

Transmission Main Condition Assessment: Manito & 57th



Technology Utilized

Pipe Diver



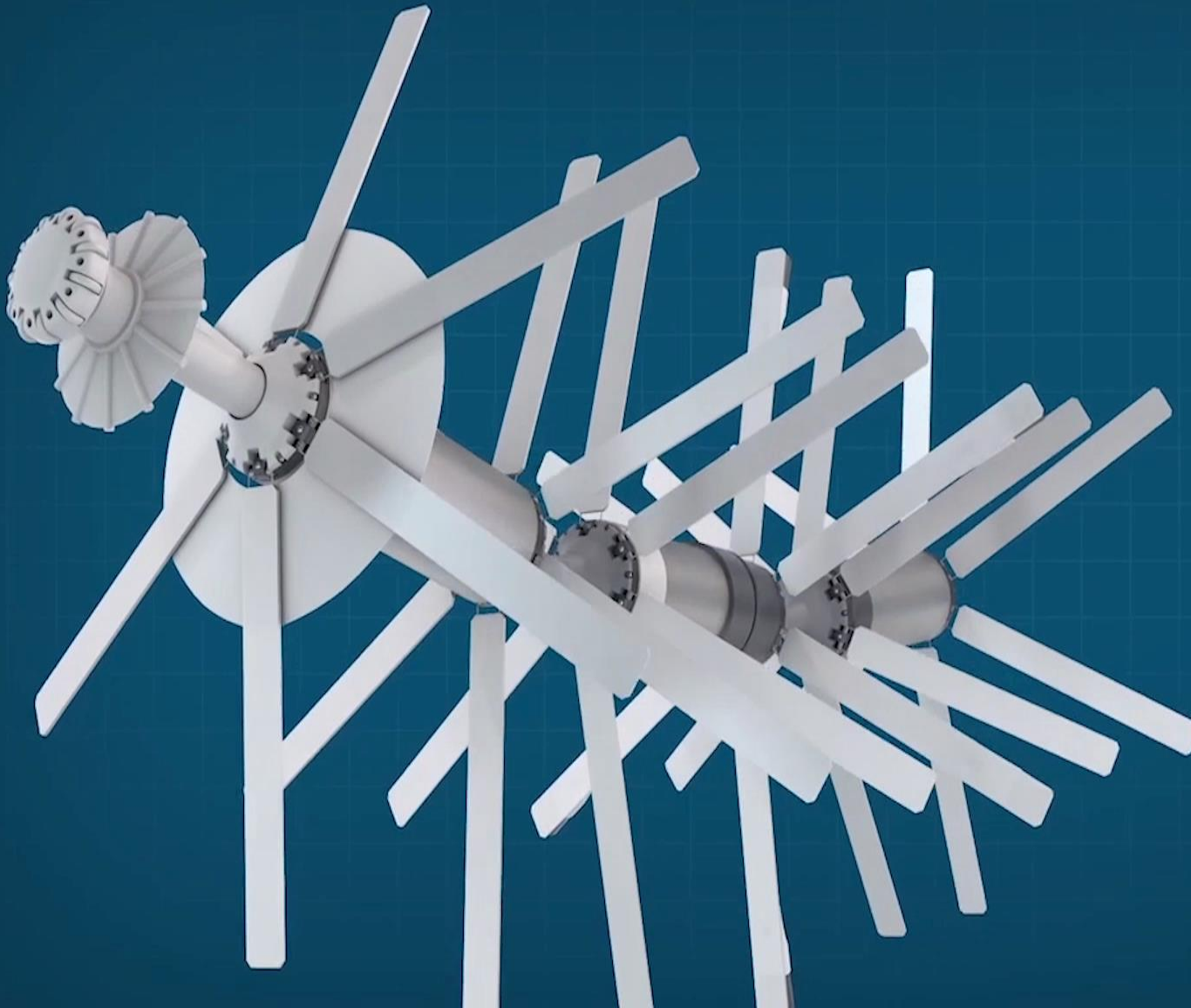
Smart Ball



Smart Ball

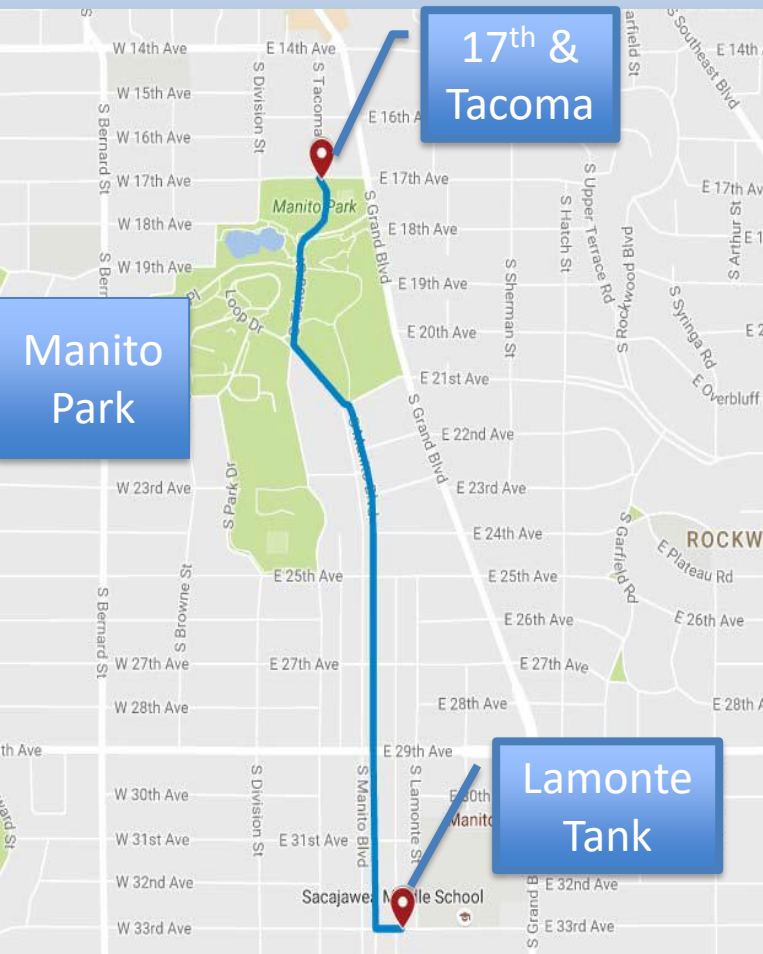


Pipe Diver

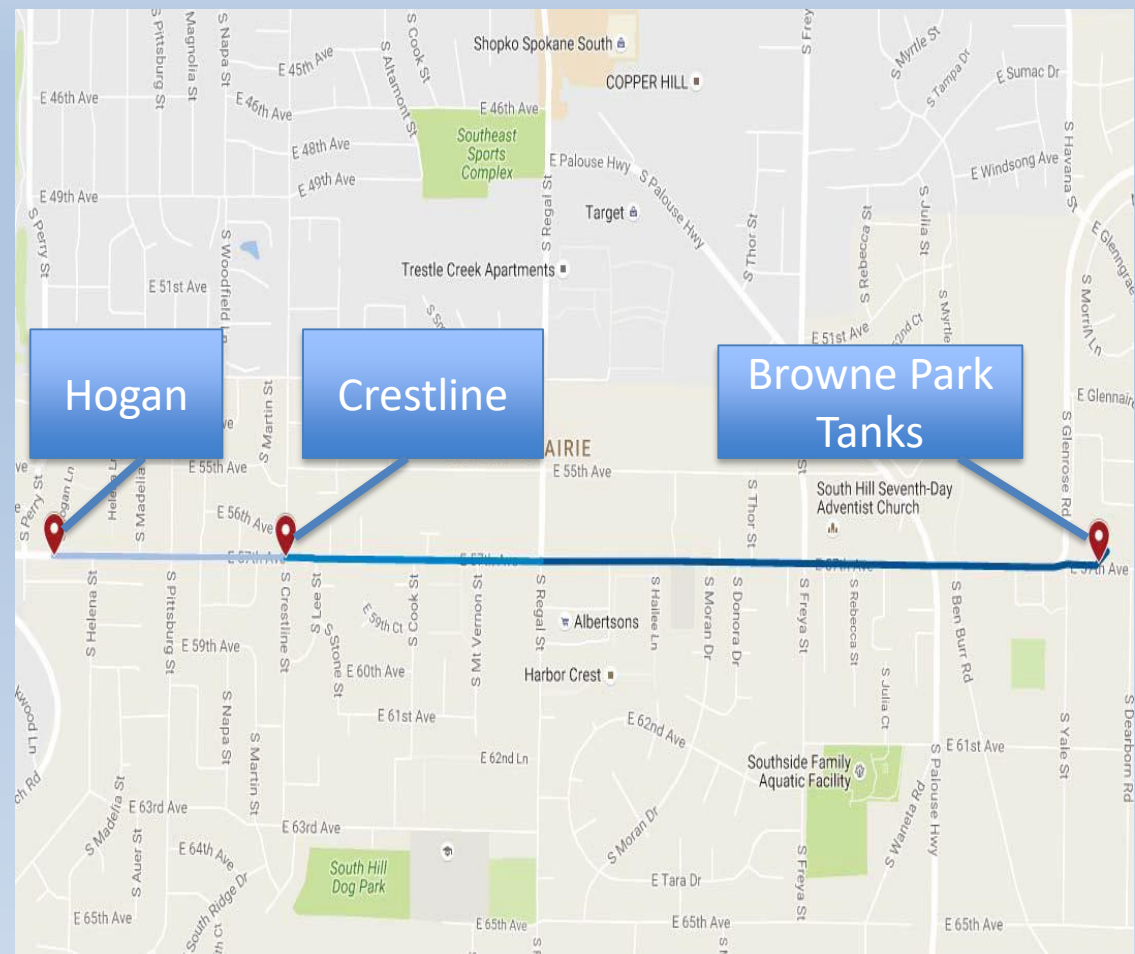


Project Location

Manito Transmission Main
1.1 Miles of 24" Steel Main



57th Avenue Transmission Main
2.0 Miles of 18"/24"/30" Steel Main



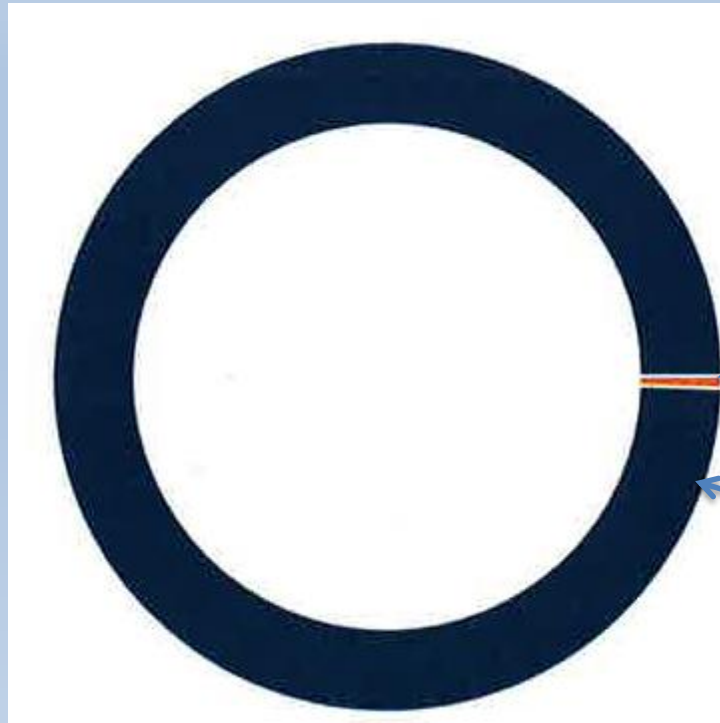
Inspection Results

Manito Transmission Main

- ❖ 202 pipe segments inspected
- ❖ Zero leaks
- ❖ Zero electromagnetic anomalies

57th Avenue Transmission Main

- ❖ 282 pipe segments inspected
- ❖ 1 leak detected
- ❖ 3 Pipe segments with electromagnetic Anomalies



0.6% of pipes with corrosion

99.4% of pipes with no corrosion

Electromagnetic Inspection Data Analysis

Corrosion
Anomalies

Corrosion
Anomalies

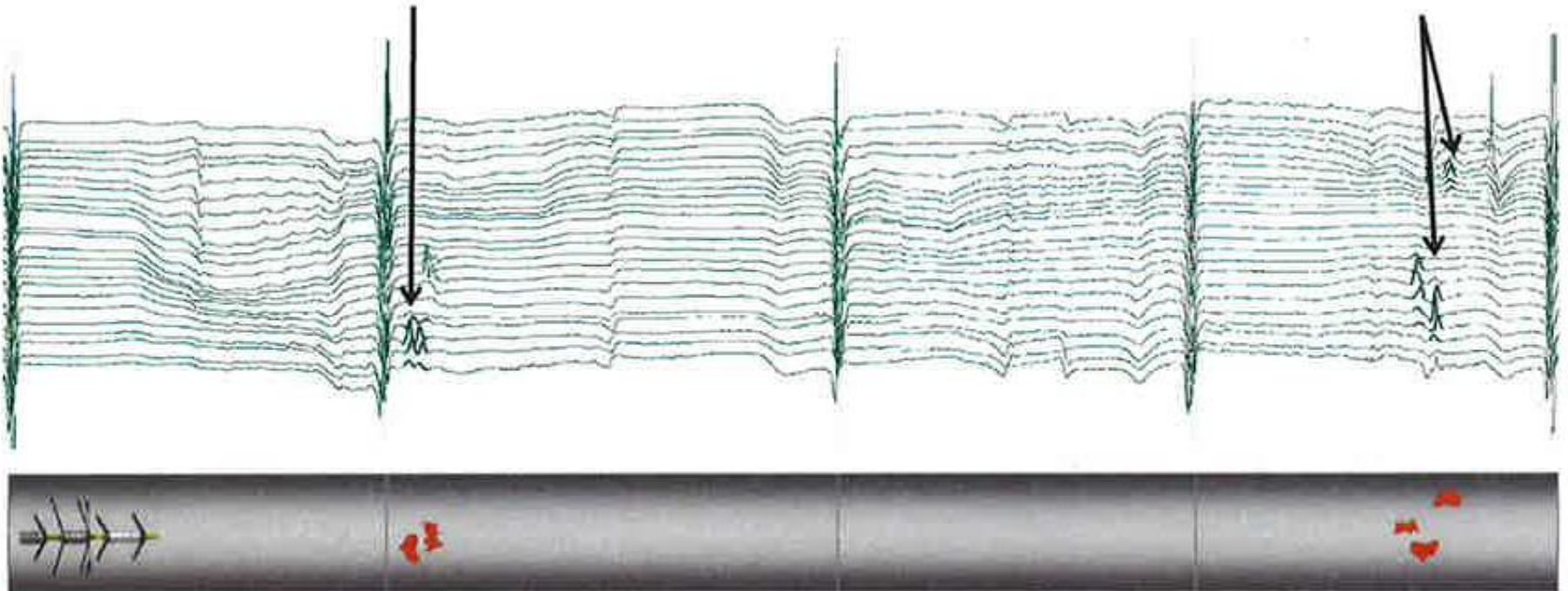


Table 1: Electromagnetic Anomalies in 57th Avenue Transmission Main

Pure Reference Number	Upstream Joint (Station)	Longitudinal Position of Anomaly (feet from Upstream joint)	Circumferential Position of Anomaly (degrees facing Downstream)	Calculated Volume Loss (cubic inches)	Estimated Depth of Wall Loss
11	48+77	7	297	4	20%
1172	80+71	2	351	4	35%
		3	351	3	45%
1174	81+51	25	260	5	50%
		27	305	4	50%
		28.5	110	3	35%



Leak Detected 57th & Palouse



Leak Repair – 57th & Palouse



Questions?

Leak Detection

What we do today

and

Where we are going tomorrow

Standard Leak Survey

Listening on Valves



Listening on Hydrants



Leak Correlation Equipment



Geophones – Pinpoint the Leak



Standard Acoustic Survey National Averages

<1.76

Leaks Found
per person / day

1 leak Found every

1.9 miles

per person per day

Survey Cycle
length of time

2-3 years



Leak Survey by Satellite

Comparison between acoustic survey and satellite leak detection.

>6.1

Leaks Found
per person / day

1 leak Found every

0.19 miles

per person per day

Survey Cycle
length of time

Quarterly

