PG&E Pipeline Integrity Management Program

External Corrosion Direct Assessment

Pipeline Integrity Management Program (IMP)

✓ **Above Ground Surveys**

1. Centerline and depth
2. Cathodic Protection levels
3. Location of damaged coating

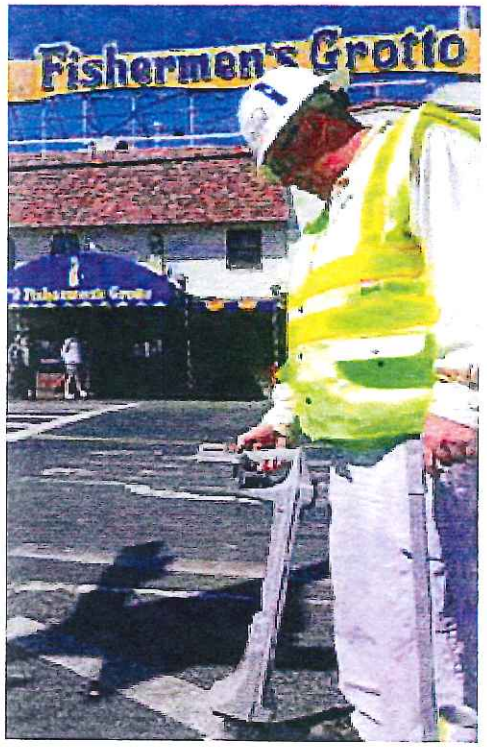
✓ **Direct Examinations of Highest Priority Locations**

- Physical examination of pipe
- Integrity assessment of any damage to pipe

Above Ground Surveys
(three types desired for each pipeline)

Survey 1 – Pipeline Current Mapper (PCM); assesses the location, depth and general coating condition:

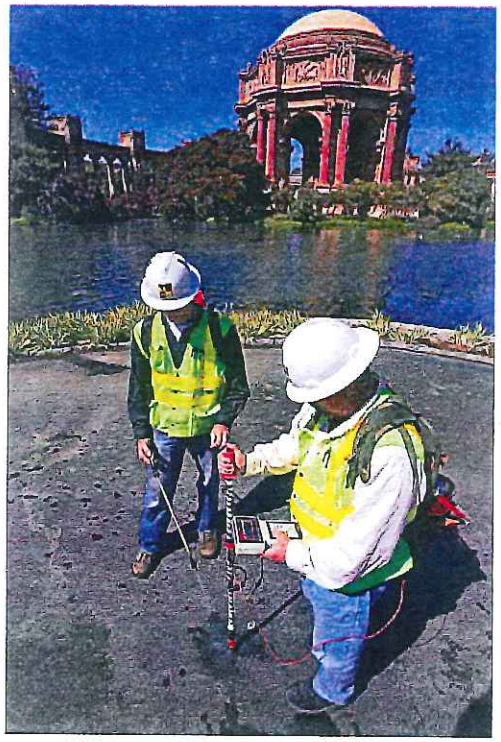
- May require traffic control to protect technicians surveying in traveled ways
- **No** drilling required
- May be impacted by light rail or other AC interference and require night work.



Above Ground Surveys
(three types desired for each pipeline)

Survey 2 – Close interval surveys (CIS); assess the level of cathodic protection:

- May require traffic control to protect technicians surveying in traveled ways
- Drilling of a ½" hole is required in asphalt or concrete to contact base rock or soil
- May be impacted by light rail or other AC interference and require night work.



Above Ground Surveys
(three types desired for each pipeline)

Survey 3 – Direct Current Voltage Gradient (DCVG); identifies locations of damaged coating:

- May require traffic control to protect technicians surveying in traveled ways
- Drilling of a ½" hole is required in asphalt or concrete to contact base rock or soil
- May be impacted by light rail or other AC interference and require night work.

Hole Drilling

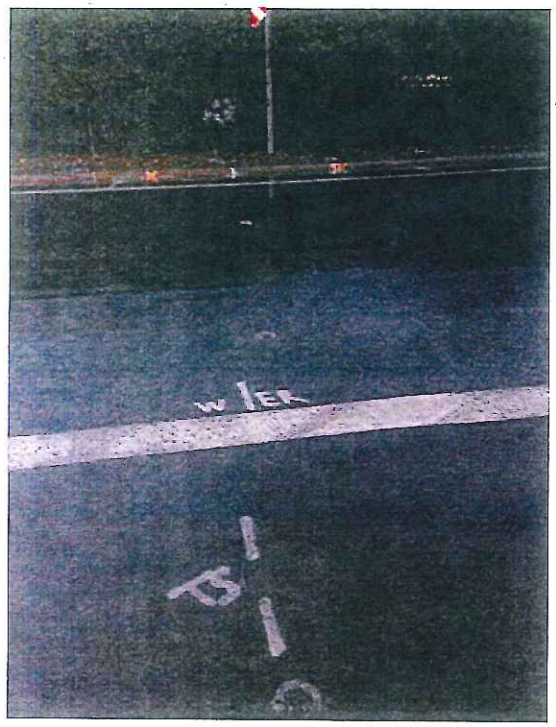
If hole drilling is required, a ½" hole will be drilled through A/C or concrete to soil or baserock

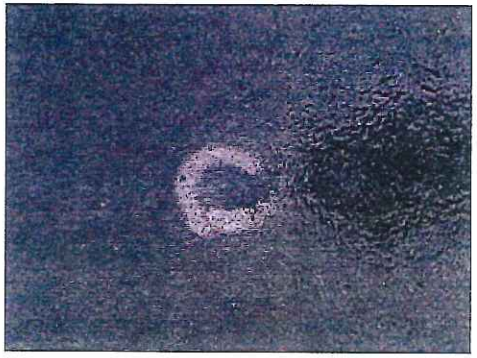
- USA called and facilities located before drilling
- Fast process, 1 hole/minute

Hole Repair

Drilled hole is filled with backer rod and 3M Loop Detector Sealant 5000

- Hole repair is final step - after all surveys and data verification. May occur several weeks after initial drilling

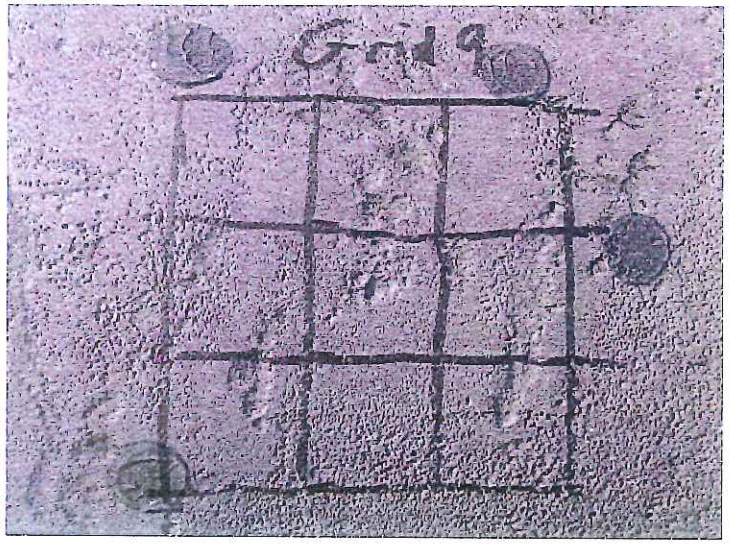




Direct Examinations

The areas of highest concern are excavated and examined to determine integrity of pipelines:

- Select highest priority locations
- Permit excavations
- Excavate pipeline
- Perform direct examination and verify integrity
- Repair and or recoat, then backfill



T-345-14B Summary of Proposed Work

LINE	OD	HYDROTEST MILE POINTS	JOB #	SHEETS
L-197B	6.625"	MP 4.75-MP 5.49	41921654	05

SUMMARY OF WORK PER LOCATION DATA

INSTALL		EXPENSE	GM	41921654	Total	LOC A DET 1	LOC B DET 2	LOC B Detail 7			
INSTALL	6'-8"	12.750" OD x 0.281" WT, API 5L, X-52, ERW, FBE Coated			6'-8"	6'-8"					
INSTALL	29'-2"	6.625" OD x 0.280" WT, GR B, SMLS			29'-2"	3'-8"	25'-6"				
INSTALL	9'-6"	3.500" OD x 0.216" WT, API 5L, GR B, ERW			9'-6"			9'-6"			

REMOVE		EXPENSE	GM	Year	Total	LOC A DET 1	LOC B DET 2				
REMOVE	5'-8"	12.750" OD x 0.219" WT, API 5LX-X42, ERW	170196	1968	5'-8"	5'-8"					
REMOVE	29'-4"	6.625" OD x 0.188" WT, 30,000 SMYS*, ERW*	66400	1941	29'-4"	4'-8"	24'-8"				
REMOVE	9'-6"	3.500" OD x 0.216" WT, API 5L, GR B, ERW	135396	1957	9'-6"			9'-6"			

INSTALL	CAPITAL	GM	31032324	Total	LOC A DET 1	LOC B DET 2				

REMOVE	CAPITAL	GM	Year	Total	LOC A DET 1	LOC B DET 2				
REMOVE ONE (1) 6" PCF, Mueller H-17256 INSTALLED ON GM 170196 (1968)		170196	1968	1.00	1					
REMOVE ONE (1) 6" PCF, Mueller H-17256 INSTALLED ON GM 135396 (1957)		135396	1957	1.00		1				
REMOVE 6'-1"	6.625" OD x 0.188" WT, 30,000 SMYS*, ERW*	66400	1941	8'-1"		8'-1"				

FORMATTED SUMMARY OF PROPOSED WORK

SUMMARY OF PROPOSED WORK

HYDROSTATICALLY TEST 6.625" L-197B FROM MP 4.75-MP 5.49 PER DRAWINGS AND STRENGTH TEST PRESSURE REPORTS (#41921654) AND MATERIAL OF RECORD DRAWING #41921654 SHEET 05 OF 05.

EXPENSE ORDER #41921654

INSTALL 6'-8" OF 12.750" OD x 0.281" WT, API 5L, X-52, ERW, FBE Coated PIPE.
INSTALL 29'-2" OF 6.625" OD x 0.280" WT, GR B, SMLS PIPE.
INSTALL 9'-6" OF 3.500" OD x 0.216" WT, API 5L, GR B, ERW PIPE.

REMOVE 5'-8" OF 12.750" OD x 0.219" WT, API 5LX-X42, ERW PIPE INSTALLED ON GM 170196 (1968).
REMOVE 29'-4" OF 6.625" OD x 0.188" WT, 30,000 SMYS*, ERW* PIPE INSTALLED ON GM 66400 (1941).
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