



RE: 0531-N

April 29, 2005

Certified Mail 7004 1160 0004 4866 4089
Return Receipt Requested

U.S. Nuclear Regulatory Commission
ATTN: Mr. Gary Janosko, Chief
Fuel Cycle Facilities Branch
Division of Fuel Cycle Safety and Safeguards
11545 Rockville Pike
Two White Flint
Washington, D.C. 20852-2738

RE: License No. SUB-1010; Docket No. 40-8027
Ammonium Nitrate Fertilizer Program
2004 Completion Report

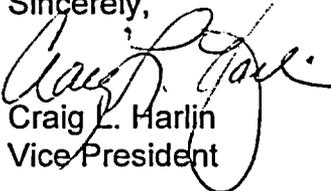
Dear Mr. Janosko:

Please find enclosed one (1) copy of the 2004 Completion Report for the Ammonium Nitrate Fertilizer Program conducted by Sequoyah Fuels Corporation (SFC).

In accordance with License No. SUB-1010 requirements, the report describes the application of facility produced ammonium nitrate fertilizer on SFC lands near Gore, Oklahoma, and the results obtained from comprehensive soil and vegetation monitoring programs.

Should you require further information, please contact me at 918-489-5511. (Ext. 14)

Sincerely,



Craig L. Harlin
Vice President

Enclosure

cc: Myron Fliegel

*AMMONIUM NITRATE
FERTILIZER APPLICATION PROGRAM*

2004 Completion Report

License SUB-1010; Docket 40-8027

April 28, 2005

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ADDENDA

<u>TABLES</u>	<u>DESCRIPTION</u>
1	Projected 2005 Ammonium Nitrate Fertilizer Application
2	2004 Fertilizer Application Summary
3	2004 Fertilizer Composite Analysis
4	Soil Nitrate Analysis
5	Forage Analysis

2004 FERTILIZER PROGRAM COMPLETION REPORT

Sequoyah Fuels Corporation
Gore, Oklahoma

1.0 INTRODUCTION

Source Material License SUB-1010, issued to Sequoyah Fuels Corporation (SFC), authorizes the application of fertilizer onto SFC owned or controlled lands for the production of forage, utilized by cattle for grazing, or for growing crops that are not used directly as human food, such as hay or seed production. In accordance with license requirements, this completion report describes the 2004 Fertilizer Application Program.

SFC monitors a control plot as specified in the license in order to implement good programmatic control and ensure that the program is being operated in accordance with best agricultural practices. In September 1996, an NRC License Amendment which changed the fertilizer program control plot was approved. This report contains the fertilizer program monitoring results as described in the amended license.

The 2004 Fertilizer Application Program included oversight by Dr. Billy Tucker, Ph.D., Agronomist and Soil Scientist, Extension Agronomist Emeritus, Oklahoma State University. Dr. Tucker provided recommendations to ensure maximum plant nutrient utilization and forage production while limiting impact to the environment. Additionally, Dr. Tucker assisted in investigations of anomalous monitoring data.

Fertilizer application began in August 2004 and concluded in November 2004. A total of 7.3 million gallons of ammonium nitrate fertilizer was applied. Application amounts ranged from 298 to 358 lbs-N/acre. The 2005 schedule for the Ammonium Nitrate Fertilizer Program is provided in Table 1.

2.0 APPLICATION AREA

In 2004, SFC's ammonium nitrate fertilizer was applied to the control plot which is located within the facility boundary. This application area is referred to as the Agland (XVII) tract and is comprised of approximately 91 acres of which approximately 60 acres were utilized for application. Ammonium nitrate fertilizer was also applied to a 20 acre portion of the field located immediately east of the Agland tract. This area has been previously identified as Province 5 of Area160A. In addition, fertilizer was applied to an 8 acre field located immediately south of the Agland tract, referred to as XVII (South).

3.0 AMMONIUM NITRATE APPLICATION

Pre-growing season soil samples were collected early in the year prior to implementation of fertilizer application. Nitrate analysis of these samples provided a basis for application rates and scheduling. Dr. Tucker reviewed this information and provided SFC with application rate recommendations.

Application rates were monitored based upon monthly nitrate analysis of the fertilizer solution. Application began in August and continued until November. A total of 7.3 million gallons was applied utilizing a Bauer Rainstar 75-310 irrigation system. The 2004 fertilizer application summary is presented in Table 2. No commercial fertilizer supplements were applied during 2004.

Analytical results of a representative composite of the fertilizer solution are provided in Table 3.

4.0 PROGRAM MONITORING RESULTS

4.1 Soil

The 2004 pre-, mid- and post-growing season soil samples for the fertilizer application areas were collected in March, September and December, respectively. These samples were analyzed for nitrate content. The analysis results for the three sampling events are provided in Table 4. The top six inches of soil was characterized for nitrate content by collecting and compositing at least twenty samples from different locations in the Agland tract (one-inch diameter cores). In addition, profile samples were collected from one location in the Agland tract at six inch increments from surface to 48". Review of the 2004 pre-season soil profiles, and the top six inch soil composite, provided the basis for Dr. Tucker's recommendation of application rates for the 2004 Fertilizer Program.

4.2 Vegetation

Forage samples were collected and analyzed from the Agland area only. Analytical data for the forage cuttings from the Agland is provided in Table 5.

The forage samples collected during the first cutting of 2004 had elevated molybdenum concentrations. SFC determined that use of the hay should be restricted.

5.0 FORAGE MANAGEMENT PROGRAM

The Amland acreage was utilized for hay production. Hay was harvested two times during 2004, in July and October. Hay yields and harvest were dependent upon the weather and forage growing conditions. A total of approximately 262 round bales and 40 square bales of hay were produced from this acreage. Round hay bales average approximately 1250 pounds and square bales about 50 pounds. None of the hay harvesting acreage was over seeded during 2004.

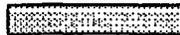
TABLES

Table 1
Sequoyah Fuels Corporation
Projected 2005 Ammonium Nitrate Fertilizer Application

ID	Task Name	Qtr 1, 2005			Qtr 2, 2005			Qtr 3, 2005			Qtr 4, 2005		
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	SPREAD FERTILIZER												
2	Conduct Environmental Monitoring												
3	Collect Preseason Soil Samples			3/7 3/8									
4	Collect Preseason Fertilizer Samples				5/5 5/6								
5	Collect Forage Samples					6/3						10/12	
6	Collect Midsection Soil Samples							7/18 7/18					
7	Collect Postseason Soil Samples										11/3 11/4		
8	Perform Follow-up/Resample				4/7					9/15			
9													
10	Evaluate Environmental Data				4/7								12/6
11													
12	Develop Manpower to Operate Program				4/4			6/24					
13													
14	Implement Field Applications					5/6						10/3	
15	Complete Application of 10,000,000 Gallons										◆ 10/3		
16													
17	Maintain Distribution System				4/6						9/21		
18													
19	Pond Management					5/5							11/2

Date: Wed 4/6/05

Task



Milestone ◆

TABLE 2

2004 Fertilizer Application Data

LOCATION	APPL	CONC g/l N	GALS APPLIED	Acres Applied To	LBS/ ACRE
XVII (AGLAND)	1	0.362	2,122,416	57	112.4
	2	0.479	1,756,700	57	127.7
	3	0.469	1,722,100	57	118.1
TOTAL			5,601,216		358.2
160A Province 5	1	0.362	578,400	16	107.8
	2	0.497	494,300	16	126.4
TOTAL			1,072,700		234.2
XVII (South)	1	0.362	259,900	8.2	95.7
	2	0.497	212,600	8.2	107.4
	3	0.469	199,400	8.2	95.1
TOTAL			671,900		298.2

Notes: Total Volume Applied to All Areas: 7,345,816 gallons

N = Total Nitrogen

TABLE 3
2004 Fertilizer Composite
Analysis

Element	Composite
As mg/l	0.046
Ba mg/l	0.094
B mg/l	0.114
Cd mg/l	0.004
Co mg/l	0.007
Cr mg/l	0.007
Cu mg/l	0.030
Fe mg/l	0.085
Mg mg/l	15.8
Mn mg/l	1.53
Mo mg/l	2.96
Ni mg/l	0.119
Pb mg/l	0.011
Se mg/l	0.024
V mg/l	0.029
Zn mg/l	0.062
Hg mg/l	< 0.0002
U ug/l	3.73
Ra226 pCi/l	0.555 ± 0.136
Th230 pCi/l	0.329 ± 0.166

TABLE 4
Soil Nitrate Analysis (mg/kg)

Sequoyah Acreage								
Pre-Season Results (Collected on 3/8/2004)								
Location	0-6C"	6-12"	12-18"	18-24"	24-30"	30-36"	36-42"	42-48"
Agland	7.5	3.4	3.4	3.9	5.1	6.4	7.0	6.9
Mid-Season Results (Collected on 9/9/2004)								
Location	0-6C"	6-12"	12-18"	18-24"	24-30"	30-36"	36-42"	42-48"
Agland	21.4	14.6	4.8	2.9	2.9	2.7	2.8	2.8
Post-Season Results (Collected on 12/3/2004)								
Location	0-6C"	6-12"	12-18"	18-24"	24-30"	30-36"	36-42"	42-48"
Agland	15.4	9.9	10.6	23.1	17.3	9.7	6.8	5.8

TABLE 5

Forage Analysis

Location	Sample Date	As mg/kg	B mg/kg	Co mg/kg	Cu mg/kg	Fe mg/kg	Mn mg/kg	Mo mg/kg	Ni mg/kg	Pb mg/kg	V mg/kg	Zn mg/kg	U mg/kg	Th-230 pCi/g	Ra-226 pCi/g	NO3-N mg/kg
Sequoyah Acreage																
Agland I	07/27/04	1.01	7.29	3.24	5.77	179	149	35.6	1.42	21.3	2.03	22.6	0.070	0 ± 0.013	0.010 ± 0.005	-
Agland II	10/20/04	4.79	< 10.3	< 0.470	13.8	123	230	14.6	3.01	3.01	< 0.939	20.5	0.080	0.019 ± 0.013	0.046 ± 0.01	1750
Caution Levels¹		100	150	10	100	1000	1000	20	50	30	50	500	-	-	-	2800

¹ Caution Levels do not mean that forage with higher concentrations cannot be safely fed to livestock, but that certain precautions and additional treatments and supplements may be prudent.