

49 CFR 192.613

Continuing Surveillance

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- ▶ Each operator [a person who engages in the transportation of gas] shall have a procedure for continuing surveillance of its facilities to determine and take appropriate action concerning changes in class location, failures, leakage history, corrosion, substantial changes in cathodic protection requirements, and other unusual operating and maintenance conditions.















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- ▶ If a segment of pipeline [all parts of those physical facilities through which gas moves in transportation, including pipe, valves, and other appurtenance attached to pipe, compressor units, metering stations, regulator stations, delivery stations, holders, and fabricated assemblies] is determined to be in unsatisfactory condition but no immediate hazard exists, the operator shall initiate a program to recondition or phase out the segment involved, or, if the segment cannot be reconditioned or phased out, reduce the maximum allowable operating pressure [(MAOP) the maximum pressure at which a pipeline or segment of a pipeline may be operated under this Part] in accordance with [§192.619](#) (a) and (b).



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- ▶ 1 GENERAL
- ▶ Continuing surveillance should be conducted to identify any pipeline facilities experiencing abnormal or unusual operating and maintenance conditions. This may be accomplished by the following.
 - ▶ (a) Periodic visual inspection of pipeline facilities to identify items such as the following.
 - ▶ (1) Changes in population densities.
 - ▶ (2) Effects of changes in topography.
 - ▶ (3) Effects of exposure or movement.
 - ▶ (4) Effects of encroachments.
 - ▶ (5) Specific circumstances relating to patrolling and leakage. See guide material under §§[192.705](#), [192.706](#), [192.721](#), and [192.723](#).







R. THORPE CO.

PIPE PIT GAGE

(PAT 1,979,912)

USEFUL FORMULAS
AREA = $0.7854 \times D^2$
CIRCUM = $3.1416 \times D$
SURFACE = $3.1416 \times DXL$
PRESSURE = $\frac{2ST}{D}$

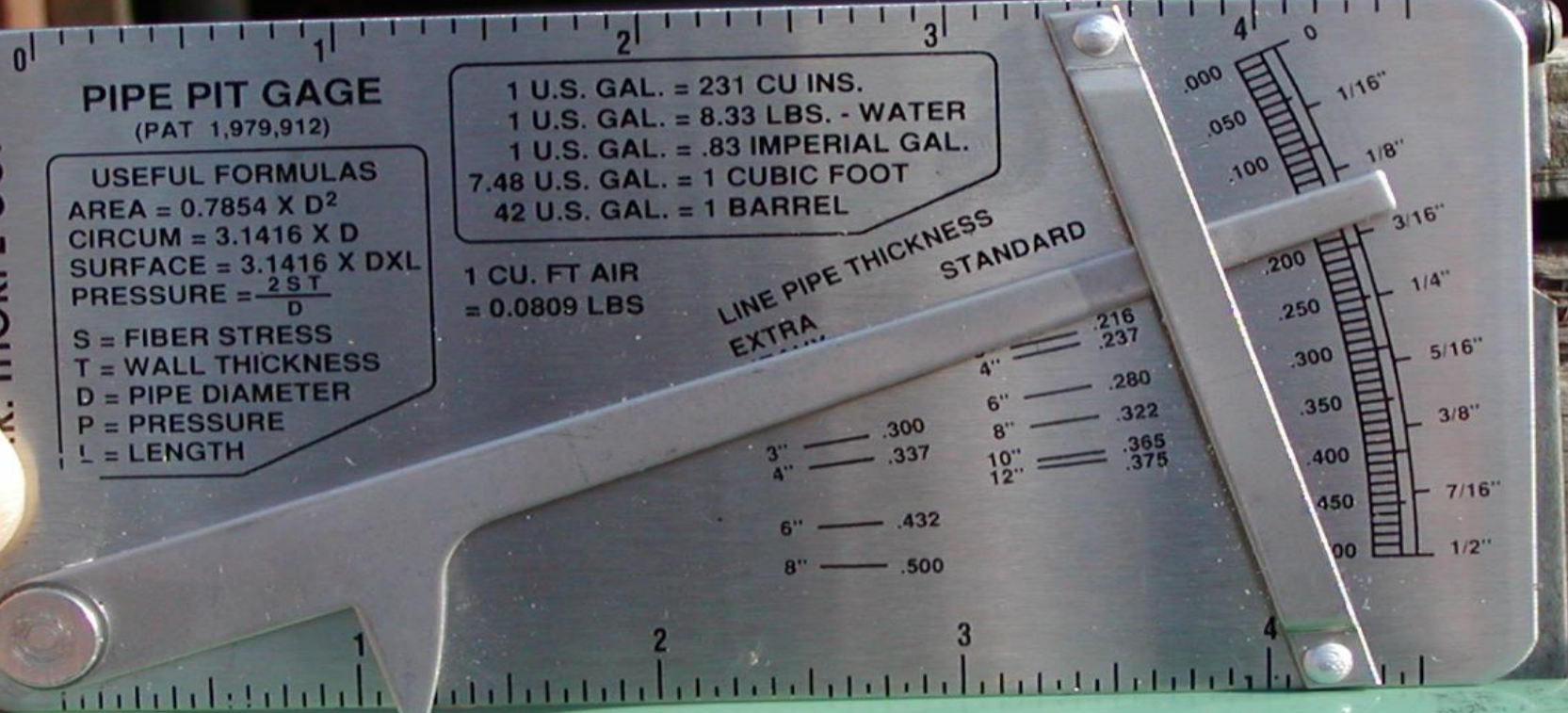
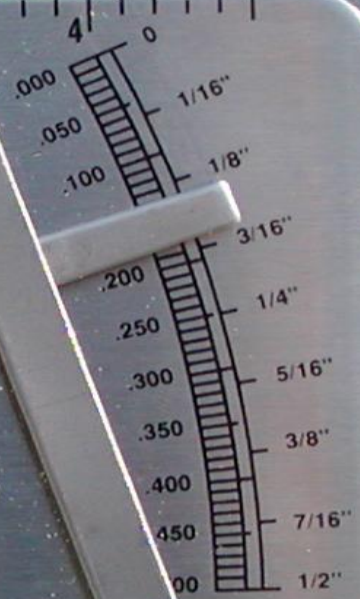
S = FIBER STRESS
T = WALL THICKNESS
D = PIPE DIAMETER
P = PRESSURE
L = LENGTH

1 U.S. GAL. = 231 CU INS.
1 U.S. GAL. = 8.33 LBS. - WATER
1 U.S. GAL. = .83 IMPERIAL GAL.
7.48 U.S. GAL. = 1 CUBIC FOOT
42 U.S. GAL. = 1 BARREL

1 CU. FT AIR
= 0.0809 LBS

LINE PIPE THICKNESS STANDARD

3"	.300
4"	.337
6"	.432
8"	.500
4"	.216
4"	.237
6"	.280
8"	.322
10"	.365
12"	.375













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- ▶ (6) Potential for, or evidence of:
 - ▶ (i) Excavation activity.
 - ▶ *Note:* If evidence of an excavation is found near a transmission pipeline covered segment, the location must be examined in accordance with [§192.935\(b\)\(1\)\(iv\)](#).
 - ▶ (ii) Tampering, vandalism, or damage.
 - ▶ (iii) Flooding. See 6 below
 - ▶ (iv) Mining activity. See [Guide Material Appendix G-192-13](#).
 - ▶ (v) Soil or water accumulation in vaults or pits.
 - ▶ (vi) Gas migration through air intakes into buildings from vaults and pits.
 - ▶ (vii) Excessive snow and ice build-up on aboveground facilities (e.g., meter sets, pressure control equipment, heaters) that could affect their function.

















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- ▶ (b) Periodic review and analysis of records, such as the following.
 - ▶ (1) Patrols.
 - ▶ (2) Leak surveys.
 - ▶ (3) Valve inspections.
 - ▶ (4) Vault inspections.
 - ▶ (5) Pressure regulating, relieving, and limiting equipment inspections.
 - ▶ (6) Corrosion control inspections.
 - ▶ (7) Facility failure investigations.
- ▶ Anomalies discovered should be evaluated, and those determined to present potential safety concerns should be scheduled for remediation and communicated to appropriate integrity management personnel.







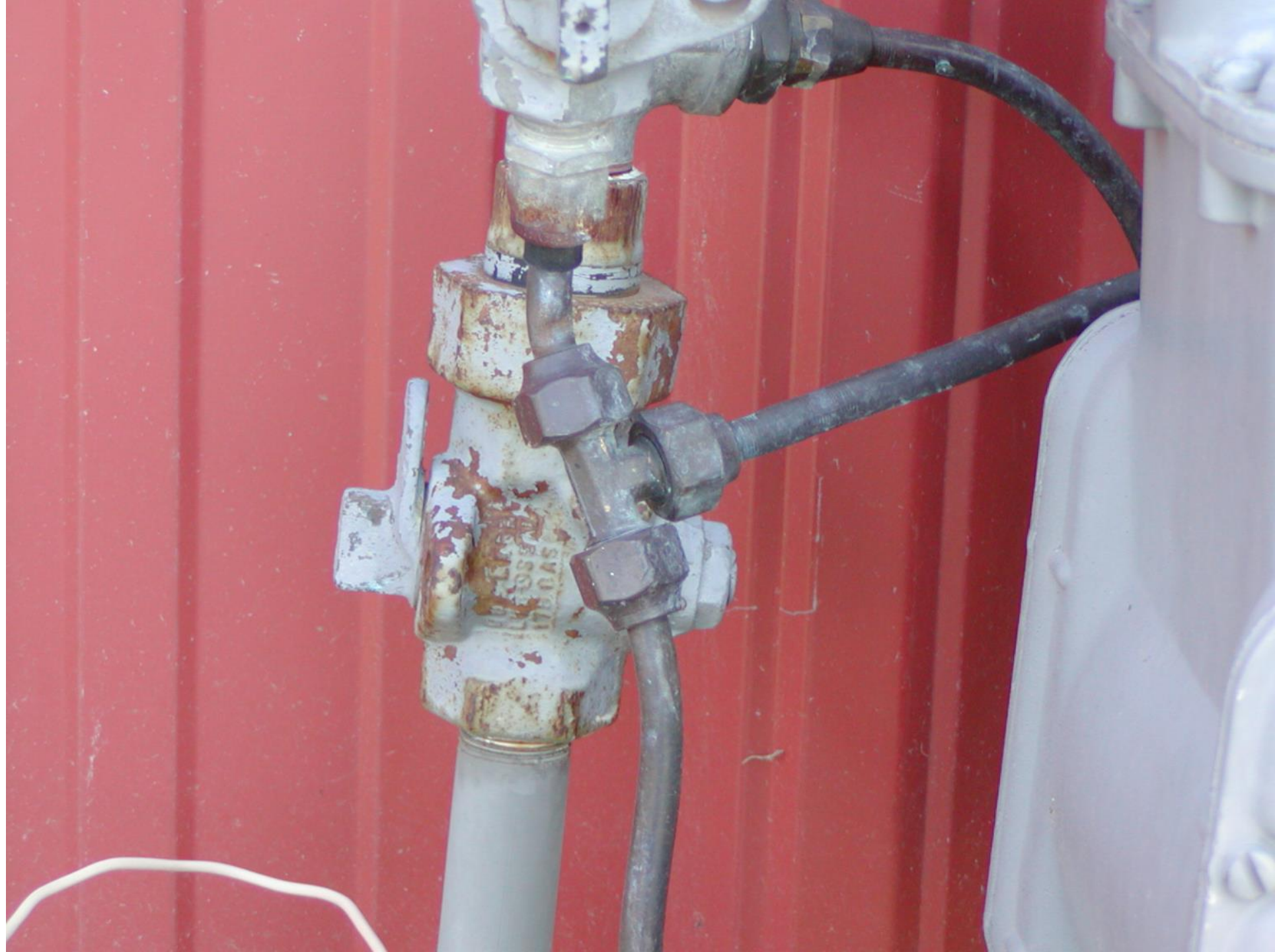














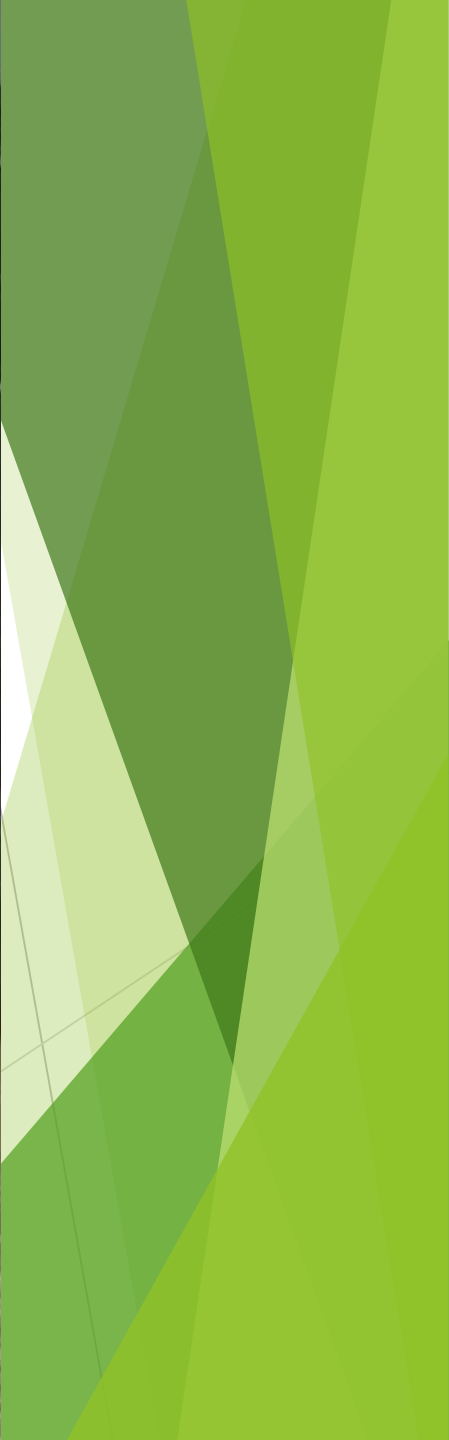




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- ▶ 6 SEVERE FLOODING
- ▶ Severe flooding can adversely affect the safe operation of a pipeline. Operators should consider the following actions in areas prone to, or previously affected by, flooding.
 - ▶ (a) Identify pipeline facilities that are in the flood plain, such as overlaying 100-year flood elevations on GIS pipeline maps.

















SOURCE: KETV





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- ▶ (b) For buried pipelines, consider the following.
- ▶ (1) Using hydrologists or other experts in river flow to evaluate the potential for scour or channel migration that might affect the identified pipeline facilities.
- ▶ (2) Evaluating terrain and vegetation conditions that can cause severe scouring of the watercourse. Such conditions could include burned areas subject to soil erosion and long-term buildup of debris and vegetation.
- ▶ (3) Evaluating river or water crossings to determine if the pipeline installation method is sufficient to withstand the risks posed by areas prone to flooding, scour, or channel migration.
- ▶ (4) Determining the maximum flow or flooding conditions at river or water crossings where pipeline integrity is at risk due to flooding or scouring and having contingency plans to shut down and isolate those pipelines when such conditions occur.

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- ▶ (c) For aerial or aboveground pipeline crossings, consider the potential for the following.
 - ▶ (1) Scouring of deadman anchors and tower foundations on cable-supported pipelines and traffic or pedestrian bridges.
 - ▶ (2) Floating debris impacting the pipeline and its supports beneath or on the upstream side of traffic or pedestrian bridges.



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- ▶ (d) Extend regulator vents and relief stacks above the level of anticipated flooding, as appropriate.
- ▶ (e) Determine if facilities that are normally above ground (e.g., valves, regulators, relief devices) could become submerged and then have a potential for being struck by vessels or debris, and consider protecting or relocating such facilities.
- ▶ (f) For additional information, see OPS Advisory Bulletin ADB-2016-01 (81 FR 2943, Jan 19, 2016; see [Guide Material Appendix G-192-1](#), Section 2).



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- ▶ 7 SERVICE LINES UNDER BUILDINGS
- ▶ Buried and uncased service lines discovered under buildings should be moved to locations no longer beneath the building or reinstalled under the building in accordance with the requirements of [§192.361](#). In instances involving mobile homes, it may be possible to have the home relocated away from the service line. See guide material under [§192.361](#).



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100,000
10,000
1,000

PER REV

TEMP. COMP.
CU. FT. AT 60°F

291918

AC-250
250 C.F.T. @ 1/2" DIFF.

MAOP 10 PSI
ANSI - CLASS 250
TEMP. COMP.

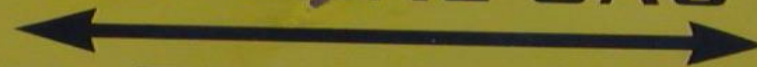
AMERICAN
METER COMPANY

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**CAUTION
HIGH PRESSURE
NATURAL GAS**



**PIPE LINE
CAUTION
WESTERN POWER & GAS**

CAUTION
GAS
PIPELINE

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COMPANY
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