



Department of Energy

Ohio Field Office

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MAY 07 2002

Mr. James A. Saric, Remedial Project Manager
United States Environmental Protection Agency
Region V, SRF-5J
77 West Jackson Boulevard
Chicago, Illinois 606090

DOE-0467-02

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

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

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

FEBRUARY 2002 MONTHLY RE-INJECTION OPERATING REPORT

This letter submits the subject report for your review and approval.

This monthly report is being submitted to the United States Environmental Protection Agency and Ohio Environmental Protection Agency (OEPA) Office of Federal Facilities Oversight in accordance with the Re-Injection Demonstration Test Plan. The monthly report is also being submitted to the Ohio Environmental Protection Agency Division of Drinking and Ground Waters Unit of Underground Injection Control (UIC) in accordance with their guidelines.

MAY 07 2002

Mr. James A. Saric
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The February and March 2002 reports will continue to be provided in a monthly format, as in the past. Based on discussion with OEPA on March 19, 2002 (during the site weekly teleconference), it is our intention that the reports summarizing data starting with April - June 2002 will be provided in quarterly summaries.

Also, the content of these reports is being streamlined based on further review of OEPA guidelines.

If you have any questions or concerns regarding this report, please contact Robert Janke at (513) 648-3124.

Sincerely,



Johnny W. Reising
Fernald Remedial Action
Project Manager

FEMP:R.J. Janke

Enclosure: As Stated

MAY 07 2002

Mr. James A. Saric
Mr. Tom Schneider
Ms. Val Orr

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DOE-0467-02

cc w/enclosure:

R. J. Janke, OH/FEMP
G. Jablonowski, USEPA-V, SRF-5J
T. Schneider, OEPA-Dayton (three copies of enclosure)
F. Bell, ATSDR
M. Shupe, HSI GeoTrans
R. Vandegrift, ODH
M. Wojciechowski, Tetra Tech
D. Brettschneider, Fluor Fernald, Inc./MS52-5
K. Broberg, Fluor Fernald, Inc./MS52-5
W. Hertel, Fluor Fernald, Inc./MS52-5
M. Jewett, Fluor Fernald, Inc./MS52-2
C. Smyser, Fluor Fernald, Inc./MS52-5
R. White, Fluor Fernald, Inc./MS52-5
AR Coordinator, Fluor Fernald, Inc./MS78

cc w/o enclosure:

N. Hallein, EM-31/CLOV
A. Tanner, OH/FEMP
D. Carr, Fluor Fernald, Inc./MS2
T. Hagen, Fluor Fernald, Inc./MS65-2
S. Hinnefeld, Fluor Fernald, Inc./MS31
L. Tipton, Fluor Fernald, Inc./MS41
T. Walsh, Fluor Fernald, Inc./MS65-2
ECDC, Fluor Fernald, Inc./MS52-7

2002
EPA

**MONTHLY RE-INJECTION
OPERATING REPORT
FEBRUARY 2002**

Re-injection at Fernald is exempted under 40 CFR 300.400(e)(1) from requiring a permit, as it is a CERCLA action. In accordance with Ohio EPA Guidelines (OEPA 1997), DOE is preparing monthly operating reports 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.
 - Monthly grab sample results are provided in Table 1.
- II. The volume and rate of re-injection
 - Table 2 summarizes February's operational data.
- III. A description of any well maintenance and rehabilitation procedures conducted.
 - No well maintenance or rehabilitation occurred in February 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 quarterly and are available for viewing on the Fernald website, www.fernald.gov.

ANALYSIS OF THE INJECTATE

Although an initial analysis for zinc showed an FRL exceedance (0.0216 E milligrams per liter [mg/L]), the reanalyzed result was 0.0010 B mg/L, which is well below the FRL of 0.0210 mg/L. The sample was reanalyzed due to the E lab qualifier provided with the initial result, as E indicates that the reported value was estimated because of interference and was therefore somewhat unreliable. The B qualifier provided with the reanalyzed result indicates that the reported value was greater than the instrument detection limit but was less than the contract-required detection limit, and was therefore acceptable. The total uranium concentration measured in the monthly grab sample was 3.90 micrograms per liter ($\mu\text{g/L}$). The total uranium concentration of the daily composite sample also collected on February 7, 2002 was 4.7 $\mu\text{g/L}$.

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TABLE 1

**ANALYSIS OF INJECTATE
Sample Collected February 7, 2002**

Constituents ^a	Result ^b	Groundwater FRL ^c	Detection Limit	Constituent Type ^e	Basis for FRL ^f
General Chemistry		mg/L			
Nitrate	0.38	11.0		MP	B
Inorganics		mg/L			
Antimony	U	0.006	0.0019	N	A
Arsenic	U	0.05	0.0030	N	A
Barium	0.0477 B	2.0		N	A
Beryllium	U	0.004	0.00010	N	A
Cadmium	U	0.014	0.00030	N	B
Chromium, total	U	0.022 ^d	0.00080	MP	R
Cobalt	U	0.17	0.00060	N	R
Lead	U	0.015	0.0022	N	A
Manganese	0.00084 B	0.9		N	B
Mercury	U	0.002	0.00010	MP	A
Nickel	U	0.1	0.0012	N	A
Selenium	U	0.05	0.0036	N	A
Silver	U	0.05	0.00070	N	R
Vanadium	U	0.038	0.00070	N	R
Zinc	0.0010 B	0.021		N	B
Radionuclides		pCi/L			
Neptunium-237	U	1.0	-0.00262	MP	R*
Radium-226	U	20.0	-0.0365	N	A
Strontium-90	0.302	8.0		MP	A
Thorium-228	U	4.0	0.0114	N	R*
Thorium-232	U	1.2	0.00832	N	R*
Uranium, total	3.90	30.0		MP	A
Organics		µg/L			
Bis(2-ethylhexyl)phthalate	0.6 JB	6.0		N	A
Carbon disulfide	U	5.5	1.0	N	A
1, 1-Dichloroethene	U	7.0	1.0	N	A
1, 2-Dichloroethane	U	5.0	1.0	MP	A
Trichloroethene	U	5.0	1.0	N	A

Lab Data Qualifiers:

U = Nondetected result.

B = Reported result is greater than the instrument detection level but less than the contract required detection limit.

J = Reported result is positively detected but is estimated; the result is still usable for making decisions.

^aConstituents taken from Table 2-1 of Re-Injection Demonstration Test Plan. Constituents are those previously detected in aquifer zones 2 and 4 at concentrations above their FRL.^bIf a duplicate sample was analyzed, then the highest concentration between the regular sample and duplicate sample is reported.^cFrom Table 9-4 in the Operable Unit 5 Record of Decision Report.^dFRL is for hexavalent chromium.^eConstituent types from Appendix A of IEMP. 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.^fA - 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
FEBRUARY 2002

Well Number	Reporting Period (hours) ^a	Hours Not Injecting ^b	Hours Injecting ^c	Operational Percent ^d	Million Gallons Injected ^e	Target ^f / Average ^g Operating Injection Rate (gpm)
22107 (IW-8)	672.00	672.00	0.00	0.0	0.00	200/0
22108 (IW-9)	670.90	72.45	598.45	89.2	5.17	150/144
22109 (IW-10)	661.85	24.00	637.85	96.4	7.53	200/197
22240 (IW-11)	661.82	24.00	637.82	96.4	7.54	200/197
22111 (IW-12)	670.38	24.00	646.38	96.4	7.56	200/195

^aFirst operational shift reading on February 1, 2002 to first operational shift reading on March 1, 2002.

^bDowntime as noted on Figure 1.

^cHours in reporting period - Hours not injecting

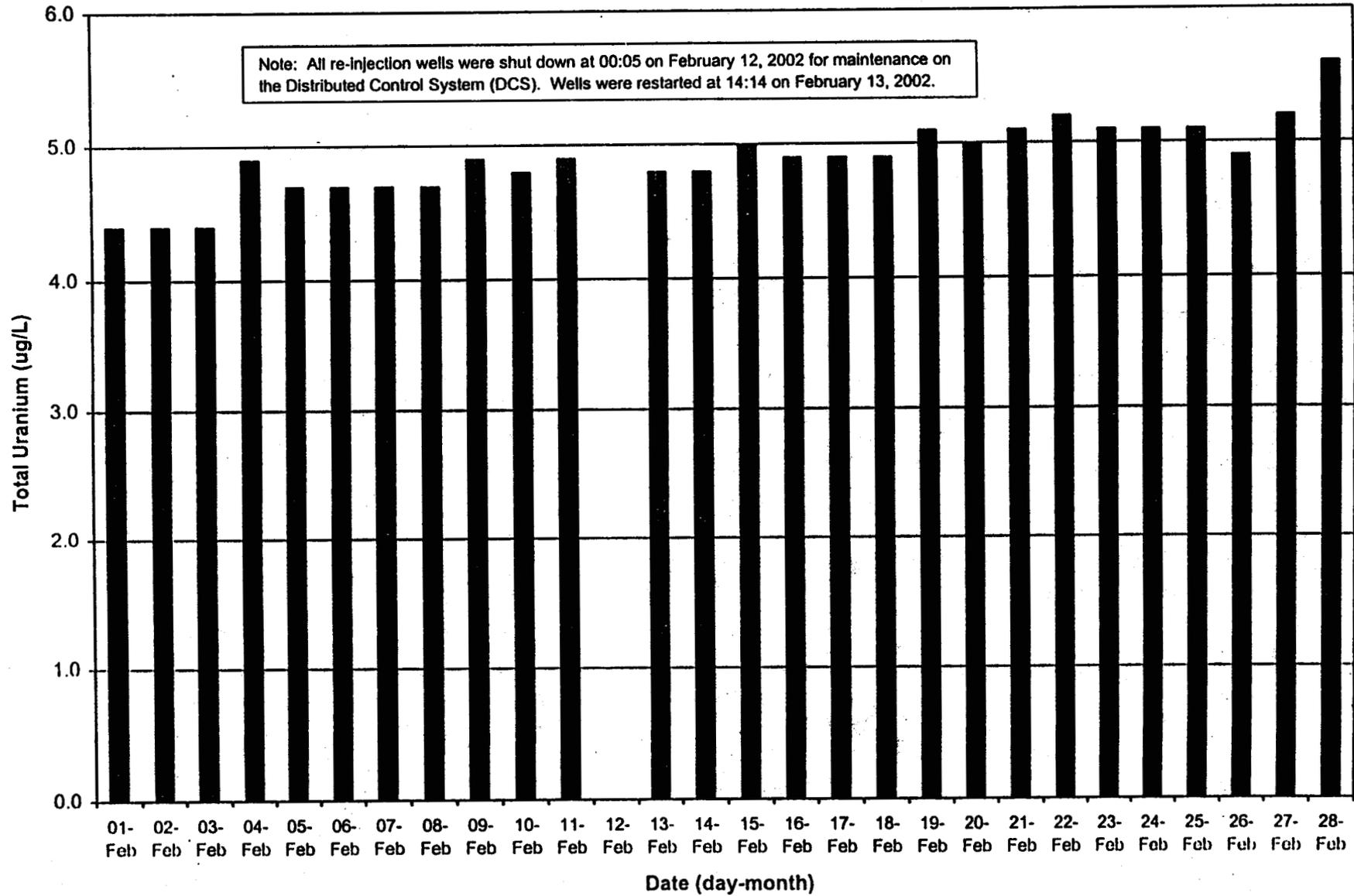
^d(Hours injecting/Hours in reporting period) x 100

^eSummation of daily totalizer differences

^fFor IW-9, in February 2002, due to residual plugging, the target re-injection rate was set at 150 gpm in an effort to extend the life of the well. The design re-injection set point for each of the re-injection wells is 200 gallons per minute (gpm). The combined design re-injection rate for all five wells is 1000 gpm.

^gGallons Injected/(Hours Injecting x 60)

Figure 1
**Composite Daily Total Uranium Results from the AWWT Expansion Facility for Days when Re-
Injection Occurred**



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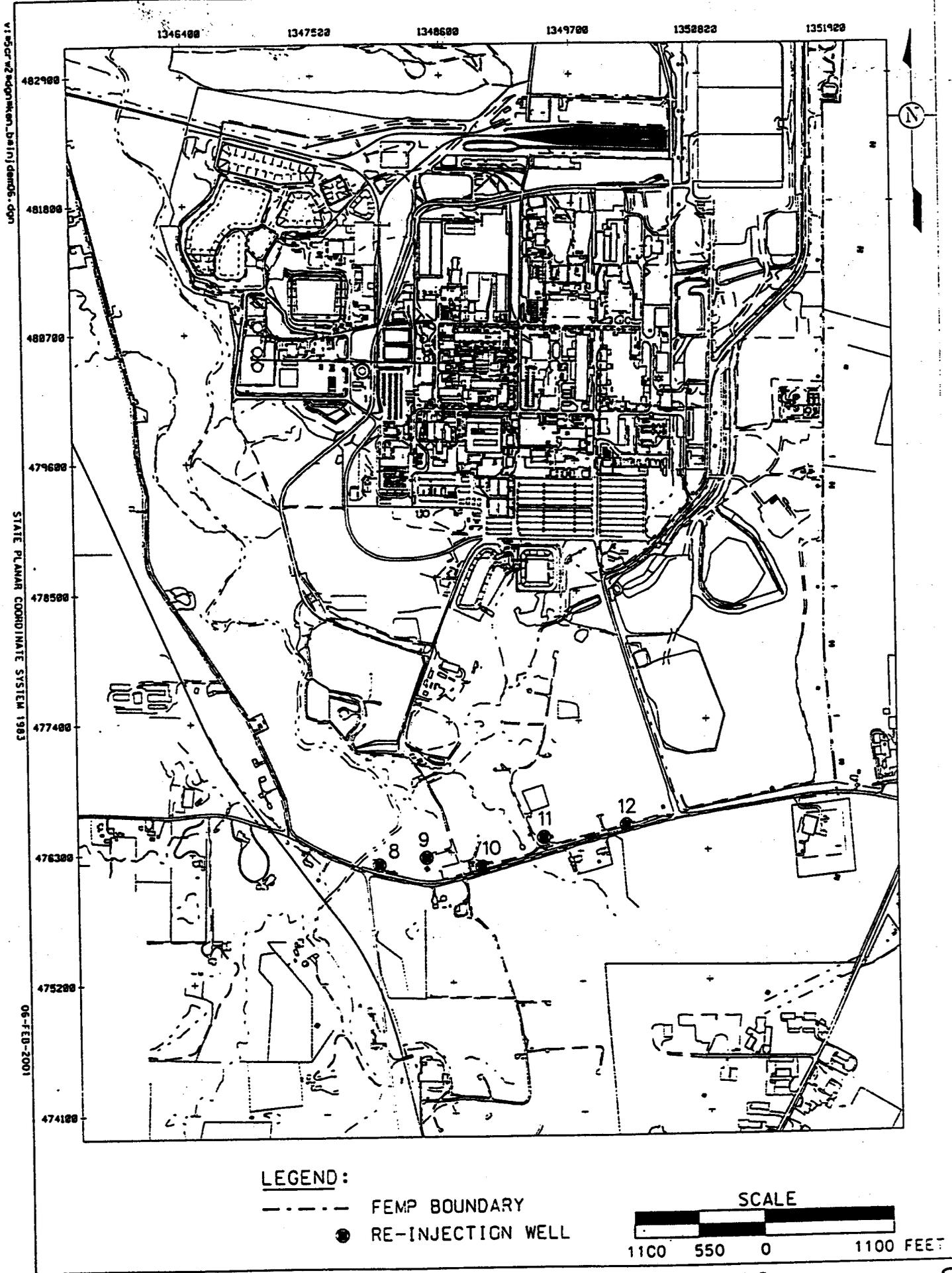


FIGURE 2. LOCATION OF RE-INJECTION WELLS

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