



Case Study

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Sanitary Force Main, City of Grand Forks, North Dakota

Client:	City of Grand Forks
Project Date:	October 2008
Service:	SmartBall Leak and Trapped Gas Detection Technology
Type of Pipeline:	Sewer Force Main
Diameter:	24-inch through 36-inch
Length:	8.7 miles
Pressure:	<15 psi
Pipe Material	PCCP and PVC
Results	6 pockets of trapped gas; 8 anomalies resembling leaks

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Pure Technologies mobilized a crew and equipment to Grand Forks, North Dakota in October 2008 to perform a SmartBall inspection of 8.7 miles of 24" to 36" diameter wastewater force main for the City of Grand Forks. The force main was a mixture of pre-stressed concrete cylinder pipe (PCCP) and poly-vinyl chloride (PVC) pipe.



Net Extraction

The SmartBall completed the 8.7 mile inspection in two deployments over two days in a total of 10 hours 30 minutes runtime. Flow velocity varied from an average of 1 foot per second to occasional burst speeds of over 10 feet per second. A total of 15 sensor locations were deployed along the pipeline to further increase the locational accuracy of all anomalies discovered on the line.

In addition several anomalies were recorded that resembled leaks, however due to pressure on the line being below the leak detection threshold of the SmartBall (15 psi) these leaks could not be confirmed.

Two different styles of extraction were used on the survey; the standard under-pressure net extraction technique and allowing the SmartBall tool to continue in the flow and be removed at the trash rakes inside the treatment plant.

Six gas pockets were detected on the line and ranged from 2 ft to 18 ft in length.



Trash Rake at Treatment Facility

