IHI Southwest Technologies Examination Summary Record

Utility: NextEra Energy	Site: Point Beach Nuclear Plant Unit 2 Outage: U2R32	Summary Sheet No. 00300

System: Steam Generator | Line Subassembly: "A" SG Out Noz-to-SE | Identification: RC-36-MRCL-All-01A

NDE Method	Proc/Rev/Chg/ICN	NDE Examination	CalibrationSheet No's.	Exam Sheet No.	NRI	Other	Remarks
AUT	ISwT-PDI-AUT11/2/0/1	UT Probe 1 (60-88°)	110002	6 - 7	X	-	UT TWD & AWY Exam
AUT	ISwT-PDI-AUT11/2/0/1	UT Probe 2 (60-88°)	110002	6 - 7	X	-	UT TWD & AWY Exam
AUT	ISwT-PDI-AUT11/2/0/1	UT Probe 1 (60-88°)	110005	8 - 10	X	-	UT CW & CCW Exam
AUT	ISwT-PDI-AUT11/2/0/1	UT Probe 2 (60-88°)	110001	8 - 10	X	-	UT CW & CCW Exam
AET	ISwT-PDI-AET3/2/0/0	ET Probe 1	ET03-PTB-002	8 - 10	X	-	Eddy Current Exam
AET	ISwT-PDI-AET3/2/0/0	ET Probe 2	ET03-PTB-002	8 - 10	X	-	Eddy Current Exam

Examination Summary:

This weld was examined from the inside surface using SG-NExT, T-III, & MS5800 examination equipment.
The examination coverage was 100%.

Prepared By: Steven J. Todd Signature: Steven J. Todd Date: 11/22/12 ISwT Project Manager	
Reviewed By: William A. Jonson Signature: Date: 11-23-12 NextEra Energy Point Beach	Reviewed By: Jeff Bukowiecki Signature: Jeff Bukowiecki Date: 11/28/12 ANII

IHI SOUTHWEST TECHNOLOGIES
AUTOMATED ULTRASONIC EXAMINATION RECORD

IHI Southwest Technologies, Inc.

Site/Plant : Point Beach Unit 2	**Weld Identification:** RC-36-MRCL-AII-01A	**Pro/Rev/Chg/ICN:** ISwT-PDI-AUT11/2/0/1		**Examination No.:** ID-6	
Project No.: 12-0301	**Weld Description:** A S/G Out Noz-to-SE (0°-185°)	**Device Configuration:** 136-00045			
Mod.Conf.: 138-00032	**Scan Path Drawing:** 134-00079	**Exam Date**	**Examination Time**	**Surface Temperature °F**	
Data Acquisition Operator (s) / SNT Level:	**Bryan Wright / II**	18 Nov. 2012	**Start**	**End**	**Start** / **End**
			0945	1118	94 / 94

Data Acquisition

Scan Controller Parameters		**Increment Axis**	**Planned**	**Actual**	**Scan Axis**	**Planned**	**Actual**	**Positional Parameters**	
Controller:	SG-NExT	Lower Limit	70.75	70.75	Lower Limit	0.00	0.00	Beam Direction:	Twd/Awy
Scan:	X Rotator Drive	Upper Limit	80.35	80.35	Upper Limit	49.77	49.77	Probe Type:	PA22-001
Increment:	Y Axial Drive	Inc. Interval (Resolution)	0.15		DCI (Scan Resolution)	0.10		Scanning Speed:	2.0 inches per second
Mode:	Automatic Scan	Conversion Units	Inches		Conversion Units	Inches		Number of Scans:	65
Scan Motion:	Bi-directional				Radius In.	15.38"		Weld C/L:	72.262"
Correction:	N/A							Elevation/Nozzle C/I	N/A

Master Acquisition File: DM_Pipe_ID_90_AWY_270_TWD_Skew.acq

Probe	**Channel /Angle(s)**	**Skew**	**Scan Offset**	**Step Offset**	**Calibration Records:**
Probe 1	1-(60-88°L)	90°	+ 69.92(in)	- 1.52(in)	110002
Probe 2	2-(60-88°L)	270°	+ 59.22(in)	- 2.90(in)	110002
Probe 3	3-(0°Profilometry)	0°	+ 0.00(in)	+ 0.00(in)	110002
N/A	N/A	N/A	N/A	N/A	N/A

Examination Notes:
Pipe Diameter = 30.83"
Circumference = 96.86"

Examination Remarks:

Data Analysis

Increment & Scan Positions Actual

Scan No.(s)	Increment Position Start	Increment Position Stop	Scan Position Start	Scan Position Stop
1-65	70.75	80.35	0.00	49.77

Recordable Indications

		Yes	No	N/A
Probe 1	Channel 1	☐	☑	☐
	Channel 2	☐	☑	☐
	Channel 3	☐	☑	☐
Probe 2	Channel 1	☐	☑	☐
	Channel 2	☐	☑	☐
	Channel 3	☐	☑	☐
Probe 3	Channel 1	☐	☐	☑
	Channel 2	☐	☐	☑
	Channel 3	☐	☐	☑
ET Probe 1	Channel 1-2	☐	☐	☑
ET Probe 2	Channel 3-4	☐	☐	☑
N/A	N/A	☐	☐	☑

Analyst Remarks

Attachment: ☐ Yes ☑ No

Further Evaluation Required: ☐ Yes ☑ No

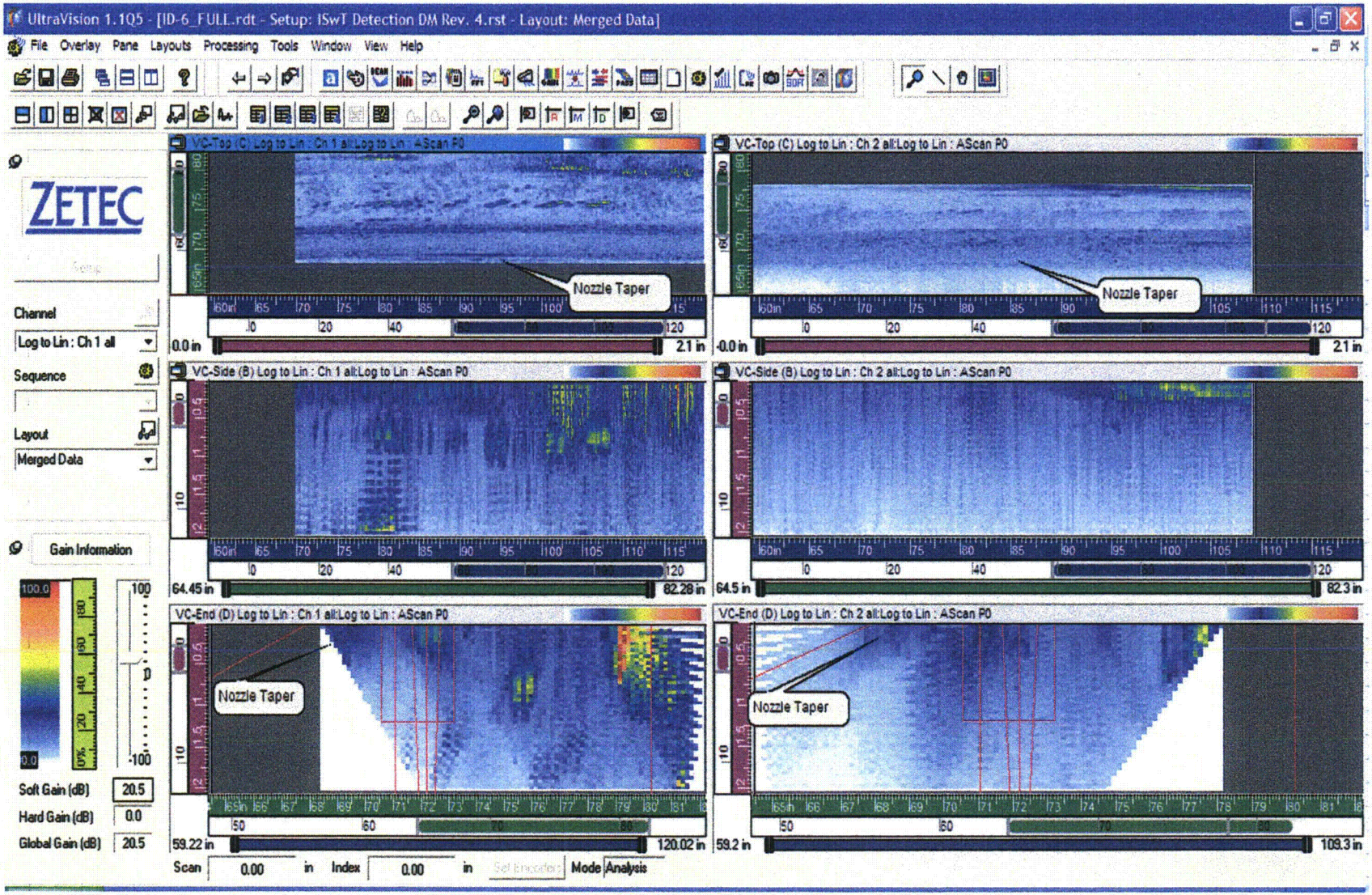
Archive Media: ☑ External Hard Drive ☐ CD-ROM DVD-ROM

Analyst / SNT Level / Date:

Jesse R. Delgado / III / 18 Nov. 2012

ISWT FORM No. UT 50 (Rev. 1/11)

ID-6 SG A Outlet Nozzle to Safe-End (Away Towards)



IHI SOUTHWEST TECHNOLOGIES
AUTOMATED ULTRASONIC EXAMINATION RECORD

IHI Southwest Technologies, Inc.

Site/Plant : Point Beach Unit 2	**Weld Identification:** RC-36-MRCL-AII-01A	**Pro/Rev/Chg/ICN:** ISwT-PDI-AUT11/2/0/1		**Examination No.:** ID-7	
Project No.: 12-0301	**Weld Description:** A S/G Out Noz-to-SE (180°-365°)	**Device Configuration:** 136-00045			
Mod.Conf.: 138-00032	**Scan Path Drawing:** 134-00079	**Exam Date**	**Examination Time**		**Surface Temperature °F**
Data Acquisition Operator (s) / SNT Level:	**Jeremy Howe / II**	18 Nov. 2012	**Start** 1127	**End** 1209	**Start** 94 / **End** 94

Data Acquisition

Scan Controller Parameters

Controller:	SG-NExT
Scan:	X Rotator Drive
Increment:	Y Axial Drive
Mode:	Automatic Scan
Scan Motion:	Bi-directional
Correction:	N/A

Increment Axis	Planned	Actual
Lower Limit	70.75	70.75
Upper Limit	80.35	80.35
Inc. Interval (Resolution)	0.15	
Conversion Units	Inches	

Scan Axis	Planned	Actual
Lower Limit	48.43	48.43
Upper Limit	98.20	98.20
DCI (Scan Resolution)	0.10	
Conversion Units	Inches	
Radius In.	15.38"	

Positional Parameters

Beam Direction:	Twd/Awy
Probe Type:	PA22-001
Scanning Speed:	2.0 inches per second
Number of Scans:	65
Weld C/L:	72.262"
Elevation/Nozzle C/I	N/A

Master Acquisition File: DM_Pipe_ID_90_AWY_270_TWD_Skew.acq

Probe	Channel /Angle(s)	Skew	Scan Offset	Step Offset	Calibration Records:
Probe 1	1-(60-88°L)	90°	+ 69.92(in)	- 1.52(in)	110002
Probe 2	2-(60-88°L)	270°	+ 59.22(in)	- 2.90(in)	110002
Probe 3	3-(0°Profilometry)	0°	+ 0.00(in)	+ 0.00(in)	110002
N/A	N/A	N/A	N/A	N/A	N/A

Examination Notes:
Pipe Diameter = 30.83"
Circumference = 96.86"

Examination Remarks:

Data Analysis

Increment & Scan Positions Actual

Scan No.(s)	Increment Position Start	Increment Position Stop	Scan Position Start	Scan Position Stop
1-65	70.75	80.35	48.43	98.20

Recordable Indications

		Yes	No	N/A
Probe 1	Channel 1	☐	☑	☐
	Channel 2	☐	☑	☐
	Channel 3	☐	☑	☐
Probe 2	Channel 1	☐	☑	☐
	Channel 2	☐	☑	☐
	Channel 3	☐	☑	☐
Probe 3	Channel 1	☐	☐	☑
	Channel 2	☐	☐	☑
	Channel 3	☐	☐	☑
ET Probe 1	Channel 1-2	☐	☐	☑
ET Probe 2	Channel 3-4	☐	☐	☑
N/A	N/A	☐	☐	☑

Analyst Remarks

Attachment: ☐ Yes ☑ No

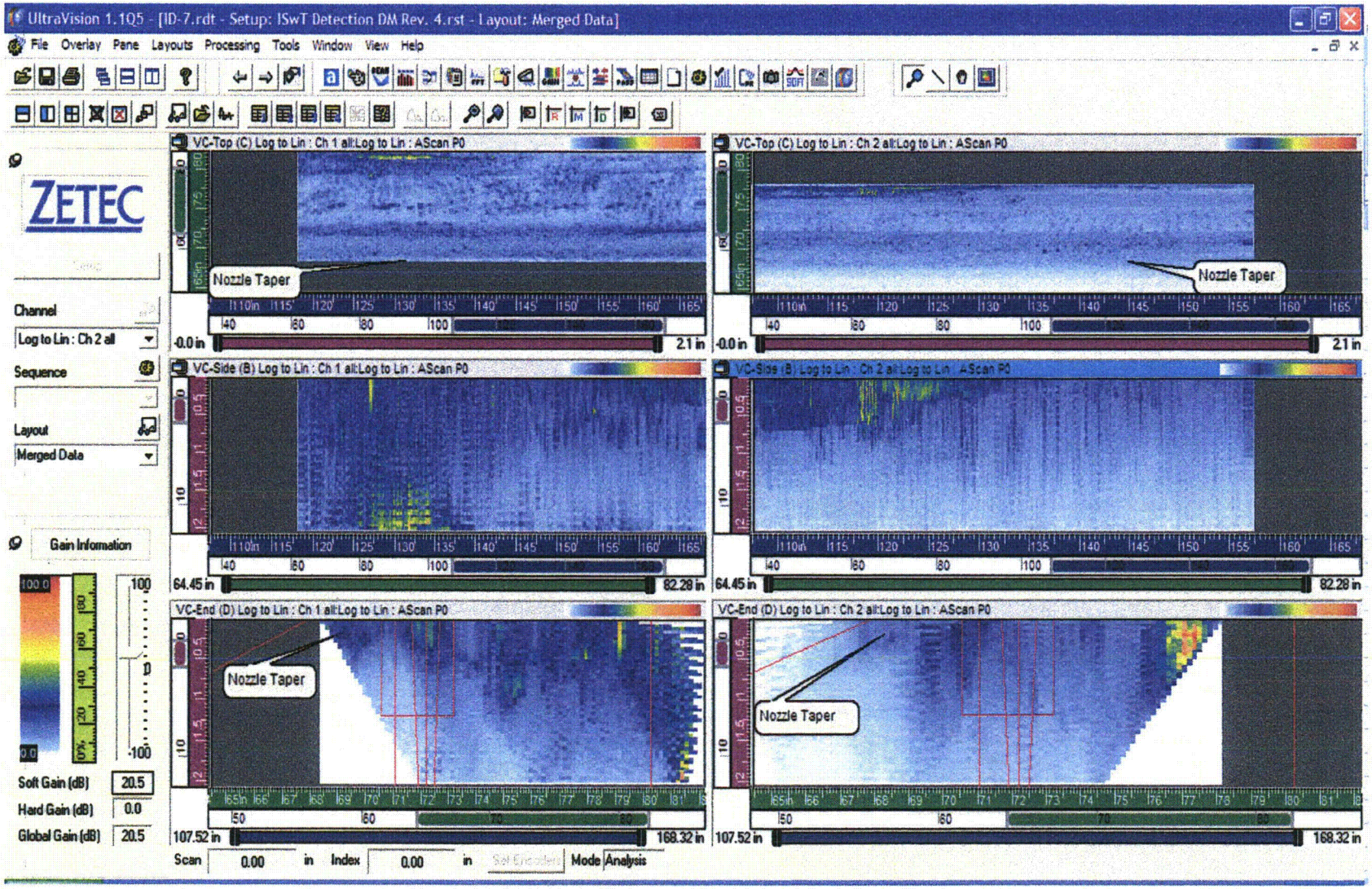
Further Evaluation Required: ☐ Yes ☑ No

Archive Media: ☑ External Hard Drive ☐ CD-ROM DVD-ROM

Analyst / SNT Level / Date: Jesse R. Delgado / III / 18 Nov. 2012

ISWT FORM No. UT 50 (Rev. 1/11)

ID-7 SG A Outlet Nozzle to Safe-End (Away Towards)



IHI SOUTHWEST TECHNOLOGIES
AUTOMATED ULTRASONIC EXAMINATION RECORD

IHI Southwest Technologies, Inc.

Site/Plant : Point Beach Unit 2	**Weld Identification:** RC-36-MRCL-AII-01A	**Pro/Rev/Chg/ICN:** ISwT-PDI-AUT11/2/0/1		**Examination No.:** ID-8	
Project No.: 12-0301	**Weld Description:** A S/G Out Noz-to-SE (0°-125°)	**Device Configuration:** 136-00045			
Mod.Conf.: 138-00032	**Scan Path Drawing:** 134-00079	**Exam Date**	**Examination Time**	**Surface Temperature °F**	
Data Acquisition Operator (s) / SNT Level:	**Bryan Wright / II**	18 Nov. 2012	**Start** 0524 / **End** 0635	**Start** 94	**End** 94

Data Acquisition

Scan Controller Parameters	
Controller:	SG-NExT
Scan:	X Rotator Drive
Increment:	Y Axial Drive
Mode:	Automatic Scan
Scan Motion:	Bi-directional
Correction:	N/A

Increment Axis	**Planned**	**Actual**
Lower Limit	71.56	71.56
Upper Limit	76.24	76.24
Inc. Interval (Resolution)	0.05	
Conversion Units	Inches	

Scan Axis	**Planned**	**Actual**
Lower Limit	0.00	0.00
Upper Limit	33.63	33.63
DCI (Scan Resolution)	0.05	
Conversion Units	Inches	
Radius In.	15.38"	

Positional Parameters	
Beam Direction:	Cw/Ccw
Probe Type:	PA22-001
Scanning Speed:	1.5 inches per second
Number of Scans:	95
Weld C/L:	72.262"
Elevation/Nozzle C/I	N/A

Master Acquisition File: DM_Pipe_ID_0_CW_180_CCW_Skew.acq

Probe	**Channel /Angle(s)**	**Skew**	**Scan Offset**	**Step Offset**	**Calibration Records:**
Probe 1	1-(60-88°L)	0°	+ 27.57(in)	- 2.21(in)	110005
Probe 2	2-(60-88°L)	180°	+ 37.01(in)	- 2.21(in)	110001
N/A	N/A	N/A	N/A	N/A	N/A
ET Probe 1	1-2	+22.5°	+ 5.35(in)	+ 0.00(in)	ET03-PTB-02
ET Probe 2	3-4	-22.5°	- 5.35(in)		

Examination Notes:
Pipe Diameter = 30.83"
Circumference = 96.86"

Examination Remarks:

Data Analysis

Increment & Scan Positions Actual

Scan No.(s)	Increment Position Start	Increment Position Stop	Scan Position Start	Scan Position Stop
1 - 95	71.56	76.24	0.00	33.63

Recordable Indications

		Yes	No	N/A
Probe 1	Channel 1	☐	☑	☐
	Channel 2	☐	☑	☐
	Channel 3	☐	☑	☐
Probe 2	Channel 1	☐	☑	☐
	Channel 2	☐	☑	☐
	Channel 3	☐	☑	☐
Probe 3	Channel 1	☐	☐	☑
	Channel 2	☐	☐	☑
	Channel 3	☐	☐	☑
ET Probe 1	Channel 1-2	☐	☐	☑
ET Probe 2	Channel 3-4	☐	☐	☑
N/A	N/A	☐	☐	☑

Analyst Remarks

Attachment: ☐ Yes ☑ No

Further Evaluation Required: ☐ Yes ☑ No

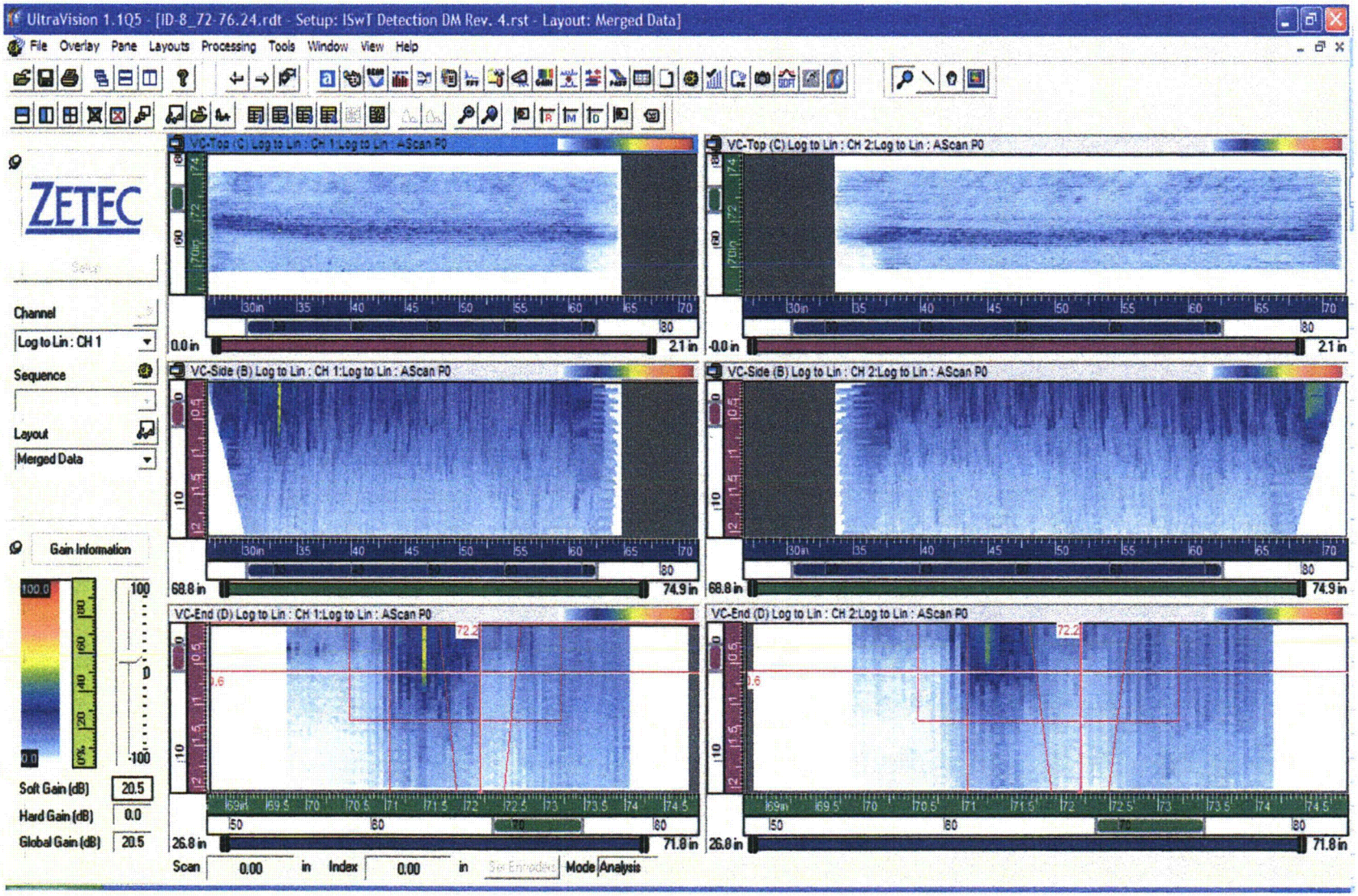
Archive Media: ☑ External Hard Drive ☐ CD-ROM DVD-ROM

Analyst / SNT Level / Date:

Jesse R. Delgado / III / 18 Nov. 2012

ISWT FORM No. UT 50 (Rev. 1/11)

ID-8 SG A Outlet Nozzle to Safe-End (Cw CCW)



IHI SOUTHWEST TECHNOLOGIES
AUTOMATED EDDY CURRENT EXAMINATION RECORD

Site/Plant :	Point Beach Unit 2	**Weld Identification:**	RC-36-MRCL-AII-01A	**Pro/Rev/Chg/ICN:**	ISWT-AET3/2/0/0	**Examination No.:**	**ID-8**
Project No.:	12-0301	**Weld Description:**	A S/G Out Noz-to-SE (0°-125°)	**Device Configuration:**	136-00045		
Mod.Conf.:	138-00032	**Scan Path Drawing:**	134-00079	**Exam Date**	**Examination Time**	**Surface Temperature °F**	
Data Acquisition Operator (s) / SNT Level:		**David R. Kleinjan / II**		18-Nov-12	**Start** 0524 / **End** 0736	**Start** 94	**End** 94

Data Acquisition

Scan Controller Parameters		Increment Axis	Planned	Actual	Scan Axis	Planned	Actual	Positional Parameters	
Controller:	SG-NExT	Lower Limit	71.56	71.56	Lower Limit	0.00	0.00	Beam Direction:	Cw/Ccw
Scan:	X Rotator Drive	Upper Limit	76.24	76.25	Upper Limit	33.63	33.63	ET Probe Size:	.24 (in)
Increment:	Y Axial Drive	Increment Interval	0.05		Resolution	0.20		Scanning Speed	1.5 inches per second
Mode:	Automatic Scan	Conversion Units	Inches		Conversion Units	Inches		Number of Scans:	95
Scan Motion:	Bi-directional				Radius In.	15.38"		Weld C/L	72.262"
Correction:	N/A							Elevation/Nozzle C/L	N/A

Module Parameters:

	Status	Channel(s)	Skew	Scan Offset	Step Offset	Calibration Records:
Probe 1	On	1-2	+ 22.5°	+5.35 (in)	-2.21 (in.)	ET-03-PTB-002
Probe 2	On	3-4	- 22.5°	-5.35 (in)	-2.21 (in.)	ET-03-PTB-002

Examination Notes:

Pipe diameter = 30.83"
Circumference = 96.86"

Examination Remarks:

ETID8_71.56-74.07
ETID8_72-76.24

Data Analysis

Increment & Scan Positions Actual

Scan No.(s)	Increment Position Start	Increment Position Stop	Scan Position Start	Scan Position Stop
1-95	71.56	76.24	0.00	33.63

Recordable Indications

		Yes	No	N/A
Probe 1	Channel 1	☐	☑	☐
	Channel 2	☐	☑	☐
Probe 2	Channel 3	☐	☑	☐
	Channel 4	☐	☑	☐
Probe 3	Channel 5	☐	☐	☑
	Channel 6	☐	☐	☑
Probe 4	Channel 7	☐	☐	☑
	Channel 8	☐	☐	☑

Attachment: ☑Yes ☐No

Further Evaluation Required: ☐Yes ☑No

Archive Media:
☑ External Hard Drive
☐ CD-ROM
DVD-ROM

Analyst Remarks

EXAMINATION C SCAN FOR ALL 4 CHANNELS

Analyst / SNT Level / Date:
David R. Kleinjan / II D. R. Kleinjan 18 NOV 2012

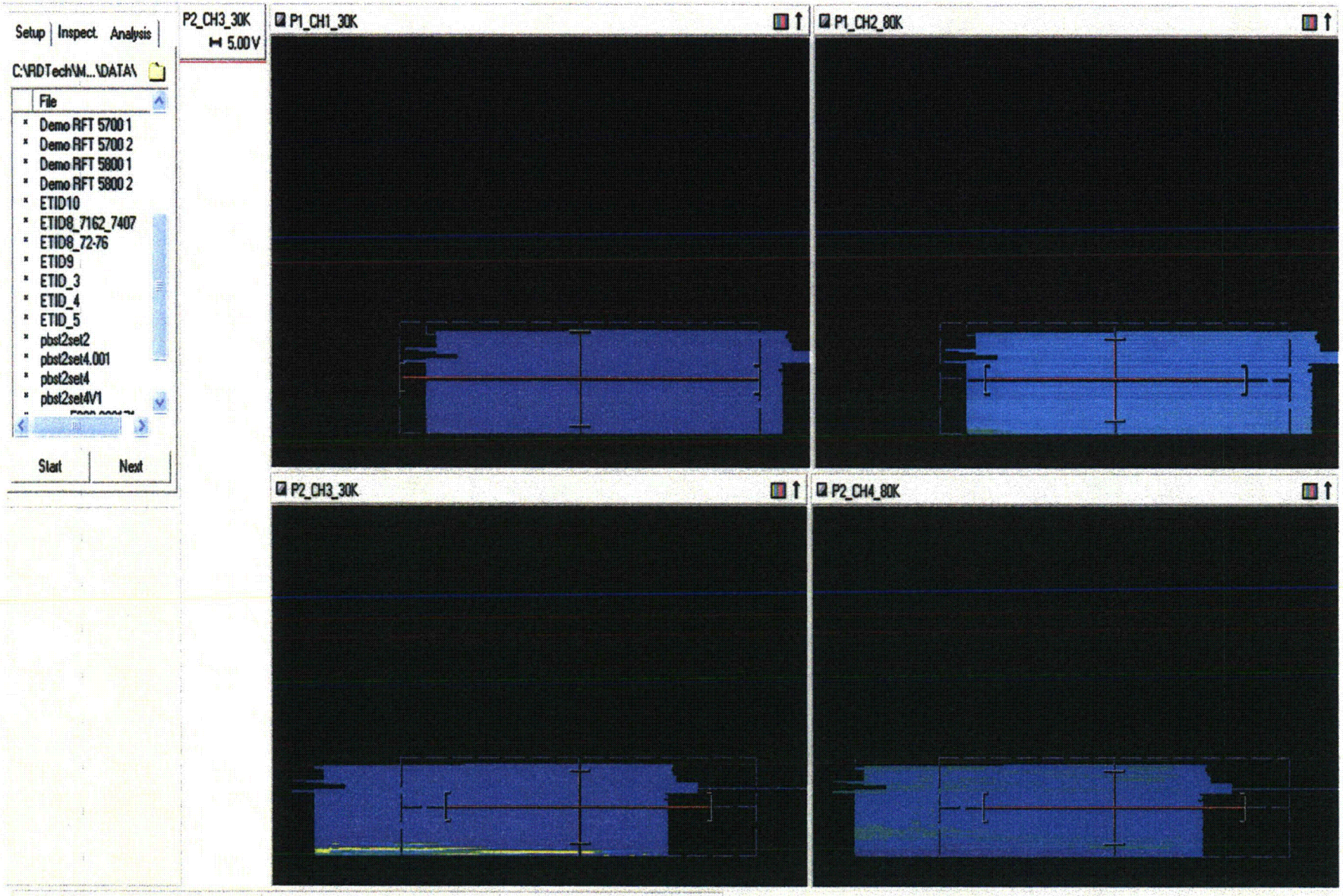
Reviewed By/Analyst / SNT Level /Signature:
William Angell / II William Angell

ISWT FORM No. ET 10/08

Project No. 12-0301
Instrument S/N 131612

EXAMINATION ET-ID-8 71.62-74.07
STATION 1

Date: 18 NOV 2012
CALIBRATION SHEET: ET-03-PTB-001

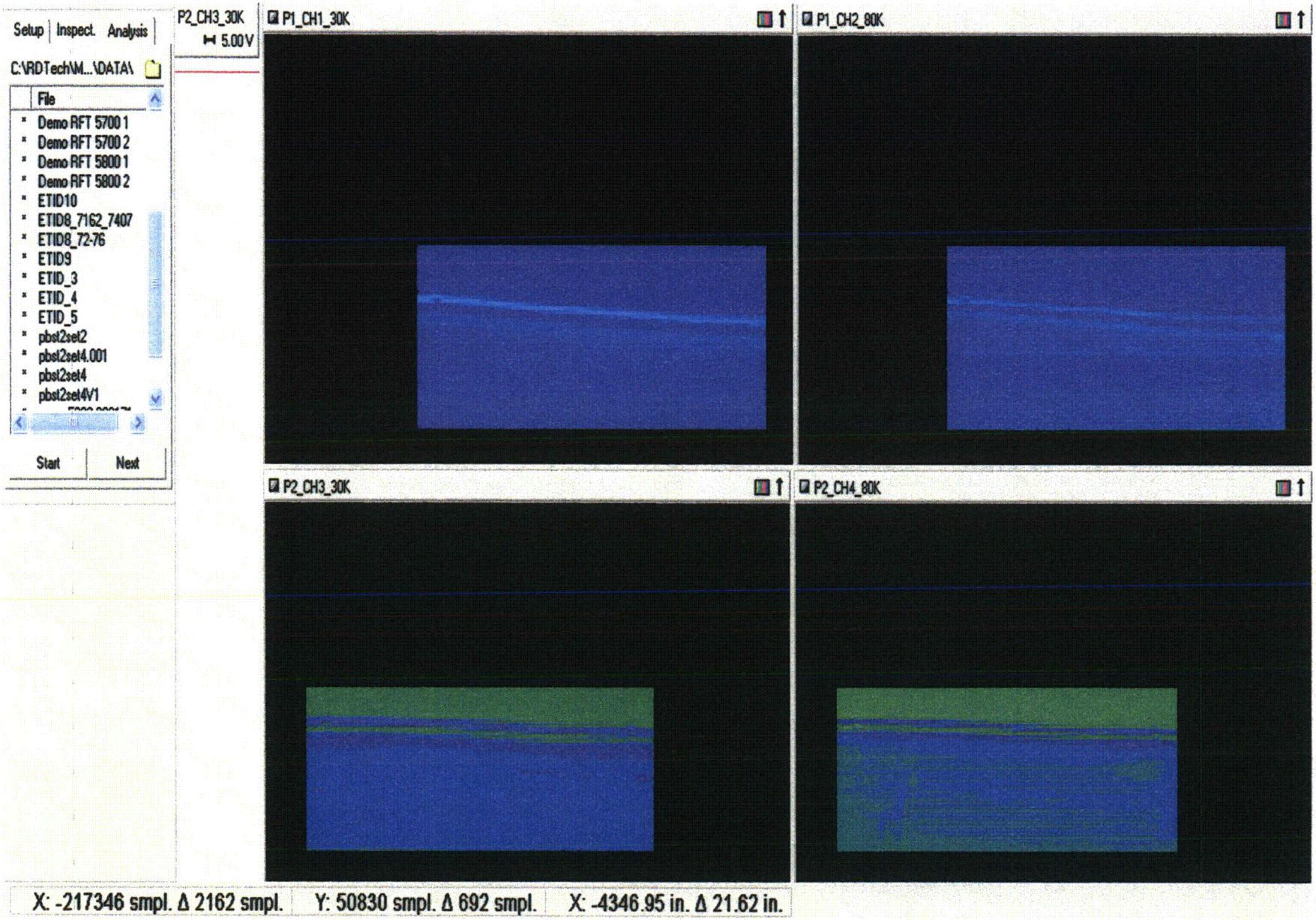


X: 990 smpl. Δ 1698 smpl. | Y: 1414 smpl. Δ 54 smpl. | X: 19.79 in. Δ 25.47 in.

Project No. 12-0301
Instrument S/N 131612

EXAMINATION ET-ID-8 72-76
STATION 1

Date: 18 NOV 2012
CALIBRATION SHEET: ET-03-PTB-001



IHI SOUTHWEST TECHNOLOGIES
AUTOMATED ULTRASONIC EXAMINATION RECORD

IHI Southwest Technologies, Inc.

Site/Plant : Point Beach Unit 2	**Weld Identification:** RC-36-MRCL-AII-01A	**Pro/Rev/Chg/ICN:** ISwT-PDI-AUT11/2/0/1		**Examination No.:** ID-9	
Project No.: 12-0301	**Weld Description:** A S/G Out Noz-to-SE (120°-245°)	**Device Configuration:** 136-00045			
Mod.Conf.: 138-00032	**Scan Path Drawing:** 134-00079	**Exam Date**	**Examination Time**		**Surface Temperature °F**
Data Acquisition Operator (s) / SNT Level:	**Bryan Wright / II**	18 Nov. 2012	**Start** 0750	**End** 0835	**Start** 94 / **End** 94

Data Acquisition

Scan Controller Parameters	
Controller:	SG-NExT
Scan:	X Rotator Drive
Increment:	Y Axial Drive
Mode:	Automatic Scan
Scan Motion:	Bi-directional
Correction:	N/A

Increment Axis	**Planned**	**Actual**
Lower Limit	71.56	71.56
Upper Limit	76.24	76.24
Inc. Interval (Resolution)	0.05	
Conversion Units	Inches	

Scan Axis	**Planned**	**Actual**
Lower Limit	32.29	32.29
Upper Limit	65.92	65.92
DCI (Scan Resolution)	0.05	
Conversion Units	Inches	
Radius In.	15.38"	

Positional Parameters	
Beam Direction:	Cw/Ccw
Probe Type:	PA22-001
Scanning Speed:	1.5 inches per second
Number of Scans:	95
Weld C/L:	72.262"
Elevation/Nozzle C/I	N/A

Master Acquisition File: DM_Pipe_ID_0_CW_180_CCW_Skew.acq

Probe	**Channel /Angle(s)**	**Skew**	**Scan Offset**	**Step Offset**	**Calibration Records:**
Probe 1	1-(60-88°L)	0°	+ 27.57(in)	- 2.21(in)	110005
Probe 2	2-(60-88°L)	180°	+ 37.01(in)	- 2.21(in)	110001
N/A	N/A	N/A	N/A	N/A	N/A
ET Probe 1	1-2	+22.5°	+ 5.35(in)	+ 0.00(in)	ET03-PTB-02
ET Probe 2	3-4	-22.5°	- 5.35(in)		

Examination Notes:
Pipe Diameter = 30.83"
Circumference = 96.86"

Examination Remarks:

Data Analysis

Increment & Scan Positions Actual

Scan No.(s)	Increment Position Start	Increment Position Stop	Scan Position Start	Scan Position Stop
1 - 95	71.56	76.24	32.29	65.92

Recordable Indications

		Yes	No	N/A
Probe 1	Channel 1	☐	☑	☐
	Channel 2	☐	☑	☐
	Channel 3	☐	☑	☐
Probe 2	Channel 1	☐	☑	☐
	Channel 2	☐	☑	☐
	Channel 3	☐	☑	☐
Probe 3	Channel 1	☐	☐	☑
	Channel 2	☐	☐	☑
	Channel 3	☐	☐	☑
ET Probe 1	Channel 1-2	☐	☐	☑
ET Probe 2	Channel 3-4	☐	☐	☑
N/A	N/A	☐	☐	☑

Analyst Remarks

Attachment: ☐ Yes ☑ No

Further Evaluation Required: ☐ Yes ☑ No

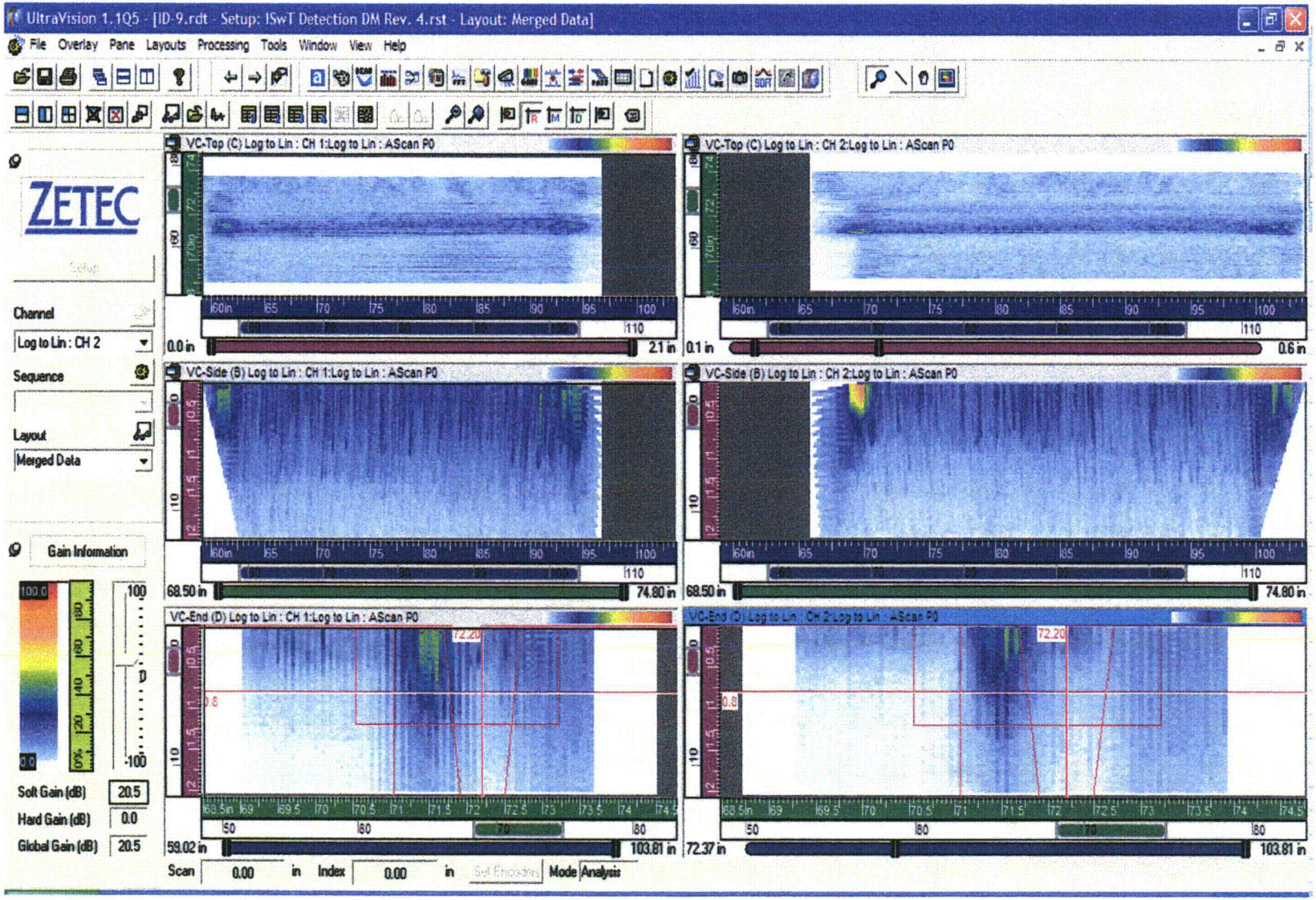
Archive Media: ☑ External Hard Drive ☐ CD-ROM DVD-ROM

Analyst / SNT Level / Date:

Jesse R. Delgado / III / 18 Nov. 2012

ISWT FORM No. UT 50 (Rev. 1/11)

ID-9 SG A Outlet Nozzle to Safe-End (Cw CCW)



IHI SOUTHWEST TECHNOLOGIES
AUTOMATED EDDY CURRENT EXAMINATION RECORD

Site/Plant :	Point Beach Unit 2	**Weld Identification:**	RC-36-MRCL-AII-01A	**Pro/Rev/Chg/ICN:**	ISWT-AET3/2/0/0	**Examination No.:**	ID-9
Project No.:	12-0301	**Weld Description:**	A S/G Out Noz-to-SE (120°-245°)	**Device Configuration:**	136-00045		
Mod.Conf.:	138-00032	**Scan Path Drawing:**	134-00079	**Exam Date**	**Examination Time**	**Surface Temperature °F**	
Data Acquisition Operator (s) / SNT Level:		**David R. Kleinjan / II**		18-Nov-12	Start: 0750 / End: 0835	Start: 94	End: 94

Data Acquisition

Scan Controller Parameters	
Controller:	SG-NExT
Scan:	X Rotator Drive
Increment:	Y Axial Drive
Mode:	Automatic Scan
Scan Motion:	Bi-directional
Correction:	N/A

Increment Axis	Planned	Actual
Lower Limit	71.56	71.56
Upper Limit	76.24	76.24
Increment Interval	0.05	
Conversion Units	Inches	

Scan Axis	Planned	Actual
Lower Limit	32.29	32.29
Upper Limit	65.92	65.92
Resolution	0.20	
Conversion Units	Inches	
Radius In.	15.38"	

Positional Parameters	
Beam Direction:	Cw/Ccw
ET Probe Size:	.24 (in)
Scanning Speed	1.5 inches per second
Number of Scans:	95
Weld C/L	72.262"
Elevation/Nozzle C/L	N/A

Module Parameters:

	Status	Channel(s)	Skew	Scan Offset	Step Offset
Probe 1	On	1-2	+ 22.5°	+5.35 (in)	-2.21 (in.)
Probe 2	On	3-4	- 22.5°	-5.35 (in)	-2.21 (in.)

Calibration Records:

ET-03-PTB-002

ET-03-PTB-002

Examination Notes:

Pipe diameter = 30.83"

Circumference = 96.86"

Examination Remarks:

Data Analysis

Increment & Scan Positions Actual

Scan No.(s)	Increment Position Start	Increment Position Stop	Scan Position Start	Scan Position Stop
1-95	71.56	76.24	32.29	65.92

Recordable Indications

		Yes	No	N/A
Probe 1	Channel 1	☐	☑	☐
	Channel 2	☐	☑	☐
Probe 2	Channel 3	☐	☑	☐
	Channel 4	☐	☑	☐
Probe 3	Channel 5	☐	☐	☑
	Channel 6	☐	☐	☑
Probe 4	Channel 7	☐	☐	☑
	Channel 8	☐	☐	☑

Analyst Remarks

Attachment: ☑ Yes ☐ No

Further Evaluation Required: ☐ Yes ☑ No

Archive Media:
- ☑ External Hard Drive
- ☐ CD-ROM
- DVD-ROM

EXAMINATION C SCAN FOR ALL 4 CHANNELS

Analyst / SNT Level / Date:
David R. Kleinjan / II D. R. Kleinjan / 18 NOV 2012

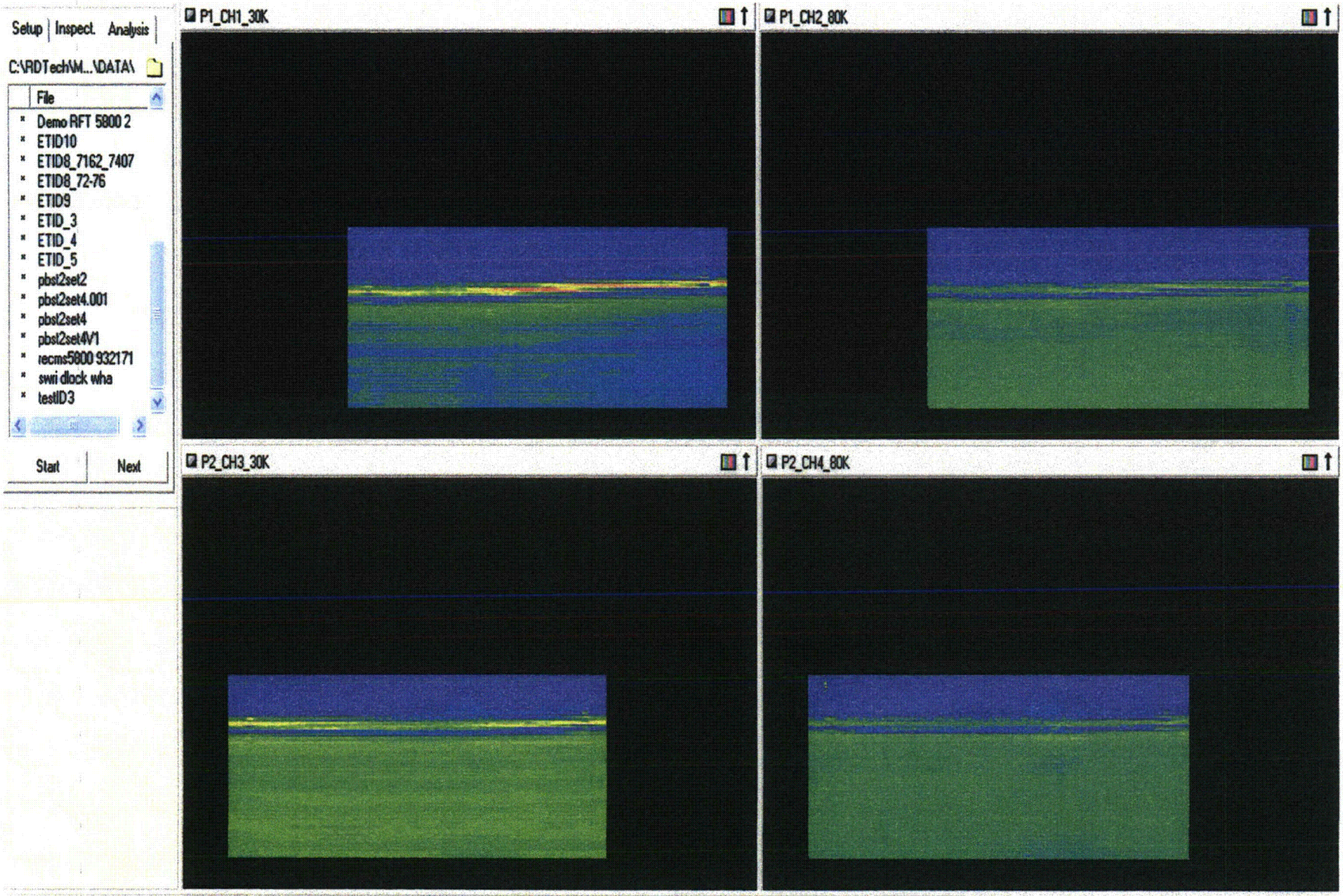
Reviewed By/Analyst / SNT Level /Signature:
William Angell / II William Angell

ISWT FORM No. ET 10/08

Project No. 12-0301
Instrument S/N 131612

EXAMINATION ET-ID-9
STATION 1

Date: 18 NOV 2012
CALIBRATION SHEET: ET-03-PTB-001



IHI SOUTHWEST TECHNOLOGIES
AUTOMATED ULTRASONIC EXAMINATION RECORD

IHI Southwest Technologies, Inc.

Site/Plant : Point Beach Unit 2	**Weld Identification:** RC-36-MRCL-AII-01A	**Pro/Rev/Chg/ICN:** ISwT-PDI-AUT11/2/0/1		**Examination No.:** ID-10	
Project No.: 12-0301	**Weld Description:** A S/G Out Noz-to-SE (240°-365°)	**Device Configuration:** 136-00045			
Mod.Conf.: 138-00032	**Scan Path Drawing:** 134-00079	**Exam Date**	**Examination Time**		**Surface Temperature °F**
Data Acquisition Operator (s) / SNT Level:	**Bryan Wright / II**	18 Nov. 2012	**Start** 0845	**End** 0929	**Start** 94 / **End** 94

Data Acquisition

Scan Controller Parameters		**Increment Axis**	**Planned**	**Actual**	**Scan Axis**	**Planned**	**Actual**	**Positional Parameters**	
Controller:	SG-NExT	Lower Limit	71.56	71.56	Lower Limit	64.57	64.57	Beam Direction:	Cw/Ccw
Scan:	X Rotator Drive	Upper Limit	76.24	76.24	Upper Limit	98.20	98.20	Probe Type:	PA22-001
Increment:	Y Axial Drive	Inc. Interval (Resolution)	0.05		DCI (Scan Resolution)	0.05		Scanning Speed:	1.5 inches per second
Mode:	Automatic Scan	Conversion Units	Inches		Conversion Units	Inches		Number of Scans:	95
Scan Motion:	Bi-directional				Radius In.	15.38"		Weld C/L:	72.262"
Correction:	N/A							Elevation/Nozzle C/I	N/A

Master Acquisition File: DM_Pipe_ID_0_CW_180_CCW_Skew.acq

Probe	**Channel /Angle(s)**	**Skew**	**Scan Offset**	**Step Offset**	**Calibration Records:**
Probe 1	1-(60-88°L)	0°	+ 27.57(in)	- 2.21(in)	110005
Probe 2	2-(60-88°L)	180°	+ 37.01(in)	- 2.21(in)	110001
N/A	N/A	N/A	N/A	N/A	N/A
ET Probe 1	1-2	+22.5°	+ 5.35(in)	+ 0.00(in)	ET03-PTB-02
ET Probe 2	3-4	-22.5°	- 5.35(in)		

Examination Notes:
Pipe Diameter = 30.83"
Circumference = 96.86"

Examination Remarks:

Data Analysis

Increment & Scan Positions Actual

Scan No.(s)	Increment Position Start	Increment Position Stop	Scan Position Start	Scan Position Stop
1 - 95	71.56	76.24	64.57	98.20

Recordable Indications

		Yes	No	N/A
Probe 1	Channel 1	☐	☑	☐
	Channel 2	☐	☑	☐
	Channel 3	☐	☑	☐
Probe 2	Channel 1	☐	☑	☐
	Channel 2	☐	☑	☐
	Channel 3	☐	☑	☐
Probe 3	Channel 1	☐	☐	☑
	Channel 2	☐	☐	☑
	Channel 3	☐	☐	☑
ET Probe 1	Channel 1-2	☐	☐	☑
ET Probe 2	Channel 3-4	☐	☐	☑
N/A	N/A	☐	☐	☑

Analyst Remarks

Attachment: ☐ Yes ☑ No

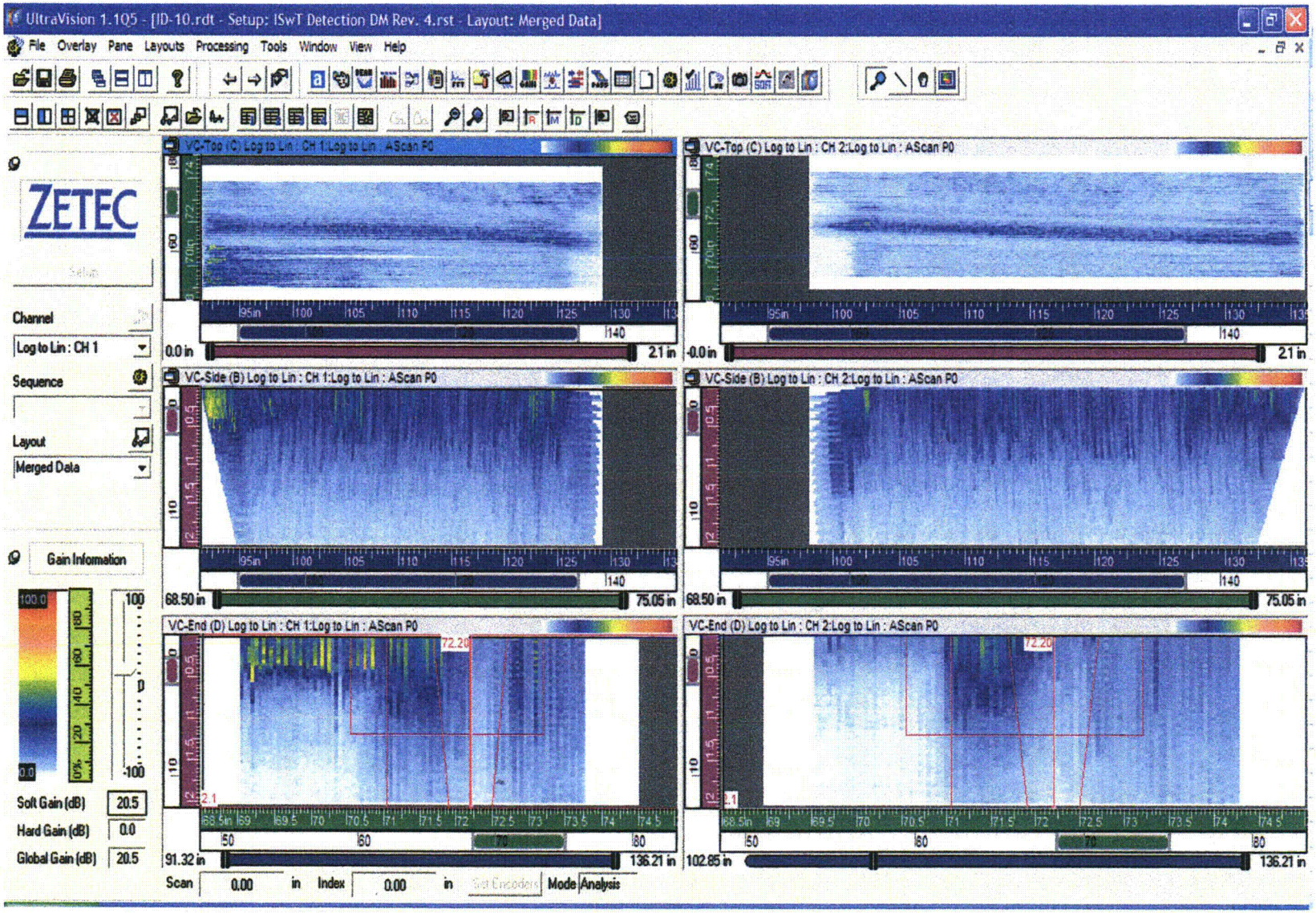
Further Evaluation Required: ☐ Yes ☑ No

Archive Media: ☑ External Hard Drive ☐ CD-ROM DVD-ROM

Analyst / SNT Level / Date: **Richard A. Riddles / III / 18 Nov. 2012**

ISWT FORM No. UT 50 (Rev. 1/11)

ID-10 SG A Outlet Nozzle to Safe-End (Cw CCW)



IHI SOUTHWEST TECHNOLOGIES
AUTOMATED EDDY CURRENT EXAMINATION RECORD

Site/Plant :	Point Beach Unit 2	**Weld Identification:**	RC-36-MRCL-AII-01A	**Pro/Rev/Chg/ICN:**	ISWT-AET3/2/0/0	**Examination No.:**	**ID-10**
Project No.:	12-0301	**Weld Description:**	A S/G Out Noz-to-SE (240°-365°)	**Device Configuration:**	136-00045		
Mod.Conf.:	138-00032	**Scan Path Drawing:**	134-00079	**Exam Date**	**Examination Time**	**Surface Temperature °F**	
Data Acquisition Operator (s) / SNT Level:		**David R. Kleinjan / II**		18-Nov-12	Start: 0845 / End: 0929	Start: 94	End: 94

Data Acquisition

Scan Controller Parameters	
Controller:	SG-NExT
Scan:	X Rotator Drive
Increment:	Y Axial Drive
Mode:	Automatic Scan
Scan Motion:	Bi-directional
Correction:	N/A

Increment Axis	**Planned**	**Actual**
Lower Limit	71.56	71.56
Upper Limit	76.24	76.24
Increment Interval	0.05	
Conversion Units	Inches	

Scan Axis	**Planned**	**Actual**
Lower Limit	64.57	64.52
Upper Limit	98.20	98.20
Resolution	0.20	
Conversion Units	Inches	
Radius In.	15.38"	

Positional Parameters	
Beam Direction:	Cw/Ccw
ET Probe Size:	.24 (in)
Scanning Speed	1.5 inches per second
Number of Scans:	95
Weld C/L	72.262"
Elevation/Nozzle C/L	N/A

Module Parameters:

	Status	Channel(s)	Skew	Scan Offset	Step Offset	Calibration Records:
Probe 1	On	1-2	+ 22.5°	+5.35 (in)	-2.21 (in.)	ET-03-PTB-002
Probe 2	On	3-4	- 22.5°	-5.35 (in)	-2.21 (in.)	ET-03-PTB-002

Examination Notes:

Pipe diameter = 30.83"

Circumference = 96.86"

Examination Remarks:

Data Analysis

Increment & Scan Positions Actual

Scan No.(s)	Increment Position Start	Increment Position Stop	Scan Position Start	Scan Position Stop
1-95	71.56	76.24	64.57	98.20

Recordable Indications

		Yes	No	N/A
Probe 1	Channel 1	☐	☑	☐
	Channel 2	☐	☑	☐
Probe 2	Channel 3	☐	☑	☐
	Channel 4	☐	☑	☐
Probe 3	Channel 5	☐	☐	☑
	Channel 6	☐	☐	☑
Probe 4	Channel 7	☐	☐	☑
	Channel 8	☐	☐	☑

Analyst Remarks

Attachment: ☑Yes ☐No

Further Evaluation Required: ☐Yes ☑No

Archive Media:
- ☑ External Hard Drive
- ☐ CD-ROM
- DVD-ROM

EXAMINATION C SCAN FOR ALL 4 CHANNELS

Analyst / SNT Level / Date:
David R. Kleinjan / II D.R. Kleinjan / 18 NOV 2012

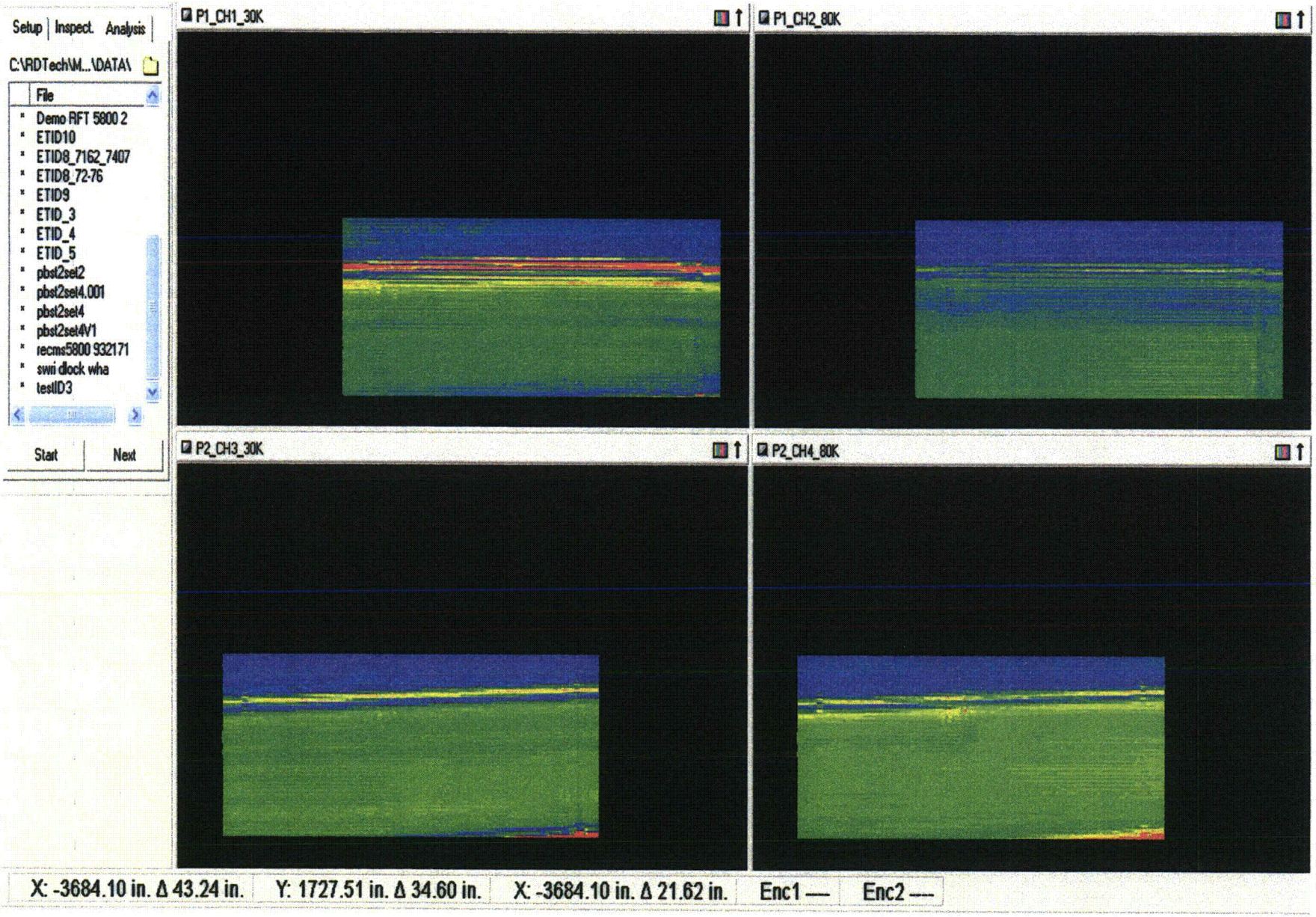
Reviewed By/Analyst / SNT Level /Signature:
William Angell / II William Angell

ISWT FORM No. ET 10/08

Project No. 12-0301
Instrument S/N 131612

EXAMINATION ET-ID-10
STATION 1

Date: 18 NOV 2012
CALIBRATION SHEET: ET-03-PTB-001



IHI Southwest Technologies Examination Summary Record

Utility: NextEra Energy	Site: Point Beach Nuclear Plant Unit 2 Outage: U2R32	Summary Sheet No. 00400

System: Steam Generator | Line Subassembly: "B" SG Out Noz-to-SE | Identification: RC-36-MRCL-BII-01A

NDE Method	Proc/Rev/Chg/ICN	NDE Examination	CalibrationSheet No's.	Exam Sheet No.	NRI	Other	Remarks
AUT	ISwT-PDI-AUT11/2/0/1	UT Probe 1 (60-88°)	110004	16 - 17	X	-	UT TWD & AWY Exam
AUT	ISwT-PDI-AUT11/2/0/1	UT Probe 2 (60-88°)	110004	16 - 17	X	-	UT TWD & AWY Exam
AUT	ISwT-PDI-AUT11/2/0/1	UT Probe 1 (60-88°)	110003	18 - 20	X	-	UT CW & CCW Exam
AUT	ISwT-PDI-AUT11/2/0/1	UT Probe 2 (60-88°)	110003	18 - 20	X	-	UT CW & CCW Exam
AET	ISwT-PDI-AET3/2/0/0	ET Probe 1	ET03-PTB-001	18 - 20	X	-	Eddy Current Exam
AET	ISwT-PDI-AET3/2/0/0	ET Probe 2	ET03-PTB-001	18 - 20	X	-	Eddy Current Exam

Examination Summary:

This weld was examined from the inside surface using SG-NExT, T-III, & MS5800 examination equipment.
The examination coverage was 100%.

Prepared By: Steven J. Todd Signature: Steven J. Todd Date: 11/22/12 ISwT Project Manager	
Reviewed By: William A. Jensen Signature: Date: 11-23-12 NextEra Energy Point Beach	Reviewed By: Jeff Bukowiecki Signature: Jeff Bukowiecki Date: 11/28/12 ANII

IHI SOUTHWEST TECHNOLOGIES
AUTOMATED ULTRASONIC EXAMINATION RECORD

IHI Southwest Technologies, Inc.

Site/Plant : Point Beach Unit 2	**Weld Identification:** RC-36-MRCL-BII-01A	**Pro/Rev/Chg/ICN:** ISwT-PDI-AUT11/2/0/1			**Examination No.:** ID-16		
Project No.: 12-0301	**Weld Description:** B S/G Out Noz-to-SE (0°-185°)	**Device Configuration:** 136-00045					
Mod.Conf.: 138-00032	**Scan Path Drawing:** 134-00079	**Exam Date**	**Examination Time**		**Surface Temperature °F**		
Data Acquisition Operator (s) / SNT Level:	**Jeremy Howe / II**	18 Nov. 2012	**Start**	**End**	**Start**	**End**	
			1206	1258	94	94	

Data Acquisition

Scan Controller Parameters		**Increment Axis**	**Planned**	**Actual**	**Scan Axis**	**Planned**	**Actual**	**Positional Parameters**	
Controller:	SG-NExT	Lower Limit	70.75	70.75	Lower Limit	0.00	0.00	Beam Direction:	Twd/Awy
Scan:	X Rotator Drive	Upper Limit	80.35	80.35	Upper Limit	49.77	49.77	Probe Type:	PA22-001
Increment:	Y Axial Drive	Inc. Interval (Resolution)	0.15		DCI (Scan Resolution)	0.10		Scanning Speed:	2.0 inches per second
Mode:	Automatic Scan	Conversion Units	Inches		Conversion Units	Inches		Number of Scans:	65
Scan Motion:	Bi-directional				Radius In.	15.38"		Weld C/L:	72.262"
Correction:	N/A							Elevation/Nozzle C/I	N/A

Master Acquisition File: DM_Pipe_ID_90_AWY_270_TWD_Skew.acq

Probe	**Channel /Angle(s)**	**Skew**	**Scan Offset**	**Step Offset**	**Calibration Records:**
Probe 1	1-(60-88°L)	90°	+ 69.92(in)	- 1.52(in)	110004
Probe 2	2-(60-88°L)	270°	+ 59.22(in)	- 2.90(in)	110004
Probe 3	3-(0°Profilometry)	0°	+ 0.00(in)	+ 0.00(in)	110004
N/A	N/A	N/A	N/A	N/A	N/A

Examination Notes:
Pipe Diameter = 30.83"
Circumference = 96.86"

Examination Remarks:

Data Analysis

Increment & Scan Positions Actual

Scan No.(s)	Increment Position Start	Increment Position Stop	Scan Position Start	Scan Position Stop
1-65	70.75	80.35	0.00	49.77

Recordable Indications

		Yes	No	N/A
Probe 1	Channel 1	☐	☑	☐
	Channel 2	☐	☑	☐
	Channel 3	☐	☑	☐
Probe 2	Channel 1	☐	☑	☐
	Channel 2	☐	☑	☐
	Channel 3	☐	☑	☐
Probe 3	Channel 1	☐	☐	☑
	Channel 2	☐	☐	☑
	Channel 3	☐	☐	☑
ET Probe 1	Channel 1-2	☐	☐	☑
ET Probe 2	Channel 3-4	☐	☐	☑
N/A	N/A	☐	☐	☑

Analyst Remarks

Attachment: ☐ Yes ☑ No

Further Evaluation Required: ☐ Yes ☑ No

Archive Media: ☑ External Hard Drive ☐ CD-ROM DVD-ROM

Analyst / SNT Level / Date: **Richard A. Riddles / III / 18 Nov. 2012** RAR

ISWT FORM No. UT 50 (Rev. 1/11)

IHI SOUTHWEST TECHNOLOGIES
AUTOMATED ULTRASONIC EXAMINATION RECORD

IHI Southwest Technologies, Inc.

Site/Plant : Point Beach Unit 2	**Weld Identification:** RC-36-MRCL-BII-01A	**Pro/Rev/Chg/ICN:** ISwT-PDI-AUT11/2/0/1			**Examination No.:** ID-17		
Project No.: 12-0301	**Weld Description:** B S/G Out Noz-to-SE (180°-365°)	**Device Configuration:** 136-00045					
Mod.Conf.: 138-00032	**Scan Path Drawing:** 134-00079	**Exam Date**	**Examination Time**		**Surface Temperature °F**		
Data Acquisition Operator (s) / SNT Level:	**Jeremy Howe / II**	18 Nov. 2012	**Start**	**End**	**Start**	**End**	
			1302	1356	94	94	

Data Acquisition

Scan Controller Parameters		**Increment Axis**	**Planned**	**Actual**	**Scan Axis**	**Planned**	**Actual**	**Positional Parameters**	
Controller:	SG-NExT	Lower Limit	70.75	70.75	Lower Limit	48.43	48.43	Beam Direction:	Twd/Awy
Scan:	X Rotator Drive	Upper Limit	80.35	80.35	Upper Limit	98.20	98.20	Probe Type:	PA22-001
Increment:	Y Axial Drive	Inc. Interval (Resolution)	0.15		DCI (Scan Resolution)	0.10		Scanning Speed:	2.0 inches per second
Mode:	Automatic Scan	Conversion Units	Inches		Conversion Units	Inches		Number of Scans:	65
Scan Motion:	Bi-directional				Radius In.	15.38"		Weld C/L:	72.262"
Correction:	N/A							Elevation/Nozzle C/I	N/A

Master Acquisition File: DM_Pipe_ID_90_AWY_270_TWD_Skew.acq

Probe	**Channel /Angle(s)**	**Skew**	**Scan Offset**	**Step Offset**	**Calibration Records:**
Probe 1	1-(60-88°L)	90°	+ 69.92(in)	- 1.52(in)	110004
Probe 2	2-(60-88°L)	270°	+ 59.22(in)	- 2.90(in)	110004
Probe 3	3-(0°Profilometry)	0°	+ 0.00(in)	+ 0.00(in)	110004
N/A	N/A	N/A	N/A	N/A	N/A

Examination Notes:
Pipe Diameter = 30.83"
Circumference = 96.86"

Examination Remarks:

Data Analysis

Increment & Scan Positions Actual

Scan No.(s)	Increment Position Start	Increment Position Stop	Scan Position Start	Scan Position Stop
1-65	70.75	80.35	48.43	98.20

Recordable Indications

		Yes	No	N/A
Probe 1	Channel 1	☐	☑	☐
	Channel 2	☐	☑	☐
	Channel 3	☐	☑	☐
Probe 2	Channel 1	☐	☑	☐
	Channel 2	☐	☑	☐
	Channel 3	☐	☑	☐
Probe 3	Channel 1	☐	☐	☑
	Channel 2	☐	☐	☑
	Channel 3	☐	☐	☑
ET Probe 1	Channel 1-2	☐	☐	☑
ET Probe 2	Channel 3-4	☐	☐	☑
N/A	N/A	☐	☐	☑

Analyst Remarks

Attachment: ☐ Yes ☑ No

Further Evaluation Required: ☐ Yes ☑ No

Archive Media: ☑ External Hard Drive ☐ CD-ROM DVD-ROM

Analyst / SNT Level / Date: **Richard A. Riddles / III / 18 Nov. 2012**

ISWT FORM No. UT 50 (Rev. 1/11)

IHI SOUTHWEST TECHNOLOGIES
AUTOMATED ULTRASONIC EXAMINATION RECORD

IHI Southwest Technologies, Inc.

Site/Plant : Point Beach Unit 2	**Weld Identification:** RC-36-MRCL-BII-01A	**Pro/Rev/Chg/ICN:** ISwT-PDI-AUT11/2/0/1	**Examination No.:** ID-18		
Project No.: 12-0301	**Weld Description:** B S/G Out Noz-to-SE (0°-125°)	**Device Configuration:** 136-00045			
Mod.Conf.: 138-00032	**Scan Path Drawing:** 134-00079	**Exam Date**	**Examination Time**		**Surface Temperature °F**
Data Acquisition Operator (s) / SNT Level:	**Bryan Wright / II**	18 Nov. 2012	**Start**	**End**	**Start** / **End**
			0915	1014	94 / 94

Data Acquisition

Scan Controller Parameters		**Increment Axis**	**Planned**	**Actual**	**Scan Axis**	**Planned**	**Actual**	**Positional Parameters**	
Controller:	SG-NExT	Lower Limit	71.56	71.56	Lower Limit	0.00	0.00	Beam Direction:	Cw/Ccw
Scan:	X Rotator Drive	Upper Limit	76.24	76.24	Upper Limit	33.63	33.63	Probe Type:	PA22-001
Increment:	Y Axial Drive	Inc. Interval (Resolution)	0.05		DCI (Scan Resolution)	0.05		Scanning Speed:	1.5 inches per second
Mode:	Automatic Scan	Conversion Units	Inches		Conversion Units	Inches		Number of Scans:	95
Scan Motion:	Bi-directional				Radius In.	15.38"		Weld C/L:	72.262"
Correction:	N/A							Elevation/Nozzle C/I	N/A

Master Acquisition File: DM_Pipe_ID_0_CW_180_CCW_Skew.acq

Probe	**Channel /Angle(s)**	**Skew**	**Scan Offset**	**Step Offset**	**Calibration Records:**
Probe 1	1-(60-88°L)	0°	+ 27.57(in)	- 2.21(in)	110003
Probe 2	2-(60-88°L)	180°	+ 37.01(in)	- 2.21(in)	110003
N/A	N/A	N/A	N/A	N/A	N/A
ET Probe 1	1-2	+22.5°	+ 5.35(in)	+ 0.00(in)	ET03-PTB-01
ET Probe 2	3-4	-22.5°	- 5.35(in)		

Examination Notes:
Pipe Diameter = 30.83"
Circumference = 96.86"

Examination Remarks:

Data Analysis

Increment & Scan Positions Actual

Scan No.(s)	Increment Position Start	Increment Position Stop	Scan Position Start	Scan Position Stop
1 - 95	71.56	76.24	0.00	33.63

Recordable Indications

		Yes	No	N/A
Probe 1	Channel 1	☐	☑	☐
	Channel 2	☐	☑	☐
	Channel 3	☐	☑	☐
Probe 2	Channel 1	☐	☑	☐
	Channel 2	☐	☑	☐
	Channel 3	☐	☑	☐
Probe 3	Channel 1	☐	☐	☑
	Channel 2	☐	☐	☑
	Channel 3	☐	☐	☑
ET Probe 1	Channel 1-2	☐	☐	☑
ET Probe 2	Channel 3-4	☐	☐	☑
N/A	N/A	☐	☐	☑

Analyst Remarks

Attachment: ☐ Yes ☑ No

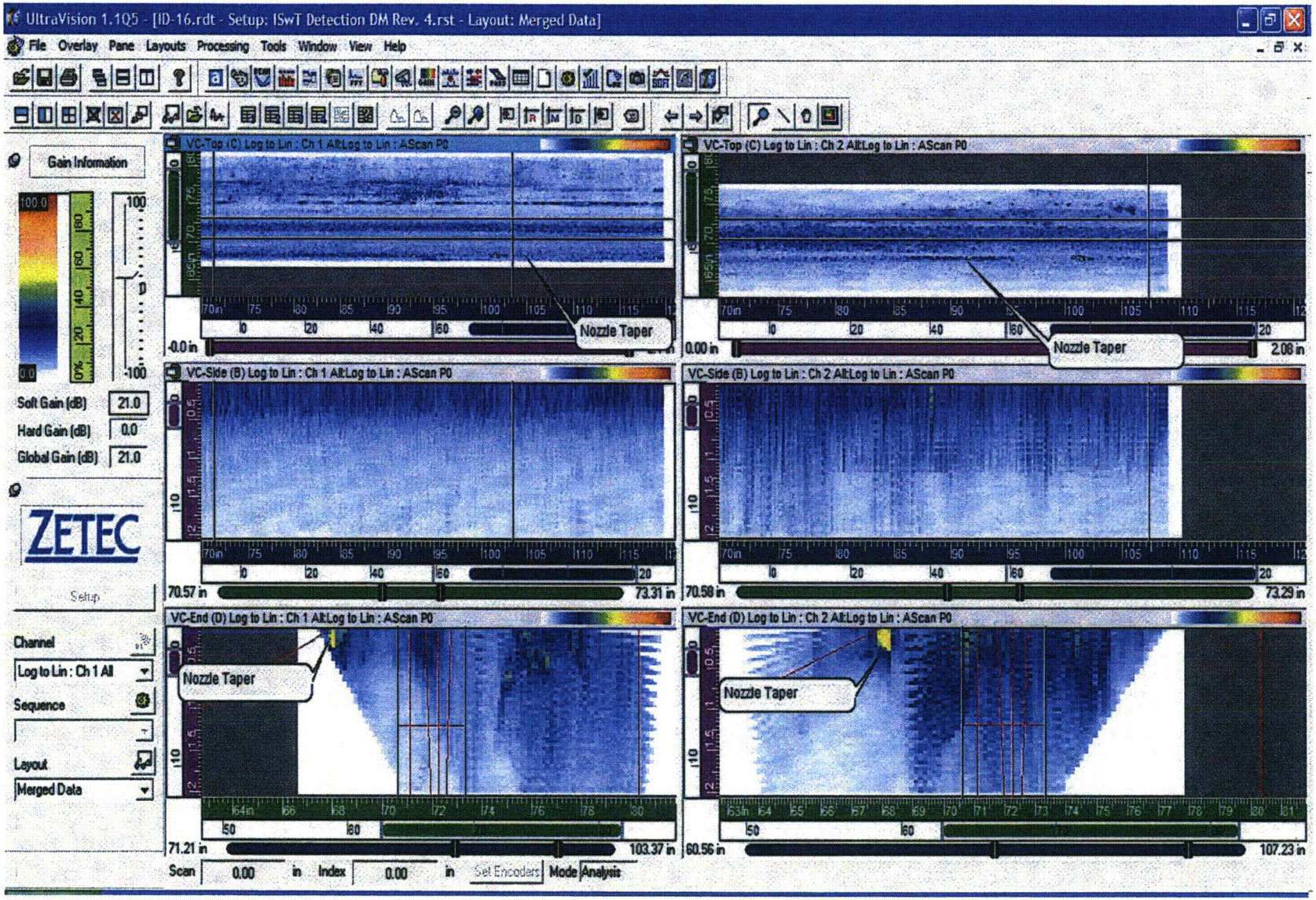
Further Evaluation Required: ☐ Yes ☑ No

Archive Media: ☑ External Hard Drive ☐ CD-ROM DVD-ROM

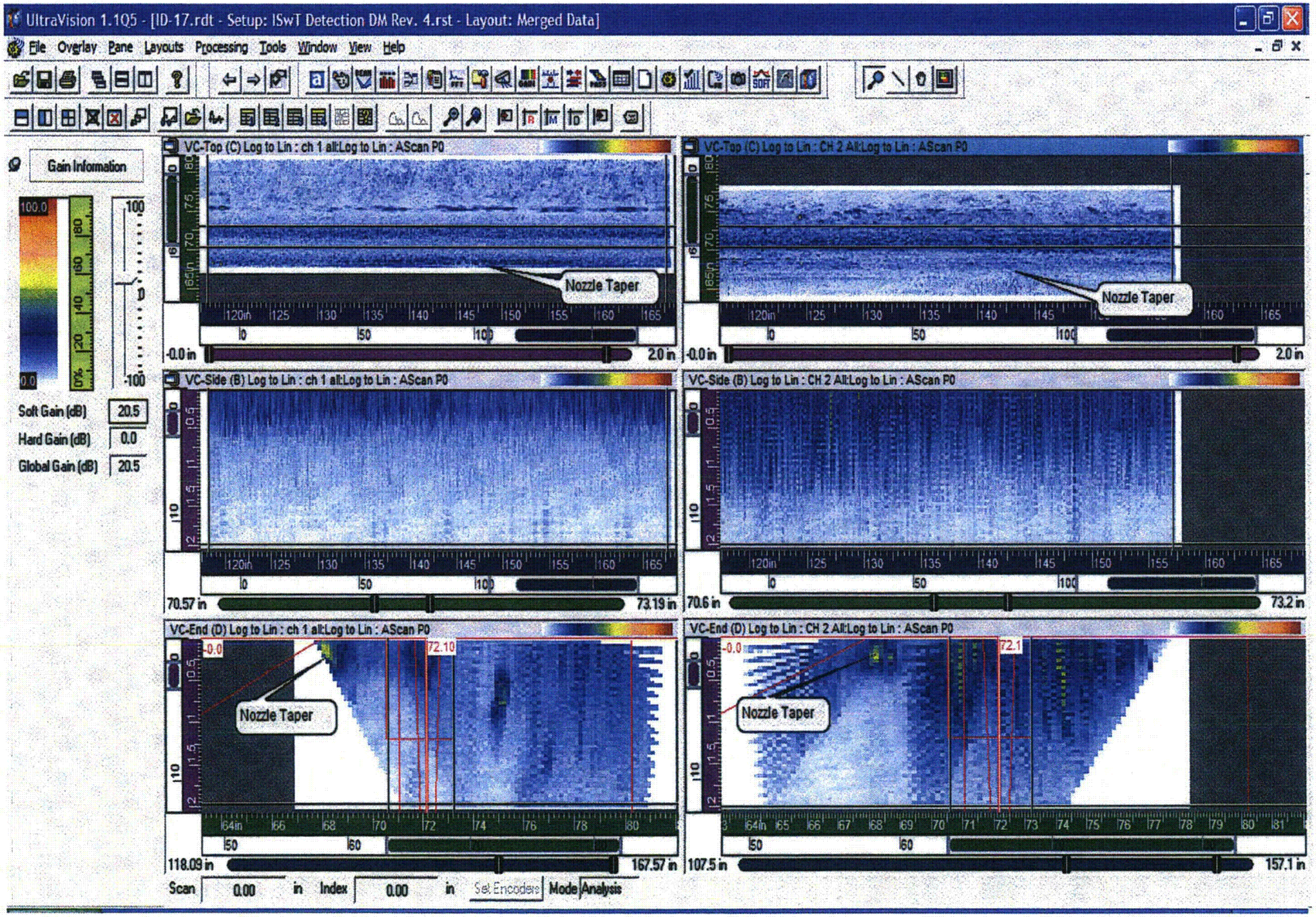
Analyst / SNT Level / Date: **Richard A. Riddles / III / 18 Nov. 2012**

ISWT FORM No. UT 50 (Rev. 1/11)

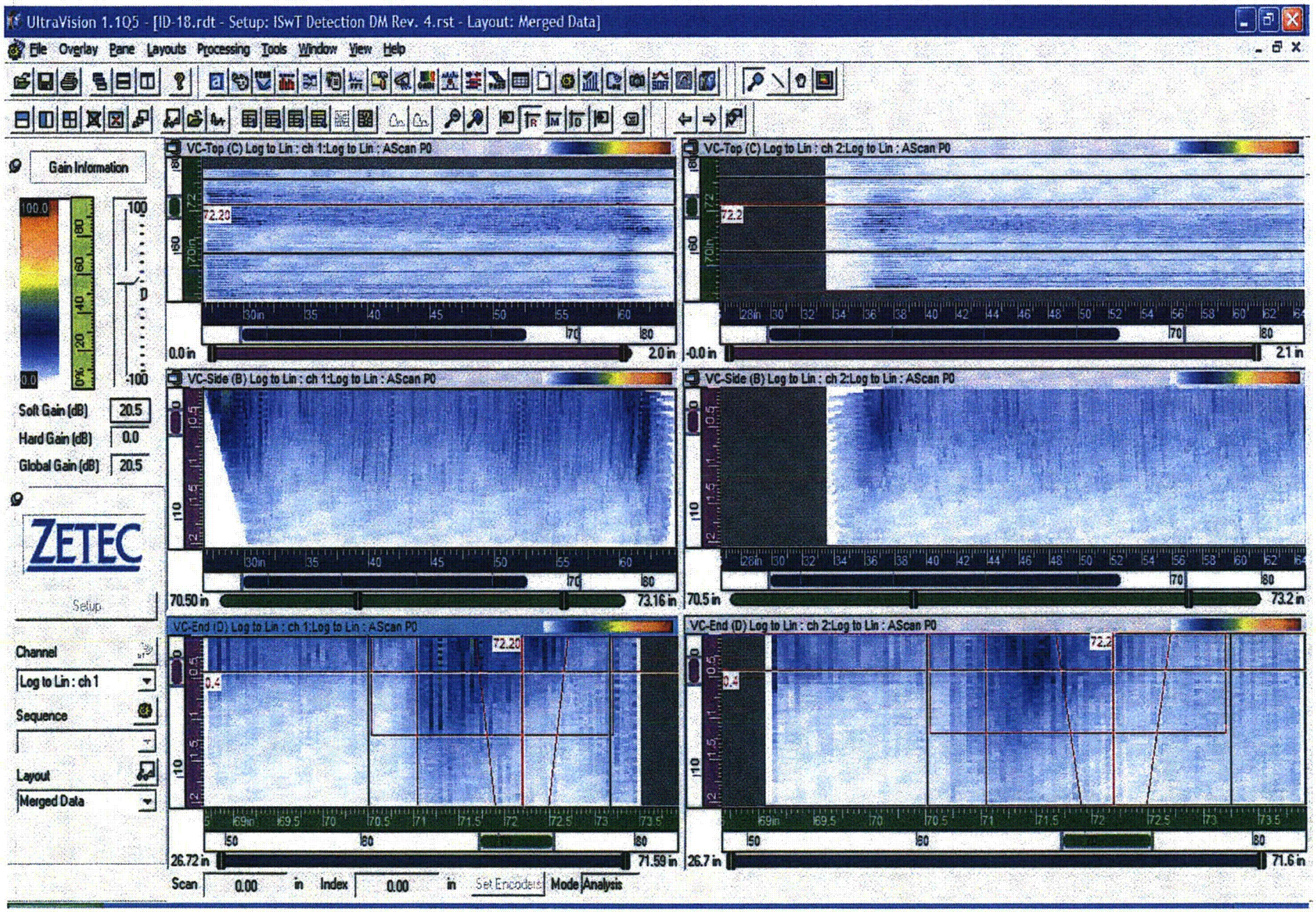
ID-16 SG B Outlet Nozzle to Safe-End (Away Towards)



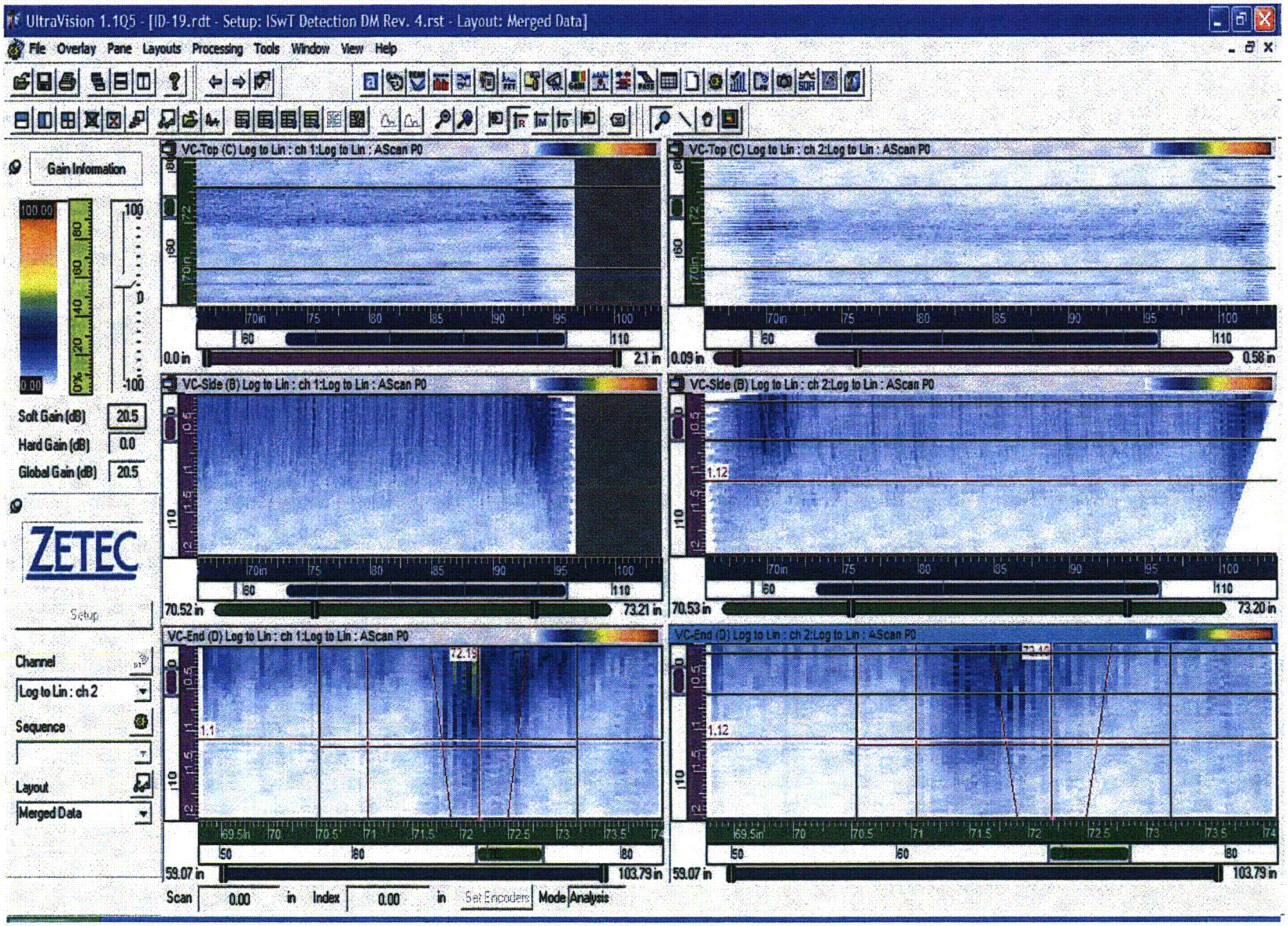
ID-17 SG B Outlet Nozzle to Safe-End (Away Towards)



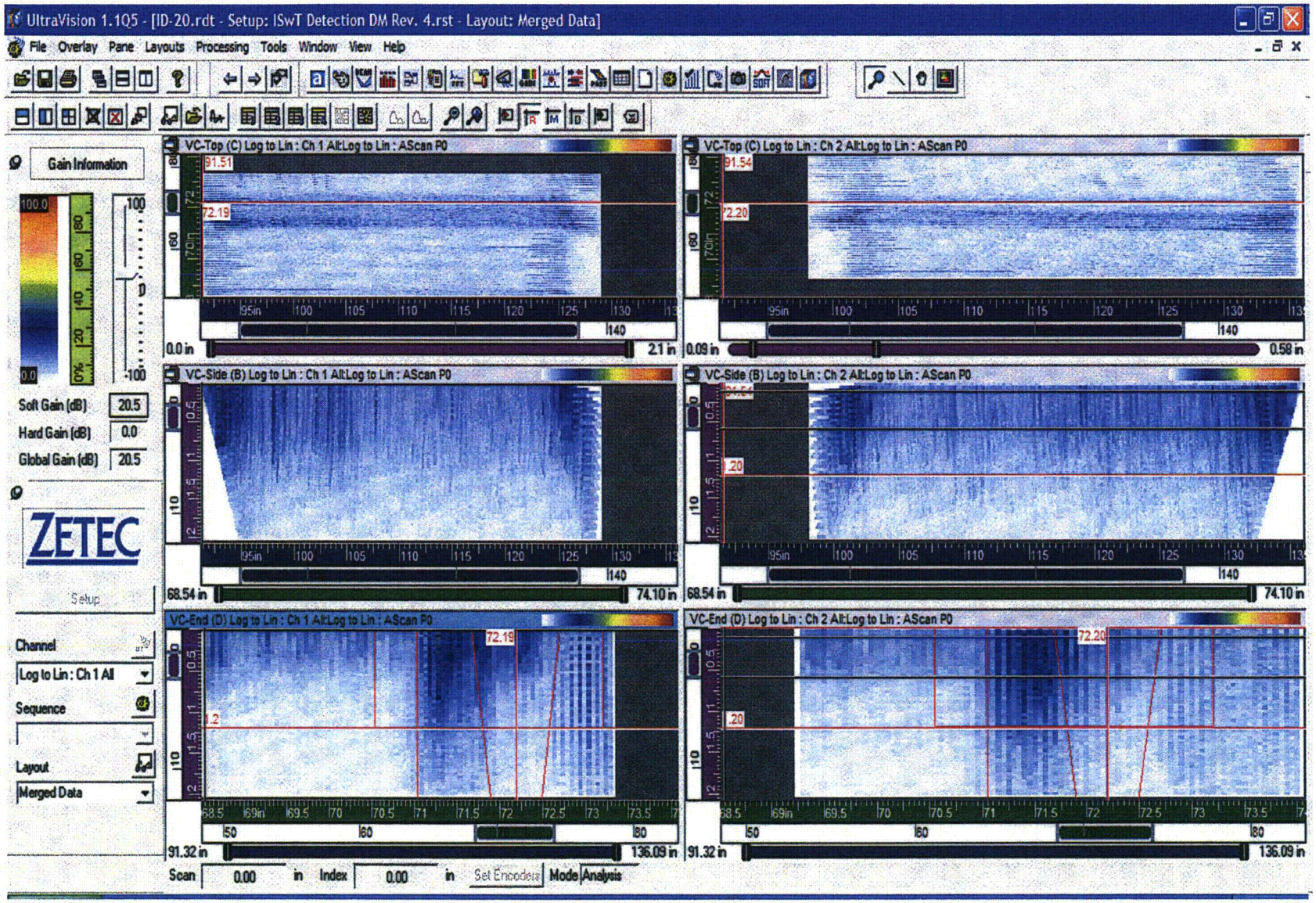
ID-18 SG B Outlet Nozzle to Safe-End (Cw CCW)



ID-19 SG B Outlet Nozzle to Safe-End (Cw CCW)



ID-20 SG B Outlet Nozzle to Safe-End (Cw CCW)



IHI SOUTHWEST TECHNOLOGIES
AUTOMATED EDDY CURRENT EXAMINATION RECORD

Site/Plant :	Point Beach Unit 2	**Weld Identification:**	RC-36-MRCL-BII-01A	**Pro/Rev/Chg/ICN:**	ISWT-AET3/2/0/0	**Examination No.:**	**ID-18**
Project No.:	12-0301	**Weld Description:**	B S/G Out Noz-to-SE (0°-125°)	**Device Configuration:**	136-00045		
Mod.Conf.:	138-00032	**Scan Path Drawing:**	134-00079	**Exam Date**	**Examination Time**	**Surface Temperature °F**	
Data Acquisition Operator (s) / SNT Level:		**David R. Kleinjan / II**		18-Nov-12	**Start** / **End**	**Start** / **End**	
					0915 / 1014	94 / 94	

Data Acquisition

Scan Controller Parameters		**Increment Axis**	**Planned**	**Actual**	**Scan Axis**	**Planned**	**Actual**	**Positional Parameters**	
Controller:	SG-NExT	Lower Limit	71.56	71.56	Lower Limit	0.00	0.00	Beam Direction:	Cw/Ccw
Scan:	X Rotator Drive	Upper Limit	76.24	76.24	Upper Limit	33.63	33.63	ET Probe Size:	.24 (in)
Increment:	Y Axial Drive	Increment Interval	0.05		Resolution	0.20		Scanning Speed	1.5 inches per second
Mode:	Automatic Scan	Conversion Units	Inches		Conversion Units	Inches		Number of Scans:	95
Scan Motion:	Bi-directional				Radius In.	15.38"		Weld C/L	72.262"
Correction:	N/A							Elevation/Nozzle C/L	N/A

Module Parameters:

	Status	**Channel(s)**	**Skew**	**Scan Offset**	**Step Offset**	**Calibration Records:**
Probe 1	On	1-2	+ 22.5°	+5.35 (in)	-2.21 (in.)	ET-03-PTB-001
Probe 2	On	3-4	- 22.5°	-5.35 (in)	-2.21 (in.)	ET-03-PTB-001

Examination Notes:
Pipe diameter = 30.83"
Circumference = 96.86"

Examination Remarks:

Data Analysis

Increment & Scan Positions Actual

Scan No.(s)	Increment Position Start	Increment Position Stop	Scan Position Start	Scan Position Stop
1-95	71.56	76.24	0.00	33.63

Recordable Indications

		Yes	No	N/A
Probe 1	Channel 1	☐	☑	☐
	Channel 2	☐	☑	☐
Probe 2	Channel 3	☐	☑	☐
	Channel 4	☐	☑	☐
Probe 3	Channel 5	☐	☐	☑
	Channel 6	☐	☐	☑
Probe 4	Channel 7	☐	☐	☑
	Channel 8	☐	☐	☑

Analyst Remarks

Attachment: ☑Yes ☐No
Further Evaluation Required: ☐Yes ☑No
Archive Media: ☑ External Hard Drive ☐ CD-ROM DVD-ROM

EXAMINATION C SCAN FOR ALL 4 CHANNELS

Analyst / SNT Level / Date:
David R. Kleinjan / II D. R. Kleinjan / 18 NOV 2012

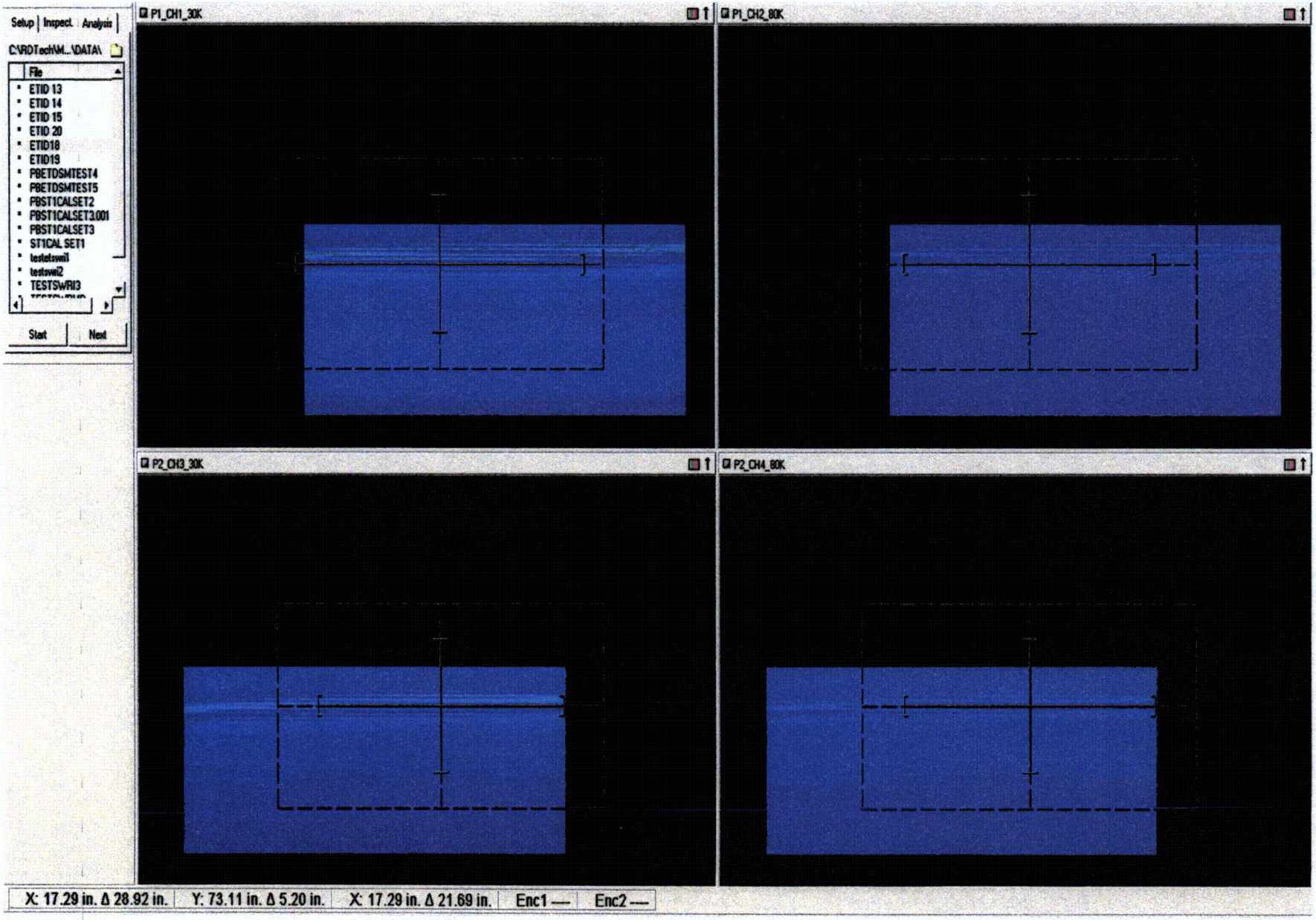
Reviewed By/Analyst / SNT Level /Signature:
William Angell / II William Angell

ISWT FORM No. ET 10/08

Project No. 12-0301
Instrument S/N 131612

EXAMINATION ET-ID-18
STATION 1

Date: 18 NOV 2012
CALIBRATION SHEET: ET-03-PTB-001



IHI SOUTHWEST TECHNOLOGIES
AUTOMATED ULTRASONIC EXAMINATION RECORD

IHI Southwest Technologies, Inc.

Site/Plant : Point Beach Unit 2	**Weld Identification:** RC-36-MRCL-BII-01A	**Pro/Rev/Chg/ICN:** ISwT-PDI-AUT11/2/0/1	**Examination No.:** ID-19		
Project No.: 12-0301	**Weld Description:** B S/G Out Noz-to-SE (120°-245°)	**Device Configuration:** 136-00045			
Mod.Conf.: 138-00032	**Scan Path Drawing:** 134-00079	**Exam Date**	**Examination Time**		**Surface Temperature °F**
Data Acquisition Operator (s) / SNT Level:	**Bryan Wright / II**	18 Nov. 2012	**Start**	**End**	**Start** / **End**
			1024	1105	94 / 94

Data Acquisition

Scan Controller Parameters		**Increment Axis**	**Planned**	**Actual**	**Scan Axis**	**Planned**	**Actual**	**Positional Parameters**	
Controller:	SG-NExT	Lower Limit	71.56	71.56	Lower Limit	32.29	32.29	Beam Direction:	Cw/Ccw
Scan:	X Rotator Drive	Upper Limit	76.24	76.24	Upper Limit	65.92	65.92	Probe Type:	PA22-001
Increment:	Y Axial Drive	Inc. Interval (Resolution)	0.05		DCI (Scan Resolution)	0.05		Scanning Speed:	1.5 inches per second
Mode:	Automatic Scan	Conversion Units	Inches		Conversion Units	Inches		Number of Scans:	95
Scan Motion:	Bi-directional				Radius In.	15.38"		Weld C/L:	72.262"
Correction:	N/A							Elevation/Nozzle C/I	N/A

Master Acquisition File: DM_Pipe_ID_0_CW_180_CCW_Skew.acq

Probe	**Channel /Angle(s)**	**Skew**	**Scan Offset**	**Step Offset**	**Calibration Records:**
Probe 1	1-(60-88°L)	0°	+ 27.57(in)	- 2.21(in)	110003
Probe 2	2-(60-88°L)	180°	+ 37.01(in)	- 2.21(in)	110003
N/A	N/A	N/A	N/A	N/A	N/A
ET Probe 1	1-2	+22.5°	+ 5.35(in)	+ 0.00(in)	ET03-PTB-01
ET Probe 2	3-4	-22.5°	- 5.35(in)		

Examination Notes:
Pipe Diameter = 30.83"
Circumference = 96.86"

Examination Remarks:

Data Analysis

Increment & Scan Positions Actual

Scan No.(s)	Increment Position Start	Increment Position Stop	Scan Position Start	Scan Position Stop
1 - 95	71.56	76.24	32.29	65.92

Recordable Indications

		Yes	No	N/A
Probe 1	Channel 1	☐	☑	☐
	Channel 2	☐	☑	☐
	Channel 3	☐	☑	☐
Probe 2	Channel 1	☐	☑	☐
	Channel 2	☐	☑	☐
	Channel 3	☐	☑	☐
Probe 3	Channel 1	☐	☐	☑
	Channel 2	☐	☐	☑
	Channel 3	☐	☐	☑
ET Probe 1	Channel 1-2	☐	☐	☑
ET Probe 2	Channel 3-4	☐	☐	☑
N/A	N/A	☐	☐	☑

Analyst Remarks

Attachment: ☐ Yes ☑ No

Further Evaluation Required: ☐ Yes ☑ No

Archive Media: ☑ External Hard Drive ☐ CD-ROM DVD-ROM

Analyst / SNT Level / Date: **Richard A. Riddles / III / 18 Nov. 2012**

ISWT FORM No. UT 50 (Rev. 1/11)

IHI SOUTHWEST TECHNOLOGIES
AUTOMATED EDDY CURRENT EXAMINATION RECORD

Site/Plant :	Point Beach Unit 2	**Weld Identification:**	RC-36-MRCL-BII-01A	**Pro/Rev/Chg/ICN:**	ISWT-AET3/2/0/0	**Examination No.:**	ID-19
Project No.:	12-0301	**Weld Description:**	B S/G Out Noz-to-SE (120°-245°)	**Device Configuration:**	136-00045		
Mod.Conf.:	138-00032	**Scan Path Drawing:**	134-00079	**Exam Date**	**Examination Time**	**Surface Temperature °F**	
Data Acquisition Operator (s) / SNT Level:		**David R. Kleinjan / II**		18-Nov-12	**Start** / **End**	**Start** / **End**	
					1024 / 1105	94 / 94	

Data Acquisition

Scan Controller Parameters	
Controller:	SG-NExT
Scan:	X Rotator Drive
Increment:	Y Axial Drive
Mode:	Automatic Scan
Scan Motion:	Bi-directional
Correction:	N/A

Increment Axis	**Planned**	**Actual**
Lower Limit	71.56	71.56
Upper Limit	76.24	76.24
Increment Interval	0.05	
Conversion Units	Inches	

Scan Axis	**Planned**	**Actual**
Lower Limit	32.29	32.29
Upper Limit	65.92	65.92
Resolution	0.20	
Conversion Units	Inches	
Radius In.	15.38"	

Positional Parameters	
Beam Direction:	Cw/Ccw
ET Probe Size:	.24 (in)
Scanning Speed	1.5 inches per second
Number of Scans:	95
Weld C/L	72.262"
Elevation/Nozzle C/L	N/A

Module Parameters:

	Status	**Channel(s)**	**Skew**	**Scan Offset**	**Step Offset**	**Calibration Records:**
Probe 1	On	1-2	+ 22.5°	+5.35 (in)	-2.21 (in.)	ET-03-PTB-001
Probe 2	On	3-4	- 22.5°	-5.35 (in)	-2.21 (in.)	ET-03-PTB-001

Examination Notes:

Pipe diameter = 30.83"

Circumference = 96.86"

Examination Remarks:

Data Analysis

Increment & Scan Positions Actual

Scan No.(s)	Increment Position Start	Increment Position Stop	Scan Position Start	Scan Position Stop
1-95	71.56	76.24	32.29	65.92

Recordable Indications

		Yes	No	N/A
Probe 1	Channel 1	☐	☑	☐
	Channel 2	☐	☑	☐
Probe 2	Channel 3	☐	☑	☐
	Channel 4	☐	☑	☐
Probe 3	Channel 5	☐	☐	☑
	Channel 6	☐	☐	☑
Probe 4	Channel 7	☐	☐	☑
	Channel 8	☐	☐	☑

Analyst Remarks

Attachment: ☑Yes ☐No

Further Evaluation Required: ☐Yes ☑No

Archive Media:
☑ External Hard Drive
☐ CD-ROM
DVD-ROM

EXAMINATION C SCAN FOR ALL 4 CHANNELS

Analyst / SNT Level / Date:
David R. Kleinjan / II D. R. Kleinjan / 18 NOV 2012

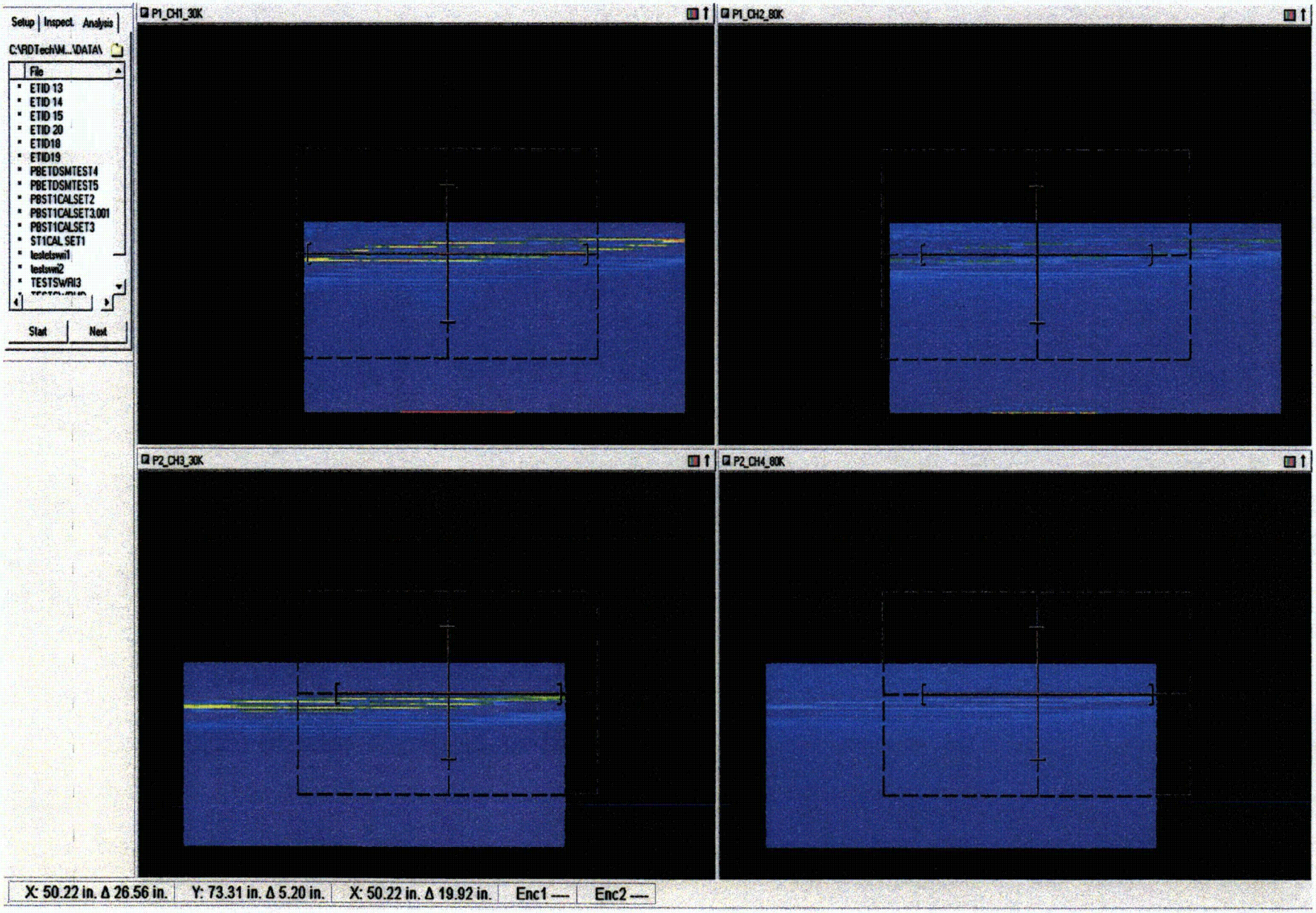
Reviewed By/Analyst / SNT Level /Signature:
William Angell / II William Angell

ISWT FORM No. ET 10/08

Project No. 12-0301
Instrument S/N 131612

EXAMINATION ET-ID-19
STATION 1

Date: 18 NOV 2012
CALIBRATION SHEET: ET-03-PTB-001



IHI SOUTHWEST TECHNOLOGIES
AUTOMATED ULTRASONIC EXAMINATION RECORD

IHI Southwest Technologies, Inc.

Site/Plant : Point Beach Unit 2	**Weld Identification:** RC-36-MRCL-BII-01A	**Pro/Rev/Chg/ICN:** ISwT-PDI-AUT11/2/0/1	**Examination No.:** ID-20		
Project No.: 12-0301	**Weld Description:** B S/G Out Noz-to-SE (240°-365°)	**Device Configuration:** 136-00045			
Mod.Conf.: 138-00032	**Scan Path Drawing:** 134-00079	**Exam Date**	**Examination Time**		**Surface Temperature °F**
Data Acquisition Operator (s) / SNT Level:	**Bryan Wright / II**	18 Nov. 2012	**Start**	**End**	**Start** / **End**
			1114	1153	94 / 94

Data Acquisition

Scan Controller Parameters		**Increment Axis**	**Planned**	**Actual**	**Scan Axis**	**Planned**	**Actual**	**Positional Parameters**	
Controller:	SG-NExT	Lower Limit	71.56	71.56	Lower Limit	64.57	64.57	Beam Direction:	Cw/Ccw
Scan:	X Rotator Drive	Upper Limit	76.24	76.24	Upper Limit	98.20	98.20	Probe Type:	PA22-001
Increment:	Y Axial Drive	Inc. Interval (Resolution)	0.05		DCI (Scan Resolution)	0.05		Scanning Speed:	1.5 inches per second
Mode:	Automatic Scan	Conversion Units	Inches		Conversion Units	Inches		Number of Scans:	95
Scan Motion:	Bi-directional				Radius In.	15.38"		Weld C/L:	72.262"
Correction:	N/A							Elevation/Nozzle C/I	N/A

Master Acquisition File: DM_Pipe_ID_0_CW_180_CCW_Skew.acq

Probe	**Channel /Angle(s)**	**Skew**	**Scan Offset**	**Step Offset**	**Calibration Records:**
Probe 1	1-(60-88°L)	0°	+ 27.57(in)	- 2.21(in)	110003
Probe 2	2-(60-88°L)	180°	+ 37.01(in)	- 2.21(in)	110003
N/A	N/A	N/A	N/A	N/A	N/A
ET Probe 1	1-2	+22.5°	+ 5.35(in)	+ 0.00(in)	ET03-PTB-01
ET Probe 2	3-4	-22.5°	- 5.35(in)		

Examination Notes:
Pipe Diameter = 30.83"
Circumference = 96.86"

Examination Remarks:

Data Analysis

Increment & Scan Positions Actual

Scan No.(s)	Increment Position Start	Increment Position Stop	Scan Position Start	Scan Position Stop
1 - 95	71.56	76.24	64.57	98.20

Recordable Indications

		Yes	No	N/A
Probe 1	Channel 1	☐	☑	☐
	Channel 2	☐	☑	☐
	Channel 3	☐	☑	☐
Probe 2	Channel 1	☐	☑	☐
	Channel 2	☐	☑	☐
	Channel 3	☐	☑	☐
Probe 3	Channel 1	☐	☐	☑
	Channel 2	☐	☐	☑
	Channel 3	☐	☐	☑
ET Probe 1	Channel 1-2	☐	☐	☑
ET Probe 2	Channel 3-4	☐	☐	☑
N/A	N/A	☐	☐	☑

Analyst Remarks

Attachment: ☐ Yes ☑ No

Further Evaluation Required: ☐ Yes ☑ No

Archive Media: ☑ External Hard Drive ☐ CD-ROM DVD-ROM

Analyst / SNT Level / Date: **Richard A. Riddles / III / 18 Nov. 2012**

ISWT FORM No. UT 50 (Rev. 1/11)

IHI SOUTHWEST TECHNOLOGIES
AUTOMATED EDDY CURRENT EXAMINATION RECORD

Site/Plant :	Point Beach Unit 2	**Weld Identification:**	RC-36-MRCL-BII-01A	**Pro/Rev/Chg/ICN:**	ISWT-AET3/2/0/0	**Examination No.:**	**ID-20**
Project No.:	12-0301	**Weld Description:**	B S/G Out Noz-to-SE (240°-365°)	**Device Configuration:**	136-00045		
Mod.Conf.:	138-00032	**Scan Path Drawing:**	134-00079	**Exam Date**	**Examination Time**	**Surface Temperature °F**	
Data Acquisition Operator (s) / SNT Level:		**David R. Kleinjan / II**		18-Nov-12	**Start** 1114 / **End** 1153	**Start** 94	**End** 94

Data Acquisition

Scan Controller Parameters	
Controller:	SG-NExT
Scan:	X Rotator Drive
Increment:	Y Axial Drive
Mode:	Automatic Scan
Scan Motion:	Bi-directional
Correction:	N/A

Increment Axis	**Planned**	**Actual**
Lower Limit	71.56	71.56
Upper Limit	76.24	76.24
Increment Interval	0.05	
Conversion Units	Inches	

Scan Axis	**Planned**	**Actual**
Lower Limit	64.57	64.57
Upper Limit	98.20	98.20
Resolution	0.20	
Conversion Units	Inches	
Radius In.	15.38"	

Positional Parameters	
Beam Direction:	Cw/Ccw
ET Probe Size:	.24 (in)
Scanning Speed	1.5 inches per second
Number of Scans:	95
Weld C/L	72.262"
Elevation/Nozzle C/L	N/A

Module Parameters:

	Status	**Channel(s)**	**Skew**	**Scan Offset**	**Step Offset**	**Calibration Records:**
Probe 1	On	1-2	+ 22.5°	+5.35 (in)	-2.21 (in.)	ET-03-PTB-001
Probe 2	On	3-4	- 22.5°	-5.35 (in)	-2.21 (in.)	ET-03-PTB-001

Examination Notes:

Pipe diameter = 30.83"

Circumference = 96.86"

Examination Remarks:

Data Analysis

Increment & Scan Positions Actual

Scan No.(s)	Increment Position Start	Increment Position Stop	Scan Position Start	Scan Position Stop
1-95	71.56	76.24	64.57	98.20

Recordable Indications

		Yes	No	N/A
Probe 1	Channel 1	☐	☑	☐
	Channel 2	☐	☑	☐
Probe 2	Channel 3	☐	☑	☐
	Channel 4	☐	☑	☐
Probe 3	Channel 5	☐	☐	☑
	Channel 6	☐	☐	☑
Probe 4	Channel 7	☐	☐	☑
	Channel 8	☐	☐	☑

Attachment: ☑Yes ☐No

Further Evaluation Required: ☐Yes ☑No

Archive Media:
- ☑ External Hard Drive
- ☐ CD-ROM
- DVD-ROM

Analyst Remarks

EXAMINATION C SCAN FOR ALL 4 CHANNELS

Analyst / SNT Level / Date:
David R. Kleinjan / II D. R. Kleinjan 18 Nov 2012

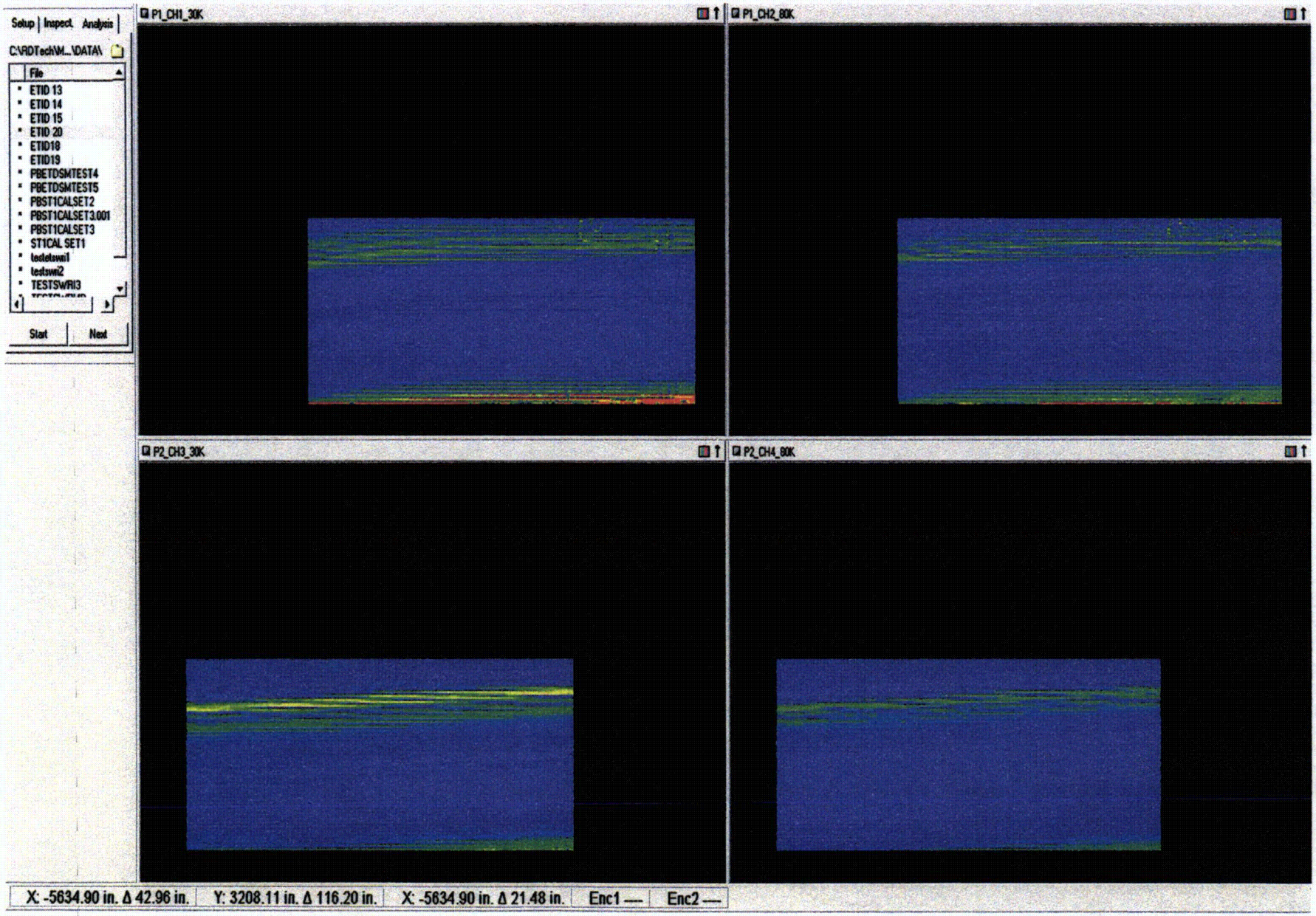
Reviewed By/Analyst / SNT Level /Signature:
William Angell / II William Angell

ISWT FORM No. ET 10/08

Project No. 12-0301
Instrument S/N 131612

EXAMINATION ET-ID-20
STATION 1

Date: 18 NOV 2012
CALIBRATION SHEET: ET-03-PTB-001



Attachment 3
Exelon PowerLabs, LLC Report NEX-77991
Analysis of Archive Weld Samples

7 pages follow

Exelon PowerLabs®

Exelon PowerLabs, LLC
Technical Services East
175 North Caln Road
Coatesville, PA 19320-2309

www.exelonpowerlabs.com
800-971-LABS
610-380-2532 fax

To: **Steve Forsha, Point Beach**

From: **Chris Reilly, (610)380-2432**
chris.reilly@ExelonPowerLabs.com

Project Number: **NEX-77991**

Subject: **Analysis of Archive Weld Sample**
Purchase Order No.: 02320872

Date: **September 17, 2013**

DESCRIPTION

Two archive weld samples for the Point Beach Unit 2 replacement steam generator nozzle dissimilar metal weld were submitted for chemical analysis of the Inconel ID bore overlay. The station requirement is that the weld contains 24% chromium, minimum.

Attachments 1 and 2 show the weld and overlay detail.

TEST RESULTS

The Inconel overlay of both weld samples exhibited greater than 24 wt% chromium. The full chemical analysis is shown in Table I. The weld deposit chemistry is consistent with ERNiCrFe-7.

The Exelon PowerLabs Quality System meets 10CFR50 Appendix B, NQA-1 (1994), ANSI N45.2, ANSI/NCSL Z540-1and 10CFR21/10CFR50.55 (e). Exelon PowerLabs is ISO 9001:2008 Registered and ISO/IEC 17025 Accredited.

TEST PLAN

1. Photograph as-received sample
2. Etch overlay side to display welds
3. Section as needed for OES of overlay

STATEMENT OF QUALITY

Testing was performed with standard equipment that have accuracies traceable to nationally recognized standards, or to physical constants, by qualified personnel, and in accordance with the **Exelon** PowerLabs Quality Assurance Program.

Technician(s): Stephen Merjanian, (610)380-2472, stephen.merjanian@ExelonPowerLabs.com

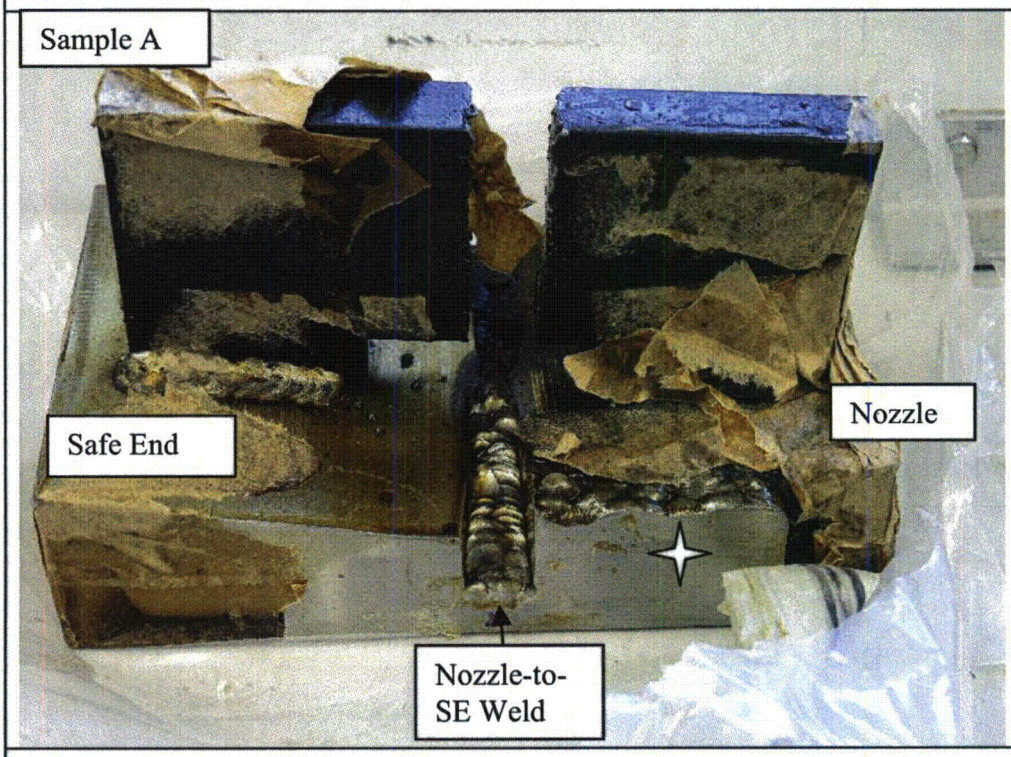
Reviewed &
Approved by: *Chris Reilly*
Sr. Engineer 09/17/2013

Project review and approval is electronically authenticated in Exelon PowerLabs project record.

cc:

OBSERVATIONS and DATA

Figure 1: As-received Weld Samples
The samples were labeled A and B in the lab for identification. The star in each photograph indicates the approximate location of the chemical analysis.



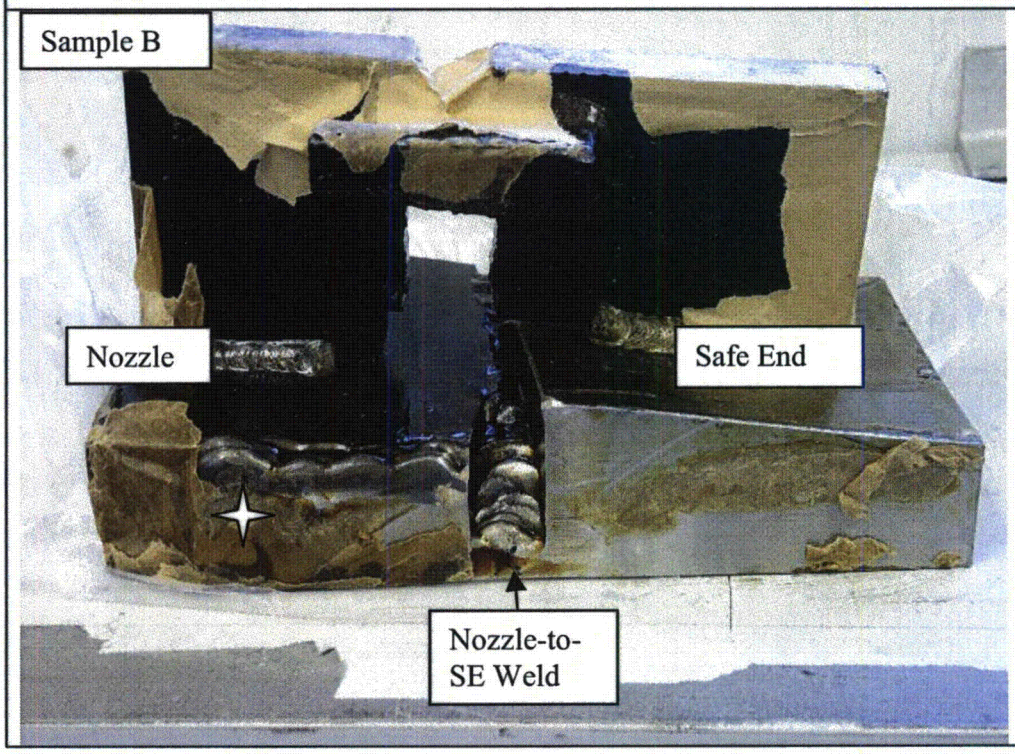
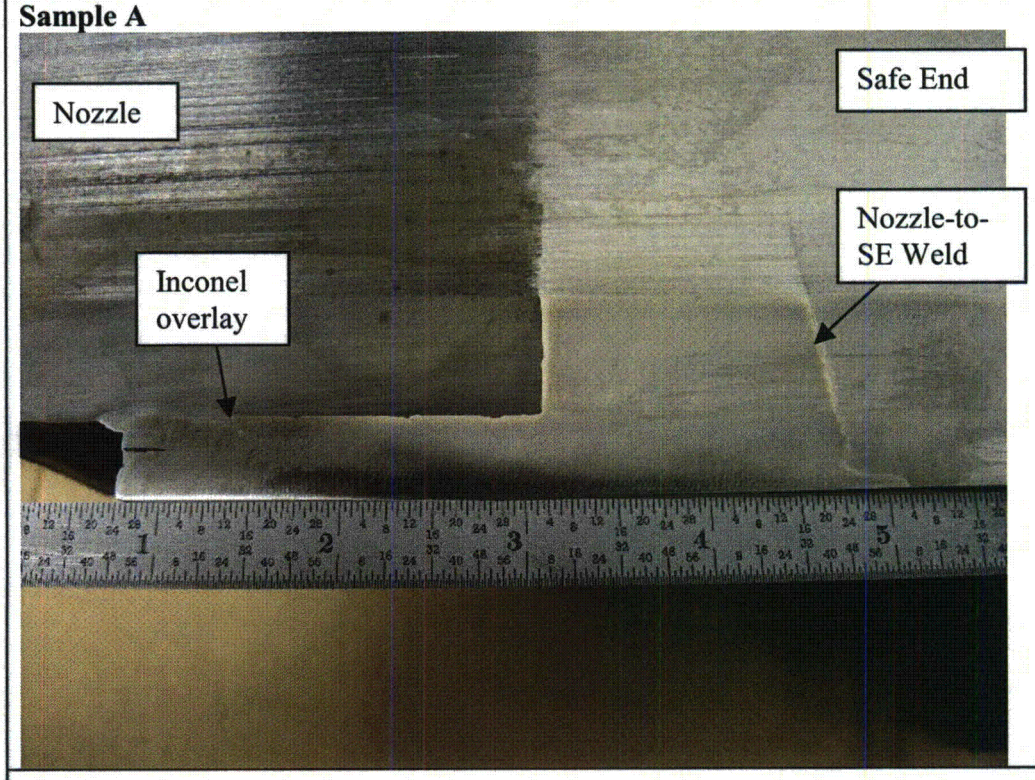


Figure 2: Macroetch of Weld Samples
Both samples were prepared and etched to highlight the Inconel overlay. The dissimilar metal weld joining the nozzle and safe end are also visible.

Sample A



Sample B

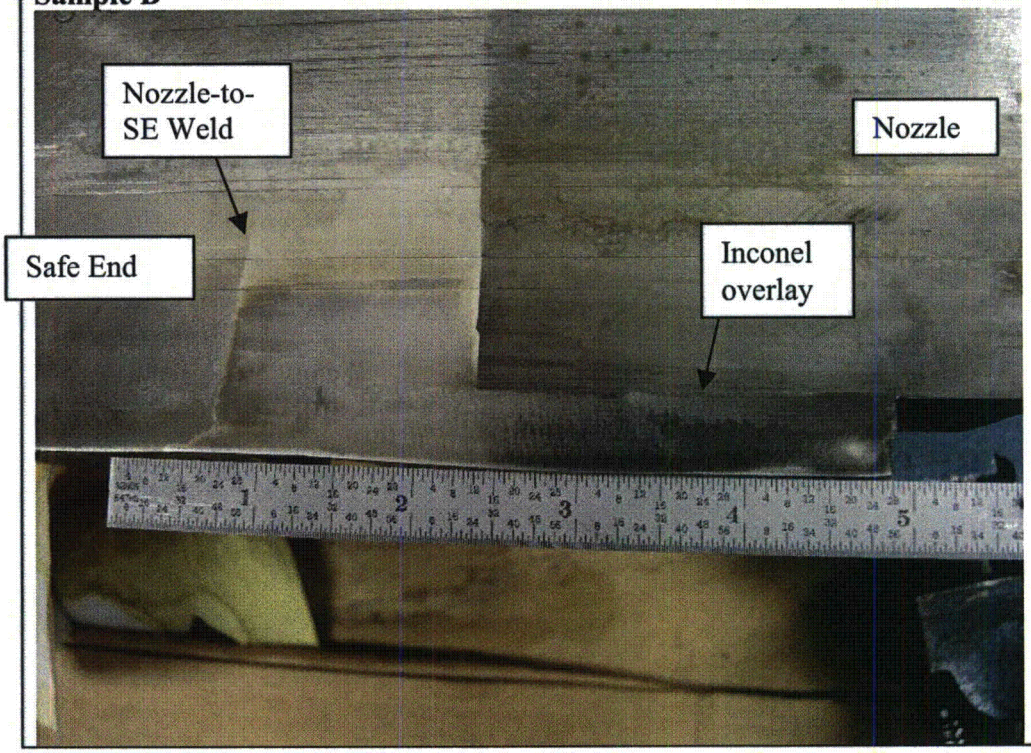
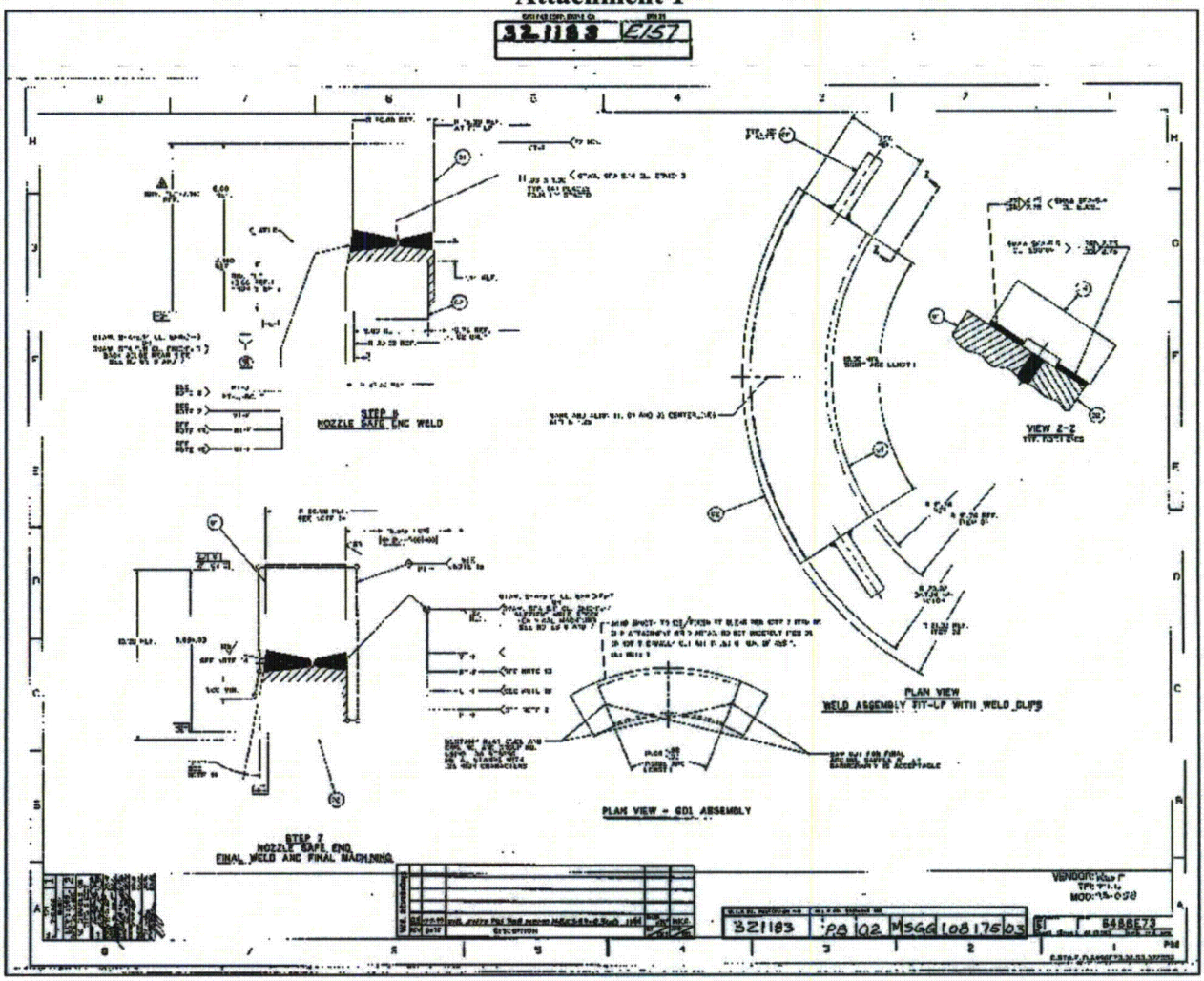
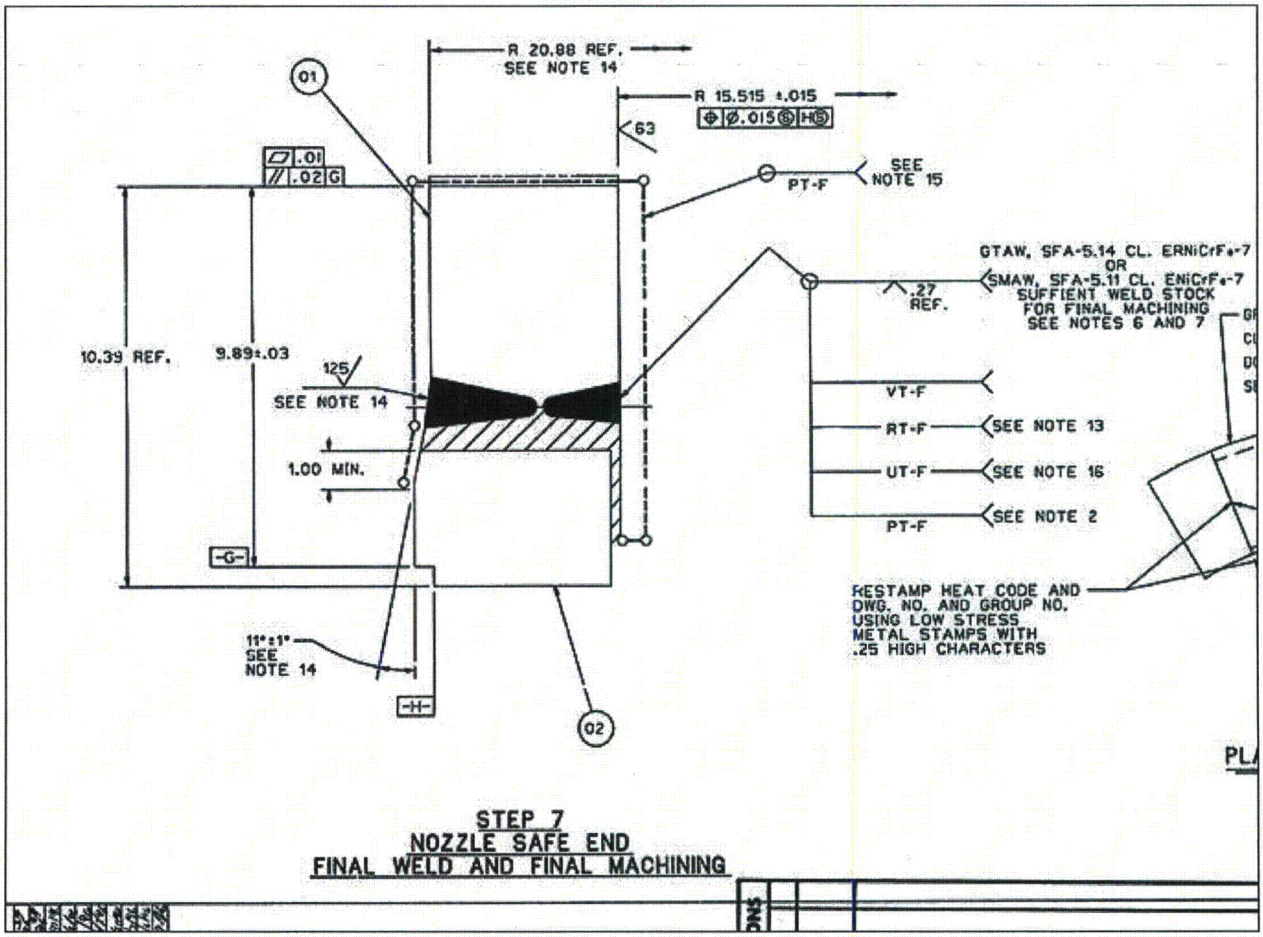


Table I: Chemical Analysis by Optical Emission Spectrometer (weight percentage)

Element	Sample A	Sample B
C	0.02	0.02
Mn	0.29	0.29
Fe	10.6	10.0
P	<0.01	<0.01
S	<0.01	<0.01
Si	0.18	0.19
Cu	0.01	0.01
Ni	57.9	58.3
Co	0.02	0.02
Al	0.60	0.62
Ti	0.51	0.54
Cr	29.4	29.6
Nb+Ta	0.09	0.10
Mo	0.02	0.02
Al+Ti	1.1	1.2
Other, Total	0.36	0.29

Attachment 1



Attachment 2