



Failure to provide adequate E&S controls during pipeline construction,
Tombs Run watershed (HQ), Lycoming County













Failure to provide adequate E&S controls during pipeline construction, Tombs Run watershed (HQ), Lycoming County





Failure to provide adequate E&S controls during pipeline construction,
Tombs Run (HQ) confluence with Pine Creek, Lycoming County





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Surfactant Spill, Pine Creek, Lycoming County



PGE Cofferd Dam on Pine Creek May 12, 2011



PGE Cofferd Dam on Pine Creek May 19, 2011

Characterizing Waste

- Surfactants
 - Organics
 - TDS
 - 30,000 to 230,000+ mg/l
 - Chlorides
 - 15,000 to 110,000+ mg/l
 - Metals
 - Barium, Strontium
 - Selenium
 - TENORM
 - Radium 226, 228
 - Gross alpha, beta
 - Uranium
 - Radon
- (Source-EPA, Region 3)





Brine Treatment Plant discharge – Conemaugh R.





Drill cuttings solids separator



Solidification with alkaline material → to landfill



Spills







OAKTON WATERPROOF

READY

12.59 °C

12.9 µS/cm

pH/Conductivity/Temp

pH/CON 10 (range)

ON/OFF

HOLD

MODE

MEM

ENTER

▲

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Contaminated shallow groundwater system/spring from spills and inadequate of containment of buried drill cuttings, Alex Branch (HQ), Clearfield County



Contaminated shallow groundwater system/spring from spills and inadequate of containment of buried drill cuttings, Alex Branch (HQ), Clearfield County



Alex Branch (HQ) affected downstream of contaminated springs, Clearfield County



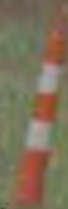
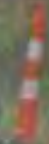
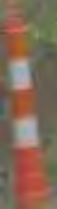
Alex Branch (HQ) affected downstream of contaminated springs, Clearfield County



FRESHWATER

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Questions?



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