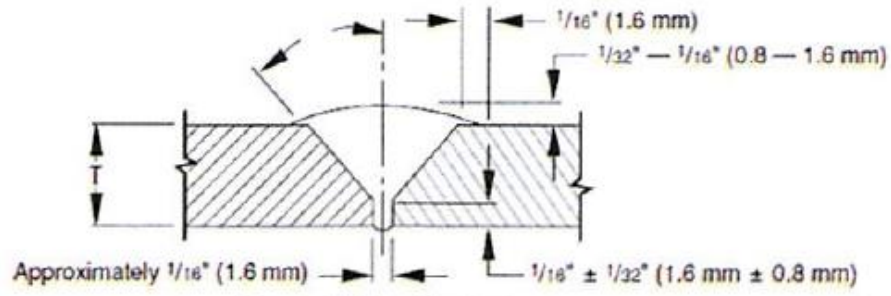
Issued: 11-18-2012 **Revised:** 12-05-2022 **Number:** 6G **Page:** _____

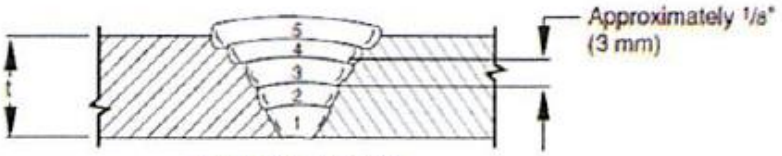
STANDARD WELDING PROCEDURE SPECIFICATION #: 6G

A. Process: Manual Electric Arc
B. Material: API 5L Grade X52
C. Diameter and Wall Thickness: Greater than 12" and .188 thru .500 wall thickness
D. Joint Design: Standard Vee Groove, 30 Degree
E. Filler Metal and Number of Beads: Electrode Classification
Electrode E6010 and E8010, AWS Class A5.1 – A5.5,
F. Electrical or Flame Characteristics: D.C. Reverse Polarity, Electrode Positive
G. Position: Horizontal
H. Direction of Welding: Vertical Down
I. Number of Welders: 1
J. Time Lapse Between Passes: Maximum of 5 minutes between stringer and hot pass; 3 minutes maximum when temperature is below 35° F.
K. Type of Line-Up Clamp: External
L. Removal of Line-Up Clamp: After 50% completion of stringer bead.
M. Cleaning: Taper grind starts and craters and flatten crown by grinding stringer bead, power buff all remaining passes.
N. Speed of Travel: String bead 10 to 12 inches per minute maximum.
O. *Preheat, Stress Relief: Maximum of 300°F. Minimum of 150°F. Preheating shall be done with device or equipment which will heat entire circumference(s) in single application 2" back from pipe ends.
P. Notes: Welded pipe strings shall be temporarily capped to prevent air draft cooling of stringer beads. Weld shall be completely protected from moisture until it has cooled to ambient temperature. Weld zone shall be protected so that the wind velocity near it does not exceed 8 miles per hour.

*X-Rated pipe must be stress relief if the carbon content exceeds 32% or C+1/4 Mn exceeds 65%. Heating of X-Rated pipe is limited to 600°F.



Standard V-Bevel Butt Joint

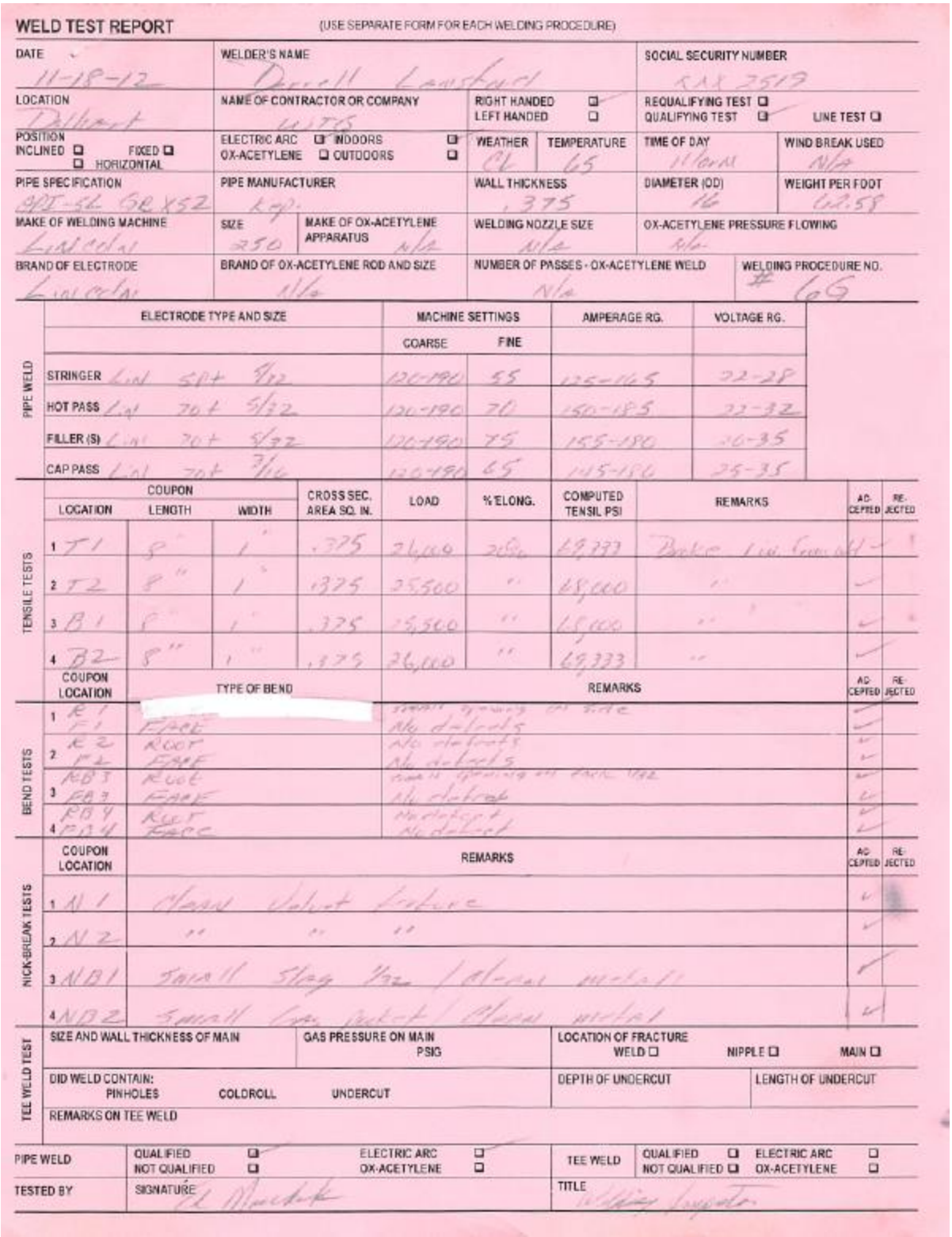


Sequence of Beads

Note: Dimensions are for example only.

Bead No.	Electrode Diameter	Amperage Range	Voltage Range	Type Rod	Notes
1	5/32	125-165	25-32	E6010 5P+	
2	5/32	150-185	26-36	E8010	
3	5/32	155-180	25-35	E8010	
4	3/16	145-180	25-35	E8010	
5					

Bead No.	Notes
5	Additional beads may be applied at same settings as pass 4
	Electrodes may be substituted within rod group 1&2 of AWS specification A5.1-A5.5



WELD TEST REPORT (USE SEPARATE FORM FOR EACH WELDING PROCEDURE)

DATE: 11-18-12	WELDER'S NAME: Darrell Lankford		SOCIAL SECURITY NUMBER: XXX-3513
LOCATION: Dilbert	NAME OF CONTRACTOR OR COMPANY: WTG	RIGHT HANDED ☐ LEFT HANDED ☐	REQUALIFYING TEST ☐ QUALIFYING TEST ☐ LINE TEST ☐
POSITION INCLINED ☐ FIXED ☐ HORIZONTAL ☐	ELECTRIC ARC ☐ INDOORS ☐ OX-ACETYLENE ☐ OUTDOORS ☐	WEATHER: CL / TEMPERATURE: 65	TIME OF DAY: 11am / WIND BREAK USED: N/A
PIPE SPECIFICATION: API-5L GR X52	PIPE MANUFACTURER: Lap.	WALL THICKNESS: .375	DIAMETER (OD): 16 / WEIGHT PER FOOT: 62.58
MAKE OF WELDING MACHINE: Lincoln	SIZE: 250 / MAKE OF OX-ACETYLENE APPARATUS: n/a	WELDING NOZZLE SIZE: n/a	OX-ACETYLENE PRESSURE FLOWING: n/a
BRAND OF ELECTRODE: Lincoln	BRAND OF OX-ACETYLENE ROD AND SIZE: n/a	NUMBER OF PASSES - OX-ACETYLENE WELD: N/A	WELDING PROCEDURE NO.: # 6G

PIPE WELD

	ELECTRODE TYPE AND SIZE	MACHINE SETTINGS COARSE	MACHINE SETTINGS FINE	AMPERAGE RG.	VOLTAGE RG.
STRINGER	Lin 5P+ 5/32	120-190	55	125-165	22-28
HOT PASS	Lin 70+ 5/32	120-190	70	150-185	22-32
FILLER (S)	Lin 70+ 5/32	120-190	75	155-180	26-35
CAP PASS	Lin 70+ 3/16	120-190	65	145-180	25-35

TENSILE TESTS

	LOCATION	COUPON LENGTH	COUPON WIDTH	CROSS SEC. AREA SQ. IN.	LOAD	% ELONG.	COMPUTED TENSIL PSI	REMARKS	ACCEPTED	REJECTED
1	T1	8"	1"	.375	26,000	26%	69,333	Broke in Gauge	✓	
2	T2	8"	1"	.375	25500	"	68,000	"	✓	
3	B1	8"	1"	.375	25500	"	68,000	"	✓	
4	B2	8"	1"	.375	26,000	"	69,333	"	✓	

BEND TESTS

	COUPON LOCATION	TYPE OF BEND	REMARKS	ACCEPTED	REJECTED
1	R1 F1	FACE	No defects	✓	
2	R2 F2	ROOT FACE	No defects	✓	
3	RB3 FB3	ROOT FACE	No defects	✓	
4	RB4 FB4	ROOT FACE	No defects	✓	

NICK-BREAK TESTS

	COUPON LOCATION	REMARKS	ACCEPTED	REJECTED
1	N1	Good Weld Fusion	✓	
2	N2	" " "	✓	
3	NB1	Good Slag Free Material welded	✓	
4	NB2	Good Fusion Material welded	✓	

TEE WELD TEST

SIZE AND WALL THICKNESS OF MAIN	GAS PRESSURE ON MAIN PSIG	LOCATION OF FRACTURE WELD ☐ NIPPLE ☐ MAIN ☐	
DID WELD CONTAIN: PINHOLES COLDROLL UNDERCUT		DEPTH OF UNDERCUT	LENGTH OF UNDERCUT
REMARKS ON TEE WELD			

PIPE WELD	QUALIFIED ☐ NOT QUALIFIED ☐	ELECTRIC ARC ☐ OX-ACETYLENE ☐	TEE WELD	QUALIFIED ☐ NOT QUALIFIED ☐	ELECTRIC ARC ☐ OX-ACETYLENE ☐		
TESTED BY	SIGNATURE		TITLE				