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

PG&E Data Request No.:	NTSB_080-007							
PG&E File Name:	San Bruno GT Line Incident_DR_NTSB_080-007							
Request Date:	May 23, 2011 Requesting Party: NTSB							
Date Sent:	May 26, 2011	Requestor:	Operations (Chhatre/Shori)					

QUESTION 7

Were the replacement pipe segments used for the replacement of the 12-foot section of .375-inch wall, and the approximately 40-foot section of 0.500-inch wall, pre-tested before being delivered to the job site? If yes, please provide copies of the pressure test documentation for both sections of pipe.

ANSWER 7

Yes. The pressure test for the 12-foot (.375-inch WT) fabricated section and the 40-foot (.500-inch WT) section was conducted in the Martin Service Center on November 3, 1988. Please see attached documentation.

42-4921 REV. 4-79

PGDE GAS OPERATIONS STRENGTH TEST PRESSURE REPORT (FOR PIPE FACILITIES OPERATIONS OVER 100 PSIG)

(USZ	IN	٨	ССОЯ	DAN	
GAS	311	О,	A-34	AND	G

SHEET

PART I - DESIGN DATA - (TO BE PREPARED BY PROJECT ENGINEER OR GAS SYSTEM DESIGN DEPT.) DIVISION DISTRIC DATE W.O. OR GM APPROVE T.L.132 GOLDEN GATE DESIGNED TO THE PERSON OF THE PERSON DE ANTINO NUMBERS 4701843 PENINSULA DESCRIPTION OF JOB - INCLUDE REP SECTION OF 30" T.L.132 RESENT MAOP OF PACILITIES (PSG) MAOP TO BE ESTABLISHED BY DESIGN PRESSURE - THIS SECTION (FUTURE DESIGN PRESSURE) 400 PS16 SPECIAL PROTECTION REQUIRED WHERE COVER OVER PIPE IS LESS THAN SPECIFIED IN PAR. 192,327-G. O. 112 - SEE PAR. 141.2(8) GIVE M.P. & REF. DWG. NO. FOR EACH LOCATION. TATIC HEAD CALCULATION STATIC HEAD DUE TO MAX. ELEVATION PT. FOR WATER 0.433 X DIFF. ELEVATION DIFFERENCE MIN. ELEVATION PS (WHERE APPLICABLE) OTHER SPECIFY! DIFF. X DIFF PIPE SIZE PIPE SPECIFICATION % OF S.M.Y.S. PRESS. TO GIVE 10% SMYS FOOTAGE TO BE TESTED VERIFIE IN FIEL AT MA VERIFIED O.D. W.T. AT DESIGN APL OR. ERW. DSAW, SEAMLESS AT MIN. 30" API 5LX GEX-52 DSAW MD. **#####**90 ML 30" 0.500 ". API-5LX GEX-60 BAN FUS 20.0 1800 1/2 0,500 W.T. TO FACILITATE ADDED TEST NOT INS ONLY 375 WT. BROUND-PIPE INSTALLER HER GALE HANGED MINIMUM PRESSURE FOR TEST TEST FLUID TO MINIMUM TEST DURATION PSIG 1170 UNDER 30% SMYS (1 HR. MIN.) MAXIMUM PERMISSIBLE TEST PRESSURE 1235 30% SMYS & OVER (8 HR, MIN.) PSIG WATER PREINSTALLATION TEST (SEE 192.305(8) GO 112) APPROVED BY: PREMARED ROY MATTSON DATE 10-31-88 FOR INFORMATION 626-7437 10-31-88 DATE TO BE PREPARED BY PERSON SUPERVISING TEST AT TIME OF TEST. NOTE: MINIMUM TEST PRESSURE AND DURATION ARE NOT TO BE CHANGED WITHOUT WRITTEN APPROVAL PART II . TEST DATA -TIME AND DATE REACHED TEST PRESSURE 1353 HR 11/3/88 ELEVATION AT INDICATED FT. TEST PRESSURE 1228 75 TIME AND DATE 11/3/09 MAX. ELEVATION IN TEST SECTION TEST PRESSURE AT MAX. ELEVATION N/A N/A FT. 75 ACTUAL DURATION OF TEST 4 HR - 22 MIN MIN. ELEVATION IN TEST SECTION TEST PRESSURE N/A N/# P311 TEST FLUID USED WATER PIPE SPECIVERIPIED (SEE PART I) PIFE FOOTAGE VERIFIED (SEE PART I) HERWRY MAKE, RANGE & SERIAL NO. OF RECORDING GAUGE DATE LAST CAUSEATION 0-2000 MARE RANGE & SERIAL NO. CHANDLER. 0-2000 DATE LAST s/w 6603146 10/17/85 S/N 13/1/85 APROVED BV, PUT SCHEMATIC SKETCH ON BACK OF THIS SHEET:

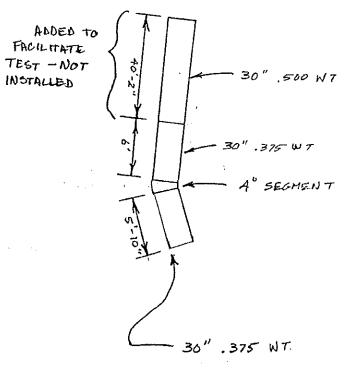
SHOW LOCATION OF FACILITY TESTED, MIN. & MAX. ELEVATION IN FEET, MILE POINTS, VALVE NUMBERS AND INCORPORATED AREAS. USE An additional sheet if necessary (show reference numbers on face of all drawings and attachments), for station piping. Fabricated units and short section of Pipe, also show a detailed sketch of each assembly tested.

DISTRIBUTION

DIST. GAS SUPT. JOB FILE
DIV. GAS SUPT.
GC GAS - ASSIGNED JOBS
GAS SYSTEM DESIGN (2)
PLANT ACCTG. (WITH
FOREMAN'S COPY OF JOB)
PRELINE MISTORY FILE
SREPORT FAILURES UNDER
TEST TO GAS SYSTEM DESIGN
AND GAS DISTRIBUTION DEPT'S.

- (1) LOWEST PRESSURE ON TEST GAUGE AT ANY TIME DURING TEST.
- (2) SUBTRACT STATIC HEAD DUE TO ELEVATION DIFFERENCE (BETWEEN TEST PT AND MAX. ELEVATION)
- (3) ADD STATIC HEAD DIJE TO ELEVATION DIFFERENCE (BETWEEN TEST PT AND MIN. ELEVATION) TO INDICATED VEST PRESSURE.

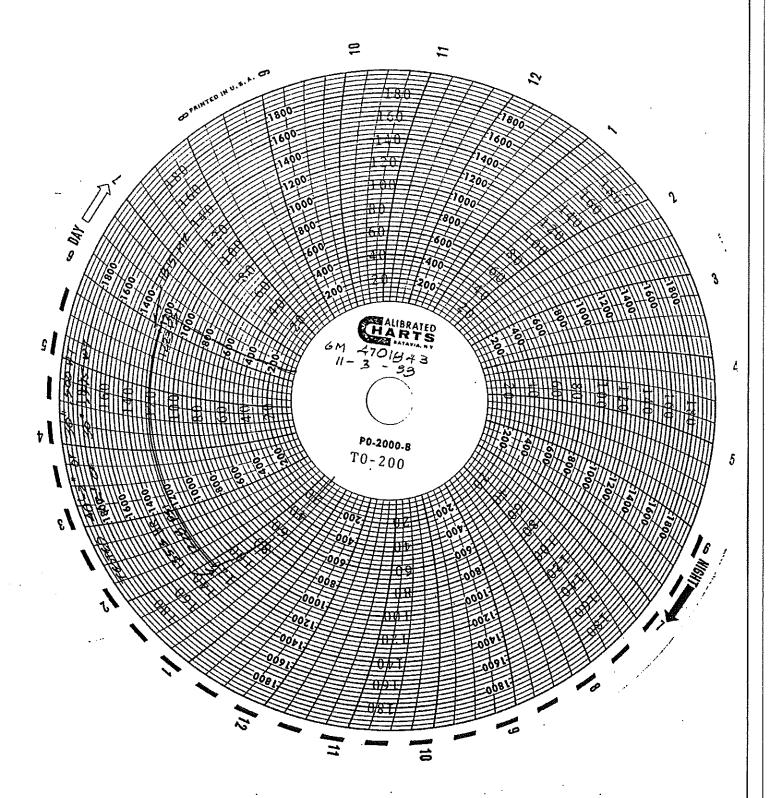
11-3-85
MARTIN SERVKE CENTER
LOWER YARD - BRISBANE
BUNKER HILL EMELSFINLY REFAR
TL - 0132
LOWEST PRESSURE - 1223
NO ELEU. UARIATION



•

11-3-88 N. SCHWAS

		BUNKER HIL 6132 EMERGENCY REPAIR
TIME	PEGSSURE_	MIN - 1170 MAX - 1235
\$353 Hes 1:53 PM	1228	
1400 HES 2+00	1228	
1415 HBZ115	1228	
1430	1228	
1450	1228	
1534	1228	
1559	1228	
1633	1227	SUN WENT DOWN (TEMP. DROP)
1704	12 25	
1732	1223	
1800	1223	
1815	1223	PEWATERED
	The second of th	
BAR AND		



STRENGTH TEST INFORMATION

DIA	- A Marie Service 2 and Servic
1. JOB GM 4701843 2. LOCATION MARTIN SERVICE CANTER J 3. DATE 11-3-99 DUR. 3. DATE 1353 He 1815 HR DUR. 3. TIME 1353 HR 7/12 SIZE 3	TITOANE
1. JOB GH 4701843 2. LOCATION MARTIN STRUCK CROTER 3. DATE 11-3-98 DUR 4. TIME 1353 HR 127 SIZE 3 4. LENGTH 40-2"/12 SIZE 3 5. LENGTH SPEC. X60 RSAN PIN O	BROD 1278 - 122
LM A 10 12 CONTE	CIBE - 22 MB
TOB PRES	500 (3/3 - CAW)
1. SCATION MITTERS	ATION W.T. W.T. X-52 DSK
2. LOCATION 11-3-39 1815 HR 3	21 /30
DATE HE TO GIVE	San Fol Landson Landson
J. 771 135 7 12 12 0	1-03-0-148
A TIME AD LANGUAGE AND LANGUAGE	4031
I LENGTH X60 X60	TO A TED
1. JOB GM 470 SERICE SPECS 2. LOCATION MARTIN SERICE SPECS 3. DATE 11-3-39 DURING SIZE 3 4. TIME 1353 HR 1815 HR DURING SIZE 3 5. LENGTH 40-2 / 12 SIZE 3 6. PIPE SPEC X 60 DSAW PIW OF SERICE SPECS SER	DATE 11-4-38
6. PITTORDING GAUGE	10 - 1-02
7 RECURDANCE 2000	A ATED
BANGECHAUDURTABT V	11-3-88
8. TAN WGT.	DATE
TEST FLUID WATER 1. TEST FLUID N. SCHWAB	THE STATE OF THE S
TITTO WALLEY AND THE STATE OF T	DATE
mest Flui N. Schan	Contrader to the contra
7. 120 Sid)	
TEST FLOT	DATE 11-4-38
DPROVED	

82-4921 REV. 4-79

DIST. GAS SUPT.-JOB FILE

DIST. GAS SUPT.-JOB FILE
DIV. GAS SUPT.
GC GAS: ASSIGNED JOBS
GAS SYSTEM DESIGN (2)
PLANT: ACCTG. (WITH
FOREMAN'S COPY OF JOB)
PIPELINE HISTORY FILE
**REPORT FAILURES UNDER
TEST TO GAS SYSTEM DESIGN
AND GAS DISTRIBUTION DEPT'S.

PGWE REVISED. GAS OPERATIONS 3/13/89 STRENGTH TEST PRESSURE REPORT (FOR PIPE PACILITIES OPERATIONS OVER 100 PSIG)

(USE IN ACCORDANCE WE GAS STD. A-34 AND GO II.

SHEET. .OF.

	· DESIGI			ID SY	PROJECT EN	GINE	ROR	GAS SYSTE	M DESIG	N DEI	PT.)			12.0	
1	OR LINE NO.	DIVISIO			DISTRICT			- 1	GM 4701843				TE W.O. OR GA	APPROVED	
LILL	34	COLT	DEN GATE.	1561	WI FEN	INS	ULA	<u> </u>	M41	1018	343	İ			
DESCRIPTION OF JOB - INCLUDE REFERENCE DRAWING NUMBERS															
REPLACE 6 SECTION OF 30" T.L. 132 DUE TO A LONGITUDINAL															
١					•										
	ELD I	DEFELT	•							•				-	
LOCATION C	LASS DE	SIGN FACTOR (F.) PRESENT M	AOP O	F FACILITIES (PSIG	MAC	P TO BE EST	ABLISHED	BY	I	ESIGN	PRESSURE . THE DESIGN PRES	IS SECTION	
<u>ح</u>		<u>•5</u>		400	2		[400	2PS/6		ľ		400 PS	16	
		REQUIRED WI								 				· · · · · · · · · · · · · · · · · · ·	
		AN SPECIFIED IN 11.2(8) GIVE M.P.													
NO. FOR E	ACH LOCATK	ON.	-,-	<u> </u>											
51/	ATIC HEAD D	UE TO	MAX ELEVATE	эн		_PT.	STATIC FOR Y	HEAD CALCU	LATION						
	VATION DIFFI HERE APPLIC		MIN. ELEVATIO	₩		FT.					0.433 X DIFF. PSIG				
,		~~~,	DIF	r		_FT.	SPECI	·~				X DIFF	·		
	312E		PIPE SPECIFIC					5 OF S.M.Y.			PHESS.	TO	POOTAGE	VERIFIED	
O.D.	W.T.		W. DSAW, SEAML		VERIFIED IN FIELD		ESIGN ESS.	AT MIN. TEST PRESS	TEST	AX. RESS.	GIVE 90%		TO BE TESTED	IN FIELD	
30"	C.375	API SLX	<u>GRX-52 D</u>	SAW	100	30	18	10009	XX	1895	117	0	12'	ma	
30"	0 500 11	100	10.110	~											
30	0,500"	Hri 5LX	6R X-60	MAN	ms_	20	20	65	68.	6	180	<u> </u>	40'	7/4	
	 	- 							 			· · · · · · · · · · · · · · · · · · ·			
	 	NO	The state of		950. (- A	.10	ļ						
	 		TE! TEST INSTA	<u>vv (3)</u>	REDICO	- (2)	10 4	THR 51N	<u>\$ 11</u>	ST	SECTI	JN 1	BEING-		
	<u> </u>					12	FOM	- WITH	DVE					<u> </u>	
			WAIT	12				ED AS B DAS RE			PIPE I	NC	SE MME		
			1931 44	1 800	U. 513	I WA	ال ساس	PAS KE	PULL	<u> </u>		······		<u> </u>	
			1								···			<u> </u>	
									-				4 11	 	
MININ	NUM PRES	SURE FOR T	EST		1170	,	PSIG	TEST FLUID	70	MINIA	IUM TES	T DUB		<u> </u>	
MAYI	MINA DEDI	Alecial e re	~ PP		3			•	1	UNDE	R 30% SMY	/\$ {1 H:	R. MIN.)	B HRS.	
MACI	MOM FERI	MISSIBLE TE	51 PRESSUR	E .	/23:	<u> </u>	PSIG	WATE	R	PREIN:	MYS & OVI STALLATIC	er (e k on tes	r. min.) i T (SEE 192.505(B) GO 1121	
PREMARED		A 1											APPROVED BY:		
87	ROY I	MATTSON		DA	<u>10-31-88</u>	FOR I	INFORM HANGE!	ATION 62	6-74	37	ı		DATE 10-3	1-00	
PARTI	I - TEST	DATA - TO	BE PREPARED	BY P		RVISIN	14	NOTE: MI	NIMUM 1	EST P	RESSUR	E AND	DURATION A	RE	
TIME AN	D DATE	1353 HP			•			NO	TTOBE	CHAN	GED WIT	HOUT	WRITTEN API	ROVAL.	
REACHE: PRESS	D TEST	1000 1100	/ > / 6		ELEVATION TEST FOI	TA!		N/A PT.	IN	DICATI	to.		1228		
TIME AN	D DAYE	1815 HP	~ 11/3/	23	****	·····		7			(1)		120	rsic.	
TEST E		1013 1.2	/-/		MAX. ELEVA	TION	Λ.)/A PT.	AT MA	PRES	SURE VATION (2)		N/A	PSIG.	
ACTUAL D	URATION	11 40	- 22 MIN				 				(2)		<i>(</i>)	ray.	
OFT	EST	27 /11-	~ 22 MIN		MIN. ELEVAT	TION	1)/A PT.	TEST AT MIN	PRES	URE /ATION		N/#	PSIG.	
TEST FLUID USED WATER PREC VERIFIED (SEE PART I) PIPE POOTAGE VERIFIED (SEE PART I)															
MAKE, RANGE & SERIAL NO. MERCURY 0-2000 DATE LAST															
TEST SUPERVISED S/N 8603148 10/17/85 OF DEAD WEIGHT TESTER S/N 6000 10/1/85															
APPROVED															
DATE: / // // // DO															
PUT SCHEMATIC SKETCH ON BACK OF THIS SHEET:															
SHOW LOCATION OF FACILITY TESTED, MIN. & MAX. ELEVATION IN FEET, MILE POINTS, VALVE NUMBERS AND INCORPORATED AREAS. USE AN ADDITIONAL SHEET IF NECESSARY (SHOW REPERENCE NUMBERS ON FACE OF ALL DRAWINGS AND ATTACHMENTS). FOR STATION PIPING, I FABRICATED UNITS AND SHORT SECTION OF PIPE, ALSO SHOW A DETAILED SECTION OF PACIL AND STATEMENTS. FOR STATION PIPING, I															
FABRICA.	TED UNITS	AND SHORT S	SARY (SHOW I ECTION OF PI	REPER	ENCE NUMB	ERSO	FACE	OF ALL DR	AWINGS	AND	ATTACHM	INCOR	FOR STATIO	RAS, USE N PIPING, ,	
	ISTRIBUTIO	· · · · · · · · · · · · · · · · · · ·	•					TELETION E		3 E WIB 1	TA LERLE	D.		•	
DESTRIBUTION & PROM GALESIN TO								OK	Fre)V~	GALE	51	U TO		

(I) LOWEST PRESSURE ON TEST GAUGE AT ANY TIME DURING TEST.

REDUCE TEST DURATION.

(2) SUBTRACT STATIC HEAD DUE TO ELEVATION DIFFERENCE (BETWEEN TEST PT AND MAX. ELEVATION) FROM INDICATED TEST PRESSURE.

(3) ADD STATIC HEAT! DUE TO ELEVATION DIFFERENCE (BETWEEN TEST PT AND MIN. ELEVATION) TO INDICATED YEST PRESSURE.

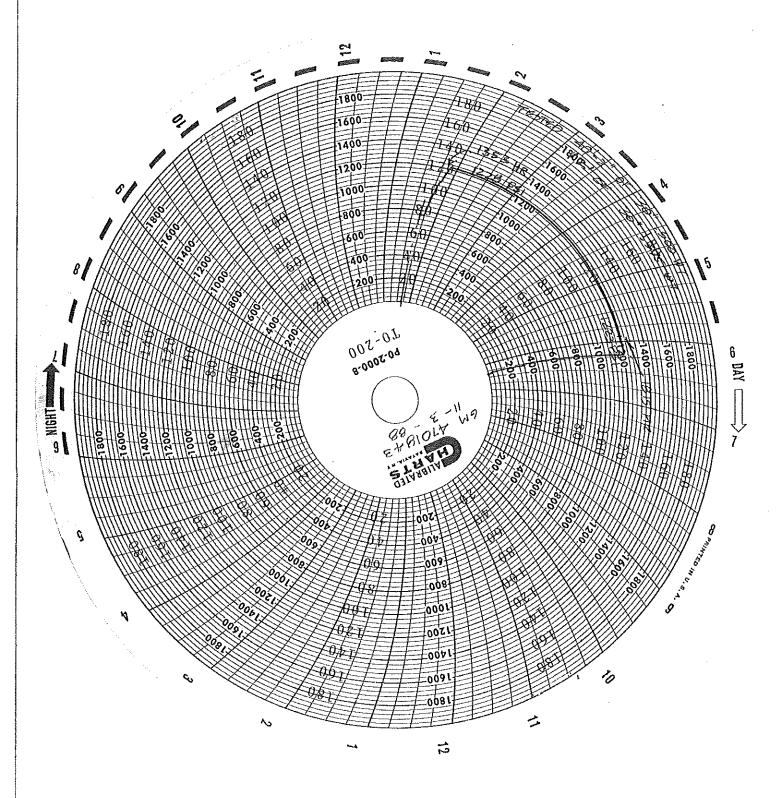
11-3-88
MARTIN SERVKE CENTER
LOWER YARD - BRISBANE
BUNKER HILL EMERGENCY REPAIR
TL - 013.2
LOWEST PRESSURE = 1223
NO ELEU. UARIATION

NO

30" .500 NT

WAS NOT USED IN REPAIR

30" .375 WT.



```
STRENGTH TEST INFORMATION
      JOB GM A701843

LOCATION MARTIN SERVICE CANER SERVEDANCE

DOMOGRAPH 1278
   1.
      DATE 11-3-36

PRESSURE 1228-1223

A US - 223
  3.
     DATE

TIME 1353 HE -1815 HR PRESSURE

LENGTH 46' 2" / 12 DURATION

DI DE SPEC X60 DSAW PIW 01-0501 / W.T. 500/

API 51X 6R X-52 L
  4.
 õ.
     PIPE SPEC. X60 DSAW PTW 01-0501
 6.
    RECORDING GAUGE MERCORY SER. SEX AND SEX ARX SEX DSAW
7.
   RECURDING GAUGE MESCORY SER. 2603142

DEAD WGT. CHADDER LAST CALIBRATED 10-17-86
l. TEST FLUID
  SUPERVISIO
   PPROVED \
                                   DATE 11-3-88
                                  DATE 11-4-38
```

11-3-35 N SCHWAB

BUILTER HIL 0132 EMERGENCT BEPAIR

	ļ	
TIME	PEGSSURE_	MIN - 1170 MAX - 1235
\$353 4es 1:53 PM	1223	
1400 HRS2:00	1228	
1415 HB3215	1228	
1430	1228	
1450	1228	
1534	1228	
.559	1228	
1633	1227	SUN WENT DOWN (TEMP DROP)
1704	12 25	
1732	1223	
1800	1223	
1815	1223	POWATEREN