

Form H: Direct Examination Data Sheet - Page 1 of 10

<u>DA/ILI</u>	<u>DA</u>	<u>ILI</u>
Routed Number: 191-1	N-Segment: 191-2013	ILI Log Distance: N/A
Examination Date: 5/7/2013	IMA Number: N/A	RMP-11 Ref. Section: N/A
Mile Point: 35.83	Region Number: 1	Reference Girth Weld: N/A
Examination Performed By: Denise Ebright	Subregion # (ICDA): N/A	Distance From Girth Weld: N/A
PG&E Project Manager: Adam Abraham	Stationing: 35+20	
Approved By: Brenda McKay		
Order Number: 41821294		

<b>Excavation Priority:</b>			<b>Excavation Reason</b>			
<input checked="" type="checkbox"/> Immediate	<input type="checkbox"/> Scheduled	<input type="checkbox"/> 1 Year	<input type="checkbox"/> Other	<input checked="" type="checkbox"/> ECDA	<input type="checkbox"/> ILI	<input type="checkbox"/> Recoat
<input type="checkbox"/> Monitor	<input type="checkbox"/> Effectiveness	<input type="checkbox"/> ICDA		<input type="checkbox"/> ICDA	<input type="checkbox"/> Other	

If practical, take P/S or CIS reads before excavation: No test point available.

**Excavation Details:** Centerline on GPS Coordinates (Based on GIS): \_\_\_\_\_

Planned Inspection Length (Ft.): 12

Actual Inspection Length (Ft.): 13

Centerline on GPS Coordinates (Uncorrected Field Measurement): \_\_\_\_\_ GPS File Name: PGE 9101323013 Line 191-1A Sta 35+20

Northing: \_\_\_\_\_ Easting: \_\_\_\_\_

Centerline on GPS Coordinates (Corrected Field Measurement): \_\_\_\_\_ Nominal Wall Thickness: 0.375"

Northing: \_\_\_\_\_ Easting: \_\_\_\_\_ Nominal Pipe Diameter: 12"

**1.0 Data Before Coating Removal**

1.1 Native Soil Type:  Clay  Rock  Sand  Loam  Wet  Other Gravel (hardpan) mix

1.1a Backfill Material Found  Sand  Slurry  Native

Depth of Cover (Ft.): 3'2"

Comments: Mostly sand was found within excavation with some clay, and a gravel mix.

1.2 Coating Type:  HAA  Somastic  Plastic Tape  Wax Tape  FBE  Powercrete

Bare/None  Paint  Other: \_\_\_\_\_ Comments: \_\_\_\_\_

Coating Thickness (Inches): 0.080 - 0.200 Number of Layers: 2 layers: 0'0" - 3'0" and 6'0" - 13'0" / 1 layer: 3'0" - 6'0"

1.3 Holiday Testing Performed?:  Yes  No Voltage Used: 67.9V Map Location of Holidays Below.

Device Used:  Coil  Wet Sponge Comments: Coating was visually inspected for defects as well.

1.4 Pipe-to-Soil Potentials in Ditch (-mV): US: 914 DS: 905

Comments: Pipe-to-Soil potentials were taken with a CSE.

1.5 Soil Resistivity in Ditch ( $\Omega$ -cm):

Method:  4-Pin N/A due to environment.  Soil Box 10,000 x 2.2 x 1 = 22,000

1.6 Soil Sample Location: Comments: U/S edge, at 6:00.

1.7 Ground Water Present?:  Yes  No Sample(s) Collected?:  Yes  No Sample pH: N/A

Comments: No ground water present.

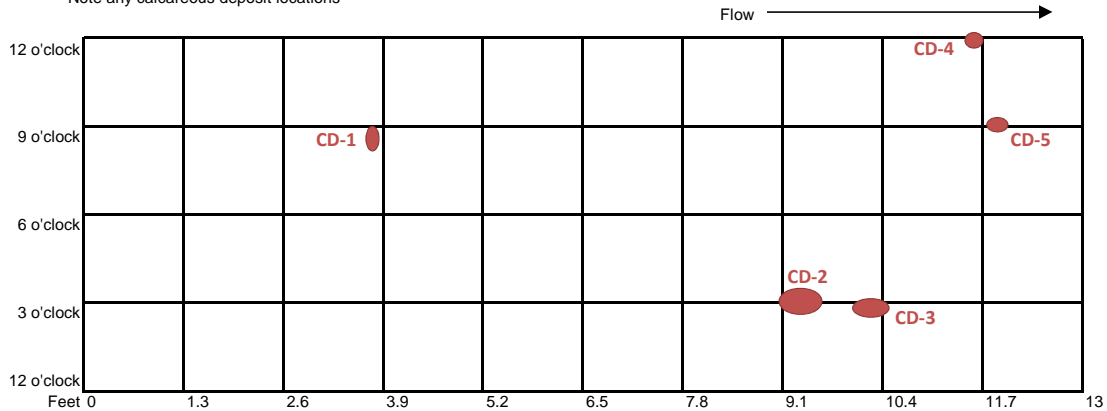
1.8 Coating Condition:  Good - Adhered to Pipe  Fair - Coating Partially Disbonded or Degraded

Poor - Coating Significantly Disbonded or Missing

Comments: Coating was found to be in fair condition, with 5 areas of coating disbondment (coating damaged, not through to pipe surface). Holiday testir found a total of 11 holidays on the 5 taps.

1.9 Map of Coating Degradation\*: Zero Reference Point: U/S Edge of Inspection Area

\*Note any calcareous deposit locations



Form H: Direct Examination Data Sheet - Page 2 of 10

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1.10 Photos Taken?:  Yes  No  
 \*See Photo Log for additional information.

1.11 Coating Sample Taken?:  Yes  No Location of Sample: N/A

1.12 Liquid Underneath Coating?:  Yes  No If Yes, pH of Liquid: 8

1.13 Corrosion Product Present?:  Yes  No If Yes, Was Sample Taken?:  Yes  No  
 Comments: No corrosion product present

1.14 Soil pH (Sb Electrode): Upstream: 6 Downstream: 5

**2.0 Data After Coating Removal**

2.1 Pipe Temperature (°F): 55.8 Measured Pipe Diameter (In.): 12.81 (pipe) / 1.11 (taps)

2.2 Weld Seam Type:  DSAW  SSAW  ERW  SMLS  
 Spiral  Lap  Flash  AO Smith  If can't determine, visually perform macroetch to locate & identify type (see Table 5.7.3, Element 2.2)

2.3 Girth Weld Coordinates:  
 Northing: N/A  
 Easting: N/A  
 Elevation: N/A  
 Weld Clock Position: N/A

2.4 Damage Found:  
 Corrosion Damage?  Yes  No Mechanical Damage?  Yes  No  
 Other Damage: One surface lamination found with a maximum depth of 0.010" or 2.47% wall loss. Lamination was buffed out by Jim Aird, removing a total 6.9% wall (from local UT 0.405" to 0.377").

2.5 UT Wall Thickness Measurements:

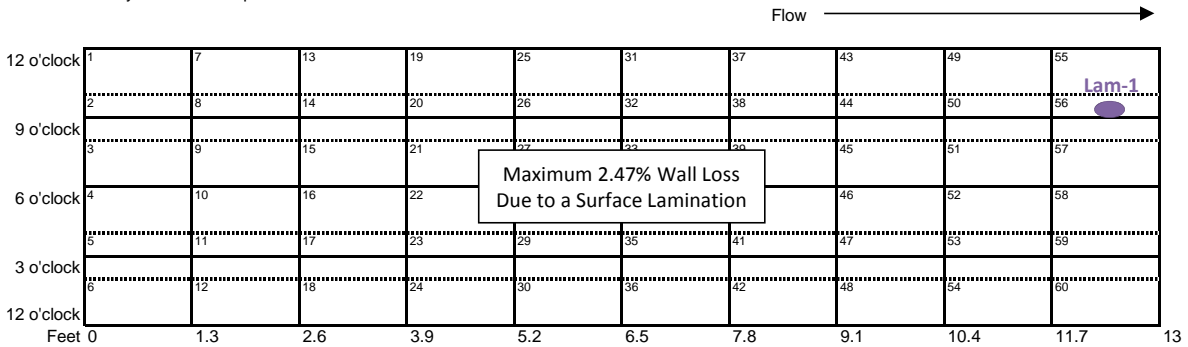
TDC: 0.382"	1 O'clock: 0.380"	2 O'clock: 0.385"	3 O'clock: 0.373"
30" from U/S edge	4 O'clock: 0.379"	5 O'clock: 0.384"	6 O'clock: 0.388"
	8 O'clock: 0.384"	9 O'clock: 0.390"	10 O'clock: 0.384"
			11 O'clock: 0.383"

2.5a Nominal Wall Thickness: 0.375"  
 UT Wall Thickness Grid @ 6:00 is required. Be sure to attach grid to Form H electronically. See page 6 of 10.

2.6 Wet Fluorescent Mag. Part. Is Required. Comments: Magnetic Particle Exam performed by D. Ebright (Mears) on 5/10/2013.  
 Were there any linear indications?  Yes  No If Yes, attach NDE report electronically as part of the Form H. Report to include black light and white light photos of indications.

2.7 Take Photos to Document Corrosion and Other Anomalies\*  
 \*See Photo Log for additional information.

2.8 Overview Map of Corroded Area\*  
 \*See Pit Depth Measurement Grid for additional Information Zero Reference Point: U/S Edge of Inspection Area  
 \*Note any calcareous deposits.



Form H: Direct Examination Data Sheet - Page 3a of 10

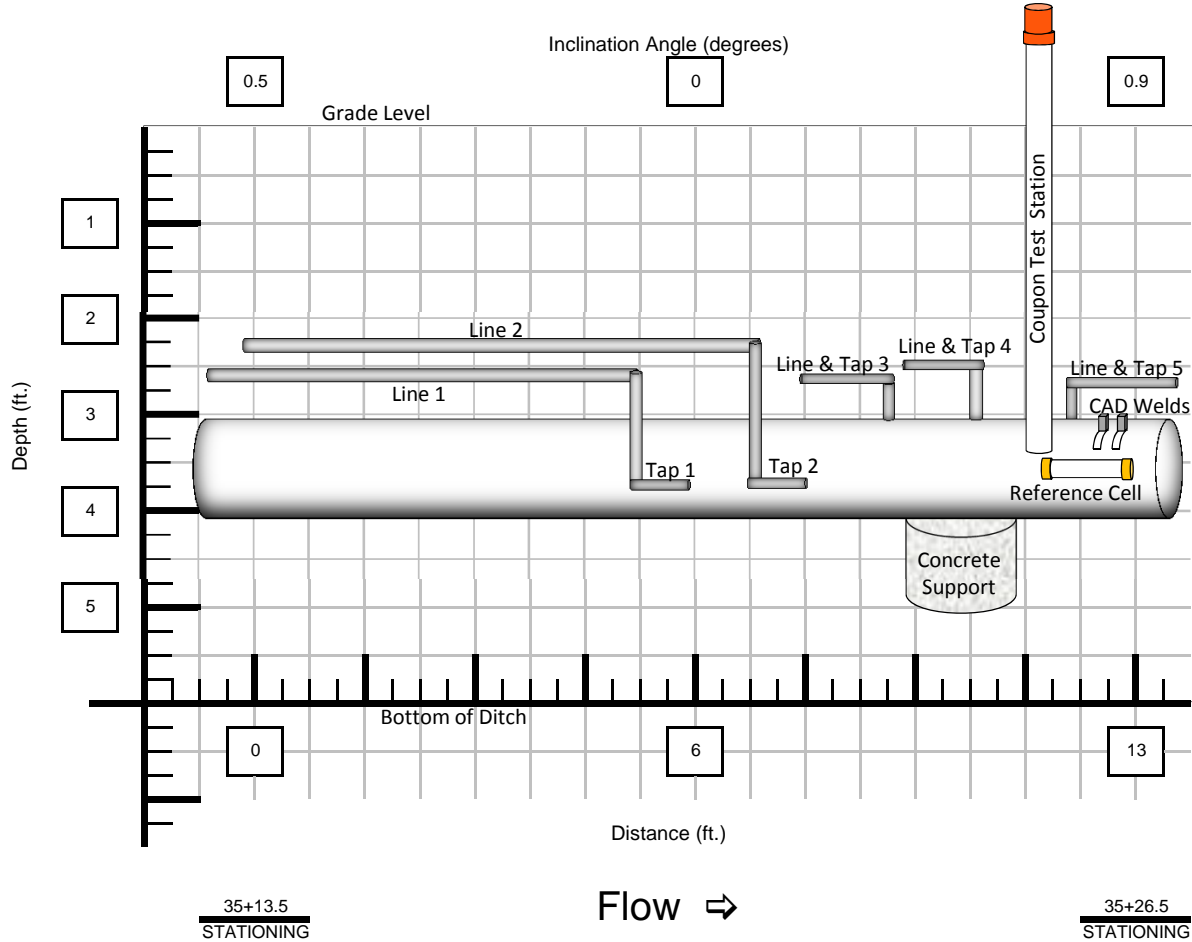
DA/ILI  
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 Region Number: 1  
 Subregion # (ICDA): N/A  
 Stationing: 35+20

ILI  
 ILI Log Distance: N/A  
 RMP-11 Ref. Section: N/A  
 Reference Girth Weld: N/A  
 Distance From Girth Weld: N/A

**Excavation Drawing:**

At minimum draw pipe elevation profile and indicate stationing of 1) low point and 2) critical inclination angle. Place an arrow on the drawing indicating direction of gas flow in the region(s). Other labels may also be added (e.g. "to Station").



NOTES: (Record stationing and names of nearby landmarks such as creeks and roads. Provide any additional information that may help in spatially positioning pipe):

Site is located within the \_\_\_\_\_

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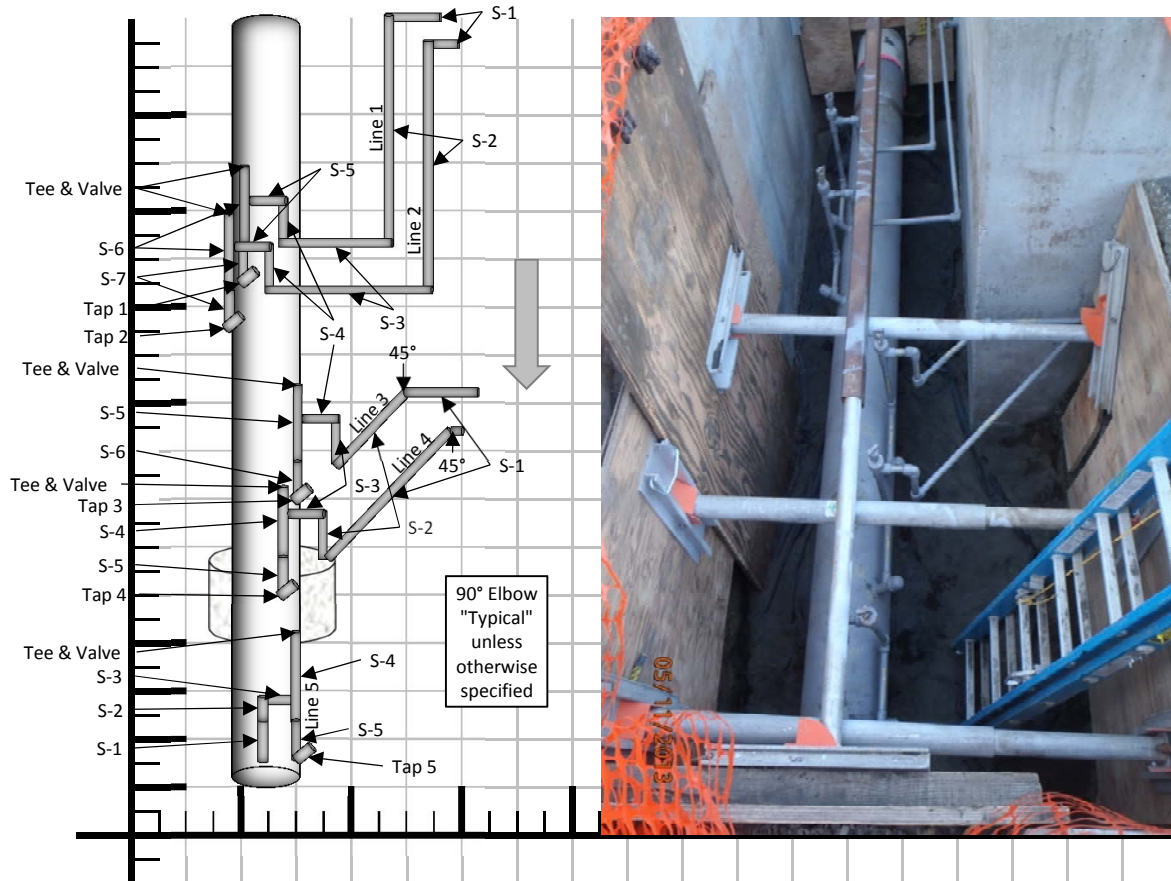
DA  
 N-Segment: 191-2013  
 IMA Number: N/A  
 Region Number: 1  
 Subregion # (ICDA): N/A  
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 Reference Girth Weld: N/A  
 Distance From Girth Weld: N/A

**Excavation Drawing:**

At minimum draw pipe elevation profile and indicate stationing of 1) low point and 2) critical inclination angle. Place an arrow on the drawing indicating direction of gas flow in the region(s). Other labels may also be added (e.g. "to Station").

Overhead View



NOTES: (Record stationing and names of nearby landmarks such as creeks and roads. Provide any additional information that may help in spatially positioning pipe):

Site is located within the \_\_\_\_\_

EXTERNAL PIT DEPTH MEASUREMENT GRID SHEETS

<u>DA/ILI</u>	<u>DA</u>	<u>ILI</u>
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PG&E Project Manager: Adam Abraham	Stationing: 35+20	
Approved By: Brenda McKay		
Order Number: 41821294		

Grid Size = \_\_\_\_\_ Inch x \_\_\_\_\_ Inch (specify grid size)  
 Clock Position (specify below)

Anomaly #: N/A Grid #: N/A

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
A																						
B																						
C																						
D																						
E																						
F																						
G																						
H																						
I																						
J																						
K																						
L																						
M																						
N																						
O																						
P																						
Q																						
R																						
S																						
T																						
U																						
V																						
W																						
X																						

Maximum 2.47% Wall Loss  
Due to a Surface Lamination

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 RMP-11 Ref. Section: N/A  
 Reference Girth Weld: N/A  
 Distance From Girth Weld: N/A

Grid Size = \_\_\_\_\_ Inch x \_\_\_\_\_ Inch (specify grid size)  
 Clock Position (specify below)

Anomaly #: N/A Grid #: N/A

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
A																						
B																						
C																						
D																						
E																						
F																						
G																						
H																						
I																						
J																						
K																						
L																						
M																						
N																						
O																						
P																						
Q																						
R																						
S																						
T																						
U																						
V																						
W																						
X																						

Maximum 2.47% Wall Loss  
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INTERNAL CORROSION PIT DEPTH GRID

DA/ILI  
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 Region Number: 1  
 Subregion # (ICDA): N/A  
 Stationing: 35+20

ILI  
 ILI Log Distance: N/A  
 RMP-11 Ref. Section: N/A  
 Reference Girth Weld: N/A  
 Distance From Girth Weld: N/A

Grid Size = 1 Inch x 1 Inch  
 Clock Position (specify below)

UT Data in Inches

3'0" from U/S Edge

	1	2	3	4	5	6	7	8	9	10	11	12
A	0.377	0.374	0.374	0.369	0.370	0.369	0.375	0.373	0.373	0.375	0.379	0.377
B	0.374	0.372	0.371	0.369	0.369	0.371	0.372	0.375	0.375	0.377	0.378	0.378
C	0.375	0.376	0.370	0.372	0.373	0.376	0.375	0.378	0.376	0.377	0.373	0.381
D	0.378	0.378	0.373	0.370	0.376	0.377	0.377	0.378	0.381	0.382	0.382	0.377
E	0.378	0.379	0.377	0.380	0.381	0.382	0.381	0.381	0.382	0.384	0.383	0.385
F	0.377	0.382	0.375	0.375	0.377	0.379	0.381	0.381	0.382	0.381	0.382	0.383
G	0.377	0.375	0.373	0.375	0.375	0.378	0.384	0.384	0.383	0.383	0.384	0.382
H	0.378	0.377	0.372	0.375	0.374	0.375	0.381	0.382	0.380	0.378	0.378	0.380
I	0.375	0.378	0.374	0.373	0.375	0.381	0.383	0.380	0.379	0.379	0.382	0.382
J	0.372	0.374	0.370	0.369	0.372	0.380	0.392	0.378	0.377	0.378	0.381	0.378
K	0.369	0.374	0.372	0.370	0.370	0.377	0.382	0.379	0.377	0.378	0.381	0.379
L	0.372	0.375	0.373	0.372	0.372	0.377	0.382	0.377	0.376	0.375	0.377	0.376

6:00



INTERNAL CORROSION GRID

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ILI  
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 RMP-11 Ref. Section: N/A  
 Reference Girth Weld: N/A  
 Distance From Girth Weld: N/A

Grid Size = 1 Inch x 1 Inch  
 Clock Position (specify below)

UT Data in Inches

10'6" from U/S Edge

	1	2	3	4	5	6	7	8	9	10	11	12
A	0.391	0.388	0.383	0.384	0.381	0.380	0.379	0.384	0.377	0.379	0.375	0.375
B	0.398	0.393	0.389	0.391	0.388	0.383	0.385	0.387	0.384	0.384	0.383	0.383
C	0.394	0.388	0.388	0.384	0.383	0.386	0.384	0.384	0.381	0.383	0.381	0.381
D	0.394	0.389	0.392	0.386	0.385	0.380	0.382	0.380	0.383	0.380	0.383	0.382
E	0.390	0.388	0.385	0.387	0.384	0.379	0.382	0.383	0.385	0.379	0.382	0.383
F	0.392	0.385	0.391	0.388	0.387	0.381	0.384	0.384	0.383	0.383	0.389	0.387
G	0.391	0.383	0.388	0.386	0.386	0.378	0.380	0.384	0.382	0.381	0.388	0.388
H	0.386	0.384	0.382	0.384	0.381	0.375	0.380	0.381	0.379	0.380	0.384	0.387
I	0.376	0.372	0.379	0.378	0.372	0.369	0.369	0.375	0.375	0.375	0.380	0.385
J	0.377	0.372	0.377	0.383	0.371	0.372	0.369	0.377	0.377	0.379	0.381	0.385
K	0.372	0.369	0.374	0.377	0.368	0.369	0.370	0.373	0.371	0.375	0.377	0.379
L	0.372	0.367	0.372	0.372	0.367	0.371	0.367	0.371	0.367	0.371	0.378	0.380

6:00



INTERNAL CORROSION GRID







## PHOTO LOG

**DA/ILI**  
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PHOTO NO.	LOCATION	DESCRIPTION	COMMENTS
1	Facing North	Site Prior to Excavation	
2	Facing East	Site Prior to Excavation	
3	Facing South	Site Prior to Excavation	
4	Facing West	Site Prior to Excavation	
5	Facing North	Excavation in Progress	
6	Facing South	Excavation in Progress	
7	Facing North	Excavation in Progress	
8	Facing South	Excavation in Progress	
9	Facing West	Existing Concrete Support	
10	Facing West	Existing Concrete Support	
11	Facing North	Existing Concrete Support	
12	Overview	Existing Concrete Support	Removal in progress
13	Overview	Existing Concrete Support	Removal in progress
14	Overview	Excavation in Progress	
15	Overview	Excavation in Progress	
16	Overview	Existing Concrete Support	Removal in progress
17	Overview	Concrete Support Removed	
18	12:00, Facing D/S	Existing Coating	0'0" - 6'0"
19	3:00, Facing D/S	Existing Coating	0'0" - 6'0"
20	6:00, Facing D/S	Existing Coating	0'0" - 6'0"
21	9:00, Facing D/S	Existing Coating	0'0" - 6'0"
22	12:00, Facing D/S	Existing Coating	6'0" - 13'0"
23	3:00, Facing D/S	Existing Coating	6'0" - 13'0"
24	6:00, Facing D/S	Existing Coating	6'0" - 13'0"
25	9:00, Facing D/S	Existing Coating	6'0" - 13'0"
26	12:00, Facing U/S	Existing Coating	13'0" - 6'0"
27	3:00, Facing U/S	Existing Coating	13'0" - 6'0"
28	6:00, Facing U/S	Existing Coating	13'0" - 6'0"
29	9:00, Facing U/S	Existing Coating	13'0" - 6'0"
30	12:00, Facing U/S	Existing Coating	6'0" - 0'0"
31	3:00, Facing U/S	Existing Coating	6'0" - 0'0"
32	6:00, Facing U/S	Existing Coating	6'0" - 0'0"
33	9:00, Facing U/S	Existing Coating	6'0" - 0'0"
34	5'0" from U/S Edge	Existing Coating	Tap and Valve 1
35	6'5" from U/S Edge	Existing Coating	Tap and Valve 2
36	9'6" from U/S Edge	Existing Coating	Tap and Valve 3
37	11'1" from U/S Edge	Existing Coating	Tap and Valve 4
38	12'8" from U/S Edge	Existing Coating	Tap and Valve 5
39	12:00, Facing U/S	Existing Coating	Tap/Valve/Line 1 and 2
40	12:00, Facing U/S	Existing Coating	Tap/Valve/Line 1 and 2

PHOTO LOG

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PHOTO NO.	LOCATION	DESCRIPTION	COMMENTS
41	12:00, Facing D/S	Existing Coating	Tap/Valve/Lines 1 and 2
42	12:00, Facing D/S	Existing Coating	Tap/Valve/Lines 3, 4 and 5
43	12:00, Facing D/S	Existing Coating	Tap/Valve/Lines 3, 4 and 5
44	12:00, Facing U/S	Existing Coating	Tap/Valve/Lines 3, 4 and 5
45	Overview	Existing Coating	Tap/Valve/Lines 1 and 2
46	Overview	Existing Coating	Tap/Valve/Lines 1-5
47	8:30, 3'10" from U/S Edge	CD-1	1/4" L x 3/4" W
48	8:30, 3'10" from U/S Edge	CD-1	Close-up
49	3:00, 9'5" from U/S Edge	CD-2	6" L x 5" W
50	3:00, 9'5" from U/S Edge	CD-2	Close-up
51	3:00, 10'2" from U/S Edge	CD-3	2" L x 4" W
52	3:00, 10'2" from U/S Edge	CD-3	Close-up
53	12:00, 11'7" from U/S Edge	CD-4	1/2" L x 1/2" W
54	12:00, 11'7" from U/S Edge	CD-4	Close-up
55	9:00, 11'10" from U/S Edge	CD-5	1" L x 1" W
56	9:00, 11'10" from U/S Edge	CD-5	Close-up
57	0'1" from U/S Edge	H-1	On Line 1
58	0'1" from U/S Edge	H-1	Close-up
59	1'7" from U/S Edge	H-2	On Line 1
60	1'7" from U/S Edge	H-2	Close-up
61	5'0" from U/S Edge	H-3	On Line 2
62	5'0" from U/S Edge	H-3	Close-up
63	5'7" from U/S Edge	H-4	Elbow on Line 2
64	5'7" from U/S Edge	H-4	Close-up
65	5'7" from U/S Edge	H-5	On Line 2
66	5'7" from U/S Edge	H-5	Close-up
67	5'7" from U/S Edge	H-6 and H-7	Riser Elbow on Line 2
68	5'7" from U/S Edge	H-6 and H-7	Close-up
69	5'7" from U/S Edge	H-6 and H-7	Close-up
70	5'7" from U/S Edge	H-8	Elbow on Line 3
71	5'7" from U/S Edge	H-8	Close-up
72	10'2" from U/S Edge	H-9	Elbow on Line 4
73	10'2" from U/S Edge	H-9	Close-up
74	11'7" from U/S Edge	H-10 and H-11	Elbow on Line 5
75	11'7" from U/S Edge	H-10 and H-11	Close-up
76	12:00, Facing D/S	Coating Removed	
77	3:00, Facing D/S	Coating Removed	
78	6:00, Facing D/S	Coating Removed	
79	9:00, Facing D/S	Coating Removed	
80	12:00, Facing U/S	Coating Removed	

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**ILI**  
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 Reference Girth Weld: N/A  
 Distance From Girth Weld: N/A

PHOTO NO.	LOCATION	DESCRIPTION	COMMENTS
81	3:00, Facing U/S	Coating Removed	
82	6:00, Facing U/S	Coating Removed	
83	9:00, Facing U/S	Coating Removed	
84	5'0" from U/S Edge	Coating Removed	Tap and Valve 1
85	6'5" from U/S Edge	Coating Removed	Tap and Valve 2
86	9'6" from U/S Edge	Coating Removed	Tap and Valve 3
87	11'1" from U/S Edge	Coating Removed	Tap and Valve 4
88	12'8" from U/S Edge	Coating Removed	Tap and Valve 5
89	12:00, Facing D/S	Coating Removed	Tap/Valve/Lines 1 and 2
90	12:00, Facing D/S	Coating Removed	Tap/Valve/Lines 1 and 2
91	12:00, Facing D/S	Coating Removed	Tap/Valve/Lines 3, 4 and 5
92	12:00, Facing D/S	Coating Removed	Tap/Valve/Line 5
93	12:00, Facing U/S	Coating Removed	Tap/Valve/Lines 1 and 2
94	12:00, Facing U/S	Coating Removed	Tap/Valve/Lines 3 and 4
95	12:00, Facing D/S	Media Blasted Pipe	
96	3:00, Facing D/S	Media Blasted Pipe	
97	6:00, Facing D/S	Media Blasted Pipe	
98	9:00, Facing D/S	Media Blasted Pipe	
99	12:00, Facing U/S	Media Blasted Pipe	
100	3:00, Facing U/S	Media Blasted Pipe	
101	6:00, Facing U/S	Media Blasted Pipe	
102	9:00, Facing U/S	Media Blasted Pipe	
103	12:00, Facing D/S	Media Blasted Pipe	Tap/Valve/Lines 1 and 2
104	12:00, Facing U/S	Media Blasted Pipe	Tap/Valve/Lines 1 and 2
105	12:00, Facing D/S	Media Blasted Pipe	Tap/Valve/Lines 1 and 2
106	12:00, Facing U/S	Media Blasted Pipe	Tap/Valve/Lines 3 and 4
107	12:00, Facing D/S	Media Blasted Pipe	Tap/Valve/Line 5
108	5'0" from U/S Edge	Media Blasted Pipe	Tap 1 - Pipe UT at Tap
109	5'0" from U/S Edge	Media Blasted Pipe	Tap 1 - Pipe UT at Tap
110	5'0" from U/S Edge	Media Blasted Pipe	Tap 1 - Pipe UT at Tap
111	6'5" from U/S Edge	Media Blasted Pipe	Tap 2 - Pipe UT at Tap
112	6'5" from U/S Edge	Media Blasted Pipe	Tap 2 - Pipe UT at Tap
113	6'5" from U/S Edge	Media Blasted Pipe	Tap 2 - Pipe UT at Tap
114	9'6" from U/S Edge	Media Blasted Pipe	Tap 3 - Pipe UT at Tap
115	9'6" from U/S Edge	Media Blasted Pipe	Tap 3 - Pipe UT at Tap
116	9'6" from U/S Edge	Media Blasted Pipe	Tap 3 - Pipe UT at Tap
117	11'1" from U/S Edge	Media Blasted Pipe	Tap 4 - Pipe UT at Tap
118	11'1" from U/S Edge	Media Blasted Pipe	Tap 4 - Pipe UT at Tap
119	11'1" from U/S Edge	Media Blasted Pipe	Tap 4 - Pipe UT at Tap
120	12'8" from U/S Edge	Media Blasted Pipe	Tap 5 - Pipe UT at Tap

## PHOTO LOG

**DA/ILI**  
 Route Number: 191-1  
 Examination Date: 5/7/2013  
 Mile Point: 35.83  
 Examination Performed By: Denise Ebright  
 PG&E Project Manager: Adam Abraham  
 Approved By: Brenda McKay  
 Order Number: 41821294

**DA**  
 N-Segment: 191-2013  
 IMA Number: N/A  
 Region Number: 1  
 Subregion # (ICDA): N/A  
 Stationing: 35+20

**ILI**  
 ILI Log Distance: N/A  
 RMP-11 Ref. Section: N/A  
 Reference Girth Weld: N/A  
 Distance From Girth Weld: N/A

PHOTO NO.	LOCATION	DESCRIPTION	COMMENTS
121	12'8" from U/S Edge	Media Blasted Pipe	Tap 5 - Pipe UT at Tap
122	12'8" from U/S Edge	Media Blasted Pipe	Tap 5 - Pipe UT at Tap
123	Overview, Facing U/S	Media Blasted Pipe	
124	9:15, 12'4" from U/S Edge	Surface Lamination (Lam-1)	1" L x 3/4" W Max Depth 0.010" WL: 2.45%
125	9:15, 12'4" from U/S Edge	Surface Lamination (Lam-1)	Close up
126	9:15, 12'4" from U/S Edge	Surface Lamination (Lam-1)	After Buffing
127	Overview, Facing D/S	Media Blasted Pipe	
128	Overview, Facing U/S	Media Blasted Pipe	
129	12:00, at D/S Edge	Test Wires Installed with CAD Welds	
130	12:00, at D/S Edge	Test Wires Installed with CAD Welds	
131	12:00, Facing D/S	Pipe Recoated	Wax Tape
132	3:00, Facing D/S	Pipe Recoated	Wax Tape
133	6:00, Facing D/S	Pipe Recoated	Wax Tape
134	9:00, Facing D/S	Pipe Recoated	Wax Tape
135	12:00, Facing U/S	Pipe Recoated	Wax Tape
136	3:00, Facing U/S	Pipe Recoated	Wax Tape
137	6:00, Facing U/S	Pipe Recoated	Wax Tape
138	9:00, Facing U/S	Pipe Recoated	Wax Tape
139	Facing D/S	Pipe Recoated	Wax Tape - Tap/Valve/Lines 1 and 2
140	Facing D/S	Pipe Recoated	Wax Tape - Tap/Valve/Lines 3, 4 and 5
141	Facing U/S	Pipe Recoated	Wax Tape - Tap/Valve/Lines 1 and 2
142	Facing U/S	Pipe Recoated	Wax Tape - Tap/Valve/Lines 3 and 4
143	Facing U/S	Pipe Recoated	Wax Tape - Tap/Valve/Lines 3, 4 and 5
144	Facing U/S	Pipe Recoated	Wax Tape - Tap/Valve/Line 5
145	Overview, Facing D/S	Coating Protection Applied	Tuff N Nuff
146	Overview, Facing U/S	Coating Protection Applied	Tuff N Nuff
147	Facing D/S	Concrete Support Replaced	
148	Overview, at D/S Edge	Concrete Support Replaced	
149	Overview, at D/S Edge	Concrete Support Replaced	
150	Overview, at U/S Edge	Anodes Installed	
151	9:00, at D/S Edge	Reference Cell Installed	
152	9:00, at D/S Edge	Reference Cell and Coupon Test Station Installed	M-16451
153	Facing South	Backfill in Progress	
154	Facing North	Backfill in Progress	
155	Facing South	Backfill in Progress	CPP over valves
156	Facing South	Backfill in Progress	Concrete Slabs and Valve Covers
157	Facing North	Site As Left	
158	Facing East	Site As Left	
159	Facing South	Site As Left	
160	Facing West	Site As Left	

Form H: Direct Examination Data Sheet - Page 10 of 10

<u>DA/ILI</u>	<u>DA</u>	<u>ILI</u>
Route Number: 191-1	N-Segment: 191-2013	ILI Log Distance: N/A
Examination Date: 5/7/2013	IMA Number: N/A	RMP-11 Ref. Section: N/A
Mile Point: 35.83		Reference Girth Weld: N/A
Examination Performed By: Denise Ebright	Region Number: 1	Distance From Girth Weld: N/A
PG&E Project Manager: Adam Abraham	Subregion # (ICDA): N/A	
Approved By: Brenda McKay	Stationing: 35+20	
Order Number: 41821294		

**3.0 Recoat Data**

3.1 Sandblast Media: Kleen Blast 30/60 Anchor Profile Measurement: N/A

3.2 Pipe Recoated With:

Powercrete J  Wax Tape  Bar-Rust 235  Dev Grip 238  Dev Tar 247  Protal 7200  PE Tape

3.3 For Epoxy Coating Systems, Record Environmental Condition:

Air Temperature: N/A Dew Point: N/A  
 Pipe Temperature: N/A Relative Humidity: N/A  
 Time of Day: N/A

3.4 Repair Coating Hardness (If ARC Coating): N/A

3.5 Measured Coating Thickness: 3:00 - N/A 6:00 - N/A 9:00 - N/A 12:00 - N/A

Holiday Tested?:  Yes  No  
 Device Used:  Coil  Wet Sponge Voltage Used: N/A Repair All Holidays.

3.6 Coupon Test Station Installed?:  Yes  No ETS Installed?:  Yes  No

If Yes, Date Installed: 5/16/2013

Surface Configuration:  Fink  G-5 Box  Carsonite  Other: \_\_\_\_\_

3.7 Backfill Material:  Native  Imported Sand  Other: \_\_\_\_\_

Coating Protections?:  Yes  No

If Yes, Check One:  Rockguard  Tuff-N-Nuff  PipeSaver  Other: \_\_\_\_\_

3.8 Pipe-to-Soil Readings Over Bell Hole After Backfill: -833mV  
 \*If specified, a CIS should be done for approximately 100' on either side of the bell hole. Attach data.  
 Comments: Pipe-to-Soil potential was taken with a CSE.

3.9 Attach site sketch of excavation site.

**4.0 Repair Data**

4.1 Repair Made:  Yes  No 4.1 Number of Repairs Made: N/A

4.3 Repair Type:  Metallic Sleeve  Non Metallic Sleeve  Replace  Can  Filler Metal  Other

4.4 Damage Repaired:  Corrosion  Mechanical  Other

Misc. Comments/Information: Site is located inside the [redacted]. Center of inspection was staked and site was marked out. Location was verified with provided GPS coordinates. A PG&E representative was on site to locate 12" line. On 04/29/2013, David He was on site to evaluate due to the location between two concrete vaults, 44" apart. Excavation began on 05/01/2013; the entire site was excavated by hand. On 05/03/2013, pipe was exposed to springline. A concrete support was found near the D/S edge, and there were 5 taps and valves connected to the pipe. David He and Adam Abraham performed a site visit to determine scope of inspection. On 05/04/2013, David He gave approval to continue excavation, to remove concrete support, and inspect pipe, taps, and valves. Excavation and removal of concrete support were completed on 05/07/2013. A coating inspection was performed on the existing plastic tape coating, finding 5 areas of damaged coating on the pipe. Eleven holidays were found on the 1" lines. The holiday locations are reported using distance from reference on the pipe. No holidays were found on the pipe. On 05/08/2013, the coating was removed; the pipe was inspected to ensure safe media blast. The pipe was sandblasted with Kleen Blast 30/60 media. The pipe was inspected along with the (5) 1" lines, there were no additional indications of wall loss from external corrosion nor mechanical damage. On 05/10/2013, a wet fluorescent Magna Particle Exam was performed finding 1 surface lamination. The maximum depth measured 0.010" or 2.47% wall loss. No indications were found. Fred Necochea (ATS) performed acid etch and confirmed pipe to be seamless. Data was submitted to PG&E for evaluation. On 05/13/2013, approval was given to buff out the lamination. Jim Aird (PG&E) removed lamination by buffing. Local wall measured 0.405" prior and 0.377" after buffing (6.9% material removed). Approval was given to recoat and backfill pipe was media blasted in preparation of recoat. Test leads were attached to pipe near the D/S edge with CAD welds. Due to the limited space in this excavation, the pipe was recoated with Wax Tape. Tuff-N-Nuff was applied for additional coating protection. On 05/14/2013, the concrete support was replaced. On 05/15/2013, 2 anodes were installed 6' apart on the east side of the pipe and readings were taken (U/S -1,068mV / D/S -962mV). Backfill began on 05/15/2013, a reference cell and coupon test station were installed. Corrugated plastic pipe was replaced over the valves; concrete slabs and valve covers were replaced. The site was restored on 05/16/2013.

Mears Job Number: 9101323013







Form H: Direct Examination Data Sheet

MAGNETIC PARTICLE EXAMINATION DATA SHEET

DA/ILI
Route Number: 191-1
Examination Date: 5/7/2013
Mile Point: 35.83
Examination Performed By: Denise Ebright
PG&E Project Manager: Adam Abraham
Approved By: Brenda McKay
Order Number: 41821294

DA
N-Segment: 191-2013
IMA Number: N/A
Region Number: 1
Subregion # (ICDA): N/A
Stationing: 35+20

ILI
ILI Log Distance: N/A
RMP-11 Ref. Section: N/A
Reference Girth Weld: N/A
Distance From Girth Weld: N/A

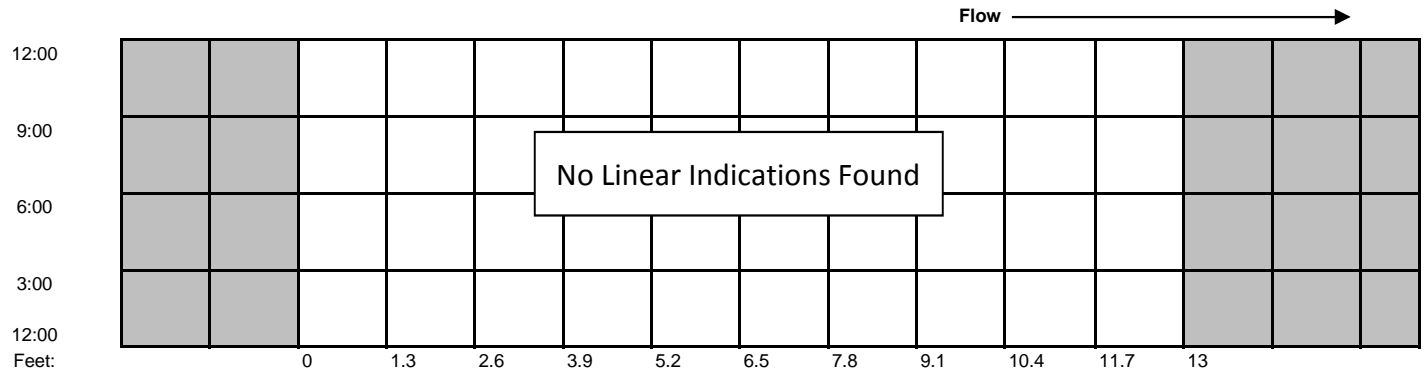
Test Equipment, Serial No., Technique, Test Medium, Quality Control, Surface Condition

Reference GPS: U/S Edge
Northing:
Easting:

Acceptance Criteria: No indications allowed.
Accepted? Yes No, See Table below.

Map of Magnetic Particle Indications:

Zero Reference Point: U/S Edge of Inspection Area



Table

Table with 7 columns: Ind No., Axial Position, Circumferential Position, Indication Length, Wall Thickness before Softpad, Wall Thickness after Final Softpad, Indication Removed (Yes, No)

Notes: Magnetic Particle Exam was performed finding no linear indications.

The examination above was performed to the best of my professional ability in accordance with Mears MPE-01.

Technician's Signature: Denise Ebright
Mears Level: Level II - Limited
Date: 05/10/13
Assistant:
Mears Level:
Date:

Form H: Direct Examination Data Sheet

SUPPLEMENTAL TAP DATA

DA/ILI  
 Route Number: 191-1  
 Examination Date: 5/7/2013  
 Mile Point: 35.83  
 Examination Performed By: Denise Ebright  
 PG&E Project Manager: Adam Abraham  
 Approved By: Brenda McKay  
 Order Number: 41821294

DA  
 N-Segment: 191-2013  
 IMA Number: N/A  
 Region Number: 1  
 Subregion # (ICDA): N/A  
 Stationing: 35+20

ILI  
 ILI Log Distance: N/A  
 RMP-11 Ref. Section: N/A  
 Reference Girth Weld: N/A  
 Distance From Girth Weld: N/A

Tap 1

UT WALL THICKNESS MEASUREMENTS

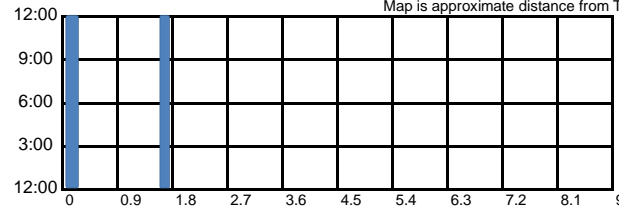
Pipe Feature	Length	12:00	3:00	6:00	9:00
Section 1	2"	0.164	0.155	0.154	0.157
90° Elbow	3"				
Section 2	48.5"	0.155	0.163	0.160	0.145
90° Elbow	3"				
Section 3	12"	0.163	0.155	0.144	0.156
90° Elbow	3"				
Section 4 (Riser)	4"	0.167	0.151	0.164	0.160
90° Elbow	3"				
Section 5	1.5"	0.153	0.142	0.156	0.164
Tee	3"				
Valve					
Section 6	11"	0.169	0.143	0.183	0.179
90° Elbow					
Section 7	9"	0.156	0.160	0.155	0.154
Tee	3"				
Tap/Pipe		0.387	0.379	0.393	0.392

COATING DAMAGE

NO.	FEET FROM REFERENCE	O'CLOCK	MAX LENGTH (IN.)	MAX CIRC EXTENT (IN.)
H-1	0'1"	All	2	Full Circumference
H-2	1'7"	All	1	Full Circumference

MAP OF COATING DEGRADATION

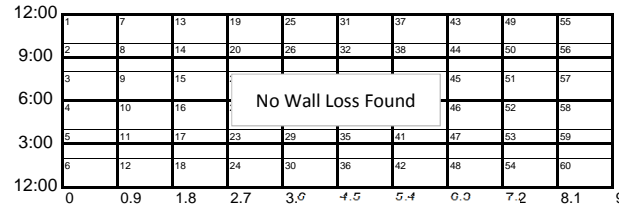
\*Table Reference from U/S Edge of Main Line. Map is approximate distance from Tap.



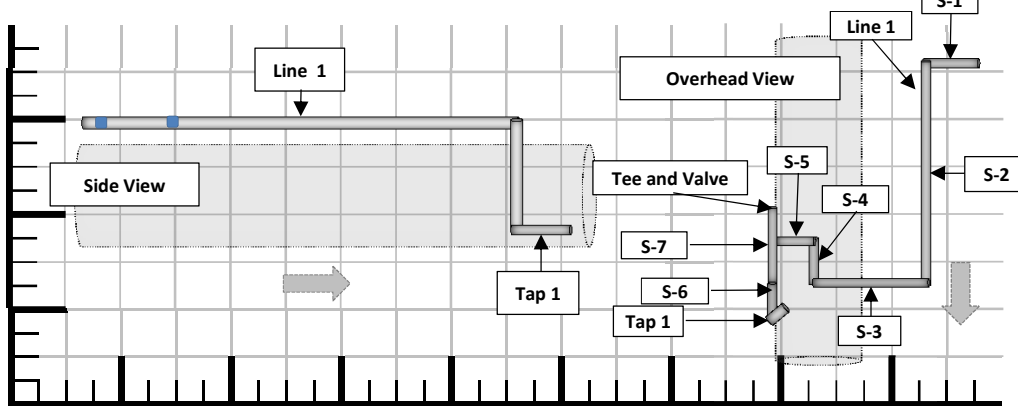
CORROSION LOG

IC or EC	FEET FROM REFERENCE	O'CLOCK	MAX PIT DEPTH (MILS)	MAX LENGTH (IN.)	MAC CIRC EXTENT (IN.)

OVERVIEW MAP OF CORRODED AREA



EXCAVATION DRAWING



Form H: Direct Examination Data Sheet

SUPPLEMENTAL TAP DATA

DA/ILI  
 Route Number: 191-1  
 Examination Date: 5/7/2013  
 Mile Point: 35.83  
 Examination Performed By: Denise Ebright  
 PG&E Project Manager: Adam Abraham  
 Approved By: Brenda McKay  
 Order Number: 41821294

DA  
 N-Segment: 191-2013  
 IMA Number: N/A  
 Region Number: 1  
 Subregion # (ICDA): N/A  
 Stationing: 35+20

ILI  
 ILI Log Distance: N/A  
 RMP-11 Ref. Section: N/A  
 Reference Girth Weld: N/A  
 Distance From Girth Weld: N/A

Tap 2

UT WALL THICKNESS MEASUREMENTS

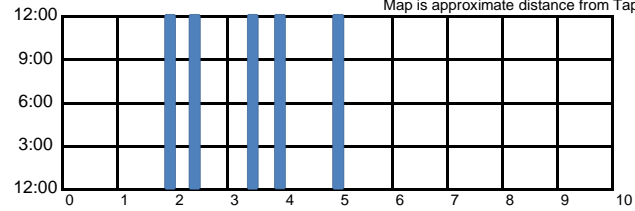
Pipe Feature	Length	12:00	3:00	6:00	9:00
Section 1	0.25"				
90° Elbow	3"				
Section 2	62"	0.157	0.163	0.178	0.167
90° Elbow	3"				
Section 3	17"	0.159	0.167	0.159	0.165
90° Elbow	3"				
Section 4 (Riser)	4"	0.150	0.164	0.156	0.145
90° Elbow	3"				
Section 5	1.5"	0.155	0.145	0.156	0.165
Tee	3"				
Valve					
Section 6	11"	0.162	0.150	0.146	0.155
90° Elbow	3"				
Section 7	6.125"	0.153	0.154	0.160	0.155
Tee	3"				
Tap/Pipe		0.387	0.387	0.378	0.389

COATING DAMAGE

NO.	FEET FROM REFERENCE	O'CLOCK	MAX LENGTH (IN.)	MAX CIRC EXTENT (IN.)
H-3	5'0"	All	2	Full Circumference
H-4	5'7"	All	3	Full Circumference
H-5	5'7"	All	3	Full Circumference
H-6	5'7"	All	3	Full Circumference
H-7	5'7"	All	3	Full Circumference

MAP OF COATING DEGRADATION

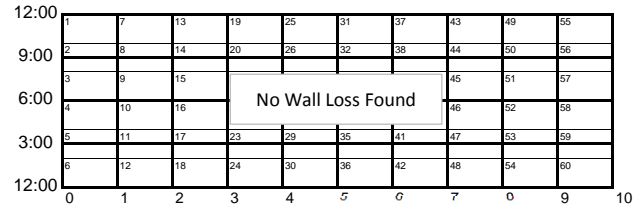
\*Table Reference from U/S Edge of Main Line. Map is approximate distance from Tap.



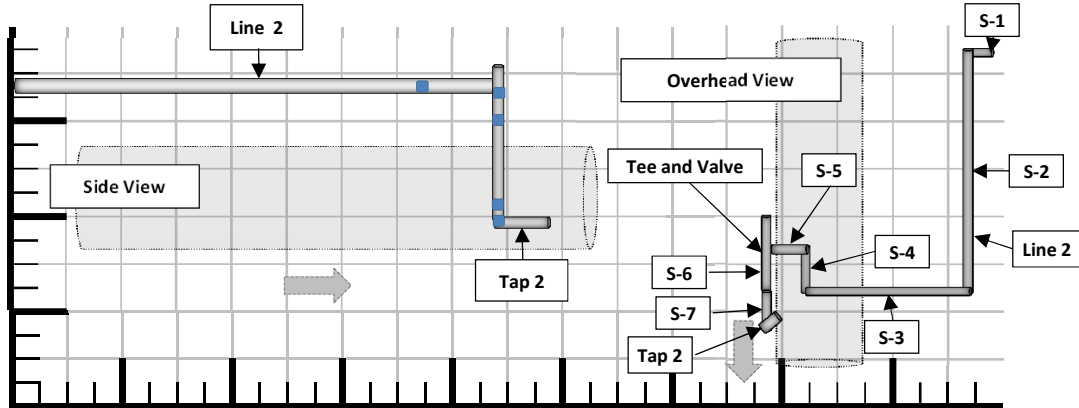
CORROSION LOG

IC or EC	FEET FROM REFERENCE	O'CLOCK	MAX PIT DEPTH (MILS)	MAX LENGTH (IN.)	MAC CIRC EXTENT (IN.)

OVERVIEW MAP OF CORRODED AREA



EXCAVATION DRAWING



Form H: Direct Examination Data Sheet

SUPPLEMENTAL TAP DATA

DA/ILI  
 Route Number: 191-1  
 Examination Date: 5/7/2013  
 Mile Point: 35.83  
 Examination Performed By: Denise Ebright  
 PG&E Project Manager: Adam Abraham  
 Approved By: Brenda McKay  
 Order Number: 41821294

DA  
 N-Segment: 191-2013  
 IMA Number: N/A  
 Region Number: 1  
 Subregion # (ICDA): N/A  
 Stationing: 35+20

ILI  
 ILI Log Distance: N/A  
 RMP-11 Ref. Section: N/A  
 Reference Girth Weld: N/A  
 Distance From Girth Weld: N/A

Tap 3

UT WALL THICKNESS MEASUREMENTS

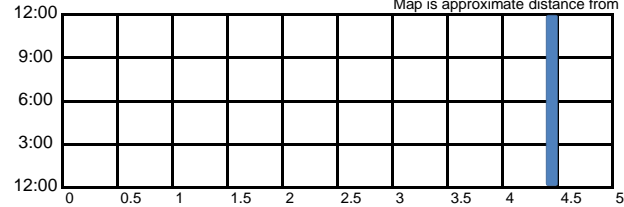
Pipe Feature	Length	12:00	3:00	6:00	9:00
Section 1	2"	0.169	0.158	0.143	0.145
45° Elbow	3"				
Section 2	13.5"	0.147	0.147	0.158	0.158
90° Elbow	3"				
Section 3	5.5"	0.148	0.152	0.163	0.158
90° Elbow					
Section 4	1.5"	0.161	0.144	0.152	0.166
Tee	3"				
Valve					
Section 5	11"	0.147	0.159	0.156	0.148
90° Elbow	3"				
Section 6	7.5"	0.156	0.156	0.154	0.154
Tee	3"				
Tap/Pipe		0.372	0.375	0.373	0.378

COATING DAMAGE

NO.	FEET FROM REFERENCE	O'CLOCK	MAX LENGTH (IN.)	MAX CIRC EXTENT (IN.)
H-8	7'7"	All	3	Full Circumference

MAP OF COATING DEGRADATION

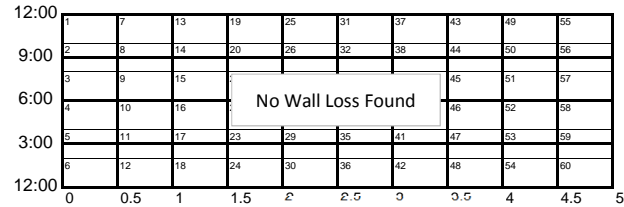
\*Table Reference from U/S Edge of Main Line.  
 Map is approximate distance from Tap.



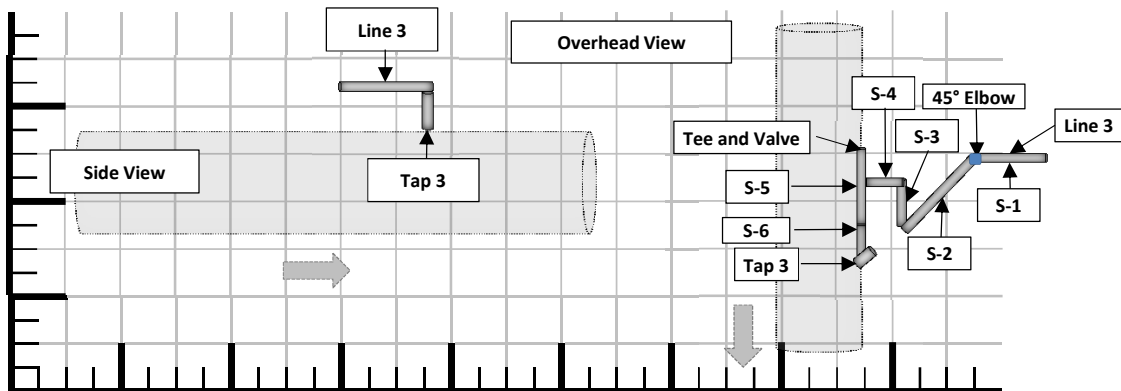
CORROSION LOG

IC or EC	FEET FROM REFERENCE	O'CLOCK	MAX PIT DEPTH (MILS)	MAX LENGTH (IN.)	MAC CIRC EXTENT (IN.)

OVERVIEW MAP OF CORRODED AREA



EXCAVATION DRAWING



Form H: Direct Examination Data Sheet

SUPPLEMENTAL TAP DATA

DA/ILI  
 Route Number: 191-1  
 Examination Date: 5/7/2013  
 Mile Point: 35.83  
 Examination Performed By: Denise Ebright  
 PG&E Project Manager: Adam Abraham  
 Approved By: Brenda McKay  
 Order Number: 41821294

DA  
 N-Segment: 191-2013  
 IMA Number: N/A  
 Region Number: 1  
 Subregion # (ICDA): N/A  
 Stationing: 35+20

ILI  
 ILI Log Distance: N/A  
 RMP-11 Ref. Section: N/A  
 Reference Girth Weld: N/A  
 Distance From Girth Weld: N/A

Tap 4

UT WALL THICKNESS MEASUREMENTS

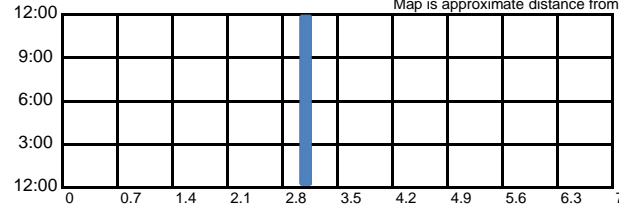
Pipe Feature	Length	12:00	3:00	6:00	9:00
45° Elbow	3"				
Section 1	36"	0.147	0.144	0.152	0.158
90° Elbow	3"				
Section 2	5.5"	0.166	0.157	0.168	0.157
90° Elbow	3"				
Section 3	2"	0.149	0.142	0.153	0.162
Tee	3"				
Valve					
Section 4	11.5"	0.149	0.142	0.153	0.162
90° Elbow	3"				
Section 5	8"	0.153	0.154	0.154	0.152
Tee	3"				
Tap/Pipe		0.381	0.384	0.386	0.383

COATING DAMAGE

NO.	FEET FROM REFERENCE	O'CLOCK	MAX LENGTH (IN.)	MAX CIRC EXTENT (IN.)
H-9	10'2"	All	3	Full Circumference

MAP OF COATING DEGRADATION

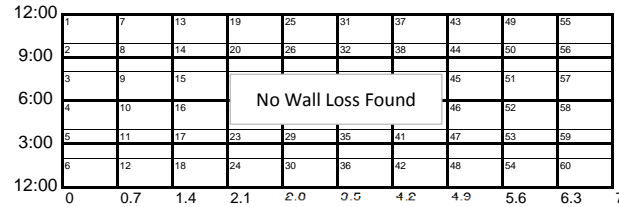
\*Table Reference from U/S Edge of Main Line.  
 Map is approximate distance from Tap.



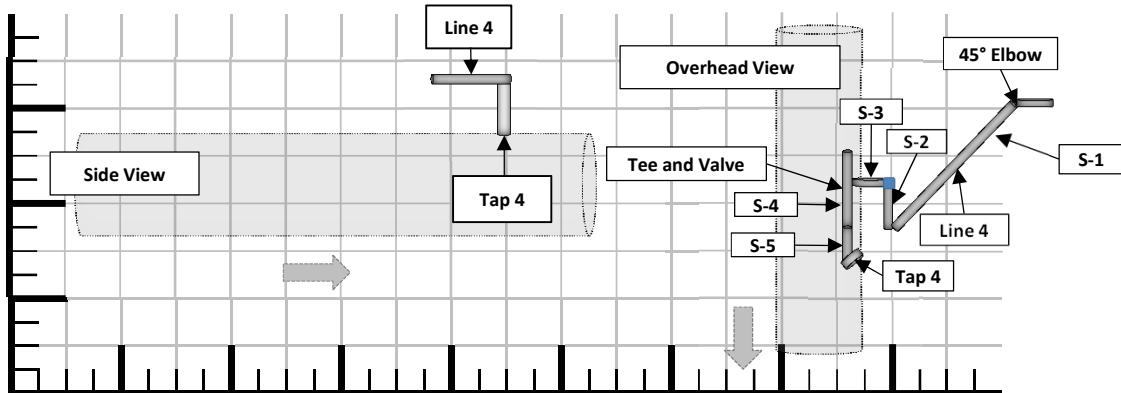
CORROSION LOG

IC or EC	FEET FROM REFERENCE	O'CLOCK	MAX PIT DEPTH (MILS)	MAX LENGTH (IN.)	MAC CIRC EXTENT (IN.)

OVERVIEW MAP OF CORRODED AREA



EXCAVATION DRAWING



Form H: Direct Examination Data Sheet

SUPPLEMENTAL TAP DATA

DA/ILI  
 Route Number: 191-1  
 Examination Date: 5/7/2013  
 Mile Point: 35.83  
 Examination Performed By: Denise Ebright  
 PG&E Project Manager: Adam Abraham  
 Approved By: Brenda McKay  
 Order Number: 41821294

DA  
 N-Segment: 191-2013  
 IMA Number: N/A  
 Region Number: 1  
 Subregion # (ICDA): N/A  
 Stationing: 35+20

ILI  
 ILI Log Distance: N/A  
 RMP-11 Ref. Section: N/A  
 Reference Girth Weld: N/A  
 Distance From Girth Weld: N/A

Tap 5

UT WALL THICKNESS MEASUREMENTS

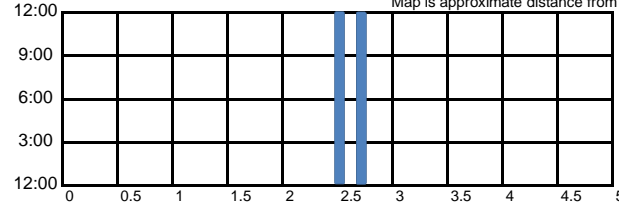
Pipe Feature	Length	12:00	3:00	6:00	9:00
Section 1	13.5"	0.159	0.156	0.141	0.151
90° Elbow	3"				
Section 2	5"	0.154	0.167	0.160	0.147
90° Elbow	3"				
Section 3	1.5"	0.148	0.155	0.164	0.156
Tee	3"				
Valve					
Section 4	11"	0.145	0.154	0.152	0.156
90° Elbow	3"				
Section 5	7.5"	0.152	0.155	0.155	0.152
Tee	3"				
Tap/Pipe		0.391	0.389	0.388	0.381

COATING DAMAGE

NO.	FEET FROM REFERENCE	O'CLOCK	MAX LENGTH (IN.)	MAX CIRC EXTENT (IN.)
H-10	11'7"	All	3	Full Circumference
H-11	11'7"	All	3	Full Circumference

MAP OF COATING DEGRADATION

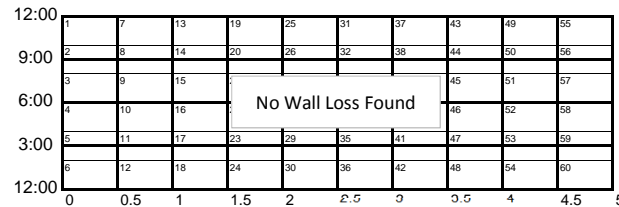
\*Table Reference from U/S Edge of Main Line.  
 Map is approximate distance from Tap.



CORROSION LOG

IC or EC	FEET FROM REFERENCE	O'CLOCK	MAX PIT DEPTH (MILS)	MAX LENGTH (IN.)	MAC CIRC EXTENT (IN.)

OVERVIEW MAP OF CORRODED AREA



EXCAVATION DRAWING

