



ER Site No. 234: Storm Drain System Outfall (South side of TA-IV)

ADS: 1309

Operable Unit: Tijeras Arroyo

Site History	1
Constituents of Concern.....	1
Current Hazards	2
Current Status of Work	2
Future Work Planned	3
Waste Volume Estimated/Generated	3

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Site History

ER Site 234 consists of a 270-foot long earthen ditch on the steep northern rim of Tijeras Arroyo. The site previously received TA-IV storm water that was directed to the site through buried piping. From about 1979 until the early 1990s, ER Site 234 discharged storm water which came from the Building 981 parking lots and roof drains. In the early 1990s, the outfall piping was removed from Site 234 and the storm water was re-directed eastward through buried piping to the adjacent Site [233](#) outfall. Site 234 has not discharged any type of TA-IV water since then. The Site 234 boundary was revised in September 2000 and now encompasses 0.15 acres.

Four other storm-water outfall systems are also located below TA-IV (ER Sites 230, 231, 232, and 233). The TA-IV outfalls are designed to reduce the amount of soil erosion caused by storm water. The TA-IV outfalls were added to the ER Site list in 1993. However, no industrial waste streams are discharged at the outfalls. According to National Pollutant Discharge Elimination System (NPDES) guidance, only one of the TA-IV outfalls requires monitoring because all of the TA-IV outfalls receive storm water from similar sources. The SNL/NM Storm Water Program performs that monitoring about 50 feet upslope of ER Site 233 at Station 006 and reports the analytical data to the New Mexico Environment Department (NMED) in the SNL/NM Site Environmental Reports.

Constituents of Concern

In the June 1995 NFA Proposal, the potential COCs were considered to be chromates, antifoulants, chromium, sodium hydroxide, hydrochloric acid, diesel fuel, and mineral oil. This list of COCs was conservatively based upon chemicals used at TA-IV. However, no chemical releases are known to have occurred in the area that previously drained to the ER Site 234 outfall. No stained soil has been identified at the site.

Current Hazards

No chemical or radioactive hazards are present at ER Site 234.

Current Status of Work

Field work was conducted at ER Site 234 in 1994. The ground surface was surveyed for unexploded ordnance/high explosives (UXO/HE) and radioactive materials; no anomalies were detected. Six soil samples were collected; the maximum sampling depth was three feet bgs (below ground surface). The soil samples were analyzed for Target Analyte List (TAL) metals, chromium-VI, total petroleum hydrocarbons (TPH), volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), tritium, and gamma-emitting radionuclides. No VOC, SVOC, or TPH contamination was detected in the soil samples. All of the metal and radionuclide values were within background.

In June 1995, a risk-based NFA Proposal for ER Site 234 was submitted to NMED. SNL/NM submitted Notice of Deficiency (NOD) Responses to NMED in October 1996 and December 1999.

A review of historic aerial photography was conducted in 2000. One peculiar aspect of Site 234 is that the TA-IV storm water discharged to nearly the same location where Site [46](#) acid-waste water had flowed from 1948 to 1973. Site 234 is located just east and slightly down slope of the Site 46 confluence where TA-I acid-waste water had flowed along a series of three outfall ditches. As a result, analytical results from the Site 234 soil samples may contain COCs from the Site 46 acid-waste water.

The ER Site 234 soil-sample results were re-evaluated in 2000. Of the six sample locations, only two samples (234-05-A/B and 234-06-A/B) were properly selected in 1994 and are therefore useful for site characterization. None of the four soil samples that were collected at the northern end of the site provide useful site-characterization results. Even though the lateral location for 234-01-A/B was adequate, the sampling depth was probably too shallow at a mere three feet below ground surface (bgs) to have reached native soil. As a result, sample 234-01-A/B was probably collected from backfill soil associated with the removal of the outfall pipe, rather than from native soil underneath or downstream of the outfall pipe. The other three sample locations (234-02-A/B, 234-03-A/B, and 234-04-A/B) were collected at useless locations where outfall pipes had been erroneously suspected.

In June 2001, two locations were sampled with a backhoe. The soil samples were collected at depths ranging from 0 to 5 ft bgs. The analytes were VOCs, SVOCs, TPH, TAL metals, chromium-VI, gamma-emitting radionuclides, gross alpha/beta, and tritium. The backhoe also was used to dig a 24-ft long exploratory trench where the outfall pipe was previously located. The storm-water outfall pipe was not found, but the depth to native soil was determined. No significant contamination was detected in the soil samples.

The SWMU 234 NOD Response was submitted to NMED in December 2002.

Future Work Planned

None

Waste Volume Estimated/Generated

No waste was generated at ER Site 234.

Information for ER Site 234 was last updated Jan 8, 2003.