

**PACIFIC GAS AND ELECTRIC COMPANY
San Bruno GT Line Rupture Investigation
Data Response**

PG&E Data Request No.:	CPUC_096-02		
PG&E File Name:	SanBrunoGT-LineRuptureInvestigation_DR_CPUC_096-Q02		
Request Date:	March 8, 2011	Requester DR No.:	
Date Sent:	March 14, 2011	Requesting Party:	CPUC (CPSD)
		Requester:	Michael Robertson

QUESTION 2

What pipes, including mile point numbers, in San Bruno were replaced in 1993? Please describe the conditions of the pipes, and how they were determined to be replaced.

ANSWER 2

Construction of the gas pipeline replacement project for Line 109 and line 132 in San Bruno occurred in 1994 and 1995. The majority of the project involved the replacement of large portions of Line 109. For Line 132, one segment was replaced between MP 38.40 and MP 38.93, about one-third of a mile south of the rupture site. A second section was replaced between MP 39.36 and 39.55, which begins approximately one-tenth of a mile north of the rupture site.

The segment of Line 132 south of the rupture site was identified for replacement because of seismic studies done along the San Andreas Fault following the Loma Prieta Earthquake. The purpose of these studies was to identify locations where a future earthquake could present a threat to the pipelines that crossed the fault line itself or subsidiary faults along the main fault trace. Those studies reviewed all of Lines 101, 109, and 132 to identify areas with potential seismic hazards associated with the San Andreas Fault.

Prior to this replacement project, Line 132 paralleled the west side of Highway 35 south of the rupture site and crossed the primary trace of the 1906 earthquake on the San Andreas Fault in two locations. The project relocated this segment to the east side of Highway 35 along Skyline Drive south of San Bruno Avenue to eliminate those fault crossings. Line 132 was replaced to MP 38.93, where it was reconnected to a short section of Line 132 (immediately south of San Bruno Avenue) that had been previously relocated in 1961.

The segment of Line 132 to the north of the rupture site, in the vicinity of Plymouth Way and Glenview Drive (MP 39.36 and 39.55), also was replaced based on the same geologic studies. This section was replaced to mitigate concerns of high compressive strains related to possible co-seismic stresses along the Sneath Lane corridor. To mitigate this potential threat, the section of pipeline was relocated into the street area

where PG&E could make a more gentle transition to the Sneath Lane elevation using thicker walled pipe.

Again, the studies done at the time for the replaced sections of Line 132 north and south of the rupture site supported relocation of those segments based on geologic findings. There was no evidence in those studies that suggested replacement of the section through the rupture site was warranted, whether for seismic reasons or due to the type or age of the pipe. That section of Line 132 did not cross the San Andreas Fault Zone as the segment to the south and did not have the same potential for compression strains as the replaced segment north of the rupture. Furthermore, the 1956 pipe did not include oxyacetylene gas welded girth joints or unshielded electric arc welds.