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

DA/ILI		DA		ILI	
Route Number:	T47_L153_C	N-Segment:	NA	ILI Log Distance:	NA
Date of Excavation:	7/9/2011	IMA Number:	NA	RMP-11 Ref. Section:	Table 5.6.2
Mile Point:	Redacted		NA	Reference Girth Weld:	NA
Examination Performed By:		Region Number:	NA	Distance From Girth Weld:	NA
PG&E Project Manager:		Subregion # (ICDA):	NA		
Approved By:	NA	Stationing:	NA		
Order Number:	NA				

Excavation Priority:

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

Excavation Reason

☐ ECDA ☐ ILI ☐ Recoat
☒ Hydro ☐ Other NA

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

Excavation Details: Centerline on GPS Coordinates (Based on GIS):

Northing: **NA**
Easting: **NA**

Planned Excavation Length (Ft.): NA
Actual Excavation Length (Ft.): 29.5 ft

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

Northing Redacted
Easting

Centerline on GPS Coordinates (Corrected Field Measurement):

Northing: NA
Easting: NA

1.0 Data Before Coating Removal

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

Depth of Cover (Ft.): 3.5 ft

Comments: NA

1.2 Coating Type: ☐ HAA ☐ Somastic ☐ Plastic Tape ☐ Wax Tape ☐ FBE ☐ Powercrete
☐ Bare/None ☐ Paint ☐ Other: Coal Tar Comments: NA

Coating Thickness (Inches): 0.200-0.300 in Number of Layers: 2

1.3 Holiday Testing Performed?: ☐ Yes ☒ No Voltage Used: NA Map Location of Holidays Below.

Device Used: ☐ Coil ☐ Wet Sponge Comments: NA

1.4 Pipe-to-Soil Potentials in Ditch (-mV): US: 12:-840,3:-882, 6:-744, 9:-750 DS: 12:-650, 3:-616, 6:-662, 9:-800

Comments: NA

1.5 Soil Resistivity in Ditch (Ω-cm):

Method: ☒ 4-Pin 2642.7 ohm/cm ☐ Soil Box NA

1.6 Soil Sample Location Comments 3.5 ft down stream side

1.7 Ground Water Present?: ☐ Yes ☒ No Sample(s) Collected?: ☐ Yes ☒ No Sample pH: NA

Comments: NA

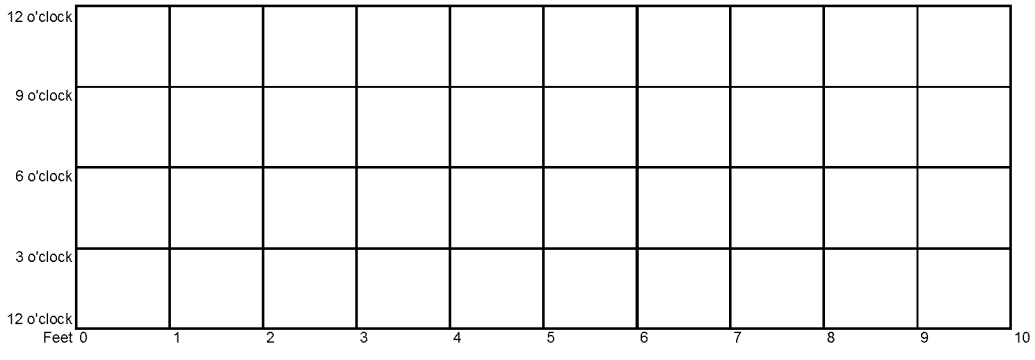
1.8 Coating Condition: ☒ Good - Adhered to Pipe ☐ Fair - Coating Partially Disbonded or Degraded
☐ Poor - Coating Significantly Disbonded or Missing

Comments: NA

1.9 Map of Coating Degradation*: CaCO3 1 **Zero Reference Point:**

*Note any calcareous deposit locations

FeO 2 FeCO3 3 Flow →



1 CaCO3 - Calcareous deposits containing calcium
2 FeO - General iron oxide with scale
3 FeCO3 - Calcareous deposits containing iron

DA/ILI		DA		ILI	
Route Number:	T47_L153_C	N-Segment:	NA	ILI Log Distance:	NA
Date of Excavation:	7/9/2011	IMA Number:	NA	RMP-11 Ref. Section:	Table 5.6.2
Mile Point:	Redacted		NA	Reference Girth Weld:	NA
Examination Performed By:		Region Number:	NA	Distance From Girth Weld:	NA
PG&E Project Manager:		Subregion # (ICDA):	NA		
Approved By:	NA	Stationing:	NA		
Order Number:	NA				

1.10 Photos Taken?*: [X] Yes [ ] No
*See Photo Log for additional information.

1.11 Coating Sample Taken?: [ ] Yes [X] No Location of Sample: NA

1.12 Liquid Underneath Coating?: [ ] Yes [X] No If Yes, pH of Liquid: NA

1.13 Corrosion Product Present?: [ ] Yes [X] No If Yes, Was Sample Taken?: [ ] Yes [ ] No
Comments: NA

1.14 Soil pH (Sb Electrode): Upstream: 6.2 Downstream: 5.5 Pipe pH: 6.0

2.0 Data After Coating Removal

2.1 Pipe Temperature (°F): 67° F Measured Pipe Diameter (In.): 30.00"

2.2 Weld Seam Type: [X] DSAW [ ] SSAW [ ] ERW [ ] SMLS
[ ] Spiral [ ] Lap [ ] Flash [ ] AO Smith [ ] Can't Determine

2.3 Girth Weld Coordinates:
Northing: NA
Easting: NA
Elevation: NA

2.4 Other Damage: NA

2.5 UT Wall Thickness Measurements: TDC: 0.377" 3 O'clock: 0.380" 6 O'clock: 0.382" 9 O'clock: 0.377"

UT Wall Thickness Grid @ 6:00 is required. Be sure to attach grid to H-Form electronically. See page 6 of 10.

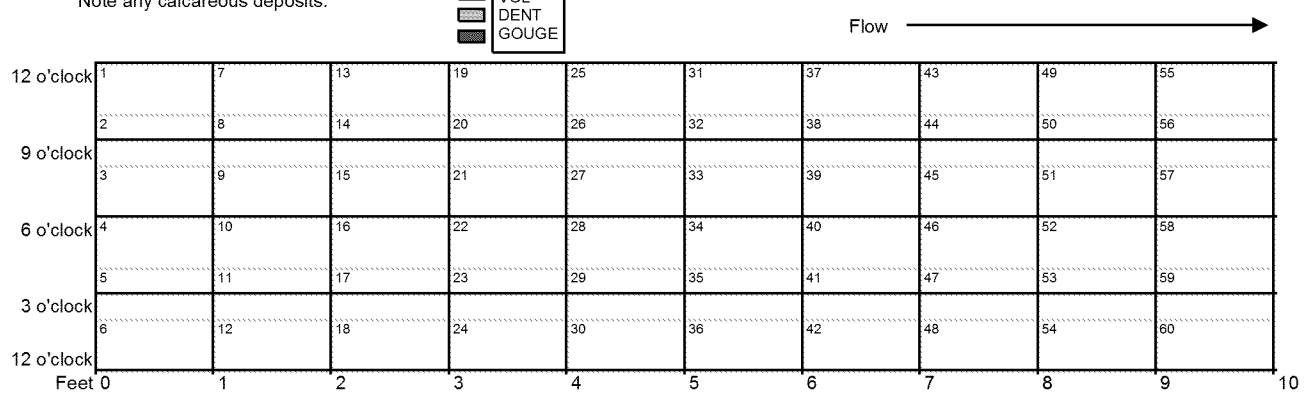
2.6 Wet Fluorescent Mag. Part. Is Required. Comments: See MT & Photo report. 1 linear indication, and 1 midwall lamination.

Were there any linear indications? [X] Yes [ ] No If Yes, attach NDE report electronically as part of the H-Form. 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:

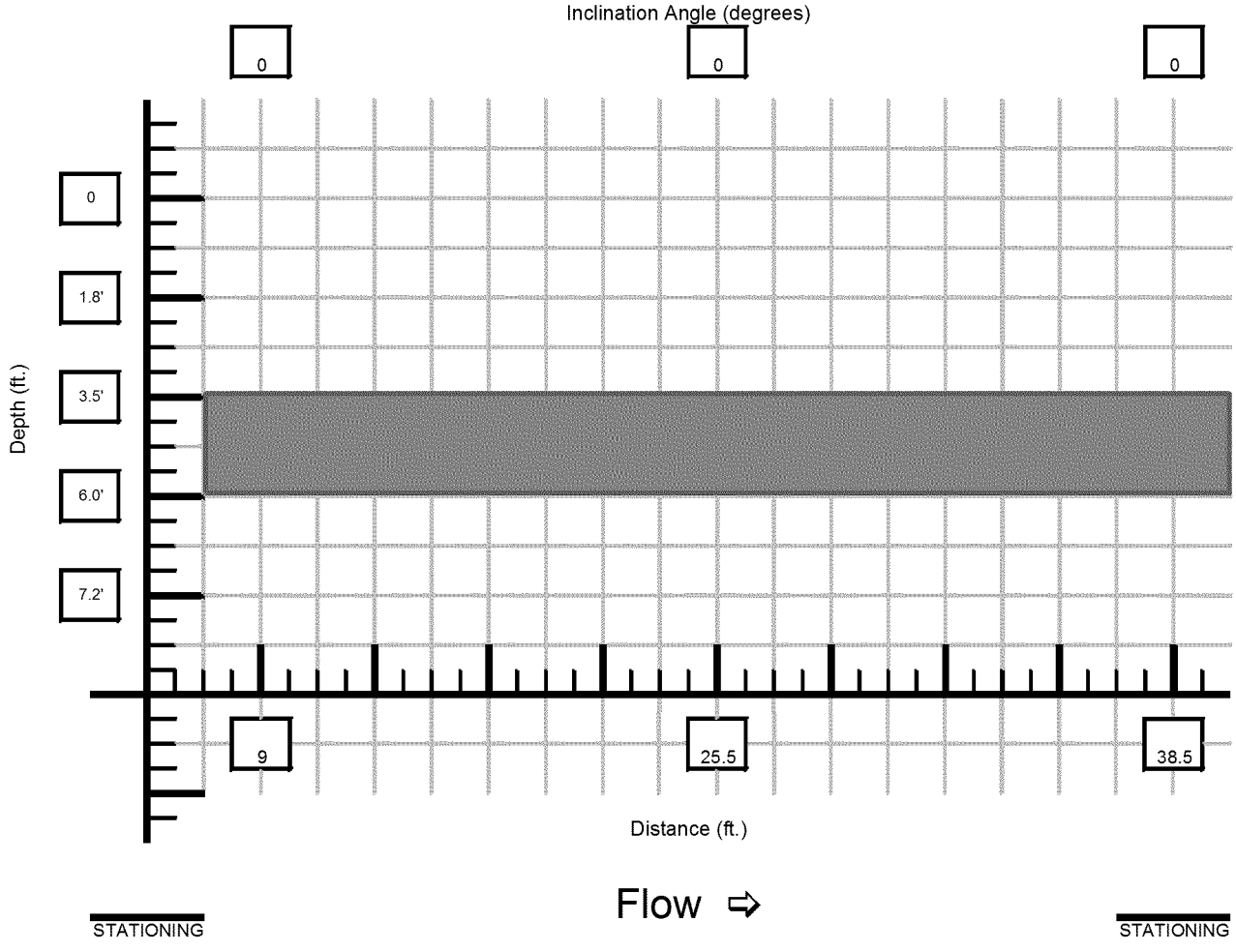


Form H: Direct Examination Data Sheet - Page 3 of 10

DA/ILI		DA		ILI	
Route Number:	T47_L153_C	N-Segment:	NA	ILI Log Distance:	NA
Date of Excavation:	7/9/2011	IMA Number:	NA	RMP-11 Ref. Section:	Table 5.6.2
Mile Point:	Redacted		NA	Reference Girth Weld:	NA
Examination Performed By:		Region Number:	NA	Distance From Girth Weld:	NA
PG&E Project Manager:		Subregion # (ICDA):	NA		
Approved By:	NA	Stationing:	NA		
Order Number:	NA				

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):

0ft Reference point for all measurements is down stream valve X-06.
See attached Delorme screen shot.

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

EXTERNAL PIT DEPTH MEASUREMENT GRID SHEETS

DA/ILI		DA		ILI	
Route Number:	T47 L153 C	N-Segment:	NA	ILI Log Distance:	NA
Date of Excavation:	Redacted	IMA Number:	NA	RMP-11 Ref. Section:	Table 5.6.2
Mile Point:			NA	Reference Girth Weld:	NA
Examination Performed By:		Region Number:	NA	Distance From Girth Weld:	NA
PG&E Project Manager:		Subregion # (ICDA):	NA		
Approved By:	NA	Stationing:	NA		
Order Number:	NA				

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

	.001 - .009
	.010 - .099
	.100 - .199
	.200 - .299
	Highest pit reading

Anomaly # NA Grid # NA

	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										NA												
J																						
K																						
L																						
M																						
N																						
O																						
P																						
Q																						
R																						
S																						
T																						
U																						
V																						
W																						
X																						

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:	T47_L153_C	N-Segment:	NA	ILI Log Distance:	NA
Date of Excavation:	7/9/2011	IMA Number:	NA	RMP-11 Ref. Section:	Table 5.6.2
Mile Point:	Redacted		NA	Reference Girth Weld:	NA
Examination Performed By:		Region Number:	NA	Distance From Girth Weld:	NA
PG&E Project Manager:		Subregion # (ICDA):	NA		
Approved By:	NA	Stationing:	NA		
Order Number:	NA				

.001 - .009
.010 - .099
.100 - .199
.200 - .299
Highest pit reading

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

Anomaly # NA Grid # NA

	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										NA												
J																						
K																						
L																						
M																						
N																						
O																						
P																						
Q																						
R																						
S																						
T																						
U																						
V																						
W																						
X																						

PIT DEPTH GRID 2 OF 2

INTERNAL CORROSION WALL LOSS GRID

DA/ILI	
Route Number:	T47_L153_C
Date of Excavation:	7/9/2011
Mile Point:	Redacted
Examination Performed By:	
PG&E Project Manager:	
Approved By:	NA
Order Number:	NA

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

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

Grid Size = 1 Inch x 1 Inch
Clock Position (specify below)
All measurements are in inches.

UT grid centered on the 6:00 position.

	1	2	3	4	5	6	7	8	9	10	11	12
A	0.388	0.387	0.388	0.389	0.388	0.387	0.385	0.387	0.386	0.388	0.388	0.389
B	0.388	0.380	0.387	0.386	0.385	0.387	0.388	0.386	0.387	0.387	0.386	0.388
C	0.386	0.385	0.387	0.388	0.389	0.386	0.387	0.388	0.385	0.387	0.387	0.387
D	0.386	0.385	0.388	0.387	0.387	0.387	0.388	0.387	0.386	0.386	0.387	0.386
E	0.386	0.386	0.388	0.389	0.388	0.387	0.387	0.387	0.386	0.387	0.388	0.388
F	0.386	0.385	0.387	0.385	0.387	0.387	0.384	0.384	0.385	0.384	0.385	0.386
G	0.387	0.387	0.386	0.386	0.387	0.385	0.386	0.386	0.385	0.386	0.385	0.384
H	0.386	0.386	0.385	0.385	0.386	0.387	0.388	0.388	0.386	0.386	0.387	0.386
I	0.385	0.385	0.387	0.388	0.388	0.388	0.385	0.385	0.385	0.384	0.384	0.385
J	0.388	0.388	0.388	0.386	0.389	0.389	0.385	0.385	0.386	0.384	0.388	0.382
K	0.386	0.386	0.385	0.386	0.386	0.387	0.386	0.386	0.387	0.387	0.389	0.386
L	0.385	0.388	0.385	0.387	0.386	0.387	0.388	0.388	0.386	0.386	0.389	0.387

INTERNAL CORROSION GRID
1 of 1

COATING DAMAGE

DA/ILI

Route Number: T47_L153_C
Date of Excavation: 7/9/2011
Mile Point: Redacted
Examination Performed By:
PG&E Project Manager:
Approved By: NA
Order Number: NA

DA

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

ILI

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

NO.	FEET FROM REFERENCE	O'CLOCK	MAX LENGTH (IN.)	MAX CIRC EXTENT (IN.)
NA	NA	NA	NA	NA

CORROSION LOG

DA/ILI		DA		ILI	
Route Number:	T47_L153_C	N-Segment:	NA	ILI Log Distance:	NA
Date of Excavation:	7/9/2011	IMA Number:	NA	RMP-11 Ref. Section:	Table 5.6.2
Mile Point:	Redacted		NA	Reference Girth Weld:	NA
Examination Performed By:		Region Number:	NA	Distance From Girth Weld:	NA
PG&E Project Manager:		Subregion # (ICDA):	NA		
Approved By:	NA	Stationing:	NA		
Order Number:	NA				

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

PHOTO LOG

DA/ILI		DA		ILI	
Route Number:	T47_L153_C	N-Segment:	NA	ILI Log Distance:	NA
Date of Excavation:	7/9/2011	IMA Number:	NA	RMP-11 Ref. Section:	Table 5.6.2
Mile Point:	Redacted			Reference Girth Weld:	NA
Examination Performed By:		Region Number:	NA	Distance From Girth Weld:	NA
PG&E Project Manager:		Subregion # (ICDA):	NA		
Approved By:	NA	Stationing:	NA		
Order Number:	NA				

PHOTO NO.	LOCATION	DESCRIPTION	COMMENTS
****	See attached photo report	See attached photo report	See attached photo report

DA/ILI		DA		ILI	
Route Number:	T47_L153_C	N-Segment:	NA	ILI Log Distance:	NA
Date of Excavation:		IMA Number:	NA	RMP-11 Ref. Section:	Table 5.6.2
Mile Point:	Redacted		NA	Reference Girth Weld:	NA
Examination Performed By:		Region Number:	NA	Distance From Girth Weld:	NA
PG&E Project Manager:		Subregion # (ICDA):	NA		
Approved By:	NA	Stationing:	NA		
Order Number:	NA				

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 ☐ Tuf-E-Nuf ☐ Conwed ☐ Other: _____

3.8 Pipe-to-Soil Readings Over Bell Hole After Backfill: _____

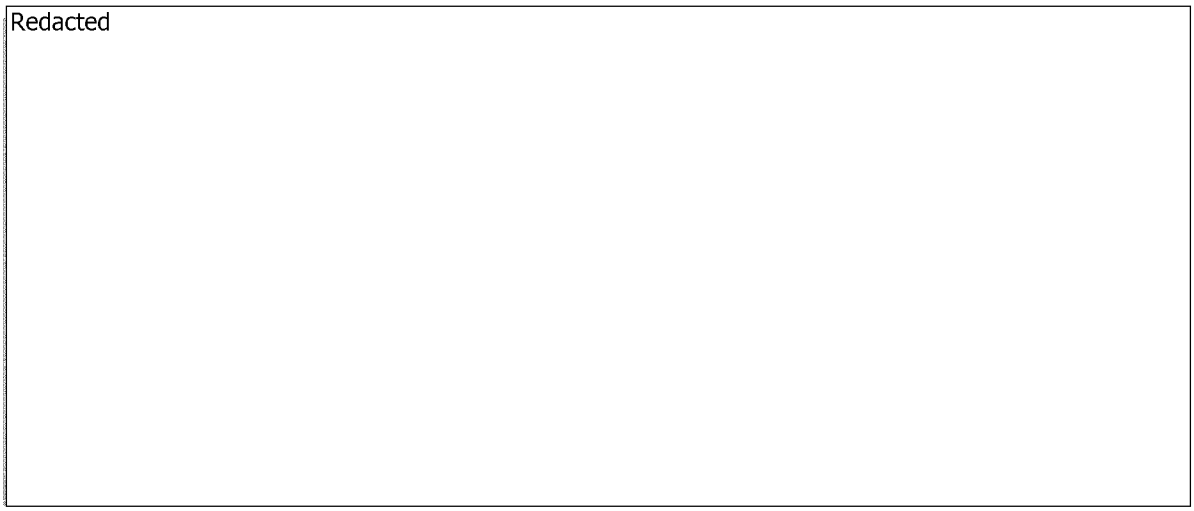
*If specified, a CIS should be done for approximately 100' on either side of the bell hole. Attach data.

Comments: _____

3.9 Attach site sketch of excavation site.

Misc. Comments/Information: GE was not requested for coating inspection.

T47_L153_C



GE Energy

INSPECTION SERVICES

MAGNETIC PARTICLE EXAMINATION REPORT

☐ Nuclear ☑ Non-Nuclear

To:	From:	Date:
Pacific Gas & Electric Company	Redacted	7/9/2011

Project: T-47-L153-C

Purchase Order No:

GEIS Job No: LAPI0005

Item	Weld ☑	Structural ☐	Casting ☐	Machinery ☐	Mach. Parts ☐	Pipe ☑	N/A ☐	Other: N/A
	Non-Weld ☑	Plate ☐	Pipe ☑	Bar ☐	Casting ☐	Mach. Parts ☐	N/A ☐	Other: N/A

Material	Size	Material Thickness	Type of Base Material	Type of Filler Material		Weld
	30" Pipe	0.375"	Carbon Steel	C/S	Smooth ☐	As Welded ☑

Location	T-47-C	System	L-153
Acceptance Standards	Customer Information (H-Form Assessment)	Procedure	GEIS QCP # 500 Rev 15

Type of Check: Initial ☐ Plate Edge ☐ In Process ☑ Back Gouge ☐ Root Pass ☐ Repair ☐ 12 Hour ☐ 24 Hour ☐ 5-Year ☐

Type of Inspection:

☑ Longitudinal	☐ Coil	☐ DC Probe	☑ Continuous	Other:
☑ Wet	☐ Dry	☐ Direct Contact	☑ Residual	
☐ Circular	☐ AC Prod	☑ Yoke	☐ Other	

Mt Equipment / Model-Serial No.	Surface Preparation Method
Magnaflux Y-6 / SN: 2101	Sandblast
Inspection Medium / Color	**Demagnetization Method / Equipment**
Magnaflux 14AM / Flourescent Green	N/A

Reference: Summary ☑ See Attachment

The following areas were requested to be inspected:

6' section on cut-out.
Tie-in areas on existing pipe to be left in ground.

Summary:

No relevant indications were found at time of inspection.

Results of Inspection

- 2 relevant indications.
- No relevant indications.

Copy To:

PG&E Company

GE Inspection Services (Los Angeles)

Requested By: Redacted

Reported By (Technician): Redacted

☑ Customer Specifications

☑ Accept ☐ Reject

NDT su Redacted

NOTICE: THIS EXAMINATION REPORT IS A REPORT OF THE RESULTS OF THE NDT PROCEDURE ACTUALLY PERFORMED BY THIS COMPANY IT IS SUBJECT TO THE LIMITATIONS OF THE TESTING SPECIFICATIONS AND PROCEDURES WHICH WERE UTILIZED. BY FURNISHING THIS REPORT, ***GE INSPECTION SERVICES*** DOES NOT GUARANTEE ANY CONDITION OF THE TESTED SPECIMEN.

GE Inspection Services

ULTRASONIC EXAMINATION REPORT

☐ Nuclear ☑ Non-Nuclear

To: **Pacific Gas & Electric Company**	From: Redacted	Date: **7/9/2011**
Project: **T-47-L153-C**		
Purchase Order No:	GEIS Job No: **LAPI0005**	

Item	Weld ☐	Structural ☐	Casting ☐	Machinery ☐	Mach. Parts ☐	Pipe ☑	N/A ☐	Other: **30" NGL Pipeline**
	Non-Weld ☑	Plate ☐	Pipe ☑	Bar ☐	Casting ☐	Mach. Parts ☐	N/A ☐	Other

Material	Size: **30" Pipe**	No. of Pieces **1**	Type of Base Metal **C/S**	Type of Filler Material	Weld ☐ Smooth ☐ As Welded ☑ N/A
Location	**T-46-L153-C**			System **L-153**	
Acceptance Standards	**Customer Information - H-Form Assessment**			Procedure **QCP-601**	

Type of Inspection	Soundness ☐ Thickness ☑ Bond ☐ / Pulse Echo ☐ Angle-Beam ☐ Other ☐	**Transducer** ☑ Single Crystal ☐ Dual Crystal			**Serial No.:** 020HFL
		Frequency **5 MHz**	Size **0.375"**	Angle **0°**	Couplant **Sonatest Ultragel II**
	UT Equipment/Model **USM-60** **Serial # 01NLKN** **Calibration Date: 5-2-2011**	Flat ☑	Concave ☐	Convex ☐	
		Standard	Material	Notch Depth	Serial No.:
	Calibration Due: 5-2-2012	Step Wedge ☑ / Tube Wedge ☐	Material **C/S**	Thickness Range **0.200" - 0.500"**	Serial No.: **V34693**

Reference: Summary ☑ See Attachment

Results of Inspection:

12" By 12" UT Grid @ 6:00 position on pipe
lamination scan 12" on Both sides of the US & DS cut line
lamination scan 12" on Both sides of the revised DS cut line

- No relevant indications at time of inspection.
- One relevant indications at time of inspection.
- No relevant indications at time of inspection.

Mid-wall lamination was found on downstream cut line. The cut line was moved further downstream so it would be located in the cut out portion of the pipe

*** Please See the Attached Pages for Additional Information.*

Copy To: *GE Inspection Services*	Requested By: Redacted	Reported By (Technician): Redacted
	☑ Customer Specifications ☑ Accept ☐ Reject	NDT Supervisor: Redacted

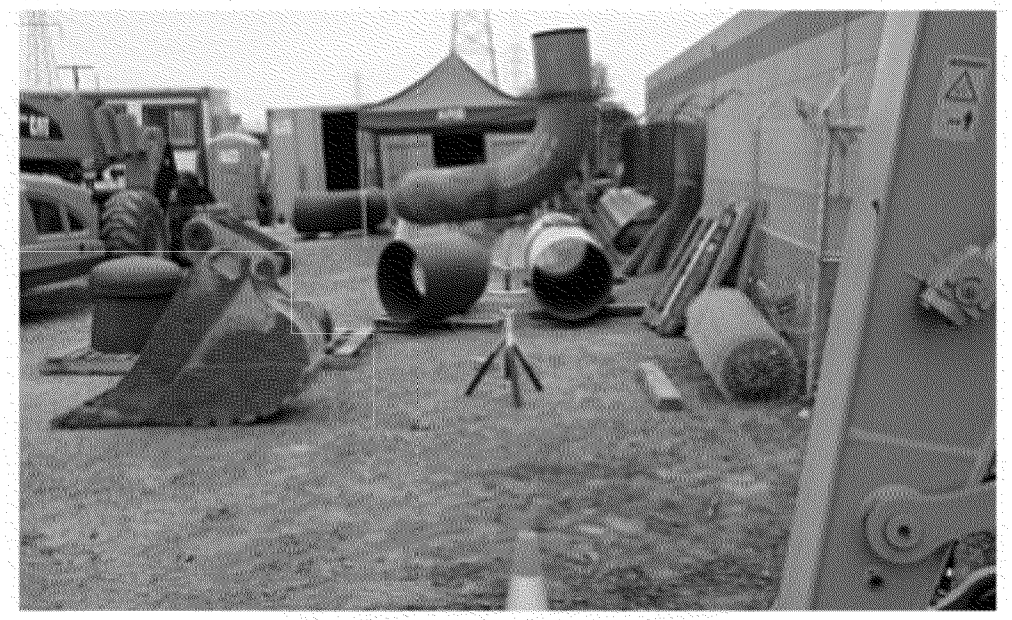
NOTICE:
THIS EXAMINATION REPORT IS A REPORT OF THE RESULTS OF THE NDT PROCEDURE ACTUALLY PERFORMED BY THIS COMPANY IT IS SUBJECT TO THE LIMITATIONS OF THE TESTING SPECIFICATIONS AND PROCEDURES WHICH WERE UTILIZED. BY FURNISHING THIS REPORT, *GE INSPECTION SERVICES* DOES NOT GUARANTEE ANY CONDITION OF THE TESTED SPECIMEN.

GE Energy
Inspection

Pacific Gas & Electric Company
30" Route L-153
Excavation Site T47_L153_0

Redacted

Topography looking upstream



Topography looking downstream

Typical surrounding topography

Typical surrounding topography

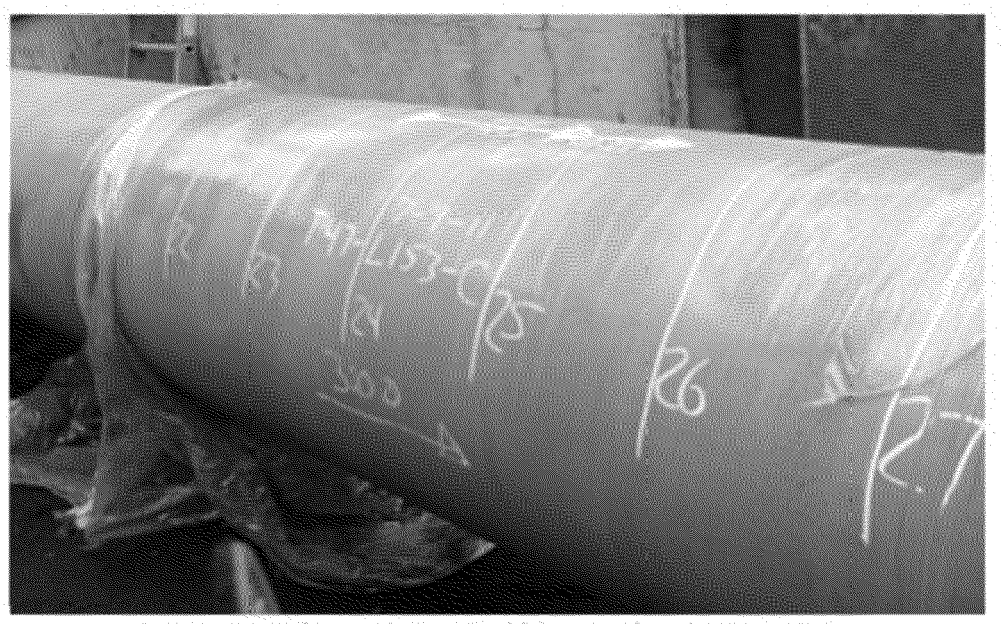
GE Energy
Inspection

Pacific Gas & Electric Company
30" Route L-153
Excavation Site T47_L153_C_M

Redacted

Overview of Dig Site T47-L153-C

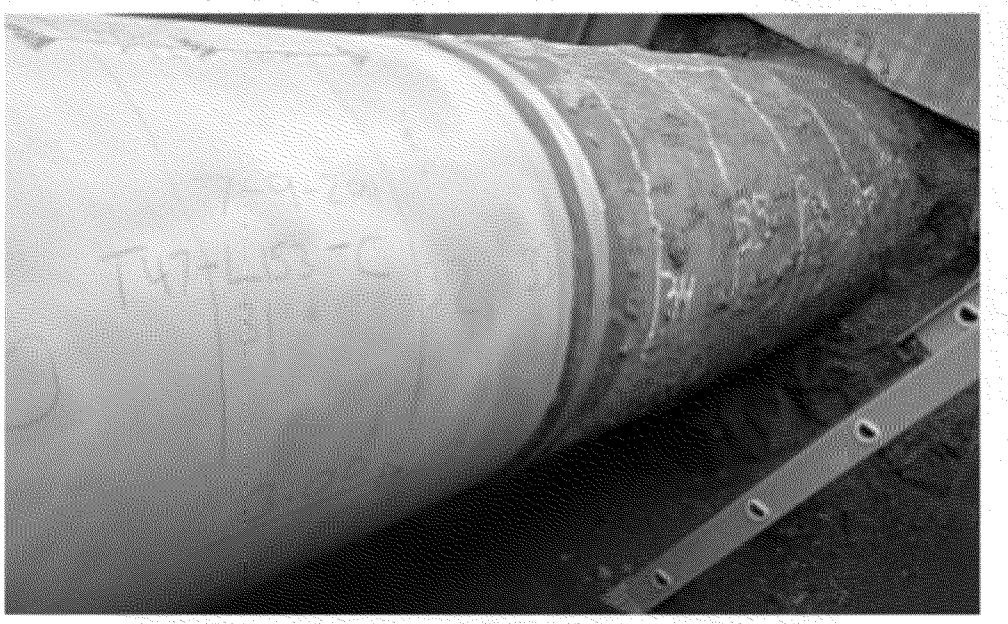
Overview of MPI layout 12ft to 21ft, 300 position



Overview of MPI layout 21ft to 27ft, 300 position

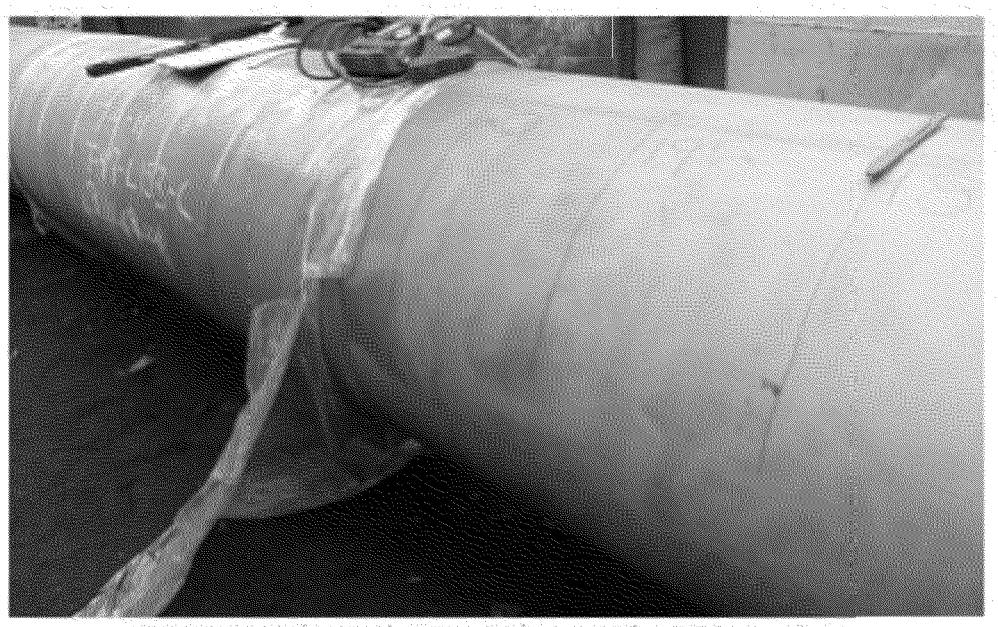
Overview of MPI layout 27ft to 34ft, 300 position

Redacted



Overview of MPI layout 31ft to 38ft, 3:00 position

Overview of MPI layout 12ft to 18ft, 9:00 position



Overview of MPI layout 18ft to 25ft, 9:00 position

Overview of MPI layout 25ft to 30ft, 9:00 position

GE Energy
Inspection

Pacific Gas & Electric Company
30" Route L-153
Excavation Site T47_L153_ Redacted

Overview of MPI layout 29ft to 36ft, 9:00 position

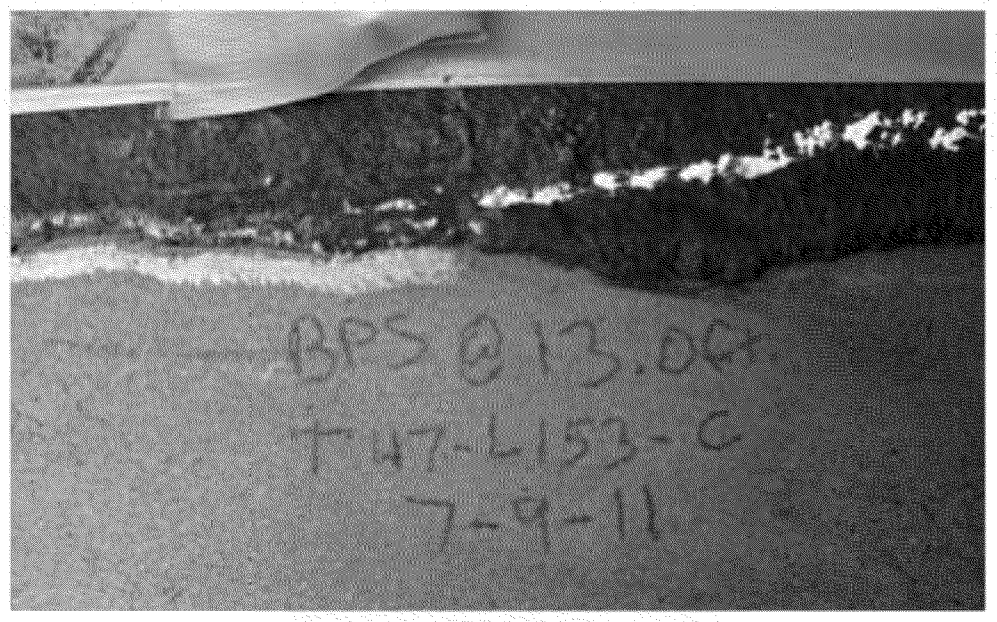
Overview of MPI layout 31ft to 38ft, 9:00 position

MPI area extended to 34ft due to lamination in cut line area

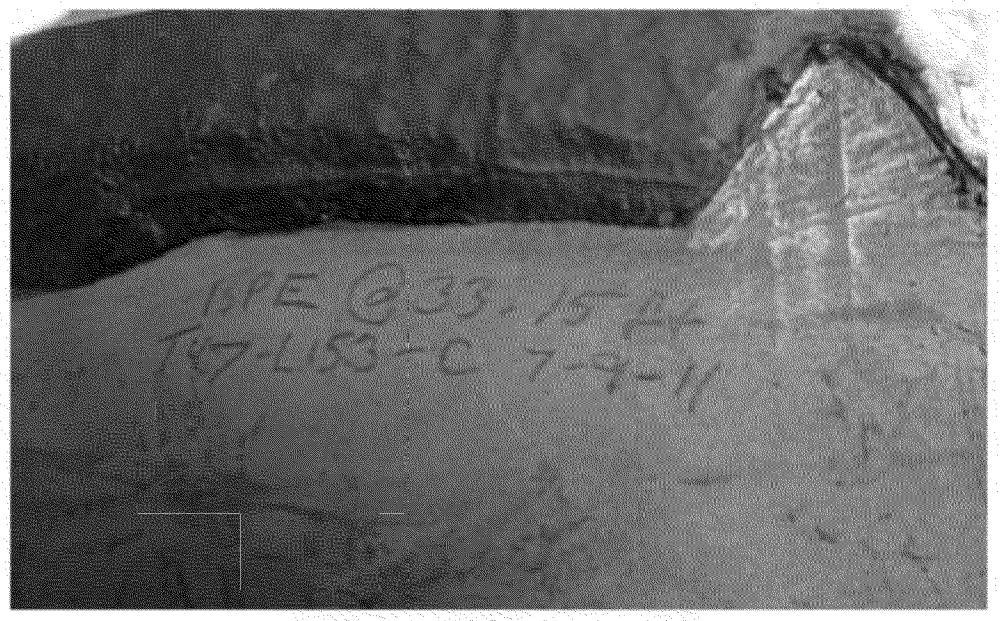
MPI area extended to 34ft due to lamination in cut line area

Pacific Gas & Electric Company
30" Route L-153
Excavation Site T47_L153_C

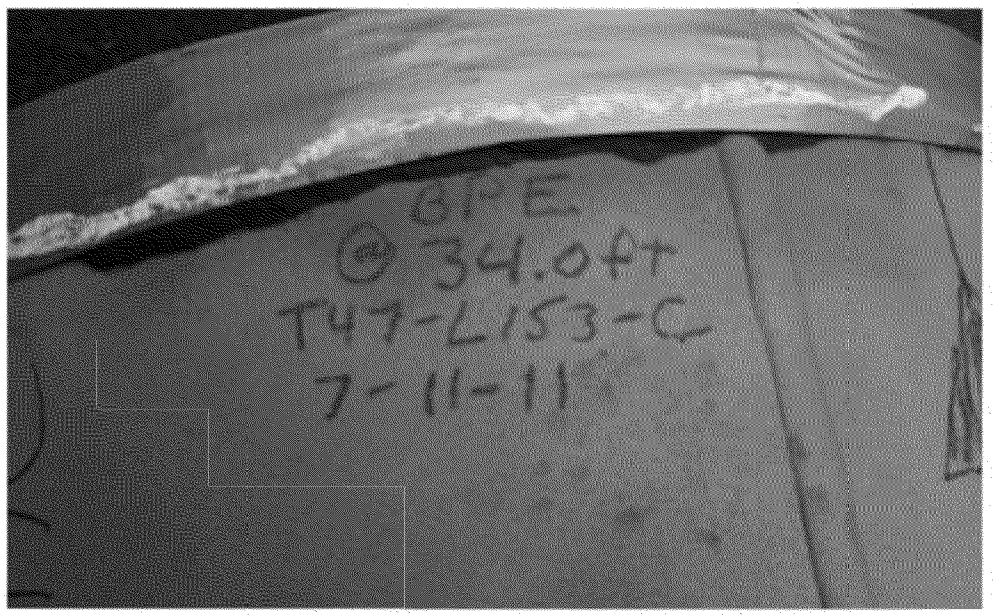
Redacted



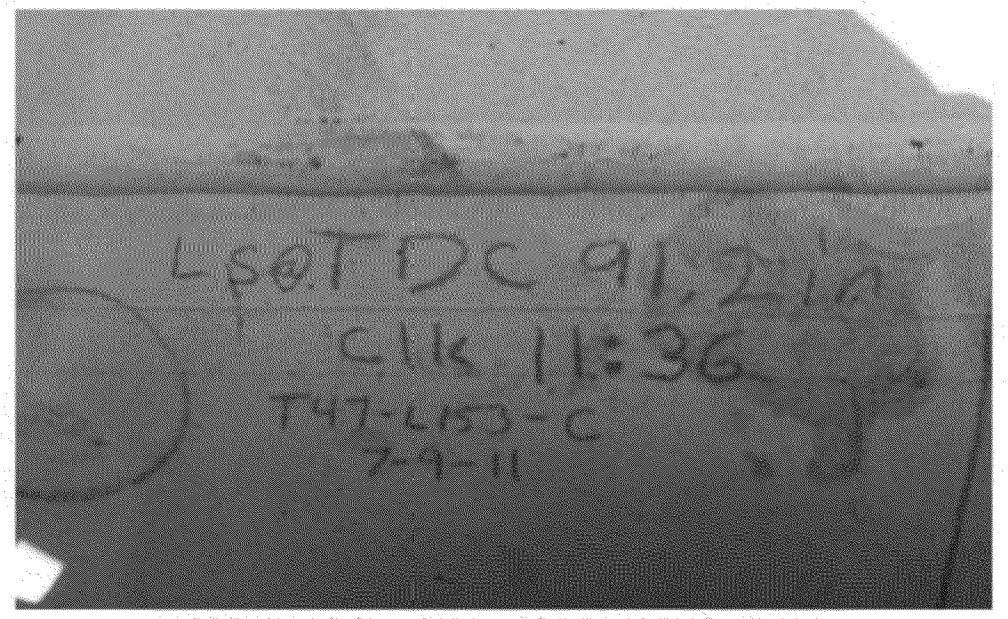
Overview of bare pipe start



Overview of bare pipe end



Overview of bare pipe end extended due to lamination



Overview of feature joint long seam from TDC

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30" Route L-153
Excavation Site T47_L153_C

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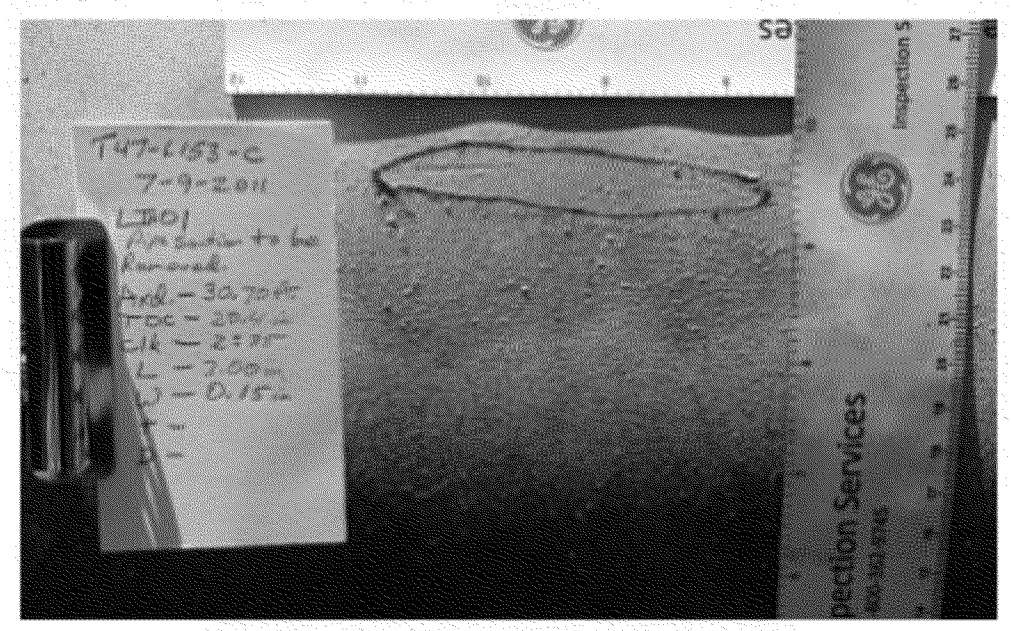
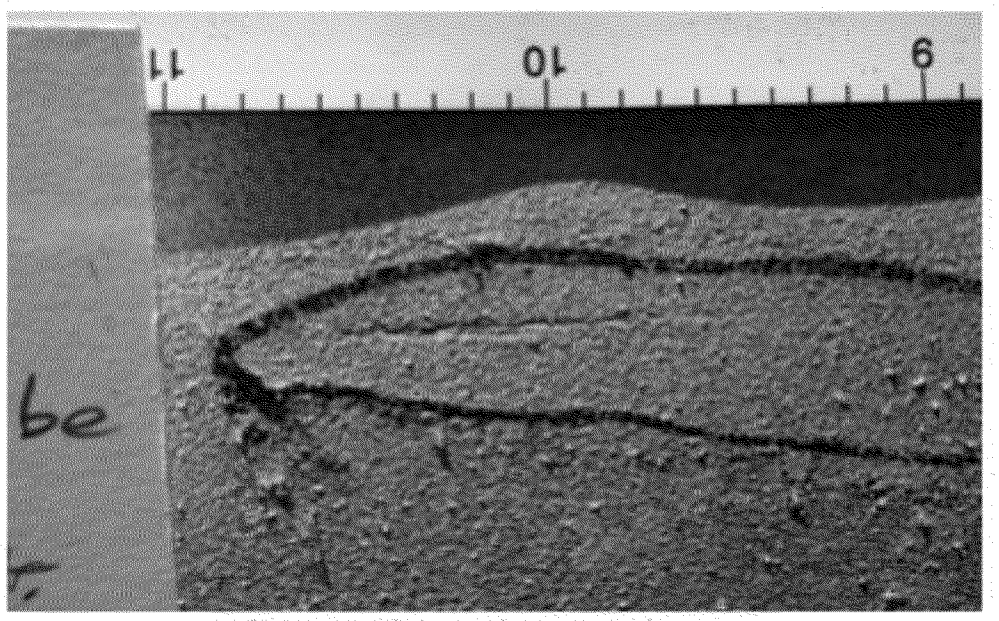
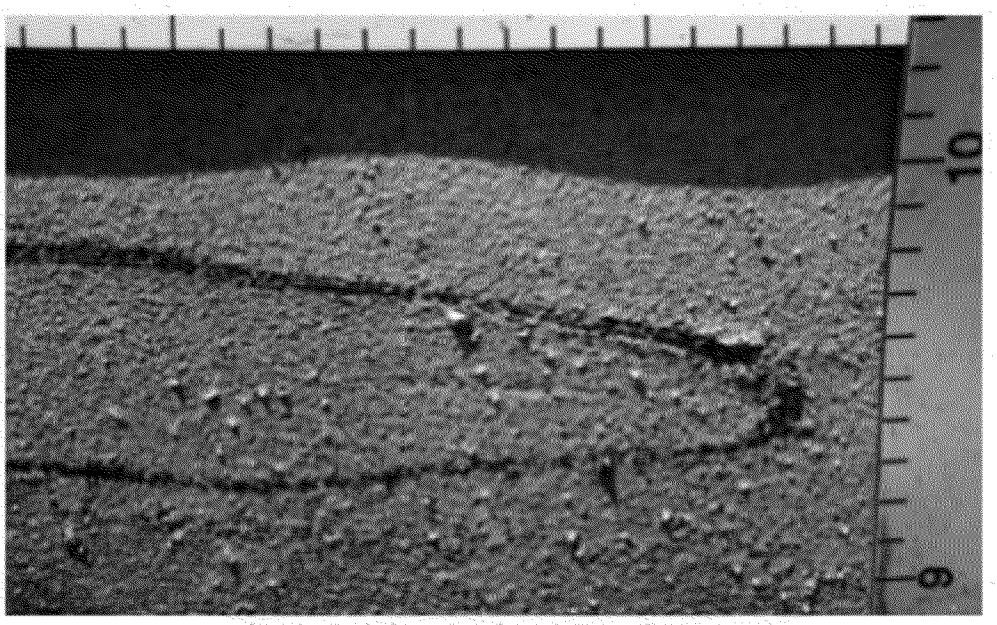
Overview of MT Indications of LIN-01



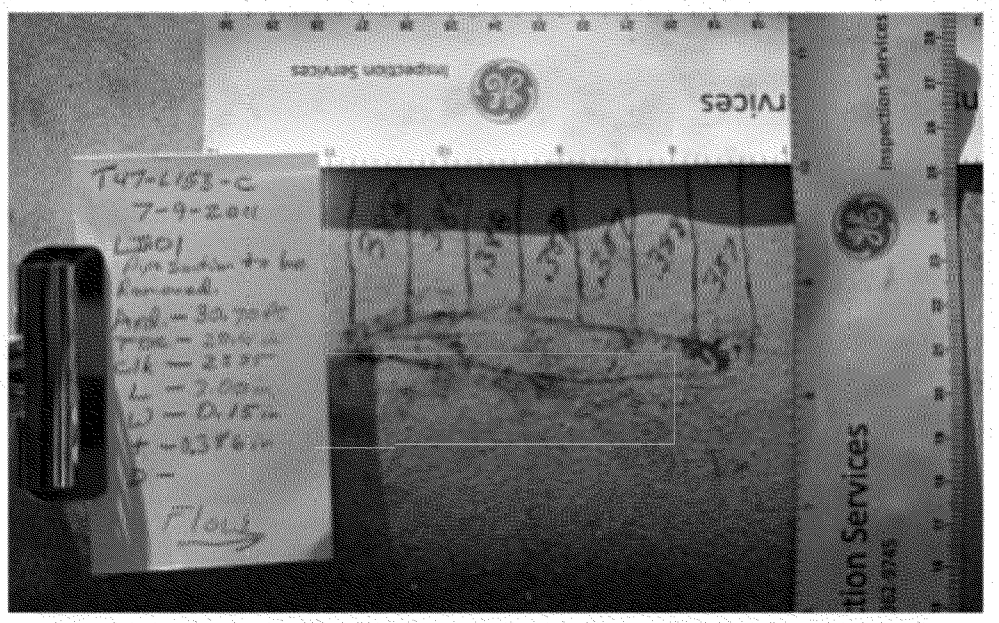
Overview (with measurements) of LIN-01



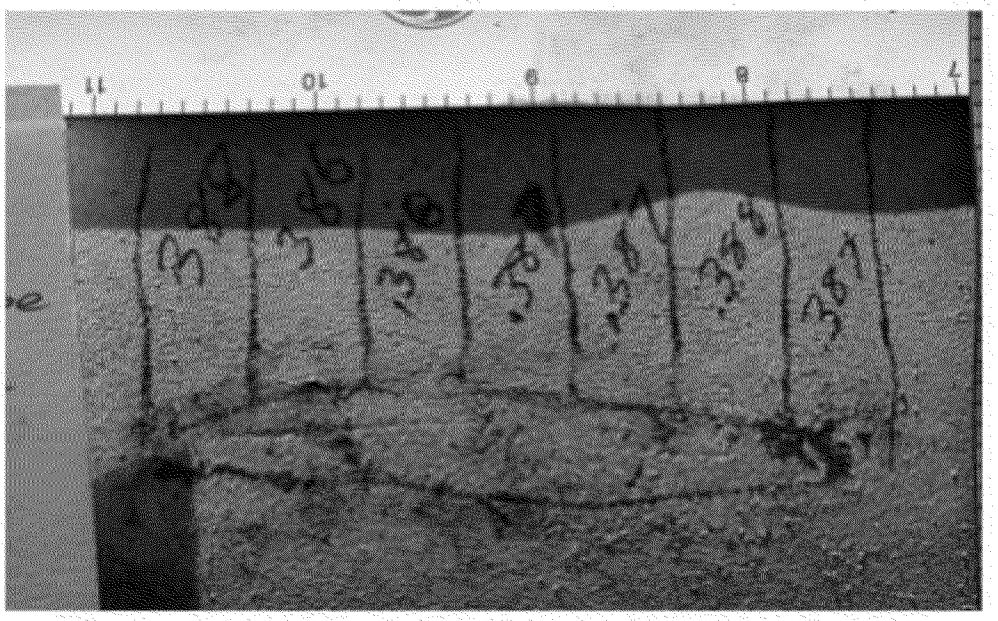
Close up of MT Indications of LIN-01



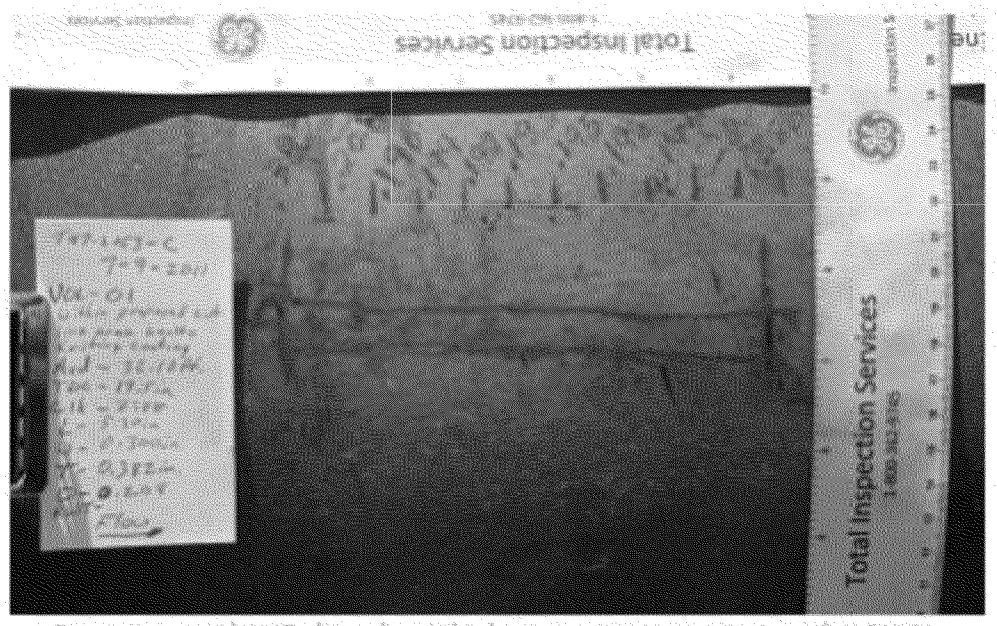
Close up of MT Indications of LIN-01



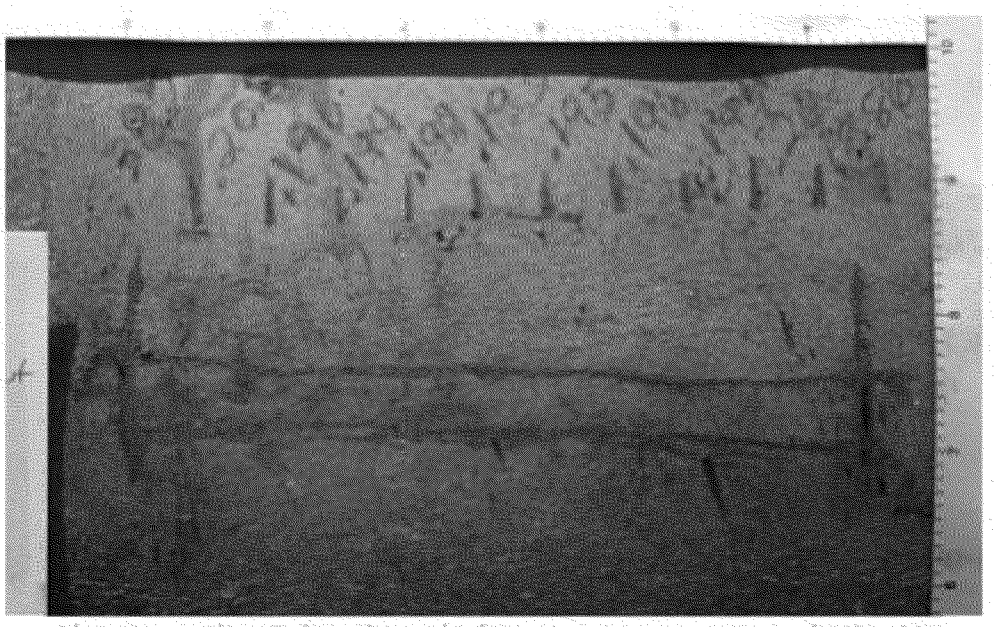
Overview with UT baseline thickness measurements of LIN-01



Closeup with UT baseline thickness measurements of LIN-01



Overview with UT baseline thickness measurements of VOL-01



Closeup with UT baseline thickness measurements of VOL-01

Redacted

Overview of completed cover looking upstream

Overview of completed cover looking downstream