMPOSITION												
Heat Lot No.	QTY.	Test No.	Yield Strength (Kpsi)	Tensile Strength (Kpsi)	Elongation%	Reduction of Area%	Hardness HB	10mm X 10mm Charpy J (ft. lb) At -46° c	Minimum Lateral	Shear Fraction		
Spec Min			75K	95K	18.0	35.0	197	27J				
Spec Max			/	/	/	/	235	/				
TM2303160201	2	1	78.0K	99.5K	27.0	57.5	220	47;56;59				
TM2303190301	2	2	77.5K	98.0K	26.5	55.8	222	53;60;69				
TM2303220201	3	3	79.0K	99.0K	25.0	56.5	225	59;65;70				
TM2303260201	1	4	78.5K	97.6K	26.0	55.0	222	63;68;77				
HEAT TREATMENT												
Forgings:	5:1					Test Bar (OTC)						
Normalized:	900°C 6 HRS					Normalized:	900°C 6 HRS					
Austenitized:	860°C 6 HRS					Austenitized:	860°C 6 HRS					
Quenchant:	Water					Quenchant:	Water					
Start Temp:	25 °C					Start Temp:	25 °C					
End Temp:	36 °C					End Temp:	36 °C					
Temper:	660°C 9 HRS AIR					Temper:	660°C 9 HRS AIR					
We hereby certify that all test results and procedure information contained herein are correct and true as in contained the records of the company and also no welding or weld repair was performed on subject parts.												
Inspected by:	杨海					Approved by:	林武					



Hardness Test Report

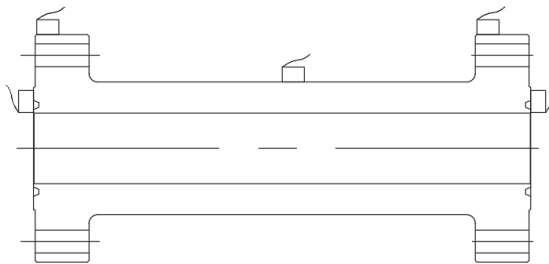
[illegible]



ULTRASONIC EXAMINATION REPORT

[illegible]

Sketch:



ABOVE FORGED ARE ULTRASONICALLY TESTED FOR INTERNAL DEFECTS USSING FLAT-BOTTOM HOLE PROCEDURE;
NO RECORDABLE INDICATION OBSERVED DURING THE TEST. HENCE ACCEPTABLE AS PER STANDARD.

UT Code:ASTM A388	Technique:Straight/Contact	Examined BY:	Approved by:
Exam.Stage: After heat treatment	Calibration Block:CSK IA	 Lin Bin Level as per UT II	 Bin Liu Level as per UT III
Equipment:CTS-2020	Couplant:OIL		
Probe Used :Straight Probe2.5MHz ϕ 24mm DIA	Acceptance Criteria: API 6A PSL 3		
Equipment Calibration Date :2022.09.10	Test Gain:20db + 5 db		
Equipment Due Date: 2023.09.09			



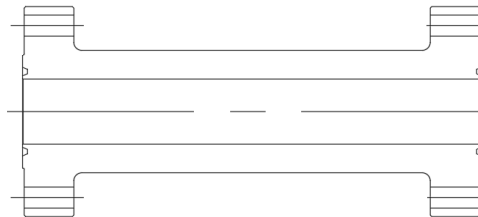
C&W International Fabricators

Magnetic Particle Inspection Report

Serial No. :	ET2022301-8-26...33	PO# :	ET2022301-8	Date:	2023-04-15
Part No:	SS715-120	API Monogram:	YES	Report#:	2023041511
Specification:	API Spec 6A/ASTM E709	Material:	4130 75k per ASTM A29		
Description:	SPACER SPOOL 7 1/16" 15M X 120" EE LU PSL3 PR1			Qty:	8 EA

Item	S/N	Heat Lot No.	Result	Item	S/N	Heat Lot No.	Result
1	ET2022301-8-26	TM2303160201	Acceptable				
2	ET2022301-8-27	TM2303160201	Acceptable				
3	ET2022301-8-28	TM2303190301	Acceptable				
4	ET2022301-8-29	TM2303190301	Acceptable				
5	ET2022301-8-30	TM2303220201	Acceptable				
6	ET2022301-8-31	TM2303220201	Acceptable				
7	ET2022301-8-32	TM2303220201	Acceptable				
8	ET2022301-8-33	TM2303260201	Acceptable				

Sketch/Inspection Coverage:



Fluorescent magnetic particle inspection was performed on all accessible wetted/sealing surface with acceptable results

Evaluation & Disposition : Found to be satisfactory.

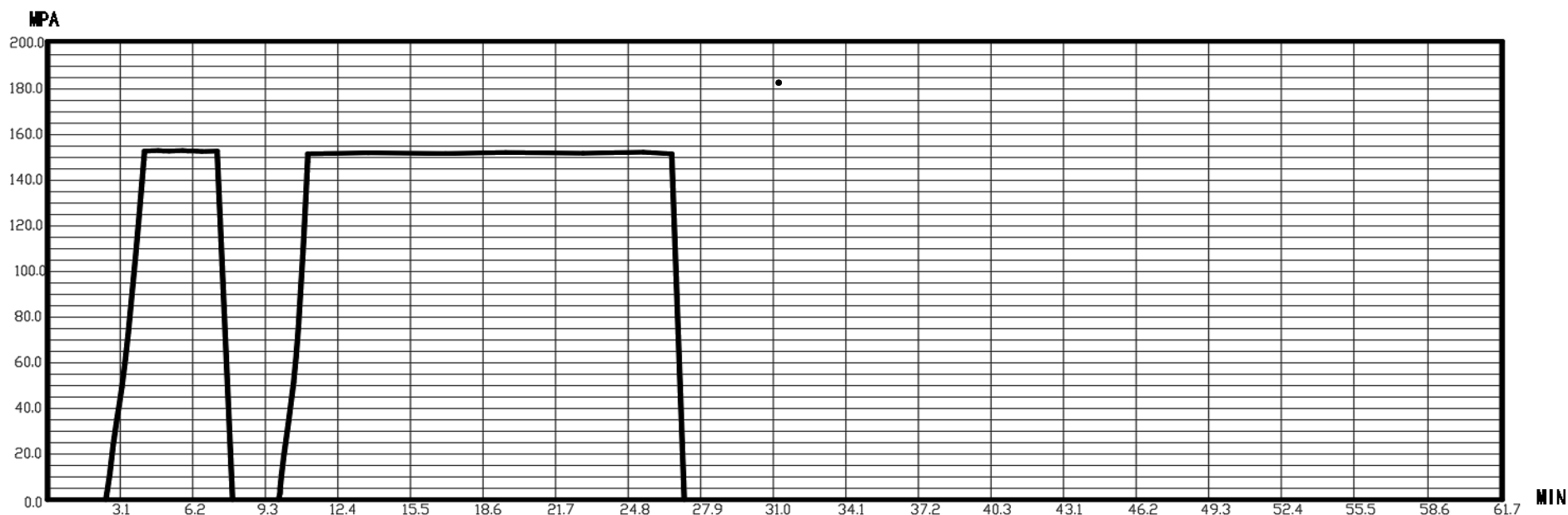
Equipment	CJD-9000	MT Code	ASTM E709	Examined	Approved
Test Method	Fulcrum [] Cable1 [✓]	Particle Type	Fluorescence Wet	BY: Lin Bin	by: Ye
Exam. Stage	Rough After Ra $\leq$ 6.3 μ m	Test Piece	A1-30/100	Level as	Zhenghao
Magnetizing time	1-3S	Circular AMPS/Turns	900A/1	per	Level as
Concentration	0.3ml/100ml	UV-Light Intensity	$\geq 1100Uw/C m^2$	MT II	per MT II



C&W International Fabricators

HYDRASTATIC TEST REPORT

Description:	SPACER SPOOL 7 1/16" 15M X 120" EE LU PSL3 PR1		Serial NO.:	ET2022301-8-26	
Item	Pressure (Mpa)	Method (Min)	Result	Date:	2023.04.12
BODY TEST	155.9MPa-155.6MPa	HOLDINGPERIOD 3	Acceptable	Start Time	09: 28: 22
BODY TEST	156.5MPa-155.9MPa	HOLDINGPERIOD 15	Acceptable	End Time	09: 53: 40



Gage SN :	TTA-032	Test Spec:	API6A/PSL3
Test Medium:	Water	Test Temp.:	ROOM

No visible leakage shall occur each holding period

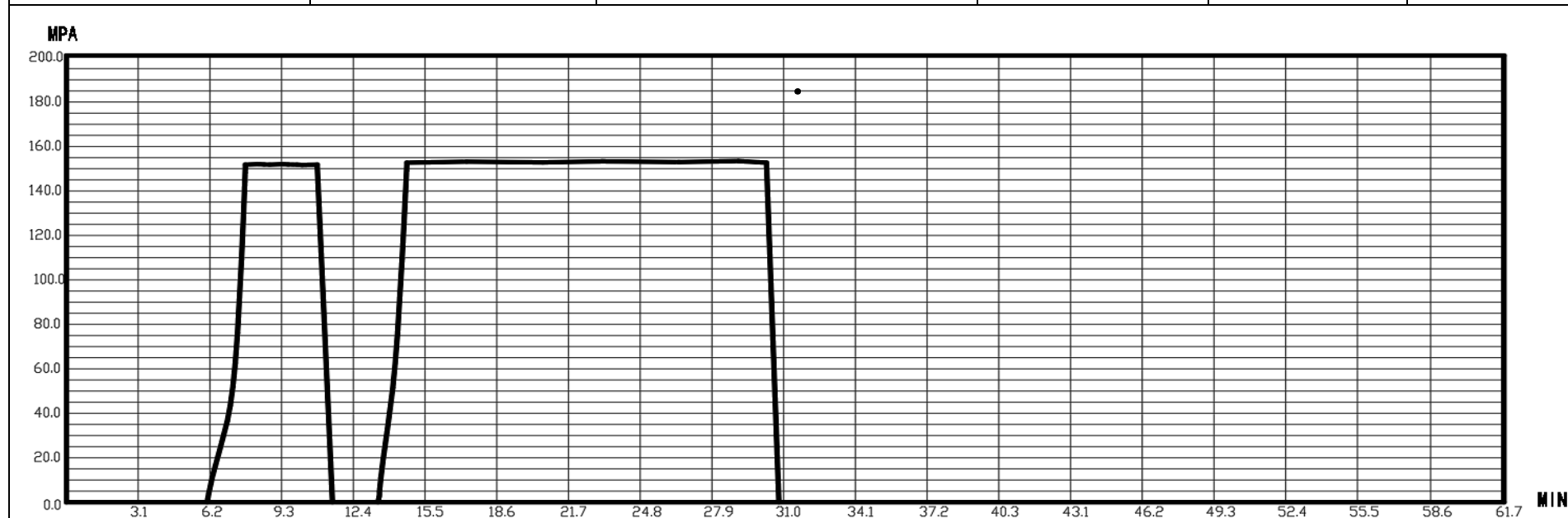
Checker: 朱宇 Date: 2023.04.12

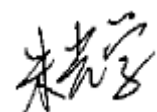


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HYDRASTATIC TEST REPORT

Description:	SPACER SPOOL 7 1/16" 15M X 120" EE LU PSL3 PR1		Serial NO. :	ET2022301-8-27	
Item	Pressure (Mpa)	Method (Min)	Result	Date:	2023.04.12
BODY TEST	155.9MPa-155.6MPa	HOLDINGPERIOD 3	Acceptable	Start Time	11: 10: 03
BODY TEST	156.4MPa-155.7MPa	HOLDINGPERIOD 15	Acceptable	End Time	11: 35: 28



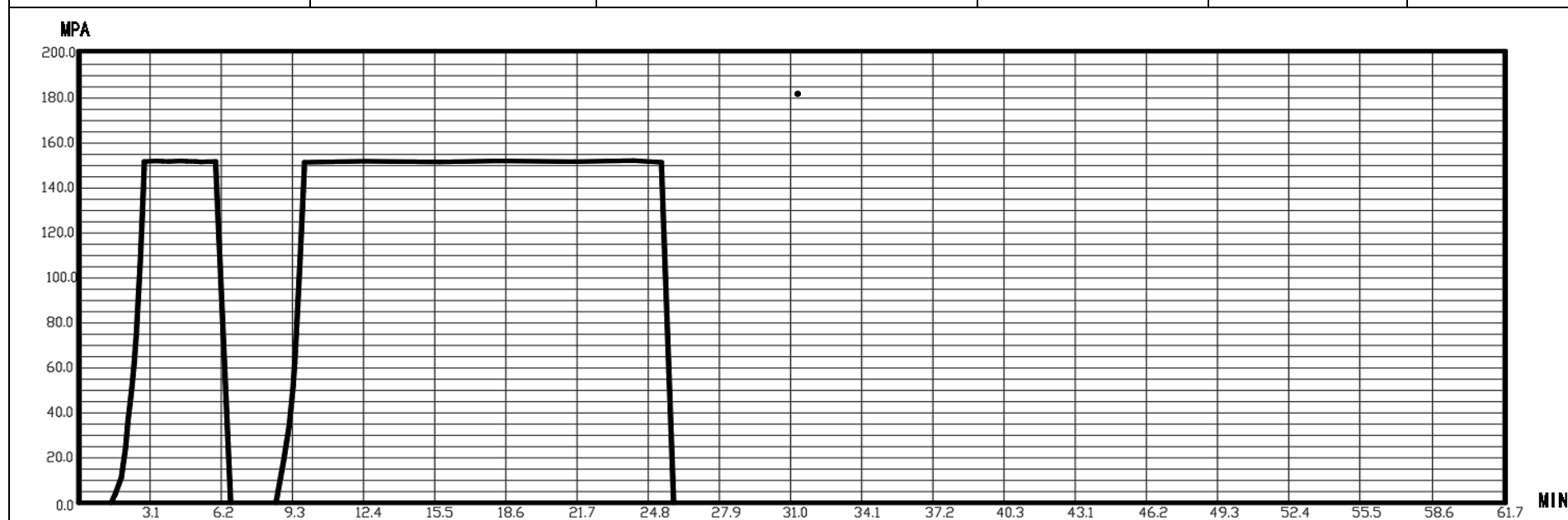
Gage SN :	TTA-032	Test Spec:	API6A/PSL3
Test Medium:	Water	Test Temp. :	ROOM
No visible leakage shall occur each holding period			
Checker: 		Date: 2023.04.12	



C&W International Fabricators

HYDRASTATIC TEST REPORT

Description:	SPACER SPOOL 7 1/16" 15M X 120" EE LU PSL3 PR1		Serial NO.:	ET2022301-8-28	
Item	Pressure (Mpa)	Method (Min)	Result	Date:	2023.04.12
BODY TEST	156.4MPa-155.8MPa	HOLDINGPERIOD 3	Acceptable	Start Time	13: 48: 17
BODY TEST	156.1MPa-155.7MPa	HOLDINGPERIOD 15	Acceptable	End Time	14: 13: 36



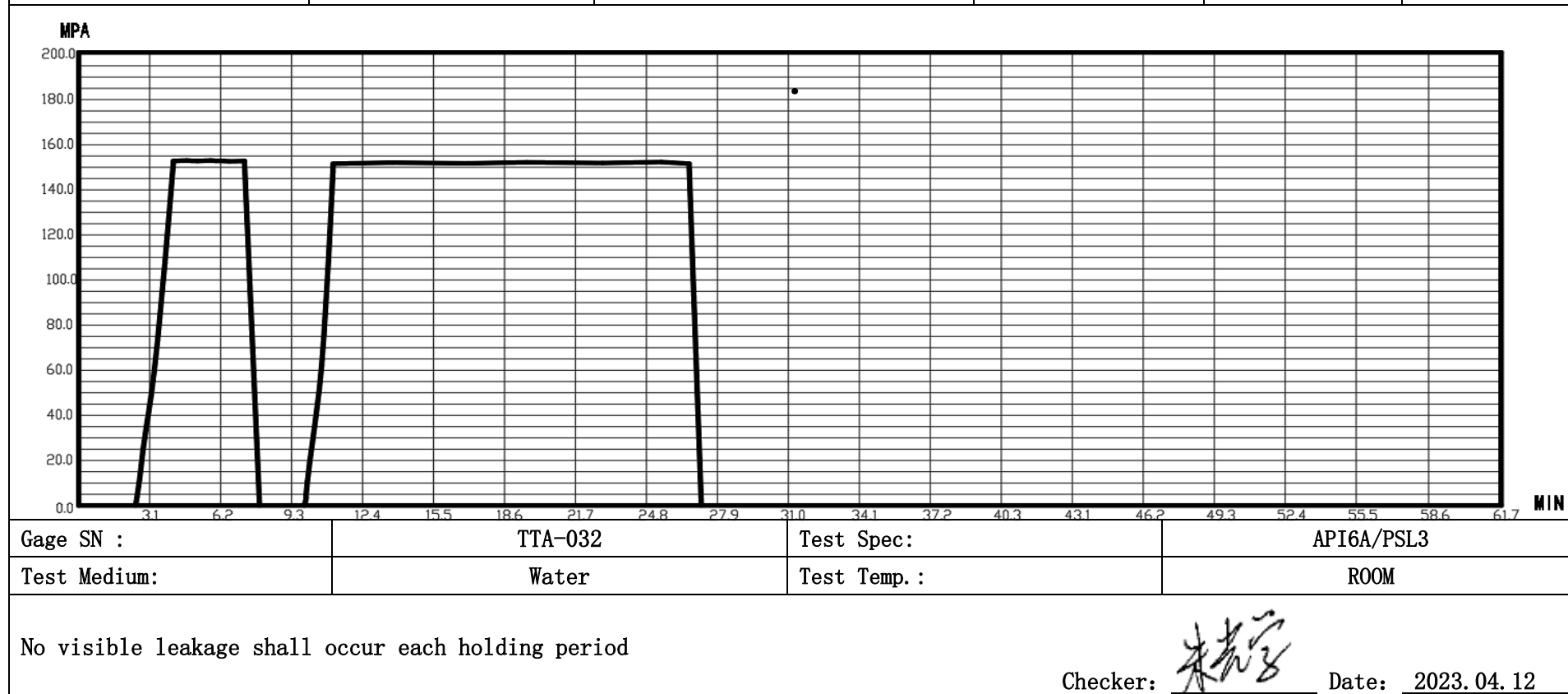
Gage SN :	TTA-032	Test Spec:	API6A/PSL3
Test Medium:	Water	Test Temp.:	ROOM
No visible leakage shall occur each holding period			
Checker: 朱宇		Date: 2023.04.12	



C&W International Fabricators

HYDRASTATIC TEST REPORT

Description:	SPACER SPOOL 7 1/16" 15M X 120" EE LU PSL3 PR1		Serial NO.:	ET2022301-8-29	
Item	Pressure (Mpa)	Method (Min)	Result	Date:	2023.04.12
BODY TEST	155.7MPa-155.6MPa	HOLDINGPERIOD 3	Acceptable	Start Time	14: 50: 42
BODY TEST	156.5MPa-155.9MPa	HOLDINGPERIOD 15	Acceptable	End Time	15: 15: 59

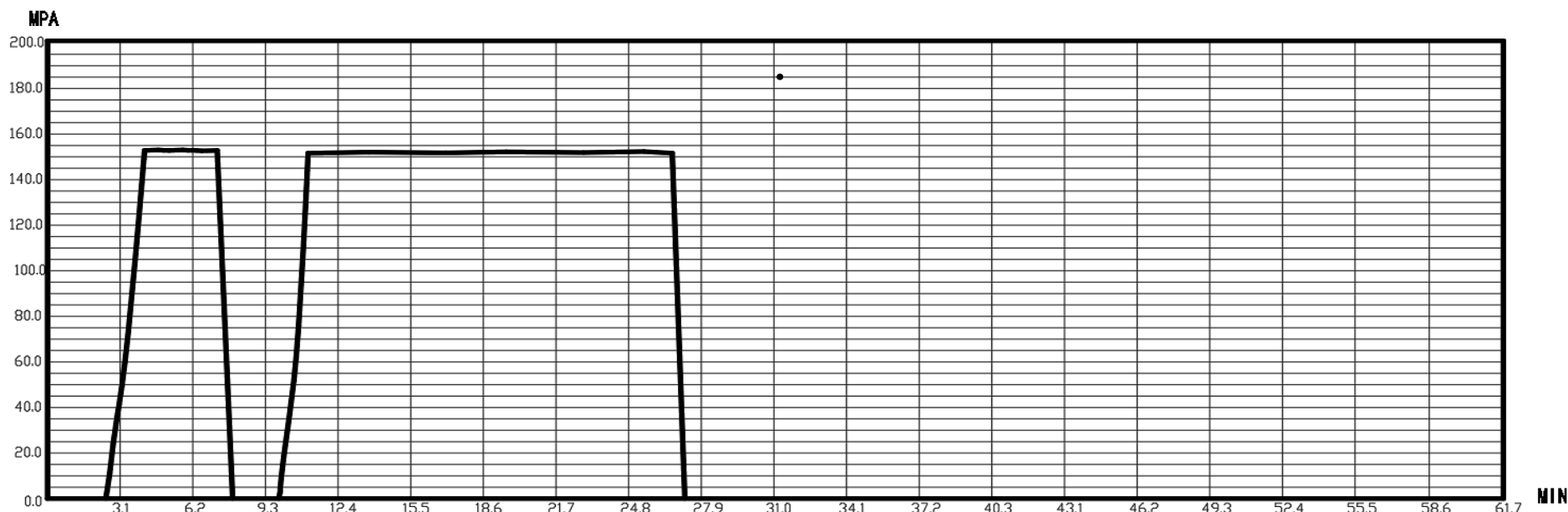




C&W International Fabricators

HYDRASTATIC TEST REPORT

Description:	SPACER SPOOL 7 1/16" 15M X 120" EE LU PSL3 PR1		Serial NO.:	ET2022301-8-30	
Item	Pressure (Mpa)	Method (Min)	Result	Date:	2023.04.12
BODY TEST	156.5MPa-155.8MPa	HOLDINGPERIOD 3	Acceptable	Start Time	15: 26: 14
BODY TEST	156.3MPa-155.7MPa	HOLDINGPERIOD 15	Acceptable	End Time	15: 51: 29



Gage SN :	TTA-032	Test Spec:	API6A/PSL3
Test Medium:	Water	Test Temp.:	ROOM

No visible leakage shall occur each holding period

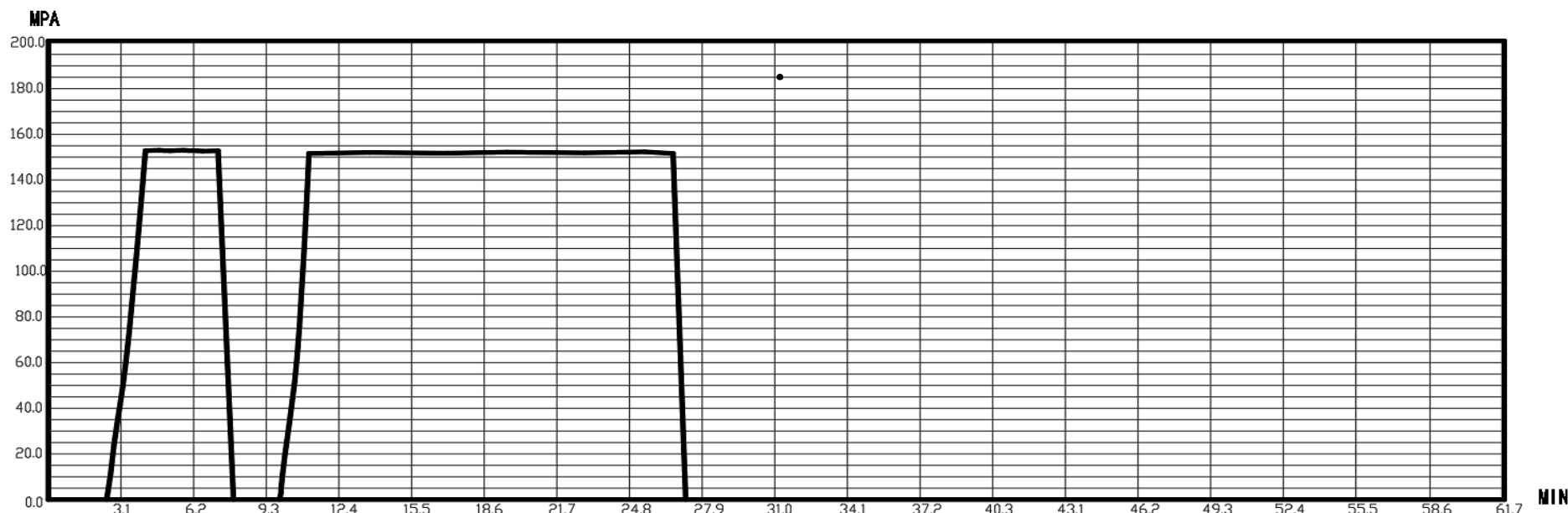
Checker: 朱宇 Date: 2023.04.12



C&W International Fabricators

HYDRASTATIC TEST REPORT

Description:	SPACER SPOOL 7 1/16" 15M X 120" EE LU PSL3 PR1		Serial NO.:	ET2022301-8-31	
Item	Pressure (Mpa)	Method (Min)	Result	Date:	2023.04.12
BODY TEST	156.2MPa-155.8MPa	HOLDINGPERIOD 3	Acceptable	Start Time	16: 28: 02
BODY TEST	156.1MPa-155.6MPa	HOLDINGPERIOD 15	Acceptable	End Time	16: 53: 25



Gage SN :	TTA-032	Test Spec:	API6A/PSL3
Test Medium:	Water	Test Temp. :	ROOM

No visible leakage shall occur each holding period

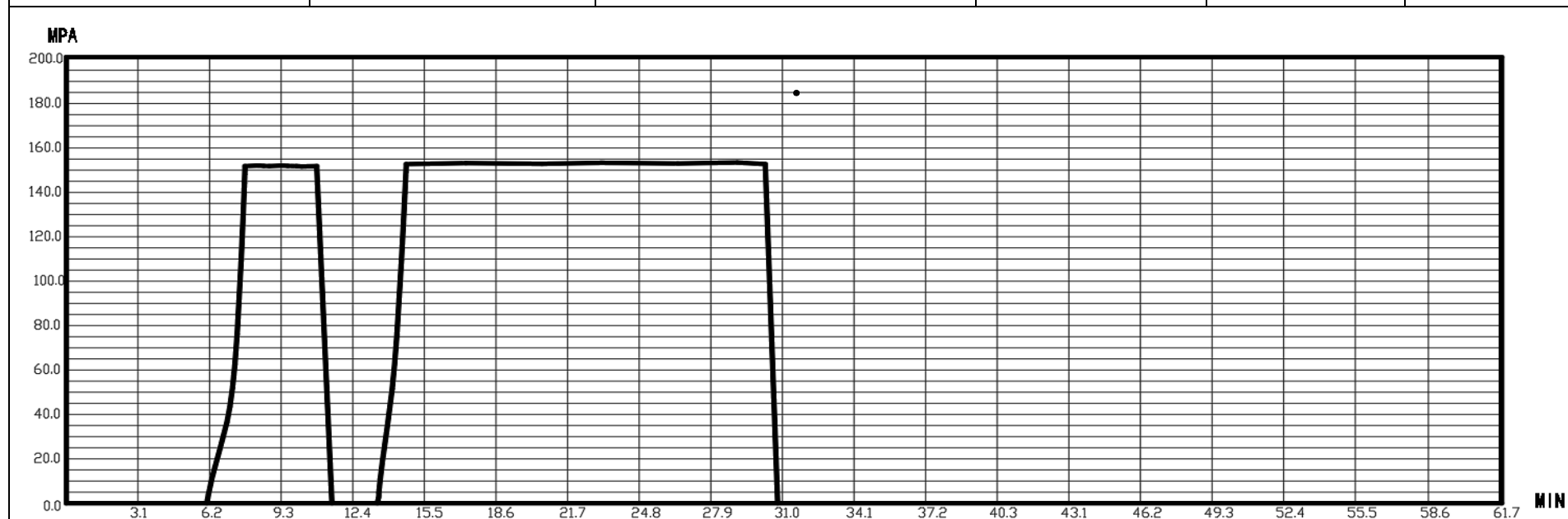
Checker: 朱宇 Date: 2023.04.12

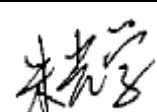


C&W International Fabricators

HYDRASTATIC TEST REPORT

Description:	SPACER SPOOL 7 1/16" 15M X 120" EE LU PSL3 PR1		Serial NO. :	ET2022301-8-32	
Item	Pressure (Mpa)	Method (Min)	Result	Date:	2023.04.12
BODY TEST	156.3MPa-155.5MPa	HOLDINGPERIOD 3	Acceptable	Start Time	17: 15: 26
BODY TEST	156.6MPa-155.8MPa	HOLDINGPERIOD 15	Acceptable	End Time	17: 40: 47



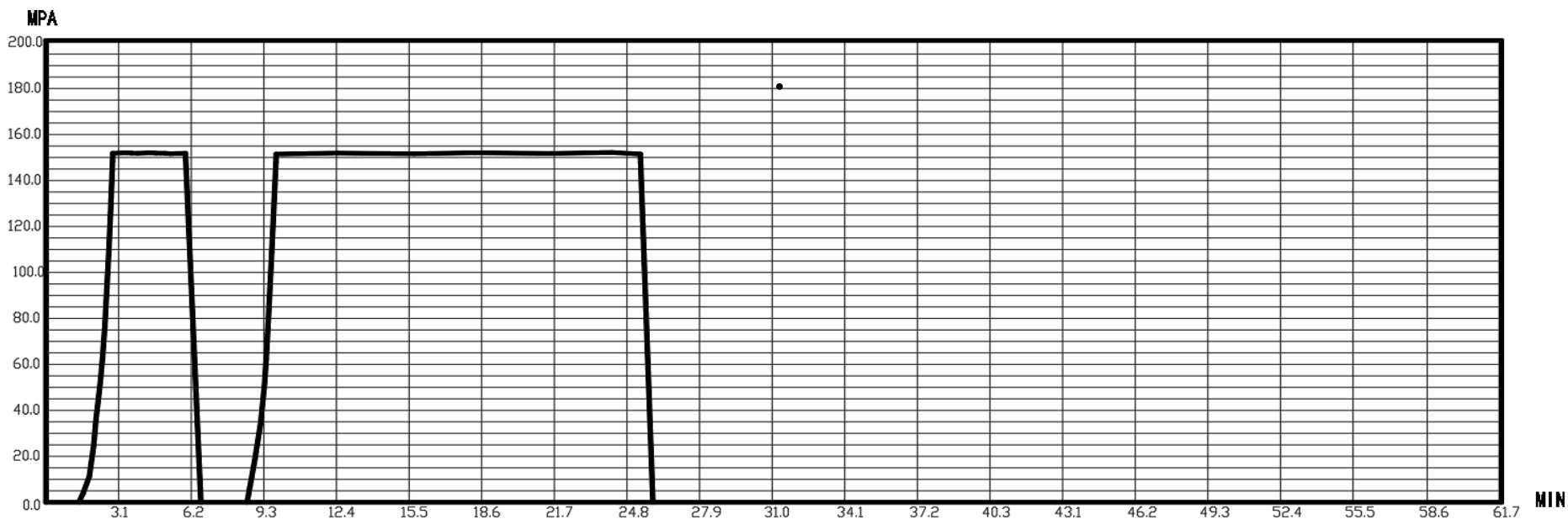
Gage SN :	TTA-032	Test Spec:	API6A/PSL3
Test Medium:	Water	Test Temp. :	ROOM
No visible leakage shall occur each holding period			
Checker: 		Date: 2023.04.12	



C&W International Fabricators

HYDRASTATIC TEST REPORT

Description:	SPACER SPOOL 7 1/16" 15M X 120" EE LU PSL3 PR1		Serial NO.:	ET2022301-8-33	
Item	Pressure (Mpa)	Method (Min)	Result	Date:	2023.04.12
BODY TEST	156.7MPa-155.5MPa	HOLDINGPERIOD 3	Acceptable	Start Time	18: 13: 30
BODY TEST	156.6MPa-155.8MPa	HOLDINGPERIOD 15	Acceptable	End Time	18: 38: 52



Gage SN :	TTA-032	Test Spec:	API6A/PSL3
Test Medium:	Water	Test Temp.:	ROOM

No visible leakage shall occur each holding period

Checker: 朱宇 Date: 2023.04.12



C&W International Fabricators

REPORT INDEX

Purchase Order: **ET2022290-1**

Quantity: **10 EA**

Shipment No. :

Shipment Date:

Activity No.	Characteristics	Reference Page
1.1	SPACER SPOOL 7 1/16" 15M X 24"	Page-2
1.1.1	Metallurgical Test Certificate	Page-2
1.1.2	Mechanical Testing	Page-2
1.1.3	Chemical Testing	Page-2
1.1.4	Heat Treatment	Page-2
2.1	Hardness Test	Page-3
2.2	Ultrasonic Testing	Page-4
2.3	Magnetic Particle Inspection Report	Page-5



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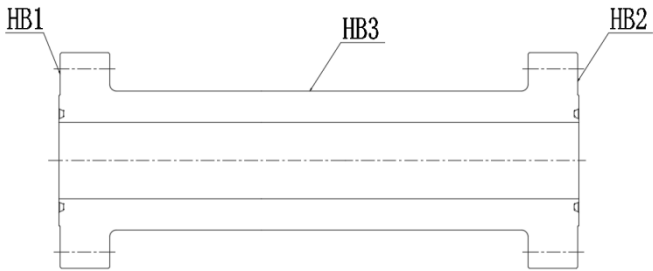
METALLURGICAL TEST CERTIFICATE

Serial No. :	ET2022290-1-01...10	PO# :	ET2022290	Date:	2023-02-08							
Part No:	SS715-24	API Monogram:	YES	Report#:	2023020803							
Specification:	API Spec 6A/ ASTM A370	Material:	4130 75k per ASTM A29									
Description:	SPACER SPOOL 7 1/16" 15M X 24" EE LU PSL3 PR1			Qty:	10 EA							
TEST CONDITION												
Test Bar Size:	QTC, 4" x 4" x 8"		Bar Di:	12.7 mm (0.5")								
Melt Practice	EF + LF + VD		Reduction Ratio Min:	5:1								
Yield Stress	0.2% offset		Gauge Length	50.8mm								
CHEMICAL COMPOSITION												
Mill No. :	Qty	Test No.	C	Mn	Si	S	P	Ni	Cu	Mo	Cr	V
Spec Min			0.28	0.40	0.15	/	/	/	/	0.15	0.80	/
Spec Max			0.33	0.60	0.35	0.025	0.025	0.50	0.35	0.25	1.10	0.30
220608681	20	1	0.310	0.550	0.230	0.008	0.010	0.020	0.030	0.190	1.020	0.006
MECHANICAL COMPOSITION												
Heat Lot No.	QTY.	Test No.	Yield Strength (Kpsi)	Tensile Strength (Kpsi)	Elongation%	Reduction of Area%	Hardness HB	10mm X 10mm Charpy J (ft. lb) At -46° c	Minimum Lateral	Shear Fraction		
Spec Min			75K	95K	18.0	35.0	197	27J				
Spec Max			/	/	/	/	235	/				
TM2212150301	10	1	78.5K	100.5K	49.0	65.0	215	55;58;68				
HEAT TREATMENT												
Forgings:	5:1					Test Bar (OTC)						
Normalized:	900°C 5 HRS					Normalized:	900°C 5 HRS					
Austenitized:	860°C 5 HRS					Austenitized:	860°C 5 HRS					
Quenchant:	Water					Quenchant:	Water					
Start Temp:	30 °C					Start Temp:	30 °C					
End Temp:	37 °C					End Temp:	37 °C					
Temper:	660°C 7 HRS AIR					Temper:	660°C 7 HRS AIR					
We hereby certify that all test results and procedure information contained herein are correct and true as in contained the records of the company and also no welding or weld repair was performed on subject parts.												
Inspected by:	张金龙					Approved by:	徐根					



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Hardness Test Report

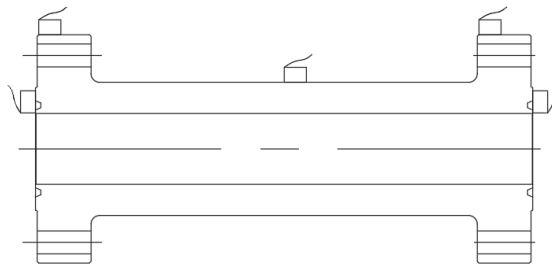
Serial No. :	ET2022290-1-01...10	P0# :	ET2022290	Date:	2023-02-08					
Part No:	SS715-24	API Monogram:	YES	Report#:	2023020803					
Specification:	API Spec 6A/ ASTM E10	Material:	4130 75k per ASTM A29							
Description:	SPACER SPOOL 7 1/16" 15M X 24" EE LU PSL3 PR1				Qty: 10 EA					
Item	S/N	Heat Lot No.	HB1	HB2	HB3	HB4	HB5	HB6	HB7	HB8
1	ET2022290-1-01	TM2212150301	223	221	221					
2	ET2022290-1-02	TM2212150301	225	223	221					
3	ET2022290-1-03	TM2212150301	221	225	223					
4	ET2022290-1-04	TM2212150301	223	221	221					
5	ET2022290-1-05	TM2212150301	229	231	229					
6	ET2022290-1-06	TM2212150301	225	223	221					
7	ET2022290-1-07	TM2212150301	221	225	223					
8	ET2022290-1-08	TM2212150301	229	231	229					
9	ET2022290-1-09	TM2212150301	223	225	221					
10	ET2022290-1-10	TM2212150301	225	223	223					
Sketch:										
										
Method Used:	Impact Energy:3000Kg. Diameter of steel ball:10mm									
Acceptable Hardness	197HBW-235HBW		Inspected by:				Approved by:			
Judgments:	[V] Conform		刘永良				徐根			
	[] Do not conform									



ULTRASONIC EXAMINATION REPORT

[illegible]

Sketch:



ABOVE FORGED ARE ULTRASONICALLY TESTED FOR INTERNAL DEFECTS USSING FLAT-BOTTOM HOLE PROCEDURE;
NO RECORDABLE INDICATION OBSERVED DURING THE TEST. HENCE ACCEPTABLE AS PER STANDARD.

UT Code:ASTM A388	Technique:Straight/Contact	Examined BY:	Approved by:
Exam.Stage: After heat treatment	Calibration Block:CSK IA		
Equipment:CTS-2020	Couplant: OIL		
Probe Used :2.5Pφ10	Acceptance Criteria: API 6A PSL 3		
Equipment Calibration Date :2022.09.10	Test Gain:20db + 5 db		
Equipment Due Date: 2023.09.09			
		Level as per UT II	Level as per UT II



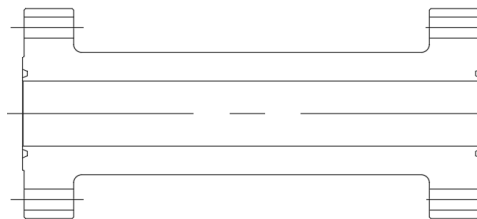
C&W International Fabricators

Magnetic Particle Inspection Report

Serial No. :	ET2022290-1-01...10	PO# :	ET2022290	Date:	2023-02-08
Part No:	SS715-24	API Monogram:	YES	Report#:	2023020803
Specification:	API Spec 6A/ ASTM E709	Material:	4130 75k per ASTM A29		
Description:	SPACER SPOOL 7 1/16" 15M X 24" EE LU PSL3 PR1			Qty:	10 EA

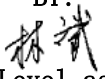
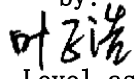
Item	S/N	Heat Lot No.	Result	Item	S/N	Heat Lot No.	Result
1	ET2022290-1-01	TM2212130201	Acceptable				
2	ET2022290-1-02	TM2212130201	Acceptable				
3	ET2022290-1-03	TM2212140301	Acceptable				
4	ET2022290-1-04	TM2212140301	Acceptable				
5	ET2022290-1-05	TM2212130201	Acceptable				
6	ET2022290-1-06	TM2212130201	Acceptable				
7	ET2022290-1-07	TM2212130201	Acceptable				
8	ET2022290-1-08	TM2212130201	Acceptable				
9	ET2022290-1-09	TM2212130201	Acceptable				
10	ET2022290-1-10	TM2212130201	Acceptable				

Sketch/Inspection Coverage:



Fluorescent magnetic particle inspection was performed on all accessible wetted/sealing surface with acceptable results

Evaluation & Disposition : Found to be satisfactory.

Equipment	CJD-9000	MT Code	ASTM E709	Examined BY:  Level as per MT II	Approved by:  Level as per MT II
Test Method	Fulcrum [] Cable1 [√]	Particle Type	Fluorescence Wet		
Exam. Stage	Rough After Ra ≤ 6.3μm	Test Piece	A1-30/100		
Magnetizing time	1-3S	Circular AMPS/Turns	900A/1		
Concentration	0.3ml/100ml	UV-Light Intensity	≥1000Uw/C m²		



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REPORT INDEX

Purchase Order: **ET2022290-3**

Quantity: **10 EA**

Shipment No. :

Shipment Date:

Activity No.	Characteristics	Reference Page
1.1	SPACER SPOOL 7 1/16" 15M X 60"	Page-2
1.1.1	Metallurgical Test Certificate	Page-2
1.1.2	Mechanical Testing	Page-2
1.1.3	Chemical Testing	Page-2
1.1.4	Heat Treatment	Page-2
2.1	Hardness Test	Page-3
2.2	Ultrasonic Testing	Page-4
2.3	Magnetic Particle Inspection Report	Page-5



C&W International Fabricators

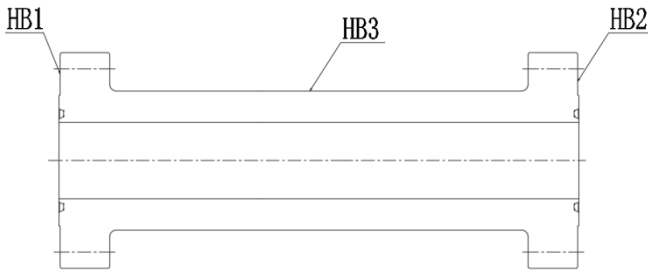
METALLURGICAL TEST CERTIFICATE

Serial No. :	ET2022290-3-01...10	PO# :	ET2022290	Date:	2023-02-27							
Part No:	SS715-120	API Monogram:	YES	Report#:	2023022701							
Specification:	API Spec 6A/ ASTM A370	Material:	4130 75k per ASTM A29									
Description:	SPACER SPOOL 7 1/16" 15M X 60" EE LU PSL3 PR1			Qty:	10 EA							
TEST CONDITION												
Test Bar Size:	QTC, 4" x 4" x 8"		Bar Di:	12.7 mm (0.5")								
Melt Practice	EF + LF + VD		Reduction Ratio Min:	5:1								
Yield Stress	0.2% offset		Gauge Length	50.8mm								
CHEMICAL COMPOSITION												
Mill No. :	Qty	Test No.	C	Mn	Si	S	P	Ni	Cu	Mo	Cr	V
Spec Min			0.28	0.40	0.15	/	/	/	/	0.15	0.80	/
Spec Max			0.33	0.60	0.35	0.025	0.025	0.50	0.35	0.25	1.10	0.30
220608681	10	1	0.31	0.55	0.23	0.008	0.010	0.02	0.03	0.19	1.02	0.006
MECHANICAL COMPOSITION												
Heat Lot No.	QTY.	Test No.	Yield Strength (Kpsi)	Tensile Strength (Kpsi)	Elongation%	Reduction of Area%	Hardness HB	10mm X 10mm Charpy J (ft. lb) At -46° c	Minimum Lateral	Shear Fraction		
Spec Min			75K	95K	18.0	35.0	197	27J				
Spec Max			/	/	/	/	235	/				
TM2212280201	10	1	79.3K	98.8K	26.0	55.0	220	49;56;62				
HEAT TREATMENT												
Forgings:	5:1					Test Bar (OTC)						
Normalized:	900°C 5 HRS					Normalized:	900°C 5 HRS					
Austenitized:	860°C 5 HRS					Austenitized:	860°C 5 HRS					
Quenchant:	Water					Quenchant:	Water					
Start Temp:	26 °C					Start Temp:	26 °C					
End Temp:	35 °C					End Temp:	35 °C					
Temper:	660°C 7.5 HRS AIR					Temper:	660°C 7.5 HRS AIR					
We hereby certify that all test results and procedure information contained herein are correct and true as in contained the records of the company and also no welding or weld repair was performed on subject parts.												
Inspected by:	张金龙					Approved by:	徐根					



C&W International Fabricators

Hardness Test Report

Serial No. :	ET2022290-3-01...10	P0# :	ET2022290	Date:	2023-02-27					
Part No:	SS715-120	API Monogram:	YES	Report#:	2023022701					
Specification:	API Spec 6A/ ASTM E10	Material:	4130 75k per ASTM A29							
Description:	SPACER SPOOL 7 1/16" 15M X 60" EE LU PSL3 PR1				Qty: 10 EA					
Item	S/N	Heat Lot No.	HB1	HB2	HB3	HB4	HB5	HB6	HB7	HB8
1	ET2022290-3-01	TM2212280201	223	225	223					
2	ET2022290-3-02	TM2212280201	221	223	221					
3	ET2022290-3-03	TM2212280201	217	221	219					
4	ET2022290-3-04	TM2212280201	225	221	223					
5	ET2022290-3-05	TM2212280201	221	223	221					
6	ET2022290-3-06	TM2212280201	217	221	217					
7	ET2022290-3-07	TM2212280201	223	225	221					
8	ET2022290-3-08	TM2212280201	221	223	221					
9	ET2022290-3-09	TM2212280201	223	225	223					
10	ET2022290-3-10	TM2212280201	217	221	219					
Sketch:										
										
Method Used:	Impact Energy:3000Kg. Diameter of steel ball:10mm									
Acceptable Hardness	197HBW-235HBW		Inspected by:				Approved by:			
Judgments:	[V] Conform		刘永良				徐根			
	[] Do not conform									

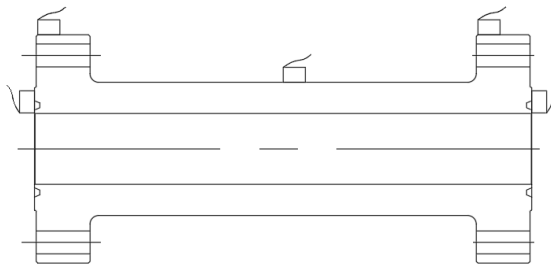


C&W International Fabricators

ULTRASONIC EXAMINATION REPORT

Serial No. :		ET2022290-3-01...10		PO# :		ET2022290		Date:		2023-02-27	
Part No:		SS715-120		API Monogram:		YES		Report#:		2023022701	
Specification:		API Spec 6A/ ASTM A388		Material:		4130 75k per ASTM A29					
Description:		SPACER SPOOL 7 1/16" 15M X 60" EE LU PSL3 PR1						Qty:		10 EA	
Item	S/N		Heat Lot No.	Result	Item	S/N		Heat Lot No.	Result		
1	ET2022290-3-01		TM2212280201	Acceptable							
2	ET2022290-3-02		TM2212280201	Acceptable							
3	ET2022290-3-03		TM2212280201	Acceptable							
4	ET2022290-3-04		TM2212280201	Acceptable							
5	ET2022290-3-05		TM2212280201	Acceptable							
6	ET2022290-3-06		TM2212280201	Acceptable							
7	ET2022290-3-07		TM2212280201	Acceptable							
8	ET2022290-3-08		TM2212280201	Acceptable							
9	ET2022290-3-09		TM2212280201	Acceptable							
10	ET2022290-3-10		TM2212280201	Acceptable							

Sketch:



ABOVE FORGED ARE ULTRASONICALLY TESTED FOR INTERNAL DEFECTS USSING FLAT-BOTTOM HOLE PROCEDURE;
NO RECORDABLE INDICATION OBSERVED DURING THE TEST. HENCE ACCEPTABLE AS PER STANDARD.

UT Code:ASTM A388	Technique:Straight/Contact	Examined BY:	Approved by:
Exam. Stage: After heat treatment	Calibration Block:CSK IA		
Equipment:CTS-2020	Couplant: OIL		
Probe Used :2.5P Φ10	Acceptance Criteria: API 6A PSL 3		
Equipment Calibration Date :2022.09.10	Test Gain:20db + 5 db	Level as per UT II	Level as per UT II
Equipment Due Date: 2023.09.09			



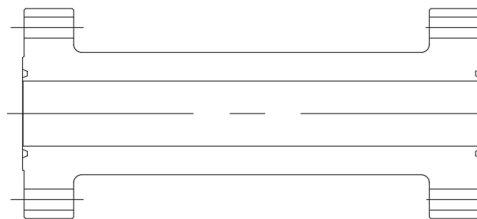
C&W International Fabricators

Magnetic Particle Inspection Report

Serial No. :	ET2022290-3-01...10	PO# :	ET2022290	Date:	2023-02-27
Part No:	SS715-120	API Monogram:	YES	Report#:	2023022701
Specification:	API Spec 6A/ ASTM E709	Material:	4130 75k per ASTM A29		
Description:	SPACER SPOOL 7 1/16" 15M X 60" EE LU PSL3 PR1			Qty:	10 EA

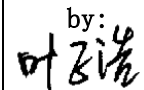
Item	S/N	Heat Lot No.	Result	Item	S/N	Heat Lot No.	Result
1	ET2022290-3-01	TM2212280201	Acceptable				
2	ET2022290-3-02	TM2212280201	Acceptable				
3	ET2022290-3-03	TM2212280201	Acceptable				
4	ET2022290-3-04	TM2212280201	Acceptable				
5	ET2022290-3-05	TM2212280201	Acceptable				
6	ET2022290-3-06	TM2212280201	Acceptable				
7	ET2022290-3-07	TM2212280201	Acceptable				
8	ET2022290-3-08	TM2212280201	Acceptable				
9	ET2022290-3-09	TM2212280201	Acceptable				
10	ET2022290-3-10	TM2212280201	Acceptable				

Sketch/Inspection Coverage:



Fluorescent magnetic particle inspection was performed on all accessible wetted/sealing surface with acceptable results

Evaluation & Disposition : Found to be satisfactory.

Equipment	CJD-9000	MT Code	ASTM E709	Examined BY:  Level as per MT II	Approved by:  Level as per MT II
Test Method	Fulcrum [] Cable1 [√]	Particle Type	Fluorescence Wet		
Exam. Stage	Rough After Ra ≤ 6.3μm	Test Piece	A1-30/100		
Magnetizing time	1-3S	Circular AMPS/Turns	900A/1		
Concentration	0.3ml/100ml	UV-Light Intensity	≥1000Uw/C m²		



C&W International Fabricators

REPORT INDEX

Purchase Order: **ET2022301-8**

Quantity: **6 EA**

Shipment No. :

Shipment Date:

Activity No.	Characteristics	Reference Page
1.1	SPACER SPOOL 7 1/16" 15M X 120"	Page-2
1.1.1	Metallurgical Test Certificate	Page-2
1.1.2	Mechanical Testing	Page-2
1.1.3	Chemical Testing	Page-2
1.1.4	Heat Treatment	Page-2
2.1	Hardness Test	Page-3
2.2	Ultrasonic Testing	Page-4
2.3	Magnetic Particle Inspection Report	Page-5



C&W International Fabricators

METALLURGICAL TEST CERTIFICATE

Serial No. :	ET2022301-8-01...06	PO# :	ET2022301	Date:	2023-03-02							
Part No:	SS715-120	API Monogram:	YES	Report#:	2023030203							
Specification:	API Spec 6A/ASTM A370	Material:	4130 75k per ASTM A29									
Description:	SPACER SPOOL 7 1/16" 15M X 120" EE LU PSL3 PR1			Qty:	6 EA							
TEST CONDITION												
Test Bar Size:	QTC, 4" x 4" x 8"		Bar Di:	12.7 mm (0.5")								
Melt Practice	EF + LF + VD		Reduction Ratio Min:	5:1								
Yield Stress	0.2% offset		Gauge Length	50.8mm								
CHEMICAL COMPOSITION												
Mill No. :	Qty	Test No.	C	Mn	Si	S	P	Ni	Cu	Mo	Cr	V
Spec Min			0.28	0.40	0.15	/	/	/	/	0.15	0.80	/
Spec Max			0.33	0.60	0.35	0.025	0.025	0.50	0.35	0.25	1.10	0.30
220611457	6	1	0.300	0.520	0.230	0.005	0.010	0.030	0.040	0.193	0.970	0.006
MECHANICAL COMPOSITION												
Heat Lot No.	QTY.	Test No.	Yield Strength (Kpsi)	Tensile Strength (Kpsi)	Elongation%	Reduction of Area%	Hardness HB	10mm X 10mm Charpy J (ft. lb) At -46° c	Minimum Lateral	Shear Fraction		
Spec Min			75K	95K	18.0	35.0	197	27J				
Spec Max			/	/	/	/	235	/				
TM2302050201	3	1	77.0K	97.5K	26.5	53.5	220	52;60;68				
TM2302070201	3	2	78.5K	98.0K	27.0	57.0	218	49;62;70				
HEAT TREATMENT												
Forgings:	5:1					Test Bar (OTC)						
Normalized:	900°C 6 HRS					Normalized:	900°C 6 HRS					
Austenitized:	860°C 6 HRS					Austenitized:	860°C 6 HRS					
Quenchant:	Water					Quenchant:	Water					
Start Temp:	34 °C					Start Temp:	34 °C					
End Temp:	43 °C					End Temp:	43 °C					
Temper:	660°C 9 HRS AIR					Temper:	660°C 9 HRS AIR					
We hereby certify that all test results and procedure information contained herein are correct and true as in contained the records of the company and also no welding or weld repair was performed on subject parts.												
Inspected by:	张金龙					Approved by:	徐根					



Hardness Test Report

[illegible]



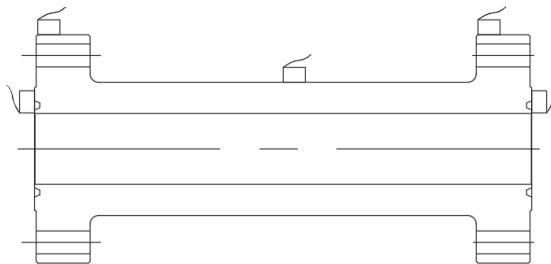
C&W International Fabricators

ULTRASONIC EXAMINATION REPORT

Serial No. :	ET2022301-8-01...06	PO# :	ET2022301	Date:	2023-03-02
Part No:	SS715-120	API Monogram:	YES	Report#:	2023030203
Specification:	API Spec 6A/ASTM A388	Material:	4130 75k per ASTM A29		
Description:	SPACER SPOOL 7 1/16" 15M X 120" EE LU PSL3 PR1			Qty:	6 EA

Item	S/N	Heat Lot No.	Result	Item	S/N	Heat Lot No.	Result
1	ET2022301-8-01	TM2302050201	Acceptable				
2	ET2022301-8-02	TM2302050201	Acceptable				
3	ET2022301-8-03	TM2302050201	Acceptable				
4	ET2022301-8-04	TM2302070201	Acceptable				
5	ET2022301-8-05	TM2302070201	Acceptable				
6	ET2022301-8-06	TM2302070201	Acceptable				

Sketch:



ABOVE FORGED ARE ULTRASONICALLY TESTED FOR INTERNAL DEFECTS USSING FLAT-BOTTOM HOLE PROCEDURE;
NO RECORDABLE INDICATION OBSERVED DURING THE TEST. HENCE ACCEPTABLE AS PER STANDARD.

UT Code:ASTM A388	Technique:Straight/Contact	Examined BY:	Approved by:
Exam. Stage: After heat treatment	Calibration Block:CSK IA		
Equipment:CTS-2020	Couplant: OIL		
Probe Used :2.5P φ10	Acceptance Criteria: API 6A PSL 3		
Equipment Calibration Date :2022.09.10	Test Gain:20db + 5 db	Level as per UT II	Level as per UT II
Equipment Due Date: 2023.09.09			



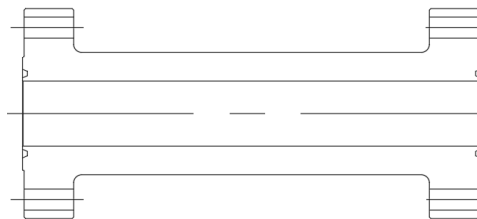
C&W International Fabricators

Magnetic Particle Inspection Report

Serial No. :	ET2022301-8-01...06	PO# :	ET2022301	Date:	2023-03-02
Part No:	SS715-120	API Monogram:	YES	Report#:	2023030203
Specification:	API Spec 6A/ASTM E709	Material:	4130 75k per ASTM A29		
Description:	SPACER SPOOL 7 1/16" 15M X 120" EE LU PSL3 PR1			Qty:	6 EA

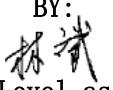
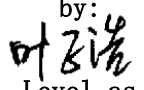
Item	S/N	Heat Lot No.	Result	Item	S/N	Heat Lot No.	Result
1	ET2022301-8-01	TM2302050201	Acceptable				
2	ET2022301-8-02	TM2302050201	Acceptable				
3	ET2022301-8-03	TM2302050201	Acceptable				
4	ET2022301-8-04	TM2302070201	Acceptable				
5	ET2022301-8-05	TM2302070201	Acceptable				
6	ET2022301-8-06	TM2302070201	Acceptable				

Sketch/Inspection Coverage:



Fluorescent magnetic particle inspection was performed on all accessible wetted/sealing surface with acceptable results

Evaluation & Disposition : Found to be satisfactory.

Equipment	CJD-9000	MT Code	ASTM E709	Examined BY:  Level as per MT II	Approved by:  Level as per MT II
Test Method	Fulcrum [] Cable1 [✓]	Particle Type	Fluorescence Wet		
Exam. Stage	Rough After Ra ≤ 6.3μm	Test Piece	A1-30/100		
Magnetizing time	1-3S	Circular AMPS/Turns	900A/1		
Concentration	0.3ml/100ml	UV-Light Intensity	≥1000Uw/C m²		



C&W International Fabricators

REPORT INDEX

Purchase Order: **ET2022290-2**

Quantity: **20 EA**

Shipment No. :

Shipment Date:

Activity No.	Characteristics	Reference Page
1.1	SPACER SPOOL 7 1/16" 15M X 36"	Page-2
1.1.1	Metallurgical Test Certificate	Page-2
1.1.2	Mechanical Testing	Page-2
1.1.3	Chemical Testing	Page-2
1.1.4	Heat Treatment	Page-2
2.1	Hardness Test	Page-3
2.2	Ultrasonic Testing	Page-4
2.3	Magnetic Particle Inspection Report	Page-5



C&W International Fabricators

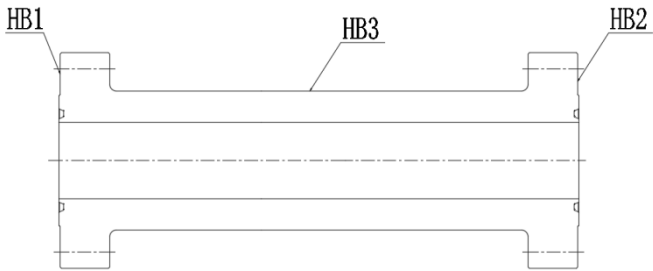
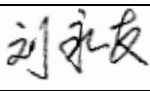
METALLURGICAL TEST CERTIFICATE

Serial No. :	ET2022290-2-01...20	PO# :	ET2022290	Date:	2023-02-04							
Part No:	SS715-36	API Monogram:	YES	Report#:	2023020401							
Specification:	API Spec 6A/ ASTM A370	Material:	4130 75k per ASTM A29									
Description:	SPACER SPOOL 7 1/16" 15M X 36" EE LU PSL3 PR1			Qty:	20 EA							
TEST CONDITION												
Test Bar Size:	QTC, 4" x 4" x 8"		Bar Di:	12.7 mm (0.5")								
Melt Practice	EF + LF + VD		Reduction Ratio Min:	5:1								
Yield Stress	0.2% offset		Gauge Length	50.8mm								
CHEMICAL COMPOSITION												
Mill No. :	Qty	Test No.	C	Mn	Si	S	P	Ni	Cu	Mo	Cr	V
Spec Min			0.28	0.40	0.15	/	/	/	/	0.15	0.80	/
Spec Max			0.33	0.60	0.35	0.025	0.025	0.50	0.35	0.25	1.10	0.30
220608681	20	1	0.310	0.550	0.230	0.008	0.010	0.020	0.030	0.190	1.020	0.006
MECHANICAL COMPOSITION												
Heat Lot No.	QTY.	Test No.	Yield Strength (Kpsi)	Tensile Strength (Kpsi)	Elongation%	Reduction of Area%	Hardness HB	10mm X 10mm Charpy J (ft. lb) At -46° c	Minimum Lateral	Shear Fraction		
Spec Min			75K	95K	18.0	35.0	197	27J				
Spec Max			/	/	/	/	235	/				
TM2212130201	10	1	81.0K	101.5K	48.5	62.6	212	45;55;58				
TM2212140301	10	1	81.5K	103.5K	49.5	59.4	225	41;60;63				
HEAT TREATMENT												
Forgings:	5:1				Test Bar (OTC)							
Normalized:	900°C 4 HRS				Normalized:	900°C 4 HRS						
Austenitized:	860°C 4 HRS				Austenitized:	860°C 4 HRS						
Quenchant:	Water				Quenchant:	Water						
Start Temp:	27 °C				Start Temp:	27 °C						
End Temp:	34 °C				End Temp:	34 °C						
Temper:	660°C 6 HRS AIR				Temper:	660°C 6 HRS AIR						
We hereby certify that all test results and procedure information contained herein are correct and true as in contained the records of the company and also no welding or weld repair was performed on subject parts.												
Inspected by:	张金龙				Approved by:	徐根						



C&W International Fabricators

Hardness Test Report

Serial No. :	ET2022290-2-01...20	P0# :	ET2022290	Date:	2023-02-04					
Part No:	SS715-36	API Monogram:	YES	Report#:	2023020401					
Specification:	API Spec 6A/ ASTM E10	Material:	4130 75k per ASTM A29							
Description:	SPACER SPOOL 7 1/16" 15M X 36" EE LU PSL3 PR1							Qty:	20 EA	
Item	S/N	Heat Lot No.	HB1	HB2	HB3	HB4	HB5	HB6	HB7	HB8
1	ET2022290-2-01	TM2212130201	217	215	215					
2	ET2022290-2-02	TM2212130201	215	212	212					
3	ET2022290-2-03	TM2212130201	221	223	221					
4	ET2022290-2-04	TM2212130201	217	221	219					
5	ET2022290-2-05	TM2212130201	223	225	223					
6	ET2022290-2-06	TM2212130201	215	217	215					
7	ET2022290-2-07	TM2212130201	223	221	223					
8	ET2022290-2-08	TM2212130201	212	217	215					
9	ET2022290-2-09	TM2212130201	221	223	221					
10	ET2022290-2-10	TM2212130201	217	215	217					
11	ET2022290-2-11	TM2212140301	223	221	223					
12	ET2022290-2-12	TM2212140301	215	217	215					
13	ET2022290-2-13	TM2212140301	212	215	212					
14	ET2022290-2-14	TM2212140301	217	215	217					
15	ET2022290-2-15	TM2212140301	221	223	221					
16	ET2022290-2-16	TM2212140301	223	225	223					
17	ET2022290-2-17	TM2212140301	221	223	221					
18	ET2022290-2-18	TM2212140301	217	221	219					
19	ET2022290-2-19	TM2212140301	221	223	221					
20	ET2022290-2-20	TM2212140301	223	225	221					
Sketch:										
										
Method Used:	Impact Energy:3000Kg. Diameter of steel ball:10mm									
Acceptable Hardness	197HBW-235HBW		Inspected by:				Approved by:			
Judgments:	☒ [V] Conform									
	☐ [] Do not conform									

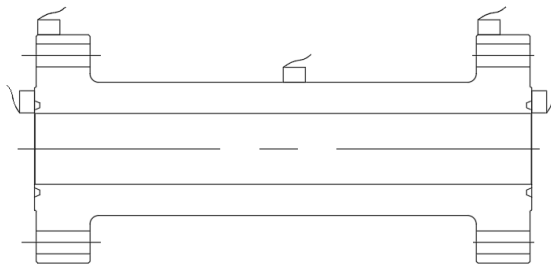


C&W International Fabricators

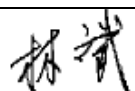
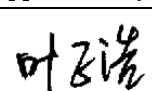
ULTRASONIC EXAMINATION REPORT

Serial No. :		ET2022290-2-01...20		PO# :		ET2022290		Date:		2023-02-04	
Part No:		SS715-36		API Monogram:		YES		Report#:		2023020401	
Specification:		API Spec 6A/ ASTM A388		Material:		4130 75k per ASTM A29					
Description:		SPACER SPOOL 7 1/16" 15M X 36" EE LU PSL3 PR1						Qty:		20 EA	
Item	S/N		Heat Lot No.	Result	Item	S/N		Heat Lot No.	Result		
1	ET2022290-2-01		TM2212130201	Acceptable							
2	ET2022290-2-02		TM2212130201	Acceptable							
3	ET2022290-2-03		TM2212130201	Acceptable							
4	ET2022290-2-04		TM2212130201	Acceptable							
5	ET2022290-2-05		TM2212130201	Acceptable							
6	ET2022290-2-06		TM2212130201	Acceptable							
7	ET2022290-2-07		TM2212130201	Acceptable							
8	ET2022290-2-08		TM2212130201	Acceptable							
9	ET2022290-2-09		TM2212130201	Acceptable							
10	ET2022290-2-10		TM2212130201	Acceptable							
11	ET2022290-2-11		TM2212140301	Acceptable							
12	ET2022290-2-12		TM2212140301	Acceptable							
13	ET2022290-2-13		TM2212140301	Acceptable							
14	ET2022290-2-14		TM2212140301	Acceptable							
15	ET2022290-2-15		TM2212140301	Acceptable							
16	ET2022290-2-16		TM2212140301	Acceptable							
17	ET2022290-2-17		TM2212140301	Acceptable							
18	ET2022290-2-18		TM2212140301	Acceptable							
19	ET2022290-2-19		TM2212140301	Acceptable							
20	ET2022290-2-20		TM2212140301	Acceptable							

Sketch:



ABOVE FORGED ARE ULTRASONICALLY TESTED FOR INTERNAL DEFECTS USING FLAT-BOTTOM HOLE PROCEDURE;
NO RECORDABLE INDICATION OBSERVED DURING THE TEST. HENCE ACCEPTABLE AS PER STANDARD.

UT Code:ASTM A388	Technique:Straight/Contact	Examined BY:	Approved by:
Exam. Stage: After heat treatment	Calibration Block:CSK IA		
Equipment:CTS-2020	Couplant: OIL		
Probe Used :2.5P φ10	Acceptance Criteria: API 6A PSL 3		
Equipment Calibration Date :2022.09.10	Test Gain:20db + 5 db		
Equipment Due Date: 2023.09.09		Level as per UT II	Level as per UT II



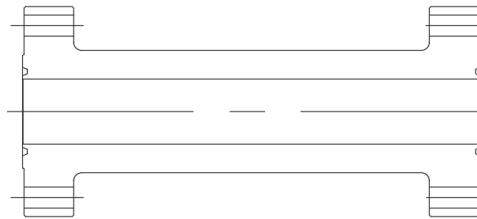
C&W International Fabricators

Magnetic Particle Inspection Report

Serial No. :	ET2022290-2-01... 20	PO# :	ET2022290	Date:	2023-02-04
Part No:	SS715-36	API Monogram:	YES	Report#:	2023020401
Specification:	API Spec 6A/ ASTM E709	Material:	4130 75k per ASTM A29		
Description:	SPACER SPOOL 7 1/16" 15M X 36" EE LU PSL3 PR1			Qty:	20 EA

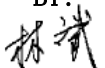
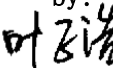
Item	S/N	Heat Lot No.	Result	Item	S/N	Heat Lot No.	Result
1	ET2022290-2-01	TM2212130201	Acceptable				
2	ET2022290-2-02	TM2212130201	Acceptable				
3	ET2022290-2-03	TM2212140301	Acceptable				
4	ET2022290-2-04	TM2212140301	Acceptable				
5	ET2022290-2-05	TM2212130201	Acceptable				
6	ET2022290-2-06	TM2212130201	Acceptable				
7	ET2022290-2-07	TM2212130201	Acceptable				
8	ET2022290-2-08	TM2212130201	Acceptable				
9	ET2022290-2-09	TM2212130201	Acceptable				
10	ET2022290-2-10	TM2212130201	Acceptable				
11	ET2022290-2-11	TM2212140301	Acceptable				
12	ET2022290-2-12	TM2212140301	Acceptable				
13	ET2022290-2-13	TM2212140301	Acceptable				
14	ET2022290-2-14	TM2212140301	Acceptable				
15	ET2022290-2-15	TM2212140301	Acceptable				
16	ET2022290-2-16	TM2212140301	Acceptable				
17	ET2022290-2-17	TM2212140301	Acceptable				
18	ET2022290-2-18	TM2212140301	Acceptable				
19	ET2022290-2-19	TM2212140301	Acceptable				
20	ET2022290-2-20	TM2212140301	Acceptable				

Sketch/Inspection Coverage:



Fluorescent magnetic particle inspection was performed on all accessible wetted/sealing surface with acceptable results

Evaluation & Disposition : Found to be satisfactory.

Equipment	CJD-9000	MT Code	ASTM E709	Examined BY:  Level as per MT II	Approved by:  Level as per MT II
Test Method	Fulcrum [] Cable1 [✓]	Particle Type	Fluorescence Wet		
Exam. Stage	Rough After Ra ≤ 6.3μm	Test Piece	A1-30/100		
Magnetizing time	1-3S	Circular AMPS/Turns	900A/1		
Concentration	0.3ml/100ml	UV-Light Intensity	≥1000Uw/C m²		



REPORT INDEX

Purchase Order: ET2022301-5

Quantity: 16 EA

Shipment No. :

Shipment Date:

[illegible]



C&W International Fabricators

METALLURGICAL TEST CERTIFICATE

Serial No.:	ET2022301-5-1-01....16	PO# :	ET2022301-5	Date:	2023-03-11
Part No:	10-183-SOA-1	API Monogram:	YES	Report#:	2023031104
Specification:	API Spec 6A/ ASTM A370	Material:	4130 75k per ASTM A29		
Description:	SWIVEL SPOOL BODY 7 1/16" 15Mx20" TALL PSL3 PR1 EE LU			Qty:	16 EA

TEST CONDITION

Test Bar Size:	QTC, 4" x 4" x 8"	Bar Di:	12.7 mm (0.5")
Melt Practice	EF + LF + VD	Reduction Ratio Min:	4:1
Yield Stress	0.2% offset	Gauge Length	50.8mm

CHEMICAL COMPOSITION

Mill No.:	Qty	Test No.	C	Mn	Si	S	P	Ni	Cu	Mo	Cr	V
Spec Min			0.28	0.40	0.15	/	/	/	/	0.15	0.80	/
Spec Max			0.33	0.60	0.35	0.025	0.025	0.50	0.35	0.25	1.10	0.30
2087148Z	16	1	0.30	0.54	0.26	0.005	0.011	0.05	0.06	0.16	1.06	0.006

MECHANICAL COMPOSITION

Heat Lot No.	QTY.	Test No.	Yield Strength (Kpsi)	Tensile Strength (Kpsi)	Elongation%	Reduction of Area%	Hardness HB	10mmX10mm CHARPY J (ft. lb) At-46° c	Minimum Lateral	Shear Fraction
Spec Min			75K	95K	18.0	35.0	197	27J		
Spec Max			/	/	/	/	235	/		
TM2302020301	14	1	79.0K	100.5K	27.5	65.5	228	48;56;59		
TM2302260201	2	2	79.7K	98.9K	28.8	69.6	226	65;69;75		

MECHANICAL COMPOSITION

Forgings:	4:1	Test Bar (OTC)	
Normalized:	900°C 4 HRS	Normalized:	900°C 4 HRS
Austenitized:	860°C 4 HRS	Austenitized:	860°C 4 HRS
Quenchant:	Water	Quenchant:	Water
Start Temp:	25 °C	Start Temp:	25 °C
End Temp:	39 °C	End Temp:	39 °C
Temper:	660°C 6 HRS AIR	Temper:	660°C 6 HRS AIR

We hereby certify that all test results and procedure information contained herein are correct and true as in contained the records of the company and also no welding or weld repair was performed on subject parts.

Inspected by:	张金龙	Approved by:	徐俊
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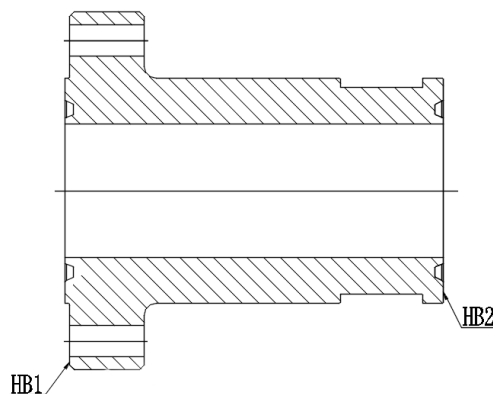
C&W International Fabricators

Hardness Test Report

Serial No. :	ET2022301-5-1-01....16	PO# :	ET2022301-5	Date:	2023-03-11
Part No:	10-183-S0A-1	API Monogram:	YES	Report#:	2023031104
Specification:	API Spec 6A/ ASTM E10	Material:	4130 75k per ASTM A29		
Description:	SWIVEL SPOOL BODY 7 1/16" 15Mx20" TALL PSL3 PR1 EE LU			Qty:	16 EA

Item	S/N	Heat Lot No.	HB1	HB2	HB3	HB4	HB5	HB6	HB7	HB8
1	ET2022301-5-1-01	TM2302020301	225	223						
2	ET2022301-5-1-02	TM2302020301	229	225						
3	ET2022301-5-1-03	TM2302020301	223	221						
4	ET2022301-5-1-04	TM2302020301	229	225						
5	ET2022301-5-1-05	TM2302020301	225	223						
6	ET2022301-5-1-06	TM2302020301	229	225						
7	ET2022301-5-1-07	TM2302020301	221	223						
8	ET2022301-5-1-08	TM2302020301	225	223						
9	ET2022301-5-1-09	TM2302020301	231	229						
10	ET2022301-5-1-10	TM2302020301	225	223						
11	ET2022301-5-1-11	TM2302020301	229	231						
12	ET2022301-5-1-12	TM2302020301	223	223						
13	ET2022301-5-1-13	TM2302020301	225	229						
14	ET2022301-5-1-14	TM2302020301	229	231						
15	ET2022301-5-1-15	TM2302260201	231	229						
16	ET2022301-5-1-16	TM2302260201	229	225						

Sketch:



Method Used:	Impact Energy:3000Kg. Diameter of steel ball:10mm		
Acceptable Hardness	197HBW-235HBW	Inspected by:	Approved by:
Judgments:	[V] Conform	刘永良	徐俊
	[] Do not conform		

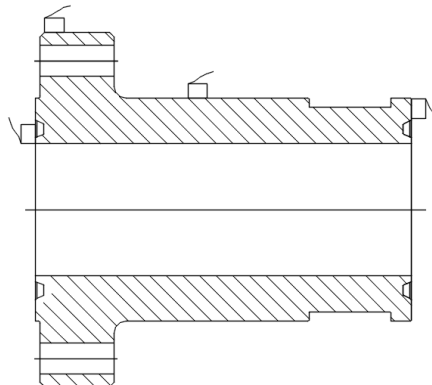


C&W International Fabricators

ULTRASONIC EXAMINATION REPORT

Serial No. :		ET2022301-5-1-01....16		PO# :		ET2022301-5		Date:		2023-03-11	
Part No:		10-183-SOA-1		API Monogram:		YES		Report#:		2023031104	
Specification:		API Spec 6A/ ASTM A388		Material:		4130 75k per ASTM A29					
Description:		SWIVEL SPOOL BODY 7 1/16" 15Mx20" TALL PSL3 PR1 EE LU						Qty:		16 EA	
Item	S/N		Heat Lot No.	Result	Item	S/N		Heat Lot No.	Result		
1	ET2022301-5-1-01		TM2302020301	Acceptable							
2	ET2022301-5-1-02		TM2302020301	Acceptable							
3	ET2022301-5-1-03		TM2302020301	Acceptable							
4	ET2022301-5-1-04		TM2302020301	Acceptable							
5	ET2022301-5-1-05		TM2302020301	Acceptable							
6	ET2022301-5-1-06		TM2302020301	Acceptable							
7	ET2022301-5-1-07		TM2302020301	Acceptable							
8	ET2022301-5-1-08		TM2302020301	Acceptable							
9	ET2022301-5-1-09		TM2302020301	Acceptable							
10	ET2022301-5-1-10		TM2302020301	Acceptable							
11	ET2022301-5-1-11		TM2302020301	Acceptable							
12	ET2022301-5-1-12		TM2302020301	Acceptable							
13	ET2022301-5-1-13		TM2302020301	Acceptable							
14	ET2022301-5-1-14		TM2302020301	Acceptable							
15	ET2022301-5-1-15		TM2302260201	Acceptable							
16	ET2022301-5-1-16		TM2302260201	Acceptable							

Sketch:



UT Code:ASTM A388	Technique:Straight/Contact	Examined BY:	Approved by:
Exam.Stage: After heat treatment	Calibration Block:CSK IA		
Equipment:CTS-2020	Couplant: OIL		
Probe Used :2.5P φ10	Acceptance Criteria: API 6A PSL 3		
Equipment Calibration Date :2022.09.10	Test Gain:20db + 5 db		
Equipment Due Date: 2023.09.09			
		Level as per UT II	Level as per UT II

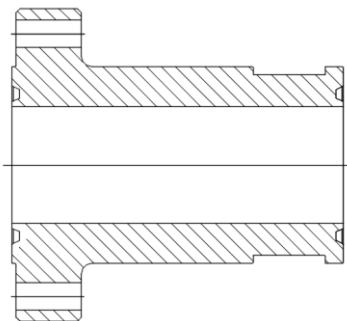


C&W International Fabricators

Magnetic Particle Inspection Report

Serial No. :		ET2022301-5-1-01....16		PO# :		ET2022301-5		Date:		2023-03-11	
Part No:		10-183-SOA-1		API Monogram:		YES		Report#:		2023031104	
Specification:		API Spec 6A/ ASTM E709		Material:		4130 75k per ASTM A29					
Description:		SWIVEL SPOOL BODY 7 1/16" 15Mx20" TALL PSL3 PR1 EE LU						Qty:		16 EA	
Item	S/N		Heat Lot No.	Result	Item	S/N		Heat Lot No.	Result		
1	ET2022301-5-1-01		TM2302020301	Acceptable							
2	ET2022301-5-1-02		TM2302020301	Acceptable							
3	ET2022301-5-1-03		TM2302020301	Acceptable							
4	ET2022301-5-1-04		TM2302020301	Acceptable							
5	ET2022301-5-1-05		TM2302020301	Acceptable							
6	ET2022301-5-1-06		TM2302020301	Acceptable							
7	ET2022301-5-1-07		TM2302020301	Acceptable							
8	ET2022301-5-1-08		TM2302020301	Acceptable							
9	ET2022301-5-1-09		TM2302020301	Acceptable							
10	ET2022301-5-1-10		TM2302020301	Acceptable							
11	ET2022301-5-1-11		TM2302020301	Acceptable							
12	ET2022301-5-1-12		TM2302020301	Acceptable							
13	ET2022301-5-1-13		TM2302020301	Acceptable							
14	ET2022301-5-1-14		TM2302020301	Acceptable							
15	ET2022301-5-1-15		TM2302260201	Acceptable							
16	ET2022301-5-1-16		TM2302260201	Acceptable							

Sketch/Inspection Coverage:



Fluorescent magnetic particle inspection was performed on all accessible wetted/sealing surface

Evaluation & Disposition : Found to be satisfactory.

Equipment	CJD-9000	MT Code	ASTM E709	Examined	Approved
Test Method	Fulcrum [] Cable1 [✓]	Particle Type	Fluorescence Wet	BY: 	by:
Exam. Stage	Rough After Ra $\leq 6.3\mu\text{m}$	Test Piece	A1-30/100	Level as	Level as
Magnetizing time	1-3S	Circular AMPS/Turns	900A/1	per	per
Concentration	0.3ml/100ml	UV-Light Intensity	$\geq 1000\text{Uw/C m}^2$	MT II	MT II



REPORT INDEX

Purchase Order: ET2022301-5

Quantity: 16 EA

Shipment No. :

Shipment Date:

[illegible]



C&W International Fabricators

METALLURGICAL TEST CERTIFICATE

Serial No.:	ET2022301-5-2-01....16	PO# :	ET2022301-5	Date:	2023-03-11							
Part No:	10-183-SOA-2	API Monogram:	YES	Report#:	2023031105							
Specification:	API Spec 6A/ ASTM A370	Material:	4130 75k per ASTM A29									
Description:	ROTATING FLANGE 7 1/16" 15M PSL3 PR1 EE LU			Qty:	16 EA							
TEST CONDITION												
Test Bar Size:	QTC, 4" x 4" x 8"		Bar Di:	12.7 mm (0.5")								
Melt Practice	EF + LF + VD		Reduction Ratio Min:	4:1								
Yield Stress	0.2% offset		Gauge Length	50.8mm								
CHEMICAL COMPOSITION												
Mill No.:	Qty	Test No.	C	Mn	Si	S	P	Ni	Cu	Mo	Cr	V
Spec Min			0.28	0.40	0.15	/	/	/	/	0.15	0.80	/
Spec Max			0.33	0.60	0.35	0.025	0.025	0.50	0.35	0.25	1.10	0.30
2087148Z	16	1	0.30	0.54	0.26	0.005	0.011	0.05	0.06	0.16	1.06	0.006
MECHANICAL COMPOSITION												
Heat Lot No.	QTY.	Test No.	Yield Strength (Kpsi)	Tensile Strength (Kpsi)	Elongation%	Reduction of Area%	Hardness HB	10mm x 10mm CHARPY J (ft. lb) At -46° c	Minimum Laterl	Shear Fraction		
Spec Min			75K	95K	18.0	35.0	197	27J				
Spec Max			/	/	/	/	235	/				
TM2302020301	16	1	79.0K	100.5K	25.0	68.0	226	53;58;74				
MECHANICAL COMPOSITION												
Forgings:	4:1		Test Bar (OTC)									
Normalized:	900°C 4 HRS		Normalized:			900°C 4 HRS						
Austenitized:	860°C 4 HRS		Austenitized:			860°C 4 HRS						
Quenchant:	Water		Quenchant:			Water						
Start Temp:	22 °C		Start Temp:			22 °C						
End Temp:	41 °C		End Temp:			41 °C						
Temper:	660°C 6 HRS AIR		Temper:			660°C 6 HRS AIR						
We hereby certify that all test results and procedure information contained herein are correct and true as in contained the records of the company and also no welding or weld repair was performed on subject parts.												
Inspected by:	张金龙		Approved by:		徐俊							

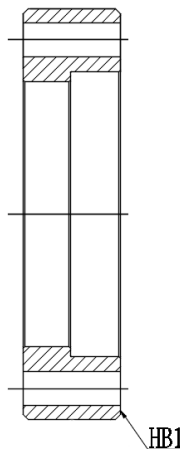


C&W International Fabricators

Hardness Test Report

Serial No. :		ET2022301-5-2-01... 16		PO# :		ET2022301-5		Date:		2023-03-11		
Part No:		10-183-SOA-2		API Monogram:		YES		Report#:		2023031105		
Specification:		API Spec 6A/ ASTM E10		Material:		4130 75k per ASTM A29						
Description:		ROTATING FLANGE 7 1/16" 15M PSL3 PR1 EE LU							Qty:		16 EA	
Item	S/N		Heat Lot No.	HB1	HB2	HB3	HB4	HB5	HB6	HB7	HB8	
1	ET2022301-5-2-01		TM2302020301	229								
2	ET2022301-5-2-02		TM2302020301	225								
3	ET2022301-5-2-03		TM2302020301	231								
4	ET2022301-5-2-04		TM2302020301	223								
5	ET2022301-5-2-05		TM2302020301	229								
6	ET2022301-5-2-06		TM2302020301	229								
7	ET2022301-5-2-07		TM2302020301	223								
8	ET2022301-5-2-08		TM2302020301	225								
9	ET2022301-5-2-09		TM2302020301	223								
10	ET2022301-5-2-10		TM2302020301	229								
11	ET2022301-5-2-11		TM2302020301	221								
12	ET2022301-5-2-12		TM2302020301	225								
13	ET2022301-5-2-13		TM2302020301	223								
14	ET2022301-5-2-14		TM2302020301	229								
15	ET2022301-5-2-15		TM2302020301	231								
16	ET2022301-5-2-16		TM2302020301	225								

Sketch:



Method Used:	Impact Energy:3000Kg. Diameter of steel ball:10mm		
Acceptable Hardness	197HBW-235HBW	Inspected by:	Approved by:
Judgments:	[V] Conform	刘永良	徐俊
	[] Do not conform		

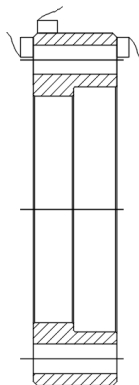


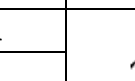
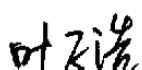
C&W International Fabricators

ULTRASONIC EXAMINATION REPORT

Serial No. :		ET2022301-5-2-01....16		PO# :		ET2022301-5		Date:		2023-03-11	
Part No:		10-183-SOA-2		API Monogram:		YES		Report#:		2023031105	
Specification:		API Spec 6A/ ASTM A388		Material:		4130 75k per ASTM A29					
Description:		ROTATING FLANGE 7 1/16" 15M PSL3 PR1 EE LU						Qty:		16 EA	
Item	S/N		Heat Lot No.	Result	Item	S/N		Heat Lot No.	Result		
1	ET2022301-5-2-01		TM2302020301	Acceptable							
2	ET2022301-5-2-02		TM2302020301	Acceptable							
3	ET2022301-5-2-03		TM2302020301	Acceptable							
4	ET2022301-5-2-04		TM2302020301	Acceptable							
5	ET2022301-5-2-05		TM2302020301	Acceptable							
6	ET2022301-5-2-06		TM2302020301	Acceptable							
7	ET2022301-5-2-07		TM2302020301	Acceptable							
8	ET2022301-5-2-08		TM2302020301	Acceptable							
9	ET2022301-5-2-09		TM2302020301	Acceptable							
10	ET2022301-5-2-10		TM2302020301	Acceptable							
11	ET2022301-5-2-11		TM2302020301	Acceptable							
12	ET2022301-5-2-12		TM2302020301	Acceptable							
13	ET2022301-5-2-13		TM2302020301	Acceptable							
14	ET2022301-5-2-14		TM2302020301	Acceptable							
15	ET2022301-5-2-15		TM2302020301	Acceptable							
16	ET2022301-5-2-16		TM2302020301	Acceptable							

Sketch:



UT Code:ASTM A388	Technique:Straight/Contact	Examined BY:	Approved by:
Exam.Stage: After heat treatment	Calibration Block:CSK IA		
Equipment:CTS-2020	Couplant: OIL		
Probe Used :2.5P φ10	Acceptance Criteria: API 6A PSL 3		
Equipment Calibration Date :2022.09.10	Test Gain:20db + 5 db		
Equipment Due Date: 2023.09.09		Level as per UT II	Level as per UT II



C&W International Fabricators

Magnetic Particle Inspection Report

Serial No. :		ET2022301-5-2-01....16		PO# :		ET2022301-5		Date:		2023-03-11		
Part No:		10-183-SOA-2		API Monogram:		YES		Report#:		2023031105		
Specification:		API Spec 6A/ ASTM E709		Material:		4130 75k per ASTM A29						
Description:		ROTATING FLANGE 7 1/16" 15M PSL3 PR1 EE LU							Qty:		16 EA	
Item	S/N		Heat Lot No.	Result	Item	S/N		Heat Lot No.	Result			
1	ET2022301-5-2-01		TM2302020301	Acceptable								
2	ET2022301-5-2-02		TM2302020301	Acceptable								
3	ET2022301-5-2-03		TM2302020301	Acceptable								
4	ET2022301-5-2-04		TM2302020301	Acceptable								
5	ET2022301-5-2-05		TM2302020301	Acceptable								
6	ET2022301-5-2-06		TM2302020301	Acceptable								
7	ET2022301-5-2-07		TM2302020301	Acceptable								
8	ET2022301-5-2-08		TM2302020301	Acceptable								
9	ET2022301-5-2-09		TM2302020301	Acceptable								
10	ET2022301-5-2-10		TM2302020301	Acceptable								
11	ET2022301-5-2-11		TM2302020301	Acceptable								
12	ET2022301-5-2-12		TM2302020301	Acceptable								
13	ET2022301-5-2-13		TM2302020301	Acceptable								
14	ET2022301-5-2-14		TM2302020301	Acceptable								
15	ET2022301-5-2-15		TM2302020301	Acceptable								
16	ET2022301-5-2-16		TM2302020301	Acceptable								

Sketch/Inspection Coverage:



Fluorescent magnetic particle inspection was performed on all accessible wetted/sealing surface

Evaluation & Disposition : Found to be satisfactory.

Equipment	CJD-9000	MT Code	ASTM E709	Examined	Approved
Test Method	Fulcrum [] Cable1 [✓]	Particle Type	Fluorescence Wet	BY: 林斌	by: 叶飞浩
Exam. Stage	Rough After Ra $\leq 6.3\mu\text{m}$	Test Piece	A1-30/100	Level as	Level as
Magnetizing time	1-3S	Circular AMPS/Turns	900A/1	per	per
Concentration	0.3ml/100ml	UV-Light Intensity	$\geq 1000\text{Uw/C m}^2$	MT II	MT II



C&W International Fabricators

REPORT INDEX

Purchase Order: **ET2022301-5**

Quantity: **16 EA**

Shipment No. :

Shipment Date:

Activity No.	Characteristics	Reference Page
1.1	CLAMP 7 1/16" 15M	Page-2
1.1.1	Metallurgical Test Certificate	Page-2
1.1.2	Mechanical Testing	Page-2
1.1.3	Chemical Testing	Page-2
1.1.4	Heat Treatment	Page-2
2.1	Hardness Test	Page-3
2.2	Ultrasonic Testing	Page-4
2.3	Magnetic Particle Inspection Report	Page-5



C&W International Fabricators

METALLURGICAL TEST CERTIFICATE

Serial No.:	ET2022301-5-3-01....16	PO# :	ET2022301-5	Date:	2023-03-11							
Part No:	10-183-SOA-3	API Monogram:	YES	Report#:	2023031106							
Specification:	API Spec 6A/ ASTM A370	Material:	4140 110k per ASTM A29									
Description:	CLAMP 7 1/16" 15M PSL3 PR1 EE LU			Qty:	16 EA							
TEST CONDITION												
Test Bar Size:	QTC, 4" x 4" x 8"		Bar Di:	12.7 mm (0.5")								
Melt Practice	EF + LF + VD		Reduction Ratio Min:	4:1								
Yield Stress	0.2% offset		Gauge Length	50.8mm								
CHEMICAL COMPOSITION												
Mill No.:	Qty	Test No.	C	Mn	Si	S	P	Ni	Cu	Mo	Cr	V
Spec Min			0.38	0.75	0.15	/	/	/	/	0.15	0.80	/
Spec Max			0.43	1.00	0.35	0.025	0.025	0.25	0.30	0.25	1.10	0.30
22-9-1-2143	16	1	0.402	0.835	0.281	0.011	0.017	0.164	0.02	0.167	1.078	0.03
MECHANICAL COMPOSITION												
Heat Lot No.	QTY.	Test No.	Yield Strength (Kpsi)	Tensile Strength (Kpsi)	Elongation%	Reduction of Area%	Hardness HB	10mm X 10mm CHARPY J (ft. lb) At -46° c	Minimum Laterl	Shear Fraction		
Spec Min			110K	125K	18.0	35.0	280	27J				
Spec Max			/	/	/	/	320	/				
TM2212290101	16	1	113.6K	128.0K	26.8	61.0	293	60;68:74				
MECHANICAL COMPOSITION												
Forgings:	4:1		Test Bar (OTC)									
Normalized:	900°C 3 HRS		Normalized:			900°C 3 HRS						
Austenitized:	860°C 3 HRS		Austenitized:			860°C 3 HRS						
Quenchant:	Water		Quenchant:			Water						
Start Temp:	28 °C		Start Temp:			28 °C						
End Temp:	29 °C		End Temp:			29 °C						
Temper:	560°C 4.5 HRS AIR		Temper:			560°C 4.5 HRS AIR						
We hereby certify that all test results and procedure information contained herein are correct and true as in contained the records of the company and also no welding or weld repair was performed on subject parts.												
Inspected by:	张金龙		Approved by:		徐俊							

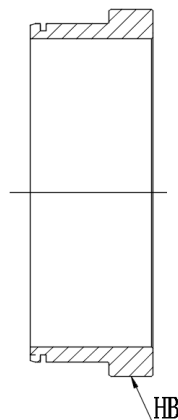


C&W International Fabricators

Hardness Test Report

Serial No. :		ET2022301-5-3-01....16		PO# :		ET2022301-5		Date:		2023-03-11		
Part No:		10-183-SOA-3		API Monogram:		YES		Report#:		2023031106		
Specification:		API Spec 6A/ ASTM E10		Material:		4140 110k per ASTM A29						
Description:		CLAMP 7 1/16" 15M PSL3 PR1 EE LU							Qty:		16 EA	
Item	S/N		Heat Lot No.	HB1	HB2	HB3	HB4	HB5	HB6	HB7	HB8	
1	ET2022301-5-3-01		TM2212290101	311								
2	ET2022301-5-3-02		TM2212290101	302								
3	ET2022301-5-3-03		TM2212290101	302								
4	ET2022301-5-3-04		TM2212290101	311								
5	ET2022301-5-3-05		TM2212290101	296								
6	ET2022301-5-3-06		TM2212290101	293								
7	ET2022301-5-3-07		TM2212290101	302								
8	ET2022301-5-3-08		TM2212290101	302								
9	ET2022301-5-3-09		TM2212290101	311								
10	ET2022301-5-3-10		TM2212290101	311								
11	ET2022301-5-3-11		TM2212290101	293								
12	ET2022301-5-3-12		TM2212290101	302								
13	ET2022301-5-3-13		TM2212290101	302								
14	ET2022301-5-3-14		TM2212290101	293								
15	ET2022301-5-3-15		TM2212290101	293								
16	ET2022301-5-3-16		TM2212290101	302								

Sketch:



Method Used:	Impact Energy:3000Kg. Diameter of steel ball:10mm		
Acceptable Hardness	280HBW-320HBW	Inspected by:	Approved by:
Judgments:	[V] Conform	刘永良	徐俊
	[] Do not conform		

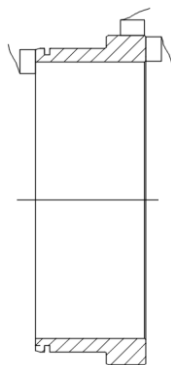


C&W International Fabricators

ULTRASONIC EXAMINATION REPORT

Serial No. :		ET2022301-5-3-01....16		PO# :		ET2022301-5		Date:		2023-03-11	
Part No:		10-183-SOA-3		API Monogram:		YES		Report#:		2023031106	
Specification:		API Spec 6A/ ASTM A388		Material:		4140 110k per ASTM A29					
Description:		CLAMP 7 1/16" 15M PSL3 PR1 EE LU						Qty:		16 EA	
Item	S/N		Heat Lot No.	Result	Item	S/N		Heat Lot No.	Result		
1	ET2022301-5-3-01		TM2212290101	Acceptable							
2	ET2022301-5-3-02		TM2212290101	Acceptable							
3	ET2022301-5-3-03		TM2212290101	Acceptable							
4	ET2022301-5-3-04		TM2212290101	Acceptable							
5	ET2022301-5-3-05		TM2212290101	Acceptable							
6	ET2022301-5-3-06		TM2212290101	Acceptable							
7	ET2022301-5-3-07		TM2212290101	Acceptable							
8	ET2022301-5-3-08		TM2212290101	Acceptable							
9	ET2022301-5-3-09		TM2212290101	Acceptable							
10	ET2022301-5-3-10		TM2212290101	Acceptable							
11	ET2022301-5-3-11		TM2212290101	Acceptable							
12	ET2022301-5-3-12		TM2212290101	Acceptable							
13	ET2022301-5-3-13		TM2212290101	Acceptable							
14	ET2022301-5-3-14		TM2212290101	Acceptable							
15	ET2022301-5-3-15		TM2212290101	Acceptable							
16	ET2022301-5-3-16		TM2212290101	Acceptable							

Sketch:



UT Code:ASTM A388	Technique:Straight/Contact	Examined BY:	Approved by:
Exam.Stage: After heat treatment	Calibration Block:CSK IA		
Equipment:CTS-2020	Couplant: OIL		
Probe Used :2.5P Φ10	Acceptance Criteria: API 6A PSL 3		
Equipment Calibration Date :2022.09.10	Test Gain:20db + 5 db		
Equipment Due Date: 2023.09.09			
		Level as per UT II	Level as per UT II



C&W International Fabricators

Magnetic Particle Inspection Report

Serial No. :		ET2022301-5-3-01....16		PO# :		ET2022301-5		Date:		2023-03-11			
Part No:		10-183-SOA-3		API Monogram:		YES		Report#:		2023031106			
Specification:		API Spec 6A/ ASTM E709		Material:		4140 110k per ASTM A29							
Description:		CLAMP 7 1/16" 15M PSL3 PR1 EE LU							Qty:		16 EA		
Item	S/N		Heat Lot No.		Result		Item	S/N		Heat Lot No.		Result	
1	ET2022301-5-3-01		TM2212290101		Acceptable								
2	ET2022301-5-3-02		TM2212290101		Acceptable								
3	ET2022301-5-3-03		TM2212290101		Acceptable								
4	ET2022301-5-3-04		TM2212290101		Acceptable								
5	ET2022301-5-3-05		TM2212290101		Acceptable								
6	ET2022301-5-3-06		TM2212290101		Acceptable								
7	ET2022301-5-3-07		TM2212290101		Acceptable								
8	ET2022301-5-3-08		TM2212290101		Acceptable								
9	ET2022301-5-3-09		TM2212290101		Acceptable								
10	ET2022301-5-3-10		TM2212290101		Acceptable								
11	ET2022301-5-3-11		TM2212290101		Acceptable								
12	ET2022301-5-3-12		TM2212290101		Acceptable								
13	ET2022301-5-3-13		TM2212290101		Acceptable								
14	ET2022301-5-3-14		TM2212290101		Acceptable								
15	ET2022301-5-3-15		TM2212290101		Acceptable								
16	ET2022301-5-3-16		TM2212290101		Acceptable								

Sketch/Inspection Coverage:



Fluorescent magnetic particle inspection was performed on all accessible wetted/sealing surface

Evaluation & Disposition : Found to be satisfactory.

Equipment	CJD-9000	MT Code	ASTM E709	Examined	Approved
Test Method	Fulcrum [] Cable1 [✓]	Particle Type	Fluorescence Wet	BY: 	by:
Exam. Stage	Rough After Ra $\leq 6.3\mu\text{m}$	Test Piece	A1-30/100	Level as	Level as
Magnetizing time	1-3S	Circular AMPS/Turns	900A/1	per	per
Concentration	0.3ml/100ml	UV-Light Intensity	$\geq 1000\text{Uw/C m}^2$	MT II	MT II



REPORT INDEX

Purchase Order: ET2022301-5

Quantity: 16 EA

Shipment No. :

Shipment Date:

[illegible]



C&W International Fabricators

METALLURGICAL TEST CERTIFICATE

Serial No.:	ET2022301-5-1-01....16	PO#:	ET2022301-5	Date:	2023-03-11
Part No:	10-183-SOA-1	API Monogram:	YES	Report#:	2023031104
Specification:	API Spec 6A/ ASTM A370	Material:	4130 75k per ASTM A29		
Description:	SWIVEL SPOOL BODY 7 1/16" 15Mx20" TALL PSL3 PR1 EE LU			Qty:	16 EA

TEST CONDITION

Test Bar Size:	QTC, 4" x 4" x 8"	Bar Di:	12.7 mm (0.5")
Melt Practice	EF + LF + VD	Reduction Ratio Min:	4:1
Yield Stress	0.2% offset	Gauge Length	50.8mm

CHEMICAL COMPOSITION

Mill No.:	Qty	Test No.	C	Mn	Si	S	P	Ni	Cu	Mo	Cr	V
Spec Min			0.28	0.40	0.15	/	/	/	/	0.15	0.80	/
Spec Max			0.33	0.60	0.35	0.025	0.025	0.50	0.35	0.25	1.10	0.30
2087148Z	16	1	0.30	0.54	0.26	0.005	0.011	0.05	0.06	0.16	1.06	0.006

MECHANICAL COMPOSITION

Heat Lot No.	QTY.	Test No.	Yield Strength (Kpsi)	Tensile Strength (Kpsi)	Elongation%	Reduction of Area%	Hardness HB	10mmX10mm CHARPY J (ft. lb) At-46° c	Minimum Lateral	Shear Fraction
Spec Min			75K	95K	18.0	35.0	197	27J		
Spec Max			/	/	/	/	235	/		
TM2302020301	14	1	79.0K	100.5K	27.5	65.5	228	48;56;59		
TM2302260201	2	2	79.7K	98.9K	28.8	69.6	226	65;69;75		

MECHANICAL COMPOSITION

Forgings:	4:1	Test Bar (OTC)	
Normalized:	900°C 4 HRS	Normalized:	900°C 4 HRS
Austenitized:	860°C 4 HRS	Austenitized:	860°C 4 HRS
Quenchant:	Water	Quenchant:	Water
Start Temp:	25 °C	Start Temp:	25 °C
End Temp:	39 °C	End Temp:	39 °C
Temper:	660°C 6 HRS AIR	Temper:	660°C 6 HRS AIR

We hereby certify that all test results and procedure information contained herein are correct and true as in contained the records of the company and also no welding or weld repair was performed on subject parts.

Inspected by:	张金龙	Approved by:	徐俊
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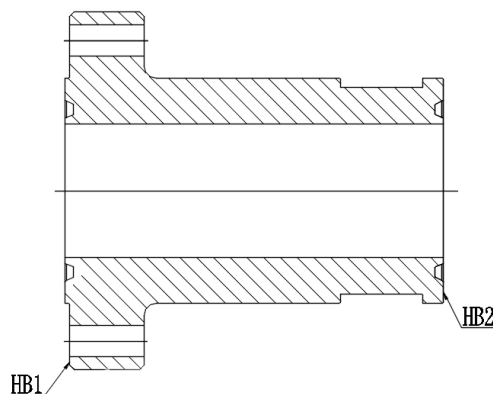
C&W International Fabricators

Hardness Test Report

Serial No. :	ET2022301-5-1-01....16	PO# :	ET2022301-5	Date:	2023-03-11
Part No:	10-183-S0A-1	API Monogram:	YES	Report#:	2023031104
Specification:	API Spec 6A/ ASTM E10	Material:	4130 75k per ASTM A29		
Description:	SWIVEL SPOOL BODY 7 1/16" 15Mx20" TALL PSL3 PR1 EE LU				Qty: 16 EA

Item	S/N	Heat Lot No.	HB1	HB2	HB3	HB4	HB5	HB6	HB7	HB8
1	ET2022301-5-1-01	TM2302020301	225	223						
2	ET2022301-5-1-02	TM2302020301	229	225						
3	ET2022301-5-1-03	TM2302020301	223	221						
4	ET2022301-5-1-04	TM2302020301	229	225						
5	ET2022301-5-1-05	TM2302020301	225	223						
6	ET2022301-5-1-06	TM2302020301	229	225						
7	ET2022301-5-1-07	TM2302020301	221	223						
8	ET2022301-5-1-08	TM2302020301	225	223						
9	ET2022301-5-1-09	TM2302020301	231	229						
10	ET2022301-5-1-10	TM2302020301	225	223						
11	ET2022301-5-1-11	TM2302020301	229	231						
12	ET2022301-5-1-12	TM2302020301	223	223						
13	ET2022301-5-1-13	TM2302020301	225	229						
14	ET2022301-5-1-14	TM2302020301	229	231						
15	ET2022301-5-1-15	TM2302260201	231	229						
16	ET2022301-5-1-16	TM2302260201	229	225						

Sketch:



Method Used:	Impact Energy:3000Kg. Diameter of steel ball:10mm		
Acceptable Hardness	197HBW-235HBW	Inspected by:	Approved by:
Judgments:	[V] Conform	刘永良	徐俊
	[] Do not conform		

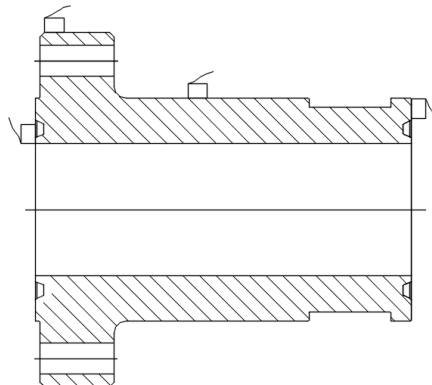


C&W International Fabricators

ULTRASONIC EXAMINATION REPORT

Serial No. :		ET2022301-5-1-01....16		PO# :		ET2022301-5		Date:		2023-03-11	
Part No:		10-183-SOA-1		API Monogram:		YES		Report#:		2023031104	
Specification:		API Spec 6A/ ASTM A388		Material:		4130 75k per ASTM A29					
Description:		SWIVEL SPOOL BODY 7 1/16" 15Mx20" TALL PSL3 PR1 EE LU						Qty:		16 EA	
Item	S/N		Heat Lot No.	Result	Item	S/N		Heat Lot No.	Result		
1	ET2022301-5-1-01		TM2302020301	Acceptable							
2	ET2022301-5-1-02		TM2302020301	Acceptable							
3	ET2022301-5-1-03		TM2302020301	Acceptable							
4	ET2022301-5-1-04		TM2302020301	Acceptable							
5	ET2022301-5-1-05		TM2302020301	Acceptable							
6	ET2022301-5-1-06		TM2302020301	Acceptable							
7	ET2022301-5-1-07		TM2302020301	Acceptable							
8	ET2022301-5-1-08		TM2302020301	Acceptable							
9	ET2022301-5-1-09		TM2302020301	Acceptable							
10	ET2022301-5-1-10		TM2302020301	Acceptable							
11	ET2022301-5-1-11		TM2302020301	Acceptable							
12	ET2022301-5-1-12		TM2302020301	Acceptable							
13	ET2022301-5-1-13		TM2302020301	Acceptable							
14	ET2022301-5-1-14		TM2302020301	Acceptable							
15	ET2022301-5-1-15		TM2302260201	Acceptable							
16	ET2022301-5-1-16		TM2302260201	Acceptable							

Sketch:



UT Code:ASTM A388	Technique:Straight/Contact	Examined BY:	Approved by:
Exam.Stage: After heat treatment	Calibration Block:CSK IA		
Equipment:CTS-2020	Couplant: OIL		
Probe Used :2.5P φ10	Acceptance Criteria: API 6A PSL 3		
Equipment Calibration Date :2022.09.10	Test Gain:20db + 5 db		
Equipment Due Date: 2023.09.09		Level as per UT II	Level as per UT II

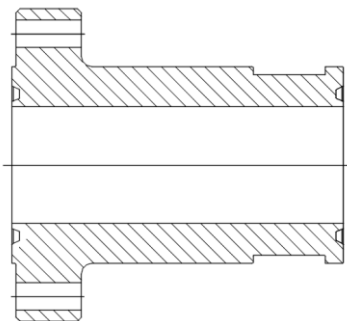


C&W International Fabricators

Magnetic Particle Inspection Report

Serial No. :		ET2022301-5-1-01....16		PO# :		ET2022301-5		Date:		2023-03-11	
Part No:		10-183-SOA-1		API Monogram:		YES		Report#:		2023031104	
Specification:		API Spec 6A/ ASTM E709		Material:		4130 75k per ASTM A29					
Description:		SWIVEL SPOOL BODY 7 1/16" 15Mx20" TALL PSL3 PR1 EE LU						Qty:		16 EA	
Item	S/N		Heat Lot No.	Result	Item	S/N		Heat Lot No.	Result		
1	ET2022301-5-1-01		TM2302020301	Acceptable							
2	ET2022301-5-1-02		TM2302020301	Acceptable							
3	ET2022301-5-1-03		TM2302020301	Acceptable							
4	ET2022301-5-1-04		TM2302020301	Acceptable							
5	ET2022301-5-1-05		TM2302020301	Acceptable							
6	ET2022301-5-1-06		TM2302020301	Acceptable							
7	ET2022301-5-1-07		TM2302020301	Acceptable							
8	ET2022301-5-1-08		TM2302020301	Acceptable							
9	ET2022301-5-1-09		TM2302020301	Acceptable							
10	ET2022301-5-1-10		TM2302020301	Acceptable							
11	ET2022301-5-1-11		TM2302020301	Acceptable							
12	ET2022301-5-1-12		TM2302020301	Acceptable							
13	ET2022301-5-1-13		TM2302020301	Acceptable							
14	ET2022301-5-1-14		TM2302020301	Acceptable							
15	ET2022301-5-1-15		TM2302260201	Acceptable							
16	ET2022301-5-1-16		TM2302260201	Acceptable							

Sketch/Inspection Coverage:



Fluorescent magnetic particle inspection was performed on all accessible wetted/sealing surface

Evaluation & Disposition : Found to be satisfactory.

Equipment	CJD-9000	MT Code	ASTM E709	Examined	Approved
Test Method	Fulcrum [] Cable1 [✓]	Particle Type	Fluorescence Wet	BY: 	by:
Exam. Stage	Rough After Ra $\leq 6.3\mu\text{m}$	Test Piece	A1-30/100	Level as	Level as
Magnetizing time	1-3S	Circular AMPS/Turns	900A/1	per	per
Concentration	0.3ml/100ml	UV-Light Intensity	$\geq 1000\text{Uw/C m}^2$	MT II	MT II



REPORT INDEX

Purchase Order: ET2022301-5

Quantity: 16 EA

Shipment No. :

Shipment Date:

[illegible]



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METALLURGICAL TEST CERTIFICATE

Serial No.:	ET2022301-5-2-01....16	PO# :	ET2022301-5	Date:	2023-03-11							
Part No:	10-183-SOA-2	API Monogram:	YES	Report#:	2023031105							
Specification:	API Spec 6A/ ASTM A370	Material:	4130 75k per ASTM A29									
Description:	ROTATING FLANGE 7 1/16" 15M PSL3 PR1 EE LU			Qty:	16 EA							
TEST CONDITION												
Test Bar Size:	QTC, 4" x 4" x 8"		Bar Di:	12.7 mm (0.5")								
Melt Practice	EF + LF + VD		Reduction Ratio Min:	4:1								
Yield Stress	0.2% offset		Gauge Length	50.8mm								
CHEMICAL COMPOSITION												
Mill No.:	Qty	Test No.	C	Mn	Si	S	P	Ni	Cu	Mo	Cr	V
Spec Min			0.28	0.40	0.15	/	/	/	/	0.15	0.80	/
Spec Max			0.33	0.60	0.35	0.025	0.025	0.50	0.35	0.25	1.10	0.30
2087148Z	16	1	0.30	0.54	0.26	0.005	0.011	0.05	0.06	0.16	1.06	0.006
MECHANICAL COMPOSITION												
Heat Lot No.	QTY.	Test No.	Yield Strength (Kpsi)	Tensile Strength (Kpsi)	Elongation%	Reduction of Area%	Hardness HB	10mm X 10mm CHARPY J (ft. lb) At -46° c	Minimum Laterl	Shear Fraction		
Spec Min			75K	95K	18.0	35.0	197	27J				
Spec Max			/	/	/	/	235	/				
TM2302020301	16	1	79.0K	100.5K	25.0	68.0	226	53;58;74				
MECHANICAL COMPOSITION												
Forgings:	4:1		Test Bar (OTC)									
Normalized:	900°C 4 HRS		Normalized:	900°C 4 HRS								
Austenitized:	860°C 4 HRS		Austenitized:	860°C 4 HRS								
Quenchant:	Water		Quenchant:	Water								
Start Temp:	22 °C		Start Temp:	22 °C								
End Temp:	41 °C		End Temp:	41 °C								
Temper:	660°C 6 HRS AIR		Temper:	660°C 6 HRS AIR								
We hereby certify that all test results and procedure information contained herein are correct and true as in contained the records of the company and also no welding or weld repair was performed on subject parts.												
Inspected by:	张金龙		Approved by:	徐俊								

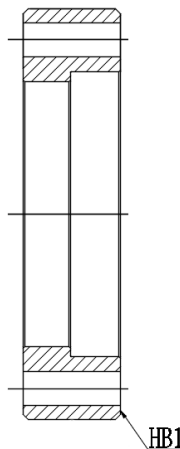


C&W International Fabricators

Hardness Test Report

Serial No. :		ET2022301-5-2-01....16		PO# :		ET2022301-5		Date:		2023-03-11		
Part No:		10-183-SOA-2		API Monogram:		YES		Report#:		2023031105		
Specification:		API Spec 6A/ ASTM E10		Material:		4130 75k per ASTM A29						
Description:		ROTATING FLANGE 7 1/16" 15M PSL3 PR1 EE LU							Qty:		16 EA	
Item	S/N		Heat Lot No.	HB1	HB2	HB3	HB4	HB5	HB6	HB7	HB8	
1	ET2022301-5-2-01		TM2302020301	229								
2	ET2022301-5-2-02		TM2302020301	225								
3	ET2022301-5-2-03		TM2302020301	231								
4	ET2022301-5-2-04		TM2302020301	223								
5	ET2022301-5-2-05		TM2302020301	229								
6	ET2022301-5-2-06		TM2302020301	229								
7	ET2022301-5-2-07		TM2302020301	223								
8	ET2022301-5-2-08		TM2302020301	225								
9	ET2022301-5-2-09		TM2302020301	223								
10	ET2022301-5-2-10		TM2302020301	229								
11	ET2022301-5-2-11		TM2302020301	221								
12	ET2022301-5-2-12		TM2302020301	225								
13	ET2022301-5-2-13		TM2302020301	223								
14	ET2022301-5-2-14		TM2302020301	229								
15	ET2022301-5-2-15		TM2302020301	231								
16	ET2022301-5-2-16		TM2302020301	225								

Sketch:



Method Used:	Impact Energy:3000Kg. Diameter of steel ball:10mm		
Acceptable Hardness	197HBW-235HBW	Inspected by:	Approved by:
Judgments:	[V] Conform	刘永良	徐俊
	[] Do not conform		

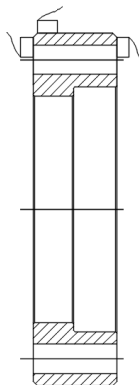


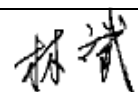
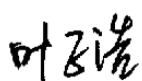
C&W International Fabricators

ULTRASONIC EXAMINATION REPORT

Serial No. :		ET2022301-5-2-01....16		PO# :		ET2022301-5		Date:		2023-03-11	
Part No:		10-183-SOA-2		API Monogram:		YES		Report#:		2023031105	
Specification:		API Spec 6A/ ASTM A388		Material:		4130 75k per ASTM A29					
Description:		ROTATING FLANGE 7 1/16" 15M PSL3 PR1 EE LU						Qty:		16 EA	
Item	S/N		Heat Lot No.	Result	Item	S/N		Heat Lot No.	Result		
1	ET2022301-5-2-01		TM2302020301	Acceptable							
2	ET2022301-5-2-02		TM2302020301	Acceptable							
3	ET2022301-5-2-03		TM2302020301	Acceptable							
4	ET2022301-5-2-04		TM2302020301	Acceptable							
5	ET2022301-5-2-05		TM2302020301	Acceptable							
6	ET2022301-5-2-06		TM2302020301	Acceptable							
7	ET2022301-5-2-07		TM2302020301	Acceptable							
8	ET2022301-5-2-08		TM2302020301	Acceptable							
9	ET2022301-5-2-09		TM2302020301	Acceptable							
10	ET2022301-5-2-10		TM2302020301	Acceptable							
11	ET2022301-5-2-11		TM2302020301	Acceptable							
12	ET2022301-5-2-12		TM2302020301	Acceptable							
13	ET2022301-5-2-13		TM2302020301	Acceptable							
14	ET2022301-5-2-14		TM2302020301	Acceptable							
15	ET2022301-5-2-15		TM2302020301	Acceptable							
16	ET2022301-5-2-16		TM2302020301	Acceptable							

Sketch:



UT Code:ASTM A388	Technique:Straight/Contact	Examined BY:	Approved by:
Exam.Stage: After heat treatment	Calibration Block:CSK IA		
Equipment:CTS-2020	Couplant: OIL		
Probe Used :2.5P φ10	Acceptance Criteria: API 6A PSL 3		
Equipment Calibration Date :2022.09.10	Test Gain:20db + 5 db		
Equipment Due Date: 2023.09.09			
		Level as per UT II	Level as per UT II



C&W International Fabricators

Magnetic Particle Inspection Report

Serial No. :		ET2022301-5-2-01....16		PO# :		ET2022301-5		Date:		2023-03-11		
Part No:		10-183-SOA-2		API Monogram:		YES		Report#:		2023031105		
Specification:		API Spec 6A/ ASTM E709		Material:		4130 75k per ASTM A29						
Description:		ROTATING FLANGE 7 1/16" 15M PSL3 PR1 EE LU							Qty:		16 EA	
Item	S/N		Heat Lot No.	Result	Item	S/N		Heat Lot No.	Result			
1	ET2022301-5-2-01		TM2302020301	Acceptable								
2	ET2022301-5-2-02		TM2302020301	Acceptable								
3	ET2022301-5-2-03		TM2302020301	Acceptable								
4	ET2022301-5-2-04		TM2302020301	Acceptable								
5	ET2022301-5-2-05		TM2302020301	Acceptable								
6	ET2022301-5-2-06		TM2302020301	Acceptable								
7	ET2022301-5-2-07		TM2302020301	Acceptable								
8	ET2022301-5-2-08		TM2302020301	Acceptable								
9	ET2022301-5-2-09		TM2302020301	Acceptable								
10	ET2022301-5-2-10		TM2302020301	Acceptable								
11	ET2022301-5-2-11		TM2302020301	Acceptable								
12	ET2022301-5-2-12		TM2302020301	Acceptable								
13	ET2022301-5-2-13		TM2302020301	Acceptable								
14	ET2022301-5-2-14		TM2302020301	Acceptable								
15	ET2022301-5-2-15		TM2302020301	Acceptable								
16	ET2022301-5-2-16		TM2302020301	Acceptable								

Sketch/Inspection Coverage:



Fluorescent magnetic particle inspection was performed on all accessible wetted/sealing surface

Evaluation & Disposition : Found to be satisfactory.

Equipment	CJD-9000	MT Code	ASTM E709	Examined	Approved
Test Method	Fulcrum [] Cable1 [✓]	Particle Type	Fluorescence Wet	BY: 林斌	by: 叶飞浩
Exam. Stage	Rough After Ra $\leq 6.3\mu\text{m}$	Test Piece	A1-30/100	Level as	Level as
Magnetizing time	1-3S	Circular AMPS/Turns	900A/1	per	per
Concentration	0.3ml/100ml	UV-Light Intensity	$\geq 1000\text{Uw/C m}^2$	MT II	MT II



C&W International Fabricators

REPORT INDEX

Purchase Order: **ET2022301-5**

Quantity: **16 EA**

Shipment No. :

Shipment Date:

Activity No.	Characteristics	Reference Page
1.1	CLAMP 7 1/16" 15M	Page-2
1.1.1	Metallurgical Test Certificate	Page-2
1.1.2	Mechanical Testing	Page-2
1.1.3	Chemical Testing	Page-2
1.1.4	Heat Treatment	Page-2
2.1	Hardness Test	Page-3
2.2	Ultrasonic Testing	Page-4
2.3	Magnetic Particle Inspection Report	Page-5



C&W International Fabricators

METALLURGICAL TEST CERTIFICATE

Serial No.:	ET2022301-5-3-01....16	PO# :	ET2022301-5	Date:	2023-03-11							
Part No:	10-183-SOA-3	API Monogram:	YES	Report#:	2023031106							
Specification:	API Spec 6A/ ASTM A370	Material:	4140 110k per ASTM A29									
Description:	CLAMP 7 1/16" 15M PSL3 PR1 EE LU			Qty:	16 EA							
TEST CONDITION												
Test Bar Size:	QTC, 4" x 4" x 8"		Bar Di:	12.7 mm (0.5")								
Melt Practice	EF + LF + VD		Reduction Ratio Min:	4:1								
Yield Stress	0.2% offset		Gauge Length	50.8mm								
CHEMICAL COMPOSITION												
Mill No.:	Qty	Test No.	C	Mn	Si	S	P	Ni	Cu	Mo	Cr	V
Spec Min			0.38	0.75	0.15	/	/	/	/	0.15	0.80	/
Spec Max			0.43	1.00	0.35	0.025	0.025	0.25	0.30	0.25	1.10	0.30
22-9-1-2143	16	1	0.402	0.835	0.281	0.011	0.017	0.164	0.02	0.167	1.078	0.03
MECHANICAL COMPOSITION												
Heat Lot No.	QTY.	Test No.	Yield Strength (Kpsi)	Tensile Strength (Kpsi)	Elongation%	Reduction of Area%	Hardness HB	10mmX10mm Charpy J (ft. lb) At -46° c	Minimum Laterl	Shear Fraction		
Spec Min			110K	125K	18.0	35.0	280	27J				
Spec Max			/	/	/	/	320	/				
TM2212290101	16	1	113.6K	128.0K	26.8	61.0	293	60;68:74				
MECHANICAL COMPOSITION												
Forgings:	4:1		Test Bar (OTC)									
Normalized:	900°C 3 HRS		Normalized:			900°C 3 HRS						
Austenitized:	860°C 3 HRS		Austenitized:			860°C 3 HRS						
Quenchant:	Water		Quenchant:			Water						
Start Temp:	28 °C		Start Temp:			28 °C						
End Temp:	29 °C		End Temp:			29 °C						
Temper:	560°C 4.5 HRS AIR		Temper:			560°C 4.5 HRS AIR						
We hereby certify that all test results and procedure information contained herein are correct and true as in contained the records of the company and also no welding or weld repair was performed on subject parts.												
Inspected by:	张金龙		Approved by:		徐俊							

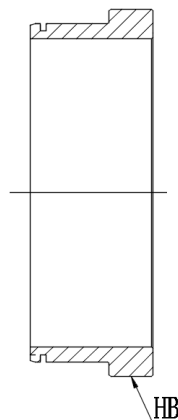


C&W International Fabricators

Hardness Test Report

Serial No. :		ET2022301-5-3-01....16		PO# :		ET2022301-5		Date:		2023-03-11		
Part No:		10-183-SOA-3		API Monogram:		YES		Report#:		2023031106		
Specification:		API Spec 6A/ ASTM E10		Material:		4140 110k per ASTM A29						
Description:		CLAMP 7 1/16" 15M PSL3 PR1 EE LU							Qty:		16 EA	
Item	S/N		Heat Lot No.	HB1	HB2	HB3	HB4	HB5	HB6	HB7	HB8	
1	ET2022301-5-3-01		TM2212290101	311								
2	ET2022301-5-3-02		TM2212290101	302								
3	ET2022301-5-3-03		TM2212290101	302								
4	ET2022301-5-3-04		TM2212290101	311								
5	ET2022301-5-3-05		TM2212290101	296								
6	ET2022301-5-3-06		TM2212290101	293								
7	ET2022301-5-3-07		TM2212290101	302								
8	ET2022301-5-3-08		TM2212290101	302								
9	ET2022301-5-3-09		TM2212290101	311								
10	ET2022301-5-3-10		TM2212290101	311								
11	ET2022301-5-3-11		TM2212290101	293								
12	ET2022301-5-3-12		TM2212290101	302								
13	ET2022301-5-3-13		TM2212290101	302								
14	ET2022301-5-3-14		TM2212290101	293								
15	ET2022301-5-3-15		TM2212290101	293								
16	ET2022301-5-3-16		TM2212290101	302								

Sketch:



Method Used:	Impact Energy:3000Kg. Diameter of steel ball:10mm		
Acceptable Hardness	280HBW-320HBW	Inspected by:	Approved by:
Judgments:	[V] Conform	刘永良	徐俊
	[] Do not conform		

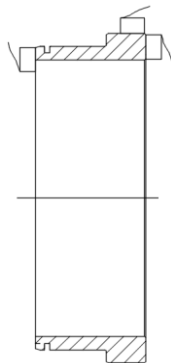


C&W International Fabricators

ULTRASONIC EXAMINATION REPORT

Serial No. :		ET2022301-5-3-01....16		PO# :		ET2022301-5		Date:		2023-03-11	
Part No:		10-183-SOA-3		API Monogram:		YES		Report#:		2023031106	
Specification:		API Spec 6A/ ASTM A388		Material:		4140 110k per ASTM A29					
Description:		CLAMP 7 1/16" 15M PSL3 PR1 EE LU						Qty:		16 EA	
Item	S/N		Heat Lot No.	Result	Item	S/N		Heat Lot No.	Result		
1	ET2022301-5-3-01		TM2212290101	Acceptable							
2	ET2022301-5-3-02		TM2212290101	Acceptable							
3	ET2022301-5-3-03		TM2212290101	Acceptable							
4	ET2022301-5-3-04		TM2212290101	Acceptable							
5	ET2022301-5-3-05		TM2212290101	Acceptable							
6	ET2022301-5-3-06		TM2212290101	Acceptable							
7	ET2022301-5-3-07		TM2212290101	Acceptable							
8	ET2022301-5-3-08		TM2212290101	Acceptable							
9	ET2022301-5-3-09		TM2212290101	Acceptable							
10	ET2022301-5-3-10		TM2212290101	Acceptable							
11	ET2022301-5-3-11		TM2212290101	Acceptable							
12	ET2022301-5-3-12		TM2212290101	Acceptable							
13	ET2022301-5-3-13		TM2212290101	Acceptable							
14	ET2022301-5-3-14		TM2212290101	Acceptable							
15	ET2022301-5-3-15		TM2212290101	Acceptable							
16	ET2022301-5-3-16		TM2212290101	Acceptable							

Sketch:



UT Code:ASTM A388	Technique:Straight/Contact	Examined BY:	Approved by:
Exam.Stage: After heat treatment	Calibration Block:CSK IA		
Equipment:CTS-2020	Couplant: OIL		
Probe Used :2.5P Φ10	Acceptance Criteria: API 6A PSL 3		
Equipment Calibration Date :2022.09.10	Test Gain:20db + 5 db		
Equipment Due Date: 2023.09.09			
		Level as per UT II	Level as per UT II



C&W International Fabricators

Magnetic Particle Inspection Report

Serial No. :		ET2022301-5-3-01....16		PO# :		ET2022301-5		Date:		2023-03-11	
Part No:		10-183-SOA-3		API Monogram:		YES		Report#:		2023031106	
Specification:		API Spec 6A/ ASTM E709		Material:		4140 110k per ASTM A29					
Description:		CLAMP 7 1/16" 15M PSL3 PR1 EE LU						Qty:		16 EA	
Item	S/N		Heat Lot No.	Result	Item	S/N		Heat Lot No.	Result		
1	ET2022301-5-3-01		TM2212290101	Acceptable							
2	ET2022301-5-3-02		TM2212290101	Acceptable							
3	ET2022301-5-3-03		TM2212290101	Acceptable							
4	ET2022301-5-3-04		TM2212290101	Acceptable							
5	ET2022301-5-3-05		TM2212290101	Acceptable							
6	ET2022301-5-3-06		TM2212290101	Acceptable							
7	ET2022301-5-3-07		TM2212290101	Acceptable							
8	ET2022301-5-3-08		TM2212290101	Acceptable							
9	ET2022301-5-3-09		TM2212290101	Acceptable							
10	ET2022301-5-3-10		TM2212290101	Acceptable							
11	ET2022301-5-3-11		TM2212290101	Acceptable							
12	ET2022301-5-3-12		TM2212290101	Acceptable							
13	ET2022301-5-3-13		TM2212290101	Acceptable							
14	ET2022301-5-3-14		TM2212290101	Acceptable							
15	ET2022301-5-3-15		TM2212290101	Acceptable							
16	ET2022301-5-3-16		TM2212290101	Acceptable							

Sketch/Inspection Coverage:



Fluorescent magnetic particle inspection was performed on all accessible wetted/sealing surface

Evaluation & Disposition : Found to be satisfactory.

Equipment	CJD-9000	MT Code	ASTM E709	Examined	Approved
Test Method	Fulcrum [] Cable1 [✓]	Particle Type	Fluorescence Wet	BY: 	by:
Exam. Stage	Rough After Ra $\leq 6.3\mu\text{m}$	Test Piece	A1-30/100	Level as	Level as
Magnetizing time	1-3S	Circular AMPS/Turns	900A/1	per	per
Concentration	0.3ml/100ml	UV-Light Intensity	$\geq 1000\text{Uw/C m}^2$	MT II	MT II



C&W International Fabricators

REPORT INDEX

Purchase Order: **ET2022301-13**

Quantity: **12 EA**

Shipment No. :

Shipment Date:

Activity No.	Characteristics	Reference Page
1.1	SPACER SPOOL 7 1/16" 15M X 24"	Page-2
1.1.1	Metallurgical Test Certificate	Page-2
1.1.2	Mechanical Testing	Page-2
1.1.3	Chemical Testing	Page-2
1.1.4	Heat Treatment	Page-2
2.1	Hardness Test	Page-3
2.2	Ultrasonic Testing	Page-4
2.3	Magnetic Particle Inspection Report	Page-5
3.0	Hydrostatic Test Report	Page-6



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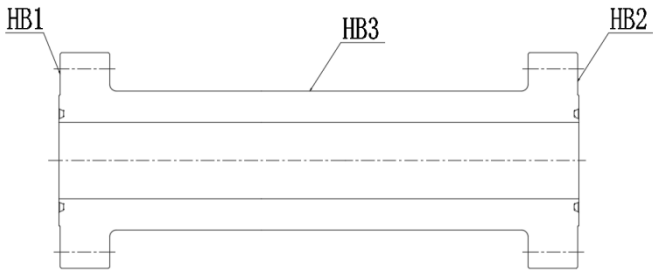
METALLURGICAL TEST CERTIFICATE

Serial No. :	ET2022301-13-01...12	PO# :	ET2022301-13	Date:	2023-03-10							
Part No:	SS715-24	API Monogram:	YES	Report#:	2023031007							
Specification:	API Spec 6A/ASTM A370	Material:	4130 75k per ASTM A29									
Description:	SPACER SPOOL 7 1/16" 15M X 24" EE LU PSL3 PR1			Qty:	12 EA							
TEST CONDITION												
Test Bar Size:	QTC, 4" x 4" x 8"		Bar Di:	12.7 mm (0.5")								
Melt Practice	EF + LF + VD		Reduction Ratio Min:	5:1								
Yield Stress	0.2% offset		Gauge Length	50.8mm								
CHEMICAL COMPOSITION												
Mill No. :	Qty	Test No.	C	Mn	Si	S	P	Ni	Cu	Mo	Cr	V
Spec Min			0.28	0.40	0.15	/	/	/	/	0.15	0.80	/
Spec Max			0.33	0.60	0.35	0.025	0.025	0.50	0.35	0.25	1.10	0.30
2087148Z	12	1	0.300	0.540	0.260	0.005	0.011	0.050	0.060	0.160	1.060	0.006
MECHANICAL COMPOSITION												
Heat Lot No.	QTY.	Test No.	Yield Strength (Kpsi)	Tensile Strength (Kpsi)	Elongation%	Reduction of Area%	Hardness HB	10mm X 10mm Charpy J (ft. lb) At -46° c	Minimum Lateral	Shear Fraction		
Spec Min			75K	95K	18.0	35.0	197	27J				
Spec Max			/	/	/	/	235	/				
TM2303010301	12	1	79.2K	99.6K	27.8	55.0	220	55;68;76				
HEAT TREATMENT												
Forgings:	5:1					Test Bar (OTC)						
Normalized:	900°C 6 HRS					Normalized:	900°C 6 HRS					
Austenitized:	860°C 6 HRS					Austenitized:	860°C 6 HRS					
Quenchant:	Water					Quenchant:	Water					
Start Temp:	25 °C					Start Temp:	25 °C					
End Temp:	45 °C					End Temp:	45 °C					
Temper:	660°C 9 HRS AIR					Temper:	660°C 9 HRS AIR					
We hereby certify that all test results and procedure information contained herein are correct and true as in contained the records of the company and also no welding or weld repair was performed on subject parts.												
Inspected by:	张金龙				Approved by:	徐俊						



C&W International Fabricators

Hardness Test Report

Serial No. :	ET2022301-13-01...12	PO# :	ET2022301-13	Date:	2023-03-10					
Part No:	SS715-24	API Monogram:	YES	Report#:	2023031007					
Specification:	API Spec 6A/ASTM E10	Material:	4130 75k per ASTM A29							
Description:	SPACER SPOOL 7 1/16" 15M X 24" EE LU PSL3 PR1				Qty: 12 EA					
Item	S/N	Heat Lot No.	HB1	HB2	HB3	HB4	HB5	HB6	HB7	HB8
1	ET2022301-13-01	TM2303010301	229	225	227					
2	ET2022301-13-02	TM2303010301	223	229	225					
3	ET2022301-13-03	TM2303010301	225	223	223					
4	ET2022301-13-04	TM2303010301	229	231	229					
5	ET2022301-13-05	TM2303010301	221	225	223					
6	ET2022301-13-06	TM2303010301	225	223	221					
7	ET2022301-13-07	TM2303010301	223	221	223					
8	ET2022301-13-08	TM2303010301	229	225	227					
9	ET2022301-13-09	TM2303010301	231	229	229					
10	ET2022301-13-10	TM2303010301	229	225	227					
11	ET2022301-13-11	TM2303010301	225	223	225					
12	ET2022301-13-12	TM2303010301	221	225	223					
Sketch:										
										
Method Used:	Impact Energy:3000Kg. Diameter of steel ball:10mm									
Acceptable Hardness	197HBW-235HBW		Inspected by:				Approved by:			
Judgments:	[V] Conform		刘永良				徐根			
	[] Do not conform									

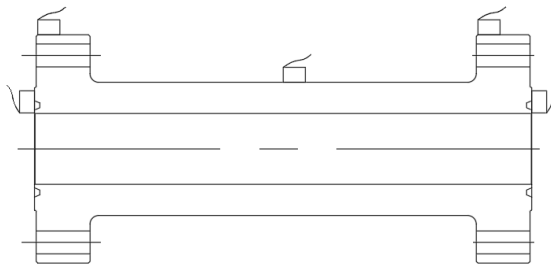


C&W International Fabricators

ULTRASONIC EXAMINATION REPORT

Serial No. :		ET2022301-13-01...12		PO# :		ET2022301-13		Date:		2023-03-10			
Part No:		SS715-24		API Monogram:		YES		Report#:		2023031007			
Specification:		API Spec 6A/ASTM A388		Material:		4130 75k per ASTM A29							
Description:		SPACER SPOOL 7 1/16" 15M X 24" EE LU PSL3 PR1							Qty:		12 EA		
Item	S/N		Heat Lot No.		Result		Item	S/N		Heat Lot No.		Result	
1	ET2022301-13-01		TM2303010301		Acceptable								
2	ET2022301-13-02		TM2303010301		Acceptable								
3	ET2022301-13-03		TM2303010301		Acceptable								
4	ET2022301-13-04		TM2303010301		Acceptable								
5	ET2022301-13-05		TM2303010301		Acceptable								
6	ET2022301-13-06		TM2303010301		Acceptable								
7	ET2022301-13-07		TM2303010301		Acceptable								
8	ET2022301-13-08		TM2303010301		Acceptable								
9	ET2022301-13-09		TM2303010301		Acceptable								
10	ET2022301-13-10		TM2303010301		Acceptable								
11	ET2022301-13-11		TM2303010301		Acceptable								
12	ET2022301-13-12		TM2303010301		Acceptable								

Sketch:



ABOVE FORGED ARE ULTRASONICALLY TESTED FOR INTERNAL DEFECTS USSING FLAT-BOTTOM HOLE PROCEDURE;
NO RECORDABLE INDICATION OBSERVED DURING THE TEST. HENCE ACCEPTABLE AS PER STANDARD.

UT Code:ASTM A388	Technique:Straight/Contact	Examined BY:	Approved by:
Exam. Stage: After heat treatment	Calibration Block:CSK IA		
Equipment:CTS-2020	Couplant: OIL		
Probe Used :2.5P Φ10	Acceptance Criteria: API 6A PSL 3		
Equipment Calibration Date :2022.09.10	Test Gain:20db + 5 db	Level as per UT II	Level as per UT II
Equipment Due Date: 2023.09.09			



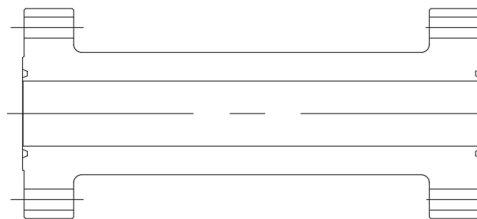
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Magnetic Particle Inspection Report

Serial No. :	ET2022301-13-01...12	PO# :	ET2022301-13	Date:	2023-03-10
Part No:	SS715-24	API Monogram:	YES	Report#:	2023031007
Specification:	API Spec 6A/ASTM E709	Material:	4130 75k per ASTM A29		
Description:	SPACER SPOOL 7 1/16" 15M X 24" EE LU PSL3 PR1			Qty:	12 EA

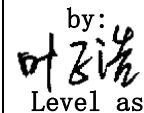
Item	S/N	Heat Lot No.	Result	Item	S/N	Heat Lot No.	Result
1	ET2022301-13-01	TM2303010301	Acceptable				
2	ET2022301-13-02	TM2303010301	Acceptable				
3	ET2022301-13-03	TM2303010301	Acceptable				
4	ET2022301-13-04	TM2303010301	Acceptable				
5	ET2022301-13-05	TM2303010301	Acceptable				
6	ET2022301-13-06	TM2303010301	Acceptable				
7	ET2022301-13-07	TM2303010301	Acceptable				
8	ET2022301-13-08	TM2303010301	Acceptable				
9	ET2022301-13-09	TM2303010301	Acceptable				
10	ET2022301-13-10	TM2303010301	Acceptable				
11	ET2022301-13-11	TM2303010301	Acceptable				
12	ET2022301-13-12	TM2303010301	Acceptable				

Sketch/Inspection Coverage:



Fluorescent magnetic particle inspection was performed on all accessible wetted/sealing surface with acceptable results

Evaluation & Disposition : Found to be satisfactory.

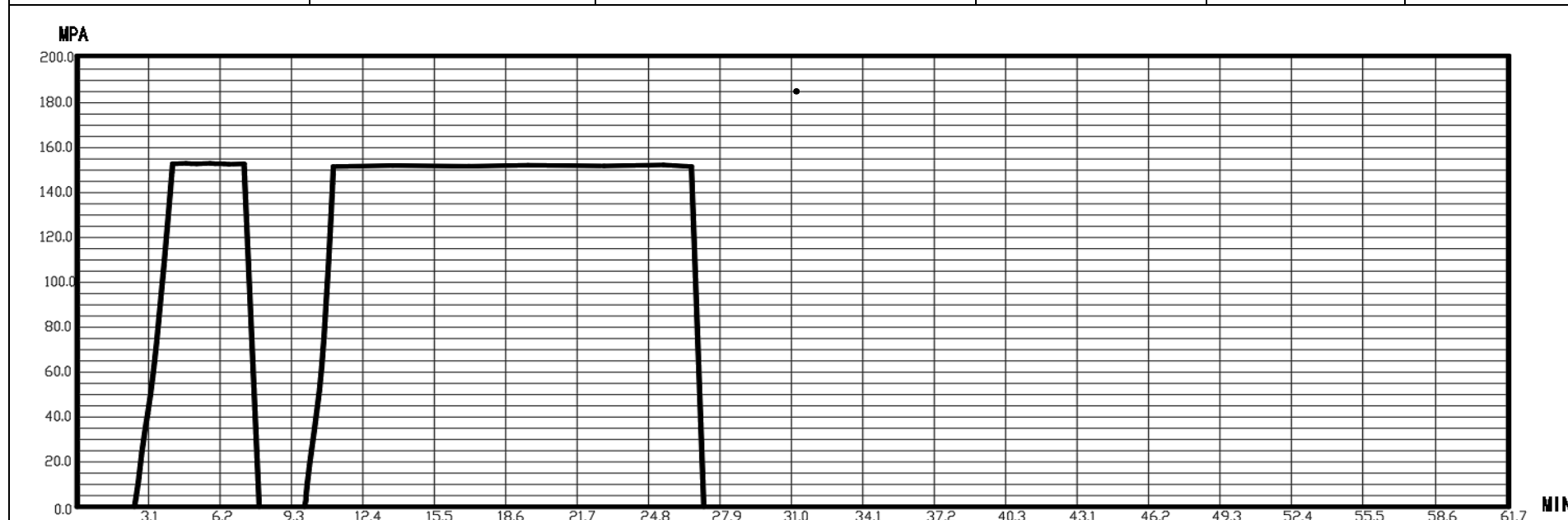
Equipment	CJD-9000	MT Code	ASTM E709	Examined BY:  Level as per MT II	Approved by:  Level as per MT II
Test Method	Fulcrum [] Cable1 [✓]	Particle Type	Fluorescence Wet		
Exam. Stage	Rough After Ra ≤ 6.3μm	Test Piece	A1-30/100		
Magnetizing time	1-3S	Circular AMPS/Turns	900A/1		
Concentration	0.3ml/100ml	UV-Light Intensity	≥1000Uw/C m²		



C&W International Fabricators

HYDRASTATIC TEST REPORT

Description:	SPACER SPOOL 7 1/16" 15M X 24" EE LU PSL3 PR1		Serial NO.:	ET2022301-13-01	
Item	Pressure (Mpa)	Method (Min)	Result	Date:	2023.03.10
BODY TEST	155.7MPa	HOLDINGPERIOD 3	Acceptable	Start Time	08: 15: 12
BODY TEST	155.9MPa	HOLDINGPERIOD 15	Acceptable	End Time	08: 39: 44



Gage SN :	TTA-032	Test Spec:	API6A/PSL3
Test Medium:	Water	Test Temp.:	ROOM

No visible leakage shall occur each holding period

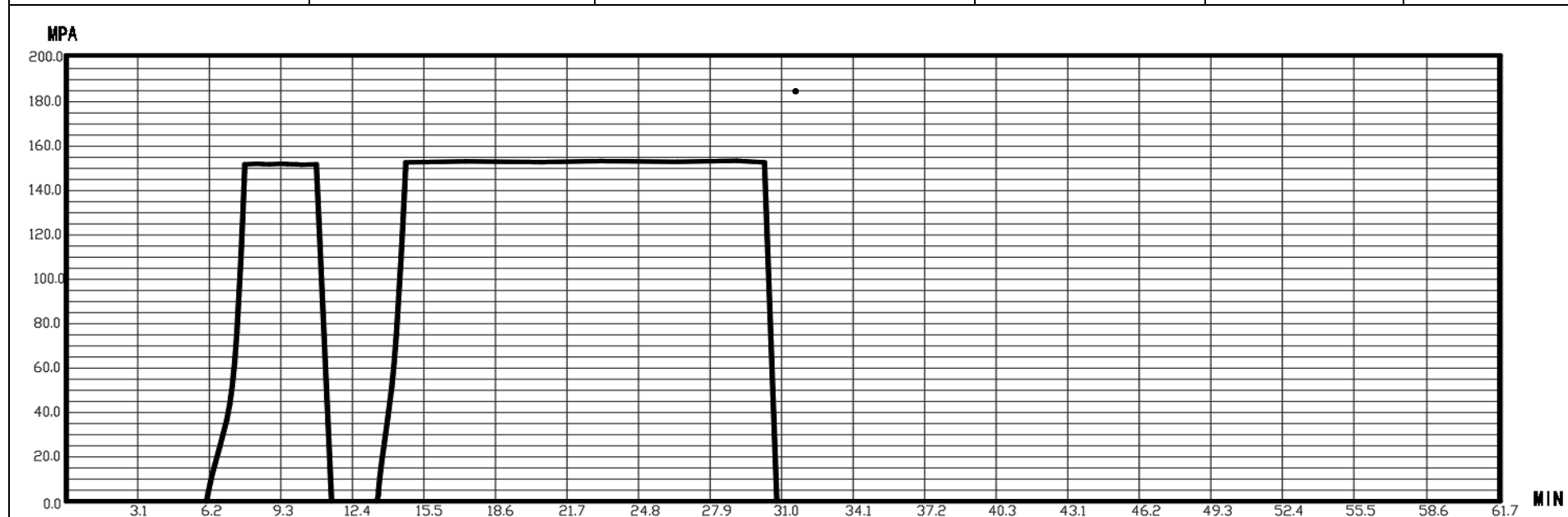
Checker: 朱宇 Date: 2023.03.10

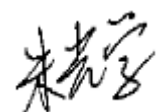


C&W International Fabricators

HYDRASTATIC TEST REPORT

Description:	SPACER SPOOL 7 1/16" 15M X 24" EE LU PSL3 PR1		Serial NO.:	ET2022301-13-02	
Item	Pressure (Mpa)	Method (Min)	Result	Date:	2023.03.10
BODY TEST	155.5MPa	HOLDINGPERIOD 3	Acceptable	Start Time	09: 03: 10
BODY TEST	155.8MPa	HOLDINGPERIOD 15	Acceptable	End Time	09: 28: 28



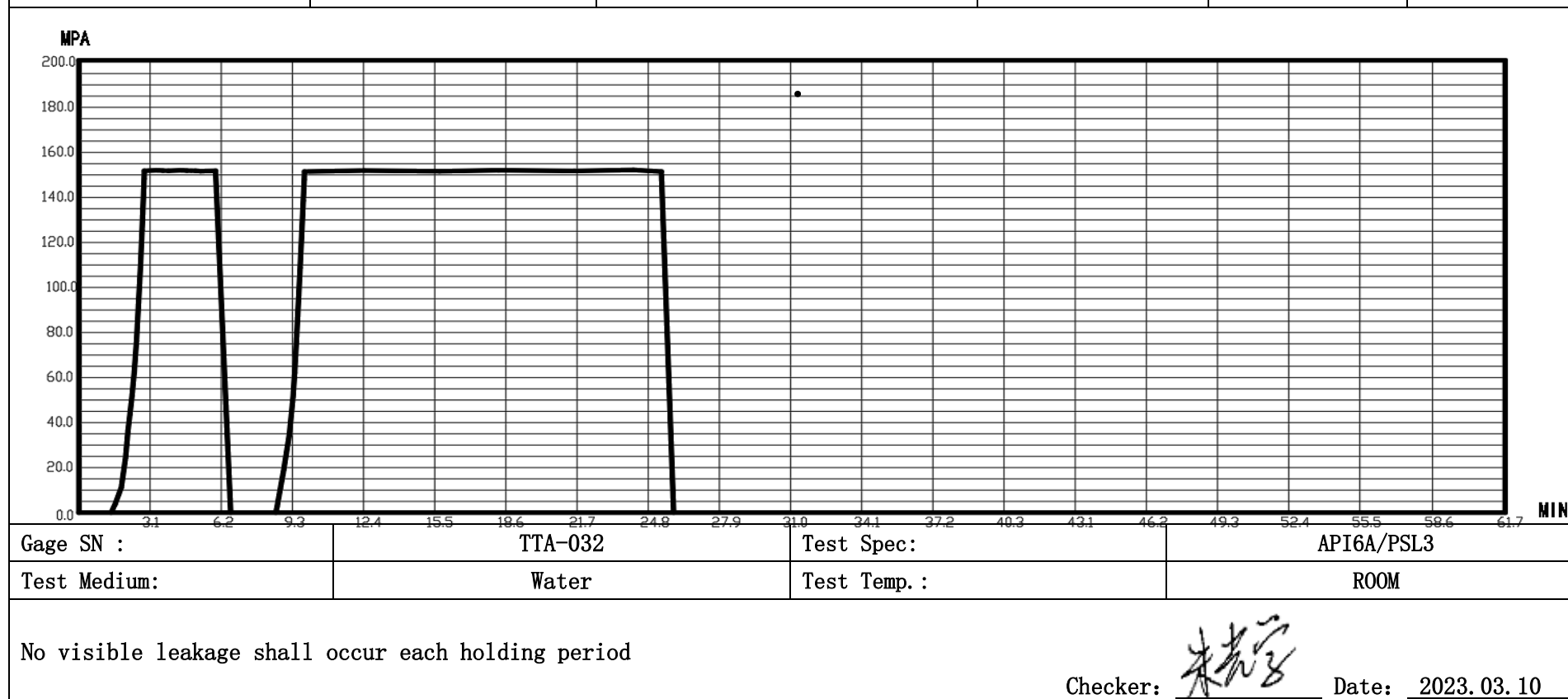
Gage SN :	TTA-032	Test Spec:	API6A/PSL3
Test Medium:	Water	Test Temp. :	ROOM
No visible leakage shall occur each holding period			
Checker: 		Date: 2023.03.10	



C&W International Fabricators

HYDRASTATIC TEST REPORT

Description:	SPACER SPOOL 7 1/16" 15M X 24" EE LU PSL3 PR1		Serial NO.:	ET2022301-13-03	
Item	Pressure (Mpa)	Method (Min)	Result	Date:	2023.03.10
BODY TEST	155.6MPa	HOLDINGPERIOD 3	Acceptable	Start Time	09: 43: 24
BODY TEST	155.7MPa	HOLDINGPERIOD 15	Acceptable	End Time	10: 07: 50

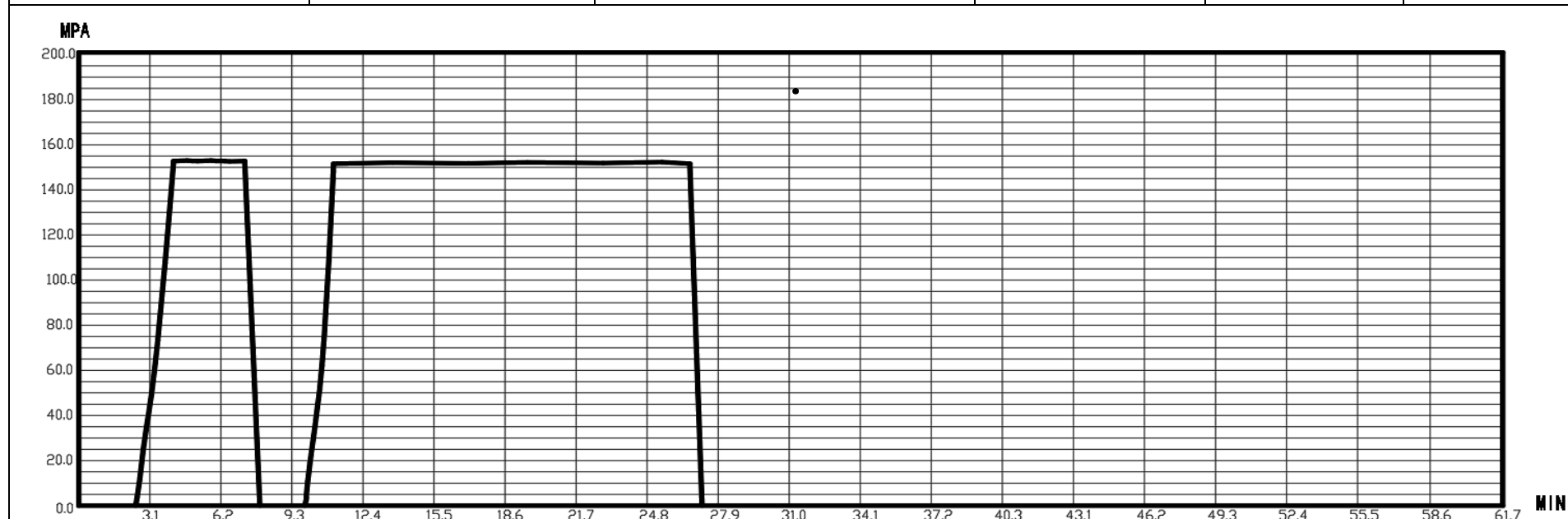




C&W International Fabricators

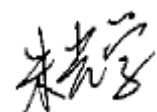
HYDRASTATIC TEST REPORT

Description:	SPACER SPOOL 7 1/16" 15M X 24" EE LU PSL3 PR1		Serial NO.:	ET2022301-13-04	
Item	Pressure (Mpa)	Method (Min)	Result	Date:	2023.03.10
BODY TEST	155.6MPa	HOLDINGPERIOD 3	Acceptable	Start Time	10: 50: 26
BODY TEST	155.5MPa	HOLDINGPERIOD 15	Acceptable	End Time	11: 14: 50



Gage SN :	TTA-032	Test Spec:	API6A/PSL3
Test Medium:	Water	Test Temp.:	ROOM

No visible leakage shall occur each holding period

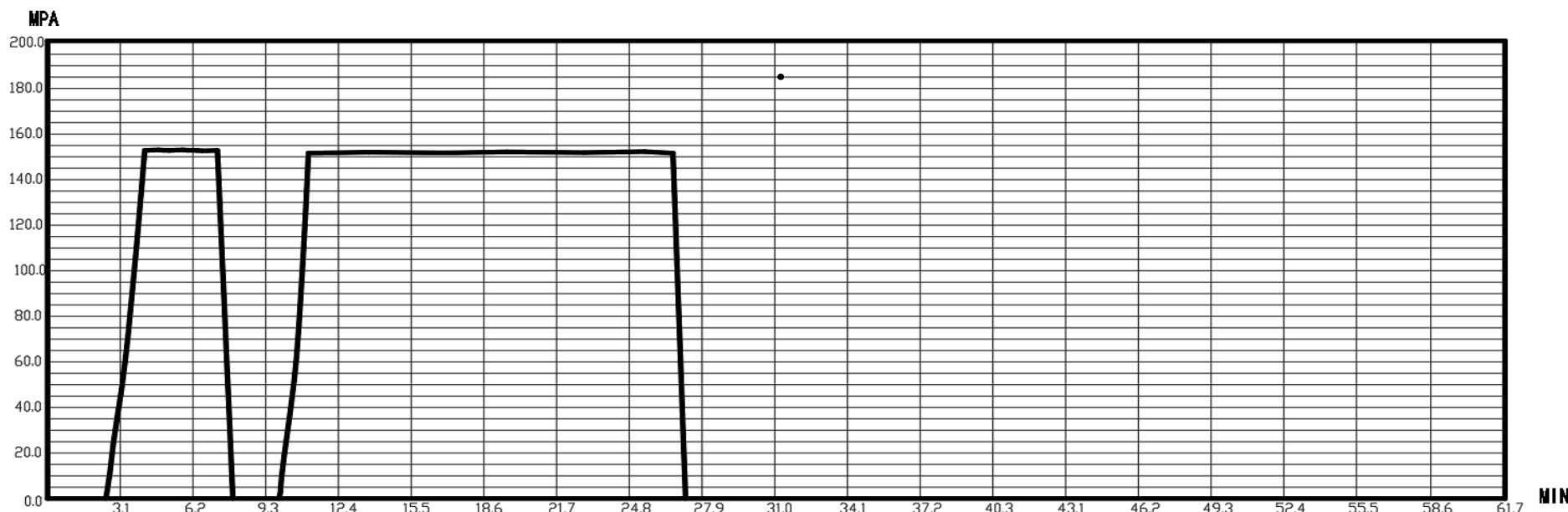
Checker:  Date: 2023.03.10



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HYDRASTATIC TEST REPORT

Description:	SPACER SPOOL 7 1/16" 15M X 24" EE LU PSL3 PR1		Serial NO.:	ET2022301-13-05	
Item	Pressure (Mpa)	Method (Min)	Result	Date:	2023.03.10
BODY TEST	155.6MPa	HOLDINGPERIOD 3	Acceptable	Start Time	12: 36: 36
BODY TEST	155.8MPa	HOLDINGPERIOD 15	Acceptable	End Time	13: 00: 53



Gage SN :	TTA-032	Test Spec:	API6A/PSL3
Test Medium:	Water	Test Temp. :	ROOM

No visible leakage shall occur each holding period

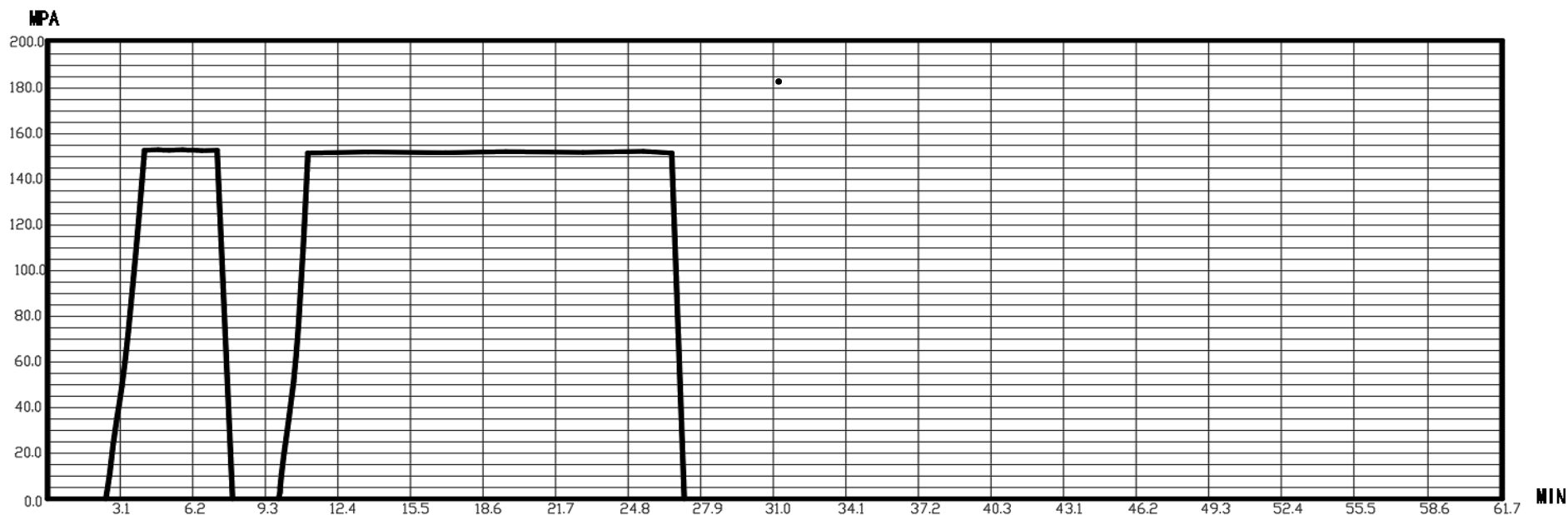
Checker: 朱宇 Date: 2023.03.10



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HYDRASTATIC TEST REPORT

Description:	SPACER SPOOL 7 1/16" 15M X 24" EE LU PSL3 PR1		Serial NO.:	ET2022301-13-06	
Item	Pressure (Mpa)	Method (Min)	Result	Date:	2023.03.10
BODY TEST	155.5MPa	HOLDINGPERIOD 3	Acceptable	Start Time	14: 26: 10
BODY TEST	155.8MPa	HOLDINGPERIOD 15	Acceptable	End Time	14: 50: 33



Gage SN :	TTA-032	Test Spec:	API6A/PSL3
Test Medium:	Water	Test Temp.:	ROOM

No visible leakage shall occur each holding period

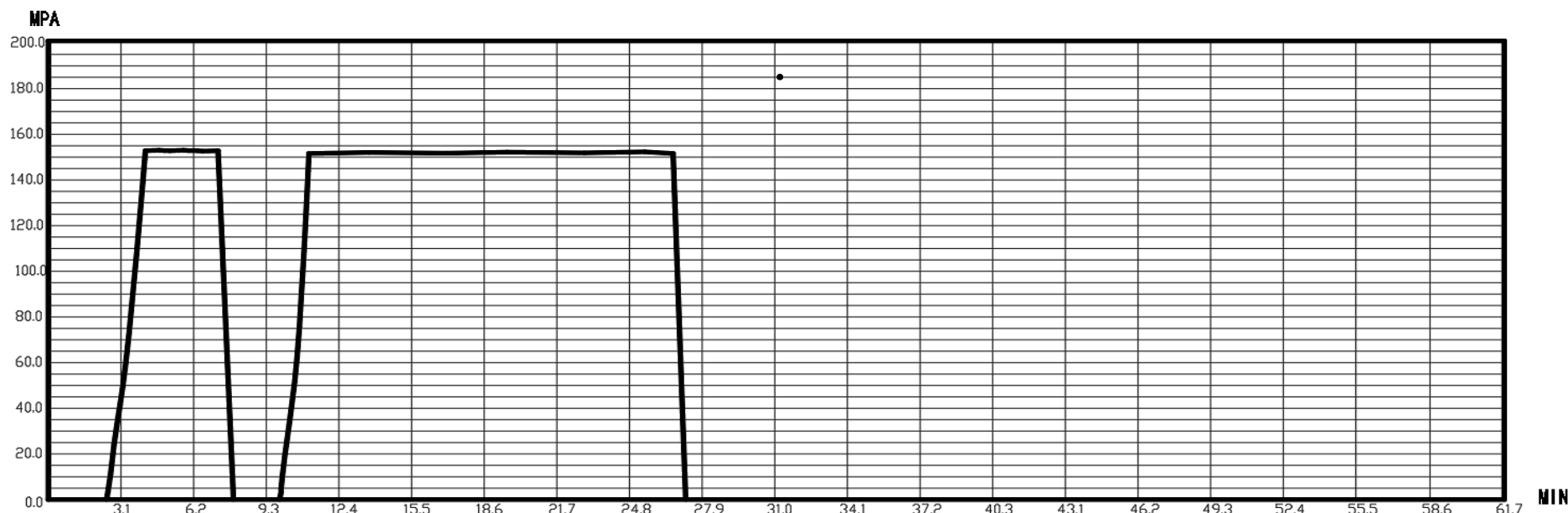
Checker: 朱宇 Date: 2023.03.10



C&W International Fabricators

HYDRASTATIC TEST REPORT

Description:	SPACER SPOOL 7 1/16" 15M X 24" EE LU PSL3 PR1		Serial NO.:	ET2022301-13-07	
Item	Pressure (Mpa)	Method (Min)	Result	Date:	2023.03.10
BODY TEST	155.7MPa	HOLDINGPERIOD 3	Acceptable	Start Time	15: 15: 09
BODY TEST	155.9MPa	HOLDINGPERIOD 15	Acceptable	End Time	15: 39: 30



Gage SN :	TTA-032	Test Spec:	API6A/PSL3
Test Medium:	Water	Test Temp.:	ROOM

No visible leakage shall occur each holding period

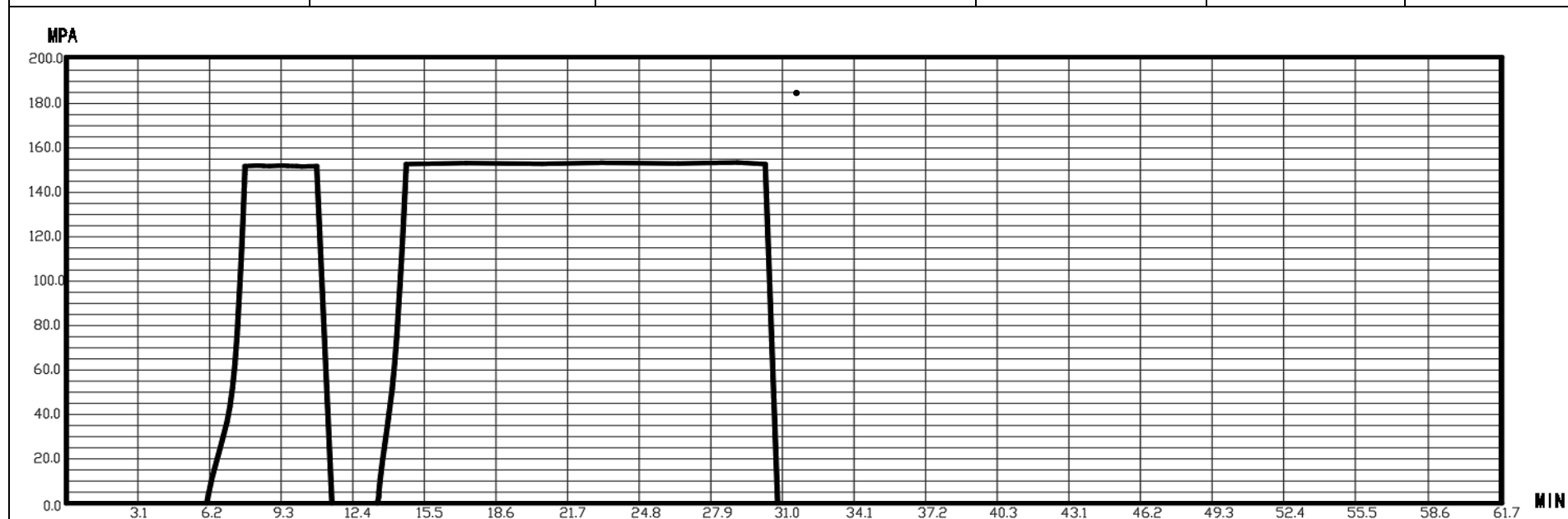
Checker: 朱宇 Date: 2023.03.10

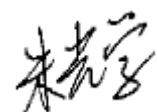


C&W International Fabricators

HYDRASTATIC TEST REPORT

Description:	SPACER SPOOL 7 1/16" 15M X 24" EE LU PSL3 PR1		Serial NO.:	ET2022301-13-08	
Item	Pressure (Mpa)	Method (Min)	Result	Date:	2023.03.10
BODY TEST	155.5MPa	HOLDINGPERIOD 3	Acceptable	Start Time	16: 03: 28
BODY TEST	155.8MPa	HOLDINGPERIOD 15	Acceptable	End Time	16: 28: 47



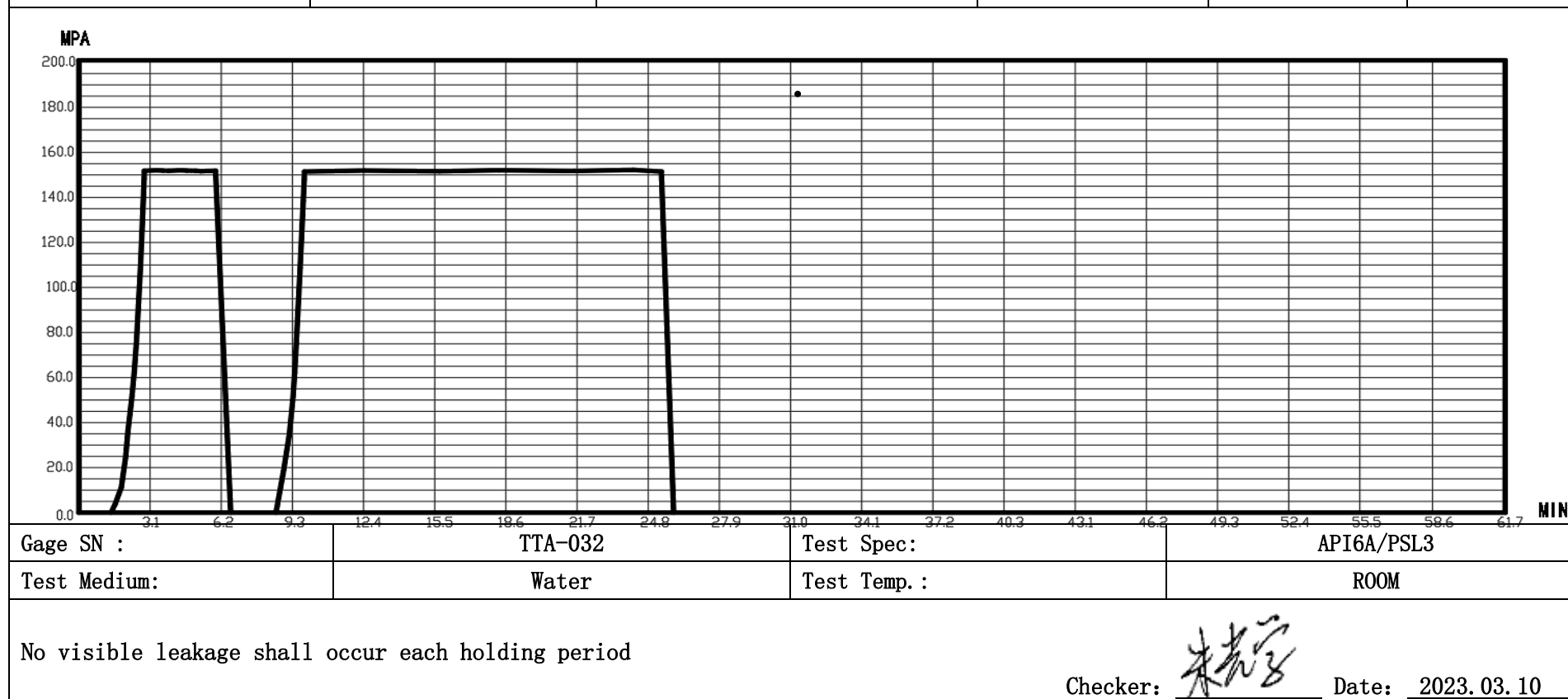
Gage SN :	TTA-032	Test Spec:	API6A/PSL3
Test Medium:	Water	Test Temp. :	ROOM
No visible leakage shall occur each holding period			
Checker:  Date: 2023.03.10			



C&W International Fabricators

HYDRASTATIC TEST REPORT

Description:	SPACER SPOOL 7 1/16" 15M X 24" EE LU PSL3 PR1		Serial NO.:	ET2022301-13-09	
Item	Pressure (Mpa)	Method (Min)	Result	Date:	2023.03.10
BODY TEST	155.6MPa	HOLDINGPERIOD 3	Acceptable	Start Time	18: 43: 24
BODY TEST	155.7MPa	HOLDINGPERIOD 15	Acceptable	End Time	19: 07: 50

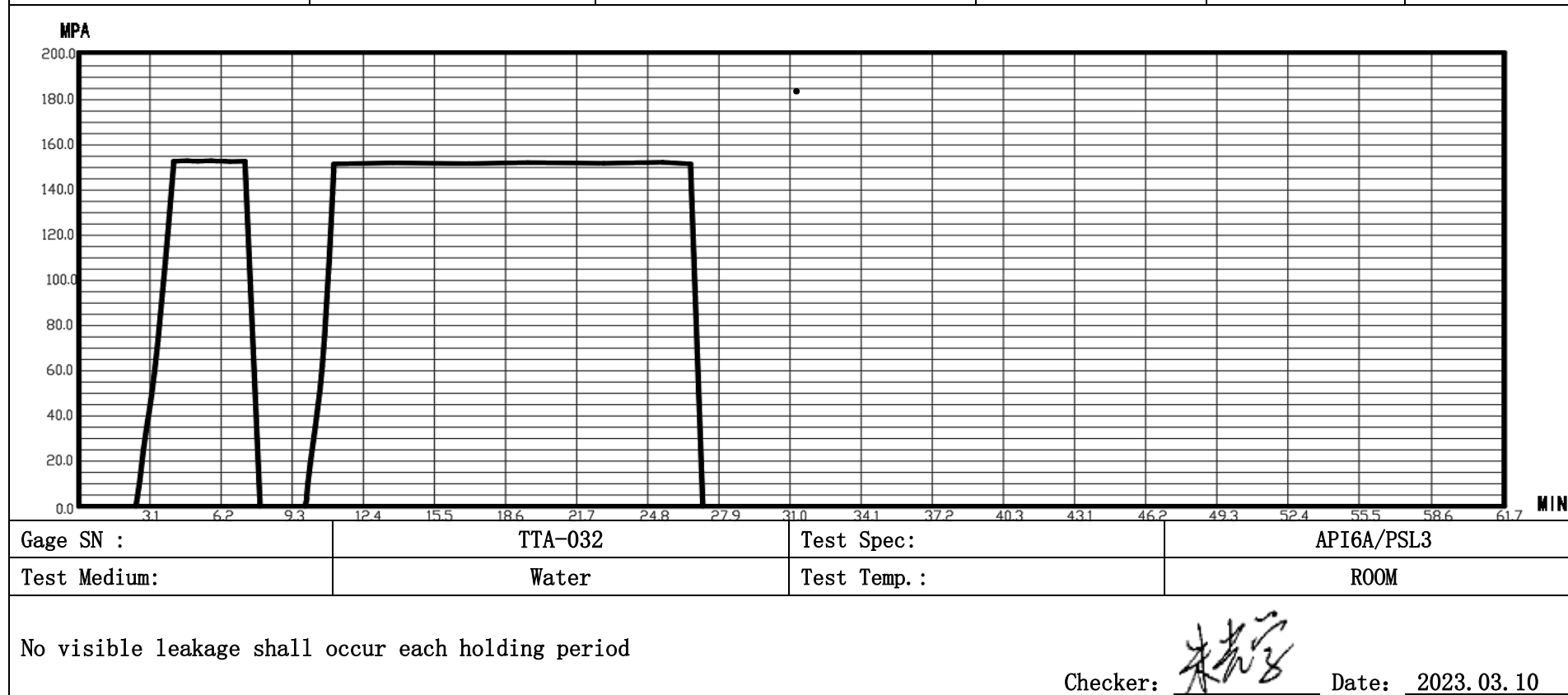




C&W International Fabricators

HYDRASTATIC TEST REPORT

Description:	SPACER SPOOL 7 1/16" 15M X 24" EE LU PSL3 PR1		Serial NO.:	ET2022301-13-10	
Item	Pressure (Mpa)	Method (Min)	Result	Date:	2023.03.10
BODY TEST	155.6MPa	HOLDINGPERIOD 3	Acceptable	Start Time	19: 51: 21
BODY TEST	155.5MPa	HOLDINGPERIOD 15	Acceptable	End Time	20: 15: 53

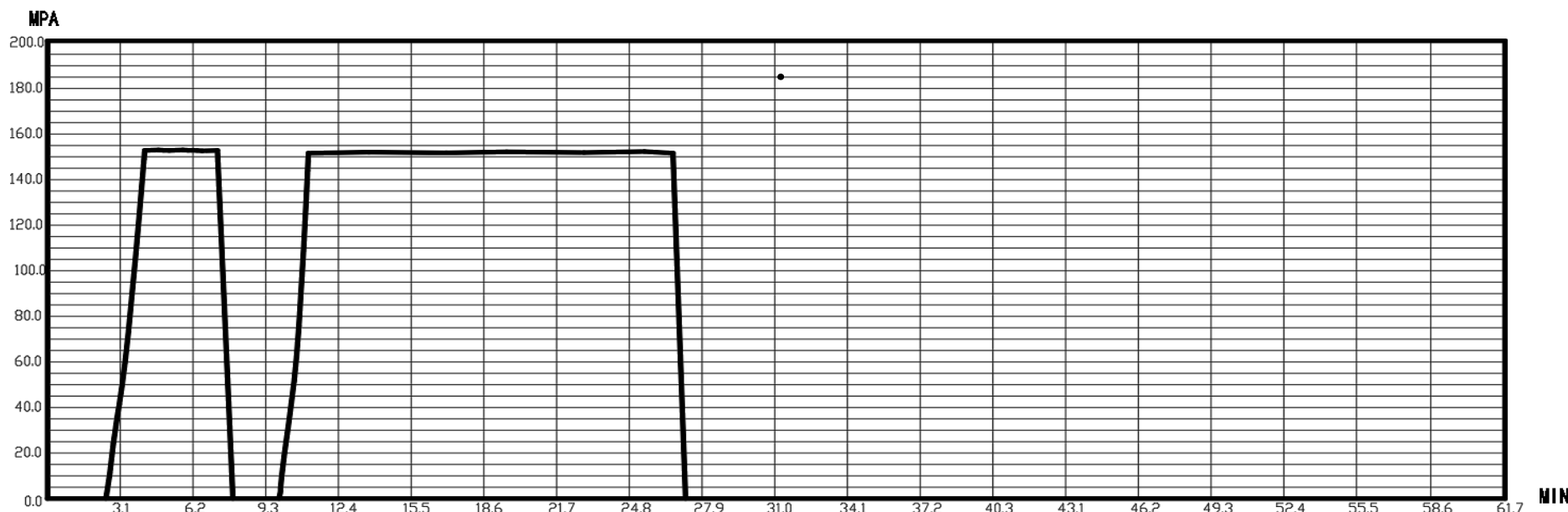




C&W International Fabricators

HYDRASTATIC TEST REPORT

Description:	SPACER SPOOL 7 1/16" 15M X 24" EE LU PSL3 PR1		Serial NO.:	ET2022301-13-11	
Item	Pressure (Mpa)	Method (Min)	Result	Date:	2023.03.11
BODY TEST	155.6MPa	HOLDINGPERIOD 3	Acceptable	Start Time	08: 36: 36
BODY TEST	155.8MPa	HOLDINGPERIOD 15	Acceptable	End Time	09: 00: 53



Gage SN :	TTA-032	Test Spec:	API6A/PSL3
Test Medium:	Water	Test Temp. :	ROOM

No visible leakage shall occur each holding period

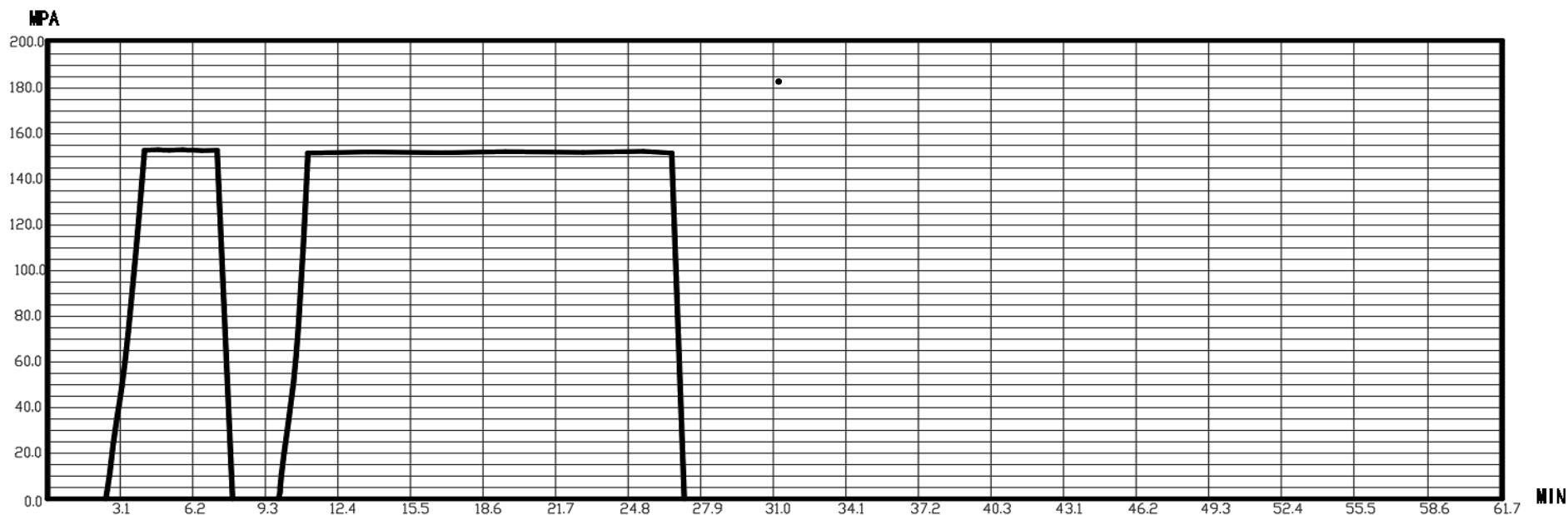
Checker: 朱宇 Date: 2023.03.11



C&W International Fabricators

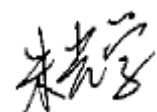
HYDRASTATIC TEST REPORT

Description:	SPACER SPOOL 7 1/16" 15M X 24" EE LU PSL3 PR1		Serial NO.:	ET2022301-13-12	
Item	Pressure (Mpa)	Method (Min)	Result	Date:	2023.03.11
BODY TEST	155.5MPa	HOLDINGPERIOD 3	Acceptable	Start Time	09: 26: 14
BODY TEST	155.8MPa	HOLDINGPERIOD 15	Acceptable	End Time	09: 50: 39



Gage SN :	TTA-032	Test Spec:	API6A/PSL3
Test Medium:	Water	Test Temp.:	ROOM

No visible leakage shall occur each holding period

Checker:  Date: 2023.03.11



C&W International Fabricators

REPORT INDEX

Purchase Order: **ET2022301-14**

Quantity: **8 EA**

Shipment No. :

Shipment Date:

Activity No.	Characteristics	Reference Page
1.1	SPACER SPOOL 7 1/16" 15M X 18"	Page-2
1.1.1	Metallurgical Test Certificate	Page-2
1.1.2	Mechanical Testing	Page-2
1.1.3	Chemical Testing	Page-2
1.1.4	Heat Treatment	Page-2
2.1	Hardness Test	Page-3
2.2	Ultrasonic Testing	Page-4
2.3	Magnetic Particle Inspection Report	Page-5
3.0	Hydrostatic Test Report	Page-6



C&W International Fabricators

METALLURGICAL TEST CERTIFICATE

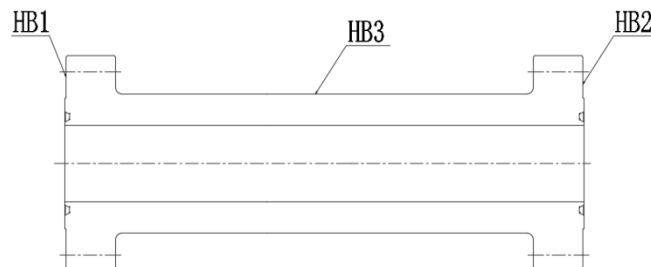
Serial No. :	ET2022301-14-13...20	PO# :	ET2022301-14	Date:	2023-04-15							
Part No:	SS715-18	API Monogram:	YES	Report#:	2023041504							
Specification:	API Spec 6A/ASTM A370	Material:	4130 75k per ASTM A29									
Description:	SPACER SPOOL 7 1/16" 15M X 18" EE LU PSL3 PR1			Qty:	8 EA							
TEST CONDITION												
Test Bar Size:	QTC, 4" x 4" x 8"		Bar Di:	12.7 mm (0.5")								
Melt Practice	EF + LF + VD		Reduction Ratio Min:	5:1								
Yield Stress	0.2% offset		Gauge Length	50.8mm								
CHEMICAL COMPOSITION												
Mill No. :	Qty	Test No.	C	Mn	Si	S	P	Ni	Cu	Mo	Cr	V
Spec Min			0.28	0.40	0.15	/	/	/	/	0.15	0.80	/
Spec Max			0.33	0.60	0.35	0.025	0.025	0.50	0.35	0.25	1.10	0.30
2087148Z	12	1	0.300	0.540	0.260	0.005	0.011	0.050	0.060	0.160	1.060	0.006
MECHANICAL COMPOSITION												
Heat Lot No.	QTY.	Test No.	Yield Strength (Kpsi)	Tensile Strength (Kpsi)	Elongation%	Reduction of Area%	Hardness HB	10mm X 10mm Charpy J (ft. lb) At -46° c	Minimum Lateral	Shear Fraction		
Spec Min			75K	95K	18.0	35.0	197	27J				
Spec Max			/	/	/	/	235	/				
TM2302250301	8	2	79.5K	99.0K	28.5	50.5	222	40;48;55				
HEAT TREATMENT												
Forgings:	5:1		Test Bar (OTC)									
Normalized:	900°C 6 HRS		Normalized:	900°C 6 HRS								
Austenitized:	860°C 6 HRS		Austenitized:	860°C 6 HRS								
Quenchant:	Water		Quenchant:	Water								
Start Temp:	28 °C		Start Temp:	28 °C								
End Temp:	46 °C		End Temp:	46 °C								
Temper:	660°C 9 HRS AIR		Temper:	660°C 9 HRS AIR								
We hereby certify that all test results and procedure information contained herein are correct and true as in contained the records of the company and also no welding or weld repair was performed on subject parts.												
Inspected by:	杨海		Approved by:	林武								



Hardness Test Report

[illegible]

Sketch:



Method Used:	Impact Energy:3000Kg. Diameter of steel ball:10mm		
Acceptable Hardness	197HBW-235HBW	Inspected by:	Approved by:
Judgments:	[V] Conform	刘永友	林清
	[] Do not conform		

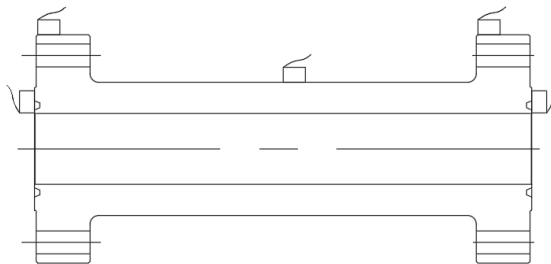


C&W International Fabricators

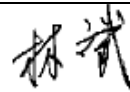
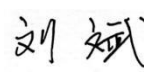
ULTRASONIC EXAMINATION REPORT

Serial No. :		ET2022301-14-13...20		PO# :		ET2022301-14		Date:		2023-04-15	
Part No:		SS715-18		API Monogram:		YES		Report#:		2023041504	
Specification:		API Spec 6A/ASTM A388		Material:		4130 75k per ASTM A29					
Description:		SPACER SPOOL 7 1/16" 15M X 18" EE LU PSL3 PR1						Qty:		8 EA	
Item	S/N		Heat Lot No.	Result	Item	S/N		Heat Lot No.	Result		
1	ET2022301-14-13		TM2302250301	Acceptable							
2	ET2022301-14-14		TM2302250301	Acceptable							
3	ET2022301-14-15		TM2302250301	Acceptable							
4	ET2022301-14-16		TM2302250301	Acceptable							
5	ET2022301-14-17		TM2302250301	Acceptable							
6	ET2022301-14-18		TM2302250301	Acceptable							
7	ET2022301-14-19		TM2302250301	Acceptable							
8	ET2022301-14-20		TM2302250301	Acceptable							

Sketch:



ABOVE FORGED ARE ULTRASONICALLY TESTED FOR INTERNAL DEFECTS USSING FLAT-BOTTOM HOLE PROCEDURE;
NO RECORDABLE INDICATION OBSERVED DURING THE TEST. HENCE ACCEPTABLE AS PER STANDARD.

UT Code:ASTM A388	Technique:Straight/Contact	Examined BY:	Approved by:
Exam.Stage: After heat treatment	Calibration Block:CSK IA	 Lin Bin Level as per UT II	 Bin Liu Level as per UT III
Equipment:CTS-2020	Couplant: OIL		
Probe Used :Straight Probe2.5MHz Φ 24mm DIA	Acceptance Criteria: API 6A PSL 3		
Equipment Calibration Date :2022.09.10	Test Gain:20db + 5 db		
Equipment Due Date: 2023.09.09			



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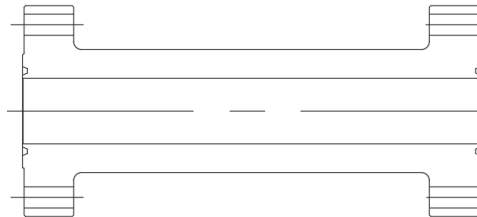
Magnetic Particle Inspection Report

Serial No. :	ET2022301-14-13...20	PO# :	ET2022301-14	Date:	2023-04-15
Part No:	SS715-18	API Monogram:	YES	Report#:	2023041504
Specification:	API Spec 6A/ASTM E709	Material:	4130 75k per ASTM A29		
Description:	SPACER SPOOL 7 1/16" 15M X 18" EE LU PSL3 PR1			Qty:	8 EA

Item	S/N	Heat Lot No.	Result	Item	S/N	Heat Lot No.	Result
1	ET2022301-14-13	TM2302250301	Acceptable				
2	ET2022301-14-14	TM2302250301	Acceptable				
3	ET2022301-14-15	TM2302250301	Acceptable				
4	ET2022301-14-16	TM2302250301	Acceptable				
5	ET2022301-14-17	TM2302250301	Acceptable				
6	ET2022301-14-18	TM2302250301	Acceptable				
7	ET2022301-14-19	TM2302250301	Acceptable				
8	ET2022301-14-20	TM2302250301	Acceptable				

Sketch/Inspection Coverage:

1



Fluorescent magnetic particle inspection was performed on all accessible wetted/sealing surface with acceptable results

Evaluation & Disposition : Found to be satisfactory.

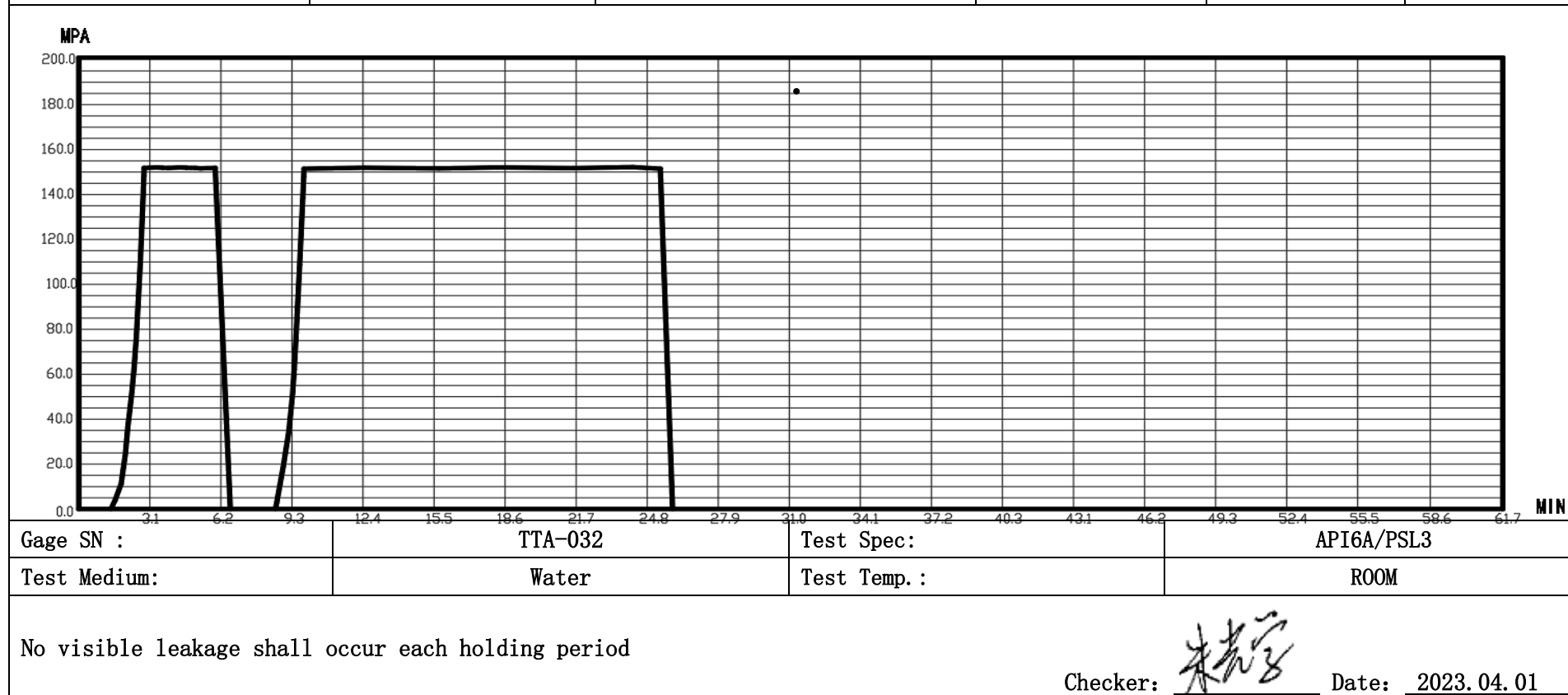
Equipment	CJD-9000	MT Code	ASTM E709	Examined	Approved
Test Method	Fulcrum [] Cable1 [✓]	Particle Type	Fluorescence Wet	BY: Lin Bin	by: Ye
Exam. Stage	Rough After Ra $\leq$ 6.3 μ m	Test Piece	A1-30/100	Level as per	Zhenghao Level as
Magnetizing time	1-3S	Circular AMPS/Turns	900A/1	MT II	per
Concentration	0.3ml/100ml	UV-Light Intensity	$\geq$ 1100Uw/C m ²		MT II



C&W International Fabricators

HYDRASTATIC TEST REPORT

Description:	SPACER SPOOL 7 1/16" 15M X 18" EE LU PSL3 PR1		Serial NO.:	ET2022301-14-13	
Item	Pressure (Mpa)	Method (Min)	Result	Date:	2023.04.01
BODY TEST	155.8MPa-155.7MPa	HOLDINGPERIOD 3	Acceptable	Start Time	09: 44: 02
BODY TEST	155.7MPa-155.5MPa	HOLDINGPERIOD 15	Acceptable	End Time	10: 08: 30

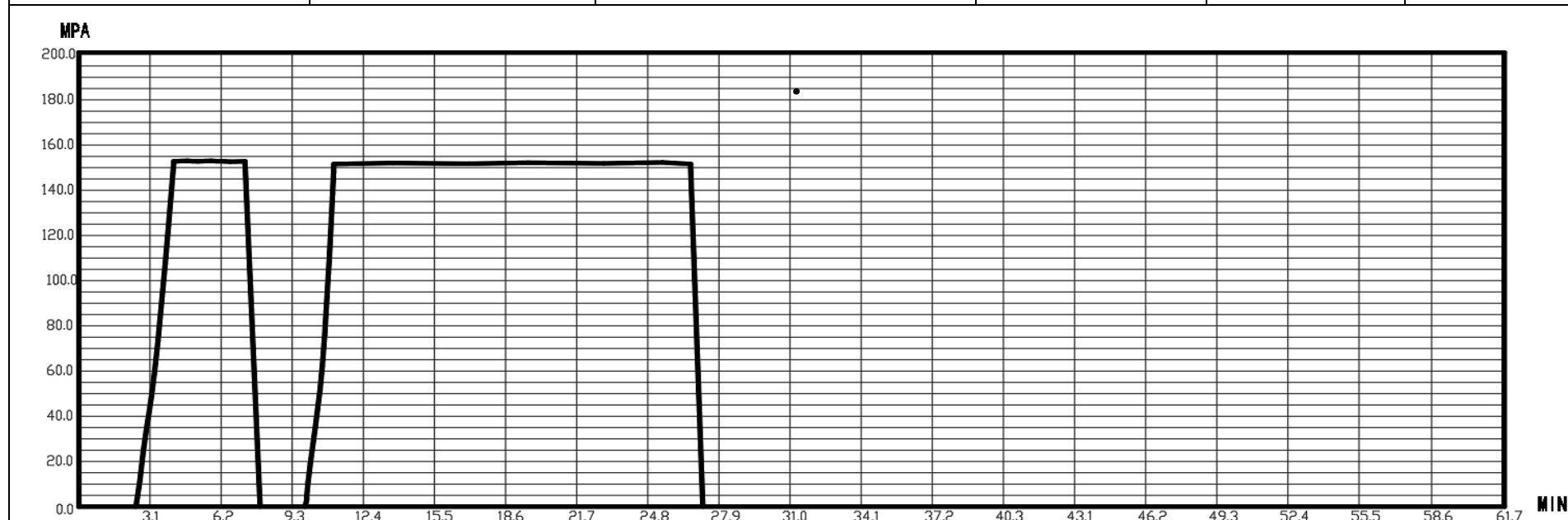




C&W International Fabricators

HYDRASTATIC TEST REPORT

Description:	SPACER SPOOL 7 1/16" 15M X 18" EE LU PSL3 PR1		Serial NO.:	ET2022301-14-14	
Item	Pressure (Mpa)	Method (Min)	Result	Date:	2023.04.01
BODY TEST	155.6MPa-155.5MPa	HOLDINGPERIOD 3	Acceptable	Start Time	10: 51: 32
BODY TEST	156.0MPa-155.5MPa	HOLDINGPERIOD 15	Acceptable	End Time	11: 15: 57



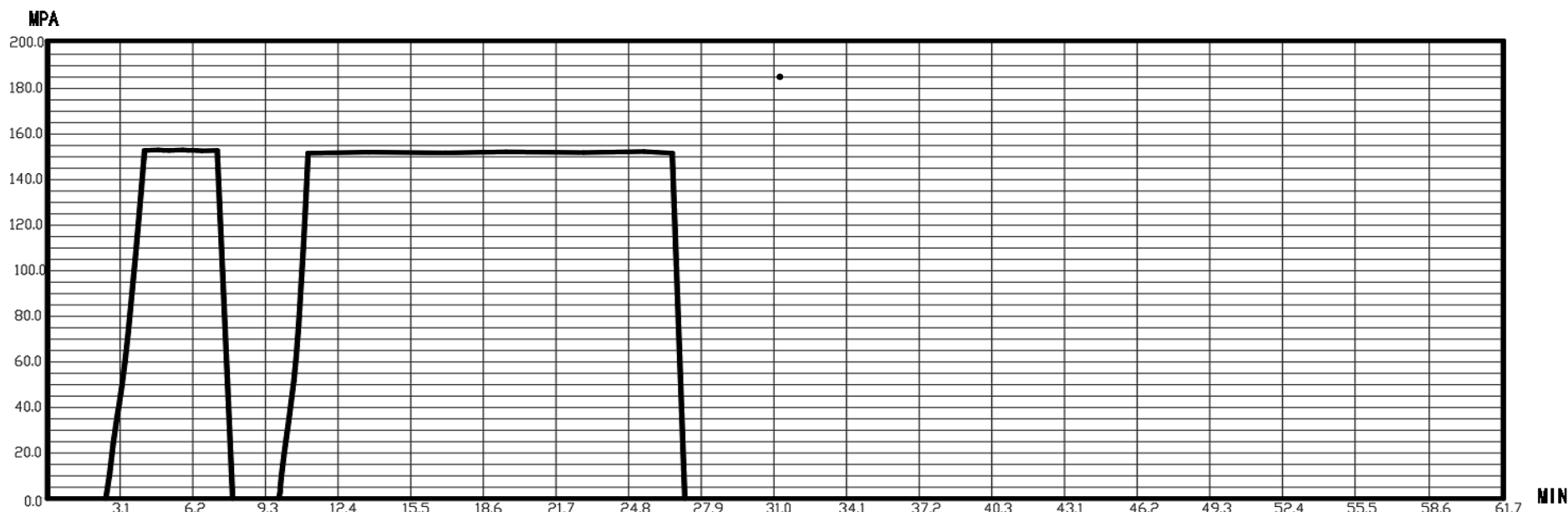
Gage SN :	TTA-032	Test Spec:	API6A/PSL3
Test Medium:	Water	Test Temp.:	ROOM
No visible leakage shall occur each holding period			
Checker:		Date: 2023.04.01	



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HYDRASTATIC TEST REPORT

Description:	SPACER SPOOL 7 1/16" 15M X 18" EE LU PSL3 PR1		Serial NO.:	ET2022301-14-15	
Item	Pressure (Mpa)	Method (Min)	Result	Date:	2023.04.01
BODY TEST	155.7MPa-155.5MPa	HOLDINGPERIOD 3	Acceptable	Start Time	12: 37: 08
BODY TEST	155.9MPa-155.6MPa	HOLDINGPERIOD 15	Acceptable	End Time	13: 01: 32



Gage SN :	TTA-032	Test Spec:	API6A/PSL3
Test Medium:	Water	Test Temp.:	ROOM

No visible leakage shall occur each holding period

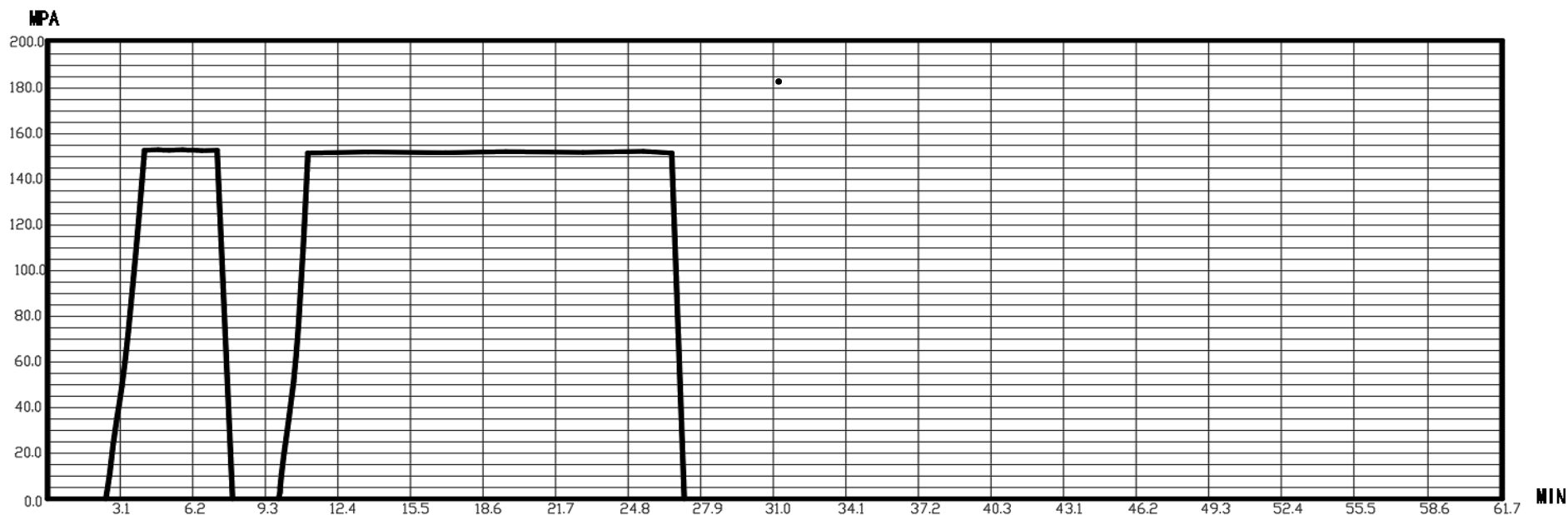
Checker: 朱宇 Date: 2023.04.01



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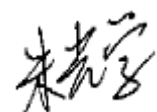
HYDRASTATIC TEST REPORT

Description:	SPACER SPOOL 7 1/16" 15M X 18" EE LU PSL3 PR1		Serial NO.:	ET2022301-14-16	
Item	Pressure (Mpa)	Method (Min)	Result	Date:	2023.04.01
BODY TEST	155.8MPa-155.5MPa	HOLDINGPERIOD 3	Acceptable	Start Time	14: 27: 18
BODY TEST	156.3MPa-155.7MPa	HOLDINGPERIOD 15	Acceptable	End Time	14: 51: 42



Gage SN :	TTA-032	Test Spec:	API6A/PSL3
Test Medium:	Water	Test Temp.:	ROOM

No visible leakage shall occur each holding period

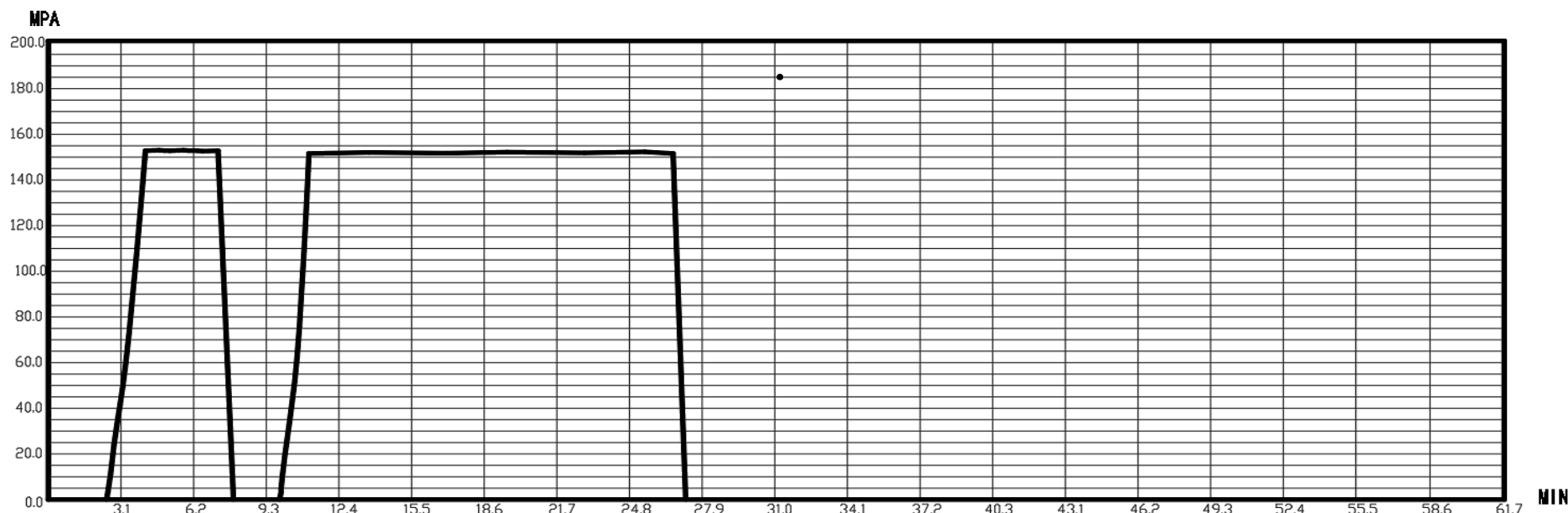
Checker:  Date: 2023.04.01



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HYDRASTATIC TEST REPORT

Description:	SPACER SPOOL 7 1/16" 15M X 18" EE LU PSL3 PR1		Serial NO.:	ET2022301-14-17	
Item	Pressure (Mpa)	Method (Min)	Result	Date:	2023.04.01
BODY TEST	155.8MPa-155.6MPa	HOLDINGPERIOD 3	Acceptable	Start Time	15: 16: 42
BODY TEST	155.9MPa-155.6MPa	HOLDINGPERIOD 15	Acceptable	End Time	15: 40: 59



Gage SN :	TTA-032	Test Spec:	API6A/PSL3
Test Medium:	Water	Test Temp.:	ROOM

No visible leakage shall occur each holding period

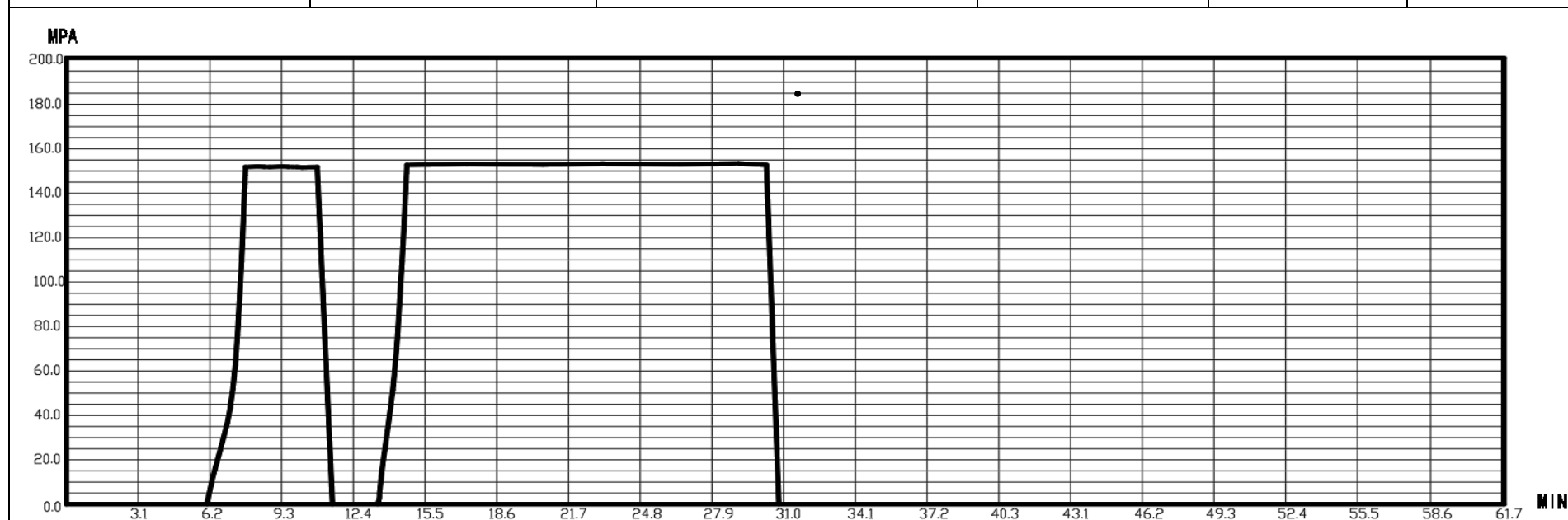
Checker: 朱宇 Date: 2023.04.01



C&W International Fabricators

HYDRASTATIC TEST REPORT

Description:	SPACER SPOOL 7 1/16" 15M X 18" EE LU PSL3 PR1		Serial NO.:	ET2022301-14-18	
Item	Pressure (Mpa)	Method (Min)	Result	Date:	2023.04.01
BODY TEST	155.9MPa-155.5MPa	HOLDINGPERIOD 3	Acceptable	Start Time	16: 04: 11
BODY TEST	155.9MPa-155.6MPa	HOLDINGPERIOD 15	Acceptable	End Time	16: 29: 38



Gage SN :	TTA-032	Test Spec:	API6A/PSL3
Test Medium:	Water	Test Temp.:	ROOM

No visible leakage shall occur each holding period

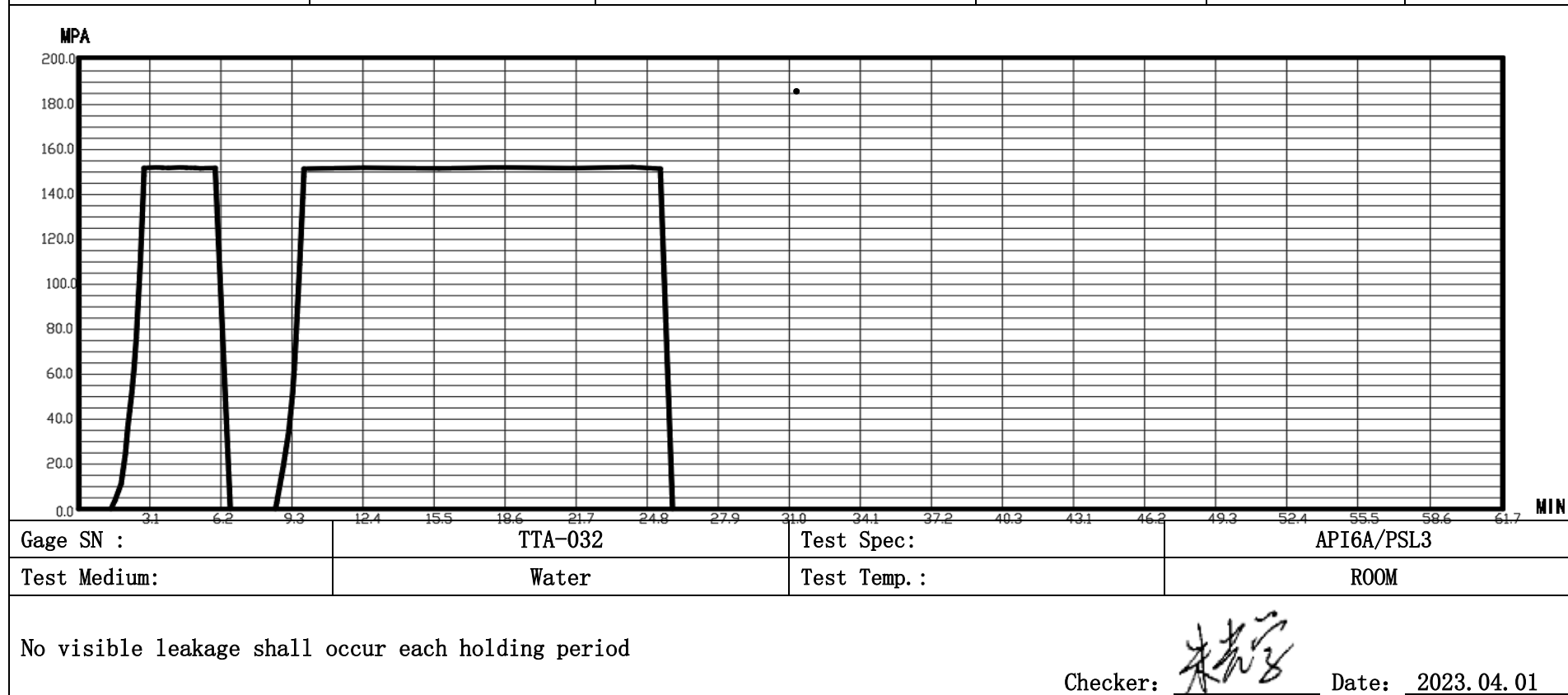
Checker: 朱宇 Date: 2023.04.01



C&W International Fabricators

HYDRASTATIC TEST REPORT

Description:	SPACER SPOOL 7 1/16" 15M X 18" EE LU PSL3 PR1		Serial NO.:	ET2022301-14-19	
Item	Pressure (Mpa)	Method (Min)	Result	Date:	2023.04.01
BODY TEST	155.8MPa-155.6MPa	HOLDINGPERIOD 3	Acceptable	Start Time	17: 44: 08
BODY TEST	155.7MPa-155.5MPa	HOLDINGPERIOD 15	Acceptable	End Time	18: 08: 27

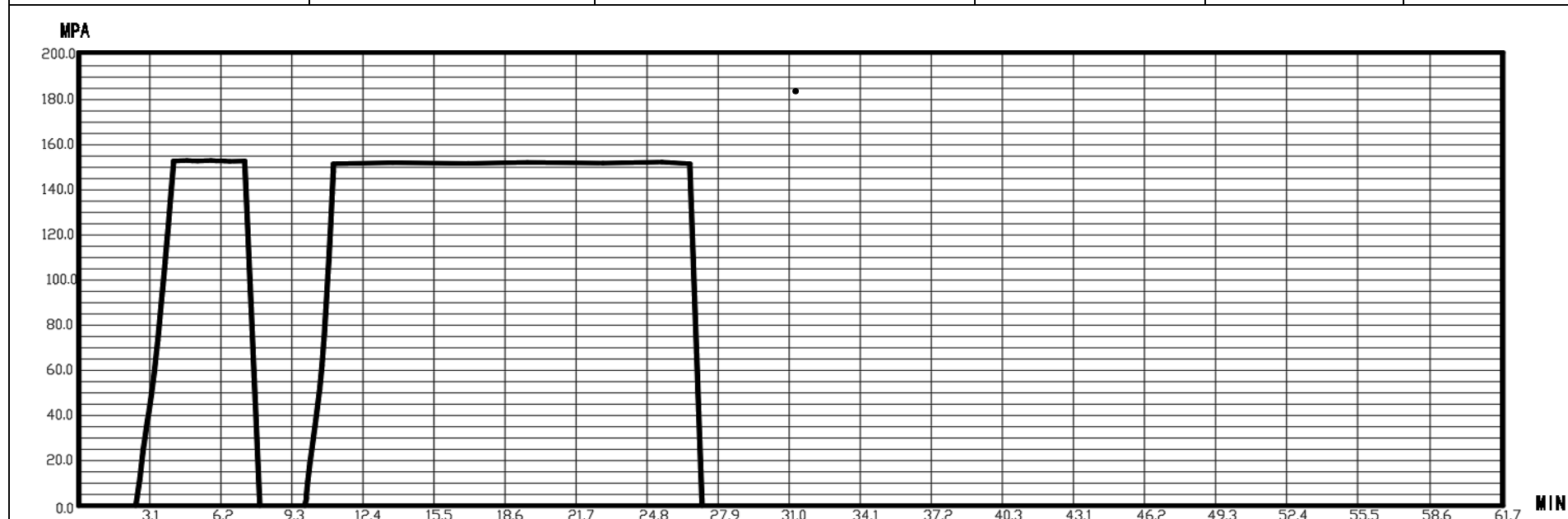


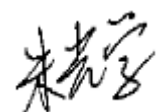


C&W International Fabricators

HYDRASTATIC TEST REPORT

Description:	SPACER SPOOL 7 1/16" 15M X 18" EE LU PSL3 PR1		Serial NO.:	ET2022301-14-20	
Item	Pressure (Mpa)	Method (Min)	Result	Date:	2023.04.01
BODY TEST	155.9MPa-155.6MPa	HOLDINGPERIOD 3	Acceptable	Start Time	18: 51: 18
BODY TEST	155.8MPa-155.5MPa	HOLDINGPERIOD 15	Acceptable	End Time	19: 15: 42



Gage SN :	TTA-032	Test Spec:	API6A/PSL3
Test Medium:	Water	Test Temp.:	ROOM
No visible leakage shall occur each holding period			
Checker: 		Date: 2023.04.01	



C&W International Fabricators

REPORT INDEX

Purchase Order: **ET2022290-5**

Quantity: **10 EA**

Shipment No. :

Shipment Date:

Activity No.	Characteristics	Reference Page
1.1	SPACER SPOOL 7 1/16" 15M X 96"	Page-2
1.1.1	Metallurgical Test Certificate	Page-2
1.1.2	Mechanical Testing	Page-2
1.1.3	Chemical Testing	Page-2
1.1.4	Heat Treatment	Page-2
2.1	Hardness Test	Page-3
2.2	Ultrasonic Testing	Page-4
2.3	Magnetic Particle Inspection Report	Page-5



C&W International Fabricators

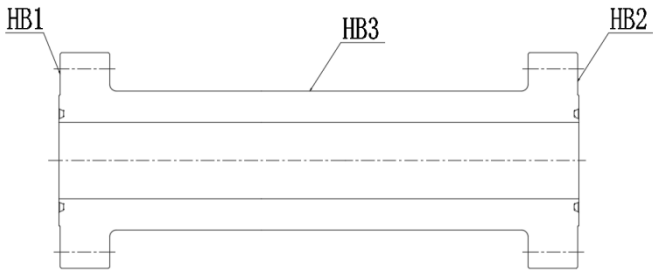
METALLURGICAL TEST CERTIFICATE

Serial No. :	ET2022290-5-01...10	PO# :	ET2022290	Date:	2023-02-08							
Part No:	SS715-96	API Monogram:	YES	Report#:	2023020805							
Specification:	API Spec 6A/ ASTM A370	Material:	4130 75k per ASTM A29									
Description:	SPACER SPOOL 7 1/16" 15M X 96" EE LU PSL3 PR1			Qty:	10 EA							
TEST CONDITION												
Test Bar Size:	QTC, 4" x 4" x 8"		Bar Di:	12.7 mm (0.5")								
Melt Practice	EF + LF + VD		Reduction Ratio Min:	5:1								
Yield Stress	0.2% offset		Gauge Length	50.8mm								
CHEMICAL COMPOSITION												
Mill No. :	Qty	Test No.	C	Mn	Si	S	P	Ni	Cu	Mo	Cr	V
Spec Min			0.28	0.40	0.15	/	/	/	/	0.15	0.80	/
Spec Max			0.33	0.60	0.35	0.025	0.025	0.50	0.35	0.25	1.10	0.30
220608681	20	1	0.310	0.550	0.230	0.008	0.010	0.020	0.030	0.190	1.020	0.006
MECHANICAL COMPOSITION												
Heat Lot No.	QTY.	Test No.	Yield Strength (Kpsi)	Tensile Strength (Kpsi)	Elongation%	Reduction of Area%	Hardness HB	10mm X 10mm Charpy J (ft. lb) At -46° c	Minimum Lateral	Shear Fraction		
Spec Min			75K	95K	18.0	35.0	197	27J				
Spec Max			/	/	/	/	235	/				
TM2212160201	5	1	78.0K	101.0K	47.5	65.5	210	51;57;69				
TM2212180201	5	1	79.5K	102.5K	51.5	68.0	215	32;41;48				
HEAT TREATMENT												
Forgings:	5:1		Test Bar (OTC)									
Normalized:	900°C 5 HRS		Normalized:									
Austenitized:	860°C 5 HRS		Austenitized:									
Quenchant:	Water		Quenchant:									
Start Temp:	23 °C		Start Temp:									
End Temp:	32 °C		End Temp:									
Temper:	660°C 7 HRS AIR		Temper:									
We hereby certify that all test results and procedure information contained herein are correct and true as in contained the records of the company and also no welding or weld repair was performed on subject parts.												
Inspected by:	张金龙		Approved by:		徐根							



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Hardness Test Report

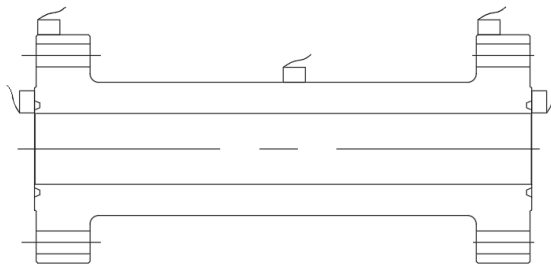
Serial No. :	ET2022290-5-01...10	P0# :	ET2022290	Date:	2023-02-08					
Part No:	SS715-96	API Monogram:	YES	Report#:	2023020805					
Specification:	API Spec 6A/ ASTM E10	Material:	4130 75k per ASTM A29							
Description:	SPACER SPOOL 7 1/16" 15M X 96" EE LU PSL3 PR1				Qty: 10 EA					
Item	S/N	Heat Lot No.	HB1	HB2	HB3	HB4	HB5	HB6	HB7	HB8
1	ET2022290-5-01	TM2212160201	217	215	215					
2	ET2022290-5-02	TM2212160201	223	221	221					
3	ET2022290-5-03	TM2212160201	221	217	219					
4	ET2022290-5-04	TM2212160201	225	223	221					
5	ET2022290-5-05	TM2212160201	217	221	219					
6	ET2022290-5-06	TM2212180201	221	223	221					
7	ET2022290-5-07	TM2212180201	217	221	219					
8	ET2022290-5-08	TM2212180201	221	223	221					
9	ET2022290-5-09	TM2212180201	223	225	223					
10	ET2022290-5-10	TM2212180201	221	223	221					
Sketch:										
										
Method Used:	Impact Energy:3000Kg. Diameter of steel ball:10mm									
Acceptable Hardness	197HBW-235HBW		Inspected by:				Approved by:			
Judgments:	[V] Conform		刘永良				徐俊			
	[] Do not conform									



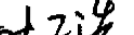
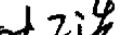
ULTRASONIC EXAMINATION REPORT

[illegible]

Sketch:



ABOVE FORGED ARE ULTRASONICALLY TESTED FOR INTERNAL DEFECTS USSING FLAT-BOTTOM HOLE PROCEDURE;
NO RECORDABLE INDICATION OBSERVED DURING THE TEST. HENCE ACCEPTABLE AS PER STANDARD.

UT Code:ASTM A388	Technique:Straight/Contact	Examined BY:	Approved by:
Exam.Stage: After heat treatment	Calibration Block:CSK IA	 	
Equipment:CTS-2020	Couplant: OIL		
Probe Used :2.5Pφ10	Acceptance Criteria: API 6A PSL 3		
Equipment Calibration Date :2022.09.10	Test Gain:20db + 5 db		
Equipment Due Date: 2023.09.09			
		Level as per UT II	Level as per UT II



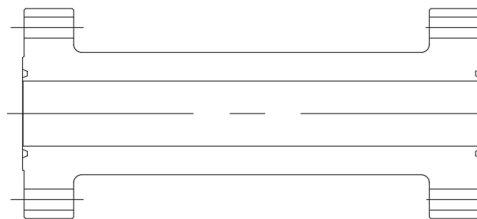
C&W International Fabricators

Magnetic Particle Inspection Report

Serial No. :	ET2022290-5-01...10	PO# :	ET2022290	Date:	2023-02-08
Part No:	SS715-96	API Monogram:	YES	Report#:	2023020805
Specification:	API Spec 6A/ ASTM E709	Material:	4130 75k per ASTM A29		
Description:	SPACER SPOOL 7 1/16" 15M X 96" EE LU PSL3 PR1				Qty: 10 EA

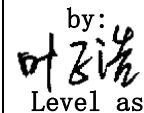
Item	S/N	Heat Lot No.	Result	Item	S/N	Heat Lot No.	Result
1	ET2022290-5-01	TM2212160201	Acceptable				
2	ET2022290-5-02	TM2212160201	Acceptable				
3	ET2022290-5-03	TM2212160201	Acceptable				
4	ET2022290-5-04	TM2212160201	Acceptable				
5	ET2022290-5-05	TM2212160201	Acceptable				
6	ET2022290-5-06	TM2212180201	Acceptable				
7	ET2022290-5-07	TM2212180201	Acceptable				
8	ET2022290-5-08	TM2212180201	Acceptable				
9	ET2022290-5-09	TM2212180201	Acceptable				
10	ET2022290-5-10	TM2212180201	Acceptable				

Sketch/Inspection Coverage:



Fluorescent magnetic particle inspection was performed on all accessible wetted/sealing surface with acceptable results

Evaluation & Disposition : Found to be satisfactory.

Equipment	CJD-9000	MT Code	ASTM E709	Examined BY:  Level as per MT II	Approved by:  Level as per MT II
Test Method	Fulcrum [] Cable1 [√]	Particle Type	Fluorescence Wet		
Exam. Stage	Rough After Ra ≤ 6.3μm	Test Piece	A1-30/100		
Magnetizing time	1-3S	Circular AMPS/Turns	900A/1		
Concentration	0.3ml/100ml	UV-Light Intensity	≥1000Uw/C m²		



C&W International Fabricators

REPORT INDEX

Purchase Order: **ET2022301-14**

Quantity: **12 EA**

Shipment No. :

Shipment Date:

Activity No.	Characteristics	Reference Page
1.1	SPACER SPOOL 7 1/16" 15M X 18"	Page-2
1.1.1	Metallurgical Test Certificate	Page-2
1.1.2	Mechanical Testing	Page-2
1.1.3	Chemical Testing	Page-2
1.1.4	Heat Treatment	Page-2
2.1	Hardness Test	Page-3
2.2	Ultrasonic Testing	Page-4
2.3	Magnetic Particle Inspection Report	Page-5
3.0	Hydrostatic Test Report	Page-6



C&W International Fabricators

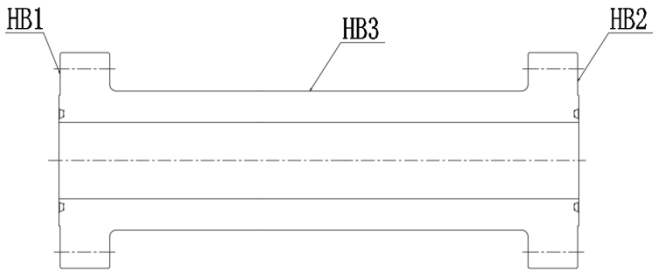
METALLURGICAL TEST CERTIFICATE

Serial No. :	ET2022301-14-01...12	PO# :	ET2022301-14	Date:	2023-03-07							
Part No:	SS715-18	API Monogram:	YES	Report#:	2023030708							
Specification:	API Spec 6A/ASTM A370	Material:	4130 75k per ASTM A29									
Description:	SPACER SPOOL 7 1/16" 15M X 18" EE LU PSL3 PR1			Qty:	12 EA							
TEST CONDITION												
Test Bar Size:	QTC, 4" x 4" x 8"		Bar Di:	12.7 mm (0.5")								
Melt Practice	EF + LF + VD		Reduction Ratio Min:	5:1								
Yield Stress	0.2% offset		Gauge Length	50.8mm								
CHEMICAL COMPOSITION												
Mill No. :	Qty	Test No.	C	Mn	Si	S	P	Ni	Cu	Mo	Cr	V
Spec Min			0.28	0.40	0.15	/	/	/	/	0.15	0.80	/
Spec Max			0.33	0.60	0.35	0.025	0.025	0.50	0.35	0.25	1.10	0.30
2087148Z	12	1	0.300	0.540	0.260	0.005	0.011	0.050	0.060	0.160	1.060	0.006
MECHANICAL COMPOSITION												
Heat Lot No.	QTY.	Test No.	Yield Strength (Kpsi)	Tensile Strength (Kpsi)	Elongation%	Reduction of Area%	Hardness HB	10mm X 10mm Charpy J (ft. lb) At -46° c	Minimum Lateral	Shear Fraction		
Spec Min			75K	95K	18.0	35.0	197	27J				
Spec Max			/	/	/	/	235	/				
TM2302110301	10	1	78.6K	98.5K	27.0	56.3	223	56;69;78				
TM2302250301	2	2	79.5K	99.0K	28.5	50.5	222	40;48;55				
HEAT TREATMENT												
Forgings:	5:1		Test Bar (OTC)									
Normalized:	900°C 6 HRS		Normalized:									
Austenitized:	860°C 6 HRS		Austenitized:									
Quenchant:	Water		Quenchant:									
Start Temp:	28 °C		Start Temp:									
End Temp:	46 °C		End Temp:									
Temper:	660°C 9 HRS AIR		Temper:									
We hereby certify that all test results and procedure information contained herein are correct and true as in contained the records of the company and also no welding or weld repair was performed on subject parts.												
Inspected by:	张金龙		Approved by:		徐俊							



C&W International Fabricators

Hardness Test Report

Serial No. :	ET2022301-14-01...12	PO# :	ET2022301-14	Date:	2023-03-07					
Part No:	SS715-18	API Monogram:	YES	Report#:	2023030708					
Specification:	API Spec 6A/ASTM E10	Material:	4130 75k per ASTM A29							
Description:	SPACER SPOOL 7 1/16" 15M X 18" EE LU PSL3 PR1				Qty: 12 EA					
Item	S/N	Heat Lot No.	HB1	HB2	HB3	HB4	HB5	HB6	HB7	HB8
1	ET2022301-14-01	TM2302110301	232	231	230					
2	ET2022301-14-02	TM2302110301	229	229	225					
3	ET2022301-14-03	TM2302110301	225	223	225					
4	ET2022301-14-04	TM2302110301	231	229	228					
5	ET2022301-14-05	TM2302110301	229	231	230					
6	ET2022301-14-06	TM2302110301	225	229	225					
7	ET2022301-14-07	TM2302110301	235	231	230					
8	ET2022301-14-08	TM2302110301	231	229	228					
9	ET2022301-14-09	TM2302110301	229	225	222					
10	ET2022301-14-10	TM2302110301	231	229	228					
11	ET2022301-14-11	TM2302250301	205	223	215					
12	ET2022301-14-12	TM2302250301	229	231	230					
Sketch:										
										
Method Used:	Impact Energy:3000Kg. Diameter of steel ball:10mm									
Acceptable Hardness	197HBW-235HBW		Inspected by:				Approved by:			
Judgments:	[V] Conform		刘永良				徐根			
	[] Do not conform									

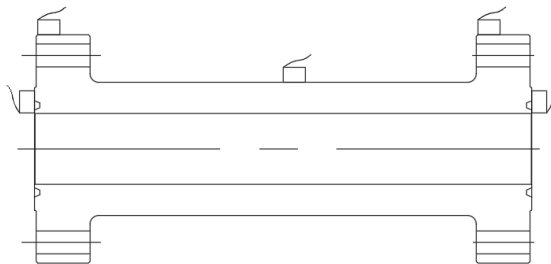


C&W International Fabricators

ULTRASONIC EXAMINATION REPORT

Serial No. :		ET2022301-14-01...12		PO# :		ET2022301-14		Date:		2023-03-07			
Part No:		SS715-18		API Monogram:		YES		Report#:		2023030708			
Specification:		API Spec 6A/ASTM A388		Material:		4130 75k per ASTM A29							
Description:		SPACER SPOOL 7 1/16" 15M X 18" EE LU PSL3 PR1							Qty:		12 EA		
Item	S/N		Heat Lot No.		Result		Item	S/N		Heat Lot No.		Result	
1	ET2022301-14-01		TM2302110301		Acceptable								
2	ET2022301-14-02		TM2302110301		Acceptable								
3	ET2022301-14-03		TM2302110301		Acceptable								
4	ET2022301-14-04		TM2302110301		Acceptable								
5	ET2022301-14-05		TM2302110301		Acceptable								
6	ET2022301-14-06		TM2302110301		Acceptable								
7	ET2022301-14-07		TM2302110301		Acceptable								
8	ET2022301-14-08		TM2302110301		Acceptable								
9	ET2022301-14-09		TM2302110301		Acceptable								
10	ET2022301-14-10		TM2302110301		Acceptable								
11	ET2022301-14-11		TM2302250301		Acceptable								
12	ET2022301-14-12		TM2302250301		Acceptable								

Sketch:



ABOVE FORGED ARE ULTRASONICALLY TESTED FOR INTERNAL DEFECTS USSING FLAT-BOTTOM HOLE PROCEDURE;
NO RECORDABLE INDICATION OBSERVED DURING THE TEST. HENCE ACCEPTABLE AS PER STANDARD.

UT Code:ASTM A388	Technique:Straight/Contact	Examined BY:	Approved by:
Exam. Stage: After heat treatment	Calibration Block:CSK IA		
Equipment:CTS-2020	Couplant: OIL		
Probe Used :2.5P φ10	Acceptance Criteria: API 6A PSL 3		
Equipment Calibration Date :2022.09.10	Test Gain:20db + 5 db		
Equipment Due Date: 2023.09.09		Level as per UT II	Level as per UT II



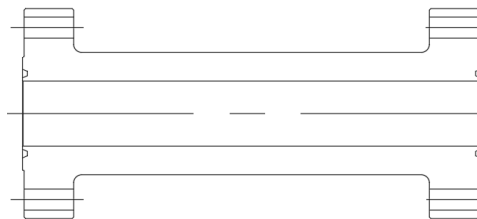
C&W International Fabricators

Magnetic Particle Inspection Report

Serial No. :	ET2022301-14-01...12	PO# :	ET2022301-14	Date:	2023-03-07
Part No:	SS715-18	API Monogram:	YES	Report#:	2023030708
Specification:	API Spec 6A/ASTM E709	Material:	4130 75k per ASTM A29		
Description:	SPACER SPOOL 7 1/16" 15M X 18" EE LU PSL3 PR1			Qty:	12 EA

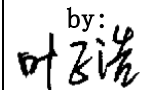
Item	S/N	Heat Lot No.	Result	Item	S/N	Heat Lot No.	Result
1	ET2022301-14-01	TM2302110301	Acceptable				
2	ET2022301-14-02	TM2302110301	Acceptable				
3	ET2022301-14-03	TM2302110301	Acceptable				
4	ET2022301-14-04	TM2302110301	Acceptable				
5	ET2022301-14-05	TM2302110301	Acceptable				
6	ET2022301-14-06	TM2302110301	Acceptable				
7	ET2022301-14-07	TM2302110301	Acceptable				
8	ET2022301-14-08	TM2302110301	Acceptable				
9	ET2022301-14-09	TM2302110301	Acceptable				
10	ET2022301-14-10	TM2302110301	Acceptable				
11	ET2022301-14-11	TM2302250301	Acceptable				
12	ET2022301-14-12	TM2302250301	Acceptable				

Sketch/Inspection Coverage:



Fluorescent magnetic particle inspection was performed on all accessible wetted/sealing surface with acceptable results

Evaluation & Disposition : Found to be satisfactory.

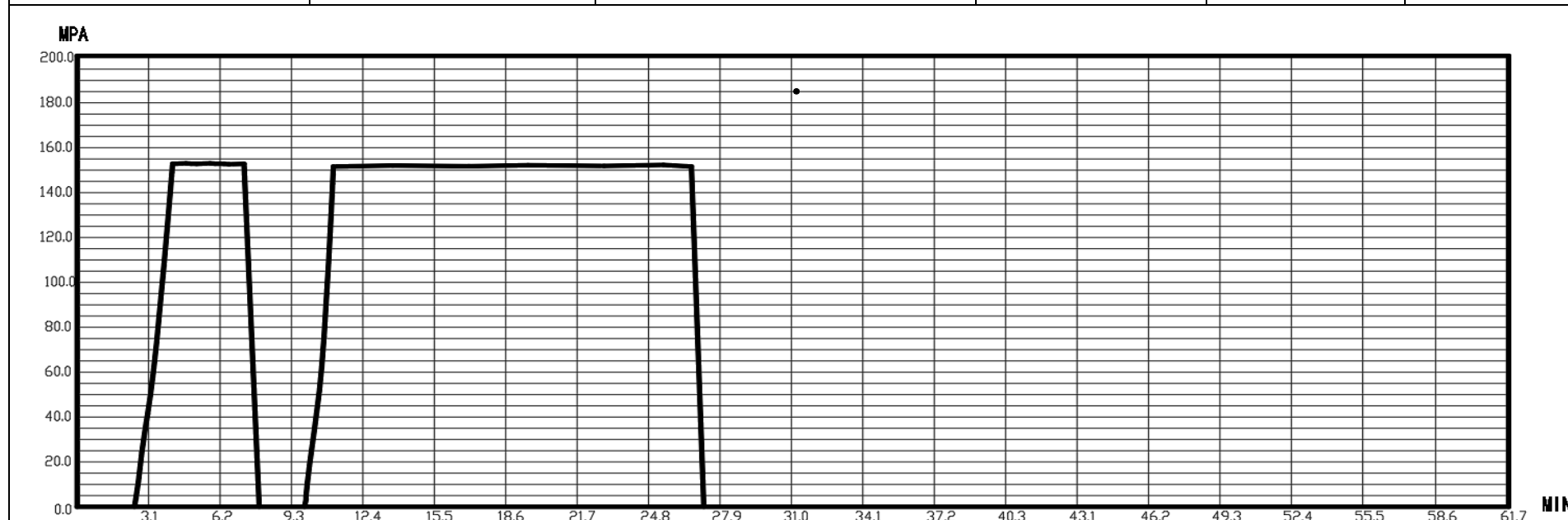
Equipment	CJD-9000	MT Code	ASTM E709	Examined BY:  Level as per MT II	Approved by:  Level as per MT II
Test Method	Fulcrum [] Cable1 [√]	Particle Type	Fluorescence Wet		
Exam. Stage	Rough After Ra ≤ 6.3μm	Test Piece	A1-30/100		
Magnetizing time	1-3S	Circular AMPS/Turns	900A/1		
Concentration	0.3ml/100ml	UV-Light Intensity	≥1000Uw/C m²		



C&W International Fabricators

HYDRASTATIC TEST REPORT

Description:	SPACER SPOOL 7 1/16" 15M X 18" EE LU PSL3 PR1		Serial NO.:	ET2022301-14-01	
Item	Pressure (Mpa)	Method (Min)	Result	Date:	2023.03.07
BODY TEST	155.9MPa	HOLDINGPERIOD 3	Acceptable	Start Time	08: 15: 03
BODY TEST	155.8MPa	HOLDINGPERIOD 15	Acceptable	End Time	08: 39: 36



Gage SN :	TTA-032	Test Spec:	API6A/PSL3
Test Medium:	Water	Test Temp. :	ROOM

No visible leakage shall occur each holding period

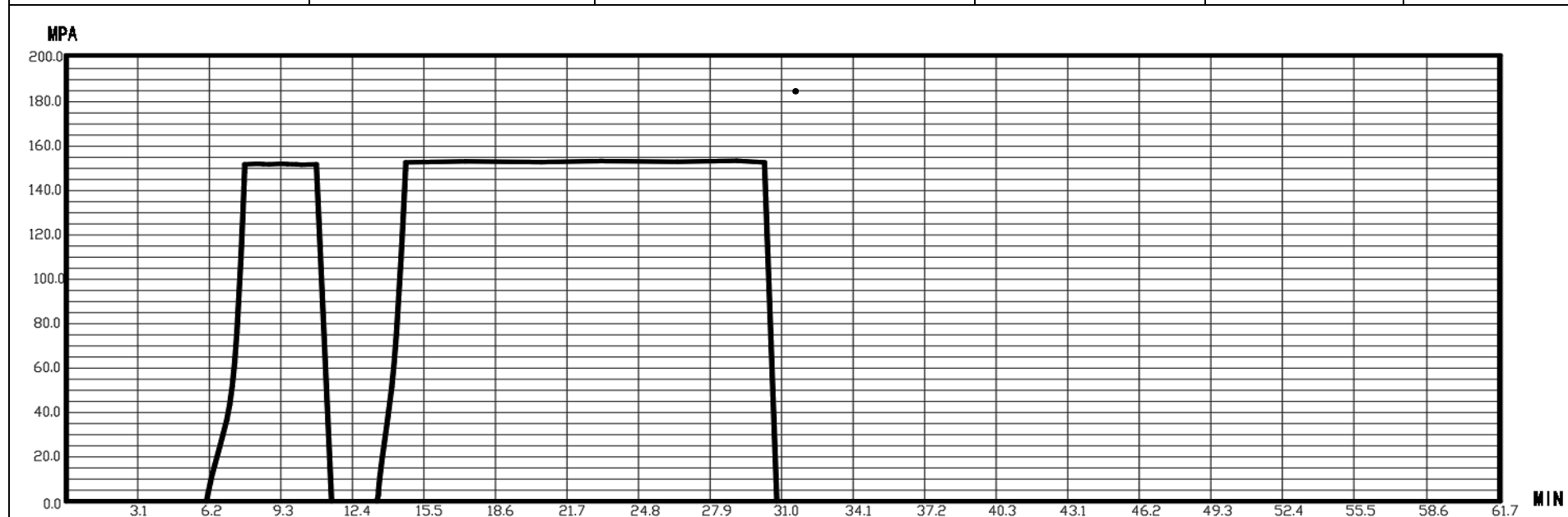
Checker: 朱宇 Date: 2023.03.07



C&W International Fabricators

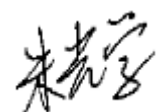
HYDRASTATIC TEST REPORT

Description:	SPACER SPOOL 7 1/16" 15M X 18" EE LU PSL3 PR1		Serial NO. :	ET2022301-14-02	
Item	Pressure (Mpa)	Method (Min)	Result	Date:	2023.03.07
BODY TEST	155.5MPa	HOLDINGPERIOD 3	Acceptable	Start Time	09: 03: 10
BODY TEST	155.8MPa	HOLDINGPERIOD 15	Acceptable	End Time	09: 28: 28



Gage SN :	TTA-032	Test Spec:	API6A/PSL3
Test Medium:	Water	Test Temp. :	ROOM

No visible leakage shall occur each holding period

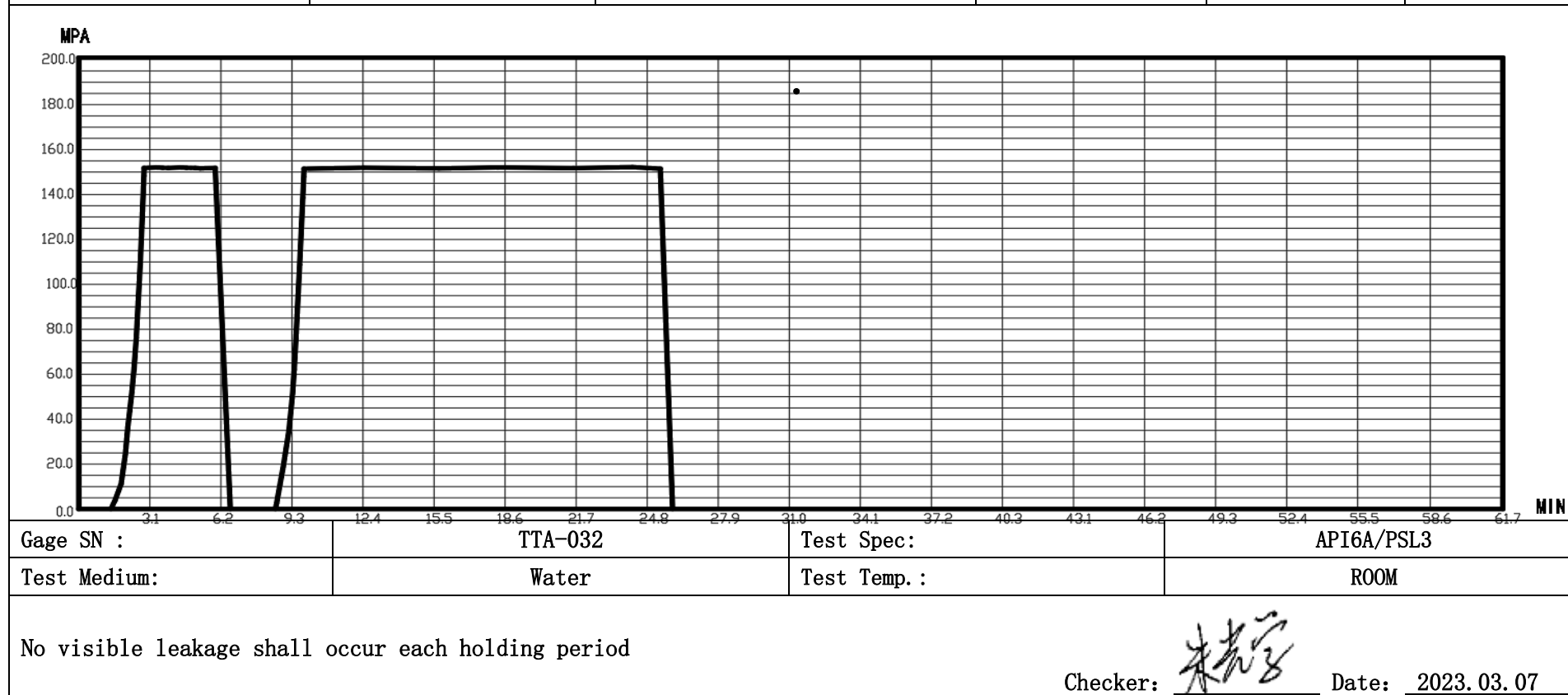
Checker:  Date: 2023.03.07



C&W International Fabricators

HYDRASTATIC TEST REPORT

Description:	SPACER SPOOL 7 1/16" 15M X 18" EE LU PSL3 PR1		Serial NO.:	ET2022301-14-03	
Item	Pressure (Mpa)	Method (Min)	Result	Date:	2023.03.07
BODY TEST	155.6MPa	HOLDINGPERIOD 3	Acceptable	Start Time	09: 43: 24
BODY TEST	155.7MPa	HOLDINGPERIOD 15	Acceptable	End Time	10: 07: 50

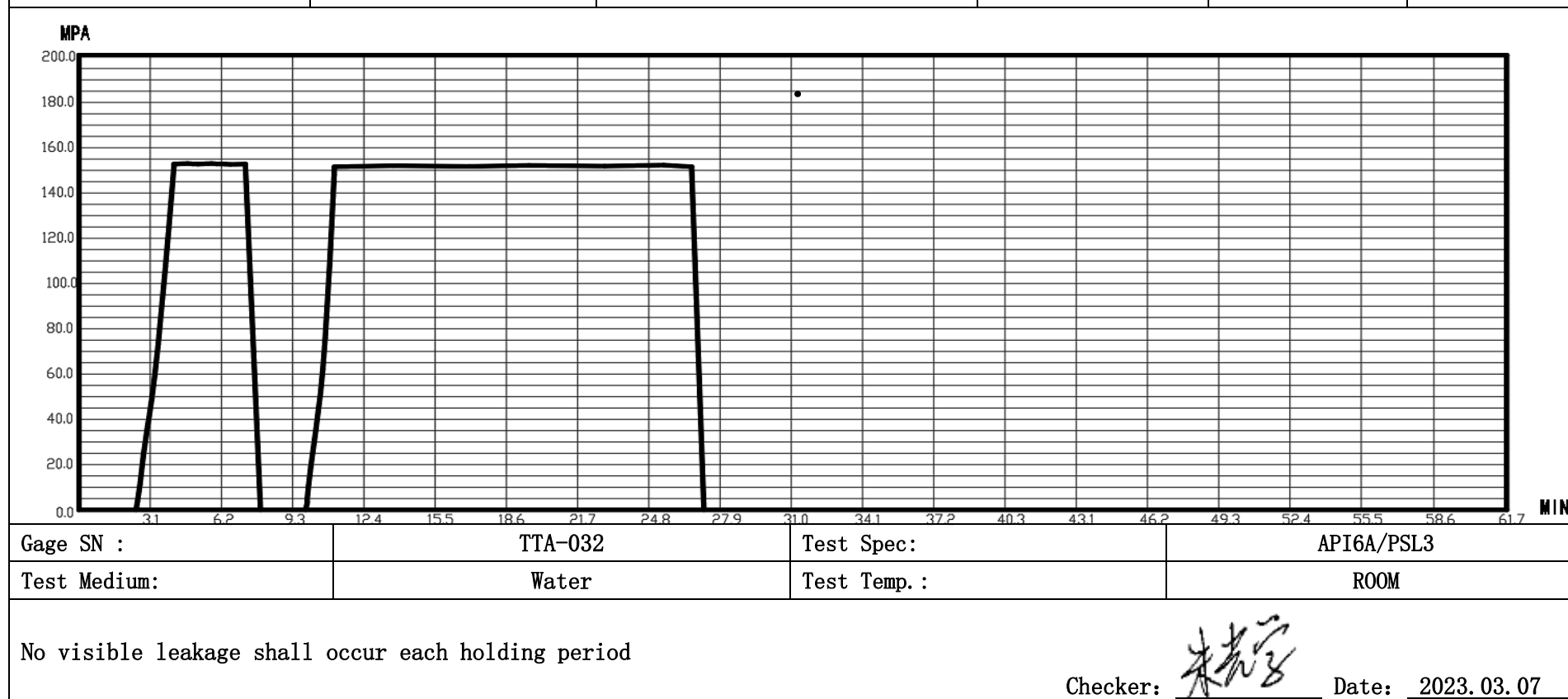




C&W International Fabricators

HYDRASTATIC TEST REPORT

Description:	SPACER SPOOL 7 1/16" 15M X 18" EE LU PSL3 PR1		Serial NO.:	ET2022301-14-04	
Item	Pressure (Mpa)	Method (Min)	Result	Date:	2023.03.07
BODY TEST	155.6MPa	HOLDINGPERIOD 3	Acceptable	Start Time	10: 50: 26
BODY TEST	155.5MPa	HOLDINGPERIOD 15	Acceptable	End Time	11: 14: 50

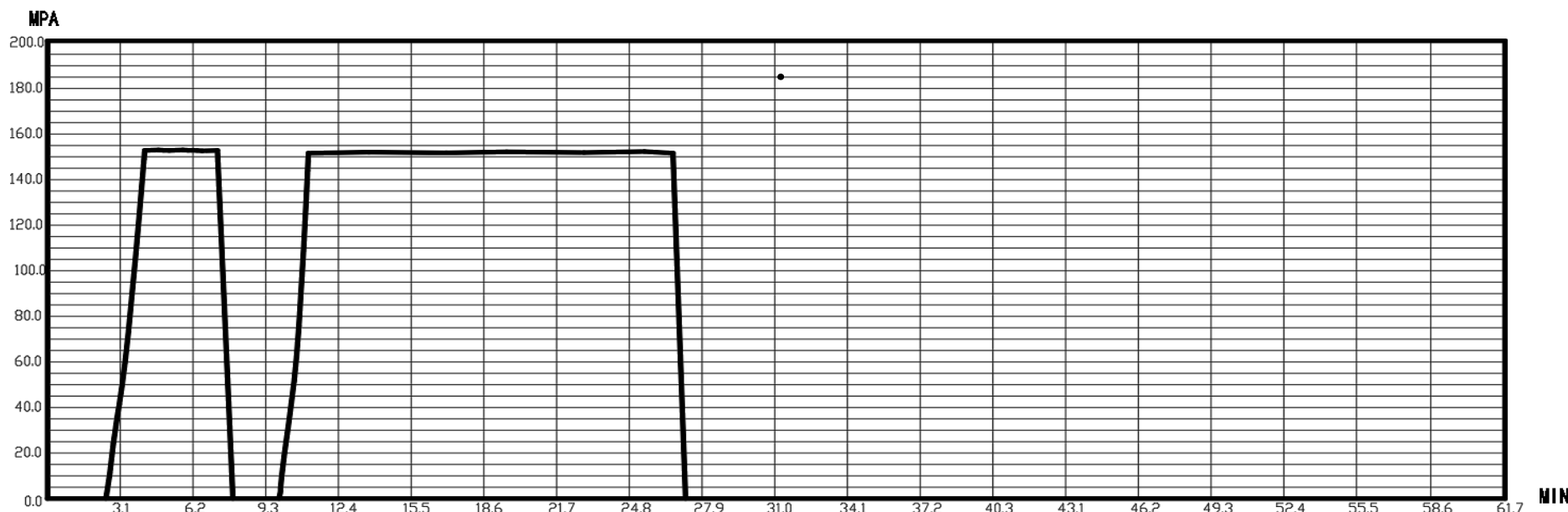




C&W International Fabricators

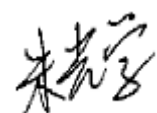
HYDRASTATIC TEST REPORT

Description:	SPACER SPOOL 7 1/16" 15M X 18" EE LU PSL3 PR1		Serial NO.:	ET2022301-14-05	
Item	Pressure (Mpa)	Method (Min)	Result	Date:	2023.03.07
BODY TEST	155.6MPa	HOLDINGPERIOD 3	Acceptable	Start Time	12: 36: 36
BODY TEST	155.8MPa	HOLDINGPERIOD 15	Acceptable	End Time	13: 00: 53



Gage SN :	TTA-032	Test Spec:	API6A/PSL3
Test Medium:	Water	Test Temp.:	ROOM

No visible leakage shall occur each holding period

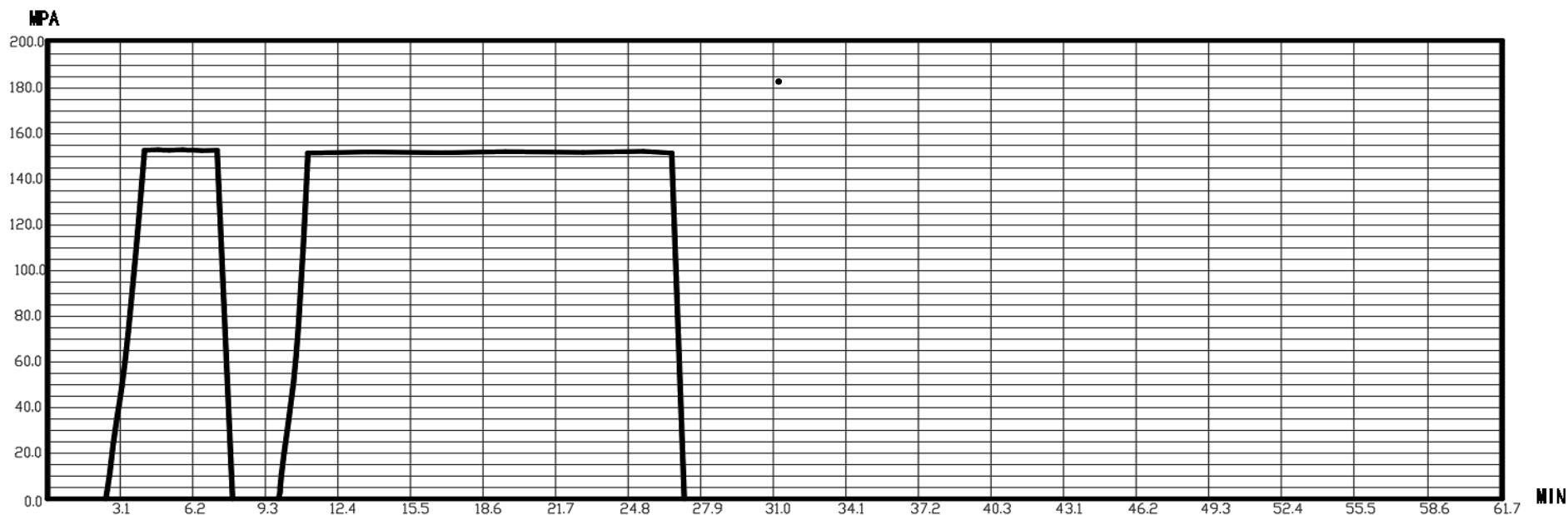
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C&W International Fabricators

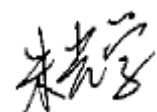
HYDRASTATIC TEST REPORT

Description:	SPACER SPOOL 7 1/16" 15M X 18" EE LU PSL3 PR1		Serial NO.:	ET2022301-14-06	
Item	Pressure (Mpa)	Method (Min)	Result	Date:	2023.03.07
BODY TEST	155.5MPa	HOLDINGPERIOD 3	Acceptable	Start Time	14: 26: 10
BODY TEST	155.8MPa	HOLDINGPERIOD 15	Acceptable	End Time	14: 50: 33



Gage SN :	TTA-032	Test Spec:	API6A/PSL3
Test Medium:	Water	Test Temp.:	ROOM

No visible leakage shall occur each holding period

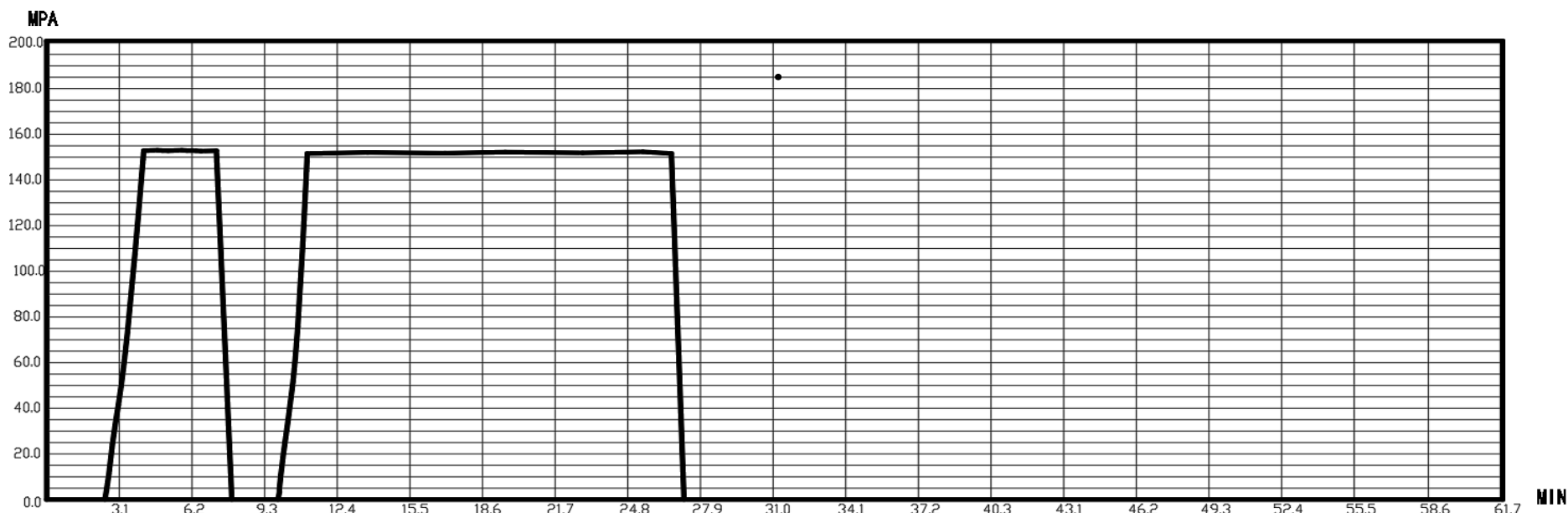
Checker:  Date: 2023.03.07



C&W International Fabricators

HYDRASTATIC TEST REPORT

Description:	SPACER SPOOL 7 1/16" 15M X 18" EE LU PSL3 PR1		Serial NO.:	ET2022301-14-07	
Item	Pressure (Mpa)	Method (Min)	Result	Date:	2023.03.07
BODY TEST	155.7MPa	HOLDINGPERIOD 3	Acceptable	Start Time	15: 15: 09
BODY TEST	155.9MPa	HOLDINGPERIOD 15	Acceptable	End Time	15: 39: 30



Gage SN :	TTA-032	Test Spec:	API6A/PSL3
Test Medium:	Water	Test Temp.:	ROOM

No visible leakage shall occur each holding period

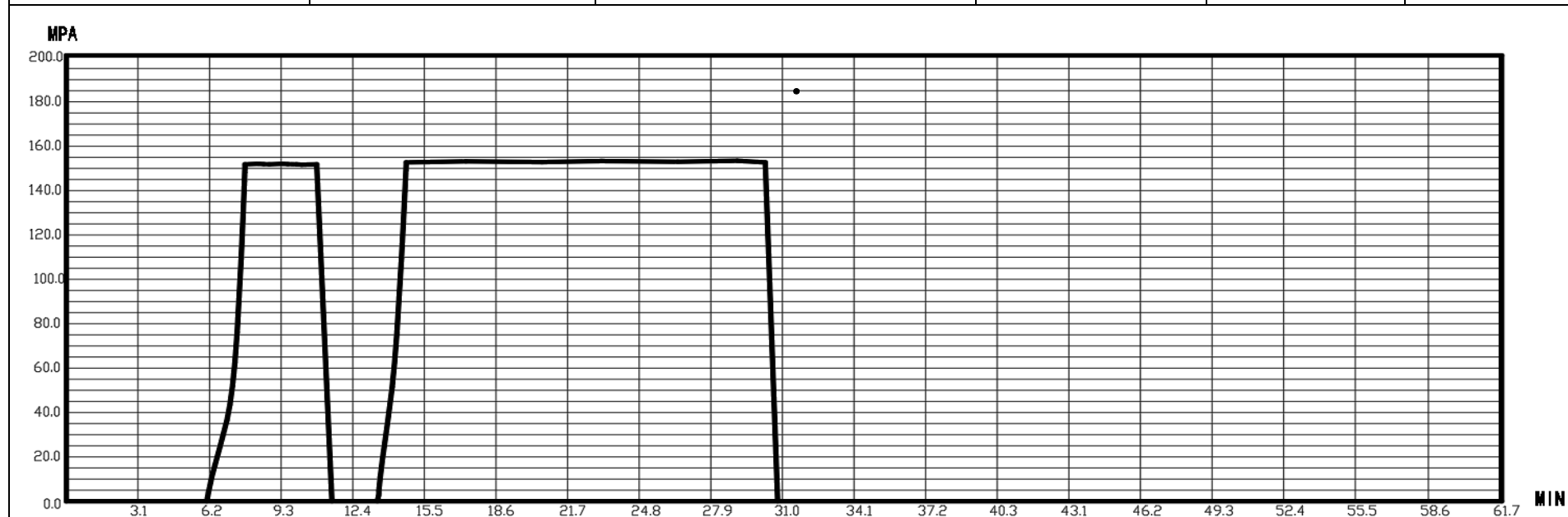
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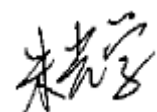


C&W International Fabricators

HYDRASTATIC TEST REPORT

Description:	SPACER SPOOL 7 1/16" 15M X 18" EE LU PSL3 PR1		Serial NO. :	ET2022301-14-08	
Item	Pressure (Mpa)	Method (Min)	Result	Date:	2023.03.07
BODY TEST	155.5MPa	HOLDINGPERIOD 3	Acceptable	Start Time	16: 03: 28
BODY TEST	155.8MPa	HOLDINGPERIOD 15	Acceptable	End Time	16: 28: 47



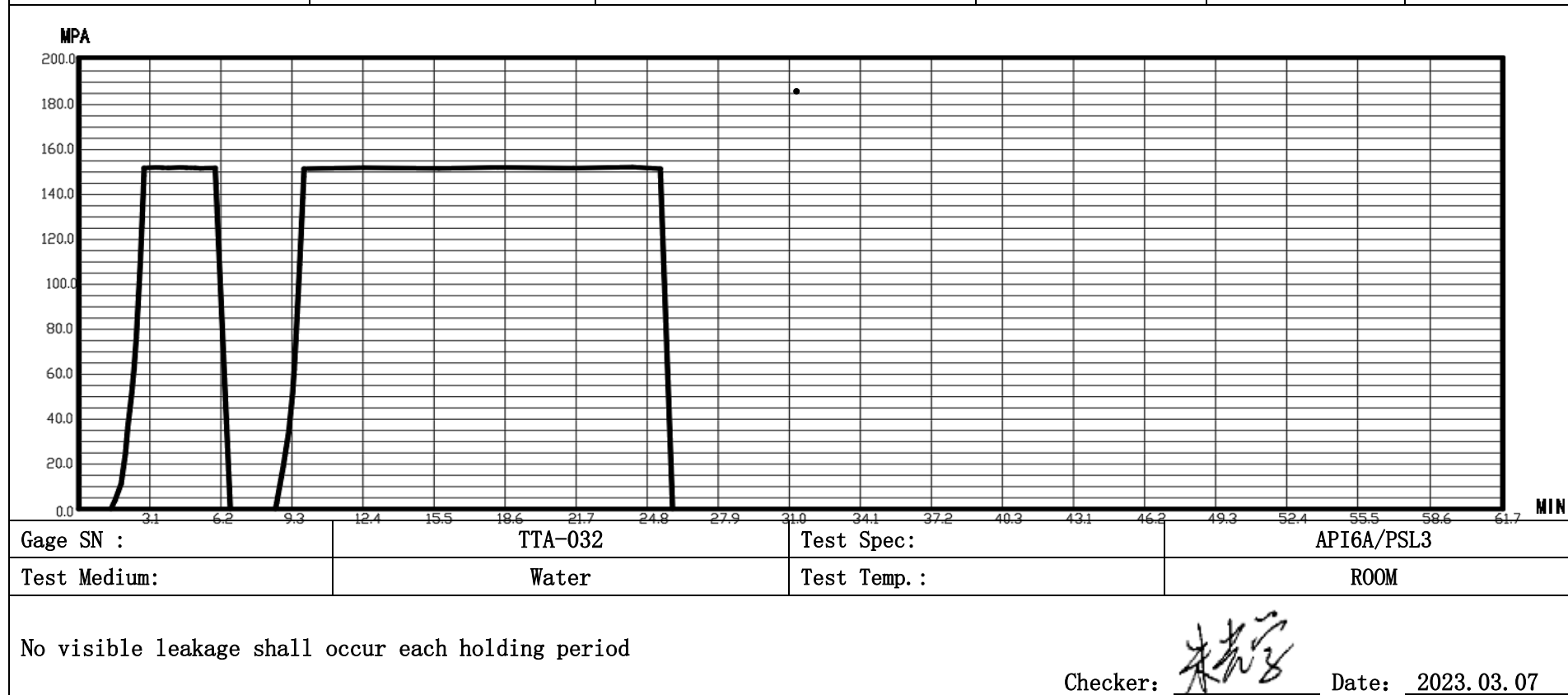
Gage SN :	TTA-032	Test Spec:	API6A/PSL3
Test Medium:	Water	Test Temp. :	ROOM
No visible leakage shall occur each holding period			
Checker: 		Date: 2023.03.07	



C&W International Fabricators

HYDRASTATIC TEST REPORT

Description:	SPACER SPOOL 7 1/16" 15M X 18" EE LU PSL3 PR1		Serial NO.:	ET2022301-14-09	
Item	Pressure (Mpa)	Method (Min)	Result	Date:	2023.03.07
BODY TEST	155.6MPa	HOLDINGPERIOD 3	Acceptable	Start Time	18: 43: 24
BODY TEST	155.7MPa	HOLDINGPERIOD 15	Acceptable	End Time	19: 07: 50

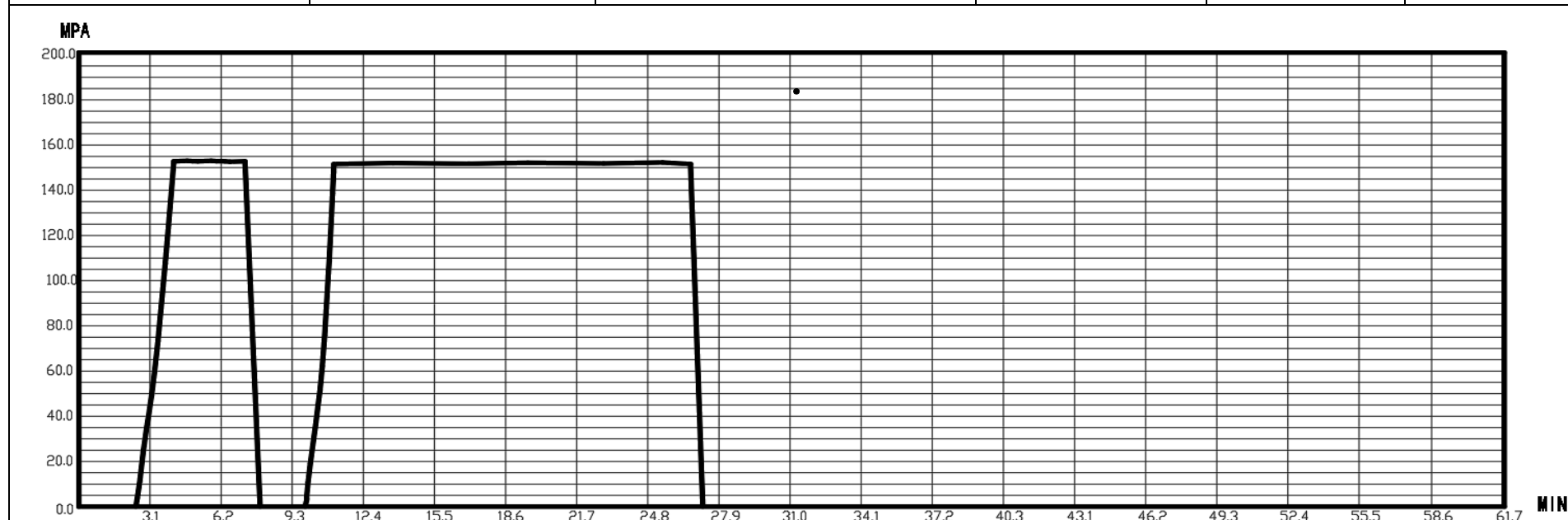




C&W International Fabricators

HYDRASTATIC TEST REPORT

Description:	SPACER SPOOL 7 1/16" 15M X 18" EE LU PSL3 PR1		Serial NO.:	ET2022301-14-10	
Item	Pressure (Mpa)	Method (Min)	Result	Date:	2023.03.07
BODY TEST	155.6MPa	HOLDINGPERIOD 3	Acceptable	Start Time	19: 51: 33
BODY TEST	155.5MPa	HOLDINGPERIOD 15	Acceptable	End Time	20: 15: 59



Gage SN :	TTA-032	Test Spec:	API6A/PSL3
Test Medium:	Water	Test Temp.:	ROOM

No visible leakage shall occur each holding period

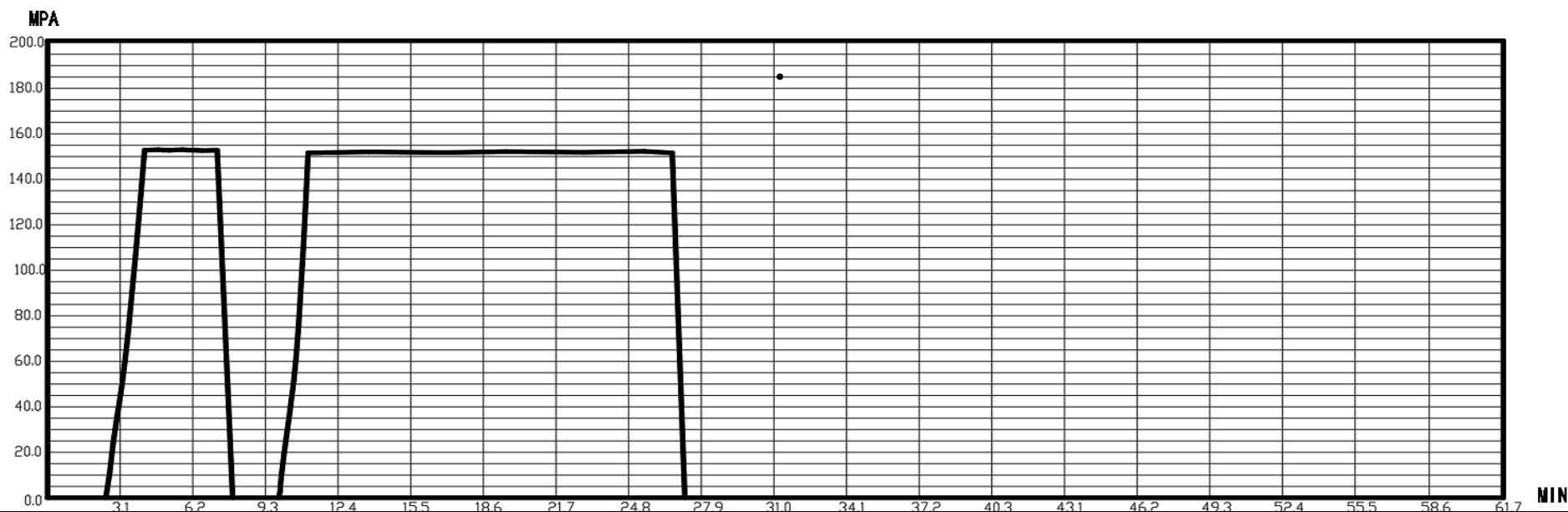
Checker: 朱宇 Date: 2023.03.07



C&W International Fabricators

HYDRASTATIC TEST REPORT

Description:	SPACER SPOOL 7 1/16" 15M X 18" EE LU PSL3 PR1		Serial NO.:	ET2022301-14-11	
Item	Pressure (Mpa)	Method (Min)	Result	Date:	2023.03.08
BODY TEST	155.6MPa	HOLDINGPERIOD 3	Acceptable	Start Time	08: 36: 10
BODY TEST	155.8MPa	HOLDINGPERIOD 15	Acceptable	End Time	09: 00: 42



Gage SN :	TTA-032	Test Spec:	API6A/PSL3
Test Medium:	Water	Test Temp.:	ROOM

No visible leakage shall occur each holding period

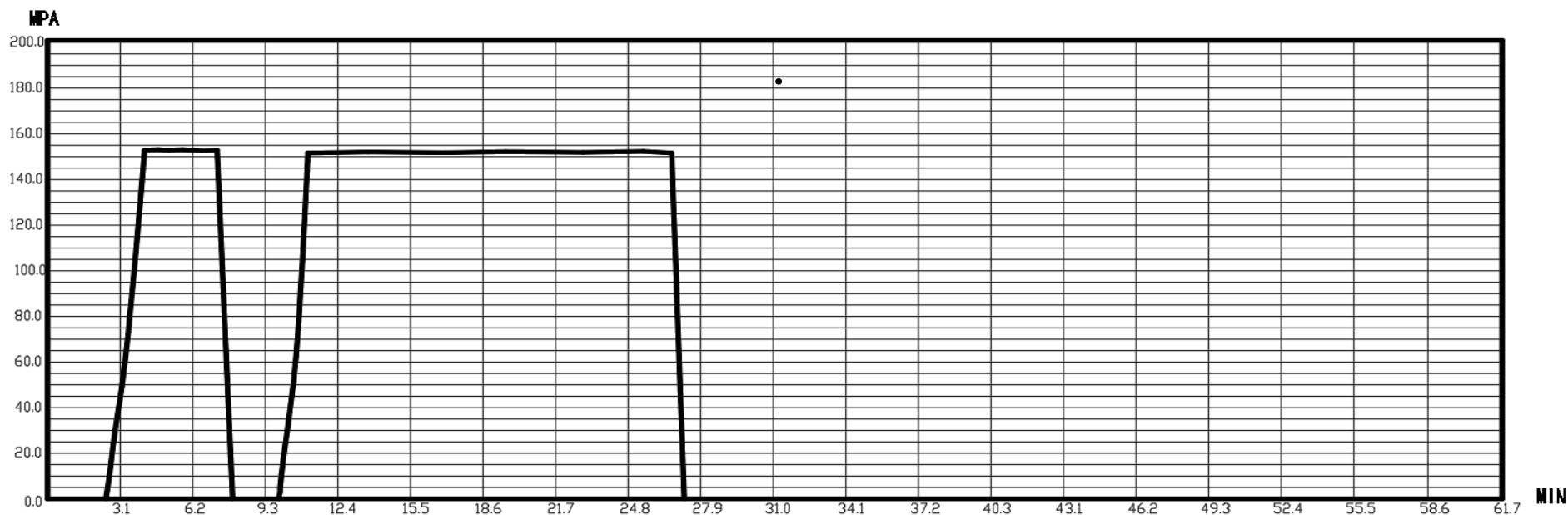
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C&W International Fabricators

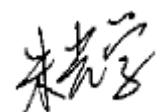
HYDRASTATIC TEST REPORT

Description:	SPACER SPOOL 7 1/16" 15M X 18" EE LU PSL3 PR1		Serial NO.:	ET2022301-14-12	
Item	Pressure (Mpa)	Method (Min)	Result	Date:	2023.03.08
BODY TEST	155.5MPa	HOLDINGPERIOD 3	Acceptable	Start Time	09: 26: 39
BODY TEST	155.8MPa	HOLDINGPERIOD 15	Acceptable	End Time	09: 50: 55



Gage SN :	TTA-032	Test Spec:	API6A/PSL3
Test Medium:	Water	Test Temp. :	ROOM

No visible leakage shall occur each holding period

Checker:  Date: 2023.03.08



C&W International Fabricators

REPORT INDEX

Purchase Order: **ET2022301-14**

Quantity: **12 EA**

Shipment No. :

Shipment Date:

Activity No.	Characteristics	Reference Page
1.1	SPACER SPOOL 7 1/16" 15M X 18"	Page-2
1.1.1	Metallurgical Test Certificate	Page-2
1.1.2	Mechanical Testing	Page-2
1.1.3	Chemical Testing	Page-2
1.1.4	Heat Treatment	Page-2
2.1	Hardness Test	Page-3
2.2	Ultrasonic Testing	Page-4
2.3	Magnetic Particle Inspection Report	Page-5
3.0	Hydrostatic Test Report	Page-6



C&W International Fabricators

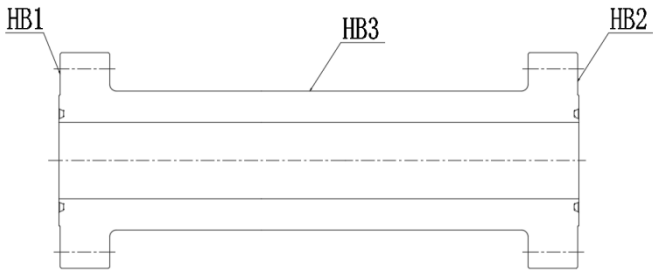
METALLURGICAL TEST CERTIFICATE

Serial No. :	ET2022301-14-01...12	PO# :	ET2022301-14	Date:	2023-03-07							
Part No:	SS715-18	API Monogram:	YES	Report#:	2023030708							
Specification:	API Spec 6A/ASTM A370	Material:	4130 75k per ASTM A29									
Description:	SPACER SPOOL 7 1/16" 15M X 18" EE LU PSL3 PR1			Qty:	12 EA							
TEST CONDITION												
Test Bar Size:	QTC, 4" x 4" x 8"		Bar Di:	12.7 mm (0.5")								
Melt Practice	EF + LF + VD		Reduction Ratio Min:	5:1								
Yield Stress	0.2% offset		Gauge Length	50.8mm								
CHEMICAL COMPOSITION												
Mill No. :	Qty	Test No.	C	Mn	Si	S	P	Ni	Cu	Mo	Cr	V
Spec Min			0.28	0.40	0.15	/	/	/	/	0.15	0.80	/
Spec Max			0.33	0.60	0.35	0.025	0.025	0.50	0.35	0.25	1.10	0.30
2087148Z	12	1	0.300	0.540	0.260	0.005	0.011	0.050	0.060	0.160	1.060	0.006
MECHANICAL COMPOSITION												
Heat Lot No.	QTY.	Test No.	Yield Strength (Kpsi)	Tensile Strength (Kpsi)	Elongation%	Reduction of Area%	Hardness HB	10mm x 10mm Charpy J (ft. lb) At -46° c	Minimum Lateral	Shear Fraction		
Spec Min			75K	95K	18.0	35.0	197	27J				
Spec Max			/	/	/	/	235	/				
TM2302110301	10	1	78.6K	98.5K	27.0	56.3	223	56;69;78				
TM2302250301	2	2	79.5K	99.0K	28.5	50.5	222	40;48;55				
HEAT TREATMENT												
Forgings:	5:1					Test Bar (OTC)						
Normalized:	900°C 6 HRS					Normalized:	900°C 6 HRS					
Austenitized:	860°C 6 HRS					Austenitized:	860°C 6 HRS					
Quenchant:	Water					Quenchant:	Water					
Start Temp:	28 °C					Start Temp:	28 °C					
End Temp:	46 °C					End Temp:	46 °C					
Temper:	660°C 9 HRS AIR					Temper:	660°C 9 HRS AIR					
We hereby certify that all test results and procedure information contained herein are correct and true as in contained the records of the company and also no welding or weld repair was performed on subject parts.												
Inspected by:						Approved by:						



C&W International Fabricators

Hardness Test Report

Serial No. :	ET2022301-14-01...12	PO# :	ET2022301-14	Date:	2023-03-07					
Part No:	SS715-18	API Monogram:	YES	Report#:	2023030708					
Specification:	API Spec 6A/ASTM E10	Material:	4130 75k per ASTM A29							
Description:	SPACER SPOOL 7 1/16" 15M X 18" EE LU PSL3 PR1							Qty:	12 EA	
Item	S/N	Heat Lot No.	HB1	HB2	HB3	HB4	HB5	HB6	HB7	HB8
1	ET2022301-14-01	TM2302110301	232	231	230					
2	ET2022301-14-02	TM2302110301	229	229	225					
3	ET2022301-14-03	TM2302110301	225	223	225					
4	ET2022301-14-04	TM2302110301	231	229	228					
5	ET2022301-14-05	TM2302110301	229	231	230					
6	ET2022301-14-06	TM2302110301	225	229	225					
7	ET2022301-14-07	TM2302110301	235	231	230					
8	ET2022301-14-08	TM2302110301	231	229	228					
9	ET2022301-14-09	TM2302110301	229	225	222					
10	ET2022301-14-10	TM2302110301	231	229	228					
11	ET2022301-14-11	TM2302250301	205	223	215					
12	ET2022301-14-12	TM2302250301	229	231	230					
Sketch:										
										
Method Used:	Impact Energy:3000Kg. Diameter of steel ball:10mm									
Acceptable Hardness	197HBW-235HBW		Inspected by:				Approved by:			
Judgments:	[V] Conform		刘永良				徐根			
	[] Do not conform									

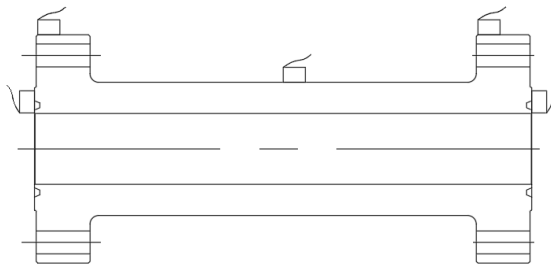


C&W International Fabricators

ULTRASONIC EXAMINATION REPORT

Serial No. :		ET2022301-14-01...12		PO# :		ET2022301-14		Date:		2023-03-07			
Part No:		SS715-18		API Monogram:		YES		Report#:		2023030708			
Specification:		API Spec 6A/ASTM A388		Material:		4130 75k per ASTM A29							
Description:		SPACER SPOOL 7 1/16" 15M X 18" EE LU PSL3 PR1							Qty:		12 EA		
Item	S/N		Heat Lot No.		Result		Item	S/N		Heat Lot No.		Result	
1	ET2022301-14-01		TM2302110301		Acceptable								
2	ET2022301-14-02		TM2302110301		Acceptable								
3	ET2022301-14-03		TM2302110301		Acceptable								
4	ET2022301-14-04		TM2302110301		Acceptable								
5	ET2022301-14-05		TM2302110301		Acceptable								
6	ET2022301-14-06		TM2302110301		Acceptable								
7	ET2022301-14-07		TM2302110301		Acceptable								
8	ET2022301-14-08		TM2302110301		Acceptable								
9	ET2022301-14-09		TM2302110301		Acceptable								
10	ET2022301-14-10		TM2302110301		Acceptable								
11	ET2022301-14-11		TM2302250301		Acceptable								
12	ET2022301-14-12		TM2302250301		Acceptable								

Sketch:



ABOVE FORGED ARE ULTRASONICALLY TESTED FOR INTERNAL DEFECTS USSING FLAT-BOTTOM HOLE PROCEDURE;
NO RECORDABLE INDICATION OBSERVED DURING THE TEST. HENCE ACCEPTABLE AS PER STANDARD.

UT Code:ASTM A388	Technique:Straight/Contact	Examined BY:	Approved by:
Exam. Stage: After heat treatment	Calibration Block:CSK IA		
Equipment:CTS-2020	Couplant: OIL		
Probe Used :2.5P φ10	Acceptance Criteria: API 6A PSL 3		
Equipment Calibration Date :2022.09.10	Test Gain:20db + 5 db		
Equipment Due Date: 2023.09.09		Level as per UT II	Level as per UT II



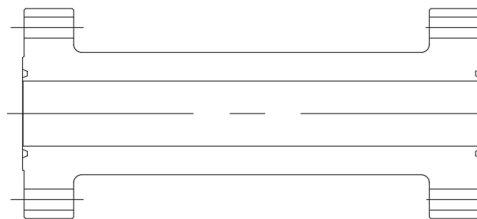
C&W International Fabricators

Magnetic Particle Inspection Report

Serial No. :	ET2022301-14-01...12	PO# :	ET2022301-14	Date:	2023-03-07
Part No:	SS715-18	API Monogram:	YES	Report#:	2023030708
Specification:	API Spec 6A/ASTM E709	Material:	4130 75k per ASTM A29		
Description:	SPACER SPOOL 7 1/16" 15M X 18" EE LU PSL3 PR1			Qty:	12 EA

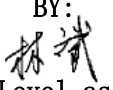
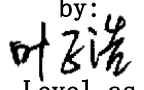
Item	S/N	Heat Lot No.	Result	Item	S/N	Heat Lot No.	Result
1	ET2022301-14-01	TM2302110301	Acceptable				
2	ET2022301-14-02	TM2302110301	Acceptable				
3	ET2022301-14-03	TM2302110301	Acceptable				
4	ET2022301-14-04	TM2302110301	Acceptable				
5	ET2022301-14-05	TM2302110301	Acceptable				
6	ET2022301-14-06	TM2302110301	Acceptable				
7	ET2022301-14-07	TM2302110301	Acceptable				
8	ET2022301-14-08	TM2302110301	Acceptable				
9	ET2022301-14-09	TM2302110301	Acceptable				
10	ET2022301-14-10	TM2302110301	Acceptable				
11	ET2022301-14-11	TM2302250301	Acceptable				
12	ET2022301-14-12	TM2302250301	Acceptable				

Sketch/Inspection Coverage:



Fluorescent magnetic particle inspection was performed on all accessible wetted/sealing surface with acceptable results

Evaluation & Disposition : Found to be satisfactory.

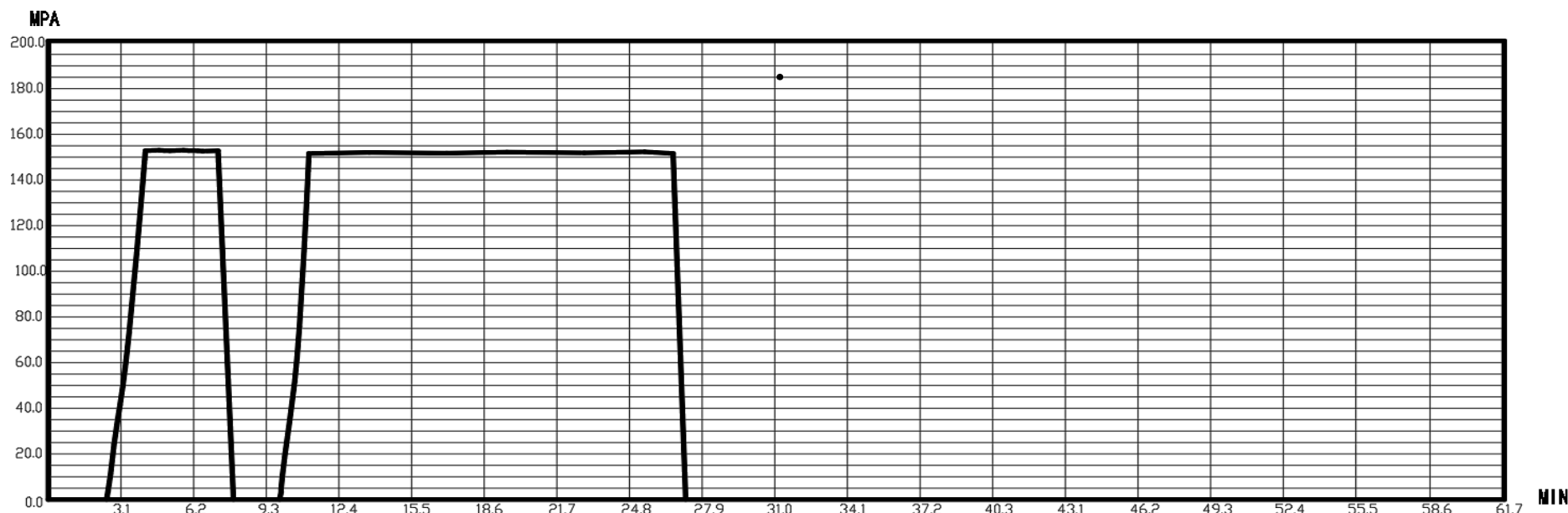
Equipment	CJD-9000	MT Code	ASTM E709	Examined BY:  Level as per MT II	Approved by:  Level as per MT II
Test Method	Fulcrum [] Cable1 [√]	Particle Type	Fluorescence Wet		
Exam. Stage	Rough After Ra ≤ 6.3μm	Test Piece	A1-30/100		
Magnetizing time	1-3S	Circular AMPS/Turns	900A/1		
Concentration	0.3ml/100ml	UV-Light Intensity	≥1000Uw/C m²		



C&W International Fabricators

HYDRASTATIC TEST REPORT

Description:	SPACER SPOOL 7 1/16" 15M X 18" EE LU PSL3 PR1		Serial NO.:	ET2022301-14-01	
Item	Pressure (Mpa)	Method (Min)	Result	Date:	2023.03.07
BODY TEST	155.9MPa	HOLDINGPERIOD 3	Acceptable	Start Time	08: 15: 03
BODY TEST	155.8MPa	HOLDINGPERIOD 15	Acceptable	End Time	08: 39: 36



Gage SN :	TTA-032	Test Spec:	API6A/PSL3
Test Medium:	Water	Test Temp.:	ROOM

No visible leakage shall occur each holding period

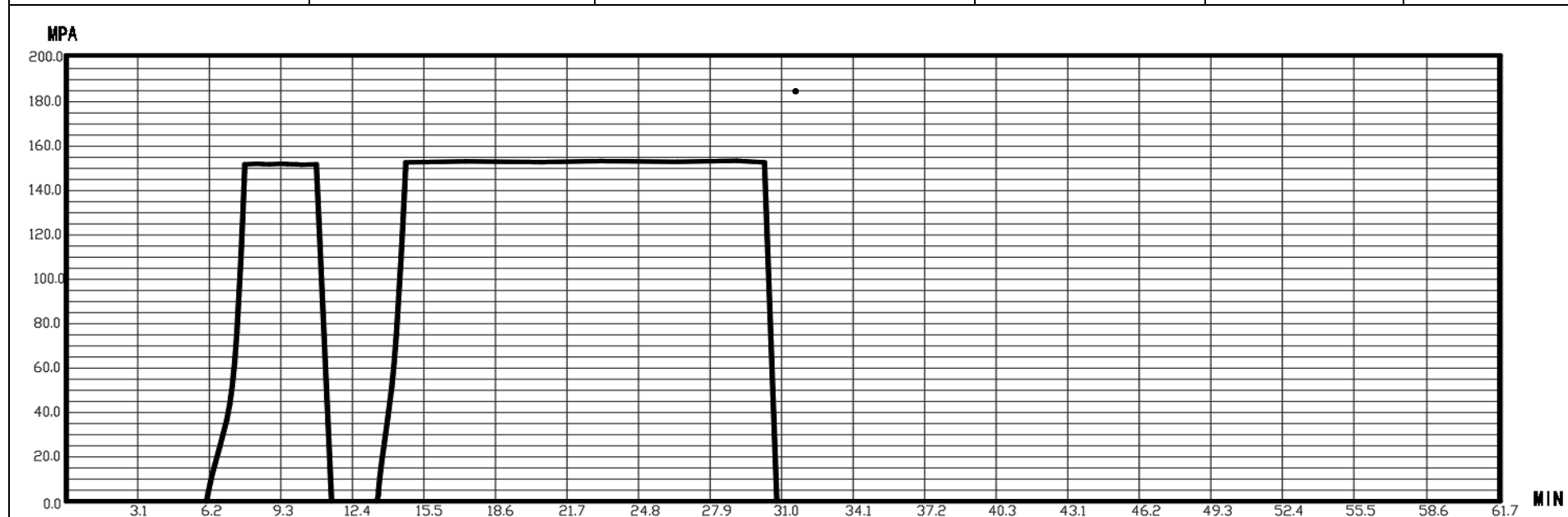
Checker: 朱宇 Date: 2023.03.07



C&W International Fabricators

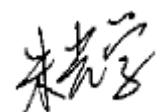
HYDRASTATIC TEST REPORT

Description:	SPACER SPOOL 7 1/16" 15M X 18" EE LU PSL3 PR1		Serial NO. :	ET2022301-14-02	
Item	Pressure (Mpa)	Method (Min)	Result	Date:	2023.03.07
BODY TEST	155.5MPa	HOLDINGPERIOD 3	Acceptable	Start Time	09: 03: 10
BODY TEST	155.8MPa	HOLDINGPERIOD 15	Acceptable	End Time	09: 28: 28



Gage SN :	TTA-032	Test Spec:	API6A/PSL3
Test Medium:	Water	Test Temp. :	ROOM

No visible leakage shall occur each holding period

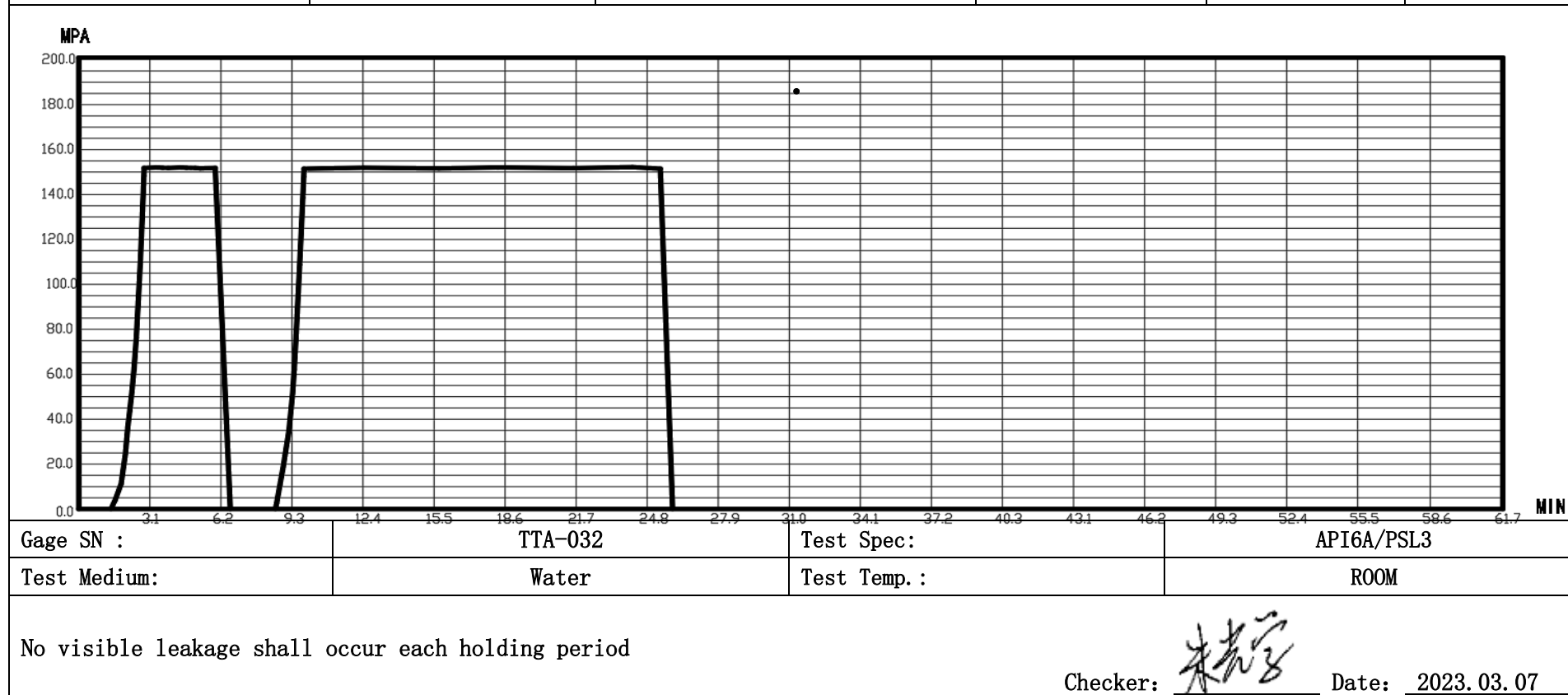
Checker:  Date: 2023.03.07



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HYDRASTATIC TEST REPORT

Description:	SPACER SPOOL 7 1/16" 15M X 18" EE LU PSL3 PR1		Serial NO.:	ET2022301-14-03	
Item	Pressure (Mpa)	Method (Min)	Result	Date:	2023.03.07
BODY TEST	155.6MPa	HOLDINGPERIOD 3	Acceptable	Start Time	09: 43: 24
BODY TEST	155.7MPa	HOLDINGPERIOD 15	Acceptable	End Time	10: 07: 50

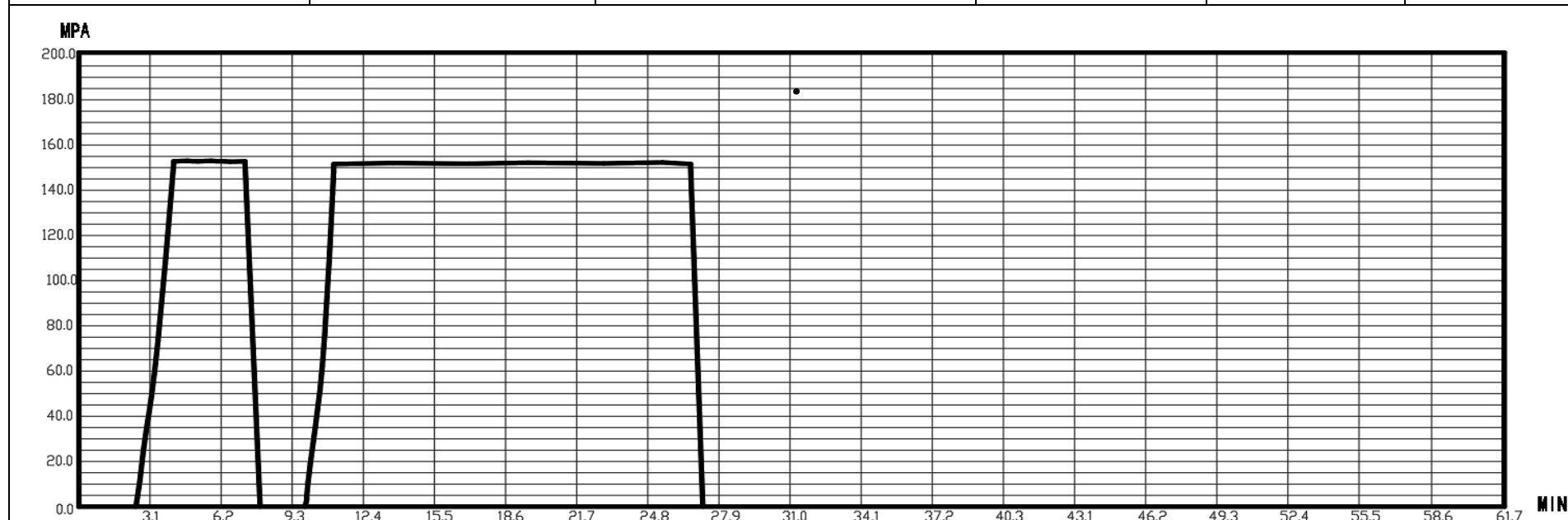




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HYDRASTATIC TEST REPORT

Description:	SPACER SPOOL 7 1/16" 15M X 18" EE LU PSL3 PR1		Serial NO.:	ET2022301-14-04	
Item	Pressure (Mpa)	Method (Min)	Result	Date:	2023.03.07
BODY TEST	155.6MPa	HOLDINGPERIOD 3	Acceptable	Start Time	10: 50: 26
BODY TEST	155.5MPa	HOLDINGPERIOD 15	Acceptable	End Time	11: 14: 50



Gage SN :	TTA-032	Test Spec:	API6A/PSL3
Test Medium:	Water	Test Temp.:	ROOM

No visible leakage shall occur each holding period

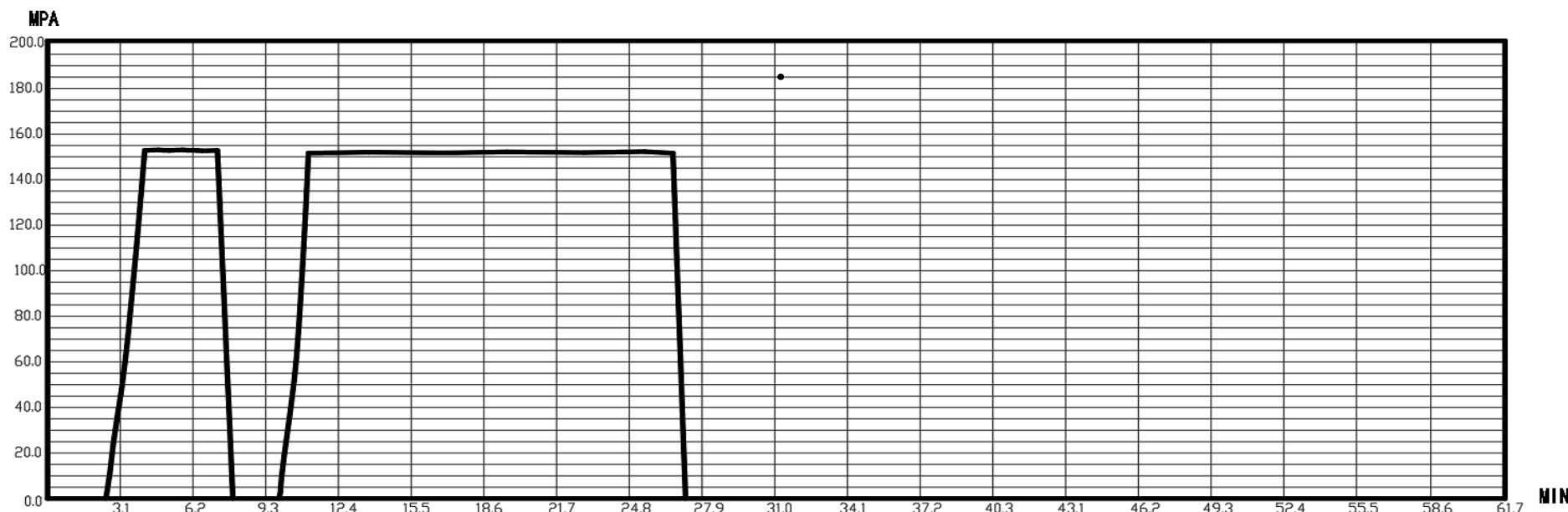
Checker: 朱宇 Date: 2023.03.07



C&W International Fabricators

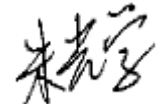
HYDRASTATIC TEST REPORT

Description:	SPACER SPOOL 7 1/16" 15M X 18" EE LU PSL3 PR1		Serial NO.:	ET2022301-14-05	
Item	Pressure (Mpa)	Method (Min)	Result	Date:	2023.03.07
BODY TEST	155.6MPa	HOLDINGPERIOD 3	Acceptable	Start Time	12: 36: 36
BODY TEST	155.8MPa	HOLDINGPERIOD 15	Acceptable	End Time	13: 00: 53



Gage SN :	TTA-032	Test Spec:	API6A/PSL3
Test Medium:	Water	Test Temp.:	ROOM

No visible leakage shall occur each holding period

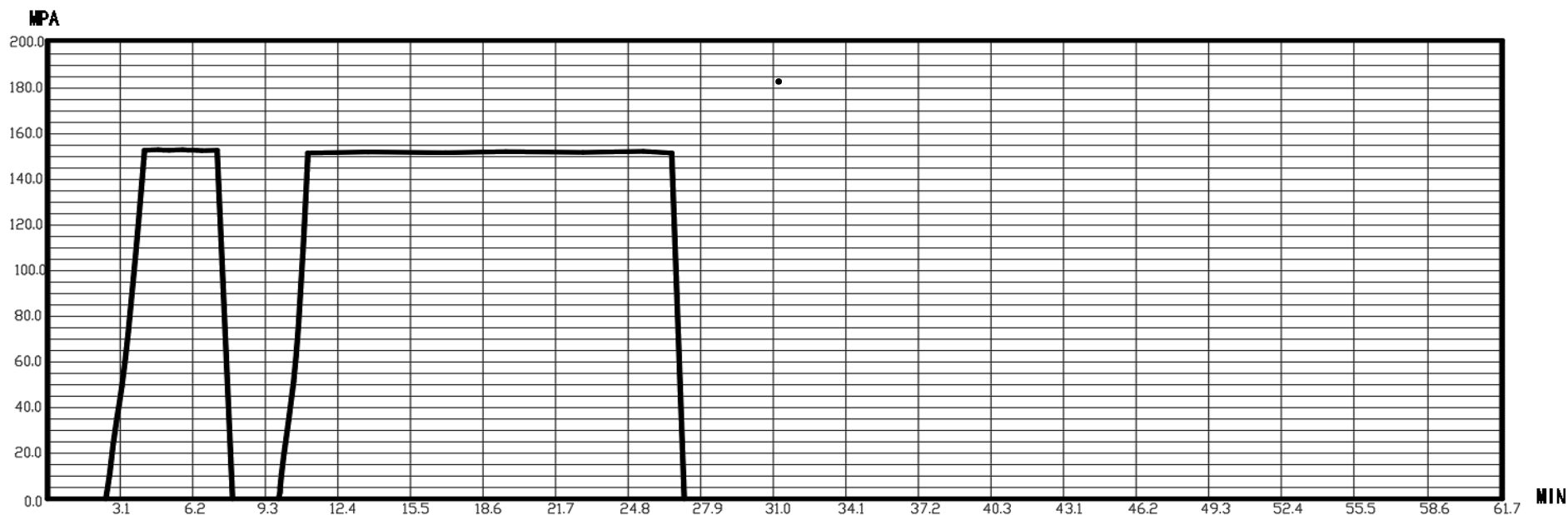
Checker:  Date: 2023.03.07



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HYDRASTATIC TEST REPORT

Description:	SPACER SPOOL 7 1/16" 15M X 18" EE LU PSL3 PR1		Serial NO.:	ET2022301-14-06	
Item	Pressure (Mpa)	Method (Min)	Result	Date:	2023.03.07
BODY TEST	155.5MPa	HOLDINGPERIOD 3	Acceptable	Start Time	14: 26: 10
BODY TEST	155.8MPa	HOLDINGPERIOD 15	Acceptable	End Time	14: 50: 33



Gage SN :	TTA-032	Test Spec:	API6A/PSL3
Test Medium:	Water	Test Temp.:	ROOM

No visible leakage shall occur each holding period

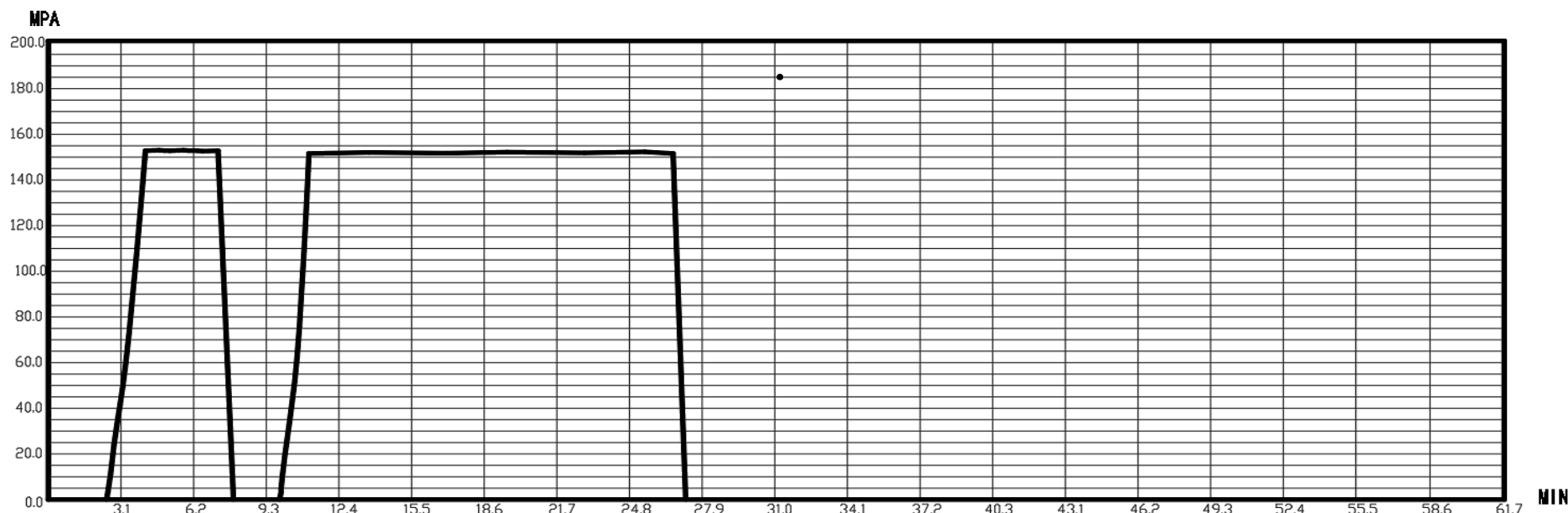
Checker: 朱宇 Date: 2023.03.07



C&W International Fabricators

HYDRASTATIC TEST REPORT

Description:	SPACER SPOOL 7 1/16" 15M X 18" EE LU PSL3 PR1		Serial NO.:	ET2022301-14-07	
Item	Pressure (Mpa)	Method (Min)	Result	Date:	2023.03.07
BODY TEST	155.7MPa	HOLDINGPERIOD 3	Acceptable	Start Time	15: 15: 09
BODY TEST	155.9MPa	HOLDINGPERIOD 15	Acceptable	End Time	15: 39: 30



Gage SN :	TTA-032	Test Spec:	API6A/PSL3
Test Medium:	Water	Test Temp.:	ROOM

No visible leakage shall occur each holding period

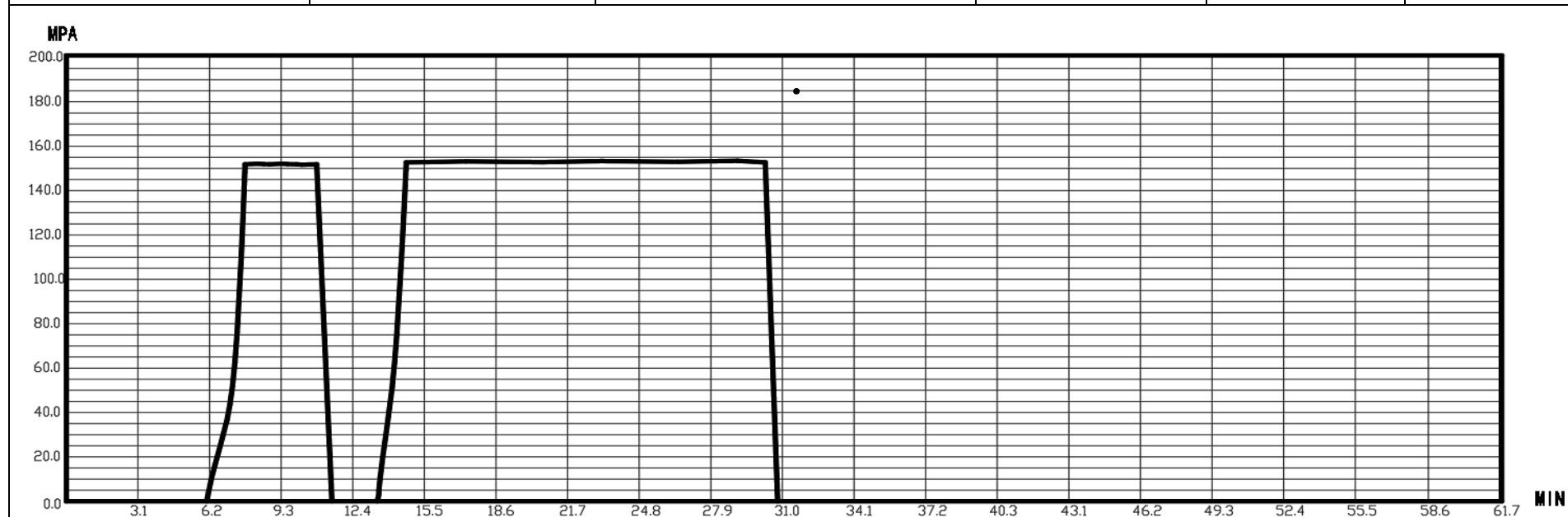
Checker: 朱宇 Date: 2023.03.07

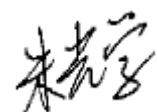


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HYDRASTATIC TEST REPORT

Description:	SPACER SPOOL 7 1/16" 15M X 18" EE LU PSL3 PR1		Serial NO. :	ET2022301-14-08	
Item	Pressure (Mpa)	Method (Min)	Result	Date:	2023.03.07
BODY TEST	155.5MPa	HOLDINGPERIOD 3	Acceptable	Start Time	16: 03: 28
BODY TEST	155.8MPa	HOLDINGPERIOD 15	Acceptable	End Time	16: 28: 47



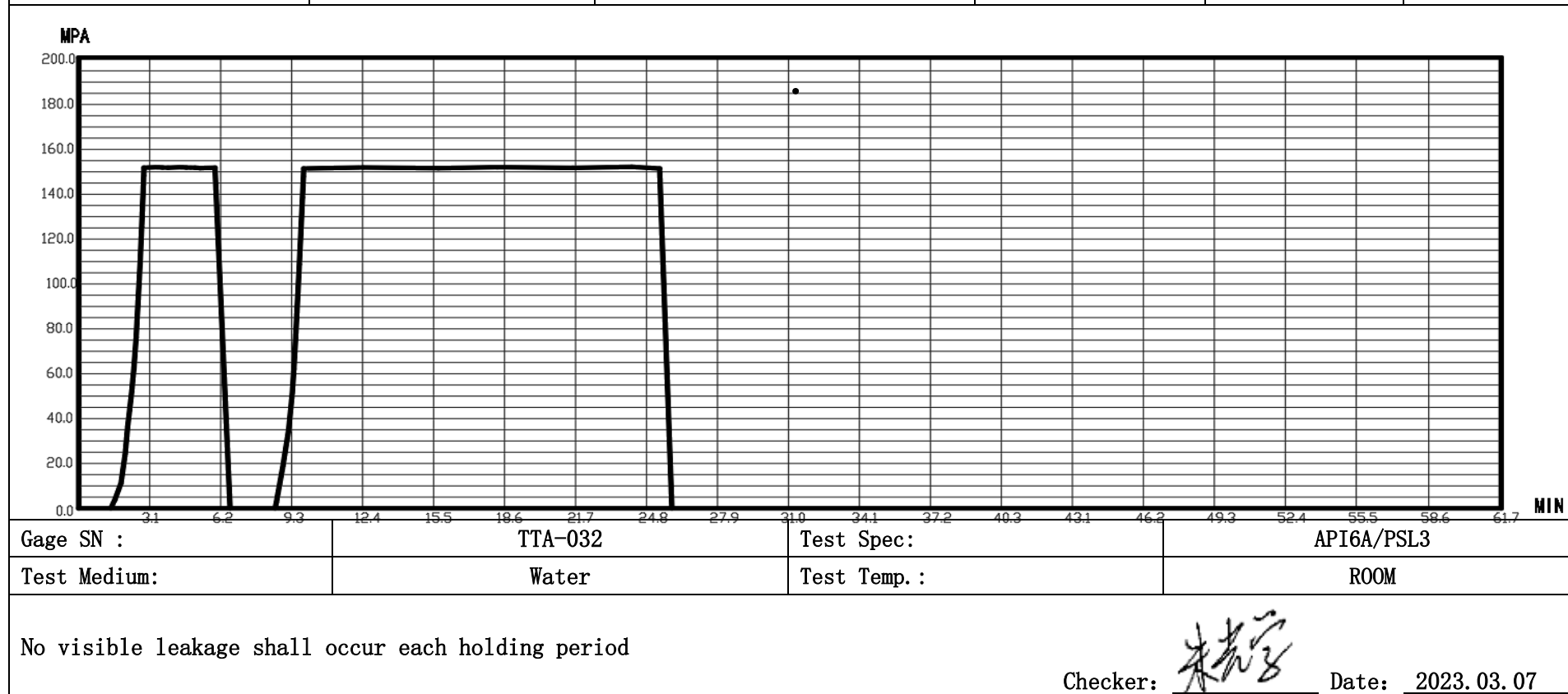
Gage SN :	TTA-032	Test Spec:	API6A/PSL3
Test Medium:	Water	Test Temp. :	ROOM
No visible leakage shall occur each holding period			
Checker: 		Date: 2023.03.07	



C&W International Fabricators

HYDRASTATIC TEST REPORT

Description:	SPACER SPOOL 7 1/16" 15M X 18" EE LU PSL3 PR1		Serial NO.:	ET2022301-14-09	
Item	Pressure (Mpa)	Method (Min)	Result	Date:	2023.03.07
BODY TEST	155.6MPa	HOLDINGPERIOD 3	Acceptable	Start Time	18: 43: 24
BODY TEST	155.7MPa	HOLDINGPERIOD 15	Acceptable	End Time	19: 07: 50

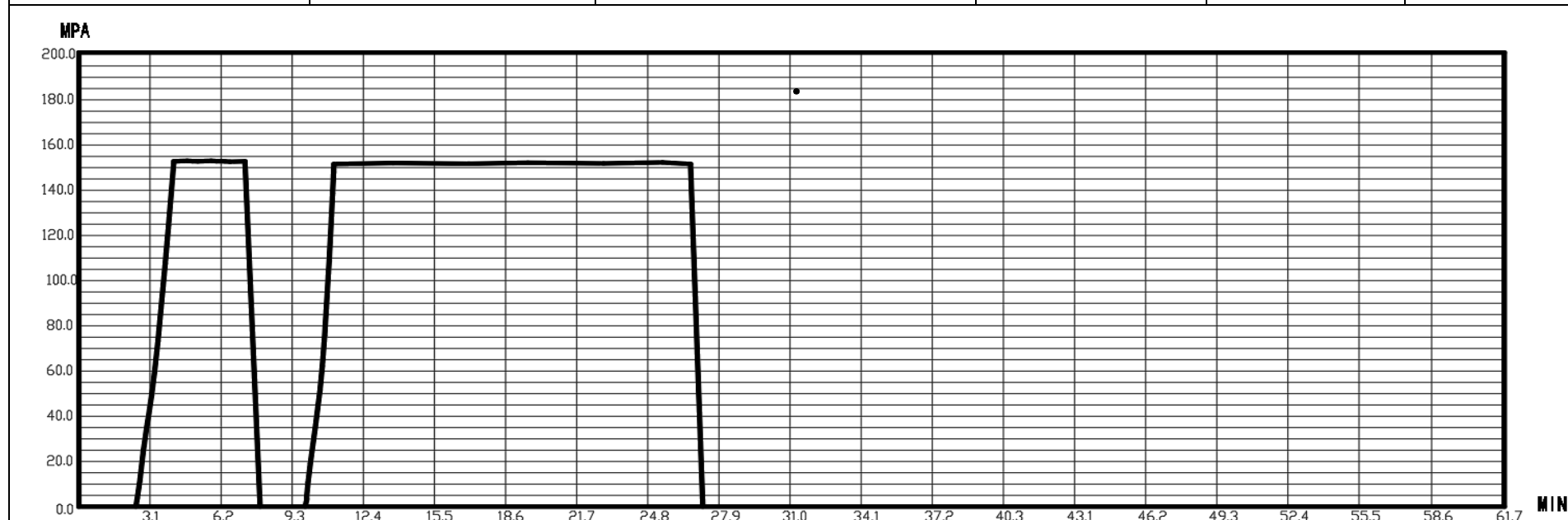




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HYDRASTATIC TEST REPORT

Description:	SPACER SPOOL 7 1/16" 15M X 18" EE LU PSL3 PR1		Serial NO.:	ET2022301-14-10	
Item	Pressure (Mpa)	Method (Min)	Result	Date:	2023.03.07
BODY TEST	155.6MPa	HOLDINGPERIOD 3	Acceptable	Start Time	19: 51: 33
BODY TEST	155.5MPa	HOLDINGPERIOD 15	Acceptable	End Time	20: 15: 59



Gage SN :	TTA-032	Test Spec:	API6A/PSL3
Test Medium:	Water	Test Temp.:	ROOM

No visible leakage shall occur each holding period

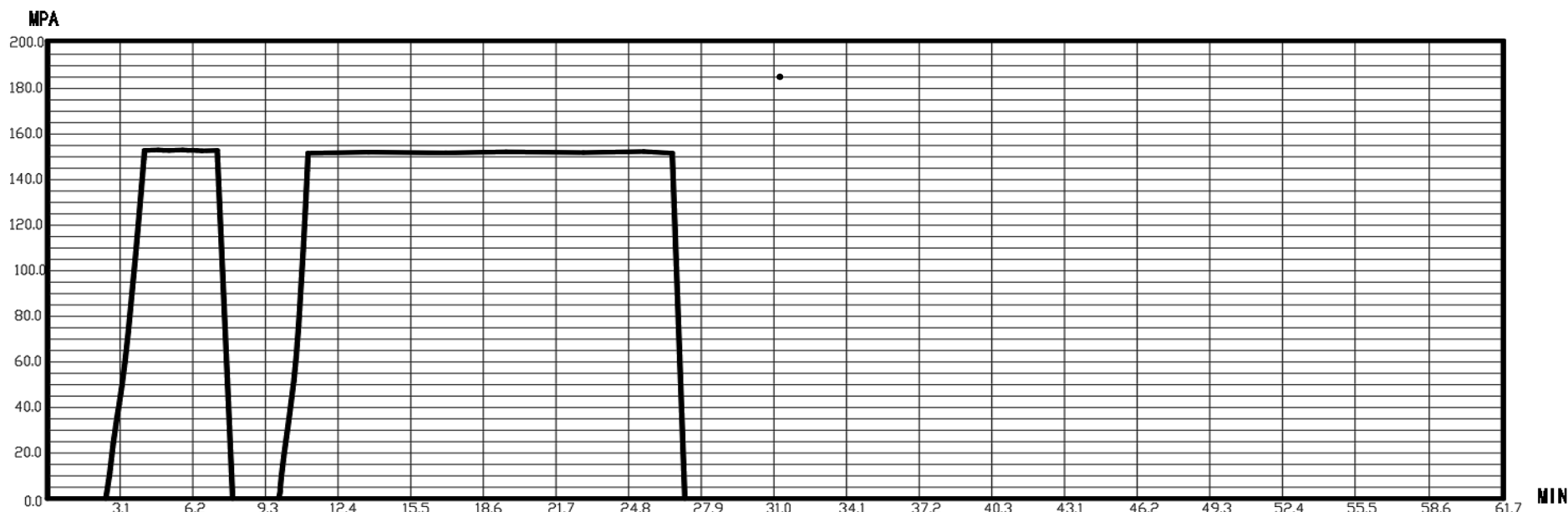
Checker: 朱宇 Date: 2023.03.07



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HYDRASTATIC TEST REPORT

Description:	SPACER SPOOL 7 1/16" 15M X 18" EE LU PSL3 PR1		Serial NO.:	ET2022301-14-11	
Item	Pressure (Mpa)	Method (Min)	Result	Date:	2023.03.08
BODY TEST	155.6MPa	HOLDINGPERIOD 3	Acceptable	Start Time	08: 36: 10
BODY TEST	155.8MPa	HOLDINGPERIOD 15	Acceptable	End Time	09: 00: 42



Gage SN :	TTA-032	Test Spec:	API6A/PSL3
Test Medium:	Water	Test Temp.:	ROOM

No visible leakage shall occur each holding period

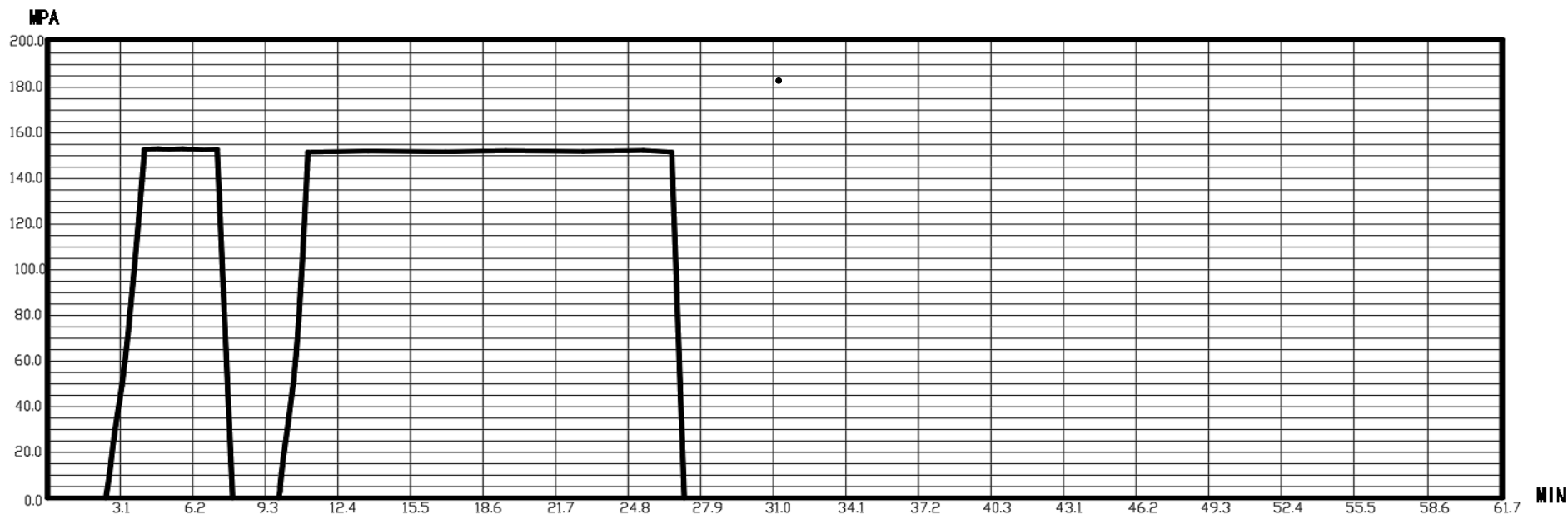
Checker: 朱宇 Date: 2023.03.08



C&W International Fabricators

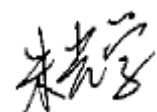
HYDRASTATIC TEST REPORT

Description:	SPACER SPOOL 7 1/16" 15M X 18" EE LU PSL3 PR1		Serial NO.:	ET2022301-14-12	
Item	Pressure (Mpa)	Method (Min)	Result	Date:	2023.03.08
BODY TEST	155.5MPa	HOLDINGPERIOD 3	Acceptable	Start Time	09: 26: 39
BODY TEST	155.8MPa	HOLDINGPERIOD 15	Acceptable	End Time	09: 50: 55



Gage SN :	TTA-032	Test Spec:	API6A/PSL3
Test Medium:	Water	Test Temp.:	ROOM

No visible leakage shall occur each holding period

Checker:  Date: 2023.03.08



C&W International Fabricators

REPORT INDEX

Purchase Order: **ET2022276-1**

Quantity: **4 EA**

Shipment No. :

Shipment Date:

Activity No.	Characteristics	Reference Page
1.1	SPACER SPOOL 7 1/16" 15M X 120"	Page-2
1.1.1	Metallurgical Test Certificate	Page-2
1.1.2	Mechanical Testing	Page-2
1.1.3	Chemical Testing	Page-2
1.1.4	Heat Treatment	Page-2
2.1	Hardness Test	Page-3
2.2	Ultrasonic Testing	Page-4
2.3	Magnetic Particle Inspection Report	Page-5



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METALLURGICAL TEST CERTIFICATE

Serial No. :	ET2022276-1-01...04	PO# :	ET2022276	Date:	2022-12-29							
Part No:		API Monogram:	YES	Report#:	20221229							
Specification:	API Spec 6A/ ASTM A370	Material:	4130 75k per ASTM A29									
Description:	SPACER SPOOL 7 1/16" 15M X 120" EE LU PSL3 PR1			Qty:	4 EA							
TEST CONDITION												
Test Bar Size:	QTC, 4" x 4" x 8"		Bar Di:	12.7 mm (0.5")								
Melt Practice	EF + LF + VD		Reduction Ratio Min:	4:1								
Yield Stress	0.2% offset		Gauge Length	50.8mm								
CHEMICAL COMPOSITION												
Mill No. :	Qty	Test No.	C	Mn	Si	S	P	Ni	Cu	Mo	Cr	V
Spec Min			0.28	0.40	0.15	/	/	/	/	0.15	0.80	/
Spec Max			0.33	0.60	0.35	0.025	0.025	0.50	0.35	0.25	1.10	0.30
220500877	4	1	0.298	0.550	0.240	0.004	0.011	0.030	0.020	0.200	1.010	0.007
MECHANICAL COMPOSITION												
Heat Lot No.	QTY.	Test No.	Yield Strength (Kpsi)	Tensile Strength (Kpsi)	Elongation%	Reduction of Area%	Hardness HB	10mm X 10mm Charpy J (ft. lb) At -46° c	Minimum Lateral	Shear Fraction		
Spec Min			75K	95K	18.0	35.0	197	27J				
Spec Max			/	/	/	/	235	/				
TM2211270301	2	1	83.0K	105.5K	51.5	63.7	215	51;46;38				
TM2211290301	2	1	81.5K	103.5K	49.5	59.4	217	42;58;47				
HEAT TREATMENT												
Forgings:	4:1		Test Bar (OTC)									
Normalized:	900°C 6 HRS		Normalized:									
Austenitized:	870°C 6 HRS		Austenitized:									
Quenchant:	Water		Quenchant:									
Start Temp:	31 °C		Start Temp:									
End Temp:	37 °C		End Temp:									
Temper:	670°C 9 HRS AIR		Temper:									
We hereby certify that all test results and procedure information contained herein are correct and true as in contained the records of the company and also no welding or weld repair was performed on subject parts.												
Inspected by:	张金龙		Approved by:		徐根							



Hardness Test Report

[illegible]



ULTRASONIC EXAMINATION REPORT

[illegible]

Sketch:

UT Code:ASTM A388	Technique:Straight/Contact	Examined BY:	Approved by:
Exam.Stage: After heat treatment	Calibration Block:CSK IA		
Equipment:CTS-2020	Couplant: OIL		
Probe Used :2.5P φ10	Acceptance Criteria: API 6A PSL 3		
Equipment Calibration Date :2022.09.09	Test Gain:20db + 5 db	Level as per UT II	Level as per UT II
Equipment Due Date: 2023.09.09			



Magnetic Particle Inspection Report

[illegible]

Sketch/Inspection Coverage:

Fluorescent magnetic particle inspection was performed on all accessible wetted/sealing surface

Evaluation & Disposition : Found to be satisfactory.

Equipment	CJD-9000	MT Code	ASTM E709	Examined BY:  Level as per MT II	Approved by:  Level as per MT II
Test Method	Fulcrum [] Cable1 [✓]	Particle Type	Fluorescence Wet		
Exam. Stage	Rough After Ra ≡ 6.3μm	Test Piece	A1-30/100		
Magnetizing time	1-3S	Circular AMPS/Turns	900A/1		
Concentration	0.3ml/100ml	UV-Light Intensity	≥1000Uw/C m²		



C&W International Fabricators

REPORT INDEX

Purchase Order: **ET2022298-1**

Quantity: **20 EA**

Shipment No. :

Shipment Date:

Activity No.	Characteristics	Reference Page
1. 1	SWIVEL SPOOL BODY 7 1/16" 15Mx20" TALL	Page-2
1. 1. 1	Metallurgical Test Certificate	Page-2
1. 1. 2	Mechanical Testing	Page-2
1. 1. 3	Chemical Testing	Page-2
1. 1. 4	Heat Treatment	Page-2
2. 1	Hardness Test	Page-3
2. 2	Ultrasonic Testing	Page-4
2. 3	Magnetic Particle Inspection Report	Page-5



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METALLURGICAL TEST CERTIFICATE

Serial No.:	ET2022298-1-1-01....20	PO# :	ET2022298-1	Date:	2023-02-23
Part No:	10-183-S0A-1	API Monogram:	YES	Report#:	2023022301
Specification:	API Spec 6A/ ASTM A370	Material:	4130 75k per ASTM A29		
Description:	SWIVEL SPOOL BODY 7 1/16" 15Mx20" TALL PSL3 PR1 EE LU			Qty:	20 EA

TEST CONDITION

Test Bar Size:	QTC, 4" x 4" x 8"	Bar Di:	12.7 mm (0.5")
Melt Practice	EF + LF + VD	Reduction Ratio Min:	4:1
Yield Stress	0.2% offset	Gauge Length	50.8mm

CHEMICAL COMPOSITION

Mill No.:	Qty	Test No.	C	Mn	Si	S	P	Ni	Cu	Mo	Cr	V
Spec Min			0.28	0.40	0.15	/	/	/	/	0.15	0.80	/
Spec Max			0.33	0.60	0.35	0.025	0.025	0.50	0.35	0.25	1.10	0.30
220608681	20	1	0.31	0.55	0.23	0.008	0.010	0.02	0.03	0.19	1.02	0.006

MECHANICAL COMPOSITION

Heat Lot No.	QTY.	Test No.	Yield Strength (Kpsi)	Tensile Strength (Kpsi)	Elongation%	Reduction of Area%	Hardness HB	10mmX10mm CHARPY J (ft. lb) At-46° c	Minimum Lateral	Shear Fraction
Spec Min			75K	95K	18.0	35.0	197	27J		
Spec Max			/	/	/	/	235	/		
TM2212270301	6	1	78.3K	99.5K	26.5	64.5	217	42;48;54		
TM2212290301	14	2	79.6K	98.7K	27.2	66.0	220	61;68;79		

MECHANICAL COMPOSITION

Forgings:	4:1	Test Bar (OTC)	
Normalized:	900°C 4 HRS	Normalized:	900°C 4 HRS
Austenitized:	860°C 4 HRS	Austenitized:	860°C 4 HRS
Quenchant:	Water	Quenchant:	Water
Start Temp:	29 °C	Start Temp:	29 °C
End Temp:	36 °C	End Temp:	36 °C
Temper:	660°C 6 HRS AIR	Temper:	660°C 6 HRS AIR

We hereby certify that all test results and procedure information contained herein are correct and true as in contained the records of the company and also no welding or weld repair was performed on subject parts.

Inspected by:	张金龙	Approved by:	徐俊
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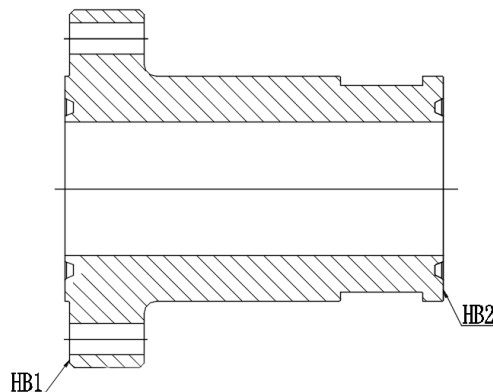
C&W International Fabricators

Hardness Test Report

Serial No.:	ET2022298-1-1-01....20	PO# :	ET2022298-1	Date:	2023-02-23
Part No:	10-183-S0A-1	API Monogram:	YES	Report#:	2023022301
Specification:	API Spec 6A/ ASTM E10	Material:	4130 75k per ASTM A29		
Description:	SWIVEL SPOOL BODY 7 1/16" 15Mx20" TALL PSL3 PR1 EE LU				Qty: 20 EA

Item	S/N	Heat Lot No.	HB1	HB2	HB3	HB4	HB5	HB6	HB7	HB8
1	ET2022298-1-1-01	TM2212270301	229	225						
2	ET2022298-1-1-02	TM2212270301	223	221						
3	ET2022298-1-1-03	TM2212270301	221	223						
4	ET2022298-1-1-04	TM2212270301	223	225						
5	ET2022298-1-1-05	TM2212270301	217	217						
6	ET2022298-1-1-06	TM2212270301	221	223						
7	ET2022298-1-1-07	TM2212290301	217	221						
8	ET2022298-1-1-08	TM2212290301	225	223						
9	ET2022298-1-1-09	TM2212290301	221	217						
10	ET2022298-1-1-10	TM2212290301	217	221						
11	ET2022298-1-1-11	TM2212290301	225	229						
12	ET2022298-1-1-12	TM2212290301	221	223						
13	ET2022298-1-1-13	TM2212290301	223	225						
14	ET2022298-1-1-14	TM2212290301	217	221						
15	ET2022298-1-1-15	TM2212290301	221	223						
16	ET2022298-1-1-16	TM2212290301	217	217						
17	ET2022298-1-1-17	TM2212290301	221	223						
18	ET2022298-1-1-18	TM2212290301	225	229						
19	ET2022298-1-1-19	TM2212290301	229	225						
20	ET2022298-1-1-20	TM2212290301	223	223						

Sketch:



Method Used:	Impact Energy:3000Kg. Diameter of steel ball:10mm		
Acceptable Hardness	197HBW-235HBW	Inspected by:	Approved by:
Judgments:	[V] Conform	刘永良	徐俊
	[] Do not conform		



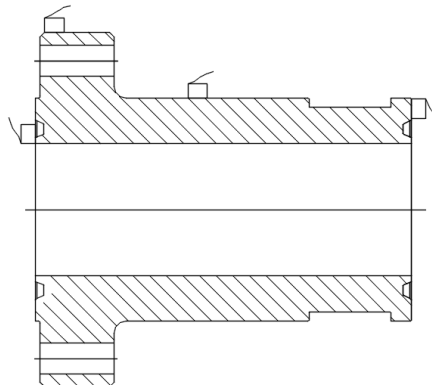
C&W International Fabricators

ULTRASONIC EXAMINATION REPORT

Serial No. :	ET2022298-1-1-01....20	PO# :	ET2022298-1	Date:	2023-02-23
Part No:	10-183-S0A-1	API Monogram:	YES	Report#:	2023022301
Specification:	API Spec 6A/ ASTM A388	Material:	4130 75k per ASTM A29		
Description:	SWIVEL SPOOL BODY 7 1/16" 15Mx20" TALL PSL3 PR1 EE LU			Qty:	20 EA

Item	S/N	Heat Lot No.	Result	Item	S/N	Heat Lot No.	Result
1	ET2022298-1-1-01	TM2212270301	Acceptable				
2	ET2022298-1-1-02	TM2212270301	Acceptable				
3	ET2022298-1-1-03	TM2212270301	Acceptable				
4	ET2022298-1-1-04	TM2212270301	Acceptable				
5	ET2022298-1-1-05	TM2212270301	Acceptable				
6	ET2022298-1-1-06	TM2212270301	Acceptable				
7	ET2022298-1-1-07	TM2212290301	Acceptable				
8	ET2022298-1-1-08	TM2212290301	Acceptable				
9	ET2022298-1-1-09	TM2212290301	Acceptable				
10	ET2022298-1-1-10	TM2212290301	Acceptable				
11	ET2022298-1-1-11	TM2212290301	Acceptable				
12	ET2022298-1-1-12	TM2212290301	Acceptable				
13	ET2022298-1-1-13	TM2212290301	Acceptable				
14	ET2022298-1-1-14	TM2212290301	Acceptable				
15	ET2022298-1-1-15	TM2212290301	Acceptable				
16	ET2022298-1-1-16	TM2212290301	Acceptable				
17	ET2022298-1-1-17	TM2212290301	Acceptable				
18	ET2022298-1-1-18	TM2212290301	Acceptable				
19	ET2022298-1-1-19	TM2212290301	Acceptable				
20	ET2022298-1-1-20	TM2212290301	Acceptable				

Sketch:



UT Code:ASTM A388	Technique:Straight/Contact	Examined BY:	Approved by:
Exam.Stage: After heat treatment	Calibration Block:CSK IA		
Equipment:CTS-2020	Couplant: OIL		
Probe Used :2.5P φ10	Acceptance Criteria: API 6A PSL 3		
Equipment Calibration Date :2022.09.10	Test Gain:20db + 5 db		
Equipment Due Date: 2023.09.09		Level as per UT II	Level as per UT II



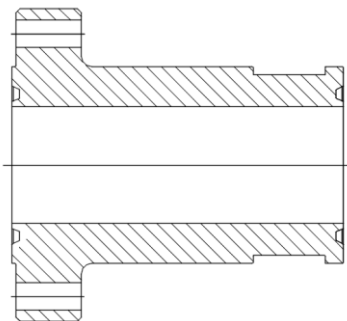
C&W International Fabricators

Magnetic Particle Inspection Report

Serial No. :	ET2022298-1-1-01....20	PO# :	ET2022298-1	Date:	2023-02-23
Part No:	10-183-S0A-1	API Monogram:	YES	Report#:	2023022301
Specification:	API Spec 6A/ ASTM E709	Material:	4130 75k per ASTM A29		
Description:	SWIVEL SPOOL BODY 7 1/16" 15Mx20" TALL PSL3 PR1 EE LU			Qty:	20 EA

Item	S/N	Heat Lot No.	Result	Item	S/N	Heat Lot No.	Result
1	ET2022298-1-1-01	TM2212270301	Acceptable				
2	ET2022298-1-1-02	TM2212270301	Acceptable				
3	ET2022298-1-1-03	TM2212270301	Acceptable				
4	ET2022298-1-1-04	TM2212270301	Acceptable				
5	ET2022298-1-1-05	TM2212270301	Acceptable				
6	ET2022298-1-1-06	TM2212270301	Acceptable				
7	ET2022298-1-1-07	TM2212290301	Acceptable				
8	ET2022298-1-1-08	TM2212290301	Acceptable				
9	ET2022298-1-1-09	TM2212290301	Acceptable				
10	ET2022298-1-1-10	TM2212290301	Acceptable				
11	ET2022298-1-1-11	TM2212290301	Acceptable				
12	ET2022298-1-1-12	TM2212290301	Acceptable				
13	ET2022298-1-1-13	TM2212290301	Acceptable				
14	ET2022298-1-1-14	TM2212290301	Acceptable				
15	ET2022298-1-1-15	TM2212290301	Acceptable				
16	ET2022298-1-1-16	TM2212290301	Acceptable				
17	ET2022298-1-1-17	TM2212290301	Acceptable				
18	ET2022298-1-1-18	TM2212290301	Acceptable				
19	ET2022298-1-1-19	TM2212290301	Acceptable				
20	ET2022298-1-1-20	TM2212290301	Acceptable				

Sketch/Inspection Coverage:



Fluorescent magnetic particle inspection was performed on all accessible wetted/sealing surface

Evaluation & Disposition : Found to be satisfactory.

Equipment	CJD-9000	MT Code	ASTM E709	Examined	Approved
Test Method	Fulcrum [] Cablel [✓]	Particle Type	Fluorescence Wet	BY: 	by:
Exam. Stage	Rough After Ra $\leq 6.3\mu\text{m}$	Test Piece	A1-30/100	Level as	Level as
Magnetizing time	1-3S	Circular AMPS/Turns	900A/1	per	per
Concentration	0.3ml/100ml	UV-Light Intensity	$\geq 1000\text{Uw/C m}^2$	MT II	MT II



REPORT INDEX

Purchase Order: ET2022298-1

Quantity: 20 EA

Shipment No. :

Shipment Date:

[illegible]



C&W International Fabricators

METALLURGICAL TEST CERTIFICATE

Serial No. :	ET2022298-1-2-01....20	PO# :	ET2022298-1	Date:	2023-02-23							
Part No:	10-183-SOA-2	API Monogram:	YES	Report#:	2023022302							
Specification:	API Spec 6A/ ASTM A370	Material:	4130 75k per ASTM A29									
Description:	ROTATING FLANGE 7 1/16" 15M PSL3 PR1 EE LU			Qty:	20 EA							
TEST CONDITION												
Test Bar Size:	QTC, 4" x 4" x 8"		Bar Di:	12.7 mm (0.5")								
Melt Practice	EF + LF + VD		Reduction Ratio Min:	4:1								
Yield Stress	0.2% offset		Gauge Length	50.8mm								
CHEMICAL COMPOSITION												
Mill No.:	Qty	Test No.	C	Mn	Si	S	P	Ni	Cu	Mo	Cr	V
Spec Min			0.28	0.40	0.15	/	/	/	/	0.15	0.80	/
Spec Max			0.33	0.60	0.35	0.025	0.025	0.50	0.35	0.25	1.10	0.30
2016841Z	20	1	0.29	0.53	0.25	0.009	0.009	0.04	0.03	0.16	1.06	0.008
MECHANICAL COMPOSITION												
Heat Lot No.	QTY.	Test No.	Yield Strength (Kpsi)	Tensile Strength (Kpsi)	Elongation%	Reduction of Area%	Hardness HB	10mm x 10mm Charpy J (ft. lb) At -46° c	Minimum Laterl	Shear Fraction		
Spec Min			75K	95K	18.0	35.0	197	27J				
Spec Max			/	/	/	/	235	/				
TM2212270301	20	1	78.3K	99.5K	26.5	64.5	217	42;48;54				
MECHANICAL COMPOSITION												
Forgings:	4:1		Test Bar (OTC)									
Normalized:	900°C 4 HRS		Normalized:			900°C 4 HRS						
Austenitized:	860°C 4 HRS		Austenitized:			860°C 4 HRS						
Quenchant:	Water		Quenchant:			Water						
Start Temp:	29 °C		Start Temp:			29 °C						
End Temp:	36 °C		End Temp:			36 °C						
Temper:	660°C 6 HRS AIR		Temper:			660°C 6 HRS AIR						
We hereby certify that all test results and procedure information contained herein are correct and true as in contained the records of the company and also no welding or weld repair was performed on subject parts.												
Inspected by:	张金龙		Approved by:		徐俊							

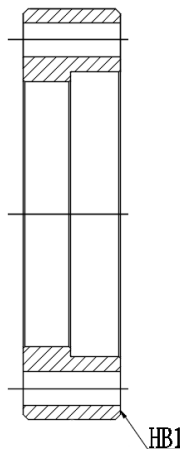


C&W International Fabricators

Hardness Test Report

Serial No. :		ET2022298-1-2-01....20		PO# :		ET2022298-1		Date:		2023-02-23		
Part No:		10-183-SOA-2		API Monogram:		YES		Report#:		2023022302		
Specification:		API Spec 6A/ ASTM E10		Material:		4130 75k per ASTM A29						
Description:		ROTATING FLANGE 7 1/16" 15M PSL3 PR1 EE LU							Qty:		20 EA	
Item	S/N		Heat Lot No.	HB1	HB2	HB3	HB4	HB5	HB6	HB7	HB8	
1	ET2022298-1-2-01		TM2212270301	223								
2	ET2022298-1-2-02		TM2212270301	225								
3	ET2022298-1-2-03		TM2212270301	229								
4	ET2022298-1-2-04		TM2212270301	221								
5	ET2022298-1-2-05		TM2212270301	223								
6	ET2022298-1-2-06		TM2212270301	229								
7	ET2022298-1-2-07		TM2212270301	225								
8	ET2022298-1-2-08		TM2212270301	223								
9	ET2022298-1-2-09		TM2212270301	223								
10	ET2022298-1-2-10		TM2212270301	229								
11	ET2022298-1-2-11		TM2212270301	225								
12	ET2022298-1-2-12		TM2212270301	221								
13	ET2022298-1-2-13		TM2212270301	225								
14	ET2022298-1-2-14		TM2212270301	229								
15	ET2022298-1-2-15		TM2212270301	223								
16	ET2022298-1-2-16		TM2212270301	229								
17	ET2022298-1-2-17		TM2212270301	221								
18	ET2022298-1-2-18		TM2212270301	223								
19	ET2022298-1-2-19		TM2212270301	229								
20	ET2022298-1-2-20		TM2212270301	225								

Sketch:



Method Used:	Impact Energy:3000Kg. Diameter of steel ball:10mm		
Acceptable Hardness	197HBW-235HBW	Inspected by:	Approved by:
Judgments:	[V] Conform	刘永良	徐俊
	[] Do not conform		



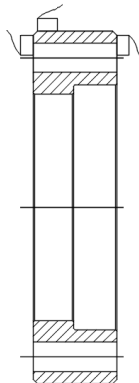
C&W International Fabricators

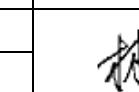
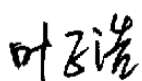
ULTRASONIC EXAMINATION REPORT

Serial No. :	ET2022298-1-2-01....20	PO# :	ET2022298-1	Date:	2023-02-23
Part No:	10-183-S0A-2	API Monogram:	YES	Report#:	2023022302
Specification:	API Spec 6A/ ASTM E10	Material:	4130 75k per ASTM A29		
Description:	ROTATING FLANGE 7 1/16" 15M PSL3 PR1 EE LU			Qty:	20 EA

Item	S/N	Heat Lot No.	Result	Item	S/N	Heat Lot No.	Result
1	ET2022298-1-2-01	TM2212270301	Acceptable				
2	ET2022298-1-2-02	TM2212270301	Acceptable				
3	ET2022298-1-2-03	TM2212270301	Acceptable				
4	ET2022298-1-2-04	TM2212270301	Acceptable				
5	ET2022298-1-2-05	TM2212270301	Acceptable				
6	ET2022298-1-2-06	TM2212270301	Acceptable				
7	ET2022298-1-2-07	TM2212270301	Acceptable				
8	ET2022298-1-2-08	TM2212270301	Acceptable				
9	ET2022298-1-2-09	TM2212270301	Acceptable				
10	ET2022298-1-2-10	TM2212270301	Acceptable				
11	ET2022298-1-2-11	TM2212270301	Acceptable				
12	ET2022298-1-2-12	TM2212270301	Acceptable				
13	ET2022298-1-2-13	TM2212270301	Acceptable				
14	ET2022298-1-2-14	TM2212270301	Acceptable				
15	ET2022298-1-2-15	TM2212270301	Acceptable				
16	ET2022298-1-2-16	TM2212270301	Acceptable				
17	ET2022298-1-2-17	TM2212270301	Acceptable				
18	ET2022298-1-2-18	TM2212270301	Acceptable				
19	ET2022298-1-2-19	TM2212270301	Acceptable				
20	ET2022298-1-2-20	TM2212270301	Acceptable				

Sketch:



UT Code:ASTM A388	Technique:Straight/Contact	Examined BY:	Approved by:
Exam.Stage: After heat treatment	Calibration Block:CSK IA		
Equipment:CTS-2020	Couplant: OIL		
Probe Used :2.5P φ10	Acceptance Criteria: API 6A PSL 3		
Equipment Calibration Date :2022.09.10	Test Gain:20db + 5 db		
Equipment Due Date: 2023.09.09			
		Level as per UT II	Level as per UT II



C&W International Fabricators

Magnetic Particle Inspection Report

Serial No. :		ET2022298-1-2-01....20		PO# :		ET2022298-1		Date:		2023-02-23		
Part No:		10-183-SOA-2		API Monogram:		YES		Report#:		2023022302		
Specification:		API Spec 6A/ ASTM E709		Material:		4130 75k per ASTM A29						
Description:		ROTATING FLANGE 7 1/16" 15M PSL3 PR1 EE LU							Qty:		20 EA	
Item	S/N		Heat Lot No.	Result	Item	S/N		Heat Lot No.	Result			
1	ET2022298-1-2-01		TM2212270301	Acceptable								
2	ET2022298-1-2-02		TM2212270301	Acceptable								
3	ET2022298-1-2-03		TM2212270301	Acceptable								
4	ET2022298-1-2-04		TM2212270301	Acceptable								
5	ET2022298-1-2-05		TM2212270301	Acceptable								
6	ET2022298-1-2-06		TM2212270301	Acceptable								
7	ET2022298-1-2-07		TM2212270301	Acceptable								
8	ET2022298-1-2-08		TM2212270301	Acceptable								
9	ET2022298-1-2-09		TM2212270301	Acceptable								
10	ET2022298-1-2-10		TM2212270301	Acceptable								
11	ET2022298-1-2-11		TM2212270301	Acceptable								
12	ET2022298-1-2-12		TM2212270301	Acceptable								
13	ET2022298-1-2-13		TM2212270301	Acceptable								
14	ET2022298-1-2-14		TM2212270301	Acceptable								
15	ET2022298-1-2-15		TM2212270301	Acceptable								
16	ET2022298-1-2-16		TM2212270301	Acceptable								
17	ET2022298-1-2-17		TM2212270301	Acceptable								
18	ET2022298-1-2-18		TM2212270301	Acceptable								
19	ET2022298-1-2-19		TM2212270301	Acceptable								
20	ET2022298-1-2-20		TM2212270301	Acceptable								

Sketch/Inspection Coverage:



Fluorescent magnetic particle inspection was performed on all accessible wetted/sealing surface

Evaluation & Disposition : Found to be satisfactory.

Equipment	CJD-9000	MT Code	ASTM E709	Examined	Approved
Test Method	Fulcrum [] Cable1 [✓]	Particle Type	Fluorescence Wet	BY: 	by:
Exam. Stage	Rough After Ra $\leq 6.3\mu\text{m}$	Test Piece	A1-30/100	Level as	Level as
Magnetizing time	1-3S	Circular AMPS/Turns	900A/1	per	per
Concentration	0.3ml/100ml	UV-Light Intensity	$\geq 1000\text{Uw/C m}^2$	MT II	MT II



C&W International Fabricators

REPORT INDEX

Purchase Order: **ET2022298-1**

Quantity: **20 EA**

Shipment No. :

Shipment Date:

Activity No.	Characteristics	Reference Page
1.1	CLAMP 7 1/16" 15M	Page-2
1.1.1	Metallurgical Test Certificate	Page-2
1.1.2	Mechanical Testing	Page-2
1.1.3	Chemical Testing	Page-2
1.1.4	Heat Treatment	Page-2
2.1	Hardness Test	Page-3
2.2	Ultrasonic Testing	Page-4
2.3	Magnetic Particle Inspection Report	Page-5



C&W International Fabricators

METALLURGICAL TEST CERTIFICATE

Serial No.:	ET2022298-1-3-01....20	PO# :	ET2022298-1	Date:	2023-02-23							
Part No:	10-183-S0A-3	API Monogram:	YES	Report#:	2023022303							
Specification:	API Spec 6A/ ASTM A370	Material:	4140 110k per ASTM A29									
Description:	CLAMP 7 1/16" 15M PSL3 PR1 EE LU			Qty:	20 EA							
TEST CONDITION												
Test Bar Size:	QTC, 4" x 4" x 8"		Bar Di:	12.7 mm (0.5")								
Melt Practice	EF + LF + VD		Reduction Ratio Min:	4:1								
Yield Stress	0.2% offset		Gauge Length	50.8mm								
CHEMICAL COMPOSITION												
Mill No.:	Qty	Test No.	C	Mn	Si	S	P	Ni	Cu	Mo	Cr	V
Spec Min			0.38	0.75	0.15	/	/	/	/	0.15	0.80	/
Spec Max			0.43	1.00	0.35	0.025	0.025	0.25	0.30	0.25	1.10	0.30
2A2873	20	1	0.41	0.86	0.24	0.007	0.015	0.019	0.026	0.18	0.97	0.009
MECHANICAL COMPOSITION												
Heat Lot No.	QTY.	Test No.	Yield Strength (Kpsi)	Tensile Strength (Kpsi)	Elongation%	Reduction of Area%	Hardness HB	10mm X 10mm CHARPY J (ft. lb) At -46° c	Minimum Laterl	Shear Fraction		
Spec Min			110K	125K	18.0	35.0	280	27J				
Spec Max			/	/	/	/	320	/				
TM2212290101	20	1	113.6K	128.0K	26.8	61.0	293	60;68:74				
MECHANICAL COMPOSITION												
Forgings:	4:1		Test Bar (OTC)									
Normalized:	900°C 3 HRS		Normalized:			900°C 3 HRS						
Austenitized:	860°C 3 HRS		Austenitized:			860°C 3 HRS						
Quenchant:	Water		Quenchant:			Water						
Start Temp:	28 °C		Start Temp:			28 °C						
End Temp:	29 °C		End Temp:			29 °C						
Temper:	560°C 4.5 HRS AIR		Temper:			560°C 4.5 HRS AIR						
We hereby certify that all test results and procedure information contained herein are correct and true as in contained the records of the company and also no welding or weld repair was performed on subject parts.												
Inspected by:	张金龙		Approved by:		徐俊							



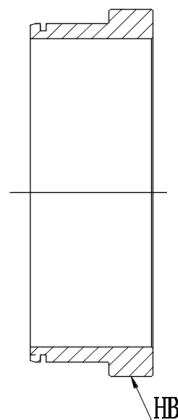
C&W International Fabricators

Hardness Test Report

Serial No.:	ET2022298-1-3-01....20	PO#:	ET2022298-1	Date:	2023-02-23
Part No:	10-183-S0A-3	API Monogram:	YES	Report#:	2023022303
Specification:	API Spec 6A/ ASTM E10	Material:	4140 110k per ASTM A29		
Description:	CLAMP 7 1/16" 15M PSL3 PR1 EE LU				Qty: 20 EA

Item	S/N	Heat Lot No.	HB1	HB2	HB3	HB4	HB5	HB6	HB7	HB8
1	ET2022298-1-3-01	TM2212290101	293							
2	ET2022298-1-3-02	TM2212290101	296							
3	ET2022298-1-3-03	TM2212290101	302							
4	ET2022298-1-3-04	TM2212290101	311							
5	ET2022298-1-3-05	TM2212290101	302							
6	ET2022298-1-3-06	TM2212290101	302							
7	ET2022298-1-3-07	TM2212290101	293							
8	ET2022298-1-3-08	TM2212290101	293							
9	ET2022298-1-3-09	TM2212290101	293							
10	ET2022298-1-3-10	TM2212290101	302							
11	ET2022298-1-3-11	TM2212290101	307							
12	ET2022298-1-3-12	TM2212290101	311							
13	ET2022298-1-3-13	TM2212290101	302							
14	ET2022298-1-3-14	TM2212290101	296							
15	ET2022298-1-3-15	TM2212290101	293							
16	ET2022298-1-3-16	TM2212290101	296							
17	ET2022298-1-3-17	TM2212290101	311							
18	ET2022298-1-3-18	TM2212290101	302							
19	ET2022298-1-3-19	TM2212290101	293							
20	ET2022298-1-3-20	TM2212290101	302							

Sketch:



Method Used:	Impact Energy:3000Kg. Diameter of steel ball:10mm		
Acceptable Hardness	280HBW-320HBW	Inspected by:	Approved by:
Judgments:	[V] Conform	刘永良	徐俊
	[] Do not conform		

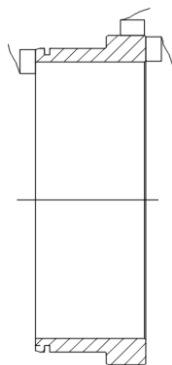


C&W International Fabricators

ULTRASONIC EXAMINATION REPORT

Serial No. :		ET2022298-1-3-01....20		PO# :		ET2022298-1		Date:		2023-02-23	
Part No:		10-183-SOA-3		API Monogram:		YES		Report#:		2023022303	
Specification:		API Spec 6A/ ASTM A388		Material:		4140 110k per ASTM A29					
Description:		CLAMP 7 1/16" 15M PSL3 PR1 EE LU						Qty:		20 EA	
Item	S/N		Heat Lot No.	Result	Item	S/N		Heat Lot No.	Result		
1	ET2022298-1-3-01		TM2212290101	Acceptable							
2	ET2022298-1-3-02		TM2212290101	Acceptable							
3	ET2022298-1-3-03		TM2212290101	Acceptable							
4	ET2022298-1-3-04		TM2212290101	Acceptable							
5	ET2022298-1-3-05		TM2212290101	Acceptable							
6	ET2022298-1-3-06		TM2212290101	Acceptable							
7	ET2022298-1-3-07		TM2212290101	Acceptable							
8	ET2022298-1-3-08		TM2212290101	Acceptable							
9	ET2022298-1-3-09		TM2212290101	Acceptable							
10	ET2022298-1-3-10		TM2212290101	Acceptable							
11	ET2022298-1-3-11		TM2212290101	Acceptable							
12	ET2022298-1-3-12		TM2212290101	Acceptable							
13	ET2022298-1-3-13		TM2212290101	Acceptable							
14	ET2022298-1-3-14		TM2212290101	Acceptable							
15	ET2022298-1-3-15		TM2212290101	Acceptable							
16	ET2022298-1-3-16		TM2212290101	Acceptable							
17	ET2022298-1-3-17		TM2212290101	Acceptable							
18	ET2022298-1-3-18		TM2212290101	Acceptable							
19	ET2022298-1-3-19		TM2212290101	Acceptable							
20	ET2022298-1-3-20		TM2212290101	Acceptable							

Sketch:



UT Code:ASTM A388	Technique:Straight/Contact	Examined BY:	Approved by:
Exam.Stage: After heat treatment	Calibration Block:CSK IA		
Equipment:CTS-2020	Couplant: OIL		
Probe Used :2.5P φ10	Acceptance Criteria: API 6A PSL 3		
Equipment Calibration Date :2022.09.10	Test Gain:20db + 5 db		
Equipment Due Date: 2023.09.09			
		Level as per UT II	Level as per UT II



C&W International Fabricators

Magnetic Particle Inspection Report

Serial No. :	ET2022298-1-3-01....20	PO# :	LBW19-036	Date:	2023-02-23
Part No:	10-183-S0A-3	API Monogram:	YES	Report#:	2023022303
Specification:	API Spec 6A/ ASTM E709	Material:	4140 110k per ASTM A29		
Description:	CLAMP 7 1/16" 15M PSL3 PR1 EE LU			Qty:	20 EA

Item	S/N	Heat Lot No.	Result	Item	S/N	Heat Lot No.	Result
1	ET2022298-1-3-01	TM2212290101	Acceptable				
2	ET2022298-1-3-02	TM2212290101	Acceptable				
3	ET2022298-1-3-03	TM2212290101	Acceptable				
4	ET2022298-1-3-04	TM2212290101	Acceptable				
5	ET2022298-1-3-05	TM2212290101	Acceptable				
6	ET2022298-1-3-06	TM2212290101	Acceptable				
7	ET2022298-1-3-07	TM2212290101	Acceptable				
8	ET2022298-1-3-08	TM2212290101	Acceptable				
9	ET2022298-1-3-09	TM2212290101	Acceptable				
10	ET2022298-1-3-10	TM2212290101	Acceptable				
11	ET2022298-1-3-11	TM2212290101	Acceptable				
12	ET2022298-1-3-12	TM2212290101	Acceptable				
13	ET2022298-1-3-13	TM2212290101	Acceptable				
14	ET2022298-1-3-14	TM2212290101	Acceptable				
15	ET2022298-1-3-15	TM2212290101	Acceptable				
16	ET2022298-1-3-16	TM2212290101	Acceptable				
17	ET2022298-1-3-17	TM2212290101	Acceptable				
18	ET2022298-1-3-18	TM2212290101	Acceptable				
19	ET2022298-1-3-19	TM2212290101	Acceptable				
20	ET2022298-1-3-20	TM2212290101	Acceptable				

Sketch/Inspection Coverage:



Fluorescent magnetic particle inspection was performed on all accessible wetted/sealing surface

Evaluation & Disposition : Found to be satisfactory.

Equipment	CJD-9000	MT Code	ASTM E709	Examined BY: Level as per MT II	Approved by: Level as per MT II
Test Method	Fulcrum [] Cable1 [✓]	Particle Type	Fluorescence Wet		
Exam. Stage	Rough After Ra $\leq 6.3\mu\text{m}$	Test Piece	A1-30/100		
Magnetizing time	1-3S	Circular AMPS/Turns	900A/1		
Concentration	0.3ml/100ml	UV-Light Intensity	$\geq 1000\text{Uw/C m}^2$		



C&W International Fabricators

REPORT INDEX

Purchase Order: **ET2022168-3**

Quantity: **10 EA**

Shipment No. :

Shipment Date:

Activity No.	Characteristics	Reference Page
1.1	ADAPTER SPOOL 7 1/16" 15M X 5 1/8" 15M X 16"	Page-2
1.1.1	Metallurgical Test Certificate	Page-2
1.1.2	Mechanical Testing	Page-2
1.1.3	Chemical Testing	Page-2
1.1.4	Heat Treatment	Page-2
2.1	Hardness Test	Page-3
2.2	Ultrasonic Testing	Page-4
2.3	Magnetic Particle Inspection Report	Page-5



C&W International Fabricators

METALLURGICAL TEST CERTIFICATE

Serial No. :	ET2022168-3-01....10	PO# :	ET2022168	Date:	2022-09-15							
Part No:		API Monogram:	YES	Report#:	20220915							
Specification:	API Spec 6A/ ASTM A370	Material:	4130 75k per ASTM A29									
Description:	ADAPTER SPOOL 7 1/16" 15M X 5 1/8" 15M X 16" EE LU PSL3 PR1			Qty:	10 EA							
TEST CONDITION												
Test Bar Size:	QTC, 4" x 4" x 8"		Bar Di:	12.7 mm (0.5")								
Melt Practice	EF + LF + VD		Reduction Ratio Min:	4:1								
Yield Stress	0.2% offset		Gauge Length	50.8mm								
CHEMICAL COMPOSITION												
Mill No. :	Qty	Test No.	C	Mn	Si	S	P	Ni	Cu	Mo	Cr	V
Spec Min			0.28	0.40	0.15	/	/	/	/	0.15	0.80	/
Spec Max			0.33	0.60	0.35	0.025	0.025	0.50	0.35	0.25	1.10	0.30
2016841Z	10	1	0.29	0.53	0.25	0.009	0.009	0.04	0.03	0.16	1.06	0.008
MECHANICAL COMPOSITION												
Heat Lot No.	QTY.	Test No.	Yield Strength (Kpsi)	Tensile Strength (Kpsi)	Elongation%	Reduction of Area%	Hardness HB	10mm X 10mm Charpy J (ft. lb) At -46° c	Minimum Laterl	Shear Fraction		
Spec Min			75K	95K	18.0	35.0	197	27J				
Spec Max			/	/	/	/	235	/				
TM2208260201	4	1	79.5 K	100.5 K	48.5	59.5	225	48;57;43				
TM2208280201	6	1	81.0 K	101.5 K	54.5	63.4	223	42;49;55				
HEAT TREATMENT												
Forgings:	4:1		Test Bar (OTC)									
Normalized:	903°C 5 HRS		Normalized:			903°C 5 HRS						
Austenitized:	870°C 5 HRS		Austenitized:			870°C 5 HRS						
Quenchant:	Water		Quenchant:			Water						
Start Temp:	29 °C		Start Temp:			29 °C						
End Temp:	38 °C		End Temp:			38 °C						
Temper:	670°C 7 HRS AIR		Temper:			670°C 7 HRS AIR						
We hereby certify that all test results and procedure information contained herein are correct and true as in contained the records of the company and also no welding or weld repair was performed on subject parts.												
Inspected by:	张金龙		Approved by:			徐俊						



Hardness Test Report

[illegible]



ULTRASONIC EXAMINATION REPORT

[illegible]

Sketch:

UT Code:ASTM A388	Technique:Straight/Contact	Examined BY:	Approved by:
Exam.Stage: After heat treatment	Calibration Block:CSK IA		
Equipment:CTS-2020	Couplant: OIL		
Probe Used :2.5P φ10	Acceptance Criteria: API 6A PSL 3		
Equipment Calibration Date :2022. 09. 10	Test Gain:20db + 5 db	Level as per UT II	Level as per UT II
Equipment Due Date: 2023. 09. 09			



C&W International Fabricators

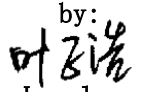
Magnetic Particle Inspection Report

Serial No. :		ET2022168-3-01....10		PO# :		ET2022168		Date:		2022-09-15			
Part No:				API Monogram:		YES		Report#:		20220915			
Specification:		API Spec 6A/ ASTM E709		Material:		4130 75k per ASTM A29							
Description:		ADAPTER SPOOL 7 1/16" 15M X 5 1/8" 15M X 16" EE LU PSL3 PR1										Qty:	10 EA
Item	S/N		Heat Lot No.	Result	Item	S/N		Heat Lot No.		Result			
1	ET2022168-3-01		TM2208260201	Acceptable									
2	ET2022168-3-02		TM2208260201	Acceptable									
3	ET2022168-3-03		TM2208260201	Acceptable									
4	ET2022168-3-04		TM2208260201	Acceptable									
5	ET2022168-3-05		TM2208280201	Acceptable									
6	ET2022168-3-06		TM2208280201	Acceptable									
7	ET2022168-3-07		TM2208280201	Acceptable									
8	ET2022168-3-08		TM2208280201	Acceptable									
9	ET2022168-3-09		TM2208260201	Acceptable									
10	ET2022168-3-10		TM2208260201	Acceptable									

Sketch/Inspection Coverage:

Fluorescent magnetic particle inspection was performed on all accessible wetted/sealing surface

Evaluation & Disposition : Found to be satisfactory.

Equipment	CJD-9000	MT Code	ASTM E709	Examined BY:  Level as per MT II	Approved by:  Level as per MT II
Test Method	Fulcrum [] Cablel [✓]	Particle Type	Fluorescence Wet		
Exam. Stage	Rough After Ra ≅ 6.3μm	Test Piece	A1-30/100		
Magnetizing time	1-3S	Circular AMPS/Turns	900A/1		
Concentration	0.3ml/100ml	UV-Light Intensity	≥1000Uw/C m²		



C&W International Fabricators

REPORT INDEX

Purchase Order: **ET2022279-1**

Quantity: **15 EA**

Shipment No. :

Shipment Date:

Activity No.	Characteristics	Reference Page
1.1	SPACER SPOOL 7 1/16" 15M X 16" LONG	Page-2
1.1.1	Metallurgical Test Certificate	Page-2
1.1.2	Mechanical Testing	Page-2
1.1.3	Chemical Testing	Page-2
1.1.4	Heat Treatment	Page-2
2.1	Hardness Test	Page-3
2.2	Ultrasonic Testing	Page-4
2.3	Magnetic Particle Inspection Report	Page-5



C&W International Fabricators

METALLURGICAL TEST CERTIFICATE

Serial No.:	ET2022279-1-01....15	PO#:	ET2022279	Date:	2022-12-13							
Part No:		API Monogram:	YES	Report#:	20221213							
Specification:	API Spec 6A/ ASTM A370	Material:	4130 75k per ASTM A29									
Description:	SPACER SPOOL 7 1/16" 15M X 16" LONG EE LU PSL3 PR1				Qty: 15 EA							
TEST CONDITION												
Test Bar Size:	QTC, 4" x 4" x 8"		Bar Di:	12.7 mm (0.5")								
Melt Practice	EF + LF + VD		Reduction Ratio Min:	4:1								
Yield Stress	0.2% offset		Gauge Length	50.8mm								
CHEMICAL COMPOSITION												
Mill No.:	Qty	Test No.	C	Mn	Si	S	P	Ni	Cu	Mo	Cr	V
Spec Min			0.28	0.40	0.15	/	/	/	/	0.15	0.80	/
Spec Max			0.33	0.60	0.35	0.025	0.025	0.50	0.35	0.25	1.10	0.30
22-2-1-298	15	1	0.311	0.495	0.198	0.009	0.015	0.196	/	0.169	0.936	0.002
MECHANICAL COMPOSITION												
Heat Lot No.	QTY.	Test No.	Yield Strength (Kpsi)	Tensile Strength (Kpsi)	Elongation%	Reduction of Area%	Hardness HB	10mm X 10mm Charpy J (ft. lb) At-46° c	Minimum Lateral	Shear Fraction		
Spec Min			75K	95K	18.0	35.0	197	27J				
Spec Max			/	/	/	/	235	/				
TM2211220201	15	1	80.5 K	101.5 K	47.5	57.8	223	42;49;56				
HEAT TREATMENT												
Forgings:	4:1		Test Bar (OTC)									
Normalized:	901°C 5 HRS		Normalized:			901°C 5 HRS						
Austenitized:	880°C 5 HRS		Austenitized:			880°C 5 HRS						
Quenchant:	Water		Quenchant:			Water						
Start Temp:	23 °C		Start Temp:			23 °C						
End Temp:	34 °C		End Temp:			34 °C						
Temper:	670°C 7 HRS AIR		Temper:			670°C 7 HRS AIR						
We hereby certify that all test results and procedure information contained herein are correct and true as in contained the records of the company and also no welding or weld repair was performed on subject parts.												
Inspected by:	张金龙		Approved by:		徐俊							



Hardness Test Report

[illegible]

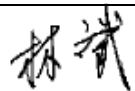
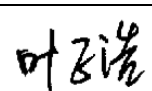


C&W International Fabricators

ULTRASONIC EXAMINATION REPORT

Serial No. :		ET2022279-1-01...15		PO# :		ET2022279		Date:		2022-12-13			
Part No:				API Monogram:		YES		Report#:		20221213			
Specification:		API Spec 6A/ ASTM A388		Material:		4130 75k per ASTM A29							
Description:		SPACER SPOOL 7 1/16" 15M X 16" LONG EE LU PSL3 PR1							Qty:		15 EA		
Item	S/N		Heat Lot No.		Result		Item	S/N		Heat Lot No.		Result	
1	ET2022279-1-01		TM2211220201		Acceptable								
2	ET2022279-1-02		TM2211220201		Acceptable								
3	ET2022279-1-03		TM2211220201		Acceptable								
4	ET2022279-1-04		TM2211220201		Acceptable								
5	ET2022279-1-05		TM2211220201		Acceptable								
6	ET2022279-1-06		TM2211220201		Acceptable								
7	ET2022279-1-07		TM2211220201		Acceptable								
8	ET2022279-1-08		TM2211220201		Acceptable								
9	ET2022279-1-09		TM2211220201		Acceptable								
10	ET2022279-1-10		TM2211220201		Acceptable								
11	ET2022279-1-11		TM2211220201		Acceptable								
12	ET2022279-1-12		TM2211220201		Acceptable								
13	ET2022279-1-13		TM2211220201		Acceptable								
14	ET2022279-1-14		TM2211220201		Acceptable								
15	ET2022279-1-15		TM2211220201		Acceptable								

Sketch:

UT Code:ASTM A388	Technique:Straight/Contact	Examined BY:	Approved by:
Exam. Stage: After heat treatment	Calibration Block:CSK IA		
Equipment:CTS-2020	Couplant: OIL		
Probe Used :2.5P Φ10	Acceptance Criteria: API 6A PSL 3		
Equipment Calibration Date :2022.09.10	Test Gain:20db + 5 db		
Equipment Due Date: 2023.09.09		Level as per UT II	Level as per UT II



C&W International Fabricators

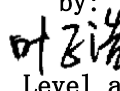
Magnetic Particle Inspection Report

Serial No. :		ET2022279-1-01...15		PO# :		ET2022279		Date:		2022-12-13			
Part No:				API Monogram:		YES		Report#:		20221213			
Specification:		API Spec 6A/ ASTM E709		Material:		4130 75k per ASTM A29							
Description:		SPACER SPOOL 7 1/16" 15M X 16" LONG EE LU PSL3 PR1							Qty:		15 EA		
Item	S/N		Heat Lot No.		Result		Item	S/N		Heat Lot No.		Result	
1	ET2022279-1-01		TM2211220201		Acceptable								
2	ET2022279-1-02		TM2211220201		Acceptable								
3	ET2022279-1-03		TM2211220201		Acceptable								
4	ET2022279-1-04		TM2211220201		Acceptable								
5	ET2022279-1-05		TM2211220201		Acceptable								
6	ET2022279-1-06		TM2211220201		Acceptable								
7	ET2022279-1-07		TM2211220201		Acceptable								
8	ET2022279-1-08		TM2211220201		Acceptable								
9	ET2022279-1-09		TM2211220201		Acceptable								
10	ET2022279-1-10		TM2211220201		Acceptable								
11	ET2022279-1-11		TM2211220201		Acceptable								
12	ET2022279-1-12		TM2211220201		Acceptable								
13	ET2022279-1-13		TM2211220201		Acceptable								
14	ET2022279-1-14		TM2211220201		Acceptable								
15	ET2022279-1-15		TM2211220201		Acceptable								

Sketch/Inspection Coverage:

Fluorescent magnetic particle inspection was performed on all accessible wetted/sealing surface

Evaluation & Disposition : Found to be satisfactory.

Equipment	CJD-9000	MT Code	ASTM E709	Examined BY:  Level as per MT II	Approved by:  Level as per MT II
Test Method	Fulcrum [] Cablel [✓]	Particle Type	Fluorescence Wet		
Exam. Stage	Rough After Ra ≅ 6.3μm	Test Piece	A1-30/100		
Magnetizing time	1-3S	Circular AMPS/Turns	900A/1		
Concentration	0.3ml/100ml	UV-Light Intensity	≥1000Uw/C m²		



C&W International Fabricators

REPORT INDEX

Purchase Order: **ET2022242-2**

Quantity: **5 EA**

Shipment No. :

Shipment Date:

Activity No.	Characteristics	Reference Page
1.1	SPACER SPOOL 7 1/16" 15M X 36" LONG	Page-2
1.1.1	Metallurgical Test Certificate	Page-2
1.1.2	Mechanical Testing	Page-2
1.1.3	Chemical Testing	Page-2
1.1.4	Heat Treatment	Page-2
2.1	Hardness Test	Page-3
2.2	Ultrasonic Testing	Page-4
2.3	Magnetic Particle Inspection Report	Page-5



C&W International Fabricators

METALLURGICAL TEST CERTIFICATE

Serial No. :	ET2022242-2-01....05	PO# :	ET2022242	Date:	2022-11-12							
Part No:		API Monogram:	YES	Report#:	20221112							
Specification:	API Spec 6A/ ASTM A370	Material:	4130 75k per ASTM A29									
Description:	SPACER SPOOL 7 1/16" 15M X 36" LONG EE LU PSL3 PR1				Qty: 5 EA							
TEST CONDITION												
Test Bar Size:	QTC, 4" x 4" x 8"		Bar Di:	12.7 mm (0.5")								
Melt Practice	EF + LF + VD		Reduction Ratio Min:	4:1								
Yield Stress	0.2% offset		Gauge Length	50.8mm								
CHEMICAL COMPOSITION												
Mill No. :	Qty	Test No.	C	Mn	Si	S	P	Ni	Cu	Mo	Cr	V
Spec Min			0.28	0.40	0.15	/	/	/	/	0.15	0.80	/
Spec Max			0.33	0.60	0.35	0.025	0.025	0.50	0.35	0.25	1.10	0.30
220500877	5	1	0.298	0.55	0.24	0.004	0.011	0.03	0.02	0.20	1.01	0.007
MECHANICAL COMPOSITION												
Heat Lot No.	QTY.	Test No.	Yield Strength (Kpsi)	Tensile Strength (Kpsi)	Elongation%	Reduction of Area%	Hardness HB	10mm X 10mm Charpy J (ft. lb) At -46° c	Minimum Lateral	Shear Fraction		
Spec Min			75K	95K	18.0	35.0	197	27J				
Spec Max			/	/	/	/	235	/				
TM2211030201	5	1	80.5 K	101.5 K	52.5	63.4	221	42;51;49				
HEAT TREATMENT												
Forgings:	4:1				Test Bar (OTC)							
Normalized:	901°C 3 HRS				Normalized:				901°C 3 HRS			
Austenitized:	860°C 3 HRS				Austenitized:				860°C 3 HRS			
Quenchant:	Water				Quenchant:				Water			
Start Temp:	29 °C				Start Temp:				29 °C			
End Temp:	37 °C				End Temp:				37 °C			
Temper:	660°C 5 HRS AIR				Temper:				660°C 5 HRS AIR			
We hereby certify that all test results and procedure information contained herein are correct and true as in contained the records of the company and also no welding or weld repair was performed on subject parts.												
Inspected by:					Approved by:							



Hardness Test Report

[illegible]



ULTRASONIC EXAMINATION REPORT

[illegible]



C&W International Fabricators

Magnetic Particle Inspection Report

Serial No. :		ET2022242-2-01...05		PO# :		ET2022242		Date:		2022-11-12			
Part No:				API Monogram:		YES		Report#:		20221112			
Specification:		API Spec 6A/ ASTM E709		Material:		4130 75k per ASTM A29							
Description:		SPACER SPOOL 7 1/16" 15M X 36" LONG EE LU PSL3 PR1							Qty:	5 EA			
Item	S/N		Heat Lot No.		Result		Item	S/N		Heat Lot No.		Result	
1	ET2022242-2-01		TM2211030201		Acceptable								
2	ET2022242-2-02		TM2211030201		Acceptable								
3	ET2022242-2-03		TM2211030201		Acceptable								
4	ET2022242-2-04		TM2211030201		Acceptable								
5	ET2022242-2-05		TM2211030201		Acceptable								

Sketch/Inspection Coverage:

Fluorescent magnetic particle inspection was performed on all accessible wetted/sealing surface

Evaluation & Disposition : Found to be satisfactory.

Equipment	CJD-9000	MT Code	ASTM E709	Examined	Approved
Test Method	Fulcrum [] Cablel [✓]	Particle Type	Fluorescence Wet	BY: 	by:
Exam. Stage	Rough After Ra ≅ 6.3μm	Test Piece	A1-30/100	Level as	Level as
Magnetizing time	1-3S	Circular AMPS/Turns	900A/1	per	per
Concentration	0.3ml/100ml	UV-Light Intensity	≥1000Uw/C m²	MT II	MT II