– 62 6218 (REV 6/79)

PG and E

FOR INTRA–COMPANY USES

From Division or Department: VICE PRESIDENT - GAS OPERATIONS

FILE NO

RE LETTER OF

SUBJECT: Standard Practice 463-8
MAOP of Pipelines and Mains
Operating at or Over 20% SMYS

To Division or Department

April 8, 1983

DIVISION MANAGERS
MANAGER, PIPE LINE OPERATIONS:

The enclosed Standard Practice 463.8 dated April 15, 1983 replaces the Standard Practice issued on April 9, 1979. A few minor revisions have been made indicated by the asterisks.

Also enclosed is the updated revision (Revision 3) of Drawing 086868 "MAOP of Lines Operating at or Over 20% SMYS," dated April 1, 1983.

Please distribute the enclosed copies appropriately. Additional copies of S.P. 463-8 and Drawing 086868 may be obtained by calling extensions 1604 and 3202, respectively.

HOWARD M. McKINLEY

[redacted]

Enclosures

cc: Gas Operations Managers (W/Enclosures)
Manager, General Construction
Division Gas Superintendents
District Managers
District Gas Superintendents

Material Redacted

62 7501 REV 4 69

PACIFIC GAS AND ELECTRIC COMPANY
STANDARD PRACTICE

STANDARD PRACTICE NO 463-8

EXECUTIVE OFFICE OR DIVISION GAS OPERATIONS

PAGE NO 1 EFFECTIVE 4/15/83

ISSUING DEPARTMENT GAS SYSTEM DESIGN

REPLACING PAGE NO 1 EFFECTIVE 4/9/79

SUBJECT: MAXIMUM OPERATING PRESSURES OF PIPELINES AND MAINS OPERATING AT OR OVER 20% OF SMYS

PURPOSE AND POLICY

*1. To establish a uniform procedure for identifying, reviewing and revising Design Pressure (DP), Future Design Pressure (FDP), Maximum Allowable Operating Pressures (MAOP), and Maximum Operating Pressure (MOP) (PG&E) for all pipelines, mains and holders operating at or above 20% of specified minimum yield strength (SMYS) of the pipe material.

RECISIONS

2. All previous instructions, oral or written, that may be contrary to this Standard Practice.

RESPONSIBILITY

*3. Division Gas Superintendents and the Manager of Pipe Line Operations shall be responsible for the performance required by this Standard Practice. Performance will include reviews of design procedures for the lines and the records generated by the referenced Standard Practices any time a change in MOP, MAOP, FDP, or DP is contemplated.

*4. The Manager of Gas System Design will establish and confirm changes to MOP (PG&E), MAOP, FDP and DP.

REFERENCES

*5. Drawing 086868 "Maximum Operating Pressures of Pipelines and Mains Operating at or Over 20% of SMYS"
Current edition of California Public Utilities G.O. 112
S.P. 412-1, "External Corrosion Control of Buried Gas Facilities"
S.P. 460-1, "Location Class Changes: Pipelines and Mains"
S.P. 460.2-2, "Physical Inspection: Pipelines, Mains and Services"
S.P. 460-21-4, "Periodic Leakage Surveys of Gas Transmission and Distribution Facilities"
S.P. 463.7, "Pipeline History File, Establishing and Maintaining"

DEFINITIONS

*6. Design Pressure (DP) is the maximum pressure permitted by the design sections of the current edition of G.O. 112, applicable to the materials and locations involved. In some cases the DP has been established as the maximum pressure for the minimum wall thickness required under the current edition of G.O. 112 for Class 3 construction for line size listed (See double asterisk entries in Drawing 086868).

* Paragraph Revised
** Paragraph Added

(SEE OVER)

Material Redacted GTR0117936

62 7501 REV 4-68

PACIFIC GAS AND ELECTRIC COMPANY
STANDARD PRACTICE

STANDARD PRACTICE NO 463-8

EXECUTIVE OFFICE OR DIVISION GAS OPERATIONS

PAGE NO 2 EFFECTIVE 4/15/83

ISSUING DEPARTMENT GAS SYSTEM DESIGN

REPLACING PAGE NO 2 EFFECTIVE 4/9/79

SUBJECT MAXIMUM OPERATING PRESSURES OF PIPELINES AND MAINS OPERATING AT OR OVER 20% OF SMYS

DEFINITIONS

Future Design Pressure (FDP) is the Design Pressure to be used for future additions to existing facilities, as shown on the latest revision of Drawing 086868.

Maximum Allowable Operating Pressure (MAOP) is the maximum pressure at which a pipeline or section of a pipeline may be operated in accordance with all the applicable provisions of the current edition of G.O. 112.

Maximum Operating Pressure (MOP) (PG&E) is the maximum pressure at which a gas system may be operated as specified by the Manager of the Gas System Design Department.

Specified Minimum Yield Strength (SMYS) is the minimum yield strength in psi prescribed by the specification under which pipe is purchased from the manufacturer or as specified in Section 192.107 of the current edition of G.O. 112.

APPLICATION

7. Procedural details appear in the addenda to this Standard Practice.

RECORD

8. Pressure Recording Charts and Operating Sheets (record of hourly data) which document the MAOP and/or MOP (PG&E) of pipelines and mains operating at or above 20% of SMYS shall be kept current by the Division and/or Pipe Line Operations Department assigned with the responsibility of maintenance and operation of facility.

SUPPLEMENT

*9. The Supplement establishes the procedure for designating the MOP (PG&E), MAOP, FDP, and DP for each facility.

APPROVED BY: Howard M. McKinley
Vice President - Gas Operations

DISTRIBUTION:
Division Managers
Division Gas Superintendents
District Gas Superintendents
District Managers
Division Admin. Analyst or Equal
Director, Procedures Analysis
Pipe Line Operations
Manager, General Construction

Additional copies of this Standard Practice may be obtained from Gas Operations, 77 Beale Street, San Francisco, (PG&E Ext. 22-1604).

* Paragraph Revised
** Paragraph Added

(SEE OVER)

Material Redacted GTR0117937

PROCEDURAL DETAILS

10. Piping systems shown on Drawing 086868 are not to be operated in excess of the MOP (PG&E). This limitation has been determined by the lowest of the following:

    a) The test pressure or the rated working pressure of the pipe, valves, and fittings in the line.

    b) The MAOP of the line as established in accordance with the provisions of the current edition of G.O. 112.

    c) The MAOP of another pipeline system connected to the first system where there is no pressure control complete with over pressure protection between the two systems.

    d) Operating conditions that limit pressure.

*11. The MOP (PG&E) may equal, but shall never exceed the MAOP or the DP. In some cases where the MAOP is less than the FDP, it is anticipated that the MAOP may be increased at some future time, in accordance with Subpart K (Uprating) of the current edition of G.O. 112. For this reason, all new additions to an existing system shall have a design pressure at least equal to the future design pressure listed in Drawing 086868. Some sections of an existing system may not qualify for the established design pressure and would require reconstruction, testing, or replacement prior to increasing the MAOP. See Paragraph 6.

12. New or replacement sections of line should be tested and qualified for the ultimate MAOP of the system, even though the MOP (PG&E) of the system is limited by the MAOP of other facilities connected to it.

13. Any changes contemplated in the MOP (PG&E) or the MAOP of a line operating at or over 20% of SMYS shall be submitted by the Division Gas Superintendent or the Manager of Pipe Line Operations, in letter form, to the Manager of Gas System Design, for review and approval. A copy should be sent to the Manager of Gas System Planning.

*14. The MOP (PG&E), MAOP, FDP and DP of all newly installed pipelines and mains operating at or above 20% of SMYS, along with those in Drawing 086868 shall be confirmed annually by letter on or before February 1, by the Division Gas Superintendents and the Manager of Pipe Line Operations to the Manager of Gas System Design Department, for each facility within the scope of this Standard Practice.

*15. The Manager of Gas System Design Department will issue and distribute an updated copy of Drawing 086868 annually.

*Paragraph Revised
**Paragraph Added

Material Redacted

PURPOSE

This drawing lists the operating limitations and design requirements for all pipelines, mains and holders operating at or above 20% of the specified minimum yield strength (SMYS) of the pipe.

See S.P. 463-8 for detailed requirements for establishing and maintaining the MAOP of gas facilities.

DEFINITIONS

Maximum Allowable Operating Pressure (MAOP) is the maximum pressure at which a pipeline or section of a pipeline is qualified to be operated in accordance with all the applicable provisions of the current edition of G.O. 112.

Maximum Operating Pressure (MOP) (PG&E) is the maximum pressure at which a gas system may be operated as specified by the Manager of the Gas System Design Department. The MOP may be lower than the MAOP of the pipeline due to the limitations of connecting gas facilities. The MOP may not be higher than the MAOP.

Design Pressure (DP) is the maximum pressure permitted by the design sections of the current edition of G.O. 112, applicable to the materials and locations involved. In some cases, the DP has been established as the maximum pressure for the minimum wall thickness required under the current edition of G.O. 112 for construction in Class 3 location for line size listed (see double asterisk entries).

Future Design Pressure (FDP) is the pressure to which future additions to existing facilities are to be designed.

CHANGES IN THE MAOP REQUIRE CPUC NOTIFICATION

General Order 112 (Subpart C) requires the Company to notify the CPUC 30 days prior to the uprating of any system operating, or to be operated, at 20 percent SMYS or greater.

The CPUC must be advised within 30 days after the lowering of the MAOP of a line operating at 20 percent or more of SMYS.

Any changes contemplated in the MOP (PG&E) or the MAOP of a line operating at or over 20% of SMYS shall be submitted by the Division Gas Superintendent or the Manager of Pipe Line Operations, in letter form, to the Manager of Gas System Design, for review and approval.

APPROVED BY	REV.	DATE	DESCRIPTION	GM	DWN.	CHKD.	SUPV.	APVD.
JKY	7	3/6/87	Updated	DAW		PAL		CJT
	6	4/10/86	Updated, DFM's and Underground Holders Listed by Region and Division	DAW				CJT
PAL CJT	5	3/1/85	Updated	DAW		PAL		CJT

GM		B/M	
SUPV.	PIPELINE - DATA SHEET	DWG. LIST	
DSGN.	MAOP OF LINES OPERATING AT OR OVER 20% SMYS	SUPSDS	
DWN.	TYPICAL	SUPSD BY	
CHKD.	PACIFIC GAS AND ELECTRIC COMPANY	SHEET NO. 1 of 27 SHEETS	
O.K.	SAN FRANCISCO, CALIFORNIA	DRAWING NUMBER	REV.
DATE 4/9/79	SCALE	086868	7
		MICROFILM	

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61-4344 (REV. 1-78) PRINTED ON DIEPO NO. 1080 CLEARPRINT 11-80

Material Redacted GTR0117939

MAOP INDEX

Sheets 3 - 18	Transmission Lines Operating at or Over 20% SMYS
Sheets 19 - 26	Distribution Mains Operating at or Over 20% SMYS
Sheet 27	Pipe Type High Pressure Underground Holders Operating at or Over 20% SMYS

LINES OPERATING AT OR OVER 20% SMYS	P G & E CO.	DRAWING NUMBER 086868	REV. 7
	SHEET 2 OF 27 SHEETS	MICROFILM	

61-4344 Rev 1-76

Material Redacted GTR0117940

Trans. Line No.	MP	to MP	Description	Nominal Pipe Diameter (Inches)	PG&E MOP psig	MAOP	Design Press.	Future Design Press.
21	0.00	1.07	Crockett Station to MP 1.07	24", 26"	400	405	650	675
21	1.07	1.52	MP 1.07 to Herrmann Station	24"	400	675	675	675
21	1.52	2.71	Herrmann Station to Vallejo Station	12", 16"	250	258	575**	585
21	2.71	12.05	Vallejo Station to Napa "Y"	12"	250	375	585	585
21	12.05	35.05	Napa "Y" to MP 35.05	12", 24", 26"	450	450	675	675
21	35.05	51.41	MP 35.05 to Monroe Reg. Station	12"	450	500	675	675
21	51.41	53.12	Monroe Reg. Station to Santa Rosa Compressor Station	12"	450	494	675	675
21	53.12	137.38	Santa Rosa Compressor Station to Willits	8", 12"	820	820	890	890
21	0.00	18.64	Napa "Y" to Adobe	16"	450	500	675	675
21	18.64	32.0	Adobe to Laguna de Santa Rosa	16"	450	500	675	675
21	35.90 △	37.04	Stony Point Rd., Hearn to Sebastopol Rds.	16"	450	675	675	675
21	34.84 △	35.86	McDowell Road Tap to Petaluma Reg. Station	12"	450	500	593	675
21	0.00	21.11	Adobe to San Rafael Underground Holder	16", 20"	450	500	500	500
21	0.00	21.11	Adobe to San Rafael Underground Holder	12", 16"	450	500	500	500
*50	0.00	2.87	Marysville Service Center Reg. Station to Yuba City Underground Holder	8"	400	400	720**	720**
*50	2.87	21.62	Yuba City Underground Holder to Biggs Reg. Station	8"	250	250	720**	720**
*50	21.62	26.94	Biggs Regulator Station to Richvale "Y"	6", 8"	250	250	720**	720**
*50	26.94	44.87	Richvale "Y" to Butte Station	6", 8", 12"	400	400	686**	720**
50	0.00	7.81	MP 0.00 to Paradise	8"	400	720	720	720
56			Pleasant Creek Field Underground Storage System	4"	1300	1300	1300	1440

*Indicates that line or sections are under 20% SMYS, but are listed for the purpose of continuity.

**DP has been established as the maximum pressure for the minimum wall thickness required under the current edition of General Order 112-D for construction in Class 3 location for line size listed.

Note: Transmission line numbers which are underlined indicate changes by this revision of Standard Practice 463.8.

Material Redacted GTR0117941

61-4344 Rev 1-76

LINES OPERATING AT OR OVER 20% SMYS

PG&E CO.

SHEET 4 OF 27 SHEETS

DRAWING NUMBER REV
086868 7

MICROFILM

Trans. Line No.	MP	to MP	Description	Nominal Pipe Diameter (Inches)	PG&E MOP psig	MAOP	Design Press.	Future Design Press.
56			Pleasant Creek Field Underground Storage System	4", 8"	1300	1440	1440	1440
57			McDonald Island Field Underground Storage System	4" - 12"	2160	2160	2160	2160
57A	0.00	7.47	McDonald Island Compressor Station to Palm Tract PLS	14", 16", 18"	1025	1025	1025	1025
57A	7.47	16.64	Palm Tract PLS to Brentwood Terminal	18"	867	867	867	867
57B	0.00	16.46	Brentwood Terminal to McDonald Island Field Underground Storage System	22"	2160	2160	2160	2160
65			SP 3 (T176.70) to Los Medanos Compressor Station	12", 20", 22"	600	720	720	720
65			Los Medanos Field Storage System	4", 22"	1800	1800	1800	1800
100	134.5	150.13	MP 134.5 to Milpitas Terminal	20"	400	400	546	400
101	0.00	9.80	Milpitas Terminal to Rengstorff Avenue Station	24", 34", 36"	375	400	400	400
*101	9.80	33.68	Rengstorff Ave Sta Via Bayshore to San Francisco Division Border Meter Sta	20", 24", 30" 34", 36"	180	180	275	400
*101	33.68	44.56	San Francisco Division Border Meter Sta Via Bayshore Blvd to San Francisco Division Gas Load Center	20"	109	110	275	275
*103	0.00	23.55	Hollister Meter Station Reg Station to California Street Reg Station	12"	350	350	500	500
*103	23.55	26.63	California Street Regulator Station to Harkins Road Meter and Mixer Station	12"	313	313	500	500
105N	6.88	23.03	Irvington Station to San Lorenzo Regulator Station	20", 24" 26", 34"	250	250	500	500
*105N	23.03	36.48	San Lorenzo Regulator Station to East Bay Gas Load Center	16", 20" 24", 26", 30", 34"	150	198	275	275
*105A	36.64	37.33	2nd and Market to 5th and Kirkham	20", 24"	150	198	275	275
*105A	38.17	52.01	Poplar n/o 18th to San Pablo Station	20", 22" 24", 30"	150	198	275	275

Material Redacted GTR0117942

61-4344 Rev 1-76

LINES OPERATING AT OR OVER 20% SMYS

Trans. Line No.	MP	to MP	Description	Nominal Pipe Diameter (Inches)	PG&E MOP psig	MAOP	Design Press.	Future Design Press.
*105A	0.00	2.03	2nd and Market to 32nd and Peralta (1)	20", 22" 24"	150	198	275	275
105N	0.00	0.18	Baine Avenue Crossover to Line 153	20"	250	250	590	500
*105N	0.00	1.29	West Winton Avenue Crossover to Line 153	22", 24"	250	250	500	500
105B	0.00	11.85	Crockett Station to San Pablo Station	24"	400	400	400	400
107	0.00	13.11	Tracy Station to Livermore Junction	22"	500	500	500	720
107	13.11	31.22	Livermore Junction to Irvington Station	22"	477	477	500	720 (2)
107S	31.22	33.20	Irvington Station to MP 33.20	22", 24"	477	477 (3)	500 (3)	720
107S	33.20	38.12	MP 33.20 to Milpitas Station	36"	477	720 (3)	720 (3)	720
108	0.00	4.59	Stanpac 2 to Vernalis Field Mixing Station	16"	500	500	720	890
108	4.59	8.79	Vernalis Field Mixing Station to McMullin Ranch Mixer Station	16"	408	408	720**	720**
108	8.79	16.7	McMullin Ranch Mixer Station to Louise Avenue Meter and Reg Station	16"	408	408	720**	720**
108	16.7	43.5	Louis Ave. Meter and Reg Station to Las Vinas Station	16"	412	412	720**	720**
108	43.5	62.20	Las Vinas Station to Clarksburg PLS	16"	490	490	500	720
108	62.20	75.10	Clarksburg PLS to Sacramento Division Gas Load Center	16", 20", 24"	412	412	500	720
*108	27.10	1.71	E. Hazleton & "B" Streets Reg Station to Stockton Division Gas Load Center	12"	188 (4)	188	275	400
109	0.00	43.47	Milpitas Terminal to Sullivan Avenue Reg Station	22", 24", 30", 34"	375	375	400	400
*109	43.47	52.71	Sullivan Avenue Regulator to San Francisco Division Gas Load Center	26"	150	150	275	275
111	0.00	21.65	Helm Junction to Fresno Junction	12", 16"	650	650	800	720

(1) This Section of L-105A at MP 2.03 is tied into the remainder of L-105A at MP 38.87.
(2) The FDP of this segment of L-107S was raised to 720 psig to be consistent with the FDP's of adjacent segments of L-107 and L-107S.
(3) The MAOP and design pressure of this segment of L-107S was raised to 720 psig since this segment of pipe was tested to operate at that pressure when installed.
(4) This Section of L-108 has a 175 psig MOP when operated in conjunction with the Pacific Paperboard Feeder.

SHEET 5 OF 27 SHEETS

PG&E CO.

DRAWING NUMBER 086868 REV. 7

MICROFILM

Material Redacted GTR0117943

61-4344 Rev 1-76

LINES OPERATING AT OR OVER 20% SMYS

PG&E CO. SHEET 6 OF 27 SHEETS

DRAWING NUMBER REV
086868 7

MICROFILM

Trans. Line No.	MP	to MP	Description	Nominal Pipe Diameter (Inches)	PG&E MOP psig	MAOP	Design Press.	Future Design Press.
111	21.65	28.05	Fresno Junction to San Joaquin Division Gas Load Center	8"	400	400	720	720
111			Raisin City Field Collection System	4"	650	800	800	800
111			San Joaquin Field Collection System	3", 4"	650	800	960	960
112			Strangeman Well 1-1 to L-108 MP 1.98	4"	500	594	720	720
112			Vernalis Field Collection System	3" - 8"	594	594	800	890
114	0.00	9.01	Rio Vista Field West Side to Antioch Terminal	12", 16"	510	510	800	800
114	7.33	8.31	San Joaquin River Crossing--Block Valve 7.46 on Stanpac Line 4 to Block Valve 8.31 on Line 114	12"	720 (5) 510 (6)	800	800	800
114	9.01	16.59	Antioch Terminal to Brentwood Terminal	22"	595 (6)	595	595	720
114	16.59	28.97	Brentwood Terminal to Dalton Avenue Station	22"	595	595	595	720
114	28.97	33.85	Dalton Avenue Station to Livermore Junction	36"	595	595	595	720
115			Petaluma Gas Field	2"	450	675	675	675
*116	0.00	3.86	Davis Meter and Reg Station to Swingle Junction Meter and Reg Station	8"	500	500	500	800
*116	3.86	6.18	Swingle Junction Meter and Reg Station to MP-6.18	16"	500	800	800	720
116	6.18	9.60	MP-6.18 to Block Valve 9.60	16"	500	800	800	720
116	9.60	12.89	MP-9.60 to Sacramento Division Gas Load Center	8", 24"	500	500	500	720
*118	0.00	6.09	San Joaquin Division Gas Load Center to Fresno Junction	8"	400	400	500	500
118	0.00	0.66	San Joaquin Division Gas Load Center to Fresno Underground Holder	12"	690	690	720	720
*118	5.86	12.57	Fresno Junction to MP 12.57	12"	400	400	720	720
*118	12.57	73.26	MP 12.57 to Livingston Reg Station	8"	400	400	500	500
118	0.00	38.39	Herndon Junction to Athlone	12"	400	400	720	720
118	73.26	74.89	Livingston Reg Station to Collier Road	6"	400	720	720	720
118	74.89	83.74	Collier Road to Bradbury Road Reg Station	6", 8"	400	400	400	720

(5) This section of Line 114 has a 510 psig MOP when Block Valve 8.31 is open.
(6) This section of Line 114 has a 438 psig MOP when Valve #5 at Antioch is open.

Material Redacted GTR0117944

Trans. Line No.	MP	to MP	Description	Nominal Pipe Diameter (Inches)	PG&E MOP psig	MAOP	Design Press.	Future Design Press.
118	78.08	83.74	MP 78.08 to Bradbury Road Reg Station	8"	400	720	720	720
118	83.74	84.69	Bradbury Road Reg Station to MP 84.69 (L-215 Tap) Parallel	6", 8"	500	890	890	890
119	0.00	3.85	Davis Meter Station to Swingle Junction Reg and Meter Station	12"	792	792	800	800
119	3.85	4.85	Swingle Junction Reg & Meter Station to MP 4.85	12"	500	720	720	720
119	4.85	11.14	MP 4.85 to MP 11.14	12", 20"	500	520	720	720
119	11.14	11.35	MP 11.14 to MP 11.35	10"	500	520	720	720
119	11.35	16.46	MP 11.35 to N. Sacramento Underground Holder	12"	500	520	720	720
119	0.00	10.17	N. Sacramento Underground Holder to Antelope Meter Station	12"	500	500	500	600
119	0.00	6.69	N. Sacramento Underground Holder to Roseville Rd Reg Station	16"	500	500	500	600
119	0.00	7.85	Roseville Rd Reg Station to Antelope Meter Station	6", 16"	500	500	500	600
119	0.00	5.25	Sonoma Avenue Reg and Del Pasa Blvd to Roseville Rd Reg Station	6"	180(7)	500	500	500
120			Sutter Creek Field Collection System	4", 6"	485	492	720	720
120			Sutter Buttes Field Collection System	4", 6"	485	485	720	720
121	0.00	11.54	Marysville Buttes Meter Station to Yuba City Underground Holder	6"	485	485	720	960
123	0.00	13.57	Antelope Meter Station to Lincoln Junction Reg Station	12"	500	500	670**	670**
124	0.00	23.46	Lincoln Junction Reg Station to Marysville Service Center Reg Station	8"	400	400	720	720
124	0.00	26.03	Lincoln Junction Reg Station to Yuba City Underground Holder	16"	600	600	720	720
124	0.00	3.76	Beale Air Force Base Tap (T 13.31) to Beale Air Force Base Reg Station	6"	400	400	720	720
125			Tompkins Hill Field Collection System	3", 4", 6"	448	448	720	720

(7) This section of Line 120 is directly tied to Sutter Buttes Field Collection System which has a MOP of 485 psig.

Trans. Line No.	MP	to MP	Description	Nominal Pipe Diameter (Inches)	PG&E MOP psig	MAOP	Design Press.	Future Design Press.
125			Edwards Vicenus to Tompkins Hill Meter and Reg Station	4"	350	448	720	720
126	0.00	10.57	Tompkins Hill Meter & Reg Station to Union Street Reg Station	4"	350	425	720	425
126	0.00	10.89	Tompkins Hill Meter Station to Union Street Reg Station	6"	350	425	720	425
126	0.00	3.62	Elk River Road Reg Station to T 12.38, Line 126	10"	167	167	713	600
*126	0.00	0.36	MP 0.00 to Eureka Manifold Propane Air Plant	10"	167	167	713	600
126	10.89	12.61	Union Street Reg Station to Line 137	6"	167	167	713	275
130A	0.00	0.50	HP Rio Vista Sacramento River Crossing	10"	800	800	800	800
130B	0.00	0.50	LP Rio Vista Sacramento River Crossing	10"	510	510	800	720
131	0.00	0.71	Rio Vista Field East Side	12"	510	685	800	720
131	0.00	9.19	Rio Vista Field East Side to Antioch Terminal	10", 12"	720(8) 510(9)	720	720	720
131	9.19	10.47	Antioch Terminal to MP 10.47	24"	438	438	600	720
131	10.47	16.87	MP 10.47 to Brentwood Terminal	24"	438	495	600	720
131	16.87	50.57	Brentwood Terminal to Irvington Station	24"	500	525	600	650
131	50.57	57.45	Irvington Station to Milpitas Terminal	30"	590	595	650	650
132	0.00	35.84	Milpitas Terminal to MP 35.84	12", 16", 24", 30", 34", 36"	375	400	400	400
132	35.84	46.59	MP 35.84 to Martin Station Reg Station	30", 36"	390	390	400	400
132	46.59	51.50	Martin Station Reg Station to San Francisco Division Gas Load Center	24"	145	145	275	275
132A	0.00	1.50	Sierra Vista Avenue Crossover to Rengstorff Avenue Station	16", 24"	400	400	400	400
132B	0.00	0.35	Martin Station Reg Station to Geneva Avenue	20"	109	110	275	275
133			Gill Ranch Field Collection System	4"	500	500	500	720
134	0.00	21.57	Herndon Junction to MP 21.57	6", 8"	500	500	720	720

(8) The MOP is 720 psig when this section of L-131 is operated in conjunction with the HP Rio Vista Collection System.

(9) The MOP is 510 psig when this section of L-131 is operated in conjunction with the LP Rio Vista Collection System.

Material Redacted GTR0117946

61-4344 Rev 1-76

LINES OPERATING AT OR OVER 20% SMYS

Trans. Line No.	MP	to MP	Description	Nominal Pipe Diameter (Inches)	PG&E MOP psig	MAOP	Design Press.	Future Design Press.
134	21.57	27.04	MP 21.57 to Arbios Reg Station	6"	500	500	720	720
134	27.04	30.50	Arbios Reg Station to MP 30.50	6", 8"	500	500	720	720
134		34.13	Arbios Reg Station to Firebaugh Regulator Station	3", 4"	500	500	720	720
134			Dixion Dryer DFM	4"	500	500	720	720
136	0.00	1.65	Ord Bend Meter Station to MP 1.65	6"	479	565	720	720
136	5.14	12.89	Fell Reg & Odorizer Station to Butte Station	6"	550	550	720	720
*137	0.00	11.83	14th and Albee Streets, Eureka, to Arcata Reg Station	4", 6"	167	167	275	275
137	3.58	7.37	Ryan Slough Reg Station to Arcata Reg Station	8"	350	350	720	600
				16"	800(10)	862	862	862
138A	0.00	14.94	Helm Tap Station to Helm Junction	20"	700	700	800	890
138B	0.00	14.71	Helm Tap Station to Helm Junction	18"	800(10)	865	865	890
138	14.71	20.50	Helm Junction to Elkhorn Station	18"	650	650	865	720
138	20.50	22.04	Elkhorn Station to Burrel Meter Station	16"	650	650	720**	720**
138	22.04	38.59	Burrel Meter Station to Adams & Elm Meter and Regulator Station	10", 12", 16"	650	650	720	720
138	38.59	49.42	Adams & Elm Meter & Reg Station to San Joaquin Division Gas Load Center	16"	650	650	720	720
138	43.58	50.02	T 43.58 to Chestnut & Clay Reg Station	10"	650	720	720	720
138	45.10	46.64	MP 45.10 to Peach Avenue	4", 6"	538	538	800	800
141E			E Thornton Field Collection System	3" - 10"	538	768	800	800
141W			W Thornton Field Collection System	6", 8"	538	768	800	800
*141			N.E. River Island & Walnut Grove Field Collection System	12", 16"	475	475	720	720
142N	0.00	14.05	Bakersfield Tap to Bakersfield Reg Station	20"				
142S	0.00	9.00	Gosford Road Meter Station to Brundage Lane & "V" St Regulator	6", 10"	600	600	720	720
*142S	9.00	11.47	Brundage Lane & "V" St Regulator to Bakersfield Reg Station	8", 12"	300	300	720	300
*143			Millar Field Collection System	3", 4"	792	800	800	800
144	0.00	3.50	Millar Field to Millar Meter Station	10", 12"	792	796	800	800

(10) This section of L-138/L-138A has a 700 psig MOP when operating in conjunction with 20" L-138B.

P G & E CO.

SHEET 9 OF 27 SHEETS

DRAWING NUMBER 086868

REV 7

MICROFILM

Material Redacted

GTR0117947

61-4344 Rev 1-76

LINES OPERATING AT OR OVER 20% SMYS

PG&E CO.

SHEET 10 OF 27 SHEETS

DRAWING NUMBER 086868 REV 7

MICROFILM

Trans. Line No.	MP	to MP	Description	Nominal Pipe Diameter (Inches)	PG&E MOP psig	MAOP	Design Press.	Future Design Press.
145			Maine Prairie Field Collection System	3", 4", 6"	510	796	800	800
146	0.00	6.00	Maine Prairie Field to Maine Prairie Meter Station	8"	510	796	800	800
147	0.00	3.39	Edgewood Road Crossover to San Carlos Regulator Station	20", 24"	400	400	400	400
148	0.00	17.63	McMullin Ranch Mixer Station to Morgan Road Regulator Station	8"	408	408	720	720
149			Winters Field Collection System	4", 6"	720	750	800	800
150	0.00	18.09	Winters Meter Station to Davis Meter Station	6"	720	750	800	800
151	0.53	14.05	MP 0.53 to Afton Reg Station	6"	250	250	720	720
153	0.00	18.00	Irvington Station to Marina Blvd Station	30", 32", 34"	420	420	500**	500**
*153	18.00	27.89	Marina Blvd Station to East Bay Div Gas Load Center	24", 30"	246	246	275	275
153			Tap to 50th Avenue Holder	16", 20"	246	246	275	275
153			Tap to East Bay Div Gas Load Center	20"	246	246	275	275
153			Alvarado Crossover & Reg Station to Line 105	16"	246	250	500**	500**
*153			Fairway Avenue Crossover Station to Line 105	20", 30"	150	198	542	500
155			Durham Field Collection System	4"	680	680	800	800
156	0.00	5.72	Durham Field to Durham Field Meter Station	6"	680	680	800	800
158	4.80	11.06	V-4.80 to L-172 (MP 11.06)	6"	800	800	800	800
158	11.06	13.65	MP 11.06 to Dunnigan Spreckels Reg Station	6"	500	564	800	800
158			Woodland Field Collection System	3", 4"	800	800	800	800
159	0.00	0.65	Pleasant Creek Field Compressor Station to V-0.65	4"	975	975	1000	975
159	0.65	3.91	V-0.65 to Pleasant Creek Line 159 Regulator Station	4"	975	975	1000	975
159	3.91	4.70	Pleasant Creek Line 159 Regulator Station to Winters Meter Station	4", 8"	720	750	800	975
159			Winters Field Collection System	4"	720	750	800	975
*162	0.00	7.73	Tracy Station to Banta Regulator Station	6", 8"	365	365	720	720
162	0.00	6.61	Tracy Station to Holly Road	10"	365	720	720	720

Material Redacted GTR0117948

61-4344 Rev 1-76

LINES OPERATING AT OR OVER 20% SMYS

Trans. Line No.	MP	to MP	Description	Nominal Pipe Diameter (Inches)	PG&E MOP psig	MAOP	Design Press.	Future Design Press.
164			Coalinga Nose Field Collection System	8", 10"	390	498	865	890
167	0.00	34.50	Beehive Bend Field to Yuba City Underground Holder	12", 16"	800	800	800	800
167	0.00	4.60	Wild Goose Field Meter Station to Wild Goose Mixer & Odorizer Sta	10"	800	800	800	800
167	4.60	6.54	Wild Goose Mixer & Odorizer Station to Gridley Junction Station	8"	800	800	800	800
167			Wild Goose Field Collection System	4"	800	800	800	800
167	4.12	7.60	Princeton Field Collection System	3"	800	800	800	800
167			Compton Landing Field Collection System	3", 4", 6"	800	800	800	800
167			Bounde Creek Field Collection System	2" - 6"	800	800	800	800
168			River Island Field Collection System	2" - 8"	800 720(11)	800	800	800
169			Beehive Bend, Willows, Llano Seco & Perkins Lake Field Collection System	3" - 20"	800	800	800	800
172	0.00	69.81	Beehive Bend Field, West, Meter & Odorizer Station to Swingle Junction Reg & Meter Station	18", 20"	800	800	800	800
172			Sugarfield Field Collection System	2" - 4"	800	800	800	800
172			Dufour Field Collection System	4"	800	800	800	800
172	69.81	79.12	Swingle Junction Reg & Meter Station to Sacramento Div Gas Load Center	12", 16"	500	520	720	720
172	0.00	0.60	Crosstie Between Line 172 and Line 167	10"	800	800	800	800
172	75.45	9.68	Crosstie Between Line 172 and Line 119	12"	500	520	720	720
*173	0.00	17.56	Turkey Ranch Meter Station to Auburn Reg Station	4", 6", 8"	500	500	670	670
*174			Arbuckle Field Collection System	2" - 10"	800	800	800	800
176			Roberts Island Field Collection System	2" - 8"	500	555	800	890
176	0.00	18.85	Roberts Island Field to Tracy Station	6", 8"	500	555	800	720
177	0.00	0.87	Sacramento Avenue Junction to Grape Way Regulator Station	10"	819	819	960	960
177	0.86	7.13	Grape Way Reg Station to Butte Station	6", 10"	469	469	600	720

(11) The MOP of Line 168 shall be 720 when operated in conjunction with Line 131.

SHEET 11 OF 27 SHEETS

PG&E CO.

DRAWING NUMBER 086868

REV. 7

MICROFILM

Material Redacted

LINES OPERATING AT OR OVER 20% SMYS

PG&E CO.

SHEET 12 OF 27 SHEETS

DRAWING NUMBER 086868

REV. 7

MICROFILM

Trans. Line No.	MP	to MP	Description	Nominal Pipe Diameter (Inches)	PG&E MOP psig	MAOP	Design Press.	Future Design Press.
177	0.00	4.75	Fell Regulator & Odorizer to Sacramento Avenue Junction	16"	819	819	960	960
177	4.75	29.09	Sacramento Avenue Junction to Corning N. Dome Station	10"	819	819	960	960
177	0.00	2.19	Tap 27.60 to Tap 29.87 Parallel Section Near Corning N. Dome	6", 8"	819	819	960	960
177	29.09	37.84	Corning N. Dome Station to Gerber Compressor Station	12"	819	819	960	960
177	37.84	163.04	Gerber Compressor Station to Cummings Creek PL Station	12"	819	819	960	960
177	163.04	178.18	Cummings Creek PL Station to Tompkins Hill Meter & Regulator Station	12"	430	430	720	720
177	178.18	192.29	Tompkins Hill Meter & Regulator Station to Ryan Slough Regulator Station	12"	350	425	600	600
177	37.8	149.18	Crosstie Between Lines 177 and Line 400	12"	819	819	960	960
177	43.87	1.24	Red Bluff Tap to Red Bluff and Diamond National Corp.	6"	819	819	960	960
179			Corning Field, South, Collection System	6"	819	819	960	960
181A	0.00	1.56	Soap Lake Meter Station to Gilroy Junction Station	10"	300	300	400	400
181A	6.19	20.15	V-6.19 to Watsonville	10", 12"	300	303	400	400
181B	0.00	10.85	Anzar Road Meter and Regulator to Watsonville Station	10", 16", 20"	400	400	400	400
*182	0.00	12.86	Serpa "Y" to V-12.86, Suisun Junction	8" - 10"	510	510	800	800
182	12.86	18.23	V-12.86 to Shell Chemical Meter Station	12"	435	435	800	800
*182	18.23	18.87	Shell Chemical Meter Station to Suisun Junction Meter Station	12"	435	435	600	800
182			Kirby Hills Field Collection System	3" - 8"	510	510	800	800
182			Suisun Field Collection System	2" - 6"	510	510	800	800
183	0.00	6.35	Moffat Ranch Field Meter & Reg Station to Firebaugh Regulator Station	3"	175	320	800	800
185	0.00	0.014	Hollister Gas Field Tie to Main 301A	4"	396	396	600	500
186	0.00	26.1	Red Top Regulator to Dos Palos Meter Station	3", 4", 6"	500	625	720	720
186	26.1	29.4	Chowchilla Field to Red Top Regulator Station	2", 3", 4"	500	960	960	960

Trans. Line No.	MP	to MP	Description	Nominal Pipe Diameter (Inches)	PG&E MOP psig	MAOP	Design Press.	Future Design Press.
*187	0.00	22.58	San Ardo Field to Jolon Road Regulator Station	6"	313	313	720	720
*187	22.58	65.70	Jolon Road Regulator Station to Harkins Road Meter & Mixer Station	8"	313	313	720	720
189	0.00	1.72	Humboldt Bay PP Tap to Humboldt Bay PP	10"	350	425	720	600
190	0.00	16.08	Kettleman Compressor Station to Coalinga Nose Dehydrator Station	12", 16"	2160	2160	2160	2160
190	16.08	16.22	Coalinga Nose Dehydrator Station to Coalinga Nose Field	16"	2160	2160	2160	2160
191	0.00	3.86	Antioch Terminal to Antioch Town Meter Station	30", 34"	600	600	600	600
191			Antioch Town Meter Station Cross Tie	16"	600	600	600	600
191	3.87	9.93	MP 3.87 to SP 3-Line 191 Meter Sta Via Pittsburg Power Plant	20", 24"	338	390	600	600
191	9.93	25.30	SP 3-Line 191 Meter Sta to Reliez Station Road Regulator Station	16", 20", 24"	338	338	600	600
*191	25.30	29.36	Reliez Station Road Regulator Station to The Junction	8", 10", 12"	268	283	400	400
*191	29.36	32.76	The Junction to MP 32.76	10"	268	270	400	400
*191	32.76	35.83	MP 32.76 to Martinez Meter and Regulator Station	10"	268	268	400	400
*191A			The Junction to Ardilla and Camino Pablo Regulator Station	3", 6", 8"	268	283	400	400
*191B	0.00	1.53	The Junction to Reliez Valley Road, Lafayette	8"	268	283	400	400
193			Rice Creek Field Collection System	2" - 8"	819	960	960	960
193			Malton Field Collection System	4", 6", 8"	819	960	960	960
193			Kirkwood & Rice Creek Field, North, Collection System	6"	819	819	960	960
194	00.0	4.39	McMullin Field Dehydrator Station to California Ammonia Company	6"	440	440	960	800
194			McMullin Ranch Field Collection System	2" - 10"	440	440	800	800
195			Rio Vista Field, East Side Collection System (HP)	2" - 16"	800(12)	800	800	800

(12) The MOP of this section of line is 720 psig when it is operated in conjunction with L-131.

Material Redacted GTR0117951

Trans. Line No.	MP	to MP	Description	Nominal Pipe Diameter (Inches)	PG&E MOP psig	MAOP	Design Press.	Future Design Press.
*195			Rio Vista Field, East Side Collection System (LP)	2" - 16"	510	510	800	800
196	0.00	13.45	Isleton Meter Station to Las Vinas Station	8", 12"	800(13)	800	800	800
197A	0.00	21.41	Las Vinas Station to Brandt Rd PLS	10"	300	388	720	720
197A	21.41	31.23	Brandt Rd PLS to MP 31.23	10", 12"	300	720	720	720
197A	31.23	39.57	MP 31.23 to MP 39.57	12"	300	320	720	720
197A	39.57	41.78	MP 39.57 to Calaveras Cement Meter Station	8"	300	320	720	720
197B	0.00	5.50	Las Vinas Station to V-5.50	6"	300	388	720	720
197B	21.47	31.24	Brandt Rd PLS to V 31.24	8"	300	320	720	720
197C	17.44	23.02	Ione Tap to MP 23.02	10"	300	720	720	720
199			Bunker Field Collection System	3" - 8"	792	796	800	800
200			Rio Vista Field, West Side, Collection System (HP)	2" - 16"	800(13)	800	800	800
*200			Rio Vista Field, West Side, Collection System (LP)	2" - 16"	510	510	800	800
200	0.00	6.51	Rio Vista Field, West Side, Collection System (LP), Rio Vista "Y" Mixer Station to Serpa Junction Compressor Station	12"	510	800	800	800
200			Rio Vista Field, West Side, Collection System (30 psig)	3" - 10"	400	510	800	800
200			Liberty Island Field Collection System	4"	800 720(13)	800	800	800
200			Lindsey Slough Field Collection System	3" - 10"	868(13)	868	960	960
201			Todhunters Lake Field Collection System	2" - 12"	792	960	960	960
201			Greens Lake Field Collection System	2"	792	960	960	960
202	0.00	23.72	Camp Far West Meter Station to Grass Valley Reg Station	6", 8"	400	720	720	720
203			Winchester Lake Field Collection System	3", 4"	800	800	800	960
204			Cheney Ranch Field Collection System	3", 4"	500	890	890	890
206			Pleasant Creek Tap to Pleasant Creek Field Compressor Station	12"	975	1440	1440	1440
207			Conway Ranch Field Collection System	4", 6", 8"	800	1000	1000	960

(13) The MOP of this section of line is 720 psig when it is operated in conjunction with L-131.

61-4344 Rev 1-76

LINES OPERATING AT OR OVER 20% SMYS

PG&E CO.

SHEET 15 OF 27 SHEETS

DRAWING NUMBER REV

086868 7

MICROFILM

Trans. Line No.	MP	to MP	Description	Nominal Pipe Diameter (Inches)	PG&E MOP psig	MAOP	Design Press.	Future Design Press.
208			Union Island Field to Lathrop Dehydrator Station	12"	825	1000	1000	1000
209			Johns Manville Reg Station to 5th & Garden, Willows	4"	479	720	720	720
210			Denverton Field Collection System	3", 4"	650	650	720	720
210	0.00	1.40	Rio Vista "Y" to Creed Station	16"	800(14)	800	800	800
210	1.40	25.98	Creed Station to Napa "Y" Meter Station	16", 18"	650	650	720	720
210	1.40	19.47	Creed Station to Cordelia Reg Station	32", 34"	650	675	675	675
210	19.47	25.62	Cordelia Regulator Station to Napa "Y" Meter Station	10", 12"	650	650	675	675
210	0.00	1.36	Rio Vista "Y" to Creed Station	10"	650	650	800	800
210	19.47	32.11	Cordelia Reg Sta to Herrmann Station	24"	650	675	675	675
210	0.00	3.7	Exxon Tap to Exxon Meter Station	18"	650	720	720	675
212			Tremont Field Collection System	4", 6"	792	800	800	800
213	0.00	1.81	Orland Field Collection System	3", 4"	819	960	960	960
215	0.00	20.05	Oak Flat Road Meter Sta to West Ave. Reg Station	12"	500	890	890	890
220	0.00	2.41	Rio Vista "Y" to Maine Prairie Meter & Reg Station	16"	792	800	800	800
220	0.00	2.41	Rio Vista "Y" to Maine Prairie Meter & Reg Station	10"	510	796	800	800
220	2.41	22.01	Maine Prairie Meter & Reg Station to Davis Meter and Reg Station	8", 10", 12"	792	796	800	800
220	22.01	34.46	Davis Meter & Regulator Station to Dunnigan-Spreckels Regulator Station	6", 8"	500	500	500	800
300A	0.00	0.64	Colorado River to Topock Compressor Station	30", 34"	660	700	700	700
300A	0.64	40.87	Topock Compressor Station to PLS 1A	34"	867	867	890	890
300A	40.87	103.72	PLS 1A to PLS 2A	34"	815	815	815	815
300A	103.72	130.37	PLS 2A to PLS 2AX	34"	688	688	688	688
300A	130.37	159.33	PLS 2AX to Hinkley Compressor Station	26", 34"	573	573	573	573
300A	159.33	203.02	Hinkley Compressor Station to PLS 3A	34"	861	861	890	890
300A	203.02	256.21	PLS 3A to PLS 4A	34"	803	817	817	817
300A	256.21	299.01	PLS 4A to PLS 5A	34"	757	757	757	757

(14) All measurement and control equipment was removed from Creed Station allowing the MOP to be increased to 800 psi.

Material Redacted GTR0117953

61-4344 Rev 1-76

LINES OPERATING AT OR OVER 20% SMYS

PG&E CO.

SHEET 16 OF 27 SHEETS

DRAWING NUMBER 086868

REV. 7

MICROFILM

Trans. Line No.	MP	to MP	Description	Nominal Pipe Diameter (Inches)	PG&E MOP psig	MAOP	Design Press.	Future Design Press.
300A	299.01	353.85	PLS 5A to Kettleman Compressor Station	34"	669	688	688	688
300A	353.85	436.74	Kettleman Compressor Station to PLS 6A	34"	840	840	890	890
300A	436.74	461.07	PLS 6A to PLS 6AX	34"	715	715	715	715
300A	461.07	490.65	PLS 6AX to PLS 7A	34"	631	631	715	715
300A	490.65	502.34	PLS 7A to Milpitas Terminal	34"	558	558	676	676
300B	0.00	0.45	Colorado River to Topock Compressor Station	34"	660	660	735	735
300B	0.45	40.49	Topock Compressor Station to PLS 1B	34"	867	867	894	894
300B	40.49	103.51	PLS 1B to PLS 2B	34"	815	821	821	821
300B	103.51	130.40	PLS 2B to PLS 2BX	34"	688	688	688	688
300B	130.40	161.02	PLS 2BX to Hinkley Compressor Station	34"	573	573	573	573
300B	161.02	203.07	Hinkley Compressor Station to PLS 3B	34"	861	861	897	897
300B	203.07	256.64	PLS 3B to PLS 4B	34"	803	816	816	816
300B	256.64	299.00	PLS 4B to PLS 5B	34"	757	757	757	757
300B	299.00	354.02	PLS 5B to Kettleman Compressor Station	34"	669	688	688	688
300B	354.02	436.85	Kettleman Compressor Station to PLS 6B	34"	840	840	890	890
300B	436.85	461.08	PLS 6B to PLS 6BX	34"	715	715	715	715
300B	461.08	490.92	PLS 6BX to PLS 7B	34"	631	631	715	715
300B	490.92	502.64	PLS 7B to Milpitas Terminal	34"	600	600	669	669
301G	0.00	24.68	Hollister Meter Station to Moss Landing Power Plant	24", 30"	500	500	500	500
301A	0.00	24.84	Hollister Meter Station to Moss Landing Power Plant	20"	396	396	500	500
301B	0.00	14.02	Dolan Road Meter Station to Hilltown Regulator Station	12"	408	408	500	500
*301C	14.02	17.20	Hilltown Regulator Station to Harkins Road Meter and Mixer Station	8", 12"	313	313	500	500
*301F	0.00	7.94	Espinosa Road Tap Station to First Avenue Reg Station, Fort Ord Reg Station	16"	408	412	412	412
*301E	0.00	0.89	Crosstie-Monterey #2 to Main 301B	12"	408	408	500	500
*301E	0.89	1.02	Crosstie-Monterey #2 to Main 301B	12"	313	313	400	400
301D	0.00	1.72	Anzar Tap Station to Anzar Road Meter & Regulator Station	10"	500	500	500	500
301H	0.00	1.72	Anzar Tap Station to Anzar Road Meter & Regulator Station	16"	500	500	500	500
302			Grimes Area Collection System	2" - 20"	1000	1000	1000	975
302W	0.00	5.76	Hershey Junction to Buckeye Creek PLS	20"	975	975	1000	975
303	0.00	7.95	Antioch Terminal to Brentwood Terminal	36"	720	720	720	720

Material Redacted

Trans. Line No.	MP	to MP	Description	Nominal Pipe Diameter (Inches)	PG&E MOP psig	MAOP	Design Press.	Future Design Press.
303	7.95	11.97	Brentwood Terminal to Vasco Road	36"	720(15)	793	864	864
303	11.97	20.43	Vasco Road to Dalton Avenue Station	36"	720(15)	864	864	864
303	20.43	25.54	Dalton Avenue Sta to Livermore Junction	36"	720(15)	864	864	864
303	25.54	36.56	Livermore Junction to Sheridan Road PL Sta	36"	720	731	877	877
303	36.56	42.86	Sheridan Road PL Station to Irvington Sta	36"	590	590	600	877
304	0.00	11.29	Lathrop Dehydrator & Odorizer Station to Tracy Station	12"	825	825	825	825
304			Lathrop Field Collection System	3" - 12"	825	825	825	890
306	0.00	43.3	Kettleman Compressor Station to Dry Creek PL Station	20"	840	840	840	840
306	43.3	70.02	Dry Creek PL Station to Morro Bay Power Plant Reg Station	20"	650	650	840	840
307	0.00	16.36	Spreckels Sugar Meter Station to Spreckels Sugar Regulator Station	8"	500	500	915	890
307	12.05	16.92	Derrick Avenue Tap to Arbios Reg Station	8"	500	890	915	890
311	0.00	54.44	Trona Tap Meter Station to Westend Primary Regulator Station	10", 12"	700	700	960	890
311	31.97	38.49	Parallel Section to MP 38.49	12"	700	810	960	890
312	0.00	8.00	Paloma to Paloma Field Meter Station	8"	757	757	820	820
313	0.00	34.4	Lucerne Valley Tap Meter Station to Kaiser Cement Company Meter Station	8", 10"	573	573	720	573
314	0.00	24.19	Hinkley Compressor Station to PLS	12"	861	861	890	890
*314	24.19	29.00	PLS to Southwest Portland Cement Meter & Reg Station	10"	550	550	720	720
*314	29.00	43.18	Southwest Portland Cement Meter & Reg Station to Black Mountain Meter & Reg Station	8", 10"	550	550	720	720
*314			Tap to Riverside Cement	8"	550	550	720	720
*314			Tap to Airbase Road Meter Station	8"	550	550	720	720
*316			Dutch Slough Area Collection System	2" - 12"	800	800	800	800
318			Black Butte Field Collection System	3"	911	911	960	960
319	0.00	9.00	"Gosford Intertie" Kern River Station PGandE to Coles Levee Reg Station P.L.S. Co.	34"	757	1440	1440	1440

(15) Division regulation, cross-tied to Line 114 and Line 303, can operate at pressures up to 600 psig. If it becomes necessary to feed regulation from Line 303, then the Line 303 MOP becomes 600 psig.

Material Redacted

GTR0117955

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LINES OPERATING AT OR OVER 20% SMYS

Trans. Line No.	MP	to MP	Description	Nominal Pipe Diameter (Inches)	PG&E MOP psig	MAOP	Design Press.	Future Design Press.
331			Santa Nella Tap to Tri Valley Growers	4", 6"	500	890	890	890
334			Stone Lake Field Collection System	4"	490	720	720	720
335			Putah Sink Field	3", 4"	800	800	800	800
336			Harte Field Collection System	3"	412	800	800	800
337			Zamora Gas Field	3", 4"	800	800	800	800
*338			Kettleman City Field Collection System	2"	669	669	688	688
339A	0.00	0.87	Rancho Capay Field Collection System	4"	819	819	960	960
339A	0.87	3.46	Rancho Capay Field Collection System	4"	819	960	960	960
341	0.00	0.01	Tulare Lake Field Collection System	6"	688	688	720	720
372	0.00	3.7	Ridgecrest Tap to Ridgecrest Primary Regulator Station	6"	700	700	960	960
400	0.00	24.60	California-Oregon Border to Tionesta Compressor Station	36"	911	911	911	911
400	24.60	48.64	Tionesta Compressor Station to Indian Springs PL Station	36"	911	911	911	911
400	48.64	82.33	Indian Springs PL Station to Burney Compressor Station	36"	911	911	911	911
400	82.33	104.20	Burney Compressor Station to MP 104.20	36"	911	911	911	911
400	104.20	115.26	MP 104.20 to Shingletown PL Station	36"	911	915	942	942
400	115.26	149.18	Shingletown PL Station to Gerber Compressor Station	26", 36"	911	911	911	911
400	149.18	180.77	Gerber Compressor Station to V-180.77	24", 36"	911	911	911	911
400A	180.77	197.83	V 180.77 to Delevan Compressor Station	36"	911	911	911	911
400B	180.76	197.72	MP 180.76 to Delevan Compressor Station	36"	911	911	911	911
400	197.72	233.87	Delevan Compressor Station to Buckeye Creek PL Station	36"	1040	1040	1040	1040
400	233.87	297.87	Buckeye Creek PL Station to Antioch Terminal	26", 36"	975	975	975	975
402	0.00	9.96	Redding-Calaveras Tap to PL Station	12"	500	600	720	720
402	9.96	38.10	PL Station to Calaveras Cement Co.	8", 10", 12"	500	600	720	720
403	0.00	1.38	Rio Vista "Y" to Creed Station	16"	650(16)	800	855	800

(16) The MOP of L-403 is 650 when operated in conjunction with L-210.

PG&E CO. SHEET 18 OF 27 SHEETS

DRAWING NUMBER 086868 REV. 7

MICROFILM

Material Redacted GTR0117956

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LINES OPERATING AT OR OVER 20% SMYS

Location	Nominal Pipe Diameter (Inches)	PG&E MOP psig	MAOP	Design Press.	Future Design Press.
EAST BAY REGION					
BAY DIVISION					
Port Costa Feeder	4", 6"	315	338	600	600
Standard Oil Feeder	22"	400	400	400	400
Union Oil Tap	12"	400	400	400	400
CENTRAL DIVISION					
50th Avenue Holder Feeder Off Line 105	16", 20"	150	198	275	275
DIABLO DIVISION					
Avon Power Station Feeder	8", 12"	315	338	600	600
Tosco Oil Company Feeder	12"	315	338	600	600
Nichols Road Tap	4"	338	338	600	600
Pittsburg Town Feeder	12"	338	338	600	600
Shell Oil Feeder	12"	315	338	338	338
Concord Feeder to Alpha Beta Regulator	8"	338	600	600	600
Concord Feeder	6", 8", 10", 12"	170	170	600	600
Antioch Feeder	6"	338	600	600	600
Danville Feeder	6", 8", 10"	338	365	600	600
Discover Bay Feeder - From Line 57A to Secondary Stage Regulator (Bixler Road)	3", 4"	867	867	867	867
Discovery Bay Feeder - From Bixler Road Regulator to Pt. of Timber Regulator	4", 6", 8"	400	400	400	400
Viera Avenue Feeder	8"	338	338	600	600

PG&E CO.
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REV 7

MICROFILM

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LINES OPERATING AT OR OVER 20% SMYS

PG&E CO.

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DRAWING NUMBER 086868 REV 7

MICROFILM

Location	Nominal Pipe Diameter (Inches)	PG&E MOP psig	MAOP	Design Press.	Future Design Press.
EAST BAY REGION (Cont'd)					
MISSION DIVISION					
Pacific States Steel Feeder	8", 12"	411	420	500	500
Caltran Sta. 2.35 to 6.35	12"	411	411	500	500
Santa Rita Feeder	16"	500	656	656	650
Warm Springs Feeder	4"	590	650	650	650
GOLDEN GATE REGION					
N. SAN MATEO COUNTY DIVISION					
Peninsula Main	16"	109	110	275	275
SAN FRANCISCO DIVISION					
Peninsula Main	16", 20"	109	110	275	275
Hunters Point Power Plant Feeder	20"	145	145	275	275
PENINSULA DIVISION					
Half Moon Bay Feeder Line	8", 10", 12"	375	400	400	400
MISSION TRAIL REGION					
COAST DIVISION					
Santa Cruz to Davenport	10", 12"	300	303	557**	400
Watsonville to Santa Cruz	8", 10", 12", 16", 20"	300	303	577**	400
Watsonville to Rob Roy Junction	10", 16"	400	400	577**	400
Airport Boulevard Feeder	6"	400	400	400	400

Material Redacted GTR0117958

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LINES OPERATING AT OR OVER 20% SMYS

P G & E CO.

SHEET 21 OF 27 SHEETS

DRAWING NUMBER 086868

REV. 7

MICROFILM

Location	Nominal Pipe Diameter (Inches)	PG&E MOP psig	MAOP	Design Press.	Future Design Press.
MISSION TRAIL REGION (Cont'd)					
COAST VALLEYS DIVISION					
*Monterey #1 - Harkins Road Meter & Mixer Station to Fig-Frank Streets Regulator Station	8", 12"	313	313	400	400
*Monterey #2 - Fort Ord to Fig-Frank Streets Regulator Station	8", 10", 12", 16"	313	313	400	400
*DFM-3 Harkins Road Meter and Mixer Station to MP 2.45	8", 10"	313	313	500	500
*DFM-3 MP 2.45 to MP 3.50	8"	313	313	500	500
*DFM-3 MP 3.50 to California Street Regulator Station	8"	313	313	500	500
*DFM-4 Monterey V-18.65 to Carmel V-2.13 (Aquajito Road Regulator Station)	8", 10"	313	313	400	400
*DFM-5 Hunter Road 70 Pajaro Street (MP 0.00 to MP 1.09)	8"	313	313	500	500
DFM-6 Espinosa Road Main from 301-B, V-3.40	6"	408	500	500	500
*DFM-7 Union Carbide Main from 187, MP 17.42	3"	313	313	720	720
DFM-8 Paradise Road to Meridian Road Main	4", 6"	500	500	500	500
SAN JOSE DIVISION					
Milpitas Terminal to PLS #7, King Road, 20" Feeder	16", 20", 24", 30"	200	200	275	400
REDWOOD REGION					
SANTA ROSA DIVISION					
Cotati Feeder	8"	450	500	675	675
6" Sonoma Tap Line	6"	450	500	675	675

Material Redacted GTR0117959

Location	Nominal Pipe Diameter (Inches)	PG&E MOP psig	MAOP	Design Press.	Future Design Press.
REDWOOD REGION (Cont'd)					
VALLEJO-NAPA DIVISION					
26" Line 21 (V-16.16) to Pine Street Meter Station, V-3.04	8"	450	500	675	675
26" Line 21 (V-16.16) to Kilburn Regulator Station	10"	450	500	675	675
Kilburn Regulator Station to T-14.01, No. of Yountville	8", 10"	450	500	675	675
T-14.01 to Inglewood Lane M.P. 18.96	10"	150	500	675	675
Tap to Kaiser Steel East of Napa River	4"	450	500	675	675
SACRAMENTO VALLEY REGION					
COLGATE DIVISION					
Yuba City Underground Holder to Market Street Regulator Pit	6", 8"	250	250	400	400
Tap to Schohr Ranch	6"	250	250	720	720
DFM-1 Tap to Strain Ranch Dryer	4"	800	800	800	800
Feather River Boulevard	4"	600	600	600	600
Naas Foods Feeder	4"	800	800	800	800
Nicolaus Road, Lincoln	4"	100	600	600	600
DE SABLA DIVISION					
DFM-1 Butte College Tap	3", 4"	400	720	720	720
Orland Tap from L-177 to Second Stage Regulator	6"	490	490	720	720
Paradise Primary Reg To Secondary Reg	8"	400	720	720	720
Hamilton City Tap to Verschagin	4", 6"	720	720	720	720
Holly Sugar Tap	4", 6"	575	720	720	720
DRUM DIVISION					
Diamond Oaks Feeder	6"	500	500	500	600

Material Redacted

GTR0117960

Location	Nominal Pipe Diameter (Inches)	PG&E MOP psig	MAOP	Design Press.	Future Design Press.
	SACRAMENTO VALLEY REGION (Cont'd)				
SACRAMENTO DIVISION					
16" L-108 to Galt Primary Regulator	4"	490	490	500	720
*DFM-1 Sacramento Division Gas Load Center to North Sacramento Holder	8", 12"	260	260	275	275
16" L-108 Tap to Sacramento Boulevard Regulator	10", 12", 16"	412	412	500	656
L-108 to Florin Road Primary	6", 10"	412	412	500	656
DFM-2 Union Carbide Tap to Union Carbide Corp.	8", 10"	412	412	500	656
L-108 to Florin Road and Woodline Avenue	6"	412	412	500	656
Sutterville Road to 43rd and Riverside	6", 8"	412	412	500	656
L-108 to Elk Grove Primary	4"	412	412	500	656
119-Elm and Traction Avenue Regulator Station to T-0.93	12"	180	500	500	600
SHASTA DIVISION					
Simpson Lee Paper Mill Feeder	6"	500	600	720	720
U. S. Plywood Plant Feeder	4"	500	720	720	720
Enterprise Town Feeder	4", 6"	500	600	720	720
Calaveras Cement Company Feeder	8"	500	600	720	720
Red Bluff District Tap	2"	911	911	911	911
Burney Tap	2"	911	911	960	911
Sierra Pacific Lumber	2"	911	911	960	911
Redding Feeder	6"	500	600	720	720

Material Redacted GTR0117961

Location	Nominal Pipe Diameter (Inches)	PG&E MOP psig	MAOP	Design Press.	Future Design Press.
SACRAMENTO VALLEY REGION (Cont'd)					
VACA VALLEY DIVISION - VACAVILLE SERVICE TERRITORY					
American Home Foods Feeder	2", 4"	720	720	720	720
Vacaville Feeder	6"	400	400	400	400
Vacaville - Eldridge to Nut Tree Road	6"	400	400	720	720
Vacaville - Travis to Vacaville Junction	3", 4", 6"	400	400	400	400
Vacaville - SNRR to Elmira Road	3", 6"	400	400	400	720
Vacaville - Hawkins Road, Nut Tree Road to Lewis Road	8"	400	400	400	400
Vacaville - Hawkins Road, Nut Tree Road to Lewis Road	6"	975	975	975	975
Anheuser Busch Feeder	2", 4"	650	650	720	720
Fairfield Feeder - Scandia Road - Vaca Tap	10"	675	675	675	675
Fairfield Feeder - Scandia Road - Vaca Tap	12"	650	650	740	740
Robben Road Feeder - Tremont Tap to Dixon Meter Station	6"	720	750	800	800
Ilinois Street 10" Feeder	6", 10"	650	675	740	720
VACA VALLEY DIVISION - WOODLAND SERVICE TERRITORY					
Gibson Feeder Main	6"	500	500	500	800
Fairfield - Knolls Feeder	4"	500	500	500	800
Hunts Feeder Main	6"	500	500	500	800
SAN JOAQUIN VALLEY REGION					
FRESNO/KINGS DIVISION					
DFM-1 San Joaquin to Tranquility	3"	650	800	900	900
DFM-5 Ashland Avenue Tap to River Rock Products	4", 6"	400	593	720	720
DFM-6 SIM CAL Chemical Co. Feeder	6"	650	650	800	720
DFM-7 Adams & Elm Meter & Reg Sta to So. Cal. Gas Co.	8"	263	263	400	400

Material Redacted GTR0117962

Location	Nominal Pipe Diameter (Inches)	PG&E MOP psig	MAOP	Design Press.	Future Design Press.
SAN JOAQUIN VALLEY REGION (Cont'd)					
FRESNO/KINGS DIVISION (Cont'd)					
DFM-16 Coalinga Feeder	10"	498(17)	890	890	890
Clovis Feeder Main	6", 12"	650	650	720	720
Peach and Central Feeder	6"	650	720	720	720
Kerman Primary Feeder	4"	500	500	720	720
KERN DIVISION					
DFM-8 US Borax & Chem. Co. Reg Sta to US Borax & Chem. Co. Master Meter Sta	4", 6"	490	490	720	720
STANISLAUS DIVISION					
Ripon-Modesto Feeder (Parallel)	8", 12"	408	408	720	720
Dale Road to North Avenue Feeder	4", 6", 8", 12"	408	408	720	720
Riverbank Feeder	8", 10"	408	408	720	720
Carpenter Road Feeder (Modesto)	4", 12"	408	720	720	720
Pauline Avenue Feeder	4", 6"	408	408	720	720
Turlock Irrigation District Peaking Power Plant	6"	500	890	890	890
STOCKTON DIVISION					
Valley Tomato Trunk Line	8"	412	500	720	720
Eight Mile Road Trunk Line	4", 8"	412	412	720	720
Turner Road Feeder	8"	300	720	720	720
Turner Road Feeder (Parallel)	4", 6"	300	300	720	720
McArthur Road Feeder	4"	295	295	400	720
Louise Avenue Feeder	8"	408	408	720	720

(17) The MOP of this pipeline was raised to 498 psig because piping between Amador Station and Oil City Road, which was limited to a 390 psig MOP, was replaced in 1985.

Material Redacted GTR0117963

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LINES OPERATING AT OR OVER 20% SMYS

PG&E CO.

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DRAWING NUMBER 086868

REV. 7

MICROFILM

Location	Nominal Pipe Diameter (Inches)	PG&E MOP psig	MAOP	Design Press.	Future Design Press.
SAN JOAQUIN VALLEY REGION (Cont'd)					
YOSEMITE DIVISION					
DFM-4 Cressey Way Tap to Rogers Bros Packing	4", 6"	400	400	720	720
DFM-10 Red Top Cogeneration Facility Service Line	4"	500	625	720	720
Yosemite Avenue Feeder	6"	400	400	720	720
Snelling Highway Feeder	6"	400	400	400	720
Vinewood Avenue Feeder	4"	400	720	720	720
Winton Avenue Feeder	6"	400	720	720	720

Material Redacted GTR0117964

61-4344 Rev 1-76

LINES OPERATING AT OR OVER 20% SMYS

Location	Nominal Pipe Length (Feet)	PG&E Diamter (Inches)	MOP psig	MAOP	Future Design Press.	Design Press.
	MISSION TRAIL REGION					
COAST DIVISION						
Santa Cruz	7,221	30"	618	618	618	660
	4,838	34"	618	618	618	660
	REDWOOD REGION					
MARIN DIVISION						
San Rafael	37,392	30"	650	650	690	690
	SACRAMENTO VALLEY REGION					
COLGATE DIVISION						
Yuba City	24,784	34"	525	525	550	550
SACRAMENTO DIVISION						
Sacramento	78,452	34"	500	500	500	500
	3,984	36"	500	500	500	500
	10,956	42"	500	500	500	500
	SAN JOAQUIN VALLEY REGION					
FRESNO/KINGS DIVISION						
Fresno	43,722	30"	690	690	690	690

PG&E CO.

SHEET 27 OF 27 SHEETS

DRAWING NUMBER 086868

REV. 7

MICROFILM

Material Redacted GTR0117965