ROCKY FLATS SITE
REGULATORY CONTACT RECORD 2015-10

Purpose: Area of Concern Well 10304 Reportable Condition

Contact Record Approval Date: December 16, 2015

Site Contact(s)/Affiliation(s): Scott Surovchak, U.S. Department of Energy (DOE); John Boylan, Linda Kaiser, David Ward, Navarro Research and Engineering, Inc. (Navarro)

Regulatory Contact(s)/Affiliation(s): Carl Spreng, Colorado Department of Public Health and Environment (CDPHE); Vera Moritz, U.S. Environmental Protection Agency (EPA)

Date of Consultation Meeting: December 1, 2015

Consultation Meeting Participants: Carl Spreng, CDPHE; Scott Surovchak, DOE

Background: The *Rocky Flats Legacy Management Agreement* (RFLMA) defines several categories of groundwater monitoring wells at the Rocky Flats Site. Of these, Area of Concern (AOC) wells have reportable conditions defined. AOC wells are located within a drainage and downgradient of one or more contaminant plumes and are monitored semiannually to determine whether the plume(s) may be impacting surface water quality. The primary objective of AOC well 10304 is to evaluate groundwater quality adjacent to Woman Creek, downgradient of the 903 Pad/Ryan's Pit Plume.

As discussed in the *Quarterly Report of Site Surveillance and Maintenance Activities, Second Quarter Calendar Year 2015* (DOE 2015), a groundwater sample collected on May 7, 2015, from well 10304 contained an elevated concentration of trichloroethene (TCE). The RFLMA water-quality standard, set forth in Attachment 2, Table 1 to the RFLMA, is 2.5 micrograms per liter (µg/L); the concentration in this sample was 15 µg/L. While TCE (and other volatile organic compounds [VOCs]) has been detected previously in samples from well 10304, it has not been reported in samples from this well at concentrations exceeding the RFLMA standard. A non-RFLMA confirmatory sample was collected on June 17 to assess whether this result might be erroneous; the TCE result in that second sample was 5.4 µg/L.

As outlined in RFLMA Attachment 2, Figure 7, a reportable condition for an AOC well exists when two consecutive, routine, semiannual samples contain the same analyte at concentrations exceeding the corresponding RFLMA standard. The fourth-quarter sample collected from well 10304 on October 29, 2015, contained a TCE concentration of 72 µg/L. This represents the second consecutive semiannual result above the RFLMA standard, and therefore, a reportable condition exists for AOC well 10304.

Per RFLMA, within 15 days of receiving validated data defining a reportable condition, DOE must notify the agencies. Within 30 days of that date, DOE will provide a plan and schedule to

the regulators for an evaluation to address the occurrence. A consultation will follow and mitigating actions, if any, implemented thereafter.

Discussion: The potential for a reportable condition was noted in the above-referenced quarterly report for the second quarter of 2015. In fact, such a condition is anticipated during wet years, as described in the *Final Interim Measure/Interim Remedial Action for Groundwater at the Rocky Flats Environmental Technology Site* (Groundwater IM/IRA) (Kaiser-Hill 2005) and in the report on fate and transport modeling for VOCs (see *Fate and Transport Modeling of VOCs at the Rocky Flats Environmental Technology Site* [Kaiser-Hill 2004]). The Groundwater IM/IRA notes that "the downgradient portion of this plume only has the ability to impact surface water in wet years" (p. 6-31). The referenced modeling report concludes that groundwater from this plume may discharge to Woman Creek under conditions of higher-than-normal precipitation and notes that concentrations of TCE, in particular, in groundwater reaching Woman Creek may exceed standards. Therefore, given that 2015 has been an exceptionally wet year, the TCE results reported for AOC well 10304 are not unexpected. Installation of a groundwater treatment system downgradient of the 903 Pad/Ryan's Pit Plume was considered as part of site closure; however, due to the infrequency with which it would be needed (in the 10 years since site closure, this is the first year treatment might have been considered) and the costs and effort required to operate and maintain such a system, it was not required as part of the selected remedy/correction action to ensure that the site remain protective of human health and welfare and the environment.

DOE verbally informed CDPHE of the results from the fourth-quarter sample the same day validation was completed, on December 1, 2015. The plan for evaluating this occurrence was discussed at the same time. An email notification to EPA and CDPHE followed on December 3, 2015.

This Contact Record describes the plan and schedule to address the reportable condition.

- A grab sample will be collected from Woman Creek downgradient/downstream and in the vicinity of well 10304 to evaluate the potential for VOC-contaminated groundwater to adversely affect surface water quality in this reach of Woman Creek. The location of the sample will be determined based on a field walkdown and will be suitable and convenient for sample collection while still being downgradient of the plume and in the immediate vicinity of the well.
- When the results of the surface water sample are available, there will be further consultation.
- Grab samples will be collected from this Woman Creek surface water location each time AOC well 10304 is sampled, until water quality at the well is no longer reportable.

Analytical results from these samples will be included in the corresponding quarterly and annual reports.

Resolution: CDPHE, after consultation with EPA, will approve, approve with modification, or disapprove this contact record.

After completion of the approval process and incorporation of any required changes CDHPE approved this contact record.

Closeout of Contact Record: This contact record will be closed when the water quality at well 10304 is no longer reportable.

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Rocky Flats Contact Record File