

South Carolina Association of Environmental Professionals

Meeting Date: January 19, 2006

Meeting Attendance Sheet

[illegible]

TOPIC: Innovative Assessment Techniques and Technologies
Speaker: Keisha Long : SCDHEC

South Carolina Association of Environmental Professionals

Meeting Date: 2/16/06

[illegible]

Speaker: Tommy Lavender of Nexsen Pruet.
 Topic: Legal Issues affecting Environmental Projects.
 South Carolina Association of Environmental Professionals

Meeting Date: 3-16-06

Meeting Attendance Sheet

Name	PG/PE Registration #	Changes in Contact Info/Email
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Karl Rains		
Tommy Lavender	—	—
Donald Hall	—	—
GEORGE FLORES	19462	—
TOM BEHNKE	2014	
Harry Momies	2075	
Chris Forrest	2067	—
El Sharp	760	
Bill Campbell	797	

Meeting Date: April 20, 2006

[illegible]

Speaker : Greg Simones
Topic : Risk Assessment 101
South Carolina Association of

Topic: Risk Assessment 101

South Carolina Association of Environmental Professionals

Meeting Date: May 18, 2006

Meeting Attendance Sheet

[illegible]

~~WIDE~~
SCAEP

MEETING

7/20/06

Sign-In

- ① Katherine Kelly #1007
- ② Tom Effinger
- ③ Raymond Knox # 311
- ④ Stephen Farrell starrell@unitedconsulting.com
- ⑤ Greg Force
- ⑥ Chuck Clymer #236
- ⑦ Karl Pains
- ⑧ Debbie Langley
- ⑨ Harry Morris # 2075
- ⑩ Andy Stephens

South Carolina Association of Environmental Professionals

July 20, 2006 Meeting.

Speaker: Mr James Heffner

Director of Environmental Monitoring
Savannah River Site

Topic: "Environmental Monitoring at the
Savannah River Site".

SCAEP - August 17, 2006

SPEAKER - John Hodge, P.G. - "Astrogeology"

NAME

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Steve Godfrey

147

Debbie Langley

Ron HERMENSE

2013

Greg Simones

1176

Stephen Farnell

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Kimberly Wilson

Peggy McClintock

Karl Rains

Greg Force

Will Campbell

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John Hodge

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Sept. 21, 2006 SC AEP

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10/7/06

SCAEP - Field Trip to

Graves Mountain Kyanite Mine

Field Trip Guide Dr. Gwen Geidel

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13.)			
14.)			
15.)			

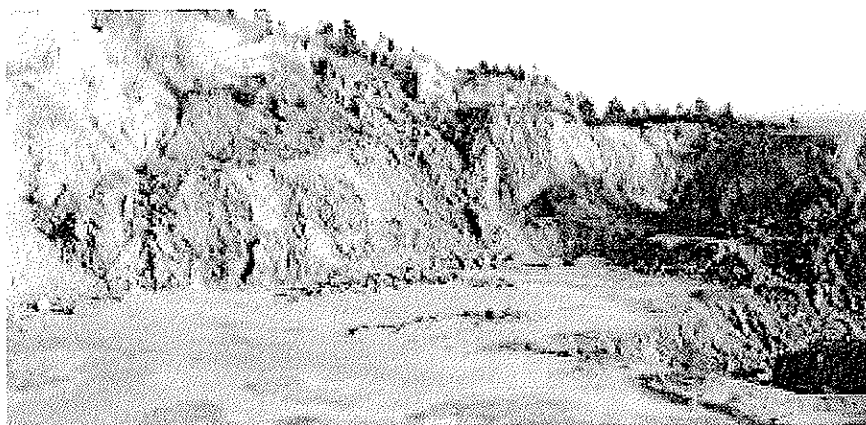
South Carolina Association of Environmental Professionals
Field Trip: Reclamation of the Graves Mountain Kyanite Mine
Graves Mountain, GA
October 7, 2006

Led by Dr. Gwen Geidel – University of South Carolina

The Graves Mountain mine site in Lincolnton, Georgia, famous for its rutile mineral specimens, was originally mined intermittently around the turn of the last century by various jewelers, including Tiffanys, for rutile. The mine site, however, most recently extracted kyanite from a pyritiferous quartzite-kyanite host rock with associated sericite schist and iron oxides. The metamorphic hydrothermal deposits are in the Charlotte belt within a felsic pyroclastic sequence (Carpenter, 1982; Secor, 1987; Bulter and Secor, 1991)

The kyanite mining ended in the mid 1980's and extracted ore from two pits during the approximately twenty years that it was in operation. The processing of kyanite from the ore body entailed blasting, crushing and further wet-crushing the ore to a minus 28-mesh size. The kyanite minerals were separated from the slurry by flotation and the waste minerals, including quartz, micas, pyrophyllite, lazulite, rutile, ilmenite, geothite, hematite and often pyrite, were pumped to several tailings ponds. (Cook, 1985; Hartley, 1976). During various mining episodes, tailings ponds were constructed on the south, west, and north slopes of the mountain and the drainage from each set of tailings ponds affects a different drainage basin. On the south side, two sets of tailings ponds were constructed; the largest and most recent of which is 77 acres and referred to as the East Tailings Pond (ETP), while the smaller and slightly older ones are the West Tailings Ponds (WTP). Reclamation of these larger ponds was reported in Geidel et al, 1999.

The north side of the mountain contains a series of three tailings ponds. Tailings were transported from the processing unit to the ponds through a series of pipes. Due to variations in the host rock chemistry and variations in the removal of minerals during the processing (most notably pyrite, FeS_2), the geochemistry and hydrology of each of the tailings ponds varies. Therefore, various reclamation technologies were used to remediate the water discharging from this portion of the site including constructed wetlands, anoxic limestone drains, impervious caps, surface application of alkaline materials (coarse, fine and slurry) and enhanced revegetation efforts. (Geidel & Caruccio, 2002)

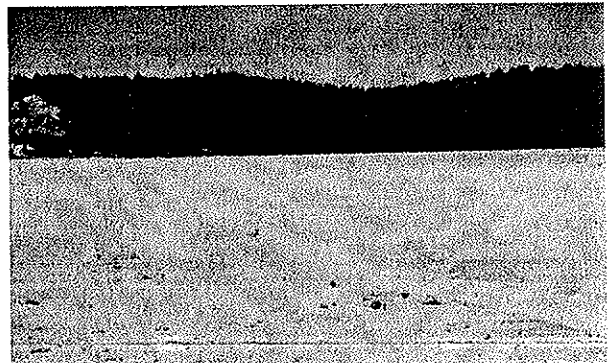


Graves Mountain Main Pit showing upper bench and mine pool below.

Field Guide Book

**South Carolina
Association of Environmental Professionals
and
USC Department of Geological Sciences
(GEOL 560)**

Field Trip



**Reclamation of the Graves Mountain
Kyanite Mine**

**Graves Mountain, Lincoln County, GA
October 7, 2006**

Led by Dr. Gwen Geidel – University of South Carolina