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

REPLY TO
ATTENTION OF:

September 23, 1998

Formerly Utilized Sites Remedial Action Program Project Office

Ms. Sally Price
St. Louis Oversight Committee
16736 Newbury Crossing
Florissant, Missouri 63034

SUBJECT: RADIOACTIVE CONTAMINATION LEVELS AT THE ST. DENIS BRIDGE IN FLORISSANT, MISSOURI

Dear Ms. Price:

As requested at the Oversight Committee Meeting of September 11, 1998, please find enclosed information regarding radioactive contamination levels at the St. Denis Bridge in Florissant, Missouri.

The enclosed documents address the levels of contamination for radium, thorium and uranium for samples taken near the St. Denis Bridge in Florissant, Missouri. A map and three tables are enclosed to detail the location and levels of contamination in the samples. The first table "Coldwater Creek Sample Results" was prepared by Bechtel National, Inc. (BNI) for the St. Louis District, U. S. Army Corps of Engineers (USACE) in September 1997 for use in support of the remedial action at the bridge. "Table 2: Coldwater and Fountain Creek Characterization" was completed in February 1997 by BNI under the direction of the Department of Energy (DOE). "Table 3: Coldwater Creek Characterization" was prepared by the DOE's independent verification contractor, ORISE, in support of table 2.

Please feel free to contact Mr. Lou Dell'Orco at (314) 524-6857 should you need more information on this activity.

Sincerely,

for Sharon R. Cotner
FUSRAP Program Manager

Enclosures

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

REPLY TO
ATTENTION OF:

September 23, 1998

Formerly Utilized Sites Remedial Action Program Project Office

Mr. Donovan Larson
St. Louis County Water Company
1050 Research Boulevard
St. Louis, Missouri 63132

SUBJECT: RADIOACTIVE CONTAMINATION LEVELS AT THE ST. DENIS BRIDGE IN FLORISSANT, MISSOURI

Dear Mr. Larson:

As requested at the Oversight Committee Meeting of September 11, 1998, please find enclosed information regarding radioactive contamination levels at the St. Denis Bridge in Florissant, Missouri.

The enclosed documents address the levels of contamination for radium, thorium and uranium for samples taken near the St. Denis Bridge in Florissant, Missouri. A map and three tables are enclosed to detail the location and levels of contamination in the samples. The first table "Coldwater Creek Sample Results" was prepared by Bechtel National, Inc. (BNI) for the St. Louis District, U. S. Army Corps of Engineers (USACE) in September 1997 for use in support of the remedial action at the bridge. "Table 2: Coldwater and Fountain Creek Characterization" was completed in February 1997 by BNI under the direction of the Department of Energy (DOE). "Table 3: Coldwater Creek Characterization" was prepared by the DOE's independent verification contractor, ORISE, in support of table 2.

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Coldwater Creek Sample Results (Sept. 1997)

Sample ID	Location ID	Sample Depth (ft)	Th-230 pCi/g	U-238 pCi/g	Ra-226 pCi/g	Ra-228 pCi/g	Sum of Ratios	Water Depth (ft)	Location Description	Sample Description
SVP0530	1	0-0.5	1.62	< 6.43	0.81	1.09	pass	N/A	west creek bank	yellow brown silty soil
SVP0531	1	0.5-1	*	*	*	*	*	N/A	west creek bank	silty soil
SVP0532	2	0-0.5	3.26	< 5.88	0.78	0.93	pass	N/A	west creek bank	clayey silt
SVP0533	2	0.5-1	*	*	*	*	*	N/A	west creek bank	clayey silt
SVP0534	3	0-0.5	1.64	< 5.64	0.81	0.89	pass	N/A	west creek bank	clayey silt
SVP0535	3	0.5-1	*	*	*	*	*	N/A	west creek bank	yellow brown clayey silt
SVP0536	4	0-0.5	5.19	< 5.05	0.78	0.99	pass	N/A	west creek bank	clayey silt
SVP0537	4	0.5-1	*	*	*	*	*	N/A	west creek bank	clayey silt
SVP0538	5	0-0.5	7.43	< 3.68	0.91	0.86	fail	N/A	east creek bank	clayey silt
SVP0539	5	0.5-1	*	*	*	*	*	N/A	east creek bank	brown silt and organics
SVP0540	6	0-0.5	6.24	< 3.20	0.88	0.92	fail	N/A	east creek bank	brown silt and organics
SVP0541	6	0.5-1	*	*	*	*	*	N/A	east creek bank	encountered rocks
SVP0542	7	0-0.5	2.71	< 2.66	0.67	0.48	pass	N/A	east creek bank	silt with organic and inorganics; rocks
SVP0543	7	0.5-1	*	*	*	*	*	N/A	east creek bank	yellow brown silt
SVP0544	8	0-0.5	2.11	< 3.98	0.82	1.04	pass	N/A	east creek bank	yellow brown silt
SVP0545	8	0.5-1	*	*	*	*	*	N/A	east creek bank	yellow brown silt
SVP0546	9	0-0.5	1.05	< 3.89	0.73	0.89	pass	1.5	under bridge	gray clay
SVP0547	10	0-0.5	1.05	< 4.32	0.70	0.76	pass	3.5	under bridge	gray clay
SVP0551	11	0-0.5	2.65	< 4.28	0.78	0.51	pass	2.5	upstream of bridge	dark organics, gray clay
SVP0552	12	0-0.5	1.06	< 5.41	0.70	0.92	pass	2.5	under bridge	gray clay
SVP0553	13	0-0.5	0.97	< 5.05	0.75	0.82	pass	0	edge of creek	gray clay
SVP0554	14	0-0.5	1.71	< 4.97	0.74	0.87	pass	0	edge of creek	gray clay
SVP0555	15	0-0.5	1.34	< 5.44	0.71	0.93	pass	**	within creek	**
SVP0556	16	0-0.5	1.42	< 5.15	0.72	0.89	pass	**	within creek	gray clay
SVP0557	17	0-0.5	2.66	< 5.27	0.99	0.38	pass	**	middle of creek	small gravel
SVP0558	18	0-0.5	1.31	< 6.24	0.81	0.89	pass	**	middle of creek	small gravel, gray clay
SVP0559	19	0-0.5	1.30	< 3.90	0.72	0.46	pass	3	within creek	coarse sand, gray clay
SVP0560	20	0-0.5	1.43	< 6.10	0.79	0.95	pass	**	within creek	gray clay
SVP0563	21	0-0.5	1.60	< 4.59	0.79	0.91	pass	**	within creek	gray clay
SVP0564	22	0-0.5	1.39	< 8.24	0.82	0.93	pass	**	within creek	gray clay

* archived ** not recorded

Table 2: Coldwater and Fountain Creek Characterization February 1997

Sample Number	Th-230 (pCi/g)	Ra-226 (pCi/g)	Th-232 (pCi/g)	U-238 (pCi/g)
SVP0500	10.64	0.96	1.09	1.33
SVP0501	1.43	0.94	1.34	1.29
SVP0502	2.33	0.81	0.69	0.97
SVP0503	9.02	0.98	1.09	2.75
SVP0504	3.19	0.74	0.45	1.08
SVP0505	2.74	0.93	1.07	0.37
SVP0506	12.98	1.11	1.09	0.60
SVP0507	10.02	1.07	1.00	0.92
SVP0508	1.43	0.88	0.98	1.64
SVP0509	11.49	1.02	1.07	1.51
SVP0510	2.17	1.05	1.26	1.35
SVP0511	7.31	1.02	1.03	1.47
SVP0512	1.58	0.80	0.38	0.79
SVP0513	1.49	0.93	0.85	1.09
SVP0514	1.79	0.99	1.02	1.57
SVP0515	2.31	0.94	0.81	1.08
SVP0516	1.69	1.01	1.09	1.21
SVP0517	2.15	1.11	1.01	0.59
SVP0518	4.67	0.95	0.26	1.07
SVP0519	2.12	0.99	0.57	1.54
SVP0520	1.88	1.13	1.10	1.09
SVP0521	2.02	0.84	0.46	0.73
SVP0522	1.73	1.01	0.92	1.66
SVP0523	1.60	1.06	0.78	0.83
SVP0524	1.55	1.10	0.97	0.86
SVP0525	1.40	1.03	0.71	0.57
SVP0526	38.29	1.20	0.65	1.03
SVP0527	5.63	0.88	0.87	0.88
SVP0528	1.47	0.78	0.51	0.76
SVP0529	1.23	0.75	0.51	1.09
Background[a]	1.30	0.90	1.00	1.10
DOE Guideline[b]	5.0	5.0	5.0	50.0

[a] Background radionuclide concentrations in soil in the St. Louis Area

[b] Average over a 100 m^2 area and 15 cm depth

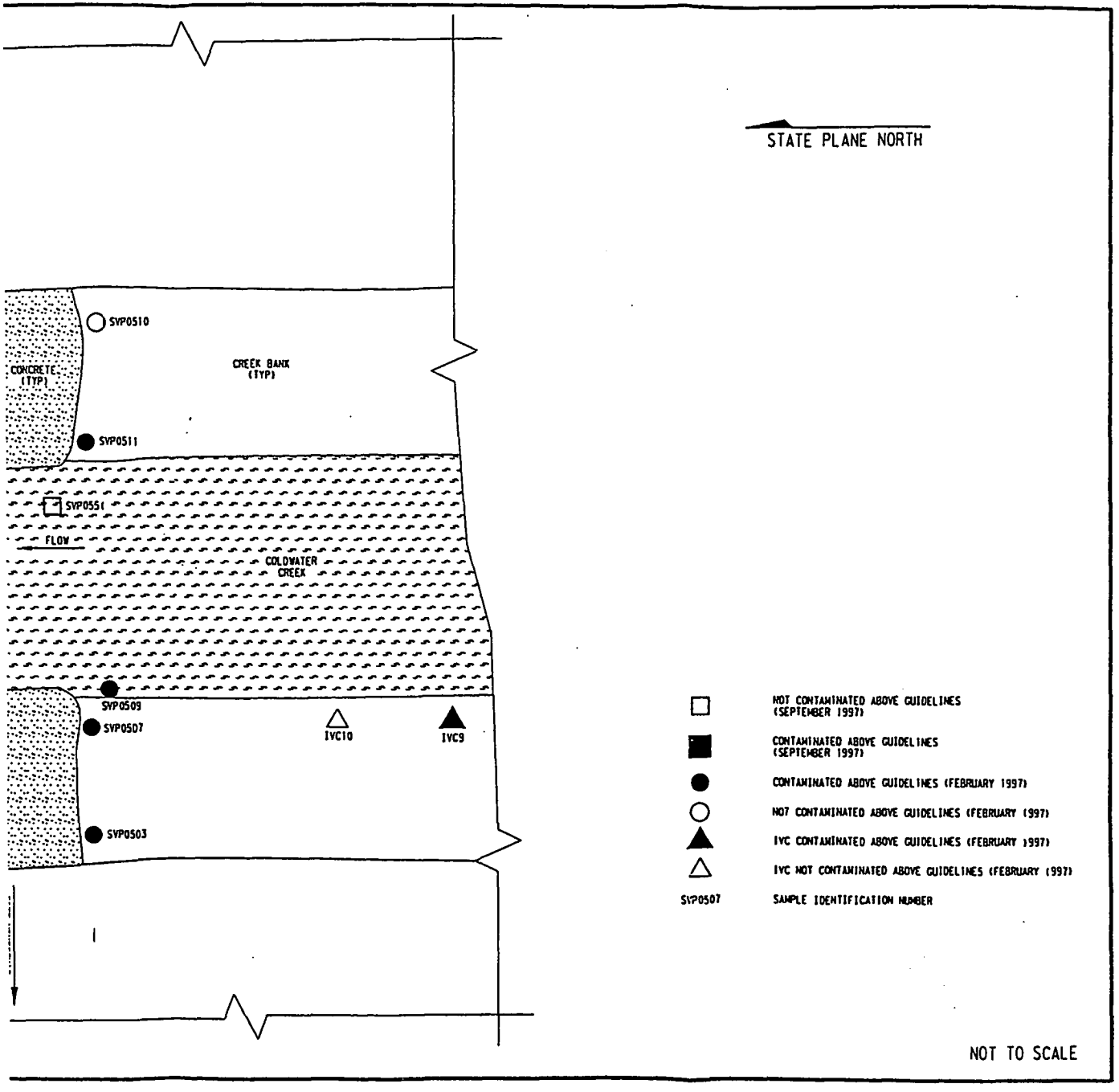
Table 3: Coldwater Creek Characterization
February 1997 - ORISE[a]

Sample Number	Th-230 (pCi/g)	Ra-226 (pCi/g)	Th-232 (pCi/g)	U-238 (pCi/g)
1	< 4.0	1.0	0.9	1.3
2	< 2.9	0.8	0.3	0.8
3	< 4.0	0.9	0.9	1.3
4	< 4.0	0.9	0.9	1.0
5	< 2.9	0.8	0.3	1.1
6	< 3.7	0.9	0.8	1.1
7	< 4.3	1.0	1.0	1.2
8	3.2	1.2	0.4	1.0
9	8.6	1.1	0.9	1.4
10	4.4	1.1	1.0	1.1
11	7.5	1.1	1.0	1.1
12	4.8	1.1	1.0	1.2
13	2.7	0.9	0.5	1.0
14	1.7	1.0	1.1	1.2
15	< 4.1	1.3	0.9	1.3
Background[b]	1.30	0.90	1.00	1.10
DOE Guideline[c]	5.0	5.0	5.0	50.0

[a] ORISE - Oak Ridge Institute for Science and Education

[b] Background radionuclide concentrations in soil in the St. Louis Area

[c] Average over a 100 m^2 area and 15 cm depth



water Creek Bridge on St. Denis Avenue

Cataloging Form
{Technical/Project Managers fill in C through G, K through Q. RM completes other fields}

A. Document ID Number: Assigned by database 834 B. *Further Information Required?*: ☐

C. *Operable Unit (Choose One):*

USACE	☐
St. Louis Sites	☐
Downtown	☐
North County	☒
Madison Sites	☐
Inaccessible Areas	☐
PRP	☐
Oversight Committee	☐

D. *Site (Optional):*

SLDS VPs	☐
Mallinckrodt	☐
SLAPS	☐
SLAPS VPs	☐
CWC	☒
HISS	☐
Madison	☐

E. *Area (Optional):* St. Denis Bridge

F. *Primary Document Type (Choose One):*

Site Management Records	☐	Remedial Action	☐
Removal Response	☐	Public Affairs/Community Relations	☒
Remedial Investigation	☐	Congressional Relations	☐
Feasibility Study	☐	Freedom of Information Act	☐
Record of Decision	☐	Real Estate	☐
Remedial Design	☐	Project Management	☐

G. *Secondary Document Type (see back of form):* Correspondence

H. *Bechtel Number:* _____ I. *SAIC Number:* _____

J. *MARKS Number(Choose One):* FN: 1110-1-8100e ☐ FN: 1110-1-8100f ☐ FN: 1110-1-8100g ☐

K. *Subject:/Title:* Transmittal of Radioactive Contamination Levels at the St. Denis Bridge Worksite

L. *Author:* Sharon Cotner M. *Author's Company:* PM-R

N. *Recipient(s):* Sally Price O. *Recipient(s) Company:* Oversight Committee

P. *Version (Choose One):* Draft ☐ Final ☒ Q. Date: 9/23/98

R. *Include in the ARF?* ☒ S. *Include in the AR?* ☐ T. *Filed as Confidential/Privileged?* ☐

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Electronic	☐	Audio-visual	☐	Microform	☐

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