

**Battelle**  
*The Business of Innovation*

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July 8, 2005

U.S. Nuclear Regulatory Commission  
ATTN Mike McCann  
Region III  
2443 Warrenville Road  
Suite 210  
Lisle, IL 60532-4352

Dear Mr. McCann:

Subject: Submittal of the rest of Battelle's documentation for the groundwater monitoring program as requested at the conclusion of the telecom meeting on 5/17/05 excepting the later requested May 2005 raw data from the monitoring well sampling event

I am submitting the following items from Battelle's actions of the 5/17/05 telecom meeting with you while at the Battelle site:

- 1) The singular map that includes all groundwater monitoring well locations and surface water collection locations
- 2) Documentation from the BCLDP Radio-analytical Laboratory Manager- Gretchen Farnung- of the past history of filtering samples prior to analyses
- 3) A spreadsheet tying the depth to water levels provided already by well with the ground surface elevations

NOTE: there are several cases where the elevation of top of casing has not been found in the archives by Battelle environmental monitoring group personnel

John requested the May 2005 raw data from the sampling event of the monitoring wells. Some of the required analyses have been sent off site to our back up lab due to work priorities. Estimate I will be able to send you this data in approximately two weeks.

I have also sent an identical package to John Peckenpaugh as well.

If you have any questions or comments please do not hesitate to call me at 614-424-4098.

Sincerely,



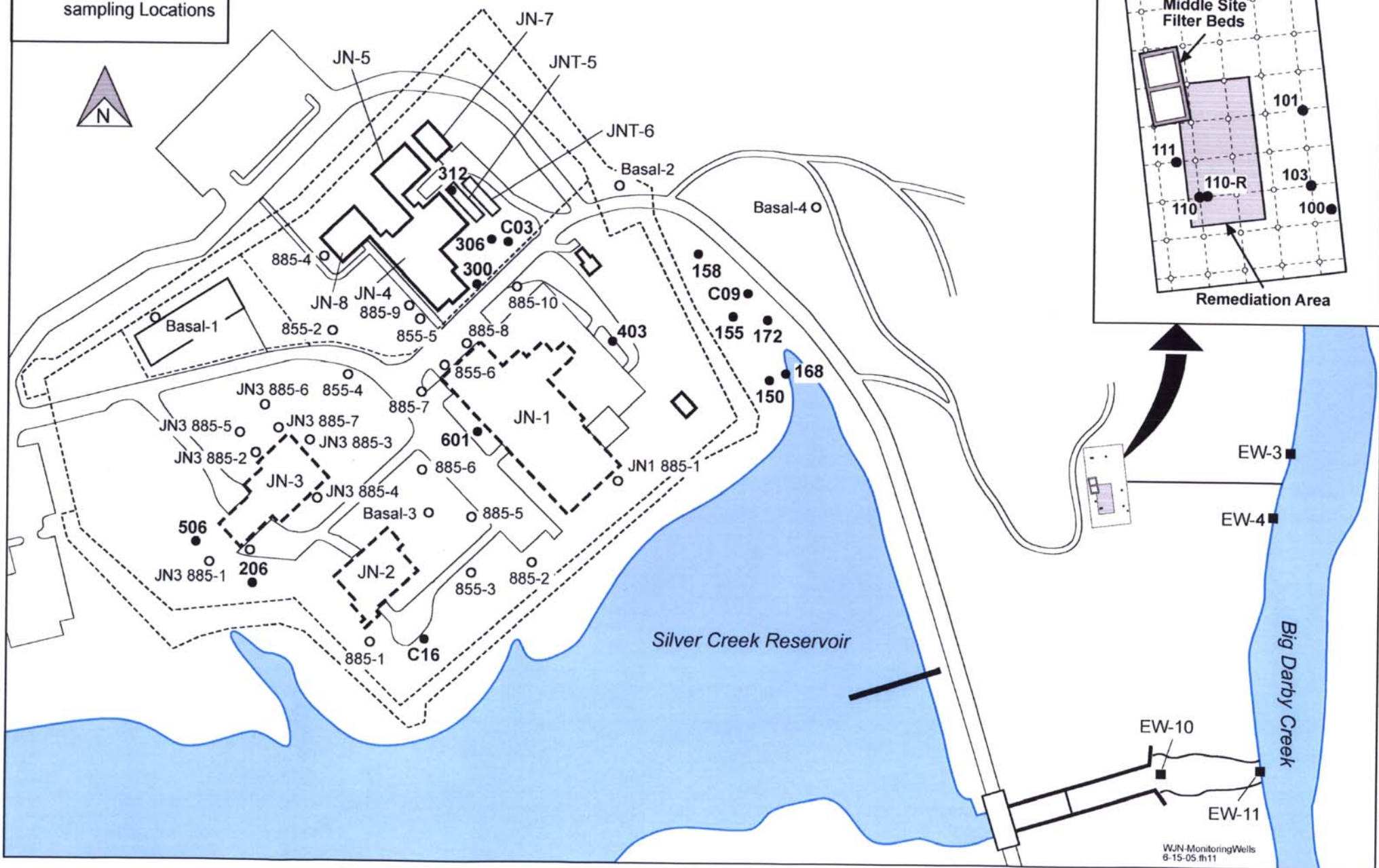
Joe Jacobsen  
BCLDP Radiation Safety Officer

**JUL 11 2005**

# Legend

- Monitoring Wells (Installed 1989/90)
- Monitoring Wells (Installed 2002/03)
- Surface water sampling Locations

## Battelle West Jefferson North Monitoring Wells/Surface Water Sampling Locations



## Addressing Gross Alpha/Beta data quality for the BCLDP RAL

- Starting in Calendar Year (CY) 1991 the Gross Alpha/Beta (GAB) data reported in the BCLDP Environmental Annual report was total GAB activity (includes soluble and insoluble fractions). The water samples are filtered for both soluble and insoluble fractions and then the final data is added together for the annual report. It is impossible to tell from this report whether the activity was from the soluble and/or insoluble fraction for the sample location.
- In 1996, the RAL received National Environmental Laboratory Accreditation Certification (NELAC) for gross alpha/beta water. Through continual improvement initiatives the RAL data quality for all analytical methods improved as demonstrated through precision and accuracy in the semi-annual Department of Energy (DOE) Environmental Management Laboratory (EML) proficiency samples. Since 1998, the RAL has consistently received 100% accuracy on the EML proficiency samples for soil, water, vegetation, and air filter matrices. Starting in 1996, the RAL has performed semiannual GAB water proficiency testing with 100% accuracy.
- Specific improvements noted for GAB since receiving and maintaining NELAC are:
  - Annual calibration checks for alpha and beta self-absorption curves for each Low Background Gas Proportional Counting System.
  - Annual alpha and beta efficiency calibration checks (zero weight efficiencies) for all Low Background Gas Proportional Counting Systems used to count GAB water samples.
  - Consistently flaming all soluble water fractions for GAB. Hygroscopic samples cause erratic counting and damage the detector window on the Gas Proportional counters.
  - Segregating/counting samples by sample volume to meet the Minimum Detectable Activity limits for each group.
  - Maintaining sample weights less than/or equal to 100mg for soluble water fraction.
  - Performing a sample duplicate for every 10 samples in a batch (a sample batch is considered 20 or less samples).
  - Performing alpha and beta matrix and blank spikes per sample batch. Prior to 1996, the RAL performed gross beta spikes.

# BCLDP GROUNDWATER MONITORING WELLS

## WEST JEFFERSON SITE

WELL ID	WELL DEPTH (ft)	ELEVATION OF TOP OF CASING	DEPTH TO WATER		DEPTH DIFFERENCE
			Jun-00	(ft) Nov-00	
JN*	138	N/A	N/A	N/A	N/A
JM*	162	N/A	N/A	N/A	N/A
JS*	130	N/A	N/A	N/A	N/A
C-03	13.10	912.15	5.57	7.83	-2.26
C-09	10.60	895.32	3.13	3.19	-0.06
C-16	15.50	911.95	7.34	8.31	-0.97
100	21.72		11.95	11.86	0.09
101	12.67		8.35	9.35	-1.00
103	12.67	864.90	9.47	9.54	-0.07
110	17.60		9.68	9.84	-0.16
116	17.40		4.35	9.15	-4.80
118	12.68	863.64	8.13	7.79	0.34
150	11.68	894.46	3.45	3.69	-0.24
155	16.91	898.46	5.52	5.87	-0.35
168	11.85	894.62	3.50	3.71	-0.21
172	12.09	895.00	3.46	3.78	-0.32
206	21.60	910.78	7.56	8.66	-1.10
300	37.60		24.12	23.57	0.55
306	16.60	913.20	5.55	6.10	-0.55
506	12.90	909.72	3.85	8.74	-4.89
601	11.10	913.10	4.30	6.74	-2.44

\* DENOTES ACTIVE SUPPLY WELL

CASING ELEVATION IN ft MSL

JT 7/05

40  
100

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