

Docket No. SA-534

Exhibit No. 2-AZ

NATIONAL TRANSPORTATION SAFETY BOARD

Washington, D.C.

NTSB_011-010 PG&E 1956 JOURNAL VOUCHER, MATERIAL CODES
AND PIPELINE SURVEY SHEET

(14 Pages)

**PACIFIC GAS AND ELECTRIC COMPANY
San Bruno Gas Transmission Line Incident
Data Response**

PG&E Data Request No.:	NTSB 011-010		
PG&E File Name:	San Bruno GT Line Incident DR NTSB 011-010		
Request Date:	September 14, 2010	Requesting Party:	NTSB
Date Sent:	September 16, 2010	Requestor:	NTSB (Sunil Shori)

QUESTION 10

How was joint type of failed segment determined, and documented as shown on chart xx, as being seamless?

ANSWER 10

The joint type was documented on the prior Pipeline Survey Sheet (PLSS). The hardcopy PLSS maps were based on records research performed in the early 1970s. There was seamless pipe documented on the original journal voucher (purchase voucher) under the installing job.

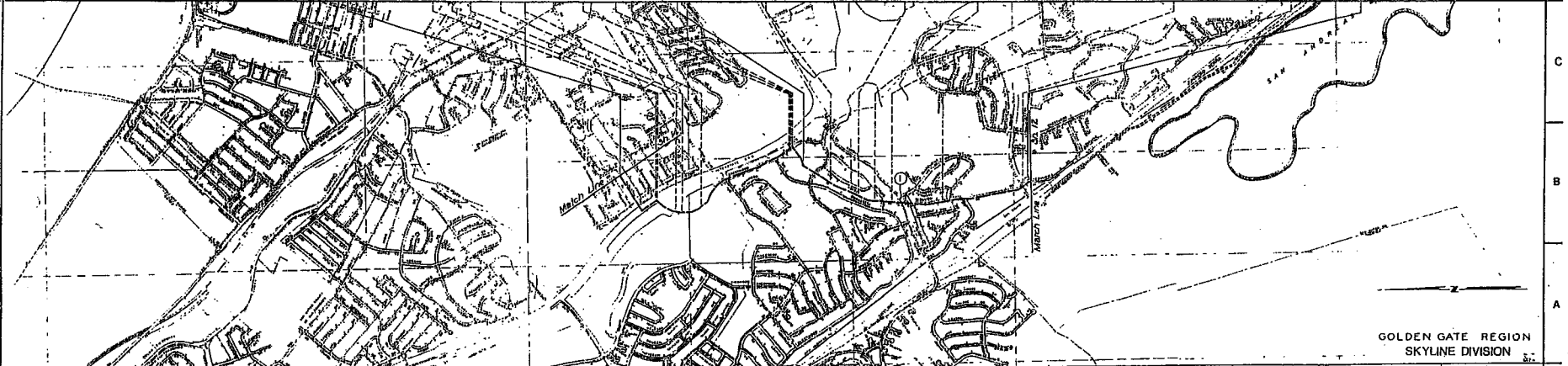
Please see attached:

- Pipeline Survey 385121 132-13
- Journal Voucher Number 174143 (September 1956)

	1	2	3	4	5	6	7	8	9	10
WELD EFFICIENCY										
WIRTH WELDS										
WELD SEAMS										
SMYS (PSIG)										
GRADE										
WALL THICKNESS										
SIZE (OD)										
DESIGN FACTOR										
DESIGN PRESSURE (PSIG)										
DATE										
PRESSURE (PSIG)										
TEST MEDIUM										
TEST REPORT NO.										
WELD INSPECTION										
WELD REPORT NO.										
WSP (PSIG)										
SMYS AT WSP										
SMYS (PSIG) & E SMYS										
WSP DURING WELDING (SEE 2.1)										
WSP STANDARD D-32 (SEE 2.2)										
LEAK										
PRIOR YEARS										
PRESENT YEAR										
CATHODIC PROTECTION										
STATIONS & DATE INSTALLED										
SURVEY DATE										
PIPE TYPE										
CONDITION										
OPERATING DATE										
FAILURE LOCATION										
TYPE										
G.H. NUMBER OR JOB NUMBER AND YEAR INSTALLED										
FINAL STATIONS FROM TRANSMISSION LINE PLATS										
APPROXIMATE MILE POINT										
CLASS										
AS BUILT										
PRESENT										
NO. DWELLINGS										

OBsolete
REPLACED BY GASUE
5/28/98

* THIS SECTION OF TRANSMISSION LINE IS CATHODICALLY PROTECTED BY RECTIFIERS SHOWN ON ADJACENT SHEETS.



GOLDEN GATE REGION
SKYLINE DIVISION

SYMBOLS:
 (7) INTERNAL CORROSION LEAK AND YEAR.
 (8) EXTERNAL CORROSION LEAK AND YEAR.
 (9) LEAKAGE DUE TO OTHER CAUSE (DESCRIBE).
 (10) DESIGN PRESSURE REQUIREMENTS FOR REPLACEMENT PIPE, SEE SP 463-3
 (11) CATHODIC PROTECTION STATION & YEAR INST. (INDICATE TYPE RECTIFIER OR CODE).
 EXAMPLE: 3 (11) 3 INTERNAL LEAKS IN 1957 IN CLOSE PROXIMITY.

Ref. Copy:
 40914 5.7.8
 736 RSW MDRBM
 749 RSW MDRBM

NO.	DATE	DESCRIPTION	BY	CHKD.
1	2-8-98	BROUGHT UP DATA	JL	JL
2	2-8-98	REVIEW & UPDATE	JL	JL
3	11-17	UPDATED	JL	JL
4	8-28-98	REVIEW & UPDATED DATA	JL	JL
5	1-3-01	CATHODIC PROTECTION	JL	JL

TABLE OF CHANGES

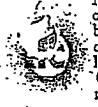
APPROVED BY: [Signature]

DATE: 5/28/98

SCALE: 1" = 1000'

PIPELINE SURVEY
 MLPTAS TERM TO: S.G. R. GAS LOAD CTR.
 MP 39.00 TO MP 41.00
 24" LINE 132
 PACIFIC GAS AND ELECTRIC COMPANY
 SAN FRANCISCO, CALIFORNIA

385121 132-13



NOTE: Journal vouchers charging other Divisions or the General Construction Department must not be issued later than a date which will permit post-office cancelling stamp to show the first of the following month. Journal vouchers charging General Office accounts may be forwarded with the monthly reports, if unable to forward sooner.

JOURNAL VOUCHER

PACIFIC GAS AND ELECTRIC COMPANY

INSTRUCTIONS

Issuing Office to retain one copy and forward all others properly signed (including Original) to Receiving Office for accounting and signature.
Receiving Office will forward ORIGINAL to General Auditor, return one copy to Issuing Office, retain one copy and dispose of additional copies (if any) as respective procedures require.

Journal Vouchers Involving
GENERAL CONSTRUCTION DEPARTMENT—PREPARE SIX COPIES.
SALVAGE (PLANT ACCOUNTING DEPT.)—PREPARE FIVE COPIES.
OTHER DEPARTMENTS AND DIVISIONS—PREPARE FOUR COPIES.
*DENOTES RED FIGURE

SHEET NO. 1 of 1

FOR USE OF ACCOUNTING DEPT. OF RECEIVING DIVISION

DESCRIPTION (FURNISH FULL DETAIL OF ALL CHARGES)	CODE NUMBER	QUANTITY	UNIT PRICE	AMOUNT	FOR USE OF ACCOUNTING DEPT. OF RECEIVING DIVISION				
					ITEM OR LOCATION NUMBER	ACCOUNT NUMBER	JOB ORDER NUMBER		
to transfer charges to proper job as follows:									
IPE, 30" OD x .375" wall stl enl API 5LK grade X-42 DW (MPO 25970)	01 1373	108'		2,219.74	Plant Loc 132	A/G	1124		
IPE, 30" OD x .375" wall stl enl API 5LK grade X-42 bare (MPO 15425)	01 1485	281'		3,128.80					
TORKS EXPENSE on above two items	00 6022			426.39					
PROCESS 280' 10" of 30" OD x .375" wall pipe at \$0.90/ft plus 3% tax	75 9999			260.33					
WELDS above pipe at \$0.14/ft	75 9999			42.12					
REMOVE deteriorated wrap from 220 feet of above at \$0.20/ft	75 9999			44.00					
TORKS EXPENSE on above work by Bituminous Products & Appli. Co (7R 9693)	00 6022			4.00					
RIGHT CHARGE on 7R 9693 (Req 5026273)	75 9999			80.09					
WATER, Babco 246 (7R 9630)	13 9999	3494#		96.26					
TORKS EXPENSE on above	00 6022			3.85					
OIL, Babco 1089-R (7R 9630)	13 9999	4 gal		4.04					
OIL, Babco 3020-R (7R 9630)	13 9999	1 gal		.69					
TORKS EXPENSE on above	00 6022			.19					
WELTING, 12"x540' Babco 189 (S/A Trf 4786)	55 9992	5 xl		44.95					
WELTING, 12"x960' Babco 184 (S/A Trf 4786)	52 2122	3 xl		44.82					
TORKS EXPENSE on above	00 6022			.90					
WEL - check wrapping & inspect 30" main				22.12					
vacation				2.01					
sup provision expense				2.19					
tool expense				1.95					
80 p payroll taxes				2.02					
ADD. AND EXT. CORRECT NO. 6									
D.E.I. #218									
TOTAL				6,431.85					

999154

6031 W/O 4017-9

Plant Accounting Dept.
RECEIVING OFFICE
IN September 1956
MONTH
D. J. Beaudet
ACCOUNTANT

FOR USE OF ACCOUNTING DEPARTMENT OF CHARGING DIVISION								
CODE NO.	AMOUNT	LOC. NO.	ACCT. NO.	JOB ORDER			DIV. NO.	S. OF E. CODE
				PRE	NUMBER	SUF		
	6,431.85		6031	604	130004	(2)		
THIS COPY FOR PLACE X	GENERAL AUDITOR RECEIVING CHARGING G. C. DEPT. PLANT ACCTG. DEPT. FILE COPY		FOR REC. OFF. USE DIV. NO. S. OF E. CODE		JOURNAL VOUCHER NUMBER			
								174143

Plant Accounting Dept.
CHARGING OFFICE
CREDIT IN September 1956
MONTH
D. J. Beaudet
ACCOUNTANT

Material Codes 01-1967

SUBCLASS 01-1

STEEL CASING, PIPE & TUBING

CASING (Unit: Feet)			CODE
STEEL ELECTRIC WELD			
	<u>WALL</u>	<u>OD</u>	
	.344"	30"	01-1518
	.375"	42"	01-1708
	.438"	42"	01-1762
STEEL PIPE CONSISTING OF TWO HALVES WITH ALL EDGES BEVELED FOR FIELD WELDING 20' SECTIONS 40" OD 7/16" WALL			01-1714
STEEL WELL CLASS J55 SEAMLESS EXTREME LINE RANGE 3 6-5/8" OD 24 LB/FT			01-1816
PIPE (Unit: Feet)			
CONDUCTOR (LEADER) GALV #24 GA 5" DIA			01-1690
CORRUGATED CULVERT SPECIFY GRADE (INGOT IRON, COPPER BEARING STEEL) (Furnished in Lengths OF 2' Multiples) (Unit: Feet)			
	<u>WALL</u>	<u>SIZE</u>	
	16 GA	10"	01-1288
	16 GA	12"	01-1254
	16 GA	18"	01-1290
	10 GA	24"	01-1207
	12 GA	48"	01-1484
CORRUGATED NESTABLE W/FASTENERS			
	10 GA	60" DIA	01-1789
	14 GA	30" DIA	01-1802
	16 GA	8" DIA	01-1801
PIPE STEEL (Unit: Feet)			
BUTTWELD MARKED FOR TESTING ONLY WITH BE PER API STD 5L GRADE F35 2" .109" WALL (2.64 Lbs Per Ft)			01-1770

PIPE STEEL (Unit: Feet) (Continued)			CODE
BUTTWELD ASTM SPEC A120			
STANDARD BLACK	6-5/8"		01-1722
STD BLACK THREADED & COUPLED			
BARE	1/8"		01-1075
	1/4"		01-1076*
	3/8"		01-1077*
	1/2"		01-1078*
	3/4"		01-1079*
	1"		01-1080*
	1-1/4"		01-1081*
	1-1/2"		01-1082*
	2"		01-1083*
	2-1/2"		01-1084*
	3"		01-1085*
SINGLE WRAPPED	1-1/2"		01-1104
X STRONG BLACK PLAIN ENDS			
	1/8"		01-1382
	1/4"		01-1128
	3/8"		01-1129
	1/2"		01-1130*
	3/4"		01-1131*
	1"		01-1132*
	1-1/4"		01-1133*
	1-1/2"		01-1134*
	2"		01-1135
STD GALV THREADED & COUPLED			
	1/8"		01-1110
	1/4"		01-1111
	3/8"		01-1112
	1/2"		01-1113*
	3/4"		01-1114*
	1"		01-1115*
	1-1/4"		01-1116*
	1-1/2"		01-1117*

PIPE STEEL (Unit: Feet) (Cont'd)		CODE
BUTTWELD ASTM SPEC A120 (Continued)		
STANDARD GALV	<u>SIZE</u>	
THREADED & COUPLED	2"	01-1118*
	2-1/2"	01-1119*
	3"	01-1120
	4"	01-1794
FOR STRUCTURAL USE UNTESTED	1-1/4"	01-1433
	2"	01-1349
X STRONG GALV PLAIN ENDS	2"	01-1145
ELECTRIC WELD		
	<u>WALL</u>	<u>OD SIZE</u>
	9/16"	20"
		01-1430
DOUBLE DIPPED, PLAIN ENDS		
10 GA	4"	01-1412
10 GA	6"	01-1394
10 GA	8"	01-1393
10 GA	10"	01-1413
10 GA	12"	01-1414
STAINLESS		
	<u>SIZE</u>	
TYPE 304 SCHEDULE 80	1/8"	01-1764
ASTM 376 MIN. 0.04% CARBON	3/8"	01-1717
	1/2"	01-1718
	3/4"	01-1719
	1"	01-1720
	1-1/2"	01-1721
TYPE 304 WELDED	3/4"	01-1417
TYPE 316 WELDED	1"	01-1418

PIPE STEEL (Unit: Feet) (Cont'd)		CODE
SINGLE WRAPPED DOUBLE DIPPED ELECTRIC WELD		
BELL ENDS FOR WELDING		
	<u>WALL</u>	<u>OD SIZE</u>
	10 GA	18"
		01-1308
ENDS FOR DRESSER COUPLINGS		
	10 GA	4"
	10 GA	6"
	10 GA	8"
	10 GA	10"
	10 GA	12"
	10 GA	14"
		01-1336
		01-1340
		01-1364
		01-1197
		01-1292
		01-1352
DOUBLE WRAPPED BELL ENDS FOR WELDING ELECTRIC WELD		
	.203"	10-3/4"
		01-1329
DOUBLE WRAPPED WITH 2" CONCRETE GUNITE EXTERNAL COATING RE-INFORCED WITH WIRE MESH LEAVE 24" FREE OF CONCRETE EACH END		
	--	10-3/4"
		01-1519 1

PIPE STEEL GAS LINE (Unit: Feet)

	OD SIZE	WALL	LBS PER FT	NEW BARE & DOUBLE WRAPPED	CODE
<i>out</i> ASTM-A253 GRADE B ELECTRIC FUSION WELD	4-1/2"	.1345"	--	BARE	01-1727
WITH BE PER API STD 5L CLASS 2 CONTINUOUS WELD	3/4"	.113"	1.13	BARE DW	01-1069* 01-1073*
	1"	.133"	1.68	BARE DW	01-1366 01-1368
	1-1/4"	.140"	2.27	BARE DW	01-1070* 01-1074*
	1-1/2"	.145"	2.72	BARE DW	01-1573 01-1606
	2-3/8"	.154"	3.65	BARE DW	01-1008* 01-1040*
	3-1/2"	.188"	7.58	BARE DW	01-1009* 01-1041*
W/BE PER API STD 5L GRADE B ELECTRIC RESISTANCE WELD	3-1/2"	.188"	6.65	BARE DW	01-1781* 01-1783*
	4-1/2"	.148"	6.88	BARE DW	+01-1010* +01-1042*
		.188"	8.56	BARE DW	01-1782* 01-1784*
<i>out</i> W/BE PER API STD 5L GRADE F35 BUTTWELD	2-3/8"	.109"	--	DW	01-1773
WITH BE PER API STD 5LX GRADE X-42 ELECTRIC WELD	18"	.250"	47.39	BARE DW	01-1514 01-1515
<i>(Weld metal added)</i>		.281"	53.22	BARE DW	01-1589 01-1622
	20"	.250"	52.73	BARE DW	01-1324 01-1325
		.281"	59.23	BARE DW	01-1590 01-1623
		.312"	65.71	BARE DW	01-1020 01-1244
		.375"	78.60	BARE DW	01-1591 01-1624
	22"	.312"	72.38	BARE DW	01-1021 01-1316
		.250"	--	DW	01-1775
		.281"	71.25	BARE DW	01-1593 01-1626
		.312"	79.06	BARE DW	01-1594 01-1627

PIPE STEEL GAS LINE (Unit: Feet) (Continued)

WITH BE PER API STD 5LX GRADE X-42
(Continued)

ELECTRIC WELD (Continued)

OD SIZE	WALL	LBS PER FT	NEW BARE & DOUBLE WRAPPED	CODE
24"	.344"	86.85	BARE	01-1022
		--	DW	01-1278
24"	.375"	94.62	BARE	01-1595
		--	DW	01-1628
24"	.438"	110.10	BARE	01-1596
		--	DW	01-1629
26"	.500"	--	BARE	01-1776
	.312"	85.73	BARE	01-1304
26"		--	DW	01-1630
	.375"	102.63	BARE	01-1023
26"		--	DW	01-1318

ELECTRIC WELD DSA

22"	.375"	86.61	BARE	01-1592
		--	DW	01-1625
24"	.250"	63.41	BARE	01-1858
		--	DW	01-1859

RECONDI-
TIONED
BARE &
DOUBLE
WRAPPED

(ELECTRIC WELD) RECONDITIONED

12-3/4"	.219"	29.28	BARE	01-1830
		--	DW	01-1844
16"	.250"	33.38	BARE	01-1831
		--	DW	01-1832
16"	.250"	42.05	BARE	01-1847
	.281"	47.22	BARE	01-1833
20"		--	DW	01-1848
	.281"	59.23	BARE	01-1824
22"	.281"	--	DW	01-1851
	.312"	72.38"	BARE	01-1835
24"	.281"	71.25	BARE	01-1836
	.312"	79.06"	BARE	01-1837
26"	.312"	85.73	BARE	01-1839
	.500"	136.00	BARE	01-1840

*Types of seam weld
must be determined
could be ERW, DSA.
Or DSA.*

NEW BARE
& DOUBLE
WRAPPED

ELECTRIC RESISTANCE WELD

6-5/8"	.156"	12.89	BARE	01-1011*
	.188"		DW	01-1043*
8-5/8"	.172"	16.90	BARE	01-1013*-
	.188"		DW	01-1044*
10-3/4"	.219"	21.15	BARE	01-1581*
	.188"		DW	01-1614*
	.219"	24.60	BARE	01-1017
		--	DW	01-1229
	.250"	28.04	BARE	01-1312
		--	DW	01-1284
	.375"	41.55	BARE	01-1829
		--	DW	01-1843

*Other Weld
Pg 5*

steel 6?

PIPE STEEL GAS LINE (Unit: Feet) (Continued)

WITH BE PER API STD 5LX GRADE X-42
(Continued)

ELECTRIC RESISTANCE WELD (Cont'd)

*adder
wall*

*extra wt
(D.S.A.)*

*30" .406" BARE 01-1894 *DRAW*

OD SIZE	WALL	LBS PER FT	NEW BARE & DOUBLE WRAPPED	CODE
12-3/4"	.219"	29.28	BARE	01-1582
			DW	01-1615
	.250"	33.38	BARE	01-1018
			DW	01-1046
	.281"	37.45	BARE	01-1583
			DW	01-1616
	.312"	41.51	BARE	01-1251
			DW	01-1315
	.375"	49.56	BARE	01-1799
			DW	01-1846
	.500"		DW	01-1617
	.843"	107.00	BARE	01-1584
14"	.250"	-- 16.71	DW	01-1618
	.375"	-- 54.51	DW	01-1619
16"	.219"	36.87	BARE	01-1856
			DW	01-1857
	.250"	42.05	BARE	01-1019
			DW	01-1047
	.281"	47.22	BARE	01-1587
			DW	01-1620
	.312"	52.36	BARE	01-1588
			DW	01-1621
	.375"	62.58	BARE	01-1286
			DW	01-1285
30"	.375"		<i>BARE</i>	<i>01-1096 *DRAW</i>
30"	.312"	99.08	BARE	01-1841
34"	.375"		DW	<i>01-1098 *DRAW</i>
34"	.344"	123.56	BARE	01-1842
36"	.422"	--	DW	01-1852
WITH BE PER API STD 5LX GRADE X-52				
ELECTRIC WELD				
20"	.375"	--	DW	01-1788
22"	.312"	--	DW	01-1821
24"	.250"	--	DW	01-1786
	.312"	79.06	BARE	01-1791
			DW	01-1792
30"	.250"	79.43	BARE	01-1597
			DW	01-1631
	.375"	118.65	BARE	01-1485 *DRAW
			DW	01-1373 *DRAW
	.500"	157.53	BARE	01-1598
			DW	01-1633
34"	.250"	90.11	BARE	01-1599
			DW	01-1634
	.312"	--	DW	01-1491
	.344"	123.56	BARE	01-1399
			DW	01-1493

*30" .375" BARE 01-1173**
*406" " 01-0415 *DRAW*

* 1986 CODE LIST

PIPE STEEL GAS LINE (Unit: Feet)
(Continued)

WITH BE PER API STD 5LX GRADE X-52
(Continued)

ELECTRIC WELD (Continued)

OD SIZE	WALL	PER FT	NEW BARE & DOUBLE WRAPPED	CODE	
34"	.375"	134.67	BARE	01-1398	
		--	DW	01-1489	
	.406"	145.76	BARE	01-1465	
		--	DW	01-1558	
	.438"	156.82	BARE	01-1397	
		--	DW	01-1464	
	.500"	178.89	BARE	01-1370	
		--	DW	01-1487	
	36"	.344"	--	DW	01-1636
		.360"	--	DW	01-1798
		.375"	--	DW	01-1637
		.406"	--	DW	01-1638
.438"		166.17	BARE	01-1603	
		--	DW	01-1639	
.469"		--	DW	01-1640	
.500"		189.57	BARE	01-1665	
.531"		201.15	BARE	01-1605	
		--	DW	01-1641	
		.563"	213.26	BARE	01-1666
		.625"	236.13	BARE	01-1646
		--	DW	01-1649	
	.656"	--	DW	01-1650	
	.688"	--	DW	01-1651	

7/15/79

ELECTRIC WELD DSA

20"	.250"	52.73	BARE	01-1825
		--	DW	01-1828
30"	.312"	--	DW	01-1828
	.290"	--	DW	01-1855
	.312"	99.08	BARE	01-1473 * DRAW
	.312"	--	DW	01-1632
36"	.250"	--	DW	01-1631 * DRAW
	.312"	119.11	BARE	01-1600
		--	DW	01-1635

ELECTRIC RESISTANCE WELD

10-3/4"	.219"	24.60	BARE	01-1822
		--	DW	01-1826
12-3/4"	.219"	29.28	BARE	01-1823
		--	DW	01-1827
	.250"	--	DW	01-1845

DSA

20"	.312"	--	DW	01-1850
	.375"	--	BARE	01-1787
24"	.250"	63.41	BARE	01-1785
	.375"	94.62	BARE	01-1838

SEAMLESS *Grade?*

10-3/4"	.500"	54.74	BARE	01-1854
---------	-------	-------	------	---------

WITH BE PER API STD 5LX GRADE X-60

ELECTRIC WELD

32"	.360"	--	DW	01-1796
34"	.375"	--	DW	01-1818
30"	.625"	--	BARE	01-0430 * DRAW

* 1986 CODE LIST

*Pro. M. C. -
sum of total
determination
only codes shown with
2nd column
also 1/2" per foot
1-9-68 W. Strick*

PIPE STEEL GAS LINE (Unit: Feet) (Continued)

SEAMLESS	OD SIZE	WALL	LBS PER FT	NEW BARE & DOUBLE WRAPPED	CODE
GRADE B	3/4"	--	--	X HEAVY DW	01-1723
W/BE PER API STD 5L GRADE B (455)	1/2"	--	--	DW	01-1375
	3/4"	.113"	1.13	BARE	01-1574*
	1"	.133"	1.68	DW	01-1607*
	1"	.133"	1.68	BARE	01-1575
	1-1/4"	.140"	2.27	DW	01-1608
	1-1/4"	.140"	2.27	BARE	01-1576
	1-1/2"	.145"	2.72	DW	01-1609
	1-1/2"	.145"	2.72	BARE	01-1577
	2-3/8"	.154"	3.65	DW	01-1610
	2-3/8"	.154"	3.65	BARE	01-1578*
	3-1/2"	.188"	--	DW	01-1611*
	3-1/2"	.188"	--	BARE	01-1579*
	4-1/2"	.188"	--	DW	01-1612*
	4-1/2"	.156"	--	BARE	01-1808
	4-1/2"	.188"	--	DW	01-1580*
	4-1/2"	.188"	--	BARE	01-1613*
	6-5/8"	.250"	17.02	DW	01-1761
	6-5/8"	.250"	17.02	BARE	01-1761
	10-3/4"	.375"	--	DW	01-1804
	10-3/4"	.438"	--	BARE	01-1772
	10-3/4"	.438"	--	DW	01-1790
WITH BE PER API STD 5L GRADE B (ASTM A-53)	16"	.375"	--	BARE	01-1819
	16"	.500"	--	BARE	01-1820
W/BE PER API STD 5LX GRADE X-42	6-5/8"	.188"	--	DW	01-1810
	8-5/8"	.250"	--	DW	01-1045
	10-3/4"	.188"	--	DW	01-1811
	10-3/4"	.307"	--	DW	01-1812
	12-3/4"	.312"	--	DW	01-1813
	12-3/4"	.375"	--	DW	01-1809
	16"	.250"	--	DW	01-1814
	16"	.281"	--	DW	01-1849
	16"	.500"	83.00	BARE	01-1834
WITH BE PER API STD 5LX GRADE X-42	8-5/8"	.188" TO .375"	--	--	01-1745
5LX GRADE X-52	16"	.219" TO .500"	--	--	01-1744
SEAMLESS PRIME FULL LENGTH WITH BE PER API STD 5L GRADE B ...	3-1/2"	.216"	--	--	01-1692
	4-1/2"	.237"	--	--	01-1693
	6-5/8"	.280"	--	--	01-1688
	8-5/8"	.322"	--	--	01-1689
SEAMLESS SODASTIC COATED WITH API STD 5L GRADE B	12-3/4"	.500"	--	--	01-1803

*Equivalent to
ASTM A-53 grade B
ASTM A-106 grade B*

and 1/2"

Put in ahead of 9 1/2" below

PIPE STEEL GAS LINE (Unit: Feet) (Continued)

	OD SIZE	WALL	PER FT	NEW BARE & DOUBLE WRAPPED	CODE
SOMASTIC COATED					
.....	18"	.312"	--	--	01-1691
CONTINUOUS WELD WITH BE PER API	2-3/8"	.154"	--	--	01-1452
STD 5L CLASS 2	3-1/2"	.216"	--	--	01-1437
	4-1/2"	.237"	--	--	01-1453
ELECTRIC RESISTANCE WELD WITH BE PER API STD					
5L GRADE B	4-1/2"	.237"	--	--	01-1643
5LX GRADE X-42	6-5/8"	.188"	--	--	01-1793
		.280"	--	--	01-1346
	8-5/8"	.203"	--	--	01-1296
	10-3/4"	.188"	--	--	01-1805
		.395"	--	--	01-1310
	12-3/4"	.203"	--	--	01-1806
		.330"	--	--	01-1301
	16"	.375"	--	--	01-1411
	20"	.312"	--	--	01-1644
	22"	.312"	--	--	01-1747
	24"	.312"	--	--	01-1645
	26"	.500"	--	--	01-1492
ELECTRIC WELD WITH BE	16"	.500"	--	--	01-1034
PER API STD 5LX GRADE X-52....	36"	.500"	--	--	01-1765
		.563"	--	--	01-1726
		.625"	--	--	01-1766
PER API STD 5LX GRADE X-60 ...	32"	.360"	--	--	01-1797
X-TRU-COAT PLASTIC COATED					
CONTINUOUS WELD WITH BE PER API STD	3/4"	.113"	1.19	--	01-1562
5L CLASS 2	1-1/4"	.140"	--	--	01-1780
	2-3/8"	.154"	3.81	--	01-1563
	3-1/2"	.188"	--	--	01-1769
	4-1/2"	.188"	--	--	01-1768
ELECTRIC RESISTANCE WELD WITH BE PER API STD 5LX GRADE X-42					
	6-5/8"	.188"	13.54	--	01-1715
	8-5/8"	.188"	--	--	01-1815

PIPE STEEL SEAMLESS (Unit: Feet)					CODE
ASTM SPEC	SCHED-ULE	GR	SIZE	TYPE ENDS	
		B	1/2"	BEVEL-ED	01-1572
A53	100	B	16"	--	01-1725
A53	100	B	18"	--	01-1716
A53	100	B	12-3/4"	--	01-1724
				DOUBLE WRAPPED	
A106	160	B	1/2"	PLAIN	01-1434
A106	160	B	3/4"	PLAIN	01-1435
A106	160	B	1"	PLAIN	01-1436
CARBON					
A106	80	A	4"	--	01-1503
A106	160	B	8"	--	01-1504
CHROME MOLY					
ASTM SPEC	WALL	SCHEDULE			
1/2" IPS (.840" OD)					
A158-P11	.147"	80			01-1427
A335-P11	.147"	80			01-1511
A158-P11	.187"	160			01-1446
A335-P11	.187"	160			01-1506
3/4" IPS (1.050" OD)					
A158-P11	.154"	80			01-1501
A158-P11	.218"	160			01-1447
A335-P11	.218"	160			01-1507
1" IPS (1.315" OD)					
A335-P11	.179"	80			01-1512
A335-61T	.250"	160			01-1448
A335-P11	.250"	160			01-1508
1-1/4" IPS (1.660" OD)					
A335-P11	.250"	160			01-1444
1-1/2" IPS (1.900" OD)					
A335-P11	.200"	80			01-1513
A158-P11	.281"	160			01-1449
A335-P11	.281"	160			01-1509
2" IPS (2.375" OD)					
A158-P11	.218"	80			01-1502
A158-P11	.343"	160			01-1450
A335-P11	.343"	160			01-1510
8" IPS (8-5/8" OD)					
A335-P11	.906"	160			01-1421

PIPE STEEL SEAMLESS (Unit: Feet)			CODE
(Continued)			
	OD SIZE		
STD BLACK ASTM SPEC A-53	1/8"		01-1455
	1/4"		01-1456
	3/8"		01-1457
	1/2"		01-1372
	3/4"		01-1458
	1"		01-1459
	1-1/4"		01-1460
	1-1/2"		01-1461
	2"		01-1462
THREADED & COUPLED			
	3-1/2"		01-1086
	4"		01-1087
X STRONG BLACK			
ASTM SPEC A106 (A53)	2-1/2"		01-1386
PLAIN ENDS	3"		01-1384
	4"		01-1139
	6"		01-1141
ASTM SPEC A-83 TESTED TO A-106	1/8"		01-1423
	1/4"		01-1376
	3/8"		01-1377
	1/2"		01-1378
	3/4"		01-1158
	1"		01-1369
	1-1/4"		01-1379
	1-1/2"		01-1380
	2"		01-1385
XX STRONG BLACK ASTM SPEC A-83 TESTED TO A-106	1/2"		01-1303
STD GALV ASTM SPEC A53	4"		01-1122
THREADED & COUPLED	6"		01-1124
STAINLESS TYPE 316 STD			
	5/16"		01-1741
	1/4"		01-1517
	1/2"		01-1415
	3/4"		01-1471
	1-1/2"		01-1505
	2"		01-1416
SCHEDULE 80	3-1/2"		01-1779

TUBING STEEL (Unit: Feet)			CODE
ALLOY			
ASTM SPEC	WALL	OD SIZE	
A192	.180"	2"	01-1483
A192	.200"	2"	01-1522
A192	.220"	2"	01-1500
A192	.135"	2-1/8"	01-1530
A192	.200"	2-1/8"	01-1474
A192	.240"	2-1/8"	01-1475
A192	.280"	3"	01-1482
A192	.320"	3-1/2"	01-1526
A192	.360"	3-1/2"	01-1531
A209-T1A	.203"	2"	01-1532
A209-T1A	.300"	2-1/4"	01-1735
A209-T1A	.180"	2-1/2"	01-1667
A209-T1A	.203"	2-1/2"	01-1533
A209-T1A	.220"	2-1/2"	01-1534
A209-T1A	.240"	2-1/2"	01-1535
A209-T1A	.260"	2-1/2"	01-1656
A209-T1A	.300"	2-1/2"	01-1731
A209-T1A	.340"	2-1/2"	01-1668
A209-T1A	.400"	2-1/2"	01-1669
A209-T1A	.350"	2-21/32"	01-1732
A209-T1A	.280"	3"	01-1536
A209-T1B	.165"	1-7/8"	01-1523
A209-T1B	.180"	2"	01-1525
A209-T1B	.134"	2-1/8"	01-1486
A209-T1B	.180"	2-1/8"	01-1477
A210	.203"	2"	01-1537
A210	.109"	2-1/2"	01-1670
A210	.120"	2-1/2"	01-1671
A210	.135"	2-1/2"	01-1672
A210	.180"	2-1/2"	01-1653
A210	.200"	2-1/2"	01-1673
A210	.203"	2-1/2"	01-1538
A210	.220"	2-1/2"	01-1539
A210	.240"	2-1/2"	01-1729
A210	.250"	2-1/2"	01-1655
A210	.280"	2-1/2"	01-1662
A210	.300"	2-1/2"	01-1663
A210	.320"	2-1/2"	01-1674
A210	.340"	2-1/2"	01-1675
A210	.280"	2-31/32"	01-1676
A210	.284"	2-31/32"	01-1728
A210	.320"	3-1/4"	01-1664
A210	.440"	3-1/4"	01-1540
A213-T5	.220"	2-1/4"	01-1541
A213-T5	.250"	2-1/4"	01-1542

TUBING STEEL (Unit: Feet) (Cont'd)			CODE
ALLOY (Continued)			
ASTM SPEC	WALL	OD SIZE	
A213-T11	.203"	2"	01-1543
A213-T11	.134"	2-1/8"	01-1478
A213-T11	.148"	2-1/8"	01-1529
A213-T11	.200"	2-1/8"	01-1527
A213-T11	.220"	2-1/8"	01-1476
A213-T11	.220"	2-1/4"	01-1544
A213-T11	.270"	2-1/4"	01-1736
A213-T11	.300"	2-1/4"	01-1737
A213-T11	.340"	2-1/4"	01-1738
A213-T11	.150"	2-1/2"	01-1677
A213-T11	.165"	2-1/2"	01-1652
A213-T11	.180"	2-1/2"	01-1654
A213-T11	.220"	2-1/2"	01-1545
A213-T11	.230"	2-1/2"	01-1546
A213-T11	.240"	2-1/2"	01-1547
A213-T11	.280"	2-1/2"	01-1548
A213-T11	.300"	2-1/2"	01-1657
A213-T11	.310"	2-1/2"	01-1549
A213-T11	.320"	2-1/2"	01-1550
A213-T11	.340"	2-1/2"	01-1551
A213-T11	.350"	2-1/2"	01-1552
A213-T11	.360"	2-1/2"	01-1658
A213-T11	.380"	2-1/2"	01-1659
A213-T11	.400"	2-1/2"	01-1678
A213-T14	.220"	2-1/4"	01-1553
A213-T22	.148"	2-1/8"	01-1528
A213-T22	.180"	2-1/8"	01-1481
A213-T22	.340"	2-1/8"	01-1480
A213-T22	.400"	2-1/8"	01-1524
A213-T22	.300"	2-1/4"	01-1734
A213-T22	.370"	2-1/4"	01-1739
A213-T22	.200"	2-1/2"	01-1679
A213-T22	.350"	2-1/2"	01-1554
A213-T22	.380"	2-1/2"	01-1555
A213-T22	.420"	2-1/2"	01-1556
A213-T22	.440"	2-1/2"	01-1660
A213-T22	.470"	2-1/2"	01-1733
A213-T22	.480"	2-1/2"	01-1680
A213-T22	.531"	2-1/2"	01-1661
A213-TP321	.135"	2-1/2"	01-1681
A213-TP321	.200"	2-1/2"	01-1682
A213-TP321H	.340"	2-1/4"	01-1683
A213-TP321H	.310"	2-1/2"	01-1687
A213-TP321H	.355"	2-1/2"	01-1684
A213-TP321H	.465"	2-1/2"	01-1685
A213-TP321H	.435"	2-3/4"	01-1686
A213-TP62T	.300"	2-1/4"	01-1740