## GEHitachiUELAPEm Resource

**From:** State Clearinghouse [State.Clearinghouse@doa.nc.gov]
**Sent:** Wednesday, June 24, 2009 2:34 PM
**To:** Kock, Andrea
**Cc:** Region O; Ridge, Christianne
**Subject:** General Electric-Hitachi Global Laser Enrichment
**Attachments:** Project 09-0336 Additional Comments for General Electric Hitachi project.pdf

**Importance:** High

**Follow Up Flag:** Follow up
**Flag Status:** Flagged

Dear Ms. Andrea Kock,

The *General Electric-Hitachi Global Laser Enrichment* project which was assigned **State Clearinghouse #09-E-0000-0336** has been submitted to the State Clearinghouse under the provisions of the National Environmental Policy Act. According to G.S. 113A-10, when a state agency is required to prepare an environmental document under the provisions of federal law, the environmental document meets the provisions of the State Environmental Policy Act. Attached for your consideration are **additional** comments made by agencies in the course of this review. Please be sure to reference **State Clearinghouse #09-E-0000-0336** for all inquiries or correspondence with this office.

If any further environmental review documents are prepared for this project, they should be forwarded to this office for intergovernmental review.

Should you have any questions, please call me or Valerie McMillan at (919) 807-2425.

Thank you.

---
Sheila Green
Assistant to the Chief Operating Officer/General Counsel
N.C. Department of Administration
1301 Mail Service Center
Raleigh, NC 27699-1301
919-807-2425 - Office
919-733-9571 - Fax

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**Sent Date:** 6/24/2009 2:33:44 PM
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**From:** State Clearinghouse

**Created By:** State.Clearinghouse@doa.nc.gov

**Recipients:**
"Region O" <jvares@capefearcog.org>
Tracking Status: None
"Ridge, Christianne" <Christianne.Ridge@nrc.gov>
Tracking Status: None
"Kock, Andrea" <Andrea.Kock@nrc.gov>
Tracking Status: None

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| Project 09-0336 Additional Comments for General Electric Hitachi project.pdf | 3063475 | |

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# North Carolina
# Department of Administration

Beverly Eaves Perdue, Governor

Britt Cobb, Secretary

June 24, 2009

Ms. Andrea Kock
U.S. Nuclear Regulatory Commission
FSME/DWMEP/ERB
T-8F05
Washington, DC 20555-0001

**Re: SCH File # 09-E-0000-0336; SCOPING; Proposal for General Electric-Hitachi Global Laser Enrichment to construction, operation, decommissioning a uranium facility**

Dear Ms. Kock:

The above referenced environmental impact information has been submitted to the State Clearinghouse under the provisions of the National Environmental Policy Act. According to G.S. 113A-10, when a state agency is required to prepare an environmental document under the provisions of federal law, the environmental document meets the provisions of the State Environmental Policy Act. Attached to this letter for your consideration are **additional** comments made by agencies in the course of this review.

If any further environmental review documents are prepared for this project, they should be forwarded to this office for intergovernmental review.

Should you have any questions, please do not hesitate to call.

Sincerely,

Valerie McMillan (576)

Valerie W. McMillan, Director
State Environmental Review Clearinghouse

Attachments

cc: Region O

*Mailing Address:*
1301 Mail Service Center
Raleigh, NC 27699-1301

*Telephone: (919)807-2425*
Fax (919)733-9571
State Courier #51-01-00
*e-mail valerie.w.mcmillan@doa.nc.gov*

*Location Address:*
116 West Jones Street
Raleigh, North Carolina

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North Carolina Department of Environment and Natural Resources

Beverly Eaves Perdue
Governor

Dee Freeman
Secretary

MEMORANDUM

JUN 2009
RECEIVED
ENVIRONMENTAL
OPERATIONS
DOA

TO: Valerie McMillan
State Clearinghouse

FROM: Melba McGee
Project Review Coordinator

RE: 09-0336 General Electric-Hitachi Global Laser Enrichment Project in New Hanover County

DATE: June 23, 2009

The attached comments were received by this office after the response due date. These comments should be forwarded to the applicant and made a part of our previous comment package.

Thank you for the opportunity to respond.

Attachment

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09-0336

NCDENR

North Carolina Department of Environment and Natural Resources

Dexter Matthews, Director

**Division of Waste Management**

Beverly Eaves Perdue, Governor
Dee Freeman, Secretary

MEMORANDUM

June 16, 2009

TO: Dexter R. Matthews, Director
Division of Waste Management

THROUGH Jack Butler, P. E., Chief,
N. C. Superfund Section JBB

FROM: S. Franch, Environmental Chemist, Superfund Section S. Franch

SUBJECT: General Electric-Hitachi Global Laser Enrichment Project
(New Hanover County)

I have completed the review of the attached information on the subject project for the proximity to CERCLIS or inactive hazardous waste sites. The subject project involves the construction of a uranium enrichment facility and support facilities that uses laser-based technology to be situated on existing General Electric Company property that is located north of Wilmington, NC. This project would occupy 100 acres of the north-central section of the present property. Thirteen sites were identified within a four-mile radius of the project site. Twelve of these sites are located beyond two miles from the project. These sites are listed below and denoted on the attached map.

Five of the thirteen sites are on the CERCLIS database. They are: the Hercofina Site (NCD 990 734 055), the Northeast Chemical Company Site (NCSFN 040 6973), The VC Chemical-Almont Works Site (NC) 002 178 580), The Reasor Chemical Company Site (NCD 986 187 094), and the New Hanover County Airport Burn Pit Site (NCD 981 021 157). The latter two sites are on the National Priorities List and are located at least two miles from the project. The Hercofina site is undergoing remediation under the Registered Environmental Consultant program of the NC Inactive Hazardous Sites Branch (IHSB). The Northeast Chemical Site is undergoing remediation under CERCLA oversight. The VC Chemical-Almont Works Site is under CERCLA evaluation.

The remaining eight sites have been recently transferred from the NC Division of Water Quality (DWQ) to the NC IHSB. They are pending investigation, but have undergone evaluation under the DWQ. These sites are: APAC-Castle Hayne Asphalt Plant (NONCD 000 2779), Lowe Residence (NONCD 000 2787), Ritter Millworks Shop (NONCD 000 2404), Deutsch Relays (NONCD 000 1138), New Hanover County Wastec (NONCD 000 2198), CP&L Transformer Site (NONCD 000 1557), PCS Nitrogen (NONCD 000 2280) and the GE Site (NCD 050 409 150). The General Electric Site itself had three minor spills zones (two of chlorinated solvents; the other of uranyl nitrate and calcium floride) that resulted in installation of monitoring wells and soil capping under the supervision of the DWQ. It is recommended that consultations with Mr. John Walch, environmental supervisor, of the NC IHSB be initiated if there are any construction plans near these remediation areas. Attached are figures and some data pages illustrating the locations of these spill areas.

After reviewing the file information, I believe it is unlikely that the project will affect the sites or vice versa. If you have any questions, please call me at (919) 508-8455.

cc: Jim Bateson
attachments, 7 pages

1646 Mail Service Center, Raleigh, North Carolina 27699-1646
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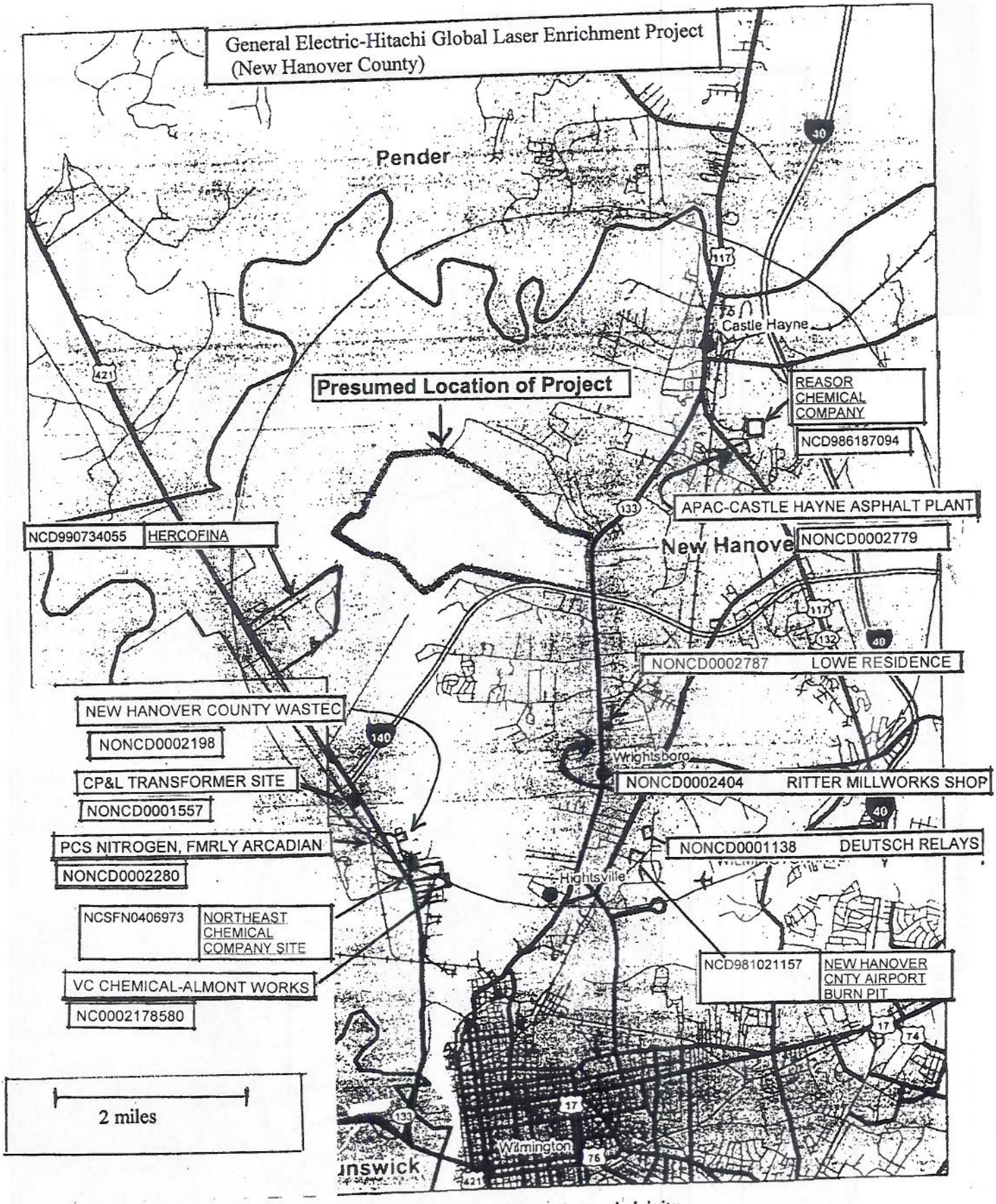
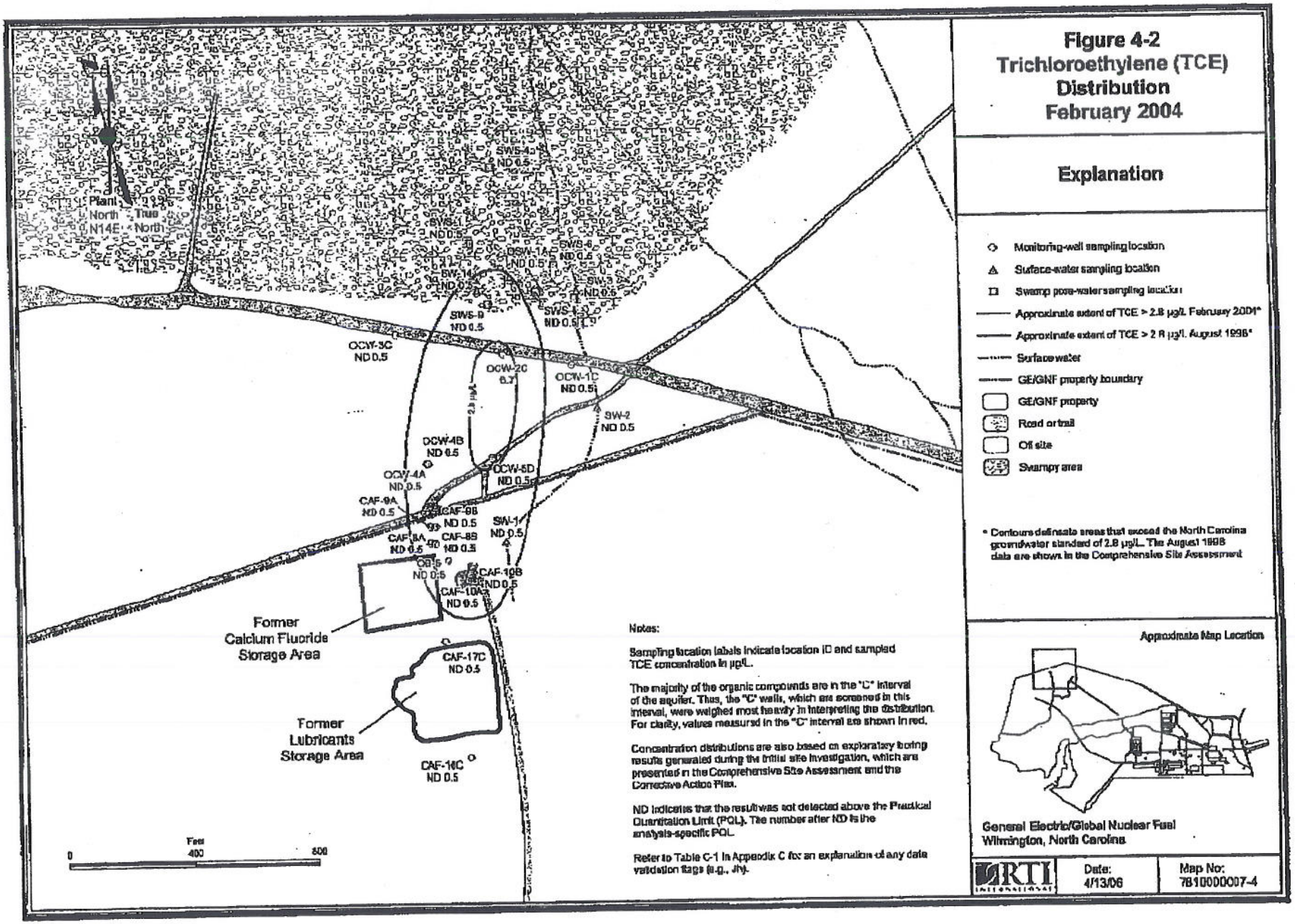
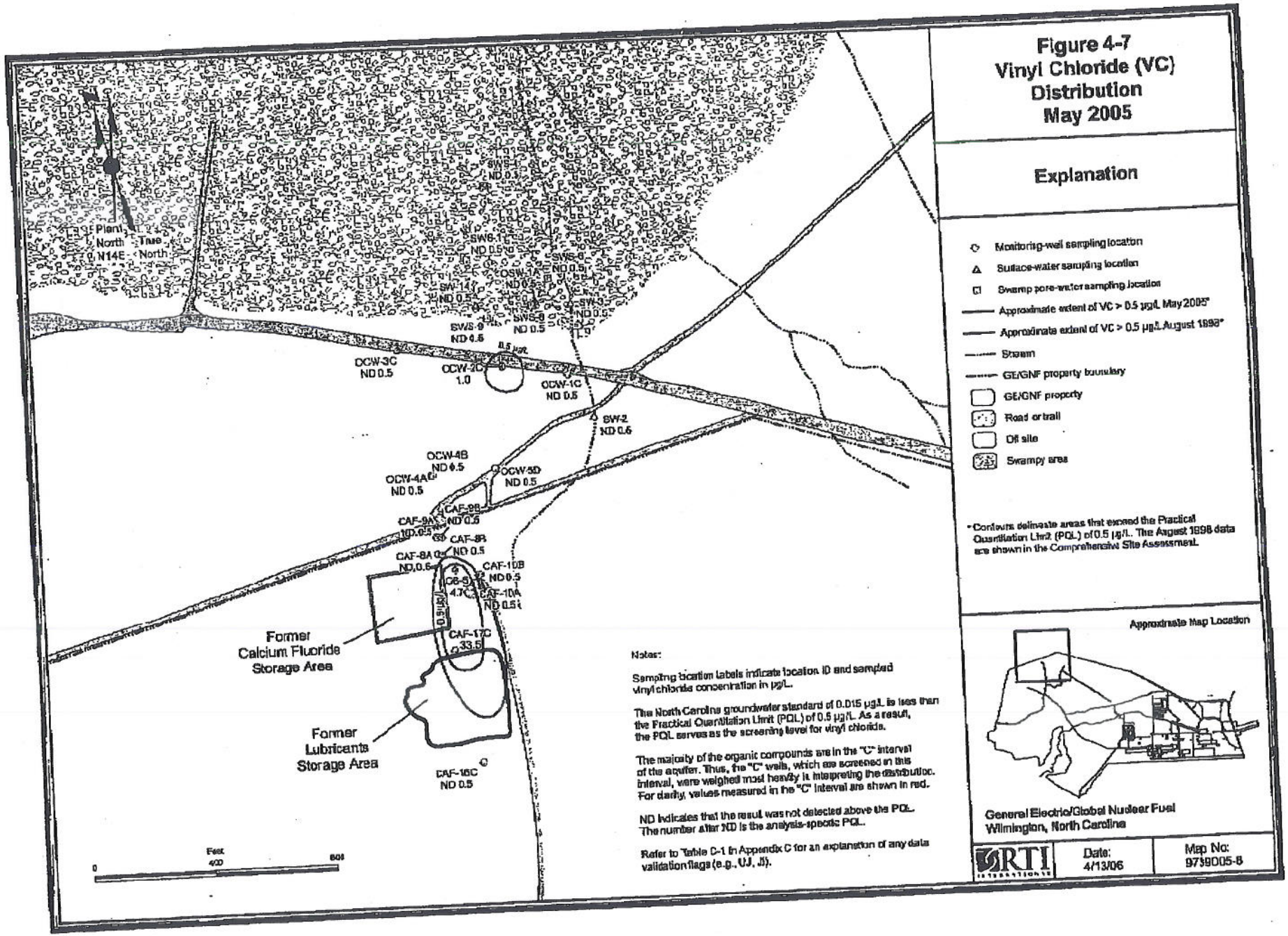
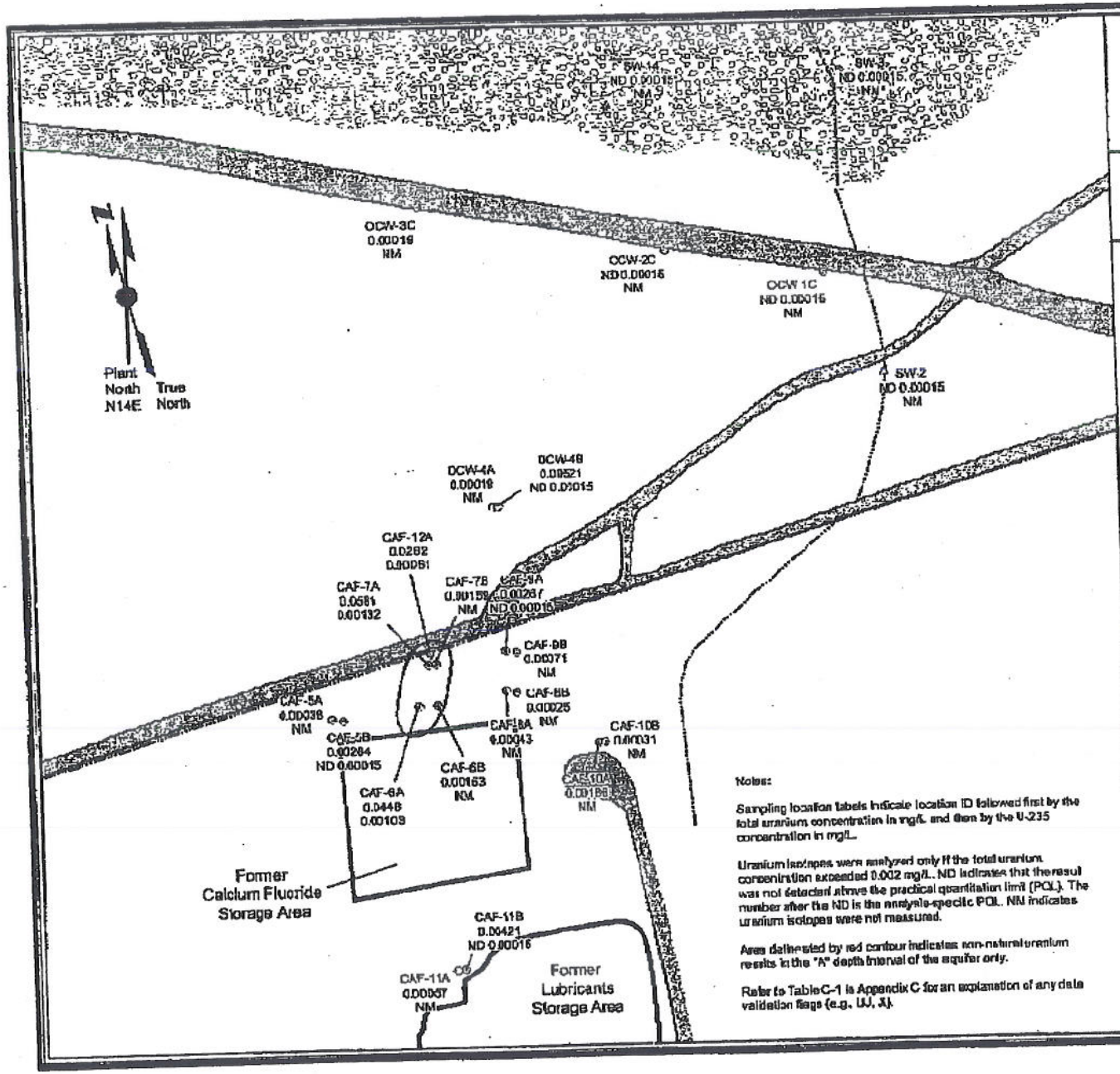



Figure ES-1. Wilmington Site location and vicinity.


Plant North N14E
True North
SWS-4 ND 0.5
SWS-1 ND 0.5
SWS-6 ND 0.5
OSW-1A ND 0.5
SW-4 ND 0.5
SW-3 ND 0.5
SWS-1 ND 0.5
SWS-9 ND 0.5
OCW-3C ND 0.5
OCW-2C 6.7
OCW-1C ND 0.5
SW-2 ND 0.5
DCW-4B ND 0.5
OCW-4A ND 0.5
OCW-5D ND 0.5
CAF-9A ND 0.5
CAF-9B ND 0.5
SW-1 ND 0.5
CAF-8A ND 0.5
CAF-8B ND 0.5
CAF-10B ND 0.5
CAF-10A ND 0.5
Former Calcium Fluoride Storage Area
CAF-17C ND 0.5
Former Lubricants Storage Area
CAF-16C ND 0.5
Feet
0
400
800
Figure 4-2
Trichloroethylene (TCE) Distribution
February 2004
Explanation
Monitoring-well sampling location
Surface-water sampling location
Swamp pore-water sampling location
Approximate extent of TCE > 2.8 µg/L February 2004*
Approximate extent of TCE > 2.8 µg/L August 1998*
Surface water
GE/GNF property boundary
GE/GNF property
Road or trail
Off site
Swampy area
* Contours delineate areas that exceed the North Carolina groundwater standard of 2.8 µg/L. The August 1998 data are shown in the Comprehensive Site Assessment
Notes:
Sampling location labels indicate location ID and sampled TCE concentration in µg/L.
The majority of the organic compounds are in the "C" interval of the aquifer. Thus, the "C" wells, which are screened in this interval, were weighed most heavily in interpreting the distribution. For clarity, values measured in the "C" interval are shown in red.
Concentration distributions are also based on exploratory boring results generated during the initial site investigation, which are presented in the Comprehensive Site Assessment and the Corrective Action Plan.
ND indicates that the result was not detected above the Practical Quantitation Limit (PQL). The number after ND is the analysis-specific PQL.
Refer to Table C-1 in Appendix C for an explanation of any data validation flags (e.g., J/y).
Approximate Map Location
General Electric/Global Nuclear Fuel
Wilmington, North Carolina
RTI International
Date: 4/13/06
Map No: 7B10000007-4


Plant North
True North
N14E
SW-1
ND 0.5
SW6-1
ND 0.5
SW-14
ND 0.5
SWS-9
ND 0.5
SWS-8
ND 0.5
OSW-1A
ND 0.5
SW-3
ND 0.5
0.5 µg/L
OCW-3C
ND 0.5
OCW-2C
1.0
OCW-1C
ND 0.5
SW-2
ND 0.5
OCW-4B
ND 0.5
OCW-4A
ND 0.5
OCW-5D
ND 0.5
CAF-9B
ND 0.5
CAF-9A
ND 0.5
CAF-8B
ND 0.5
CAF-8A
ND 0.5
CAF-10B
ND 0.5
CB-9
4.7
CAF-10A
ND 0.5
CAF-17C
33.5
CAF-16C
ND 0.5
Former Calcium Fluoride Storage Area
Former Lubricants Storage Area
Feet
0
400
800
Figure 4-7
Vinyl Chloride (VC) Distribution
May 2005
Explanation
Monitoring-well sampling location
Surface-water sampling location
Swamp pore-water sampling location
Approximate extent of VC > 0.5 µg/L May 2005*
Approximate extent of VC > 0.5 µg/L August 1998*
Stream
GE/GNF property boundary
GE/GNF property
Road or trail
Off site
Swampy area
*Contours delineate areas that exceed the Practical Quantitation Limit (PQL) of 0.5 µg/L. The August 1998 data are shown in the Comprehensive Site Assessment.
Notes:
Sampling location labels indicate location ID and sampled vinyl chloride concentration in µg/L.
The North Carolina groundwater standard of 0.015 µg/L is less than the Practical Quantitation Limit (PQL) of 0.5 µg/L. As a result, the PQL serves as the screening level for vinyl chloride.
The majority of the organic compounds are in the "C" interval of the aquifer. Thus, the "C" wells, which are screened in this interval, were weighted most heavily in interpreting the distribution. For clarity, values measured in the "C" interval are shown in red.
ND indicates that the result was not detected above the PQL. The number after ND is the analysis-specific PQL.
Refer to Table C-1 in Appendix C for an explanation of any data validation flags (e.g., UJ, J).
Approximate Map Location
General Electric/Global Nuclear Fuel
Wilmington, North Carolina
RTI
Date: 4/13/06
Map No: 9759005-8

# Figure 4-9
# Uranium Distribution
# May 2005




Notes:

Sampling location labels indicate location ID followed first by the total uranium concentration in mg/L and then by the U-235 concentration in mg/L.

Uranium isotopes were analyzed only if the total uranium concentration exceeded 0.002 mg/L. ND indicates that the result was not detected above the practical quantitation limit (PQL). The number after the ND is the analyte-specific PQL. NM indicates uranium isotopes were not measured.

Area delineated by red contour indicates non-natural uranium results in the "A" depth interval of the aquifer only.

Refer to Table C-1 in Appendix C for an explanation of any data validation flags (e.g., UJ, J).

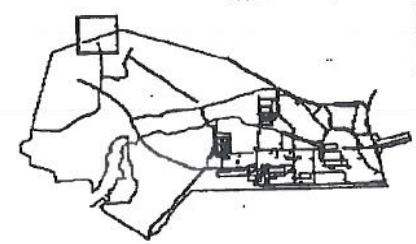
## Explanation

CAF-11B Sampling location ID
0.00450 Total uranium concentration (mg/L)
0.00135 U-235 concentration (mg/L)

- Monitoring-well sampling location
- Surface-water sampling location
- Approximate area where measured U-235 abundance indicates non-natural uranium
- Surface water
- GE/GNF property boundary
- GE/GNF property
- Road or trail
- Off site
- Swampy area

Feet
0 200 400

Approximate Map Location



General Electric/Global Nuclear Fuel
Wilmington, North Carolina

RTI INTERNATIONAL

| Date: | Map No: |
|---|---|
| 4/17/06 | 9739005-7 |

JUN-17-2009 WED 09:27 AM NCDENR FAX NO. 910 350 2004 P. 07

## Table 4-2. Trend Analysis Results for Primary Organic Constituents

| Location ID | Corresponding Figure in Appendix D | Start Date | End Date | Mann Kendall S Statistic | Sample Count | Probability (of no trend) | Numerical Average (ug/L) | Standard Deviation (ug/L) | Coefficient of Variation | Trend |
|---|---|---|---|---|---|---|---|---|---|---|
| **Trichloroethylene** | | | | | | | | | | |
| OCW-2C | D-6 | 1/1/1998 | 12/31/2004 | -154 | 19 | <0.001 | 21.6789 | 3.5282 | 0.1627 | Decrease |
| SW-14 | D-11 | 1/1/2002 | 12/31/2004 | -6 | 5 | 0.1172 | 0.5600 | 0.0268 | 0.0479 | Inconclusive* |
| **1,1-Dichloroethylene** | | | | | | | | | | |
| CAF-17C | D-4 | 1/1/1998 | 12/31/2004 | -154 | 20 | <0.001 | 413.3750 | 83.3774 | 0.2017 | Decrease |
| OB-5 | D-5 | 1/1/1993 | 12/31/2004 | -505 | 38 | <0.001 | 228.9500 | 31.3493 | 0.1369 | Decrease |
| OCW-2C | D-6 | 1/1/1998 | 12/31/2004 | -89 | 19 | <0.001 | 279.9526 | 33.4838 | 0.1196 | Decrease |
| OSW-1A | D-9 | 1/1/1998 | 12/31/2004 | 129 | 21 | <0.001 | 3.4343 | 0.2693 | 0.0784 | Increase |
| | | *1/1/2001* | *12/31/2005* | *-23* | *10* | *0.0230* | *6.0500* | *0.3637* | *0.0601* | *Decrease* |
| SW-14 | D-11 | 1/1/2002 | 12/31/2004 | 8 | 5 | 0.0419 | 7.8600 | 1.0912 | 0.1388 | Increase |
| **Vinyl Chloride** | | | | | | | | | | |
| CAF-17C | D-4 | 1/1/1998 | 12/31/2004 | 30 | 20 | 0.1757 | 61.8250 | 9.3524 | 0.1513 | Inconclusive* |
| | | *1/1/2002* | *12/31/2005* | *-20* | *8* | *0.0069* | *66.7750* | *16.5021* | *0.2471* | *Decrease* |
| OB-5 | D-5 | 1/1/1993 | 12/31/2004 | 101 | 38 | 0.1053 | 5.7266 | 0.1990 | 0.0347 | Increase |
| | | *10/1/2001* | *12/31/2005* | *-13* | *9* | *0.1089* | *8.0889* | *1.5630* | *0.1932* | *Decrease* |
| OCW-2C | D-6 | 1/1/1998 | 12/31/2004 | 36 | 19 | 0.1121 | 1.1663 | 0.0307 | 0.0263 | Increase |
| | | *2/1/2002* | *12/31/2005* | *-9* | *8* | *0.1666* | *1.2375* | *0.4022* | *0.3250* | *Decrease* |
| SW-14 | D-11 | 1/1/2002 | 12/31/2004 | 3 | 5 | 0.3209 | 0.3600 | 0.1968 | 0.5466 | Inconclusive* |

* A review of the data and sensitivity analysis suggests that the statistical analysis is inconclusive due to data quality limitations identified through the data validation process and/or other issues such as varying laboratory practical quantitation limits. Procedures for evaluating and presenting analytical results are outlined in an RTI internal document (SOP 14). These procedures consider detection limits and data-validation qualifiers.

Notes:

- Statistical trend analysis was performed using the Mann-Kendall test for trend. The Mann-Kendall method is documented in Statistical Methods for Environmental Pollution Monitoring (Gilbert, 1987). For sample sizes greater than 40, the normal approximation described in Gilbert (1987) was used. For sample sizes less than or equal to 40, the Kendall's statistic lookup table was used as provided in Nonparametric Statistical Methods (Hollander and Wolfe, 1973).
- Trends were calculated for the full dataset through 2004. More recent trends, calculated for partial datasets, are displayed in *italics*.
- Trend analyses were performed on data collected from locations with a sufficient number of datapoints for analysis (4 or more) and detectable constituent levels during the reporting period.

# Table 4-3. Trend Analysis Results for Total Uranium

| Location ID | Corresponding Figure in Appendix D | Start Date | End Date | Mann Kendall S Statistic | Sample Count | Probability (of no trend) | Numerical Average (ug/L) | Standard Deviation (ug/L) | Coefficient of Variation | Trend |
|---|---|---|---|---|---|---|---|---|---|---|
| CAF-5B | D-16 | 1/1/1995 | 12/31/2004 | -390 | 36 | <0.001 | 7.26E-03 | 8.61E-04 | 0.1185 | Decrease |
| CAF-6A | D-17 | 1/1/1995 | 12/31/2004 | -352 | 36 | <0.001 | 1.74E-01 | 2.68E-02 | 0.1540 | Decrease |
| CAF-6B | D-18 | 1/1/1995 | 12/31/2004 | -425 | 36 | <0.001 | 1.25E-02 | 1.82E-03 | 0.1462 | Decrease |
| CAF-7A | D-19 | 1/1/1995 | 12/31/2004 | -42 | 35 | 0.2814 | 1.13E-01 | 7.18E-03 | 0.0636 | None |
| | | *1/1/2001* | *12/31/2005* | *-33* | *14* | *0.0396* | *1.32E-01* | *2.76E-02* | *0.2088* | *Decrease* |
| CAF-7B | D-20 | 1/1/1995 | 12/31/2004 | -238 | 36 | <0.001 | 8.54E-03 | 1.03E-03 | 0.1206 | Decrease |
| CAF-8A | D-21 | 1/1/1995 | 12/31/2004 | -114 | 36 | 0.0621 | 7.72E-04 | 8.21E-05 | 0.1062 | Inconclusive* |
| | | *5/1/1996* | *12/31/2005* | *-81* | *36* | *0.1391* | *5.05E-04* | *1.24E-05* | *0.0246* | *Decrease* |
| CAF-8B | D-22 | 1/1/1995 | 12/31/2004 | -376 | 36 | <0.001 | 2.03E-03 | 2.78E-04 | 0.1371 | Decrease |
| CAF-9A | D-23 | 1/1/1995 | 12/31/2004 | -168 | 35 | 0.0086 | 8.22E-03 | 1.20E-03 | 0.1464 | Decrease |
| CAF-9B | D-24 | 1/1/1995 | 12/31/2004 | -422 | 36 | <0.001 | 3.30E-03 | 3.99E-04 | 0.1207 | Decrease |
| CAF-10A | D-25 | 1/1/1995 | 12/31/2004 | 233 | 36 | <0.001 | 3.53E-03 | 7.80E-05 | 0.0221 | Increase |
| | | *1/1/2003* | *12/31/2005* | *-20* | *8* | *0.0069* | *7.20E-03* | *1.32E-03* | *0.1837* | *Decrease* |
| CAF-12A | D-27 | 1/1/1995 | 12/31/2004 | -153 | 34 | 0.0119 | 5.54E-02 | 4.30E-03 | 0.0777 | Decrease |

* A review of the data and sensitivity analysis suggests that the statistical analysis is inconclusive due to data quality limitations identified through the data validation process and/or other issues such as varying laboratory practical quantitation limits. Procedures for evaluating and presenting analytical results are outlined in an RTI internal document (SOP 14). These procedures consider detection limits and data-validation qualifiers.

Notes:

- Statistical trend analysis was performed using the Mann-Kendall test for trend. The Mann-Kendall method is documented in Statistical Methods for Environmental Pollution Monitoring (Gilbert, 1987). For sample sizes greater than 40, the normal approximation described in Gilbert (1987) was used. For sample sizes less than or equal to 40, the Kendall's statistic lookup table was used as provided in Nonparametric Statistical Methods (Hollander and Wolfe, 1973).
- Trends were calculated for the full dataset through 2004. More recent trends, calculated for partial datasets, are displayed in *italics*.
- Trend analyses were performed on data collected from locations with a sufficient number of data points for analysis (4 or more), calculated $^{235}U$ isotopic abundance exceeding natural levels, and detectable constituent levels during the reporting period. The calculated $^{235}U$ abundance exceeded natural levels only once in CAF-5A, CAF-11B, and OCW-4B. These abundance calculations are anomalous, and these three wells are not included above.