

PI-81-0109

July 10, 1981

Mr. R. E. Speckmann, Manager
Regulations and Maintenance Standards
Shell Pipe Line Corporation
P.O. Box 2648
Houston, Texas 77001

Dear Mr. Speckmann:

This is in response to your letter dated March 17, 1981, and Mr. R. D. Fischer's letter dated May 11, 1981, concerning the use of 48-inch and 42-inch pipe which was noted as grade B on the supplier's Certificate of Analyses and Tests, but which was shown on the same certificate to have yield strengths of 51,500 psi and 56,500 psi respectively, and chemical compositions consistent with higher grades of pipe. You have used the pipe in a pump suction and discharge piping with design stresses equal to the indicated yield strengths on the supposition that the pipe is not, in fact, grade B. Your letter requests our concurrence with the use of the pipe in this manner.

The Certificate of Analyses and Tests raises doubt whether the pipe is grade B or a higher grade of pipe. You believe, however, that the hydrostatic test stresses the pipe to such a level to demonstrate that since the pipe did not reach its yield strength, it must therefore be the higher strength pipe having those physical characteristics listed on the Certificate of Analyses and Tests. We agree with this conclusion based on the data furnished in your letters. As further support for this conclusion, we suggest you conduct the API 5LX tests on representative unused pipe and have this added information available when the Materials Transportation Bureau enforcement personnel examine the records.

Sincerely,

SIGNED

Melvin A. Judah
Acting Associate Director
for Pipeline Safety Regulation
Materials Transportation Bureau

Shell Pipe Line Corporation
P.O. Box 2648
Houston, Texas 77001

May 11, 1981

Mr. Melvin A. Judah, Acting
Associate Director for Pipeline Safety Regulations
Materials Transportation Bureau
Department of Transportation
Washington, D.C. 20590

Dear Mr. Judah:

Further to our letter of March 17, 1981 concerning pipe installed at the initial pump station on the LOCAP pipeline, and in response to your Mr. Frank Robinson's telephone inquiry, we submit the following supplementary information.

Initial (Phase I) Operation:	Discharge Pressure	- 800 psi
	Suction Pressure	- 150-400 psi
Future (Phase II) Design:	Discharge Pressure (max.)	- 1150 psi
	Suction Pressure (max.)	- 720 psi
Station Valves:	Suction	- 300#
	Pump	- 600#
	Discharge	- 600#

Subsequent to the hydrostatic pressure test at 1950 psi (actual test pressures were minimum = 1990 psi, maximum = 2020 psi), the station piping was measured circumferentially at 3-foot intervals. The results which confirmed no evidence of yield, were as follows:

	Pipe Circumference (feet)				
	Measurements	Average	Maximum	Minimum	Nominal
48" Grade B	20	12.58	12.58	12.57	12.57
48" X-52	9	12.60	12.62	12.58	12.57
42" Grade B	10	11.00	11.01	11.00	11.00
*42" Grade B (surplus)	8	11.02	11.03	11.01	11.00

*This surplus "Grade B" pipe had not been subjected to the hydrostatic pressure test.

Please advise if any additional information is desired.

Very truly yours,
R. D. Fischer, Acting Manager
Regulations & Maintenance Standards

Shell Pipe Line Corporation
P.O. Box 2648
Houston, Texas 77001

March 17, 1981

Mr. Melvin A. Judah, Acting
Associate Director for Pipeline
Safety Regulation
Materials Transportation Bureau
Department of Transportation
Washington, D.C. 20590

Dear Mr. Judah:

Shell Pipe Line Corporation is constructing LOCAP Pipeline, a 48-inch diameter crude oil pipeline from the Louisiana Offshore Oil Port (LOOP) terminal at Clovelly, Louisiana to LOCAP's terminus at St. James, Louisiana,

The initial pump station on the LOCAP pipeline is located at LOOP's Clovelly terminal in Section 32, T18S, R22E, LaFourche Parish, Louisiana. The design for the discharge piping at this pump station, developed in conformance with 49 CFR 195.106, specified API 5LX-46 pipe with a "specified minimum yeild strength" of 46,000 psi, and pipe was ordered to this specification in 42-inch and 48-inch dimaters. Subsequent to receipt of this pipe, a Certificate of Analysis and Tests covering the furnished pipe was received from the supplier. Although the physical and chemical properties of the pipe met or exceeded specifications for API 5LX-46 pipe, the certificate indicated "Specification and Graded API 5L Grade B". A copy of this certificate, dated February 25, 1980, is attached hereto.

Upon receiving the certificate and noting the inconsistency, the supplier was advised that as the indicated specification on the certificate did not fully conform with the purchase order, the pipe was not acceptable, and the order was cancelled and replaced with another supplier and subsequently received. (In order to expedite delivery, it was agreed that 48-inch X-52 pipe could be substituted for X-46).

Prior to the return of the rejected pipe to the supplier, the piping installation contractor inadvertently picked up approximately 120 feet of that pipe together with the API 5LX pipe, and some 112'-5" of the rejected pipe was installed in the station manifold piping, as indicated on the attached drawing ES-77-99. This was not discovered until a material inventory for closing out the project revealed a variance in the pipe tally compared to the ordered quantity.

The entire discharge manifold was hydrostatically tested to 1950 psi (based on 90% of the SMYS of 48-inch X-52 pipe) for 24 hours in conformance with 49 CFR 195.302. A copy of the hydrostatic test report, with pressure and temperature charts, is attached.

In summary of the above:

1. The pipe design specification was to be API 5LX-46.
2. The pipe was ordered to this specification.
3. The 112'-5" of pipe inadvertently installed conformed in every physical and chemical respect with specifications for API 5LX-46 pipe.
4. The specification as written on the supplier's certificate was API 5L-Grade B.
5. The installed pipe was hydrostatically tested to 1950 psi.

We submit that replacement of the subject pipe, at an estimated cost in excess of \$200,000, would provide no increase in public safety, and would not be in keeping with Presidential guidelines to reduce unnecessary costs to the public.

In consideration of the actual properties and hydrostatic testing of the installed pipe in question, there would be no reduction in public safety, nor would it be inconsistent with pipeline safety, to stipulate the subject pipe

as qualified in meeting the specifications of API 5LX-46, for the purpose of determining internal design pressure under the provisions of 49 CFR 195.106. Your concurrence with this proposed stipulation is requested.

Very truly yours,
R. E. Speckmann, Manager
Regulations and Maintenance
Standards