

Pipeline Specifications for Line 300B at

Redacted

Location Description

Redacted

Redacted The ownership and maintenance of the pipeline is shared between PG&E Co. and El Paso Natural Co. and is split mid-span at the center of the river.

Redacted

Background

The below presented attachments are in conflict regarding the specifications for the 34" Pipe as specified on Redacted at Topock, specifically Line 1113, also known as Line 300B. A concern regarding the yield strength of the pipeline has come in question. A letter dated from March 4th, 1966 to the El Paso Gas Company indicates the specified Minimum Yield Strength on the 34" X ½" WT pipeline as 46,000 psi (X-46). This documentation was the only documentation found in the Job File indicating a Minimum Yield Strength of 46,000.

Not to be used

JEV

1113

PACIFIC GAS AND ELECTRIC COMPANY

PG&E + 245 MARKET STREET · SAN FRANCISCO, CALIFORNIA 94106 · TELEPHONE 781-4211

Redacted
MANAGER
PIPE LINE OPERATIONS DEPARTMENT

March 4, 1966

Mr. Carlton C. Holman, Chief Engineer
El Paso Natural Gas Company
El Paso, Texas 79999

Dear Mr. Holman:

The information tabulated below is being sent to you in response to your request to Mr. R. W. Horton for data on the Redacted Redacted

Redacted

	30" x 3/8"	34" x 1/2"
Outside Diameter & Wall Thickness	30" x 3/8"	34" x 1/2"
Specified Minimum Yield Strength	52,000 psi	46,000 psi
Manufacturer	Consolidated Western Steel Corporation	
Plant Site	Maywood & So. S.F.	Maywood
Ladle Analysis - Carbon	0.30% max.	0.30% max.
Manganese	1.25% max.	1.25% max.
Phosphorus	0.045% max.	0.045% max.
Sulfur	0.05% max.	0.05% max.
Transverse Ultimate Strength	72,000 pai	65,000 psi
Factory Test Pressure	1,170 psi	1,215 psi

Very truly yours,

Redacted

The following attachment from October 11th, 1974 indicates a Minimum Yield Strength on the pipeline of "X-52" (34" O.D. , .500"wt X52 grade pipe) which differs from the above memo.

EL PASO NATURAL GAS COMPANY

Memorandum

File (022)
From: J. W. Rowland

Date: October 11, 1974
Place: Engineering Department
Codes & Standards Division

Subject: MAOP of 34" Redacted (1113)
VA-15 Through Redacted

This review is for the purpose of evaluating the present maximum allowable operating pressure of 660 psig on the subject line segment.

An area extending from the Redacted eastward to E.S. 902 + 50 presently has a population density level equal to a Class 2 Location. The class location limit had previously been at E.S. 886 + 29.5 during the period near 1967. The segment was constructed in 1955 of 34" O.D., .406" w.t., X52 and 34" O.D., .500" w.t., X52 grade pipe. The limiting pressure of the pipe in the Class 2 Location is 745 psig. In the present system configuration, the operation of Line 1113 must be in concert with Line 1104. Thus, the lower limiting design pressure of the 30" O.D., .324 w.t., X52 grade pipe found in the Class 2 Location on Line 1104 dictates that 674 psig is the minimum design pressure for operation of the unisolated Line 1113.

The line segment from approximately E.S. 917 + 22 eastward to Valve 16, E.S. 855 + 75, was hydrostatically tested in February, 1957 to a minimum pressure of 1020 psig for an unknown period. The line was subsequently gas tested from Valve 15 on Line 1104 to a valve near the P.G.&E. compressor station. The test was to a minimum pressure of 880 psig for a period of 24 hours in March, 1957.

The operating pressure of the segment has been controlled at Valve 15 since a date prior to 1965. The exact date could not be determined. Mr. Roger Smith of Systems Dispatching indicated in a conversation that he felt the operating pressure of the segment during the period July 1, 1965 to July 1, 1970 was substantially higher than 660 psig on numerous occasions. No records could be found in the Home Office Dispatching Center, the Topock Dispatching Office, nor the Measurement Department that could substantiate this.

In view of the information gathered, the segment maximum allowable operating pressure is correctly established at 660 psig in compliance with Department of Transportation standards.

Jim Rowland
J. W. Rowland

JWR:cvg
" " Dofahl

Research

The original intent of the project was to install 34" API 5LX X-52 piping as date by the memo from July 1, 1955 as seen below. The original installation was completed in 1957 under GM 134616.

62-0224

134616
C2

PACIFIC GAS AND ELECTRIC COMPANY

COPY

GAS OPERATIONS

Tentative Order for 34" O.D. Steel Pipe
to Increase Main 300 Capacity to 750 M²/Day

July 1, 1955

MR. F. E. BAXTER:

We have had a number of discussions with the Consolidated Western Steel Division, U. S. Steel Corporation, concerning the delivery of 34" O.D. steel pipe required by the P. G. & E. Company in 1956, if the Company is to be in a position to accept minimum gas purchase obligations from the El Paso Natural Gas Company by November, 1956.

Consolidated has supplied us with preliminary estimates concerning costs, specifications and rolling schedules, together with their recommendation that a tentative order be placed for our requirements, as early as possible, if they will be expected to protect a mill rolling schedule as early as May, 1956. We are told that recent large orders have been booked for the El Paso Co., the Pacific Northwest Co. and others which is effectively filling up their 1956 rolling schedules.

In view of Consolidated's concern, we recommend that consideration be given their request and that a tentative order for 34" pipe be placed, conditional upon receipt by the P. G. & E. Co. of the necessary California Public Utility and Federal Power Commission approvals for the project and further subject to cancellation or adjustment by P. G. & E. Co. within an agreed upon time prior to actual mill rolling.

We are listing below our current minimum 34" O. D. pipe requirements. Delivery should start in June, 1956:

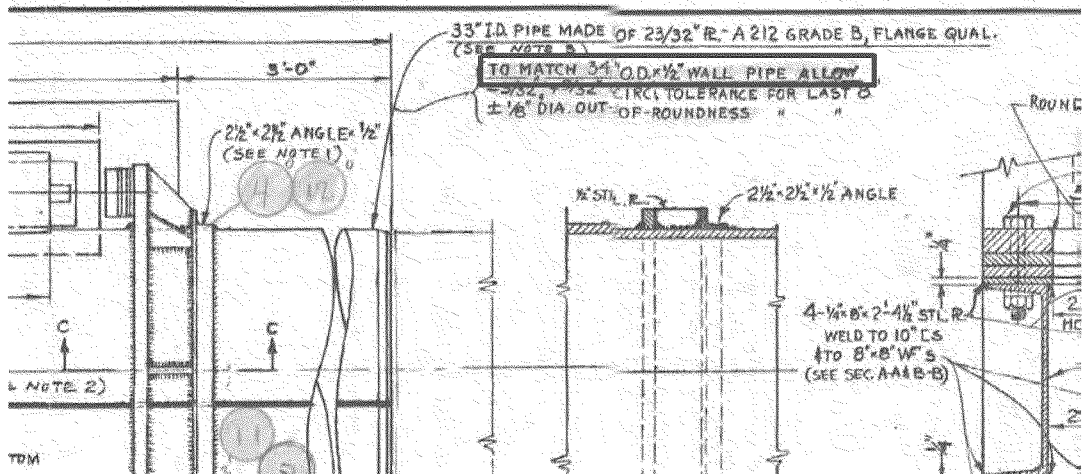
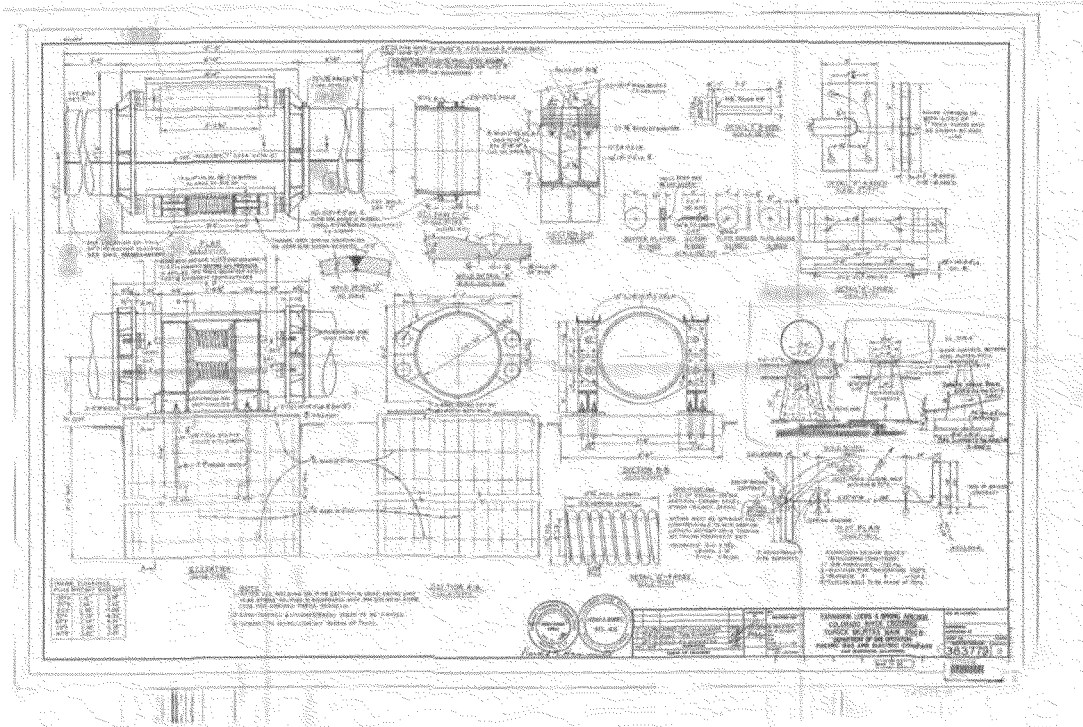
34" O. D. Steel Pipe to API 5LX - x 52 Specifications

Wall thickness Section	11/32"		13/32"		7/16"		Total	
	Miles	Tons	Miles	Tons	Miles	Tons	Miles	Tons
1 - Redacted	-	-	-	-	0.44	182	0.44	182
2 - Topock-Hinkley	-	-	20.8	8,005	-	-	20.8	8,005
3 - Kettleman-Milpitas	26.7	8,711	25.5	9,814	11.8	4,885	64.0	23,410
Totals	26.7	8,711	46.3	17,819	12.24	5,067	85.25	31,597

P. E. BECKMAN

RDS:rr
cc:NRS
AJS

The specifications found on the As-Built Drawing 383779 indicate a 34" pipeline with a ½" W.T. was used on the span which connected on [Redacted] ends at the spring anchors. No indication of the Minimum Yield Strength was found on the drawings available..



From the job file there were various wall thicknesses of the 34" ordered all being grade X-52 piping. The maximum wall thickness was ½" or 0.500" WT. Likely, using the best engineering practices, the 0.500" WT piping would be used for [Redacted] in agreement with the above drawing.

Supporting Documentation for X-52 piping

Supporting documentation for 34" X .500" wall X-52 can also be found in the job file for GM 134616. All the available "Receiving Records" from PG&E and "Invoices" from Consolidated Western Steel indicate shipments of "34" O.D. X 0.500" Wall Grade X-52" Pipe. Shipments of 34" pipe not the 0.500" Wall had also indicated a Grade of X-52 for the piping. (Multiple ship documents exist, one example shown)

INVOICE
CONSOLIDATED WESTERN STEEL
 DIVISION
 UNITED STATES STEEL CORPORATION

PLANT ADDRESS: EAST BLAUGHER & KATEMAN AVENUES, TELERDON, OREGON 97111
 F. O. BOX 2018, TERMINAL ANNEX, LOS ANGELES 94
 YOUR ORDER NO.: TRMC #1-11590
 INVOICE DATE: SEPT. 21, 1956
 JOB ORDER NO.: 615B

SOLD TO: PACIFIC GAS & ELECTRIC CO., 245 MARKET STREET, SAN FRANCISCO 6, CALIFORNIA

SHIP TO: SAME, DECATO, CALIFORNIA
 DATE SHIPPED: SEPT. 13, 15, 16 & 17, 1956
 SHIPPER VIA: UNION PACIFIC & D&RGW
 CAR NUMBERS: SEE BELOW

SHIPPER FROM: PIPE MILL, UTAH
 F. O. B.: PIPE MILL, UTAH
 PREPAID OR COLLECT: COLLECT
 TERMS: 30-2-10 SEMI-MONTHLY
 5% INTEREST CHARGED ON OVERDUE ACCOUNTS

QUANTITY	DESCRIPTION	WEIGHT	PRICE	UNIT	AMOUNT
BILLING #2 - PARTIAL					
16,797.89 FT.	30" GRADE X-52 LINE PIPE	1,036,373#	\$1,542.15	CFT.	\$89,971.34
16,797.89 FT.	34" O.D. X .344" WALL, PLAIN END BEVELED 30" GRADE X-52 LINE PIPE	2,064,175#	1,102.23	CFT.	185,151.38
					\$275,122.72
					8,253.68
					\$283,376.40
					566753

ALL THE FEATURES

CAR NUMBERS	F. O. B. POINT OF ORIGIN
UP 51766	SP 561808
59207	141519
51260	142524
59111	CNW 44367
51640	46005
51160	SP 141252
59166	M&STL 23917
59020	SP 141271
59065	CNW 47269
51288	SP 140045
57100	C&O 81094
	UP 51734
	UP 59215
	UP 51562
	CBQ 92301
	SP 141275
	CNW 4827
	IC 62365
	UP 51181
	59174
	51396
	59176
	51581
	SB 47456
	D&RGW 722233
	CNW 45841
	44583
	W.M. 2452
	UP 51723
	57204
	51709
	UP 57221
	51528
	51247
	59142
	51206
	59041
	51201
	59060
	51068
	59063
	57188
	51355

MANIFESTS #L-3309 TO #L-3316 INCLUSIVE AND #L-3319 TO 3339, INCLUSIVE.

IF APPLICABLE, COUNTY SALES AND/OR USE TAX WILL BE BILLED AT A LATER DATE.

maop05427340.tif

27770887

ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE. CLAIMS FOR DEDUCTIONS MUST BE MADE WITHIN FIVE DAYS AFTER RECEIPT OF GOODS.

PARTIAL
RECEIVING RECORD
PACIFIC GAS AND ELECTRIC COMPANY

ORDER NUMBER 7-B-11590 DATE September 20, 1956

REQ'D FOR GM- 134616 (2) REQUISITION NUMBER _____ CAR NUMBER Below
(STOCK, RESALE, G. M., ETC.)

REC'D FROM Consolidated Western Steel Co. CARRIER'S BILL NO. SPRR-see below AMT. \$ 7,219.17
(SHIPPER'S NAME)

REC'D BY Redacted CHECKED BY Redacted PREPAID _____ COLLECT X
(WRITE NAME IN FULL)

PURCHASE ORDER SHEET NO.	ORDER ITEM NO.	QUANTITY	DESCRIPTION LIST ALL ARTICLES IN DETAIL INCLUDING CASES AND WEIGHT	MATERIAL NUMBER
1	1	3,967.26	1/2" Ft. Pipe, 3/4" OD, expanded line wald, Grade X-52 .500" wall Bare	
			S. P. R. R. F/B # 5267 - \$ 2,375.32	Car # Loaded UP-59145 3113 UP-59102 2117 UP-56808
			5268 5.05	UP-51149 UP-51685
			5269 2,411.33	UP-59142 3117 UP-51247
			5270 2,422.42	UP-59041 3113 UP-51286
			5271 5.05	UP-59057 3117 UP-51678
			\$7,219.17	UP-51155 UP-51670 UP-51543

Additional Support

During the production period in 1956 inspections were made at the production facility at Consolidated Steel in Utah as shown in this weekly inspection report below. During this time, inspections were also made of the piping and steel including offsite inspection by Hales Testing Laboratory. These samples indicate steel was made at the facility with a Yield Point in excess 52,000 psi. Although this does not prove the piping was X-52, it would indicate the facility had produced steel at this time which have met the requirements of X-52.

PACIFIC GAS AND ELECTRIC COMPANY

ORDER OR SPEC. No. 7 B 11599
 G. M. No. 134616
 SERIAL REPORT No. 5

DEPARTMENT OF ENGINEERING
 BUREAU OF TESTS AND INSPECTION

RECEIVED
 ORGANIZATION'S COMMENTS
 OCT 17 1956
 FILE NO. _____

WEEKLY INSPECTION REPORT

WEEK ENDING 10-13-56

MATERIAL INSPECTED: 34" O.D. STEEL PIPE
 FOR SHIPMENT TO: Desoto, California
 INSPECTED AT: Consolidated Western Steel Division - Provo, Utah

DATE OF ORDER _____ DEL. REQUIRED _____ SHIPMENT PROMISED _____ PRESENT _____ EST. TRANSIT TIME _____
 PREVIOUS _____

TESTS AND INSPECTIONS

34" O.D. x 7/16" wall x 40' sections - completed 10-8-56
 34" O.D. x 13/32" wall x 40' sections.
 13/32" wall pipe in 40' sections started through the mill October 8 and expected to complete approximately October 23. P.G. & E inspection offered approximately 410 pipe per 24 hour day of which there is a rejection of about 10% for further repair, making an acceptance of approx. 350 pipe for the three shifts. Rejection is for plate slivers, gouges, scabs, pits, refacing, lamination and longitudinal weld repairs. Physical and chemical tests satisfactory.

Production: 34" O.D. x 7/16" wall.

	40' Sections	30' Sections	Footage
Shipped	19	821	64,757.04
			735.43
		Total	65,494.27

Completes 7/16" wall.

	40' sections	Footage
34" O.D. x 13/32" wall to October 13, 1956.	259	20,512.90
Shipped		

Round seam production is approximately 120 round seams for 3 - 8 hour shifts 13/32" wall pipe.

X RAYS AS OF October 10, 1956

Wall	Total R.S. X rayed.	N. S. Cnt	Accepted R.S.		Total X rays	
			R.S. X rays OK	X rays repaired		
1/2"	6	0	6	45	3	48
11/32"	135	15	120	906	54	500 completed
7/16"	73	7	66	492	36	528 completed

SHIPMENTS

ENGINEERING - WD-2
 OPER. & MAINT.
 CONSTRUCTION -
 PURCH. & STORES - FEB
 DIVISION

Redacted

Redacted

INSPECTOR

Redacted

Redacted

Test Number	85	86	87	88	
Description or Mark	Welding Test				
HEAT NUMBER	#3	#4	#7	#10	Welding
TENSILE TEST—					
Nominal Dimensions					Welding
Actual Dimensions	3/16 x .77	3/16 x .76	3/16 x .91	3/16 x .77	
Actual Area—Sq. in.273	.266	.267	.266	
Yield Point—Lbs.	20310	21530	21810	21100	
Maximum Load—Lbs.	29790	27830	28810	28210	
Yield Point—Lbs. per sq. in.	54450	56070	51420	57150	
Tensile Strength—Lbs. per sq. in.	77260	76030	77710	77270	
Elongation in inches					
Elongation, per cent					
Reduction of area, per cent					
Fracture	Silly	Silly	Silly	Silly	
BENDING TEST					
Result of Test	Broke Outside of Weld.				

HALES TESTING LABORATORY
OAKLAND 8, CALIFORNIA
Telephone Olymptic 3-7611

Sampled by our Inspector
 Submitted by Vendor
 Yes No: Machine Charge
 Yes No: Chemical Analysis
 Meets Requirements of
 Fails

Job: PG&E PL 11533-517 Vendor
Report To: _____
Address: _____
Charge To: INVOICE 11533-517
P. O. No. _____ Copies of Report _____
Date Received: 7/26/66 Date Tested: 9/26/66 Tested By: Redacted

FORM 508

Additional Memos

Further documentation can be found supporting the use of X-52 with a Yield Strength of 52,000 psi. The search yielded an additional memo from PG&E to El Paso Natural Gas Company. On January 10th 1964, the El Paso Natural Gas Company requested information from PG&E concerning specifications regarding the pipe crossings at this location. The second item in question of this correspondence refers to GM 134616 used for the Redacted in question. In the response dated January 15th 1964, PG&E indicate the pipelines in question have a Minimum Yield Strength of 52,000 psi. This documentation from 1964 is not only closer to the completion date of the project, but it also predates the memo with the lowered minimum yield strength.

1113

January 10, 1964

Redacted

Pacific Gas and Electric Company
245 Market Street
San Francisco 6, California

Re: Minimum Yield of Redacted
Redacted

Dear Redacted

Would you please furnish us with the minimum yield of pipe on the Redacted
Redacted Listed below is the
information that we already have pertaining to this pipe:

30" O. D., .375" w. t. - your invoice No. 85747 of September
26, 1950
34" O. D., .500" w. t. - your invoice No. GM 134616 of April
19, 1960

This information will be very much appreciated.

Very truly yours,

EL PASO NATURAL GAS COMPANY

Clinton McClure
Senior Engineer - Southern Division

CMc.f
cc: Redacted

PACIFIC GAS AND ELECTRIC COMPANY

1113

245 Market Street
San Francisco 6
Slitter 1-4211
January 15, 1964

In reply please refer to

Mr. Clinton McClure
Senior Engineer - Southern Division
El Paso Natural Gas Company
P. O. Box 1492
El Paso, Texas

Dear Mr. McClure:

In answer to your letter of January 10, 1964, the 30" and 34" pipe to which you refer has a minimum yield strength of 52,000 psi.

If we can be of further assistance to you, please do not hesitate to call on us.

Redacted

RDS:ha

Conclusion

Likely the memo dated March 4th 1966 indicating the [Redacted] is in error as there is no technical supporting documentation. All the documentation and correspondence reviewed in the Job file indicate that the piping used on the [Redacted] at Topock [Redacted] [Reda] for line 300B is 34" X 0.500" WT X-52, with the exception of this memo. The memos pre-dating and memos post-dating this memo define this piping to be X-52. All the found technical drawings, invoices, receiving records, and inspections provide further evidence to the installation of X-52 piping on the [Redacted]