# PIPELINE INTEGRITY
## DETAILED FEATURE REVIEW
## LINE 5 STRAIT OF MACKINAC (WEST) 2008 MFL -2003 MFL

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Line Segment: Strait of Mackinac (East)
Date of Most Recent Inspection: May 2008
Inspection Technology & Vendor: MFL, GE
ILI Report Issue: 1

Date of Previous Inspection: June 2003
Inspection Technology & Vendor: MFL, GE
ILI Report Issue: 1

Detailed Feature Review Report Completed By: Saheed Akonko
Date: November 17, 2010

Detailed ILI Match Review Report Approved By:
Date:

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## 1. EXECUTIVE SUMMARY

There were only 4 metal loss features reported on this pipeline in 2008. A high level review leveraging the 2003 MFL data showed that these features are not growing and so do not pose any integrity threat.

| 2008 MFL Upstream Girth Weld | Relative Distance (feet) | Absolute Distance (feet) | Comment | Peak Depth (%wt) | Length (in) | Width (in) | Local Wall Thickness (in) | RPR | Orientation (hrs:mins) | LAPA Burst Pressure (PSI) | LAPA RPR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 20 | 22.42 | 51.49 | *INT ML | 16% | 1.02 | 1.06 | 0.812 | 1.329 | 6:30 | 3235 | 1.328 |
| 20 | 22.92 | 51.99 | *INT ML | 21% | 1.26 | 0.87 | 0.812 | 1.325 | 6:45 | 3223 | 1.323 |
| 20 | 23.51 | 52.58 | *INT ML | 20% | 6.58 | 8.58 | 0.812 | 1.235 | 6:15 | 3051 | 1.253 |
| 20 | 24.58 | 53.65 | *INT ML | 26% | 3.43 | 2.17 | 0.812 | 1.273 | 6:15 | 3105 | 1.275 |

| 2003 MFL Girth Weld Number | Relative Distance (feet) | Absolute Distance (feet) | Comment | Peak Depth | Length | RPR | Orientation (hrs:mins) |
|---|---|---|---|---|---|---|---|
| 20 | 23.297 | 54.245 | *INT ML | 26% | 12.7 | 1.138 | 06:15 |
| 20 | 24.721 | 55.669 | *INT ML | 19% | 0.4 | 1.332 | 05:30 |

## 2. ILI MATCH REVIEW QA/QC CHECKS

The following QA/QC checks were completed on the Line X XX-XX 20XX (vendor) (tool) run:

| Case | A Criteria (2007) | B Criteria (2002) | Match Direction | Sort For | # of features | Comments |
|---|---|---|---|---|---|---|
| 1 | 40-50% | All | A→B | No Match | | |
| 2 | 40-50% | All | A→B | Growth/yr: 5% or 0.03RPR | | |
| 3 | 40-50% | All | A→B | Healing: 15% or 0.1 RPR | | |
| 4 | 1-1.05 RPR | All | A→B | No Match | | |
| 5 | 1-1.05 RPR | All | A→B | Growth/yr: 5% or 0.03RPR | | |
| 6 | 1-1.05 RPR | All | A→B | Healing: 15% or 0.1 RPR | | |
| 7 | All | 40-50% | B→A | No Match | | |
| 8 | All | 40-50% | B→A | Growth/yr: 5% or 0.03RPR | | |
| 9 | All | 40-50% | B→A | Healing: 15% or 0.1 RPR | | |
| 10 | All | 1-1.05 RPR | B→A | No Match | | |
| 11 | All | 1-1.05 RPR | B→A | Growth/yr: 5% or 0.03RPR | | |
| 12 | All | 1-1.05 RPR | B→A | Healing: 15% or 0.1 RPR | | |

<Note: A and B Criteria ranges are guidelines only. For shorter ILI intervals you may want to tighten the ranges to 45-50% and 1-1.02 RPR. For longer ILI intervals you may want to increase the range to 35-50% and 1-1.08 RPR.>



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# 3. DETAILED REVIEWS

## 3.1. CASE 1

### 3.1.1. GW XXXXX – Match Found

### 3.1.2. GW XXXXX – Monitor

### 3.1.3. GW XXXXX – Incorrect Match

### 3.1.4. GW XXXXX – Repaired

### 3.1.5. GW XXXXX – No Action Required

### 3.1.6. GW XXXXX – ILI Vendor to Review

## 3.2. CASE 2

## 3.3. CASE 3

## 3.4. CASE 4

## 3.5. CASE 5

## 3.6. CASE 6

## 3.7. CASE 7

## 3.8. CASE 8



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3.9. CASE 9

3.10. CASE 10

3.11. CASE 11

3.12. CASE 12

4. CONCLUSION



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