START

0019123

UNC NUCLEAR INDUSTRIES

A UNC RESOURCES Company

P.O. Box 490
Richland, Washington 99352

Telephone 509/376-7411

Memorandum

To: E. M. Greager

Date: January 12, 1987

From: T. C. McKarns T. C. McKarns

Subject: 183-H BASIN NUMBER 2 AIR SAMPLING

HEHF has completed the analyses of the samples collected during waste removal work from 183-H basin number 2. The result of these analyses are presented in the attached tables. These samples were collected from July 31 through October 3, 1986. The sample site location are found on the attached map.

The concentrations of suspended particulates, fluorides, nitrates, sulfates, copper, and sodium were very low, as expected. The sample results were compared to Washington State Ambient Air Standards and the Occupational Threshold Limit Values and Biological Exposure Indices (TLV's). The ambient air standards for total suspended solids covered under WAC 18-40-030, are 40 micrograms per cubic meter (40 ug/m3), plus background, as an annual geometric mean. Fluorides are covered under WAC 18-48-130 and are 3.7 micrograms per cubic meter (3.7 ug/m3) for any consecutive 12 hours. The TLV's for nuisance dust, fluoride, and copper are 10 milligrams per cubic meter (10 mg/m3), 2.5 milligrams per cubic meter (2.5 mg/m3), and 1 milligram per cubic meter (1.0 mg/m3) respectively. Nitrate, sulfate, and sodium are not included in either the ambient air standards or the TLV's.

All of the samples are well below the TLV's and when the backgrounds are subtracted, the total suspended solids and fluorides are also below the ambient air standards. A review has shown that all of the air sampling for the clean out operations, done thus far, are below the applicable standards. One would expect similar results for the clean out of basins 3 and 4.

TCM/dp

Attachments

cc: JF Bertsch
JJ Dorian
DG Kachele
BW Mathis
EW Powers
TCM:file/lb

9212501146 9

FEB 1992
RECEIVED
EDMC

ANALYTICAL RESULTS - 183H - SOLAR BASIN NO. 2,
MEMBRANE FILTERS RECEIVED JULY 31 THRU OCTOBER 3, 1986
ENVIRONMENTAL SAMPLES (see attached map for sample locations)

Date	Time	Description	Location[1]	Environmental[2] Condition	mg/m^3 Air Volume	mg/m^3 Particulate[3]	mg/m^3 F	mg/m^3 NO_3	mg/m^3 SO_4	mg/m^3 Cu	mg/m^3 Na
7-31-86	0840-1445	H1726	3	W @5.5 mph	0.76	<0.07	<0.004	<0.01	<0.04	*	*
	0846-1448	H1710	7	no precip.	0.75	<0.1	*	*	*	<0.0009	<0.009
	0846-1448	H2049	7		0.75	<0.07	<0.004	<0.01	<0.04	*	*
	0851-1442	E450	10		0.77	<0.07	*	*	*	<0.0006	<0.006
	0851-1452	H1737	10		0.74	<0.07	<0.004	<0.01	<0.04	*	
	Blank	H189	-		-	-	-	-	-	*	*
8-8-86	0655-1439	H1632	1	W @6.4 mph	0.97	0.08	*	*	*	0.0009	<0.005
	0655-1440	H1719	1	no precip.	0.72	0.13	<0.004	0.004	<0.04	*	*
	0700-1443	S48	10		0.87	0.13	*	*	*	<0.0005	<0.005
	0700-1444	A120	10		0.95	0.06	<0.003	0.005	<0.03	*	*
	0708-1447	H1663	5		0.96	<0.01	*	*	*	<0.0005	<0.005
	Blank	H1941	-		-	-	*	*	*	-	-
	Blank	H175	-		-	-	-	-	-	*	*
8-15-86	0553-1117	H1814	3	NW @ 11.5	0.67	0.20	*	*	*	<0.0007	<0.007
	0553-1117	S44	3	mph-no precip.	0.66	0.10	<0.004	<0.004	<0.04	*	*
	0558-1125	H1761	10		0.68	0.13	*	*	*	<0.0007	<0.007
	0558-1125	S66	10		0.67	0.08	<0.004	<0.004	<0.04	*	*
	0605-1128	H1888	5		0.67	0.09	*	*	*	<0.0007	<0.007
	0605-1128	S154	5		0.67	0.02	<0.004	<0.004	<0.04	*	
	Blank	H175	-		-	-	*	*	*	-	-
	Blank	H1581	-		-	-	-	-	-	*	*
8-22-86	0655-1257	N821	1	W @5.5 mph	0.74	0.04	*	*	*	<0.0007	<0.007
	0655-1257	S122	1	no precip.	0.75	0.07	<0.004	0.004	<0.04	*	*
	0702-1303	S118	4		0.78	0.02	*	*	*	<0.0006	<0.006
	0702-1303	H1788	4		0.76	<0.01	<0.004	0.004	<0.04	*	*
	0708-1309	H2065	5		0.78	0.03	*	*	*	<0.0006	<0.006
	0708-1309	N9484	5		0.75	0.08	<0.004	<0.004	<0.04	*	*
	Blank	H1695	-		-	-	*	*	*	-	-
	Blank	S221	-		-	-	-	-	-	*	*

ANALYTICAL RESULTS

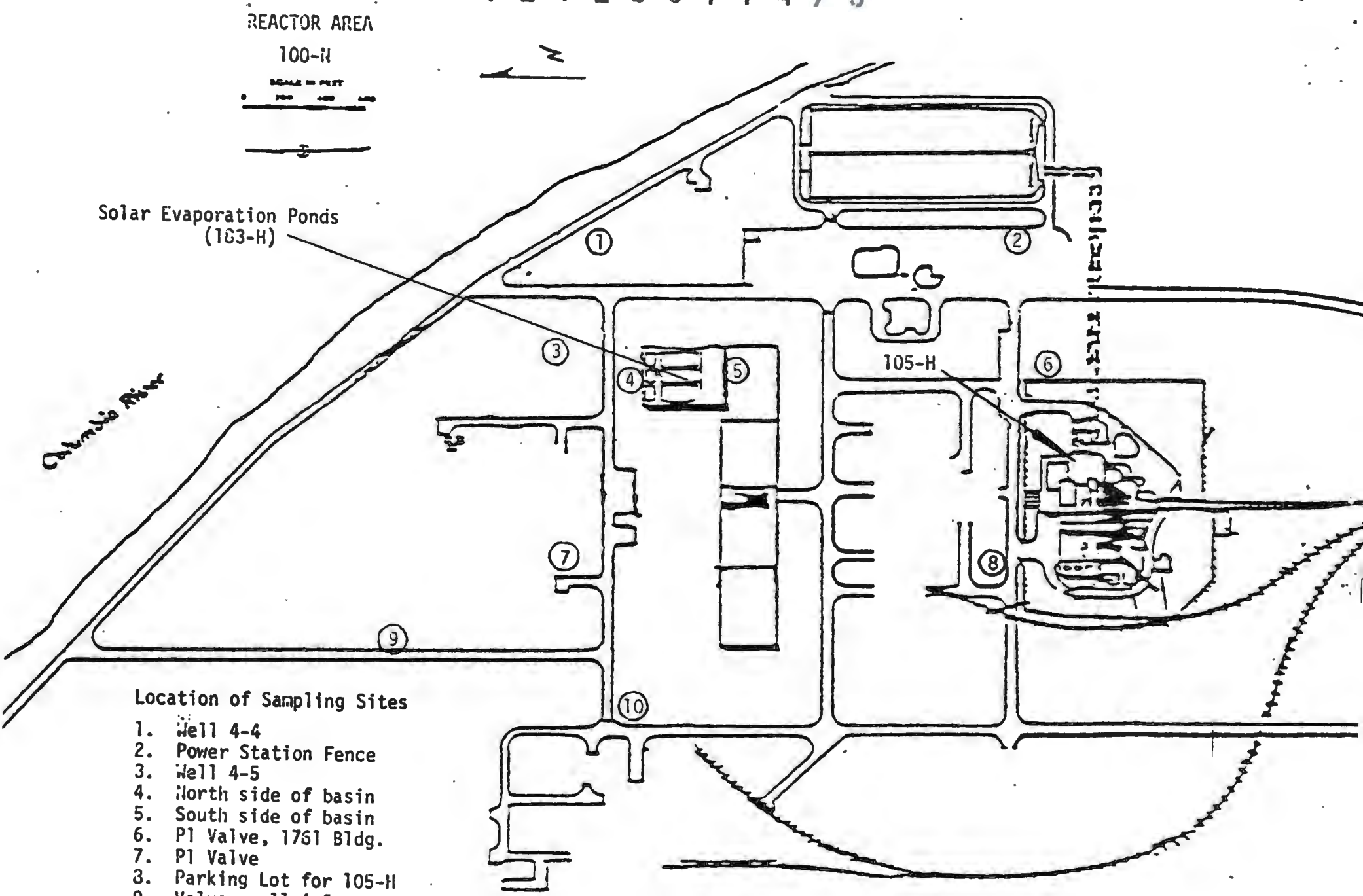
Date	Time	Description	Location[1]	Environmental[2] Condition	mg/m^3 Air Volume	mg/m^3 Particulate[3]	mg/m^3 F	mg/m^3 NO_3	mg/m^3 SO_4	mg/m^3 Cu	mg/m^3 Na
8-29-86	0654-1328	14	3	N.W. @8.3	0.86	0.13	*	*	*	<0.0006	<0.006
	0654-1328	H410	3	mph 0.02"	0.82	0.17	<0.004	0.004	<0.04	*	*
	0700-1332	H2186	10	rain	0.85	0.19	*	*	*	<0.0006	<0.006
	0700-1332	H1270	10		0.83	0.13	<0.004	0.005	<0.04	*	*
	0704-1334	H1315	6		0.81	0.12	*	*	*	<0.0006	0.015
	0704-1334	H2190	6		0.81	0.06	<0.004	0.006	<0.04	*	
	Blank	2157	-		-	-	*	*	*	-	-
	Blank	H2185	-		-	-	-	-	-	*	*
9-4-86	0628-1227	H1726	10	N.W. @ 6.1	0.78	<0.01	*	*	*	<0.0006	<0.006
	0628-1227	H2088	10	mph	0.75	<0.01	<0.004	<0.004	<0.04	*	*
	0633-1231	H1436	8	no precip.	0.75	<0.01	*	*	*	<0.0007	<0.006
	0633-1231	H431	8		0.75	0.03	<0.004	<0.004	<0.04	*	*
	0640-1236	H2094	9		0.72	0.04	*	*	*	<0.0007	<0.007
	0640-1236	N177	9		0.74	<0.01	<0.004	<0.004	<0.04	*	*
	Blank	H1879	-		-	-	*	*	*	-	-
	Blank	H1766	-		-	-	-	-	-	*	*
9-12-86	0656-1315	H1628	1	N.W. @6.1	0.77	0.23	*	*	*	<0.0007	<0.007
	0656-1315	N9205	1	mph	0.82	0.03	<0.004	<0.004	<0.04	*	*
	0701-1319	H2169	5	no precip.	0.80	0.19	*	*	*	<0.0006	<0.006
	0701-1319	S54	5		0.79	0.07	<0.004	<0.004	<0.04	*	*
	0706-1323	H1683	10		0.78	0.12	*	*	*	<0.0007	<0.006
	0706-1323	H1382	10		0.78	0.04	<0.004	<0.004	<0.04	*	*
	Blank	H1983	-		-	-	*	*	*	-	-
	Blank	H1903	-		-	-	-	-	-	*	*
9-19-86	0658-1317	H1665	3	N @6.5	0.63	<0.01	*	*	*	<0.0008	<0.008
	0658-1317	H1731	3	mph,0.04"	0.82	<0.01	<0.004	0.005	<0.04	*	*
	0703-1320	H357	4	rain	0.80	<0.01	*	*	*	<0.0006	<0.006
	0703-1320	H1630	4		0.77	<0.01	<0.004	0.004	<0.04	*	*
	0709-1322	H2084	6		0.78	0.02	*	*	*	<0.0006	<0.006
	Blank	H1866	-		-	-	*	*	*	-	-
	Blank	H1890	-		-	-	-	-	-	*	*

ANALYTICAL RESULTS

Date	Time	Description	Location[1]	Environmental[2] Condition	mg/m^3 Air Volume	mg/m^3 Particulate[3]	mg/m^3 F	mg/m^3 NO_3	mg/m^3 SO_4	mg/m^3 Cu	mg/m^3 Na
9-26-86	0824-1504	S124	1	W @8.6 mph	0.84	<0.01	*	*	*	<0.0006	<0.006
	0824-1504	S22	1	no precip.	0.87	<0.01	<0.004	<0.004	<0.04	*	*
	0828-1509	S69	10		0.81	<0.01	*	*	*	<0.0006	<0.006
	0828-1509	H1306	10		0.83	<0.01	<0.004	<0.004	<0.04	*	*
	0831-1512	H748	2		0.83	<0.01	*	*	*	<0.0006	<0.006
	0831-1512	H1893	2		0.87	0.02	<0.004	<0.004	<0.04	*	
	Blank	H1889	-		-	-	*	*	*	-	-
	Blank	S33	-		-	-	-	-	-	*	*
10-3-86	0824-1459	S43	1	W @5.6 mph	0.80	<0.01	*	*	*	<0.0006	<0.006
	0824-1459	N654	1	no precip.	0.82	<0.01	<0.004	0.048	<0.04	*	*
	0829-1507	N1605	4		0.86	0.04	*	*	*	<0.0006	<0.006
	0829-1507	N9792	4		0.83	0.03	<0.004	<0.004	<0.04	*	*
	0835-1511	H1734	6		0.84	0.01	*	*	*	<0.0006	<0.006
	0835-1511	H2087	6		0.66	0.05	<0.004	<0.004	<0.04	*	*
	Blank	H1316	-		-	-	*	*	*	-	-
	Blank	4	-		-	-	-	-	-	*	*

[1]See attached map for specific area location.
[2]As per PNL meterological station, represents daily averages.
[3]Blank corrected.
*Not analyzed.
-None detected or correction applied as necessary.

9 2 1 2 5 0 1 1 4 7 3



Location of Sampling Sites

1. Well 4-4
2. Power Station Fence
3. Well 4-5
4. North side of basin
5. South side of basin
6. P1 Valve, 1751 Bldg.
7. P1 Valve
8. Parking Lot for 105-H
9. Valve, well 4-6
10. Well 4-6

9 2 1 2 5 0 1 1 4 7 4

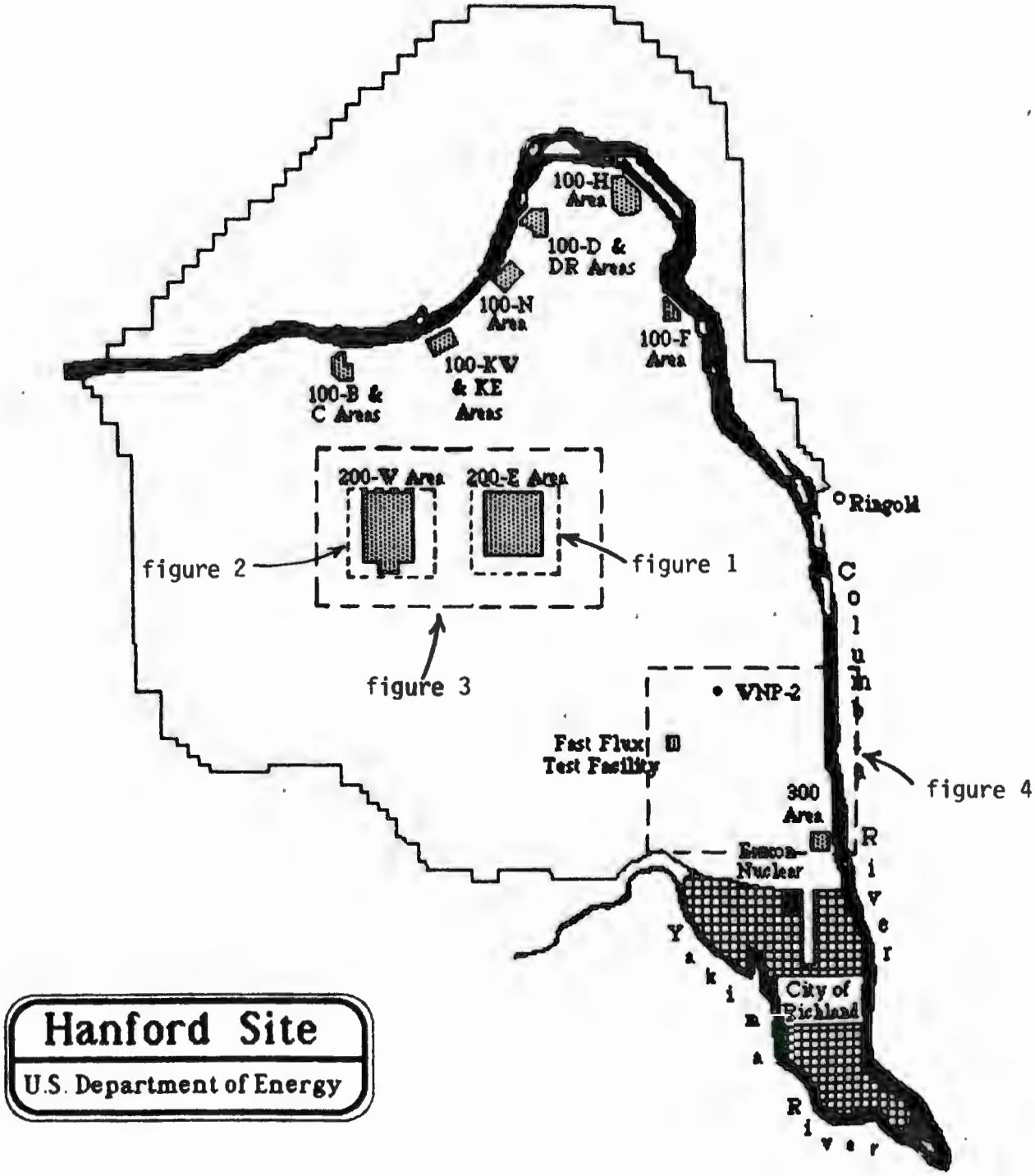


Figure 5. Relation of Figures 1 through 4 to Hanford Site.