

# Northwest Pipe Company

P.O. BOX 610, ATCHISON, KS 66002  
 TELEPHONE (913) 874-4011 FAX (913) 874-2001

Issue Date: Oct 08, 2010

## CERTIFIED TEST REPORT

Wall: .500 INCH NOM  
 Pipe OD: 20" INCH  
 Hydro Pressure: OK

Material Specification:

Pipe Specification:  
 ASTM-A-53 Gr B

### Base Material Chemical and Mechanical Tests:

Test	Heat	Yield	Tensile	Elong	Chemistry
64278	789628	43,500	70,000	33.7	C .180 Mn .820 P .010 S .004 Si .020 Cu .100 Ni .040
		46,000	72,800	34.0	Cr .080 Mo .020 Al .027 V .001 Cb .013 Ti .001 B .000
		SN .005 N .0090 CA .0020			

### Production Mechanical Tests:

Test	Heat	Coil	Type	Yield	Tensile	Elong	Bend	Fracture Location
64447	789628	4S1-89288	WELD	N/A	79,100	N/A	PASS	OUTSIDE OF WELD
				N/A	78,400	N/A		
64448	789628	4S1-89288	TRANS./LONG.	56,300	73,500	41.2	PASS	N/A
				64,100	77,800	40.2		

MELTED AND MANUFACTURED IN USA  
 ALL FLATTENING TESTS PASSED

*This is to certify that the chemical analysis and test results shown in this report are correct as contained in the records of the company. Mechanical tests, unless otherwise noted, were conducted by Northwest Pipe Company.*

*Timothy J. Rickman*

Quality Assurance Department

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