



Nuclear Fuel Services, Inc.  
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**CERTIFIED MAIL  
RETURN RECEIPT REQUESTED**

**21G-07-0112  
GOV-01-55-10  
ACF-07-0266**

September 14, 2007

Cynthia Taylor  
Project Inspector  
U.S. Nuclear Regulatory Commission  
Region II, Atlanta Federal Center  
61 Forsyth Street, SW  
Atlanta, GA 30303

- References:
- 1) Docket No. 70-143; SNM License 124
  - 2) Letter from NRC to B.M. Moore, Nuclear Fuel Services, Inc. Amendment 27 (TAC NO. L31033) – To Approve North Site Decommissioning Plan, dated June 19, 2001
  - 3) Letter from NRC to B.M. Moore, Nuclear Fuel Services, Inc. (TAC NO. L31550) Review of Information to Fulfill Commitments Specified in License Condition S-47, dated December 21, 2001

**Subject: Monthly Status Reports for the Characterization and Final Status Survey Project**

Dear Ms. Taylor:

Nuclear Fuel Services, Inc. (NFS) hereby submits the July and August 2007 Monthly Status Reports for the Characterization and Final Status Survey Project. These status reports have been submitted weekly to the Resident Inspector.

If you or your staff have any questions, require additional information, or wish to discuss this, please contact me, or Scott Morie, Environmental Scientist at (423) 743-9141. Please reference our unique document identification number (21G-07-0112) in any correspondence concerning this letter.

Sincerely,

**NUCLEAR FUEL SERVICES, INC.**

B. Marie Moore  
Vice President,  
Safety and Regulatory

Attachment  
csm/rrm

**ATTACHMENT**

*July and August 2007  
Monthly Status Reports  
Subsurface Soil Characterization and Final Status Survey Project*

*(7 pages to follow)*

**Subsurface Soil Characterization and  
Final Status Survey Project  
Nuclear Fuel Services, Inc.  
Erwin, Tennessee**

**Reporting Period:** July 11 – July 20, 2007

**Work Completed:** See Table below

**SURVEY UNIT 11**

	<b>BOREHOLE LOCATION</b>	<b>DATE SAMPLED</b>	<b>NUMBER OF SAMPLES</b>	<b>BOREHOLE DEPTH</b>
1	0275	7/11/07	7	7 meters
2	0274*	7/12/07	7	6 meters
3	0276*	7/12/07	10	9 meters
4	0282*	7/13/07	9	8 meters
5	0279*	7/16/07	11	10 meters
6	0277*	7/16/07	11	10 meters
7	0281*	7/16/07	11	10 meters
8	0278*	7/17/07	11	10 meters
9	0280(SWMU)*	7/18/07	22	7 meters
10	0283*	7/18/07	11	10 meters
11	0284	7/19/07	8	8 meters
12	0285*	7/19/07	9	8 meters
13	0286**	7/20/07	9	7 meters
14	0287	7/20/07	5	5 meters
15	0288*	7/20/07	4	3 meters
16	0289	7/20/07	5	5 meters

- Solid Waste Management Unit (SWMU)- borehole locations that end in 0 are sampled for RCRA constituents
- \* Denotes that a Full-Suite Analysis Sample was taken at that borehole location
- \*\* Denotes that 2 Full-Suite Analysis Samples were taken at that borehole location
- 16 boreholes sampled as of Friday, July 20, 2007
- Boreholes that have been drilled and sampled are shown in chronological order
- 150 samples have been generated as of Friday, July 20, 2007
- 7 Samples shipped as of Friday, July 20, 2007
- 13 Full-Suite Analysis Samples out of 123 increments have been taken as of Friday, July 20, 2007

**Work Planned:** Week of July 23 - 27

- Training
  - Classroom training for sampling supervisors (Cornett/Brooks)
  - On the Job Training for sampling supervisors
- Obtain underground work release for Survey Unit 7
- Begin sampling Survey Unit 7
- Laboratory audit of Paragon

**Problems or Concerns:** None

**Other Information:**

- Greg Lawson will be out July 25<sup>th</sup> in the morning

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**Subsurface Soil Characterization and  
Final Status Survey Project  
Nuclear Fuel Services, Inc.  
Erwin, Tennessee**

**Reporting Period:** July 23 - July 27, 2007

**Work completed:**

- Training
  - Classroom training completed for sampling supervisors Cornett and Brooks
  - On the Job Training completed for sampling supervisors
- Underground Work Release obtained for Survey Unit 7
- Laboratory audit of Paragon conducted
- See tables below for Survey Unit 11 and 7 status

**SURVEY UNIT 11**

	<b>Borehole location</b>	<b>Date sampled</b>	<b>Number of samples</b>	<b>Borehole depth</b>
17	0291	7/23/07	4	4 meters
18	0290 (SWMU)*	7/23/07	19	4 meters

- \* Denotes that an additional sample was taken at that location for part of a Full Suite Analysis
- Solid Waste Management Unit (SWMU) – borehole sampled for RCRA constituents
- At borehole 0290 six additional samples were taken for Quality Control purposes
- 14 Full-Suite Samples were generated in Survey Unit 11 out of 131 increments
- 5 Equipment Blank Rinsate Water Samples were also generated in Survey Unit 11
- Survey Unit 11 completed on July 23, 2007

**SURVEY UNIT 7**

	<b>Borehole location</b>	<b>Date sampled</b>	<b>Number of samples</b>	<b>Borehole depth</b>
1	0136	7/25/07	5	5 meters
2	0143*	7/26/07	6	5 meters
3	0137	7/26/07	6	5 meters
4	0144*	7/26/07	5	5 meters
5	0131	7/27/07	6	7 meters
6	0129*	7/27/07	7	7 meters
7	0112*	7/27/07	7	8 meters

- \* Denotes that an additional sample was taken at that location for part of a Full Suite Analysis
- 4 Full-Suite Samples were generated out of 40 sampled increments
- Boreholes 0131 and 0112 had an increment of no recovery

**Work Planned:** Week of July 30 – August 3

- Continue drilling and sampling operations in Survey Unit 7
- Nuclear Regulatory Commission on site for oversight activities

**Problems or concerns:**

- Heavy rain and severe thunderstorms inhibited and delayed drilling and sampling operations

**Other Information:**

- Greg Lawson will be out the week of July 30, 2007
- Scott Morie will be out the week of July 30, 2007

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**Subsurface Soil Characterization and  
Final Status Survey Project  
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Erwin, Tennessee**

**Reporting Period:** July 30 – August 3, 2007

**Work completed:**

- Nuclear Regulatory Commission oversight inspection conducted
- Conducted laboratory audit of Teledyne laboratory
- See table below for Survey Unit 7 status

**SURVEY UNIT 7**

	<b>Borehole location</b>	<b>Date sampled</b>	<b>Number of samples</b>	<b>Borehole depth</b>
8	0115*	7/30/07	7	6 meters
9	0119*	7/30/07	6	5 meters
10	0124	7/30/07	5	5 meters
11	0132*	7/30/07	7	6 meters
12	0133	7/31/07	6	6 meters
13	0134**	7/31/07	7	6 meters
14	0125* <sub>g</sub>	7/31/07	7	6 meters
15	0142* <sub>g</sub>	7/31/07	6	6 meters
16	0128* <sub>g</sub>	7/31/07	6	5 meters
17	0138**	8/01/07	6	5 meters
18	0130**	8/01/07	7	6 meters
19	0139* <sub>g</sub>	8/01/07	8	7 meters
20	0110**(SWMU)	8/01/07	20	6 meters
21	0111* <sub>g</sub>	8/02/07	10	9 meters
22	0141	8/02/07	6	6 meters
23	0126*	8/02/07	8	7 meters
24	0135	8/03/07	5	5 meters
25	0127	8/03/07	6	6 meters
26	0116	8/03/07	10	10 meters
27	0113	8/03/07	8	8 meters

- \* Denotes that an additional sample was taken at that location for part of a Full Suite Analysis
- \*\* Denotes that an additional sample was taken for Tc-99 and sent to ORISE
- 13 Full-Suite Samples were generated out of 125 sampled increments
- g denotes gamma only provided for regulatory oversight

**Work Planned:** Week of August 6 – August 10

- Finish drilling and sampling operations in Survey Unit 7
- Obtain Underground Work Release for Survey Units 10 and 8.
- The next survey units planned for drilling and sampling activities are 10, 9, and 8.

**Problems or concerns:**

- Heat and humidity persisted throughout the week. Rain showers occurred late in the day but did not impact drilling or sampling operations.

**Other Information:**

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**Subsurface Soil Characterization and  
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Erwin, Tennessee**

**Reporting Period:** August 6 – August 10, 2007

**Work completed:**

- Staked and obtained Underground Work Release for Survey Unit 10
- See tables below for Survey Unit 7 status and Survey Unit 10 status

**SURVEY UNIT 7**

	<b>Borehole location</b>	<b>Date sampled</b>	<b>Number of samples</b>	<b>Borehole depth</b>
28	0122*	8/06/07	6	5 meters
29	0117	8/06/07	4	4 meters
30	0114*	8/06/07	5	4 meters
31	0120	8/07/07	20	6 meters
32	0121*	8/07/07	7	6 meters
33	0140	8/07/07	22	6 meters
34	0123	8/08/07	8	8 meters
35	0118**	8/09/07	6	5 meters

- \* Denotes that an additional sample was taken at that location for part of a Full Suite Analysis
- \*\* Denotes that an additional sample was taken for Tc-99 to be sent to ORISE
- 22 Full-Suite Samples were generated out of 209 sampled increments
- 2 Solid Waste Management Unit (SWMU) locations were sampled generating 42 samples.

**SURVEY UNIT 10**

	<b>Borehole location</b>	<b>Date sampled</b>	<b>Number of samples</b>	<b>Borehole depth</b>
1	0273*	8/10/07	5	8 meters
2	0271	8/10/07	5	6 meters
3	0269*	8/10/07	6	5 meters
4	0268	8/10/07	6	6 meters
5	0265*	8/10/07	7	6 meters

- \* Denotes that an additional sample was taken at that location for part of a Full Suite Analysis
- 3 Full-Suite Samples were generated out of 27 sampled increments

**Work Planned:** Week of August 13 – August 17

- Finish drilling and sampling operations in Survey Unit 10.
- Obtain Underground Work Release for Survey Unit 8.
- The next survey units planned for drilling and sampling activities are 9 and 8.

**Problems or concerns:**

- Heat and humidity persisted throughout the week.

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**Subsurface Soil Characterization and  
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Erwin, Tennessee**

**Reporting Period:** August 13 – August 17, 2007

**Work completed:**

- See tables below for Survey Unit 10 status

**SURVEY UNIT 10**

	<b>Borehole location</b>	<b>Date sampled</b>	<b>Number of samples</b>	<b>Borehole depth</b>
6	0263*	8/13/07	6	5 meters
7	0259	8/13/07	6	6 meters
8	0255*	8/13/07	7	6 meters
9	0272	8/13/07	5	5 meters
10	0270*	8/13/07	7	6 meters
11	0258*	8/14/07	7	6 meters
12	0262	8/14/07	7	7 meters
13	0253*	8/14/07	4	4 meters
14	0251	8/17/07	5	5 meters
15	0252*	8/17/07	6	5 meters
16	0254	8/17/07	5	5 meters
17	0257*	8/17/07	6	6 meters
18	0261	8/17/07	5	5 meters
19	0256*	8/17/07	5	5 meters

- \* Denotes that an additional sample was taken at that location for part of a Full Suite Analysis
- \*\* Denotes that an additional sample was taken for Tc-99
- 11 Full-Suite Samples were generated out of 103 sampled increments in Survey Unit 10

**Work Planned:** Week of August 20 – August 24

- Finish drilling and sampling operations in Survey Unit 10 and begin in 9.
- Obtain Underground Work Release for Survey Units 8, 1 and 2.
- The next survey units planned for drilling and sampling activities are 8, 4, and 3.

**Problems or concerns:**

- Heat and humidity persisted throughout the week.
- Sonic Drill was inoperable August 15, 2007 and August 16, 2007 due to mechanical failure

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**Subsurface Soil Characterization and  
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Erwin, Tennessee**

**Reporting Period:** August 20 – August 24, 2007

**Work completed:**

- Staked and obtained partial Underground Work Release for Survey Unit 8
- See tables below for status of Survey Unit 10 and Survey Unit 9
- Shipped 22 boxes and 4 coolers of samples to labs

**SURVEY UNIT 10**

	<b>Borehole location</b>	<b>Date sampled</b>	<b>Number of samples</b>	<b>Borehole depth</b>
20	264	8/07	4	4 meters
21	267*	8/07	5	4 meters
22	266	8/07	4	4 meters
23	260 (SWMU)	8/07	24	4 meters

- \* Denotes that an additional sample was taken at that location for part of a Full Suite Analysis
- Solid Waste Management Unit (SWMU) – borehole sampled for RCRA constituents
- At borehole 0260 six additional samples were taken for Quality Control purposes
- 12 Full-Suite Samples were generated in Survey Unit 10 out of 119 increments sampled
- 5 Equipment Blank rinsate water samples were also generated in Survey Unit 10

**SURVEY UNIT 9**

	<b>Borehole location</b>	<b>Date sampled</b>	<b>Number of samples</b>	<b>Borehole depth</b>
1	211	8/21/07	6	6 meters
2	209*	8/21/07	6	5 meters
3	210 (SWMU)	8/22/07	18	6 meters
4	212*	8/22/07	5	4 meters
5	213*	8/22/07	6	5 meters
6	214	8/22/07	4	4 meters
7	215	8/22/07	4	4 meters
8	216*	8/22/07	6	5 meters
9	217*	8/23/07	6	5 meters
10	218	8/23/07	6	6 meters
11	219*	8/23/07	6	5 meters
12	220 (SWMU)	8/23/07	15	5 meters
13	221*	8/23/07	5	4 meters
14	222	8/23/07	6	6 meters
15	223	8/24/07	4	4 meters
16	224*	8/24/07	7	6 meters
17	225*	8/24/07	6	5 meters
18	226	8/24/07	6	6 meters
19	227*	8/24/07	6	5 meters
20	228	8/24/07	6	5 meters

- \* Denotes that an additional sample was taken at that location for part of a Full Suite Analysis
- 10 full-suite samples were generated to date out of 101 sampled increments
- Solid Waste Management Unit (SWMU) – borehole sampled for RCRA constituents

**Work Planned:** Week of August 27 – August 31

- Finish drilling and sampling operations in Survey Unit 9
- Obtain Underground Work Release for remainder of Survey Unit 8 locations.
- The next survey units planned for drilling and sampling activities are 8, 4, and 3.

**Problems or concerns:**

- Near record-breaking heat persisted throughout the week.

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**Subsurface Soil Characterization and  
Final Status Survey Project  
Nuclear Fuel Services, Inc.  
Erwin, Tennessee**

**Reporting Period:** August 27 – August 31, 2007

**Work completed:**

- Shipped approx. 160 samples to Teledyne-Brown and about 20 samples to Paragon Labs
- See table below for Survey Unit 9 status

**SURVEY UNIT 9**

	<b>Borehole location</b>	<b>Date sampled</b>	<b>Number of samples</b>	<b>Borehole depth</b>
21	0229**	8/27/07	7	5 meters
22	0230	8/27/07	5	5 meters
23	0231	8/27/07	5	5 meters
24	0232*	8/27/07	6	5 meters
25	0233*	8/27/07	7	6 meters
26	0234	8/27/07	6	6 meters
27	0235	8/28/07	5	5 meters
28	0236*	8/28/07	7	6 meters
29	0237*	8/28/07	7	6 meters
30	0238	8/28/07	5	5 meters
31	0239	8/28/07	5	5 meters
32	0240	8/28/07	5	5 meters
33	0241*	8/28/07	6	5 meters
34	0242*	8/29/07	7	6 meters
35	0243*	8/29/07	7	6 meters
36	0244	8/29/07	4	4 meters
37	0245*	8/29/07	6	5 meters
38	0246*	8/29/07	6	5 meters

- \* Denotes that an additional sample was taken at that location for part of a Full Suite Analysis
- \*\* Denotes that an additional Tc-99 sample (duplicate) was taken for control purposes.
- 20 Full-Suite Samples were generated out of 194 sampled increments in Survey Unit 9

**Work Planned:** Week of September 4 – September 7

- Finish drilling and sampling operations in Survey Unit 9
- Begin drilling and sampling in Survey Unit 8.
- The next survey units planned for drilling and sampling activities after Survey Unit 8 are 4, 3, and 1.

**Problems or concerns:**

- Heat and humidity eased somewhat through the week.
- Major equipment malfunction on August 29, 2007 forced one day shutdown.

**Other Information:**

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