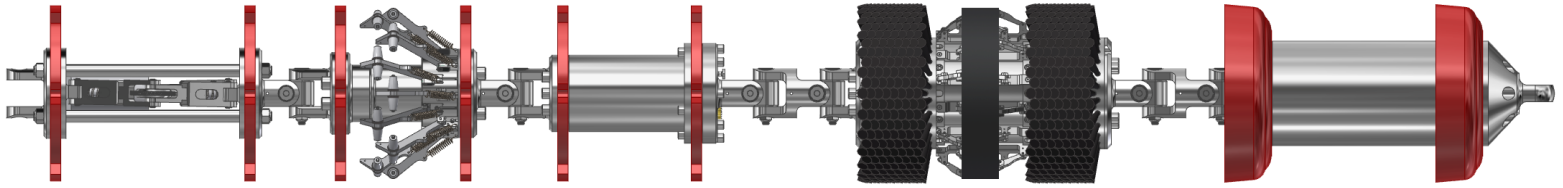




MFL-08-01 Data Sheet



Features

- High resolution metal loss & geometry sensors
- Bi-directional & free swimming operation
- Higher sampling rate reduces data loss during speed bursts
- Complete wall coverage
- Quick and highly detailed interactive data turnover
- User friendly client software with interactive calculations

Description

MFL-08-01 is the newest high resolution tool. It has the next generation of magnetic flux leakage (MFL) pipeline inspection technology that features the industry's highest density and most powerful sensor combination. This high-resolution MFL inspection tool utilizes axial pipe magnetization and is optimized to detect and accurately measure pipeline anomalies. The caliper section has a unique design that fully covers the inside circumference of the pipe.

Specifications

General	Tool Length (With GEO)	1.89 m	74.5 in
	Tool Weight (With GEO)	68 kg	150 lb
	Number of Sections	5 Sections	
	Velocity Range	0.1 to 5 m/s	0.3 to 16 ft/s
	Temperature Range	-20 to 85 °C	-4 to 185 °F
	Max. Run Duration	50 hours	(Extendable)
	Max. Run Length @ 5 kph	181 km	(Extendable)

Measurement	Corrosion (Full Coverage With Overlap)	224 Channels	
	I/O Discrimination	28 Channels	
	Geometry (Full Coverage With Overlap)	16 Channels	
	Odometer	2 Channels	
	Temperature & Compensation	16 Channels	
	Inertial Measurement	6 DOF, 6 Channels	

Pipeline	Nominal Size	219 mm OD	NPS 8
	Medium	Gas / Liquid / Multiphase	
	Min. Bore	175 mm (20%)	6.9 in
	Min. Bend Radius	0.33 m	1.5D
	Max. W.T. (Inspection)*	12.7 mm	0.5 in
	Max. Pressure	13,800 KPa	2,000 PSI

Location	Accuracy to Location	±0.1%	
	Accuracy to Girth Weld	±0.01 m	0.03 ft
	Circumferential Accuracy	±15°	
	Odometer (Interpolated)	±1 mm	±0.039 in

Detection & Sizing

Metal Loss		Isolated	General
	Definition	Area < 3t x 3t	Area ≥ 3t x 3t
	Depth at POD 90%	0.1t	0.1t
	Depth Accuracy (80%)	±0.1t	±0.1t
	Length Accuracy (80%)	±10mm	±10mm
	Width Accuracy (80%)	±12mm	±15mm

Geometry	Dent Detection Threshold	0.5 %OD
	Depth Sizing Accuracy	±0.5 % OD
	Ovality Detection Threshold	2 %OD
	Ovality Sizing Accuracy	±1 %OD



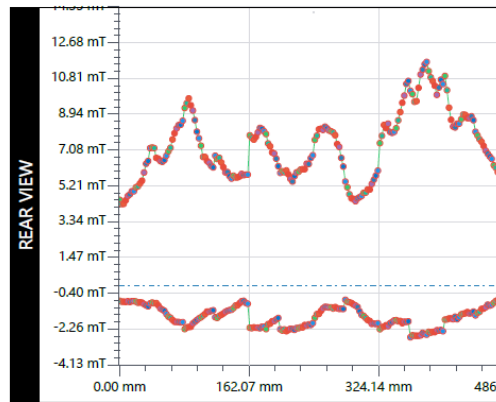
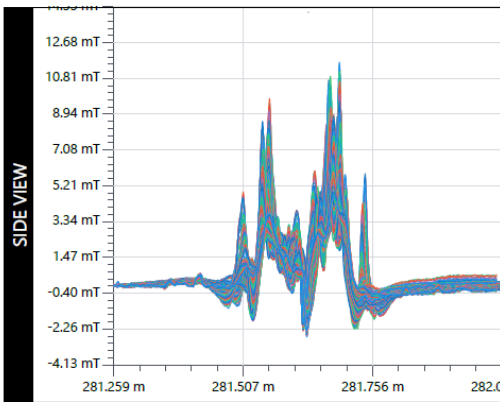
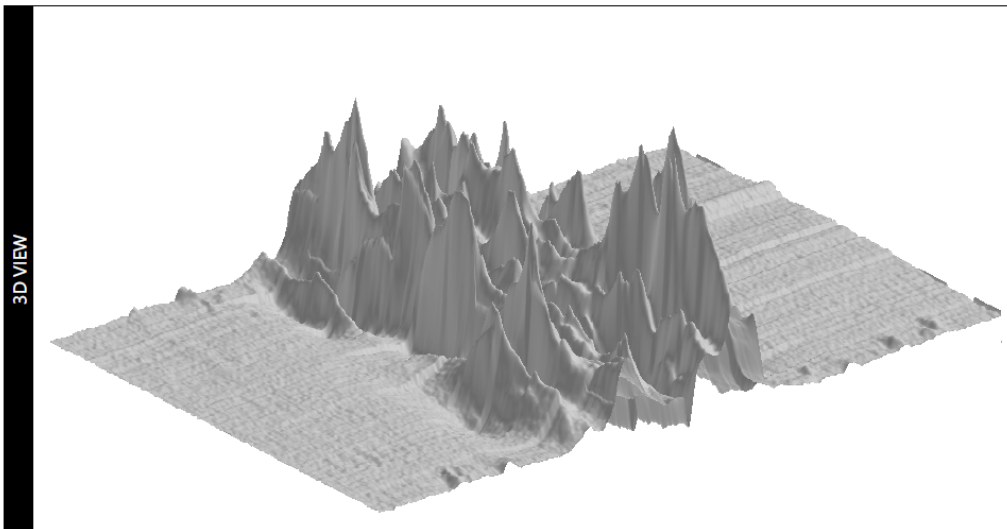
Inspection Report

Encompass Inspections

Client:	Example Client
Licence:	XXXXX-X
Project Name:	Example Job
Run Date:	2018-09-11, 11:00 PM

3.2. Location of Interest at 276.299 m

INFO	Displayed Data:	Axial MFL	COMMENTS	This section of data shows severe external corrosion on both sides of a weld whose external coating has failed. A verification dig is recommended at this location and other similar locations.
	Distance Start:	275.937 m		
	Distance End:	276.661 m		
	Circumference Shown:	100%		



ANOMALIES	Joint ID	ID	Type	Distance	W.T.	Length	Width	Depth	Percentage	Int/Ext	Orientation
	J25 [-]	ML563	MetalLoss	276.214 m	6.35 mm	13.36 mm	25.00 mm	3.88 mm	61.1 %WT	External	346° [11:30]
	J25 [-]	ML564	MetalLoss	276.222 m	6.35 mm	13.00 mm	15.00 mm	4.23 mm	66.7 %WT	External	83° [2:45]
	J25 [-]	ML565	MetalLoss	276.225 m	6.35 mm	18.97 mm	25.00 mm	4.27 mm	67.2 %WT	External	236° [7:55]
	J26 [-]	ML566	MetalLoss	276.350 m	6.35 mm	12.00 mm	35.55 mm	4.79 mm	75.4 %WT	External	110° [3:40]
	J26 [-]	ML570	MetalLoss	276.413 m	6.35 mm	12.00 mm	15.00 mm	3.82 mm	60.2 %WT	External	232° [7:45]



Client Information

Company Name		Address	
Contact Name			
Contact Phone Number			
Contact Email			

Pipeline Information

Name / License Number			Nearest City / Town	
Size	NPS 6		Launch Site	
Length		miles	Receive Site	
Max Operating Pressure		PSI	Pipe Grade	
Nominal Wall Thickness		in	Weld Type	Seam Welded
Thickest Wall Thickness		in	Construction Year	

Operating Conditions

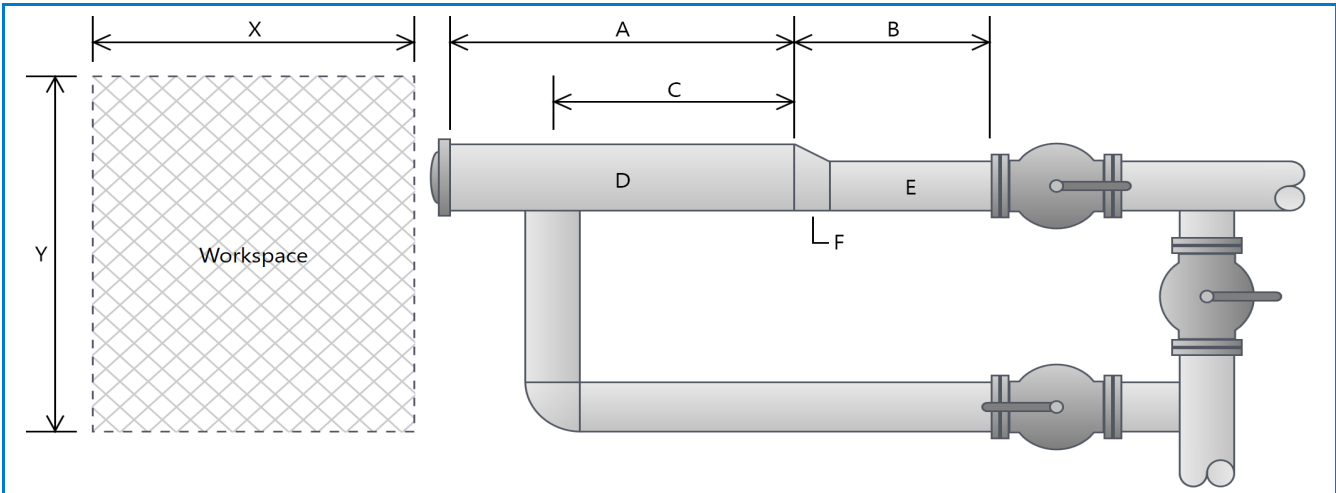
Operating Product			Operating Pressure		PSI
Inspection Product			Operating Temperature		°F
Flow Rate Controllable	Yes		H ₂ S		%
Flow Rate		bbl/day	CO ₂		%
Paraffin		%	H ₂ O		%

Hardware Information

Min. Bend Radius		5 D	Tees / Branch Connections	Yes	
Min. Bend To Bend Dist.		in	Tees Have Guide Bars	Yes	
Back To Back Bends	No		Max. Tee Diameter		in
Miter Bends	No		Back To Back Tees	No	
Other Hardware			Check Valves	No	



Launcher & Receiver Information



Label	Description	Launcher	Receiver	Units
A	Oversize Length			in
B	Nominal Length			in
C	Reducer To Kicker Line			in
D	Oversize Diameter	NPS 8	NPS 8	
E	Nominal Diameter	NPS 6	NPS 6	
F	Reducer Type	Eccentric	Eccentric	
X	Workspace Length			in
Y	Workspace Width			in

Inspection History

Previously Inspected	Yes	Inspection Date	
Inspection Type		Restrictions Found	No
Results Available	Yes	Pipeline Repaired Since	No
Additional Information			

If possible, please provide alignment maps and drawings for this pipeline.

Maintenance History

Cleaning Frequency		Cleaning Tool Type	Poly Scraper
Typical Debris Collected			



Inspection Information

Metal Loss Inspection	Required	Inspection Method	Free Swimming
Geometry Inspection	Required	Inspection Direction	Normal
Cleaning	Not Required	Shipping	
Gauge Tool Run Date	2019-01-01	Address For	
Inspection Run Date	2019-01-01	Equipment	

Additional Comments / Special Procedures / Possible Issues

Report Information

Units	U.S. Customary	Requested Delivery	3 weeks
Printed Copies Required	No	Following Inspection	
Send Report To (Contact Info or Address)			

Questions

For any questions regarding this document, please contact:

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Email	matthew.howorko@encompassinspections.ca		