Gas Service Line Mapping

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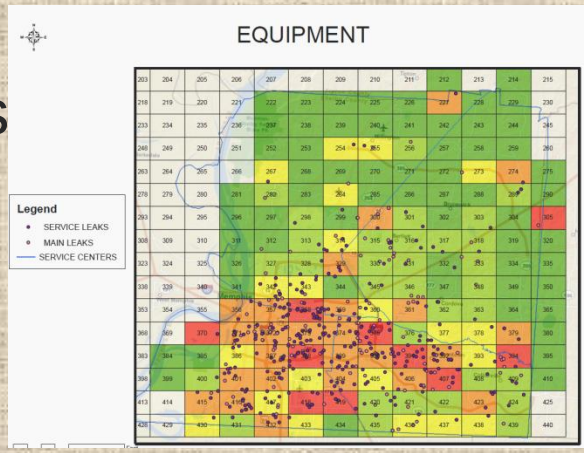
CONTEXT

- MLGW
  - Service Territory – Shelby County, TN
  - Largest 3 service municipal utility
  - Gas in service for over 100 yrs
  - Gas Distribution Main - 4,846 Miles
  - Gas Services 307,967
    - ~5,000 Records associated per year

THE ISSUE

- Most services are not in GIS
  - Not accurate for reporting/risk analysis
    - No electronic data on services
      - Material
      - Size
      - Number



U.S. Department of Transportation
Pipeline and Hazardous Materials
Safety Administration

ANNUAL REPORT FOR CALENDAR YEAR 20___
GAS DISTRIBUTION SYSTEM

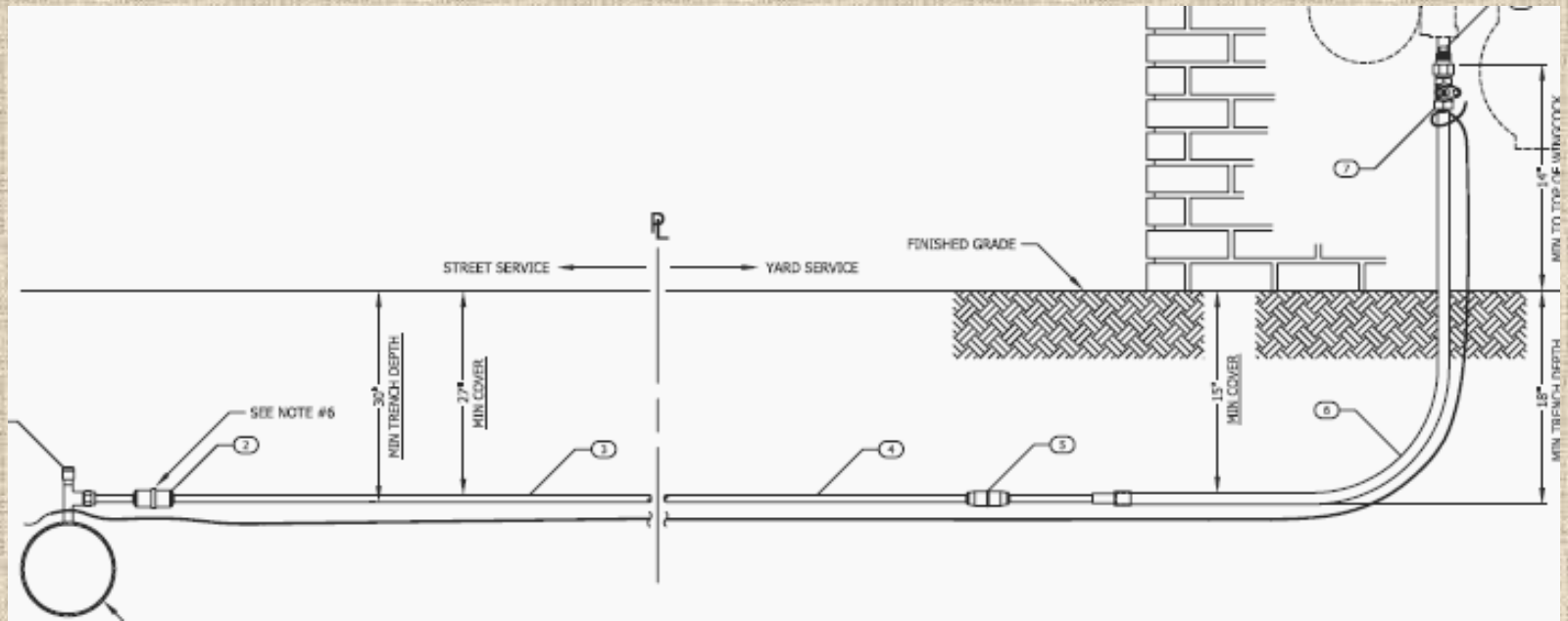
INITIAL REPORT ☐
SUPPLEMENTAL REPORT ☐

A federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a current valid OMB Control Number. The OMB Control Number for this information collection is 2137-0522. Public reporting for this collection of information is estimated to be approximately 16 hours per submission, including the time for reviewing instructions, gathering the data needed, and completing and reviewing the collection of information. All responses to this collection of information are mandatory. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to: Information Collection Clearance Officer, PHMSA, Office of Pipeline Safety (PHP-30) 1200 New Jersey Avenue, SE, Washington, D.C. 20590.

    - Crews do not have access to records
      - Locating
      - Leak Survey
      - Construction
      - Corrosion

APPROACH

- 2 Pronged – Multi Year Process
  - Partner with University of Memphis to map services
    - Use best available historical records
  - Partner with Leak Survey to collect GPS coordinates at risers



MAPPING

- Map Services
  - Do you include all historical info?
    - Multiple GSR's for most services
  - What actual attribute info do you collect?
  - Do you collect fitting info?
    - Valves
    - Couplings
  - Linear Referencing

MAINTENANCE OF GAS SERVICE

ADDRESS 1031 - Monticello dr

[X] CITY [ ] GERMANTOWN
[ ] COUNTY [ ] MILLINGTON
[ ] ARLINGTON
[ ] BARTLETT
[ ] COLLIERVILLE

NAME

18063

DATE 5-16 1949

REMARKS

NEW SERVICE ENGINEERING DEPT.

CONSTRUCTION DATA

SER. BEGINS AT [X] MAIN [ ] STUB [ ] SER. TO

[ ] OTHER SER. BRANCHED FROM THIS SER.

SIZE 3/4" [ ] 1" [X] 1 1/4" [ ] 2" [ ] [ ] [X] — KIND: STEEL [X] COPPER [ ] PLASTIC [X]

PIPE LAID: TAP TO CURB 4 FT. TAP TO P.L. 14 FT. P.L. IN 52 FT.

TAP LOC. 1' N.S.E.

ST. 4' E W.E. Monticello dr

NEAREST INTERSECTION 526' N.W. of Mc Lean

MAIN SIZE 2" TAP SIZE 3/4" DEPTH 2'

SERVICE CONNECTION DATA

REMARKS

STRAIGHT LINE – COCK TO MAIN ___ FT.

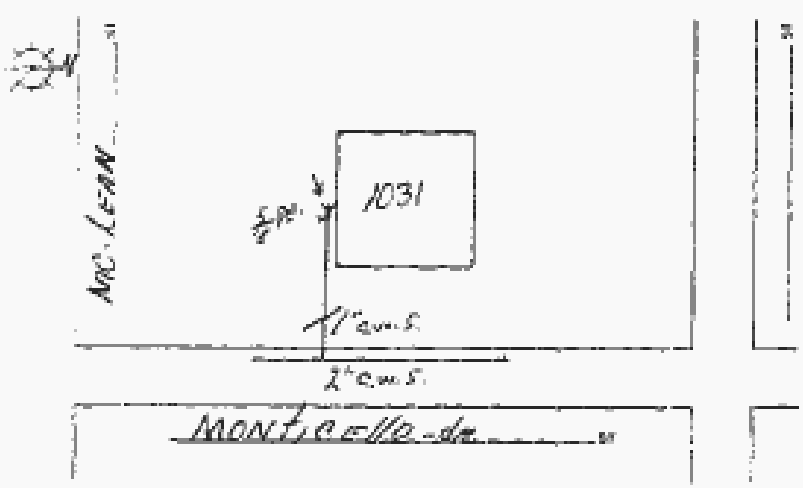
SERVICE TRAPPED [ ]

DRIP [ ]

FUEL LINE ON [X] [ ] ANODE INST. [ ] [X]

REMARKS

SKETCH



NATURE OF WORK

[ ] NEW

[ ] RENEWED COMPLETELY

[ ] RENEWED MAIN TO CURB [X] INSERTED — TEST PRESSURE 150 LBS.

[X] RENEWED MAIN TO PROPERTY LINE 6-30-58 — MEDIUM: AIR [X] GAS [ ]

[ ] RENEWED MAIN TO ___ FT. INSIDE PROPERTY LINE — LENGTH OF TEST 5 min

[X] RENEWED YARD SERVICE 4-1-75

[ ] RENEWED RISER ONLY [ ] RENEWED RISER & CROSSTOWN

[ ] MOVED RISER

SERVICE [ ] STUB [ ] EXACT [ ]

ADDRESS APPROXIMATE [ ]

[ ] KILLED AT MAIN (TAP LOCATION)

[ ] CUT AT (END LOCATION)

[ ] OTHER REPAIR:

INSTALLED COCK [ ] MOVED COCK [ ] LOWERED [ ]

NEW MEASUREMENTS [ ] TRANSFERED TO [X]

INSPECTED ONLY [ ] NEW MAIN 6-30-58

P.G.R. – YES [ ] REASON FOR CUTTING OR KILLING

NO [X]

FOREMAN R. Spraggins — W.O. NO. 42-5382

DATE 4-1-75 — FUNCT. NO. 6582-1202

LINEAR REFERENCING TABLE

GSR_LRL

	ROUTE_ID	F_MEAS	T_MEAS	SIZE	MATERIAL	MATERIAL SUBTYPE	PRESSURE	WR
▶	47400	0	14	1"	CWS	<Null>	HP	42-5282-6583-1713
	47400	14	71	5/8"	PE	<Null>	HP	42-5282-6583-1713

EFV	DATE_INSTALLED	SOURCE	INSERTED	SOAP	PSI	RESEARCH	COMMENT
<Null>	4/1/1975	1094761	<Null>	<Null>	150	<Null>	<Null>
<Null>	4/1/1975	1094761	YES	<Null>	150	<Null>	<Null>

LOCATION CORRECTION

GPSing

- Collecting GPS at riser
  - Through leak survey
    - 3-5 yr program
  - Decision on accuracy
    - Using high-accuracy units
  - Conflate the mapped riser location from historical record on the back end

FINDINGS

- Data from historical cards can be difficult to decipher
- Info was copied from card to card
  - Double checking info was rare
  - Only partial info transferred
- GPS connectivity at riser can be difficult
  - Flood light technology
  - Have procedure when unable to connect

FORWARD

- Coupling mitigation pilot
  - Install new taps for all services from steel main
  - New tap transitions to PE
  - Renew steel services with PE
  - New documentation with better service information
- Future automation
  - Design services in GIS and redline before populating GIS
  - Use GPS coordinates and barcode info to populate GIS

MEMPHIS ZOO

stax

Memphis Tigers

Hometown Energy
MLGW
Working for You

Memphis Grizzlies

Memphis

MEMPHIS
SHELBY COUNTY
TENNESSEE