SEQUOYAH FUELS
A GENERAL ATOMICS COMPANY

RE: 0817-N

April 28, 2008

Certified Mail 7006 0810 0004 5717 8521
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
2007 Completion Report

Dear Mr. Janosko:

Please find enclosed one (1) copy of the 2007 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. 225)

Sincerely,

Scott C. Munson
for Craig L. Harlin
Vice President

Enclosure

cc: Ken Kalman (NRC)
Roshini Nambiar (ODEQ)

HIGHWAY 10 & I-40 PO BOX 610, GORE, OKLAHOMA 74435 (918) 489-5511 FAX: (918) 489-2291

AMMONIUM NITRATE FERTILIZER APPLICATION PROGRAM

2007 Completion Report

License SUB-1010; Docket 40-8027

April 28, 2008

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2007 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. On July 1, 2005 a new Oklahoma Pollution Discharge Elimination System (OPDES) permit became effective. This new OPDES permit includes additional sampling and application requirements for the fertilizer program. In accordance with license and permit requirements, this completion report describes the 2007 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 2007 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 2007 and concluded in September 2007. A total of 4.9 million gallons of ammonium nitrate fertilizer was applied. Application amounts ranged from 130 to 280 lbs-N/acre. The 2008 schedule for the Ammonium Nitrate Fertilizer Program is provided in Table 1.

2.0 APPLICATION AREA

In 2007, 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 Agland #1 (Previously identified as Agland XVII) and is comprised of approximately 91 acres of which approximately 60 acres were utilized for application. Fertilizer was also applied to an 8 acre field located immediately

south of the Agland #1 site, referred to as Agland #2 (Previously identified as Agland XVII South). In addition, ammonium nitrate fertilizer was applied to a 20 acre portion of the field located immediately east of the Agland #1 site. This area has been identified as Agland #3 (Previously identified as Province 5 of Area160A). Other areas where ammonium nitrate fertilizer was applied included the Pond Area, North Meadow, Timber South #2 and South Meadow. Figure 1 shows the location of the fertilizer application sites.

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 September. A total of 4.9 million gallons was applied utilizing Kifco Ag-Rain A-Series irrigation system. The 2007 fertilizer application summary is presented in Table 2. No commercial fertilizer supplements were applied during 2007.

Analytical results of a representative composite of the fertilizer solution are provided in Table 3. In addition, samples were also collected from fertilizer sources as they were being transferred to the fertilizer storage ponds. These analytical results for these sources, which include Clarifier Basin 3A, Monitor Well MW095A Collection Trench, Monitor Well MW095A Collection Pit and Catchment No. 3, are included in Table 4.

4.0 PROGRAM MONITORING RESULTS

4.1 Soil

The 2007 pre-, mid- and post-growing season soil samples for the fertilizer application areas were collected in March, July and October, respectively. These samples were analyzed for nitrate content. The analysis results for the three sampling events are provided in Table 5. 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 2007 pre-season soil profiles, and the top six inch soil composite, provided the basis for Dr. Tucker's recommendation of application rates for the 2007 Fertilizer Program.

Soil samples were also collected as required by the new OPDES permit that became effective on July 1, 2005. This permit requires that background soil

samples be collected from each land application site and be analyzed for soil pH; the nutrients Total Kjeldahl Nitrogen, nitrogen, ammonia, nitrate, potassium and phosphorus; and the metals included in 40 CFR 503, "Standards for the Use or Disposal of Sewage Sludge." The analyses for background sampling are included in Table 6. Figure 1 shows the location of each fertilizer application site. The analyses of post season samples collected on October 17 and 29, 2007, from each land application site that received fertilizer solution are included in Table 7.

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 8.

The forage sample collected during 2007 had elevated molybdenum concentrations. SFC determined that use of the hay should be restricted.

5.0 FORAGE MANAGEMENT PROGRAM

Hay was harvested three times during 2007. Hay yields and harvest were dependent upon the weather and forage growing conditions. A total of approximately 653 round bales were produced from the SFC property. Round hay bales average approximately 1250 pounds. None of the hay harvesting acreage was over seeded during 2007.

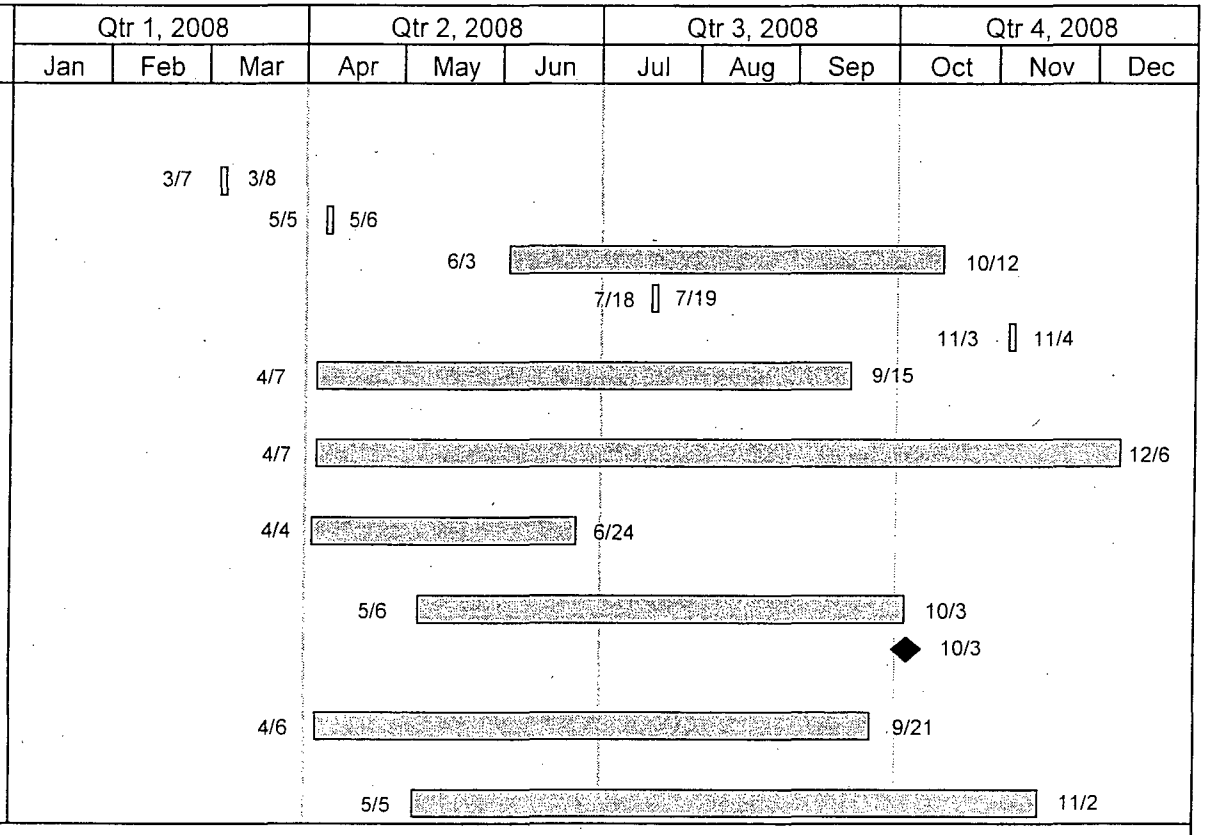
TABLES

Table 1

Sequoyah Fuels Corporation

Projected 2008 Ammonium Nitrate Fertilizer Application

ID	Task Name
1	SPREAD FERTILIZER
2	Conduct Environmental Monitoring
3	Collect Preseason Soil Samples
4	Collect Preseason Fertilizer Samples
5	Collect Forage Samples
6	Collect Midseason Soil Samples
7	Collect Postseason Soil Samples
8	Perform Follow-up / Re-sample
9	
10	Evaluate Environmental Data
11	
12	Develop Manpower to Operate Program
13	
14	Implement Field Applications
15	Complete Application of 8,000,000 Gallons
16	
17	Maintain Distribution System
18	
19	Pond Management



Date: Tue 4/1/2008

Task

Milestone

TABLE 2

2007 Fertilizer Application Data

LOCATION	APPL	CONC g/l N	GALS APPLIED	Acres Applied To	LBS/ ACRE
XVII (AGLAND)	1	0.772	2,063,000	57	232.9
TOTAL			2,063,000		232.9
160A Province 5	1	0.692	456,600	16.2	162.6
TOTAL			456,600		162.6
XVII (South)	1	0.692	190,600	8.2	134.1
			190,600		134.1
Pond / Timber / Meadow Areas	1	0.813	2,200,800	61.5	242.4
TOTAL			2,200,800		242.4

Notes: Total Volume Applied to All Areas: 4,911,000 gallons

N = Total Nitrogen

TABLE 3

2007 Fertilizer Composite Analyses

Element		Composite
As	mg/l	0.055
Ba	mg/l	0.066
B	mg/l	0.149
Cd	mg/l	0.001
Co	mg/l	0.030
Cr	mg/l	0.006
Cu	mg/l	0.045
Fe	mg/l	0.179
Mg	mg/l	29.7
Mn	mg/l	4.38
Mo	mg/l	6.79
Ni	mg/l	0.198
Pb	mg/l	< 0.010
Se	mg/l	< 0.005
V	mg/l	< 0.105
Zn	mg/l	0.090
Hg	mg/l	< 0.0002
U	ug/l	2.48
Ra226	pCi/l	0.090 ± 0.091
Th230	pCi/l	0.291 ± 0.149

Table 4
2007 Fertilzer Source Analyses

Parameter	Clarifier Basin 3A	MW095A Coll. Trench	MW095A Coll. Pit	Catchment No. 3	Outfall 008
Inorganic Analyses					
Ammonia (as N), mg/l	935	0.3	1.2	152	1.0
Nitrate (as N), mg/l	977	961	283	389	3.3
TKN, mg/l	992	< 0.3	1.4	151	4.6
pH, SU	6.32	6.34	6.10	4.24	6.67
Radiochemical Analyses					
Radium-226 pCi/l	2.40 ± 0.412	0.687 ± 0.245	0.163 ± 0.212	1.27 ± 0.420	0.091 ± 0.146
Uranium, µg/l	43.2	3.10	< 1	442	14.6
Metals Analyses					
Arsenic, mg/l	0.135	0.038	0.016	0.185	< 0.010
Cadmium, mg/l	< 0.001	< 0.001	< 0.001	< 0.001	< 0.010
Chromium, mg/l	0.032	0.027	< 0.010	0.081	0.019
Copper, mg/l	0.060	0.018	0.089	0.314	< 0.011
Lead, mg/l	< 0.010	0.011	< 0.010	0.237	< 0.010
Mercury, mg/l	< 0.0002	< 0.0002	< 0.0002	0.008	< 0.0002
Molybdenum, mg/l	16.2	< 0.010	< 0.010	0.060	0.062
Nickel, mg/l	0.554	0.032	0.024	1.11	0.020
Phosphorus, mg/l	13.5	0.231	0.056	10.8	0.15
Potassium, mg/l	43.3	9.40	3.24	16.0	4.27
Selenium, mg/l	0.054	< 0.010	< 0.010	< 0.010	< 0.010
Zinc, mg/l	0.047	0.599	0.051	0.230	0.216

TABLE 5

Soil Nitrate Analyses (mg/kg)

Sequoyah Acreage

	Pre-Season Results (Collected on 3/13/2007)							
Location	0-6C"	6-12"	12-18"	18-24"	24-30"	30-36"	36-42"	42-48"
Agland	8.2	4.0	4.3	4.8	8.0	14.6	24.0	28.9
	Mid-Season Results (Collected on 7/31/2007)							
Location	0-6C"	6-12"	12-18"	18-24"	24-30"	30-36"	36-42"	42-48"
Agland	28.7	11.4	4.8	3.1	3.1	2.8	2.6	< 2.5
	Post-Season Results (Collected on 10/17/2007)							
Location	0-6C"	6-12"	12-18"	18-24"	24-30"	30-36"	36-42"	42-48"
Agland	13.0	10.5	25.9	31.7	42.4	23.9	11.3	9.7

Table 6
Background Soil Analyses - Fertilizer Application Sites

Parameter	Agland # 1	Agland # 2	Agland # 3	Agland # 4	North Meadow	South Meadow
Inorganic Analyses						
Ammonia (as N), mg/kg	6.6	3.9	3.6	4.5	3.1	2.2
Nitrate (as N), mg/kg	28.2	33.1	31.6	17.4	15.4	26
TKN, mg/kg	1790	1880	1640	1740	1500	2340
pH	4.34	5.83	6.32	5.18	6.02	6.33
Radiochemical Analyses						
Radium-226 pCi/g	0.779 ± 0.142	1.42 ± 0.221	0.730 ± 0.144	1.07 ± 0.202	1.28 ± 0.197	1.73 ± 0.219
Uranium, µg/g	1.92	1.99	1.93	3.26	9.55	2.47
Metals Analyses						
Arsenic, mg/kg	2.39	1.62	1.53	2.25	2.62	2.2
Cadmium, mg/kg	0.728	0.505	0.612	0.819	0.805	0.838
Chromium, mg/kg	1.14	2.02	3.57	4.09	7.55	5.45
Copper, mg/kg	6.24	3.13	1.02	2.05	2.21	1.36
Lead, mg/kg	8.65	7.09	5.54	7.38	10.7	10.1
Mercury, mg/kg	< 0.24	< 0.24	< 0.24	< 0.24	< 0.24	< 0.24
Molybdenum, mg/kg	21.9	12.7	5.3	< 0.716	2.42	1.57
Nickel, mg/kg	5.72	3.43	5.61	1.33	0.906	1.57
Phosphorus, mg/kg	274	55.9	139	221	207	221
Potassium, mg/kg	731	268	324	453	293	298
Selenium, mg/kg	< 0.520	< 0.505	< 0.510	< 0.512	< 0.503	< 0.524
Zinc, mg/kg	19.8	9.19	7.95	13.9	13.3	11

Parameter	Pond Area	Timber North # 1	Timber North # 2	Timber South # 1	Timber South # 2	Timber South # 3
Inorganic Analyses						
Ammonia (as N), mg/kg	2.1	2.7	3.7	3.0	1.8	1.8
Nitrate (as N), mg/kg	14.2	9.6	22.3	27.4	25.5	13.2
TKN, mg/kg	2020	2470	1850	2290	2090	1740
pH	6.35	5.4	4.9	5.28	5.2	5.5
Radiochemical Analyses						
Radium-226 pCi/g	1.04 ± 0.163	1.57 ± 0.249	1.07 ± 0.188	1.58 ± 0.243	1.29 ± 0.189	1.27 ± 0.201
Uranium, µg/g	2.41	5.24	16.8	12.2	9.78	2.12
Metals Analyses						
Arsenic, mg/kg	2.94	1.2	3.85	1.98	4.33	2.81
Cadmium, mg/kg	1.01	< 0.502	1.77	0.991	1.54	1.35
Chromium, mg/kg	6.9	< 0.703	11.4	4.46	6.8	11.2
Copper, mg/kg	0.913	< 0.602	3.02	2.78	1.54	1.04
Lead, mg/kg	9.66	< 0.390	15.1	14.8	13.6	10.7
Mercury, mg/kg	< 0.24	< 0.24	< 0.23	< 0.24	< 0.24	< 0.24
Molybdenum, mg/kg	< 0.710	< 0.703	1.14	< 0.694	< 0.721	< 0.729
Nickel, mg/kg	< 0.710	< 0.703	8.94	0.892	< 0.721	16.9
Phosphorus, mg/kg	< 10.1	192	282	280	224	168
Potassium, mg/kg	326	17.3	564	574	381	542
Selenium, mg/kg	< 0.507	< 0.502	< 0.520	< 0.496	< 0.515	< 0.521
Zinc, mg/kg	12.4	< 0.703	37.8	23.3	17.1	14.2

Table 7
Annual Post-Season Soil Analyses - Fertilizer Application Sites

Parameter	Agland # 1 0 - 0.5 ft	Agland # 1 0.5 - 1.0 ft	Agland # 1 1.0 - 1.5 ft	Agland # 1 1.5 - 2.0 ft	Agland # 1 2.0 - 2.5 ft	Agland # 1 2.5 - 3.0 ft
Inorganic Analyses						
Ammonia (as N), mg/kg	3.59	< 1.8	< 1.8	< 2.0	< 1.9	< 1.8
Nitrate (as N), mg/kg	6.8	10.5	25.9	31.7	42.4	23.9
TKN, mg/kg	1280	425	379	< 94.9	342	532
pH	4.32	3.91	4.66	5.22	5.26	5.89
Radiochemical Analyses						
Radium-226 pCi/g	1.33 ± 0.144	1.14 ± 0.115	1.27 ± 0.126	0.867 ± 0.105	1.02 ± 0.105	0.893 ± 0.107
Uranium, µg/g	1.41	1.29	1.38	1.45	1.26	1.31
Metals Analyses						
Arsenic, mg/kg	1.71	1.41	0.950	1.12	1.40	2.13
Cadmium, mg/kg	0.366	0.587	0.475	0.448	0.467	0.827
Chromium, mg/kg	4.51	4.93	4.87	4.60	5.36	9.45
Copper, mg/kg	3.90	5.16	4.39	3.36	3.73	6.14
Lead, mg/kg	3.05	2.35	0.950	1.57	0.816	< 0.461
Mercury, mg/kg	< 0.081	< 0.081	< 0.081	< 0.080	< 0.081	< 0.081
Molybdenum, mg/kg	14.1	1.41	0.356	< 0.314	0.700	< 0.331
Nickel, mg/kg	3.78	7.04	13.8	8.41	7.12	10.5
Phosphorus, mg/kg	261	242	243	228	245	332
Potassium, mg/kg	614	707	669	604	749	1290
Selenium, mg/kg	< 0.524	< 0.505	< 0.510	< 0.482	< 0.502	< 0.508
Zinc, mg/kg	13.6	14.9	12.1	11.1	13.1	21.4

Parameter	Agland # 1 3.0 - 3.5 ft	Agland # 1 3.5 - 4.0 ft	Agland # 1 Composite	Agland #2 Composite	Agland # 3 Composite	Agland # 1 0-0.5' Dup
Inorganic Analyses						
Ammonia (as N), mg/kg	< 1.8	< 1.9	3.97	2.70	< 1.6	5.80
Nitrate (as N), mg/kg	11.3	9.7	13.0	9.3	8.2	8.4
TKN, mg/kg	354	< 116	1200	901	< 93	1170
pH	6.09	6.04	4.71	5.83	5.92	4.35
Radiochemical Analyses						
Radium-226 pCi/g	1.24 ± 0.126	1.52 ± 0.157	1.11 ± 0.110	0.530 ± 0.096	0.501 ± 0.098	1.32 ± 0.146
Uranium, µg/g	1.52	1.37	1.33	1.38	1.49	1.46
Metals Analyses						
Arsenic, mg/kg	2.63	2.82	1.80	1.36	1.75	2.12
Cadmium, mg/kg	0.914	0.823	0.359	0.372	0.349	0.354
Chromium, mg/kg	10.3	9.17	3.95	4.71	5.01	4.95
Copper, mg/kg	7.09	7.06	4.67	4.34	3.50	4.13
Lead, mg/kg	< 0.446	0.823	2.87	6.81	3.14	2.95
Mercury, mg/kg	< 0.081	< 0.081	< 0.080	< 0.079	< 0.081	< 0.082
Molybdenum, mg/kg	< 0.320	< 0.329	12.9	7.31	5.82	13.7
Nickel, mg/kg	12.3	11.9	8.86	2.85	1.51	3.78
Phosphorus, mg/kg	370	359	261	140	109	262
Potassium, mg/kg	1470	1500	499	235	247	655
Selenium, mg/kg	< 0.492	< 0.506	< 0.515	< 0.533	< 0.501	< 0.507
Zinc, mg/kg	23.1	23.6	12.6	6.32	3.96	13.2

Table 7
Annual Post-Season Soil Analyses - Fertilizer Application Sites

Parameter	Pond Area Composite	N. Meadow Composite	Timber S#2 Composite	S. Meadow Composite		
Inorganic Analyses						
Ammonia (as N), mg/kg	< 2.1	3.25	2.50	2.61		
Nitrate (as N), mg/kg	20.5	9.4	11.0	13.0		
TKN, mg/kg	1140	1400	1340	1510		
pH	5.98	5.68	5.73	6.07		
Radiochemical Analyses						
Radium-226 pCi/g	0.704 ± 0.145	0.960 ± 0.169	0.785 ± 0.119	0.484 ± 0.094		
Uranium, µg/g	1.76	5.51	3.30	2.00		
Metals Analyses						
Arsenic, mg/kg	3.20	2.94	3.19	2.38		
Cadmium, mg/kg	0.768	0.734	0.736	0.752		
Chromium, mg/kg	7.55	8.20	13.3	8.40		
Copper, mg/kg	5.38	6.61	7.24	6.65		
Lead, mg/kg	7.55	9.79	8.96	11.3		
Mercury, mg/kg	< 0.081	< 0.082	< 0.080	< 0.082		
Molybdenum, mg/kg	1.66	2.20	2.33	4.64		
Nickel, mg/kg	2.94	1.84	2.09	3.26		
Phosphorus, mg/kg	162	144	144	251		
Potassium, mg/kg	239	263	249	293		
Selenium, mg/kg	< 0.550	< 0.526	< 0.528	< 0.539		
Zinc, mg/kg	8.45	7.83	8.84	11.7		

Parameter						
Inorganic Analyses						
Ammonia (as N), mg/kg						
Nitrate (as N), mg/kg						
TKN, mg/kg						
pH						
Radiochemical Analyses						
Radium-226 pCi/g						
Uranium, µg/g						
Metals Analyses						
Arsenic, mg/kg						
Cadmium, mg/kg						
Chromium, mg/kg						
Copper, mg/kg						
Lead, mg/kg						
Mercury, mg/kg						
Molybdenum, mg/kg						
Nickel, mg/kg						
Phosphorus, mg/kg						
Potassium, mg/kg						
Selenium, mg/kg						
Zinc, mg/kg						

TABLE 8

Forage Analyses

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	07/27/07	0.333	< 2.19	< 0.222	5.33	45	79.6	109	<0.33	< 0.433	< 0.378	12.4	0.011	0.025 ± 0.011	0.021 ± 0.011	491
Agland II	09/17/07	< 0.464	5.16	< 0.344	10.1	110	196	33.5	4.81	< 0.671	< 0.585	25.3	0.015	0.158 ± 0.042	0.017 ± 0.014	1450
Agland III	10/31/07	< 0.548	4.47	0.203	12.6	186	74.7	88.3	9.95	2.44	< 0.690	22.3	0.392	0 ± 0.012	0.021 ± 0.014	41.5
Caution Levels[1]		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.

Figure 1

Fertilizer Application Sites
Background Soil Sample Locations
Collected on 04 Aug 2005