TECHNICAL EVALUATION REPORT
CROW BUTTE RESOURCES, INC., CRAWFORD, NEBRASKA
RELEASE OF WELL CM9-16 FROM EXCURSION STATUS

DOCKET NO: 40-8943 **LICENSE NO.:** SUA-1534

DATE: November 29, 2005

FACILITY: Crow Butte Resources, Inc., Crawford, Dawes County, Nebraska

TECHNICAL REVIEWER: Stephen J. Cohen

PROJECT MANAGER: Stephen J. Cohen

SUMMARY AND CONCLUSIONS

By letter dated November 2, 2005, Crow Butte Resources, Inc. (CBR) updated Mr. Michael Linder, Nebraska Department of Environmental Quality (NDEQ) regarding the status of the excursion at Well CM9-16. In this letter, CBR stated that corrective actions were effective at remediating ground water, and Well CM9-16 would soon be released from excursion status pending the results of a sample collected November 8, 2005. By letter dated November 14, 2005, CBR informed the U.S. Nuclear Regulatory Commission (NRC) staff that excursion parameter concentrations at Well CM9-16 met each respective upper control limit (UCL), and this well was released from excursion status. The NRC staff reviewed the data accompanying both aforementioned letters and concurs with CBR's conclusion.

BACKGROUND

On August 4, 2005, results of a routine biweekly water sample indicated that the single parameter UCLs were exceeded for excursion parameters chloride, conductivity, and alkalinity in perimeter monitoring Well CM9-16. As required by LC11.2 of Source Materials License SUA-1534, a second sample was collected within 48 hours and analyzed for the three excursion indicator parameters. Results of the second sample indicated that concentrations exceeded the single parameter UCLs for chloride, conductivity, and alkalinity. Based upon these results, monitoring Well CM9-16 was placed on excursion status.

In accordance with LC11.2, CBR increased the sampling frequency for CM9-16 to weekly. Weekly samples were obtained from August 9, 2005, to November 8, 2005. Samples collected on October 25, November 1, and November 8, 2005, contained concentrations of excursion parameters below the UCLs. Based on these results, CBR released Well CM9-16 from excursion status.

REGULATORY FRAMEWORK

Enclosure

According to LC11.2 of Source Materials License SUA-1534, an excursion has occurred if two UCLs are exceeded in a well, or if a single UCL is exceeded by 20 percent. If a sample indicates an excursion may have occurred, the licensee is required to collect a second confirmatory sample within 48 hours. If the second sample does not indicate the occurrence of an excursion, a third sample is required within 48 hours of the previous sample. If either the second or third samples indicate the occurrence of an excursion, the well is placed on excursion status.

Wells on excursion status must be sampled weekly until three consecutive samples contain concentrations of excursions parameters below the UCLs. Corrective actions may be required to release a well from excursion status.

TECHNICAL EVALUATION

Data presented in the November 2 and November 14, 2005, letters indicated that excursion parameter concentrations in Well CM9-16 approached the single UCL for each parameter starting in June 2005. Consequently, CBR deactivated injection wells in the area in June 2005, and they started overproducing in this area on July 21, 2005, to reverse this trend. Because an excursion was identified in August 2005, CBR started ground-water remediation by reversing injection wells I3550 in Wellhouse 41, I3529 in Wellhouse 42, and I3720 in Wellhouse 43.

CBR enhanced ground-water remediation in October 2005 by installing production Well P4302-41 150 feet east and 100 feet north of Well CM9-16; CBR started pumping this well at 25 gpm. Due to ground-water remedial actions, concentrations of excursion parameters decreased below UCLs in three consecutive weekly samples collected on October 25, November 1, and November 8, 2005. Therefore, CBR released Well CM9-16 from excursion status.

CONCLUSIONS

NRC Staff has reviewed the November 2 and November 14, 2005, letters and accompanying data and concludes that remedial actions near well CM9-16 have successfully restored ground water in this area. Concentrations of chloride, conductivity, and alkalinity meet the UCLs, as required in LC11.2. At this time, no further action is required.

REFERENCES

Crow Butte Resources, Inc., Letter to Mr. Michael Linder, Nebraska Department of Environmental Quality, Regarding CM9-16 Monitor Well Excursion, UIC Permit NE0122611, November 2, 2005 (ML053180234).

Crow Butte Resources, Inc., Letter to Mr. Gary Janosko, U.S. Nuclear Regulatory Commission, Regarding CM9-16 Monitor Well Excursion, Docket No. 40-8943, Source Materials License SUA-1534, November 14, 2005 (ML053270239).