
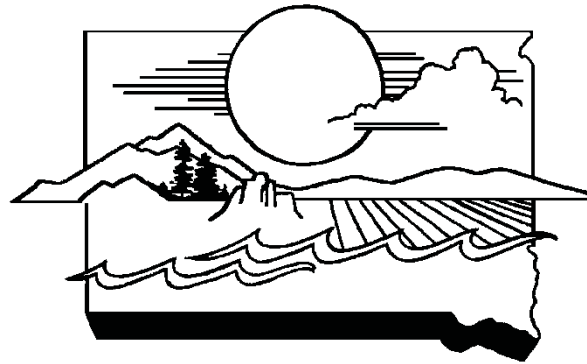


United States Nuclear Regulatory Commission Official Hearing Exhibit	
In the Matter of:	CROW BUTTE RESOURCES, INC. (License Renewal for the In Situ Leach Facility, Crawford, Nebraska)
	ASLBP #: 08-867-02-OLA-BD01 Docket #: 04008943 Exhibit #: NRC-022-00-BD01 Admitted: 8/18/2015 Rejected: Other:
	Identified: 8/18/2015 Withdrawn: Stricken:

THE 2014 SOUTH DAKOTA INTEGRATED REPORT FOR SURFACE WATER QUALITY ASSESSMENT



*Protecting South Dakota's
Tomorrow... Today*

Prepared By
**SOUTH DAKOTA DEPARTMENT OF
ENVIRONMENT AND NATURAL
RESOURCES**

STEVEN M. PIRNER, SECRETARY

White River Basin (Figure 27, Table 44)

The White River basin is the most southern of the five major drainages in South Dakota that enters the Missouri River from the west. The total drainage area of the basin in the state is 8,246 square miles. Agriculture dominates the basin's economy, with the majority of the land used as rangeland or cropland.

DENR has assessed one lake in the White River basin and maintains six water quality monitoring sites within this basin. Four of the six monitoring sites are located on the White River, one is located on Cottonwood Creek, and the other is located on the Little White River.

The USGS has water quality monitoring sites in the basin, including sites on the White River, Little White River, Black Pipe Creek, Lake Creek and others. The data are limited, and the only parameters that were measured were specific conductance and water temperature. Segments SD-WH-R-OMAHA_01_USGS, SD-WH-R-ROSEBUD_01_USGS, SD-WH-R-SAWIMLL_CANYON_01_USGS, and SD-WH-R-WILLIAMS_01_USGS are reaches that have been removed from this 2014 Integrated Report. Other than Williams Creek, USGS has discontinued monitoring at these reaches and sufficient data is no longer being collected to make waterbody support determinations. These reaches have had insufficient data since the 2010 IR cycle. Williams Creek is occasionally monitored by USGS; however due to chronic low flow or dry conditions, there is not sufficient data to make a support determination. Williams Creek has had insufficient data since the 2010 IR cycle. DENR will add waterbody reaches to future reports if routine monitoring data becomes available or is supplied by other organizations.

DENR continues to sample uranium, and other parameters associated with uranium mining, at an ambient monitoring location on the White River near Oglala. This location was selected due to in-situ uranium mining upstream in Nebraska and the naturally occurring uranium in the highly erodible soils in the White River basin. Support determinations were based on all parameters; however, there were no surface water quality exceedances for uranium or other parameters associated with uranium mining.

The White River basin receives the majority of the runoff and drainage from the western Badlands. The exposed Badlands are a major natural source of both suspended and dissolved solids to the river. Severe erosion and leaching of soils occurs in the Badlands and throughout the entire length of the basin. Site specific water quality standards for total suspended solids were established by DENR in 2009 for the White River and Little White River. The White River is listed as impaired for SAR, fecal coliform, and *E. coli*.

Assessment projects have been completed for the White River, Little White River, and Cottonwood Creek watersheds. There are currently no on-going implementation projects in the White River basin.

Ambient WQM Stations - By WQM Number

WQM #	Waterbody	Storet Number	County	Sampling Frequency	Beneficial Uses	Analysis Group	Region
1	Big Sioux River	460740	CODINGTON	Monthly	5,8,9,10	Group 1	Northeast
2	Big Sioux River	460702	BROOKINGS	Monthly	5,8,9,10	Group 1	Southeast
3	Big Sioux River	460703	MINNEHAHA	Monthly	1,5,7,8,9,10	Group 1	Southeast
4	Vermillion River	460755	CLAY	Monthly	5,8,9,10	Group 2	Southeast
5	Vermillion River	460745	CLAY	Monthly	5,8,9,10	Group 2	Southeast
6	James River	460805	BROWN	Monthly	5,8,9,10	Group 2	Northeast
7	James River	460707	HANSON	Quarterly	5,8,9,10	Group 2	Southeast
8	James River	460761	YANKTON	Monthly	5,8,9,10	Group 2	Southeast
10	Keya Paha River	460815	TRIPP	Quarterly	5,8,9,10	Group 1	Central
11	White River	460835	JACKSON	Monthly	5,8,9,10,S4	Group 2	Central
12	White River	460825	LYMAN	Monthly	5,8,9,10,S5	Group 2	Central
13	Little White River	460840	MELLETTTE	Monthly	5,8,9,10,S6	Group 2	Central
14	Cheyenne River	460875	FALL RIVER	Monthly	5,8,9,10	Group 11	Black Hills
15	Cheyenne River	460865	PENNINGTON	Monthly	5,7,8,9,10	Group 2	Central
16	Cheyenne River	468860	ZIEBACH	Monthly	4,7,8,9,10	Group 2	Central
17	Battle Creek	460905	PENNINGTON	Monthly	2,8,9,10	Group 3	Black Hills
19	Rapid Creek	460910	PENNINGTON	Monthly	4,7,8,9,10	Group 2	Black Hills
21	Belle Fourche River	460880	MEADE	Quarterly	4,7,8,9,10	Group 2	Central
22	Spearfish Creek	460900	LAWRENCE	Monthly	1,2,7,8,9,10	Group 3	Black Hills
23	Redwater River	460895	BUTTE	Monthly	3,8,9,10	Group 2	Central
24	Moreau River	460935	DEWEY	Monthly	5,8,9,10	Group 2	Central
25	Grand River	460945	CORSON	Monthly	4,8,9,10	Group 2	Central
26	Little Missouri River	460955	HARDING	Quarterly	5,8,9,10	Group 2	Central
27	Little Minnesota River	460710	ROBERTS	Quarterly	5,8,9,10	Group 3	Northeast
28	Whetstone River	460700	GRANT	Quarterly	5,8,9,10	Group 3	Northeast
29	Bad River	460850	STANLEY	Quarterly	6,8,9,10	Group 4	Central
30	Box Elder Creek	460925	LAWRENCE	Monthly	2,8,9,10	Group 3	Black Hills
31	Big Sioux River	460831	MINNEHAHA	Monthly	5,7,8,9,10	Group 2	Southeast
32	Big Sioux River	460832	UNION	Monthly	5,7,8,9,10	Group 3	Southeast
33	James River	460733	BROWN	Monthly	5,8,9,10	Group 2	Northeast
34	James River	460734	BROWN	Quarterly	5,8,9,10	Group 2	Northeast
35	James River	460735	BEADLE	Quarterly	1,5,8,9,10	Group 9	Southeast
36	James River	460736	BEADLE	Quarterly	5,8,9,10	Group 9	Southeast
37	James River	460737	DAVISON	Quarterly	5,8,9,10	Group 2	Southeast
39	Moreau River	460039	PERKINS	Quarterly	5,8,9,10	Group 10	Central
40	Grand River	460640	PERKINS	Quarterly	3,8,9,10	Group 10	Central
42	White River	460842	SHANNON	Quarterly	5,8,9,10,S3	Group 10	Black Hills
45	Lac Qui Parle River, W Branch	460645	DEUEL	Quarterly	3,8,9,10	Group 3	Northeast
46	Castle Creek	460646	PENNINGTON	Monthly	2,8,9,10	Group 3	Black Hills
47	Rapid Creek	460647	PENNINGTON	Monthly	1,2,7,8,9,10	Group 1	Black Hills
49	Spring Creek	460649	PENNINGTON	Quarterly	3,7,8,9,10	Group 3	Black Hills
50	Grace Coolidge Creek	460650	CUSTER	Quarterly	2,8,9,10	Group 3	Black Hills
51	French Creek	460651	CUSTER	Quarterly	3,8,9,10	Group 3	Black Hills
52	Whitewood Creek	460652	LAWRENCE	Monthly	4,8,9,10	Group 3	Black Hills
53	French Creek	460653	CUSTER	Quarterly	3,8,9,10	Group 3	Black Hills
54	Spring Creek	460654	PENNINGTON	Monthly	3,7,8,9,10	Group 3	Black Hills
55	Big Sioux River	460655	CODINGTON	Monthly	5,8,9,10	Group 2	Northeast
57	Fall River	460657	FALL RIVER	Quarterly	3,8,9,10	Group 1	Black Hills

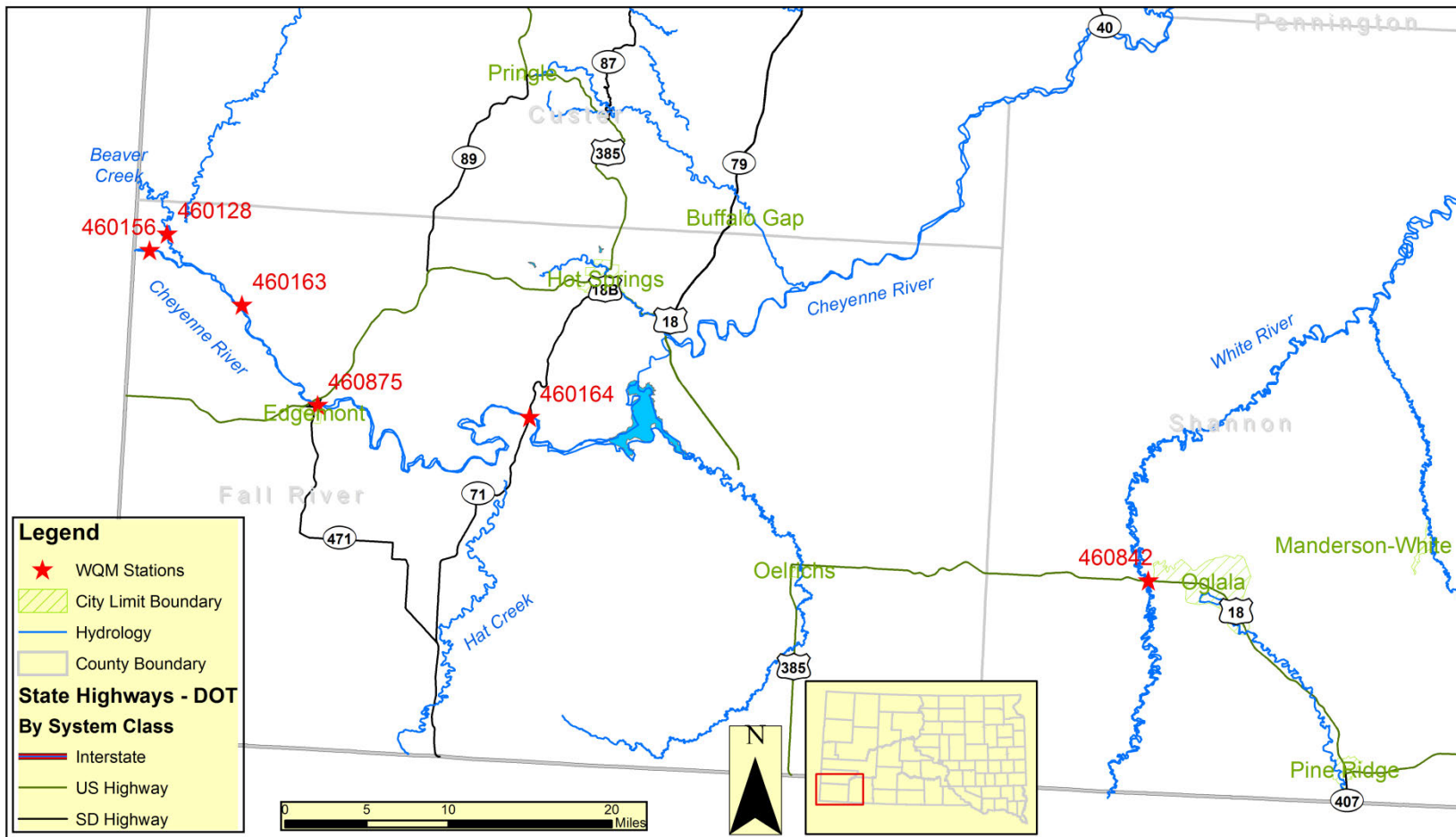


Figure 33: Water Quality Monitoring Sites Located along the Cheyenne River and White River that are Monitored for Uranium