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

DA/ILI	DA	ILI
Route Number:	N-Segment:	ILI Log Distance:
Examination Date: 11/13/2011	IMA Number:	RMP-11 Ref. Section: Table 5.6.2
Mile Point:		Reference Girth Weld:
Examination Performed By: CJ	Region Number:	Distance From Girth Weld:
PG&E Project Manager:	Subregion # (ICDA):	
Approved By:	Stationing:	
Order Number:		

Excavation Priority:

☐ Immediate ☐ Scheduled (For ILI - ☐ 1 Year ☐ Other)
☐ Monitor ☐ Effectiveness ☐ ICDA

Excavation Reason

☐ ECDA ☐ ILI ☐ Recoat
☐ ICDA ■ Other MAOP Validation

If practical, take P/S or CIS reads before excavation:

Excavation Details: Centerline on GPS Coordinates (Based on GIS):
Northing:
Easting:
Planned Inspection Length (Ft.):
Actual Inspection Length (Ft.):

Centerline on GPS Coordinates (Uncorrected Field Measurement):
Northing:
Easting:
GPS File Name:

Centerline on GPS Coordinates (Corrected Field Measurement):
Northing:
Easting:
Nominal Wall Thickness:
Nominal Pipe Diameter:

1.0 Data Before Coating Removal

1.1 Native Soil Type: ■ Clay ☐ Rock ☐ Sand ■ Loam ☐ Wet ☐ Other

1.1a Backfill Material Found ☐ Sand ☐ Slurry ■ Native
Depth of Cover (Ft.):
Comments:

1.2 Coating Type: ☐ HAA ■ Somastic ☐ Plastic Tape ☐ Wax Tape ☐ FBE ☐ Powercrete
☐ Bare/None ☐ Paint ☐ Other: Comments: Poor condition disbonded
Coating Thickness (Inches): 1/8" Number of Layers: 1

1.3 Holiday Testing Performed?: ☐ Yes ■ No Voltage Used: Map Location of Holidays Below.
Device Used: ☐ Coil ☐ Wet Sponge Comments:

1.4 Pipe-to-Soil Potentials in Ditch (-mV): US: neg 1190 mv DS: neg 1190 mv
Comments:

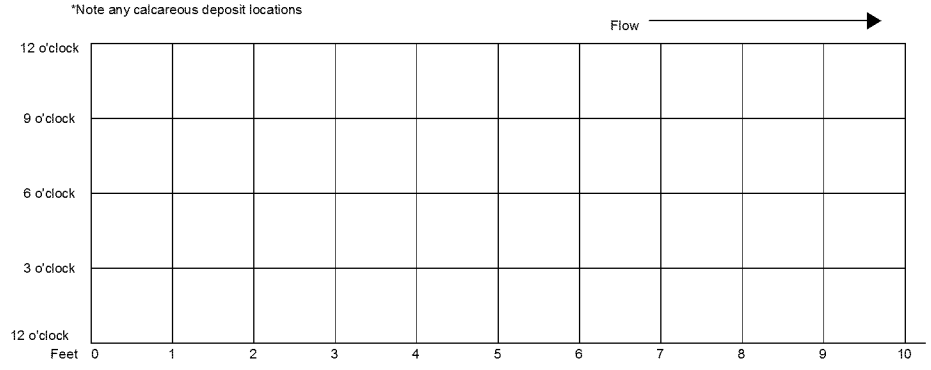
1.5 Soil Resistivity in Ditch (Ω-cm):
Method: ☐ 4-Pin ■ Soil Box 5300 ohms

1.6 Soil Sample Location: Comments: D/S end

1.7 Ground Water Present?: ☐ Yes ■ No Sample(s) Collected?: ☐ Yes ☐ No Sample pH:
Comments:

1.8 Coating Condition: ☐ Good - Adhered to Pipe ☐ Fair - Coating Partially Disbonded or Degraded
■ Poor - Coating Significantly Disbonded or Missing
Comments: Coating disbonded and falling off with soil removal 100% over exposed pipe.

1.9 Map of Coating Degradation*: **Zero Reference Point:** edge of exposed pipe.
*Note any calcareous deposit locations



No Coating Degradation Found

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

DA/ILI		DA		ILI	
Route Number:		**N-Segment:**		**ILI Log Distance:**	
Examination Date:	11/13/2011	**IMA Number:**		**RMP-11 Ref. Section:**	Table 5.6.2
Mile Point:				**Reference Girth Weld:**	
Examination Performed By:	dj	**Region Number:**		**Distance From Girth Weld:**	
PG&E Project Manager:		**Subregion # (ICDA):**			
Approved By:		**Stationing:**			
Order Number:					

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

1.11 Coating Sample Taken?: ■ Yes ☐ No Location of Sample: D/S end

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

1.13 Corrosion Product Present?: ☐ Yes ■ No If Yes, Was Sample Taken?: ☐ Yes ■ No
Comments:

1.14 Soil pH (Sb Electrode): Upstream: 6.5 Downstream: 6.5

2.0 Data After Coating Removal

2.1 Pipe Temperature (°F): Measured Pipe Diameter (In.):

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:
Easting:
Elevation:
LS Weld Clock Position:

2.4 Damage Found:
Corrosion Damage? ☐ Yes ■ No Mechanical Damage? ☐ Yes ■ No
Other Damage:

2.5 UT Wall Thickness Measurements:

TDC: 0.149"	1 O'clock: 0.149"	2 O'clock: 0.149"	3 O'clock: 0.149"
4 O'clock: 0.149"	5 O'clock: 0.149"	6 O'clock: 0.149"	7 O'clock: 0.149"
8 O'clock: 0.149"	9 O'clock: 0.149"	10 O'clock: 0.149"	11 O'clock: 0.149"

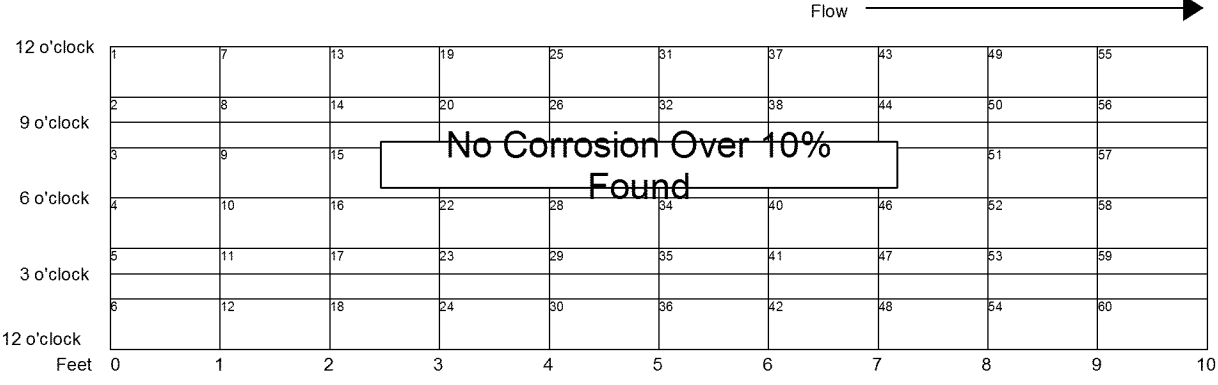
2.5a Nominal Wall Thickness: 0.148"

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: Two linear indications were noted please see MT report for locations.
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.

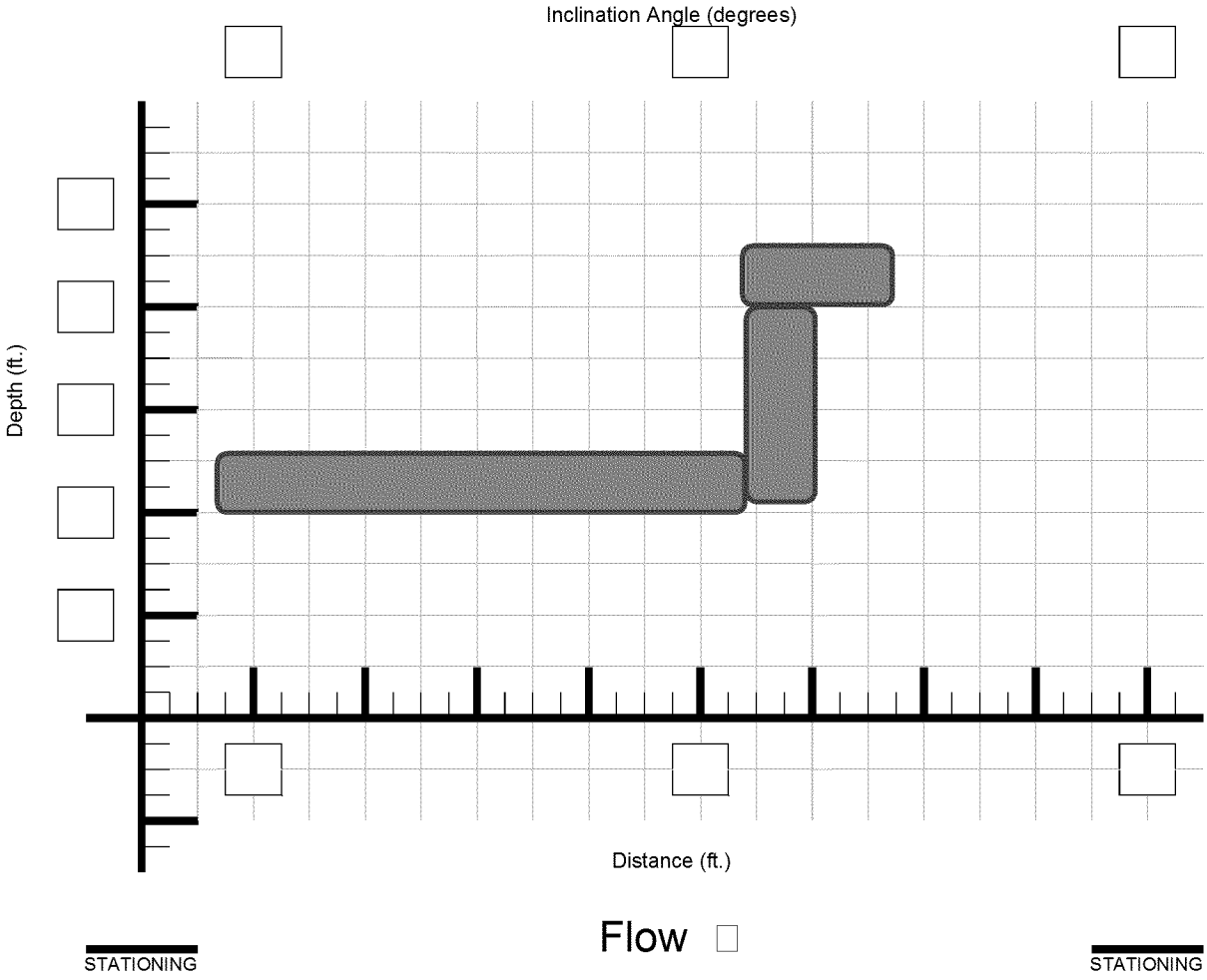
2.8 Overview Map of Corroded Area*:
*See Pit Depth Measurement Grid for additional Information
*Note any calcareous deposits.
Zero Reference Point: edge of exposed pipe.



DA/ILI		DA		ILI	
Route Number:		N-Segment:		ILI Log Distance:	
Examination Date:	11/13/2011	IMA Number:		RMP-11 Ref. Section:	Table 5.6.2
Mile Point:				Reference Girth Weld:	
Examination Performed By:	d}	Region Number:		Distance From Girth Weld:	
PG&E Project Manager:		Subregion # (ICDA):			
Approved By:		Stationing:			
Order Number:					

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):

Form H: Direct Examination Data Sheet - Page 4 of 10

EXTERNAL PIT DEPTH MEASUREMENT GRID SHEETS

DA/ILI		DA		ILI	
Route Number:		**N-Segment:**		**ILI Log Distance:**	
Examination Date:	11/13/2011	**IMA Number:**		**RMP-11 Ref. Section:**	Table 5.6.2
Mile Point:				**Reference Girth Weld:**	
Examination Performed By:	dj	**Region Number:**		**Distance From Girth Weld:**	
PG&E Project Manager:		**Subregion # (ICDA):**			
Approved By:		**Stationing:**			
Order Number:					

Grid Size = _____Inch x _____Inch (specify grid size)
Clock Position (specify below)

Anomaly #: _____ Grid #: _____

	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																						

No Corrosion Over 20% Found

PIT DEPTH GRID 1 OF 2

Form H: Direct Examination Data Sheet - Page 5 of 10

EXTERNAL PIT DEPTH MEASUREMENT GRID SHEETS

DA/ILI		DA		ILI	
Route Number:		**N-Segment:**		**ILI Log Distance:**	
Examination Date:	11/13/2011	**IMA Number:**		**RMP-11 Ref. Section:**	Table 5.6.2
Mile Point:				**Reference Girth Weld:**	
Examination Performed By:	CJ	**Region Number:**		**Distance From Girth Weld:**	
PG&E Project Manager:		**Subregion # (ICDA):**			
Approved By:		**Stationing:**			
Order Number:					

Grid Size = _____Inch x _____Inch (specify grid size)
Clock Position (specify below)

Anomaly #: _____ Grid #: _____

	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																						

No Corrosion Over 20% Found

PIT DEPTH GRID 2 OF 2

Form H: Direct Examination Data Sheet - Page 6 of 10

INTERNAL CORROSION PIT DEPTH GRID

DA/ILI
Route Number:
Examination Date: 11/13/2011
Mile Point:
Examination Performed By: dj
PG&E Project Manager:
Approved By:
Order Number:

DA
N-Segment:
IMA Number:
Region Number:
Subregion # (ICDA):
Stationing:

ILI
ILI Log Distance:
RMP-11 Ref. Section: Table 5.6.2
Reference Girth Weld:
Distance From Girth Weld:

Grid Size: 6 x 6 inch
Clock Position (specify below)

UT Data in Inches

__' from U/S Edge

	1	2	3	4	5	6	7	8	9	10	11	12
A	0.149	0.149	0.149	0.150	0.150	0.149						
B	0.149	0.149	0.149	0.151	0.149	0.150						
C	0.149	0.150	0.149	0.151	0.150	0.150						
D	0.150	0.150	0.150	0.149	0.151	0.150						
E	0.149	0.149	0.149	0.150	0.150	0.149						
F	0.150	0.149	0.149	0.150	0.151	0.149						
G												
H												
I												
J												
K												
L												

6:00

UT Data in Mils

INTERNAL CORROSION GRID
1 of 1

Form H: Direct Examination Data Sheet - Page 7 of 10

COATING DAMAGE

DA/ILI
Route Number:
Examination Date: 11/13/2011
Mile Point:
Examination Performed By: BJJ
PG&E Project Manager:
Approved By:
Order Number:

DA
N-Segment:
IMA Number:
Region Number:
Subregion # (ICDA):
Stationing:

ILI
ILI Log Distance:
RMP-11 Ref. Section: Table 5.6.2
Reference Girth Weld:
Distance From Girth Weld:

NO.	FEET FROM REFERENCE	O'CLOCK	MAX LENGTH (IN.)	MAX CIRC EXTENT (IN.)
1	0	360 deg	12'	14.130000000

No Coating Degradation Found

CORROSION LOG

DA/ILI
Route Number:
Examination Date: 11/13/2011
Mile Point:
Examination Performed By: d}
PG&E Project Manager:
Approved By:
Order Number:

DA
N-Segment:
IMA Number:
Region Number:
Subregion # (ICDA):
Stationing:

ILI
ILI Log Distance:
RMP-11 Ref. Section: Table 5.6.2
Reference Girth Weld:
Distance From Girth Weld:

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

No Corrosion Over 20% Found

Form H: Direct Examination Data Sheet - Page 9 of 10

PHOTO LOG

DA/ILI		DA		ILI	
Route Number:		N-Segment:		ILI Log Distance:	
Examination Date:	11/13/2011	IMA Number:		RMP-11 Ref. Section:	Table 5.6.2
Mile Point:				Reference Girth Weld:	
Examination Performed By:	dj	Region Number:		Distance From Girth Weld:	
PG&E Project Manager:		Subregion # (ICDA):			
Approved By:		Stationing:			
Order Number:					

PHOTO NO.	LOCATION	DESCRIPTION	COMMENTS

Locations &	Descriptions
12:00, Facing U/S	Dig site perimeter
3:00, Facing U/S	Filler metal.
6:00, Facing U/S	Fink.
9:00, Facing U/S	Flash.
12:00, Facing D/S	G-5 Box.
3:00, Facing D/S	Girth Weld.
6:00, Facing D/S	Hardness = 88
9:00, Facing D/S	Hot Asphalt Wrap.
AO Smith Weld	Lamination post buffing w/80 grit pad
Asphalt paving installed.	Mechanical.
Backfill material.	Metallic sleeve.
Backfilled, seeded with straw coverage	Missing coating.
Bar-Rust 235.	N/A.
Caldwelds.	Non-metallic sleeve.
Can.	Not used.
Carsonite.	Only X" of sand surrounding pipe.
Coating damage.	Overall recoat.
Coating holiday CH-1.	Pipe recoat.
Coating removed.	Pipe repair.
Compacting backfill.	Pipesaver.
Corrosion.	Powercrete J.
Coupon and reference cell installed @ D/S edge.	Press-o-Film
Coupon and reference cell installed @ U/S edge.	Protal 7125 application completed
Dev Grip 238.	Protal 7200 with wax taped edges.
Dev Tar 237.	Protal 7200.
Denso wax tape applied	Replace.
EC-1.	Rockguard.
EC-2.	Root damage.
EC-3.	Root impression.
ERW Weld	Sand.
Existing FBE coating.	Sandblasted pipe.
Existing HAA coating.	Saw cutting asphalt.
Existing plastic tape.	Site after backfill.
Existing powercrete coating.	Site prior to excavation.
Existing somastic coating.	Slurry.
Existing tape coating.	SMLS
Existing wax tape.	Soil compaction.
External pit depth.	Spiral Weld
Facing north.	Tapecote 20
Facing east.	Thickness = 44
Facing south.	Tuff-N-Nuff.
Facing west.	Various laminations along pipe length
	Wax tape.

Clear entire contents of this glossary after logging the photos.

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

DA/ILI		DA		ILI	
Route Number:		**N-Segment:**		**ILI Log Distance:**	
Examination Date:	11/13/2011	**IMA Number:**		**RMP-11 Ref. Section:**	Table 5.6.2
Mile Point:				**Reference Girth Weld:**	
Examination Performed By:	dj	**Region Number:**		**Distance From Girth Weld:**	
PG&E Project Manager:		**Subregion # (ICDA):**			
Approved By:		**Stationing:**			
Order Number:					

3.0 Recoat Data

3.1 Sandblast Media: _____ **Anchor Profile Measurement:** _____

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: _____ Dew Point: _____

Pipe Temperature: _____ Relative Humidity: _____

Time of Day: _____

3.4 Repair Coating Hardness (If ARC Coating:) _____

3.5 Measured Coating Thickness: 3:00 - _____ 6:00 - _____ 9:00 - _____ 12:00 - _____

Holiday Tested?: ☐ Yes ☐ No

Device Used: ☐ Coil ☐ Wet Sponge Voltage Used: _____ Repair All Holidays.

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

If Yes, Date Installed: _____

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: _____

*If specified, a CIS should be done for approximately 100' on either side of the bell hole. Attach data.

Comments: _____

3.9 Attach site sketch of excavation site.

4.0 Repair Data

4.1 Repair Made: ☐ Yes ☐ No **4.1 Number of Repairs Made:** _____

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

4.4 Damage Repaired: ☐ Corrosion ☐ Mechanical ☐ Other

Misc. Comments/Information: _____

Form H: Direct Examination Data Sheet

MAGNETIC PARTICLE EXAMINATION DATA SHEET

DA/LI

Route Number:
Examination Date: 11/13/2011
Mile Point:
Examination Performed By: dj
PG&E Project Manager:
Approved By:
Order Number:

DA

N-Segment:
IMA Number:
Region Number:
Subregion # (ICDA):
Stationing:

ILI

ILI Log Distance:
RMP-11 Ref. Section: Table 5.6.2
Reference Girth Weld:
Distance From Girth Weld:

Test Equipment	Serial No.	Technique	Test Medium	Quality Control	Surface Condition
Yoke ■	15386/B300	Continuous ■	Wet ■	Batch #	■ As Blasted NACE 2
Permanent Magnet ☐		Residual ☐	Dry ☐	Batch #	☐ Bare Metal
Coil ☐		AC ☐	Fluorescent ■	Batch # 09f001	☐ As Ground
Other ☐		DC ☐	Black on White ☐	Batch #	☐ Painted
					☐ Other (Walnut Blasted)

Reference GPS:

Northing:
Easting:

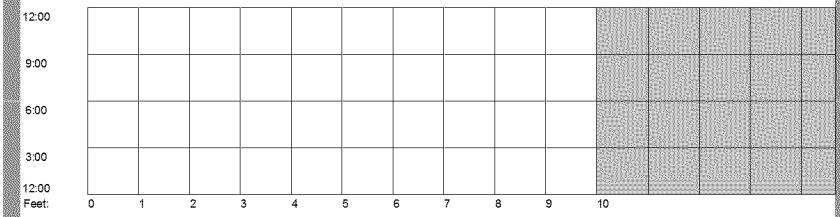
Acceptance Criteria: API 1160

Accepted? ☐ Yes ■ No, See Table below.

Map of Magnetic Particle Indications:

Zero Reference Point: edge of expossed pipe.

Flow →



Table

Ind No.	Axial Position	Circumferential Position	Indication Length	Wall Thickness before Softpad	Wall Thickness after Final Softpad	Indication Removed (Yes, No)
1	4'	6:00	.75"	in weld		
2	7	12:00	1"	in weld		

Notes: Linear indication 1 is located in the reinforcment weld at 6:00. Linear indication 2 is located in the 90 deg tangent weld at 12:00.

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

Technician's Signature: Mears Level: Date:

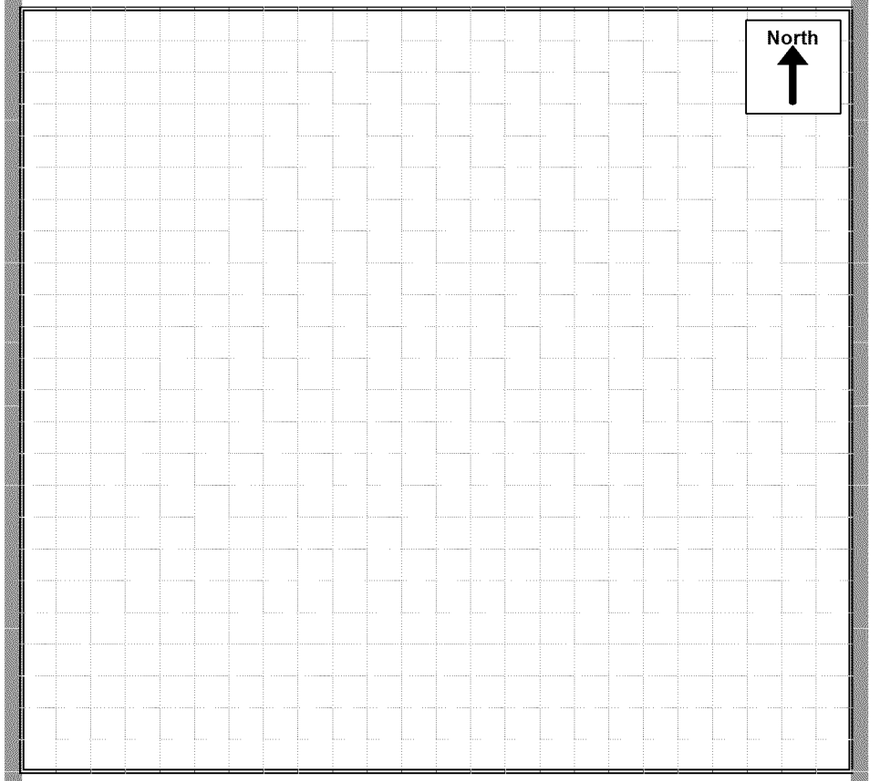
Assistant: Mears Level: Date:

→

Form H: Site Map

DA/ILI		DA		ILI	
Route Number:		N-Segment:		ILI Log Distance:	
Examination Date:	11/13/2011	IMA Number:		RMP-11 Ref. Section:	Table 5.6.2
Mile Point:				Reference Girth Weld:	
Examination Performed By:	DJ	Region Number:		Distance From Girth Weld:	
PG&E Project Manager:		Subregion # (ICDA):			
Approved By:		Stationing:			
Order Number:					

*Sketch Not Drawn to Scale



Misc. Comments/Information About Area Surrounding Ditch:

DA/ILI

Route Number:
Examination Date: 11/13/2011
Mile Point:
Examination Performed By: dj
PG&E Project Manager:
Approved By:
Order Number:

DA

N-Segment:
IMA Number:
Region Number:
Subregion # (ICDA):
Stationing:

ILI

ILI Log Distance:
RMP-11 Ref. Section: Table 5.6.2
Reference Girth Weld:
Distance From Girth Weld:

Clock position UT Data near welds

UT Data in Inches

Clock Position	1	2	3	4	5	6	7	8	9	10	11	12
1:00	0.149	0.149	0.149	0.151	0.152							
2:00	0.149	0.151	0.151	0.151	0.151							
3:00	0.149	0.151	0.150	0.149	0.152							
4:00	0.150	0.150	0.150	0.152	0.153							
5:00	0.149	0.151	0.151	0.153	0.152							
6:00	0.149	0.149	0.149	0.152	0.150							
7:00	0.149	0.151	0.149	0.152	0.152							
8:00	0.150	0.150	0.150	0.152	0.153							
9:00	0.150	0.149	0.149	0.152	0.152							
10:00	0.149	0.149	0.149	0.153	0.152							
11:00	0.149	0.151	0.150	0.151	0.152							
12:00	0.149	0.151	0.150	0.151	0.153							