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FEB 12 2004

Mr. James A. Saric, Remedial Project Manager
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Region V, SR-6J
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DOE-0152-04

Mr. Tom Schneider, Project Manager
Ohio Environmental Protection Agency
401 East 5th Street
Dayton, Ohio 45402-2911

Ms. Val Orr
Ohio Environmental Protection Agency
Division of Drinking and Ground Waters – UIC Unit
P.O. Box 1049
Columbus, OH 43216-1049

Dear Mr. Saric, Mr. Schneider, and Ms. Orr:

FOURTH QUARTER 2003 RE-INJECTION OPERATING REPORT FOR THE FERNALD CLOSURE PROJECT

The purpose of this letter is to transmit the Fourth Quarter 2003 Re-Injection Operating Report for the Fernald Closure Project (FCP) for the United States Environmental Protection Agency (USEPA) and Ohio Environmental Protection Agency's (OEPA) review and approval. The quarterly reporting format replaced the previous monthly reporting, with the OEPA concurrence, beginning with Second Quarter 2002 reporting.

If you have any questions regarding this report, please contact Dave Lojek of my staff at (513) 648-3127.

Sincerely,

William J. Taylor
Director

FCP:Lojek

Enclosure: As Stated

FEB 12 2004

cc w/enclosure:
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T. Schneider, OEPA-Dayton (three copies of enclosure)
G. Jablonowski, USEPA-V, SR-6J
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FOURTH QUARTER 2003
RE-INJECTION OPERATING REPORT

Re-injection at Fernald is exempted under 40 CFR 300.400(e)(1) from requiring a permit, as it is a CERCLA action. Ohio EPA Guidelines (OEPA 1997), suggest monthly operating reports be submitted that include:

I. An analysis of the injectate
- Composite daily total uranium results from the injectate source (AWWT Expansion Facility effluent) for days when re-injection occurred are shown in Figure 1.
- The monthly grab sample results for the fourth quarter 2003 are provided in Table 1.

II. The volume and rate of re-injection
- Table 2 summarizes fourth quarter 2003 operational data.

III. A description of any well maintenance and rehabilitation procedures conducted.
- No well maintenance or rehabilitation occurred in October, November, December 2003.

DOE has submitted the monthly reports since re-injection began in September 1998 through March 2002. Due to the routine nature of the reports, DOE and Ohio EPA agreed in March 2002 that the monthly information would be provided in quarterly reports beginning with the report for the second quarter 2002.

Routine monitoring of the aquifer in the re-injection area is conducted as part of the groundwater remedy performance-monitoring program specified in Fernald's Integrated Environmental Monitoring Plan (IEMP). Results of the IEMP are reported semi-annually and are available for viewing on the Fernald website, www.fernald.gov. During the fourth quarter of 2003 re-injection took place in seven re-injection wells and one injection pond. Re-Injection locations are shown in Figure 2.

ANALYSIS OF THE INJECTATE

No constituents exceeded their FRLs. No outages occurred during the 4th quarter of 2003. The following total uranium concentrations were measured in the monthly grab and daily composite samples, respectively:

- October 16, 2003: 1.43 micrograms per liter (µg/L) and 2.1 µg/L
- November 18, 2003: 3.41 µg/L and 3.1 µg/L
- December 2003: No monthly grab sample collected due to a sample collection oversight. The daily composite samples indicate that uranium concentrations were well below 10 ug/L for the entire month, see Figure 1.

TABLE 1

ANALYSIS OF INJECTATE

Constituents[a]	Results[b] Oct. 16, 2003	Nov. 18, 2003	Dec., 2003	Groundwater FRL[c]	Constituent Type[e]	Basis for FRL[f]
General Chemistry				**mg/L**		
Nitrate	1.03 J	0.852 J	NS	11.0	MP	B
Inorganics				**mg/L**		
Antimony	U	U	NS	0.006	N	A
Arsenic	U	U	NS	0.05	N	A
Barium	0.048 J	0.057 J	NS	2.0	N	A
Beryllium	U	U	NS	0.004	N	A
Cadmium	U	U	NS	0.014	N	B
Chromium, total	U	U	NS	0.022[d]	MP	R
Cobalt	U	0.000142 J	NS	0.17	N	R
Lead	U	U	NS	0.015	N	A
Manganese	0.000086 J	0.00162 J	NS	0.9	N	B
Mercury	0.000081 J	0.000153 J	NS	0.002	MP	A
Nickel	U	0.00175 J	NS	0.1	N	A
Selenium	0.00124 J	U	NS	0.05	N	A
Silver	U	U	NS	0.05	N	R
Vanadium	U	U	NS	0.038	N	R
Zinc	U	U	NS	0.021	N	B
Radionuclides				**pCi/L**		
Neptunium-237	U	U	NS	1.0	MP	R*
Radium-226	1.6	1.8	NS	20.0	N	A
Strontium-90	0.37	U	NS	8.0	MP	A
Thorium-228	U	U	NS	4.0	N	R*
Thorium-232	U	U	NS	1.2	N	R*
				µg/L		
Uranium, total	1.43	3.41	NS	30.0	MP	A
Organics				**µg/L**		
Bis(2-ethylhexyl)phthalate	U	U	NS	6.0	N	A
Carbon disulfide	U	U	NS	5.5	N	A
1, 1-Dichloroethene	U	U	NS	7.0	N	A
1, 2-Dichloroethane	U	U	NS	5.0	MP	A
Trichloroethene	U	U	NS	5.0	N	A

Results Qualifiers: U = Nondetected result, B (inorganics) = Reported result is greater than the instrument detection level but less than the contract required detection limit, B (organics) = The compound is detected in an associated lab blank. J = Reported result is positively detected but is estimated; the result is still usable for making decisions, NS – Not Sampled.

[a]Constituents taken from Table 2-1 of the Re-Injection Demonstration Test Plan, and are those previously detected in Aquifer Zones 2 and 4 at concentrations above their FRL.

[b]If a duplicate sample was analyzed, then the highest concentration between the regular sample and duplicate sample is reported.

[c]From Table 9-4 in the Operable Unit 5 Record of Decision Report. NS = Not Sampled

[d]FRL is for hexavalent chromium.

[e]Constituent types from Appendix A of IEMP, Rev. 1. MP indicates that the constituent has been identified as being able to migrate to the aquifer. N indicates that the constituent has been identified as not being able to migrate to the aquifer.

[f]A - Applicable or relevant and appropriate requirement based (MCL, PMCL, etc.), B - Based on 95th percentile background concentrations, R - Risk-based, R* - Risk-based radionuclide cleanup levels include constituent specific 95th percentile background concentration.

TABLE 2

RE-INJECTION WELL OPERATIONAL SUMMARY SHEET
FOURTH QUARTER 2003

Well Number	Reporting Period (hours)[a]	Hours Not Injecting[b]	Hours Injecting[c]	Operational Percent[d]	Million Gallons Injected[e]	Target /Average[f] Operating Injection Rate (gpm)
33253 (IW-8a)[g]	2208	24	2184	98.9	24.938	200 / 190
33254 (IW-9a)[g]	2208	24	2184	98.9	25.718	200 / 196
22109 (IW-10)	2208	24	2184	98.9	24.423	200 / 186
33255 (IW-10a)[h]	2208	24	2184	98.9	25.690	200 / 196
22240 (IW-11)	2208	24	2184	98.9	23.575	200 / 180
22111 (IW-12)[i]	2208	2208	0	0	0	200 / 0
31563 (IW-16)[j]	2208	24	2184	98.9	26.070	200/ 199
33263 (IW-29)[j]	2208	24	2184	98.9	16.169	100/ 123
Injection Pond [j]	2208	1656	552	33.3	2.962	100/ 89

[a]First operational shift reading on Oct. 1, 2003 to first operational shift reading on Jan. 1, 2004.

[b]System downtime as noted on Figure 1.

[c]Hours in reporting period - Hours not injecting

[d](Hours injecting/Hours in reporting period) x 100

[e]Summation of daily totalizer differences

[f]Gallons Injected/(Hours Injecting x 60)

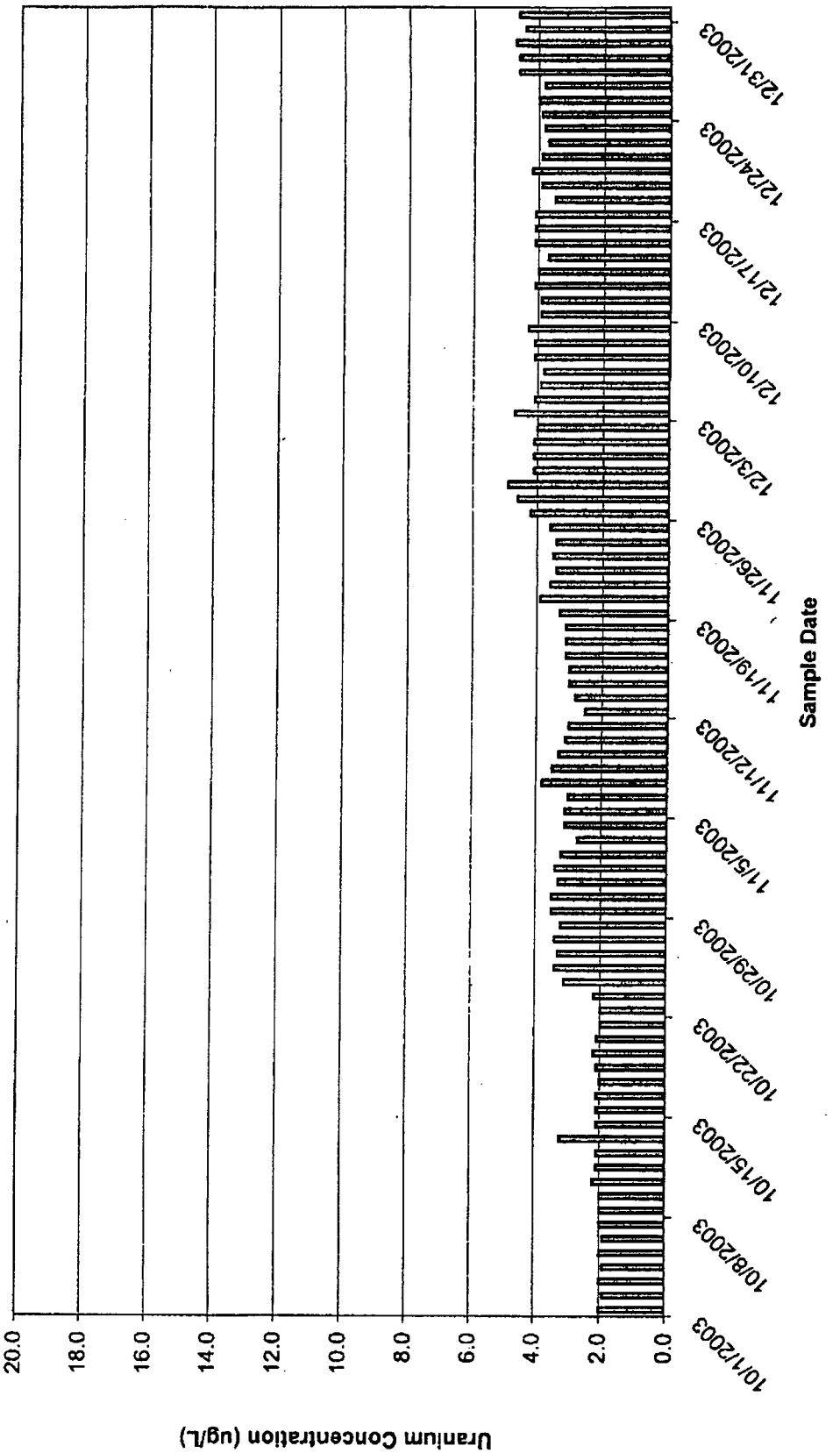
[g] In 2002, Re-Injection Wells 8 and 9 were replaced with new wells, 8a and 9a. These two replacement wells began operating in November 2002

[h] A new Re-Injection Well (IW-10a) began operating on May 22, 2003.

[i] Re-Injection in Well IW-12 was suspended on July 21, 2003. The area next to IW-12 is no longer in the 30 ug/L total uranium plume.

[j] Two new Re-Injection Wells (IW-16 and IW-29) and one new injection pond began operating on July 27, 2003

Figure 1
Daily Composite Uranium Results from AWWT Expansion System
Days when Re-Injection Occurred



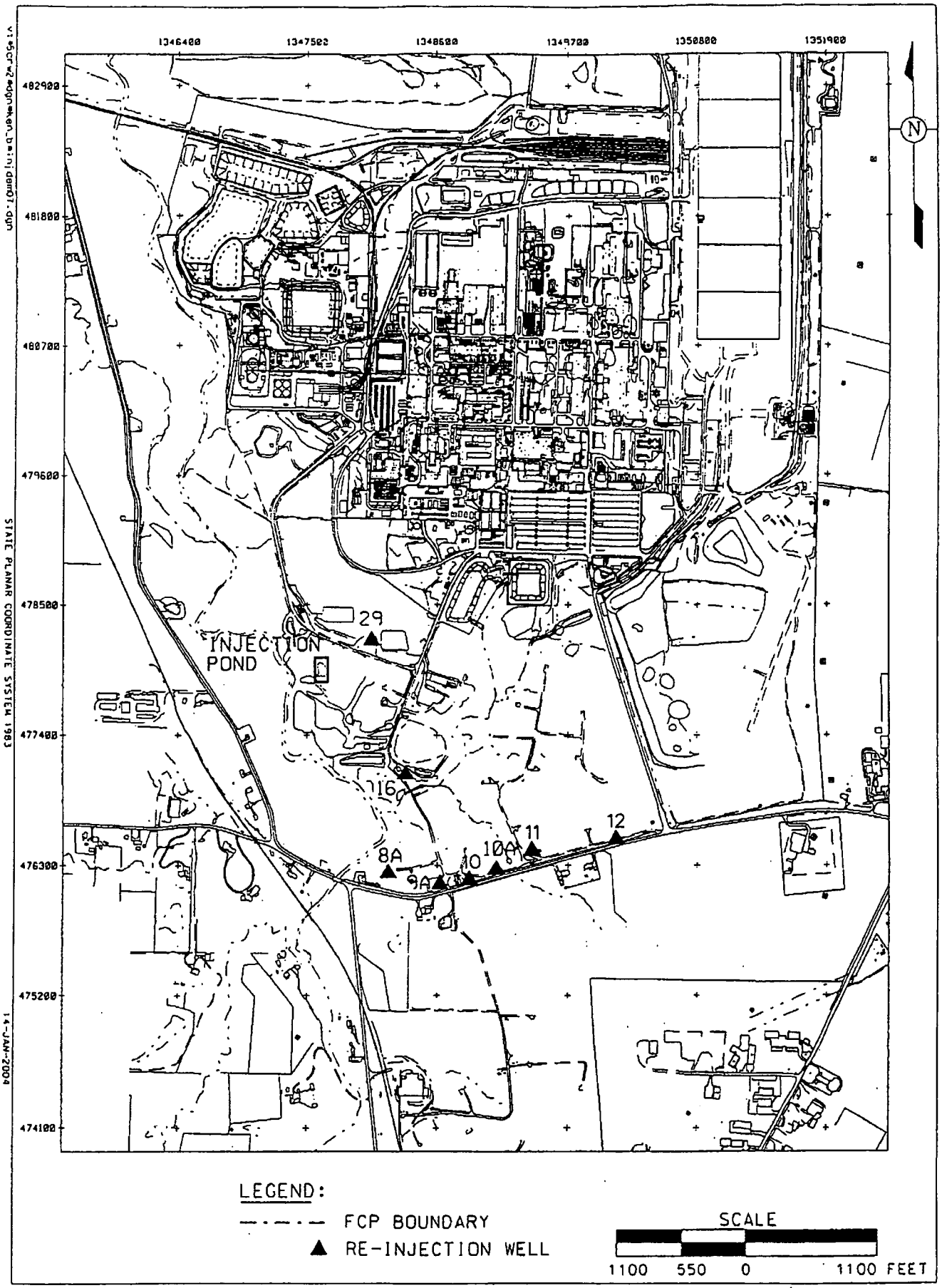


FIGURE 2. LOCATION OF RE-INJECTION WELLS AND INJECTION POND