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Elite Pipeline Services
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Rehabilitation of Contaminated Pipelines

Boron Recovery - 3” Relining @ 40ft

Special points of interest:

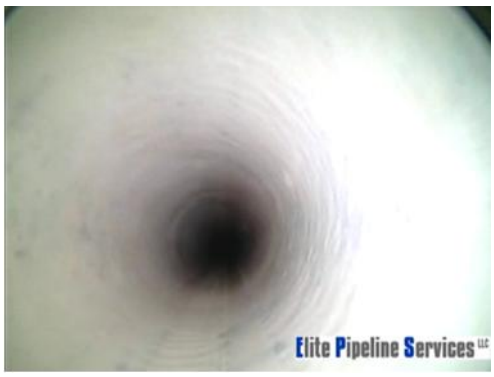
- Dry Cleaning
- Surface Prep
- Lining Options

This project involved a 3’’ cast iron Boron Recovery drain pipe in a drained manhole structure. The boron valve gallery pit was upstream and the pipe drained down to the PG (Primary Grade) tank pit. The plant had to remove the concrete tunnel plug to access the pit. Since this was a high rad area, an L-shaped containment tent had to be built for us. This tent was about 20’x8’ and 8’x8’ feet at the base.

We mechanically cleaned and removed debris without using water or air, which would have generated large amounts of contaminated wet waste and possible air-borne activity. Spiral brushes and a mechanical auger were used to remove the debris. We gradually removed and collected the debris into rad bags. We would place 2 -3 handfuls of debris into rad bags and pass it to the Health and Physics Department (HP). HP would then frisk the debris to find levels from 0-300 millirem per hour. It took EPS six days to remove all scale from the

Installing the liner

After inspecting and cleaning the pipe, it was now time to install a CIPP liner. EPS technicians used a super-flex 4.5mil felt liner with a two-component resin, which consisted of a one-component hardener and a one-component silicate resin, which can withstand temperatures in excess of 325° Fahrenheit without softening. They had approximately one hour work time to mix and then invert the liner. Elite personnel had to wear double PCs and hoods outside the containment tent while mixing the resins and wetting out the felt liner. A resin slug was then poured into the felt liner, with a vacuum pump installed on the opposite side. The mixture ran through a series of rollers and im-pregnated the felt liner with the resin.



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Cleaning & Rehabilitating
206ft of 6” to 4” Contaminated Lines with Reinstatements

A nuclear facility required that their buried Max Recycle radioactive Equipment and Floor drain pipe be relined, totaling 206 ft. The main trunk line of these pipes is 6 inch in diameter. There were two separate lines, with 19 reinstatements in total. A Hydrolasing unit was required for cleaning with a capped pressure of 1800 psi. The waste water and sludge was directed to a catchment/rad waste barrel configuration hold and separate wet waste and contaminants liquid waste was pumped into the existing rad waste floor drain system. Both lines had elevations throughout the piping system. Access to the buried pipe was possible by a newly installed concrete vault and through a cordoned off room in the Max recycle building. Access point’s within the Max Recycle building was 2” and 4” in diameter, which allowed the access needed for technical installation of the 6” liners. Liners had to be pulled, winched, and set into place prior to installation utilizing the access points. The liner design was a slow cure, with 100% coverage, and was required to withstand 180 degrees during operation. With limited access points to reinstate the lateral drain lines, with sizes ranging from 2” – 4”, a robotic air driven cutter had to maneuver up elevations, and reinstate these lateral drains from more than 100ft from access. During this entire evolution HP/RP support, Task managers, security and project management was required to oversee and maintain a safe working area for Elite to work in, which made for a successful project.

Pulling in a 6” to 4” Transitional Liner, Through a 2” Access Point.

Reinstating Laterals from 100ft Away in a 4” Pipe Transition using a Robotic Cutter

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