



DEPARTMENT OF THE ARMY
ST. LOUIS DISTRICT, CORPS OF ENGINEERS
9170 LATTY AVENUE
BERKELEY, MISSOURI 63134

134-GOA-GAM-00013

SL-1368

March 4, 1998

REPLY TO
ATTENTION OF:

Formerly Utilized Sites Remedial Action Program Project Office

Mr. Larry Erickson
Missouri Department of Natural Resources
Division of Environmental Quality
P. O. Box 176
Jefferson City, MO 65102-0176

**SUBJECT - COLDWATER CREEK SAMPLE RESULTS IN THE VICINITY OF THE
ST. DENIS AVENUE BRIDGE**

Dear Mr. Erickson:

In response to your letter, dated December 16, 1997, regarding the subject correspondence, the following information is being provided.

- 1) Didn't receive all the data in table form, i.e., missing radium and uranium data. Only data from sample locations SVP0530 through SVP0564 were submitted in table form. What about the data for sample locations SVP0500 through SVP0529 listed on the Coldwater Creek Bridge on St. Denis Avenue sample location map?

The analytical data was reviewed and evaluated against the DOE clean-up guidelines for thorium, radium, and uranium, including a sum of ratios calculation. The radium and uranium data that was not included in the summary table is not included in the calculation of the sum of ratios. By the sum of ratios method, the above-background concentration of each of the radioisotopes (radium-226 or thorium-230, whichever is greater; thorium-232 or radium-228, whichever is greater; and uranium-238) is divided by its respective criterion, and the ratios are summed. If the total is greater than 1, the mixture of radionuclides fails the sum-of-ratios test and is considered to exceed the soil guidelines.

The remaining data has been added to the table (see attached). The data for sample locations prior to SVP0530 were included in the draft Coldwater Creek Report (currently awaiting approval from the USACE to publish). The additional samples taken around the bridge were meant to supplement the data associated with this draft report.

- 2) It looks like the map of the St. Denis Avenue Bridge and sampling locations includes data from two sampling events. I would say the second sampling event was done in September 1997. When was the first sampling event done?

The most recent sampling event was performed in September of 1997 and the earlier bridge sampling occurred in February 1997, as stated in the Coldwater Creek report. This information has been added to the subject figure (see attached).

Mr. Larry Erickson

2

3) Why were the samples not analyzed for actinium and protactinium?

The samples were analyzed for Ac-227 and Pa-231 as part of the standard gamma spec list 1 analysis. However, this data was not included in the summary table for the reasons discussed under comment 1. The data has been added to the table (see attached).

4) Why were the samples taken from 0.5 to 1 ft archived?

Natural transport and deposition of contaminated sediment would result in the highest contamination existing in the uppermost layers of sediment in and around Coldwater Creek. The samples from 0.5 to 1 foot were collected only in case the first layer was above guidelines, in order to vertically bound the contamination. The two locations that failed the sum of ratios calculation have been analyzed for the 0.5 to 1 foot interval and this data has been added to the attached table.

5) The sample identification and location identification don't match up with the map provided in the letter.

The sample identifications have been added to the figure for clarity (see attached).

6) How deep will the water line be placed under the creek? Why were the samples from the creek only taken from 0 to 0.5 feet?

Drawings provided by the city of Florissant show approximately 3 feet of cover over the water line installation within the Coldwater Creek streambed. The samples were collected from the surface sediments for the reasons discussed under comment 4.

If you have any questions, please contact me.

Sincerely,



R. L. Mullins, Jr., Ph.D., P.E., AICP
FUSRAP Program Manager

Enclosures: Table - Coldwater Creek Sample Results
Figure - Coldwater Creek Bridge on St. Louis Avenue

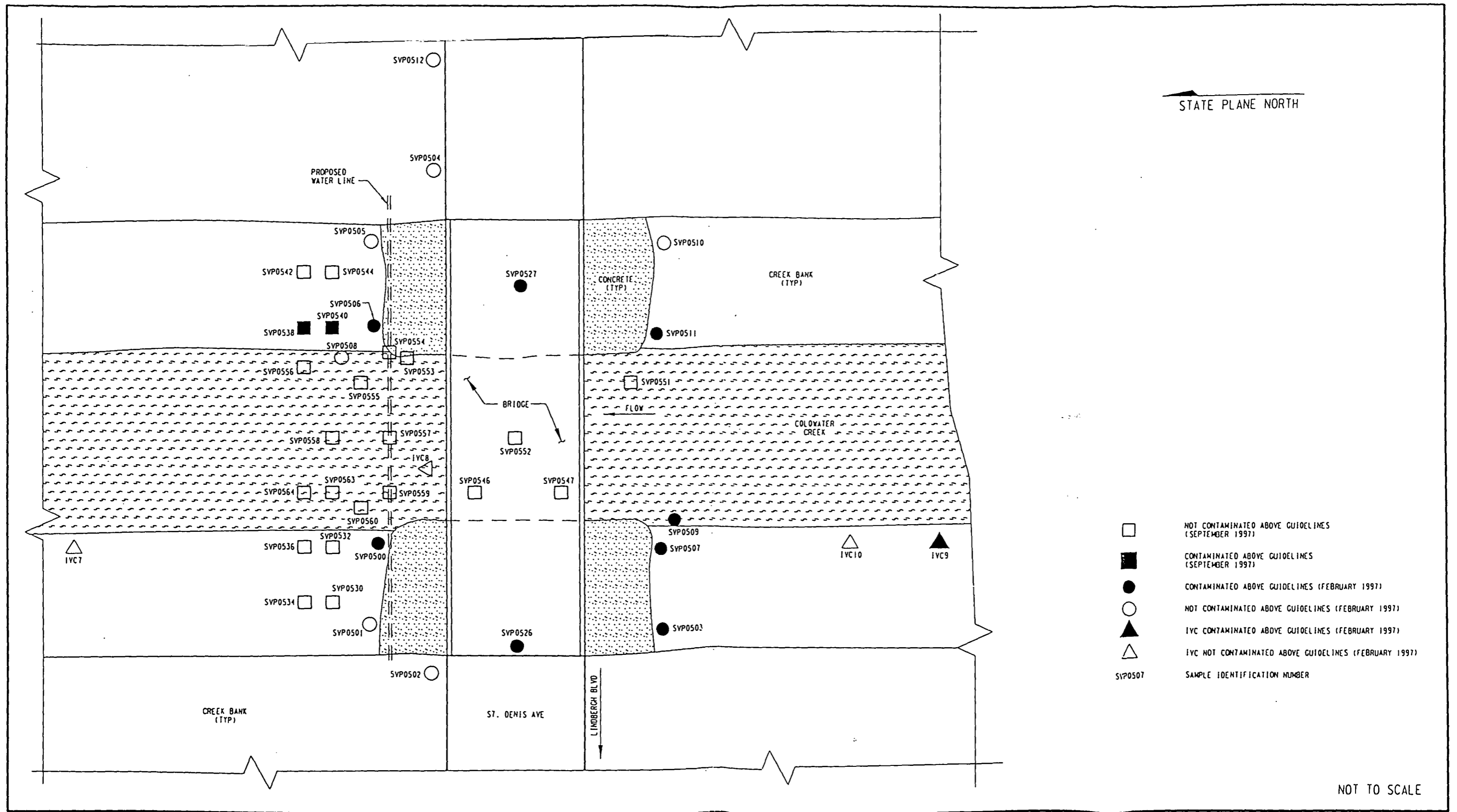
jlm

Coldwater Creek Sample Result

Sample ID	Location ID	Sample Depth (ft)	Ac-227 pCi/g	Th-228 pCi/g	Th-230 pCi/g	Th-232 pCi/g	U-235 pCi/g	U-238 pCi/g	Ra-226 pCi/g
SVP0530	1	0-0.5	< 0.26	1.17	1.62	0.95	< 0.27	< 6.43	0.81
SVP0531	1	0.5-1	*	*	*	*	*	*	*
SVP0532	2	0-0.5	< 0.25	1.15	3.26	0.80	< 0.23	< 5.88	0.78
SVP0533	2	0.5-1	*	*	*	*	*	*	*
SVP0534	3	0-0.5	< 0.26	0.84	1.64	0.85	< 0.24	< 5.64	0.81
SVP0535	3	0.5-1	*	*	*	*	*	*	*
SVP0536	4	0-0.5	< 0.27	0.69	5.19	1.14	< 0.24	< 5.05	0.78
SVP0537	4	0.5-1	*	*	*	*	*	*	*
SVP0538	5	0-0.5	< 0.19	1.31	7.43	1.70	0.19	< 3.68	0.91
SVP0539	5	0.5-1	0.19	1.50	7.50	0.83	0.14	< 2.20	1.01
SVP0540	6	0-0.5	0.26	0.88	6.24	1.00	< 0.19	< 3.20	0.88
SVP0541	6	0.5-1	0.15	1.27	5.45	0.74	0.19	< 2.07	1.07
SVP0542	7	0-0.5	< 0.13	0.69	2.71	0.71	< 0.13	< 2.66	0.67
SVP0543	7	0.5-1	*	*	*	*	*	*	*
SVP0544	8	0-0.5	< 0.18	1.67	2.11	1.27	< 0.17	< 3.98	0.82
SVP0545	8	0.5-1	*	*	*	*	*	*	*
SVP0546	9	0-0.5	< 0.19	0.87	1.05	0.77	< 0.17	< 3.89	0.73
SVP0547	10	0-0.5	< 0.20	1.19	1.05	1.04	< 0.18	< 4.32	0.70
SVP0551	11	0-0.5	< 0.16	1.44	2.65	0.63	< 0.14	< 4.28	0.78
SVP0552	12	0-0.5	0.26	0.68	1.06	0.84	< 0.16	< 5.41	0.70
SVP0553	13	0-0.5	0.25	0.64	0.97	0.51	< 0.17	< 5.05	0.75
SVP0554	14	0-0.5	< 0.20	0.93	1.71	1.42	< 0.17	< 4.97	0.74
SVP0555	15	0-0.5	< 0.21	0.94	1.34	0.82	< 0.17	< 5.44	0.71
SVP0556	16	0-0.5	0.23	1.29	1.42	1.49	< 0.17	< 5.15	0.72
SVP0557	17	0-0.5	< 0.24	0.26	2.66	0.39	< 0.20	< 5.27	0.99
SVP0558	18	0-0.5	0.36	0.85	1.31	0.74	< 0.18	< 6.24	0.81
SVP0559	19	0-0.5	< 0.15	0.82	1.30	0.81	< 0.13	< 3.90	0.72
SVP0560	20	0-0.5	0.23	0.94	1.43	1.02	< 0.18	< 6.10	0.79
SVP0563	21	0-0.5	< 0.20	0.76	1.60	0.97	< 0.17	< 4.59	0.79
SVP0564	22	0-0.5	0.33	0.75	1.39	0.62	< 0.25	< 8.24	0.82

* archived

** not



D:\14501\134\134F318.DGN
06 JAN 98

Coldwater Creek Bridge on St. Denis Avenue

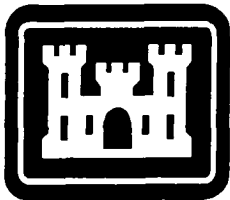
NOT TO SCALE

00-2445

Formerly Utilized Sites Remedial Action Program (FUSRAP)

ADMINISTRATIVE RECORD

for the St. Louis Sites, Missouri



**US Army Corps
of Engineers®**