



**APPLICATION FOR A URANIUM EXPLORATION PERMIT**

**APPLICATION NO.** \_\_\_\_\_

FOR OFFICE USE ONLY	
PERMIT NO.	_____
RECEIPT NO.	_____
DATE ISSUED	_____

**APPLICANT INFORMATION**

- Name of Applicant Virginia Uranium, Inc.
- Office Telephone Number (434) 432-1065
- Mailing Address 231 Woodlawn Heights; Chatham, VA 24531
- Exploration activity is located 6 (six) north-east of Chatham, VA  
(miles) (direction) (town)  
on Public Road No. 690 in Pittsylvania County County/City.
- Type of Organization:  
 Sole Proprietorship - Complete questions A,B,C,D  
 Corporation - Complete questions A,B,C,D,F,G,H,I,J  
 Partnership - Complete questions A,B,C,D,E,F  
 Other - Complete questions A,B,C,D,E,F

Specify (If Other): \_\_\_\_\_

(A) Virginia State Corporation Commission registration number 067334

(B) Person with overall responsibility for operating decisions at the exploration site:

Name/Title Joe Aylor, Chief Geologist

Address 231 Woodlawn Heights; Chatham, VA 24531

Phone (434) 432-1065 (Office) or (434) 770-0797 (mobile)

E-mail JAylor@VAUInc.com

(C) Person to be contacted in the event of an accident or emergency:

Name	Telephone	Address
1. Joe Aylor	231 Woodlawn Heights; Chatham, VA 24531	(434) 770-0797
2. Mick Mastilovic	231 Woodlawn Heights; Chatham, VA 24531	(434) 770-3921

(D) Federal Tax ID Number of Applicant 20-8797826

(E) List all individuals having any ownership interest in the business entity.

Name/Title	Address
Telephone	<i>Not Applicable</i>

(F) Principal organization officials, corporate officers, directors and members:

Name/Title	Address	Telephone
<u>Walter Coles, Sr/Chairman</u>	<u>1040 Coles Road; Chatham, VA 24531</u>	<u>(434) 656-1417</u>
<u>Norm Reynolds/President&amp;CEO</u>	<u>649 South Main Street; Chatham, VA 24531</u>	<u>(434) 429-1534</u>
<u>Henry Bowen/Director</u>	<u>253 Sheva Road; Chatham, VA 24531</u>	<u>(434) 432-1460</u>

(G) Corporation name, address and telephone number if different than applicant:

*Not Applicable*

(H) State of Incorporation Virginia

(I) Virginia Registered Agent:

Name	Address	Telephone
<u>R. Neal Keese Jr.</u>	<u>10 S.Jefferson St; Suite 1400; Roanoke, VA 24011</u>	<u>(540) 983-7627</u>

(J) If a subsidiary, provide: *Not Applicable*

Parent Organization Name \_\_\_\_\_  
Address \_\_\_\_\_  
Telephone \_\_\_\_\_ State of Incorporation \_\_\_\_\_

6. Name, address and telephone number of person(s) authorized to sign permit documents:

Name	Address	Telephone
<u>Norm Reynolds</u>	<u>231 Woodlawn Heights; Chatham, VA 24531</u>	<u>(434) 429-1534</u>
<u>Mick Mastilovic</u>	<u>231 Woodlawn Heights; Chatham, VA 24531</u>	<u>(434) 770-3921</u>
<u>Joe Aylor</u>	<u>231 Woodlawn Heights; Chatham, VA 24531</u>	<u>(434) 770-0797</u>

7. List any exploration or mining permits of any type held by the applicant in Virginia and the applicable permit identification numbers.

Issuing Authority	Permit No./Identification No.
NONE	
_____	_____
_____	_____
_____	_____

**EXPLORATION OPERATION INFORMATION**

8. USGS Quadrangle - Spring Garden/Gretna Northing - 36°52'18" Easting - (-) 79°18'00"

9. Type of Exploration Activity:

- (  ) Rotary Drill (  ) Surface Excavation (  ) Underground Excavation  
(  ) Other (specify) Diamond Drill Core Holes

10. Approximate date exploration operations will commence. November 15, 2007 or later  
(Applicant shall notify the Division prior to commencing exploration activities.)

11. Distance in feet to nearest inhabited building. Varies, please see map on question 20.

12. List any person with an ownership or leasehold interest in the surface land or minerals to be entered or explored and the date each person was notified of the applicant's intent to apply for an exploration permit.

	Name	Address	Date Notified
Surface	<u>Coles Hill, LLC</u>	<u>1040 Coles Rd; Chatham, VA 24531</u>	<u>April 4, 2007</u>
Mineral	<u>Coles Hill, LLC</u>	<u>1040 Coles Rd; Chatham, VA 24531</u>	<u>April 4, 2007</u>

13. Specify source of applicant's legal right to enter and conduct mining operations on land covered by the permit: Mineral leases with Coles Hill LLC on April 4, 2007 and attached is an Agreement with Coles Hill LLC signed on October 25, 2007 providing Virginia Uranium the legal right of entry.

\_\_\_\_\_  
(Provide deed book number, page number, parties to the deed or lease, date of execution or provide a copy of the deed or lease.)

14. Please provide the following information for any contractors who will be working on the exploration site (attach additional sheets as necessary).

Contractor's Business Name Boart Longyear Company DMM # 0000738

Virginia State Corporation Commission registration number F114503-8/ Federal#870503343

Business address 300 Grayson Rd.; Wytheville, VA 24382

Business telephone (276) 228-7811

Address of record Same as business address

Service to be provided Drilling services

Persons with responsibility for operating decisions:

Name	Address
<u>William Dycus</u>	<u>P.O. Box 919; Wytheville, VA 24382</u>
<u>Mike Neal</u>	<u>P.O. Box 919; Wytheville, VA 24832</u>

Persons with responsibility for the health and safety of employees:

Name	Address
<u>William Dycus</u>	<u>P.O. Box 919; Wytheville, VA 24382</u>
<u>Dan Dunn</u>	<u>P.O. Box 919; Wytheville, VA 24832</u>

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Contractor's Business Name WT Moore Well Drilling, Inc. DMM # None

Virginia State Corporation Commission registration number 0594408-7

Business address 1108 Moores Drive; Hurt, Virginia 24563

Business telephone (434) 324-8544

Address of record Same as above

Service to be provided Rotary percussion drilling

Persons with responsibility for operating decisions:

Name	Address
<u>WT Moore</u>	<u>Same as above</u>
_____	_____

Persons with responsibility for the health and safety of employees:

Name	Address
<u>Same as above</u>	_____
_____	_____

Contractor's Business Name Century Geophysical Corporation DMM # None

Virginia State Corporation Commission registration number Not Registered in Virginia

Business address 1223 S. 71<sup>st</sup> E. Ave; Tulsa, Oklahoma 74112

Business telephone (918) 838-9811

Address of record Same as above

Service to be provided Logging services

Persons with responsibility for operating decisions:

Name	Address
<u>Brian Peterson</u>	<u>Same as above</u>
<u>Kevin West</u>	<u>Shinniston, West Virginia</u>

Persons with responsibility for the health and safety of employees:

Name	Address
<u>Same as above</u>	_____
_____	_____

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Contractor's Business Name Marshall, Miller & Associates DMM # 0000734

Virginia State Corporation Commission registration number 0159588-3

Business address 534 Industrial Park Road; Bluefield, VA 24605

Business telephone (276) 322-5467

Address of record Same as above

Service to be provided Logging services

Persons with responsibility for operating decisions:

Name	Address
<u>Mark Smith</u>	<u>Same as above</u>

Persons with responsibility for the health and safety of employees:

Name	Address
<u>Tom Willis</u>	<u>Same as above</u>

Contractor's Business Name Larry Roach DMM # N/A

Virginia State Corporation Commission registration number N/A- individual

Business address 904 Zion Road; Gretna, VA 24557

Business telephone (434) 656-1789

Address of record Same as above

Service to be provided Backhoe services

Persons with responsibility for operating decisions:

Name	Address
<u>Larry Roach</u>	<u>Same as above</u>

Persons with responsibility for the health and safety of employees:

Name	Address
<u>Same as above</u>	<u>Same as above</u>

15. List rivers, streams, tributaries or water impoundments on or adjacent to permitted property.

Name of waterway	pH adjacent to the exploration area	Tributary to
<u>Mill Creek</u>	<u>6.78-7.60</u>	<u>Whitehorn Creek</u>
<u>Georges Creek</u>	<u>6.78-7.60</u>	<u>Whitehorn Creek</u>
<u>Whitehorn Creek</u>	<u>6.78-7.60</u>	<u>Banister River</u>
<u>Banister River</u>	<u>6.78-7.60</u>	<u>Dan River</u>

Coles Hill pH measurements  
 October 1 and 2, 2007

Sample Point ID	Sample Location			pH	Temperature °C	Comments
	Northing	Easting	Description			
SS 1	3485064.444	11249004.89	Whitethorne Creek at Chalk Level Road	7.28	15.9	
SS 2	3488835.852	11254297.31	Georges Creek at Chalk Level Road	7.22	16.9	
SS 3	3484344.855	11258494.9	Georges Creek at Markham Road	7.25	17.3	
SS 4	3480186.951	11263009.49	Dry Branch Creek at Markham Road	6.79	22.8	Dry
SS 5	3479589.495	11268609.15	Banister River at Markham Road	7.26	18.3	
SS 6	3479556.692	11263972.67	Whitethorn Creek at S. Meadows Road	7.30	18.0	
SS 7	3477381.697	11256463.71	Dry Branch at S. Meadows Road	-	-	Dry
SS 8	3477862.923	11254180.1	Mill Creek at S. Meadows Road	7.60	18.8	Behind house
SS 9	3480951.231	11241683.97	Mill Creek at Chalk Level Road	7.31	21.5	
SS 10	3476916.055	11247277.16	Mill Creek at Coles Road	7.10	19.2	
SS 11	3461572.281	11243124.52	Banister River at Halifax Road	7.34	18.4	
SS 12	3465035.223	11245188.59	Tributary to Banister River at Sheva Road	7.38	19.4	
SS 13	3466821.726	11245754.13	Tributary to Banister River at Sheva Road	-	-	Dry
SS 14	3470240.085	11244124.39	Tributary to Banister River at Sheva Road	6.78	18.6	
SS 15	3477195.596	11236932.55	Mill Creek at Payneton Road	7.09	19.1	

Maximum Measured = 7.60  
 Minimum Measured = 6.78

Notes: All measurements were taken on upstream side of road crossing except for pH 8, which was not at a road crossing.  
 Lat/Long for dry sample points are for upstream side as indicated on topo quad sheets.  
 pH measurements 1-10 were taken on 10/1/07, 11-15 were taken on 10/2/07  
 pH measurements made using Oakton Waterproof pHTestr 30  
 Sample points were marked with yellow tape for location by survey crew.

Baseline data will be established for the following locations prior to drilling:

Sample Point ID	Sample Location		
	Latitude	Longitude	Description
PS-1	3478501	11246873	Coles Pond West of SR 690
PS-2	3478505	11249743	Coles Pond East of SR 690
PS-3	3477109	11247968	Roy Crider Pond Near House West of Gas Line
PS-4	3476095	11249502	Henry Bowen Pond East of Gas Line
RW-1	3479607	11248718	Well at Walter Coles House
RW-2	3479033	11248799	Walter Coles Well Near Storage Shed
RW-3	3480677	11249542	Walter Coles Cattle Well
RW-4	3476937	11248785	Well at Roy Crider's House

Data will be collected for potential contaminants noted in Table 1. In addition to tests to be performed per Table 1, the following will be noted for the above sample locations:

- Current water elevation
- Water quality
  - Temperature
  - pH
  - Bacteriological testing in the form of total coli form (for residential wells only).

16. Specify how all exploration fluids will be contained and disposed, and how storm runoff water will be handled to minimize impact on any water courses. (Detail drainage plan attached). During operations, drilling fluids will be re-circulated through a series of earthen pits lined with 6-mil polyethylene (“poly”). A reserve pit will be dug down gradient to capture any runoff from rain or artesian flows. Straw, hay bales or silt fence will be used as appropriate to control storm water runoff and potential erosion issues. At the end of drilling, the fluids will be tested prior to final disposal. Pit water testing will be performed by an independent third-party laboratory with results delivered directly to DMME and Virginia Uranium. If testing confirms that the fluids are not contaminated per Table 1, the suitable water/fluid will be pumped or hauled to the next hole or released into the environment following best management practices for the non-point source release of water (such as watering crops, dust suppression and other). If the fluids are found to be contaminated, they will be hauled by a qualified carrier to a designated site certified to accept waste of this type or treated by methods such as filtration, evaporation and others until they meet acceptable standards.

**Table 1: Water Contamination Tests and Levels (Non-Filtered)**

Type of Contaminant	Contaminant	Maximum Contamination Level	Standard
Inorganic chemical (Heavy Metals)	Arsenic	340 µg/L	Virginia Surface Water Quality (Acute Freshwater Standard)
	Lead	120 µg/L	Virginia Surface Water Quality (Acute Freshwater Standard)
	Mercury	1.4 µg/L	Virginia Surface Water Quality (Acute Freshwater Standard)
	Selenium	20 µg/L	Virginia Surface Water Quality (Acute Freshwater Standard)
Radionuclide	Alpha particles	15 pico-curies(pCi)/L	Virginia Surface Water Quality & US EPA Drinking Water
	Beta particles	4 millirem/year	Virginia Surface Water Quality & US EPA Drinking Water
	Combined Radium 226 and 228	5 pCi/L	Virginia Surface Water Quality & US EPA Drinking Water
	Uranium	30 µg/L	Virginia Surface Water Quality & US EPA Drinking Water
Other	Diesel range organics	1 mg/L	Virginia Petroleum Storage Standard

**If baseline water values exceed those in Table 1, then the baseline water values will be what will be returned to the environment.**

No de-watering activities are anticipated for any of the drilling since any water encountered will be used in the drilling process. However, if significant groundwater is encountered and if it starts to come out of the hole, the excess will be placed in containers for analysis prior to release back into

the environment and/or the hole will be “mudded up” to plug off the water. In the worst case, the hole may have to be abandoned and taken out of commission. If there is a loss of circulation water during drilling and drilling is to continue, the hole will be “mudded up” using Quick-Gel (bentonite), EZ-Mud, starch, ground up paper or other media. In the worst case of loss of circulation, the hole can be plugged with cement and taken out of service or redrilled. Hole abandonment will follow standard procedures described in section 21.

Holes are expected to contain the following amounts of water for drilling: 36 gallon/100 feet for NQ and 58 gallons/100 feet for HQ. Holes are expected to use 12 gallons/minute most of it coming from re-circulated water provided by at least one 3,240 gallon pits and perhaps up to three pits (9,720 gallons total). Water usage from nearby steams, wells and other water sources will be less than 9,000 gallons per day. No point source discharge of water will be allowed and only non-point source discharge will be used. The driller will be responsible for keeping a daily log of estimated water usage from surface streams to ensure that it does not exceed 10,000 gallons per day as averaged over a 30-day period.

All mud pits shall be constructed and maintained in a manner that minimizes the possibility for overflow, structural failure and/or breaching during storm events by maintaining a 2:1 slope ratio of depth to width for mud pit walls.

All drill pads and mud pits will be smoothed out and contoured to match the surrounding terrain as soon as practical after the drilling is completed. Though no new road construction is anticipated, routes used for this project that experience erosion from heavy traffic or muddy and wet conditions will be protected using Best Management Practices to reduce erosion and accelerate re-vegetation. These practices include spreading of hay or straw material in any minor rills, travel paths or any other high traffic areas rutted and impacted by vehicle and equipment traffic.

17. Specify any chemicals or hazardous materials (including petroleum products) which will be used on the exploration site and methods to be employed to prevent contamination of land and water resources on or adjoining permitted property.

Petroleum products and batteries (see Table 2 for list) are the only materials to be used on this project. Our plan of operations is to put down 6-mil plastic beneath the drill rig with oil sorbent material on top of the plastic to capture any spills of oil or diesel fuel. Water to be discharged will be evaluated for diesel range organics to ensure no contamination has occurred prior to movement or discharge.

**Table 2: List of all chemicals proposed to be used by the exploration operation**

<b>Chemical</b>	<b>Use</b>
Diesel	Fuel for drill rig, generator, trucks and heavy equipment
Gasoline	Fuel for trucks and equipment
Motor oil	Lubricant
Drilling mud additives: QUIK-GEL; EZ-MUD	Drilling mud, maintain open hole, lubricate drill bit
Ethylene glycol	Anti-freeze coolant
Hydraulic fluid	Hydraulic devices
Grease, petroleum based	Lubrication
Batteries and battery acid	Electric power

**OPERATION/RECLAMATION PLANS**

18. Specify the materials that will be generated by exploration operations and the plans for handling and disposal during operations and reclamation.

TYPE OF MATERIAL	DISPOSAL METHOD
Overburden	Settlement in pits
Spoil/Waste Minerals	Settlement in pits
Used Oil and Lubricants	Transport and disposal by Safety Kleen or equivalent
Trash and Debris	Local trash collection and disposal service
Hazardous Material	At appropriate disposal site
Buildings/Structures	N/A

19. Describe in detail the method of exploration, procedures for containment and disposal of all drilling fluids, handling drainage, regrading, and vegetation during active exploration and upon completion (attach narrative).

See section 21 for a detailed discussion of drilling and operations related to exploration.

Containment will consist of earthen pits to be dug to capture the cuttings from the drilling process and to allow for the re-circulation of drilling fluids. A down-gradient reserve pit and berm will be dug to capture any runoff from rain or artesian flows. To ensure that no seepage occurs into the groundwater, the pits will be lined with 6-mil plastic.

At the completion of the drilling, all or a portion of the water fluid will be used with cement for hole abandonment. If any water/fluid remains it will be transported to the next hole for use there provided it contains no contamination after testing. The testing will be per Table 1 provided in the answer to question 16.

During the exploration program, reclamation activities will involve management of drilling procedures to contain and bury the resulting cuttings. Concurrent reclamation of travel routes and drill sites will be completed to the extent possible during operations. Final reclamation will be completed within two years of project completion.

The pits will be ultimately filled in with soil that was excavated from them, seeded and covered with straw. The seed mix to be used should follow the following guidelines:

- 50 pounds per acre of tall fescue (endophyte free)
- 15 pounds per acre of annual rye
- 6 pounds per acre of red or white clover

Typical application rates for soil supplements would be 2 tons per acre of lime, 400 pounds per acre of 10 /10/10 fertilizer, and 2000 pounds per acre of straw mulch.

When all drilling and testing activities are complete, the mud pits will be allowed to dry out then backfilled and re-contoured to approximate the original topography and to reduce erosion. Topsoil will be placed following contouring, and will be compacted. If there is insufficient topsoil a top dressing may be used.

All drill core cuttings that show radioactive readings in excess of the immediate background surface

readings will either be removed from the site for appropriate disposal or storage, or buried no less than 3 feet below ground surface to insure that the radiation readings on surface are the same, or less, than background readings. This evaluation of cuttings to background will be done pit by pit and cuttings will not leave the general hole area that they came from except for laboratory testing. All core and cuttings taken will be accounted for and their physical location maintained on site until final disposal.

Topsoil will be stockpiled at the time of original construction. Stockpiles will be identified with signs. When the mud pits are no longer needed, the site will be re-contoured to blend visually with the surroundings, and drainage pattern(s) will be returned, as closely as is feasible, to pre-existing conditions.

The closed mud pits will be seeded with an appropriate certified weed-free mix of native grasses, forbs, and shrubs beneficial to wildlife or current use of the land. The seeding will be completed using a broadcast method and then raked. The reclaimed surfaces will be left in a textured or rough condition to assist with the re-establishment of vegetation.

Following the revegetation and restoration activities, monitoring will be conducted to assure successful establishment of vegetation and no development of erosion problems. Revegetated areas that have not become established by the end of the growing season will be treated to prevent erosion and site degradation (i.e., mulching, contouring, water bars). The restoration will be monitored to ensure that it is successful.

20. Attach an application map<sup>1</sup> (at a scale of 1:400 or larger), prepared by a licensed professional engineer or licensed land surveyor that shows the location of the following, where applicable:
- A. Areas of land to be disturbed by the proposed exploration and reclamation.
  - B. Existing roads, occupied dwellings, pipelines, and bodies of surface water.
  - C. Topographic and drainage features.
  - D. Proposed trenches, roads, other access routes to be constructed, and structures to be constructed.
  - E. Proposed land excavations, exploration holes or other drill holes or underground openings. (The locations of the proposed or actual exploration drill holes and the permanent points shall be shown in accordance with the Virginia State Plane Coordinate System.)
  - F. Excavated earth or waste material disposal areas.
  - G. Critical habitats of any endangered or threatened species listed pursuant to the Endangered Species Act of 1973.
  - H. Known Archeological, Cultural or Historic Resources.

This permit application will be for a total of 40 holes. This will comprise 20 exploratory diamond drill or rotary percussion holes and 20 re-entry holes using rotary percussion drilling to re-enter historical holes whose general locations will be depicted on the maps provided. The exact coordinates of the holes will be provided in Amendments to the permit and in the supporting documentation provided with the permit. The exact location of the exploration holes is to be determined by survey after drilling and the approximate locations are provided in the Amendments attached and the other locations will be determined later when the results of the initial exploratory holes become available. If more than 40 holes are to be drilled or if

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<sup>1</sup> The map shall show the courses and distances of such exploration activity from two permanent points or landmarks on the tract; the approximate location areas in which test holes or core or stratigraphic holes may be drilled; name of the owner; and boundaries and acreage of the tract on which exploration activity is to take place.

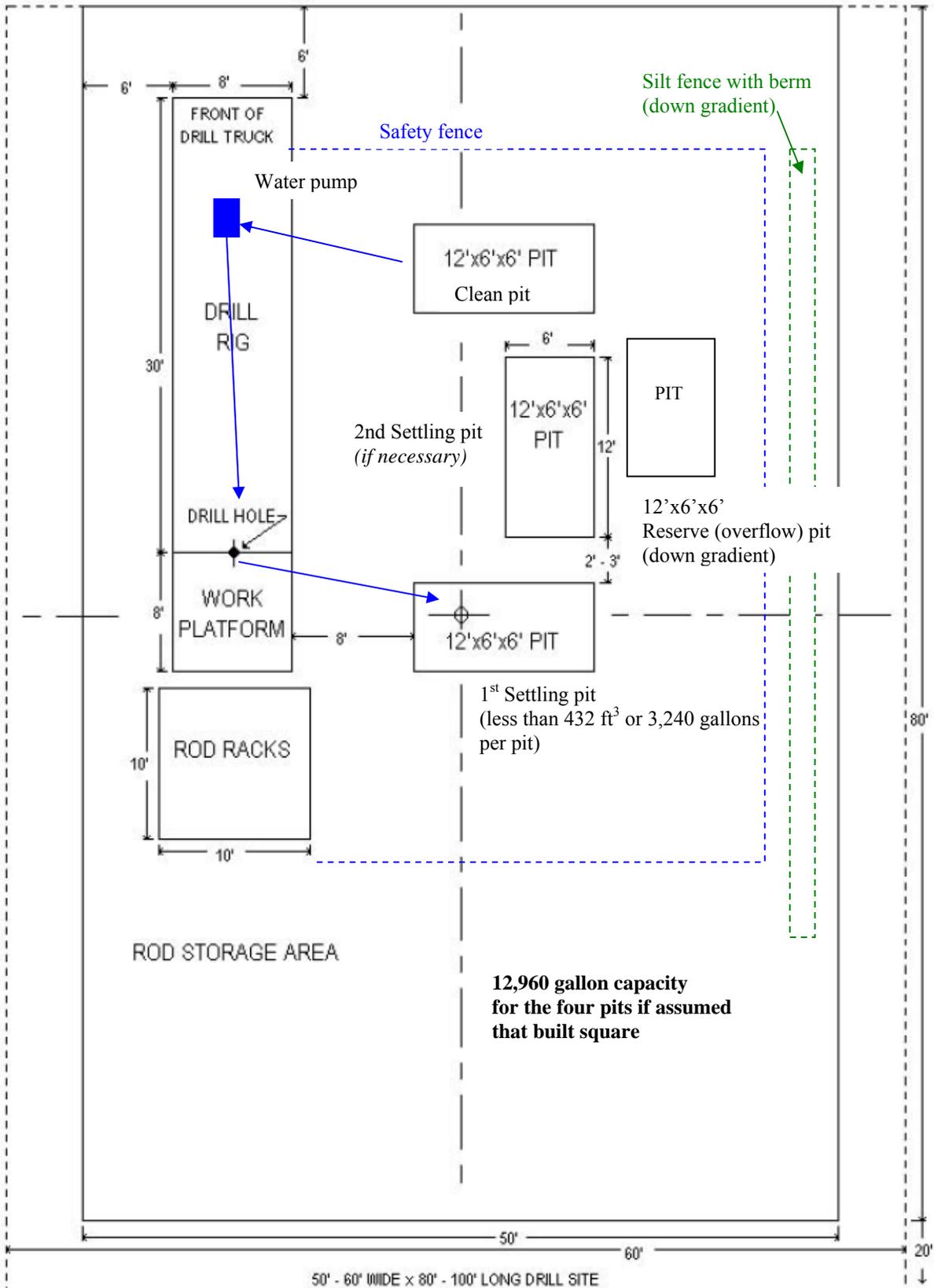
exploration outside the defined area is to occur, DMME will be notified and appropriate steps taken.

Describe the approximate area/size of each type of disturbance for cuts, pits, mud pits, trenches, shafts, tunnels or other disturbances:

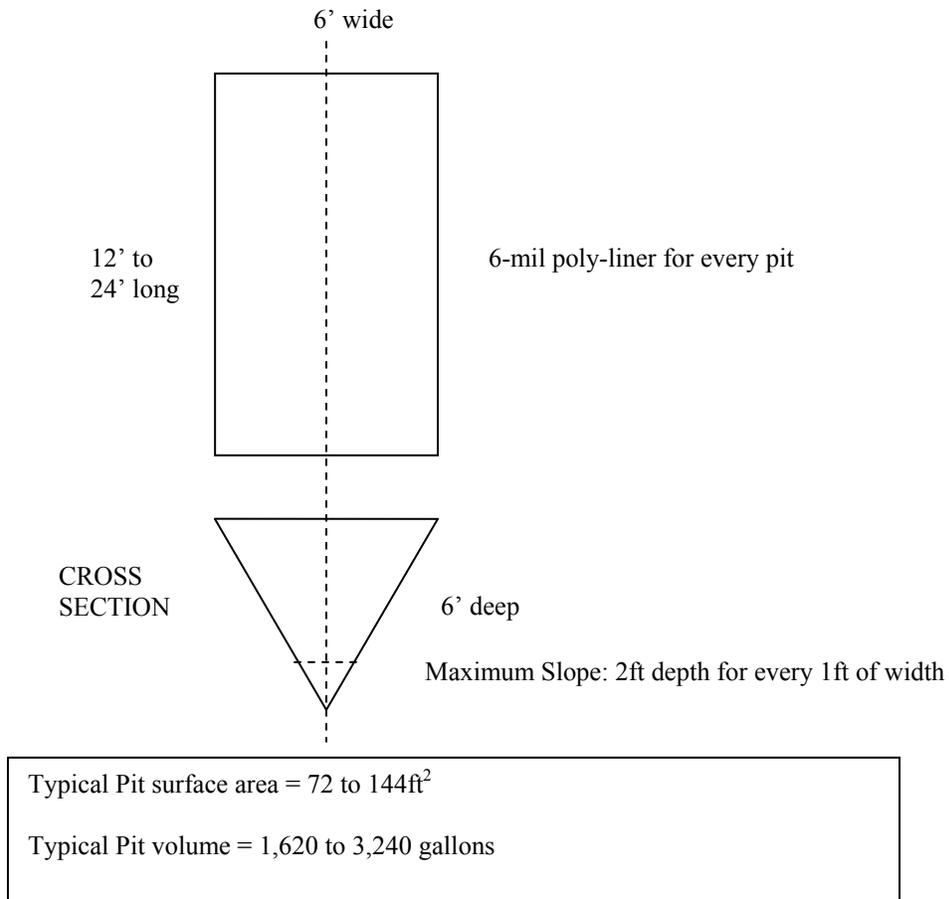
Mud and the reserve pits covering approximately 4 pits will be built at each well pad. One pit is the “clean” pit providing process water for the drilling process, one pit will be used for settling of process fluids prior to circulation of water to the “clean” pit. If necessary, a second settling pit will be dug. The fourth pit would be placed downstream from the others for overflow during rain storm events and other surface water control needs. In addition to the mud pits, Baker tanks, drums and other containers may be used to contain the water from the borings. The total impact including the drill truck per Figure 1 would be 60 ft by 100 ft (6,000 ft<sup>2</sup> that rounds up to 0.14 acre). Please note that the depicted pits in Figure 1 have 12’x6’x6’ dimensions with a slope of 2(depth) to 1(width) so to attain additional water storage capability the pits will need to be lengthened (eg. To get up to 3,240 gallons the pits may need to be extended to 24’ in length).

40 drill pads, each 0.14 acres/drill area, 5.6 acre total impact.

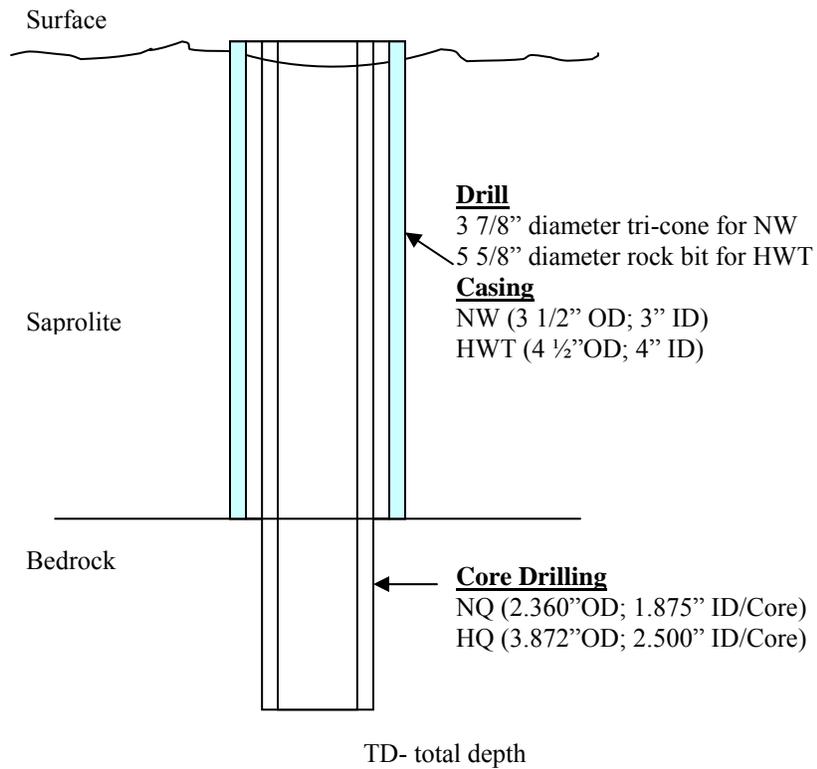
**Figure 1: Typical Diamond and Rotary Percussion Drill Site Overview**



**Figure 2: Typical Pit  
Diagram**



**Figure 3: Typical Core Drilling Operations Diagram**



Rotary percussion (RP) holes will be typically 6 1/4" diameter and may go down to 4 1/2" to 5" holes. The RP holes will be dug using water for dust suppression and will result in more chips and cutting than core.

A minimum setback of 100 feet from any watercourse within the area will be maintained and a wetlands/watercourse delineation has been performed to ensure this. The driller will be made aware of areas that have been designated wetlands or watercourses.

(Watercourse means any channel having definable beds and banks capable of conducting generally confined runoff from adjacent lands. During floods, water may leave the confining beds and banks, but under normal flows, water is confined within the channel. A watercourse may be perennial, intermittent, or ephemeral.)

No drilling and no storage of fuels or chemicals will take place within any drainage areas that are in the permit area.

21. Attach a narrative describing how each exploration hole shall be drilled, re-drilled, plugged and/or abandoned.

#### Core Hole Drilling

Holes will be core drilled to bedrock using a core barrel and/or tri-cone or rock bit and fluid circulation at which point a steel casing will be installed to prevent hole distortion. A diamond core bit will be placed on a swivel double tube core barrel and placed in the hole to the bottom. The drill string will be rotated at a high speed while pumping water/fluid through the diamond bit and pressure exerted on the string to advance the core barrel through the rock formation. The swivel tube will be pulled from the hole by means of an internal wire-line cable at select intervals or if blockage occurs. Once pulled from the hole the core contained within the barrel will be extracted and placed into core boxes for further analysis (drill string). The swivel tube will be pumped back into the hole and the process repeated. At the completion of drilling, the hole will be kept open for geophysical logging measurements. See figure 2 for an illustration and dimensional details for standard sized NQ and HQ core holes.

Water will be obtained from the following sources for drilling purposes

- Circulation of existing water
- Mill Creek surface water pumped to site
- Well water
- Water trucked to site

#### Re-Drilling/Re-Entry

Historic holes will be located by various means and they will be excavated to the steel casing by means of a backhoe and manual labor. The steel casing is expected to be filled with cement from the abandonment process. Various drill bits will be used to remove the concrete and re-establish the hole. No core will be taken out of re-drilled holes and only geophysical logging measurements will be taken.

Re-entry and reaming would be completed in the same manner as core drilling from the surface. There are no chips produced when performing diamond drilling or reaming with a diamond bit as the only cutting produced are powder sized.

#### Hole Abandonment

Within 30-days of drilling a hole, it will be abandoned. For abandonment, a cementing pipe or hose will be inserted to the bottom of the hole. Neat cement (cement and water) will be mixed and pumped into the drill hole filling the hole from bottom to top. If there are voids or water

courses that will not allow the hole to be completely filled, the hole will be plugged with a (Halliburton or equivalent) mechanical plug just above the area of the hole containing the void and cemented to the surface.

#### Site Access and Equipment

Existing roads will be used for site access and no new roads will be constructed and no existing roads require improvement for access.

The primary equipment required for the drilling project will include one truck-mounted drill rig, one or two water trucks, a drill pipe/equipment truck or trailer and one or two pickups. Other equipment such as geophysical logging equipment, cement trucks, water trucks and delivery vehicles may be on site for limited periods. For site preparation, including improving roads, and constructing drill pads, earth-moving equipment such as a backhoe, dozer, loader and/or grader, may be used.

#### Mud Pits

All mud pits shall be constructed in a manner that minimizes the possibility for overflow or blowouts during storm events. Per standard safety protocol for open pits, safety fencing will be installed and maintained around the pit to prevent access by unauthorized personnel, livestock or wildlife.

22. Attach a radiation management plan that outlines procedures for monitoring and minimizing radiation exposure to workers, the public and the environment.

#### Worker Radiation Management Plan

Areas to be disturbed (all pits and collar of the drill hole) will be surveyed prior to exploration for radioactive activity using a Ludlum Model 2241 with a 1"x1" NaI detector or similar. The maximum reading in counts per minute in the area will be recorded. Continuous measurement during operations will be maintained using the survey meter and a final survey will be made at the completion of drilling in counts per minute and compared to the initial reading.

All employees and contractors will wear TLD/film radiation detection badges during operations to identify and document radioactive exposure. The TLD/film badges will be sent to a laboratory for reading and will provide the permanent record of exposure.

Employees and contractors may also be issued self-reading personal dosimeters (SRDs) to allow individuals to observe their exposure at any time and set administrative limits. One of the set points will be for a dose rate of 2 millirem an hour, which is a regulatory protection standard. For the accumulated dose function, one alarm point will be set at the NRC radiation exposure limit of individual members of the public of 100 millirem a year which is also the administrative limit of Virginia Uranium, Inc. for uranium exploration limits.

Neither the TLD/film-badge nor the SRD are to be used as a radiation detector or survey instrument.

#### Environmental Radiation Management Plan

Prior to the commencement of exploration activities, wells and surface water near the operations will be sampled. For individual exploratory drill locations prior to any operations, background radiation readings will be recorded.

All drill core cuttings that show radioactive readings in excess of the immediate background surface readings will either be removed from the site for appropriate disposal or storage, or buried no less than 3 feet below ground surface to insure that the radiation readings at the surface are the same, or less, than background readings.

Any water that does not meet the radionuclide standards in Table 1 will either be treated until standards are met and it can be safely discharged or will be transported to an appropriate site for disposal.

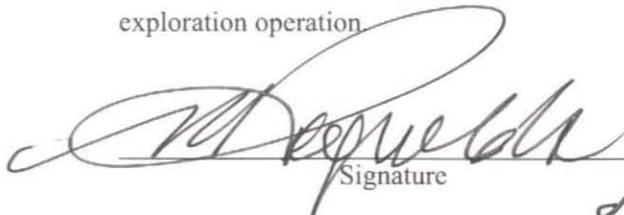
**CERTIFICATION/SIGNATURE**

I, \_\_\_\_\_ Norman W. Reynolds \_\_\_\_\_, state that all the presentations contained in

(Print Name)

the foregoing application are true to the best of my knowledge; and that I am the ( X ) executive officer, ( ) general partner, ( ) sole proprietor, or ( ) legal representative of the applicant, duly authorized to make this application on its/his/her behalf.

On behalf of the applicant, I hereby authorize the Virginia Division of Mineral Mining to conduct such safety/reclamation inspections as it may deem necessary or as may be required by law on this exploration operation



Signature

President & Chief Executive Officer  
Title

subscribed and sworn/affirmed to, this 9 day of November, 2007  
(Month) (Year)

**Amendment A: Location of New Holes to be Diamond Core Drilled**

Drill Hole	Boring Diameter (inches) and Type	Vertical or Angled	Approximate Depth (feet)	Northing*	Easting*
N-301	3 ½" NW Casing for NQ Core (**)	Vertical	1,500	3480283	11248571
N-302	3 ½" NW Casing for NQ Core (**)	Vertical	1,500	3480302	11248863
N-303	3 ½" NW Casing for NQ Core (**)	Vertical	1,500	3480861	11248587
S-601	3 ½" NW Casing for NQ Core (**)	Vertical	1,500	3478118	11247998
S-602	3 ½" NW Casing for NQ Core (**)	Vertical	1,500	3478147	11247704
S-603	3 ½" NW Casing for NQ Core (**)	Vertical	1,500	3477601	11247595

(\* ) Per NAD 83 HARN, Virginia State Plane Coordinate System South, U.S. Survey Feet with the right to move the exact location of the hole by as much as 75 feet from the indicated location;

(\*\* ) Reserve right to use HWT (4 ½" OD) casing with HQ (3.782"OD/2.500"ID) instead of NW (3.500" OD) NQ (2.360"OD/1.875"ID) core

Note: OD – outer diameter; ID – inner/core diameter

**Amendment B: Location of Approximate Historic Holes to be Rotary Percussion Drilled**

Drill Hole	Boring Diameter (inches) and Type	Vertical or Angled	Approximate Depth (feet)	Northing*	Easting*
41-097	6 1/4" diameter RP	Vertical	<1,500 ft	3480819	11248253
41-138	6 1/4" diameter RP	Vertical	<1,500 ft	3480840	11248855
41-059	6 1/4" diameter RP	Vertical	<1,500 ft	3480549	11248931
41-064	6 1/4" diameter RP	Vertical	<1,500 ft	3480425	11248468
41-058	6 1/4" diameter RP	Vertical	<1,500 ft	3480229	11248573
41-024	6 1/4" diameter RP	Vertical	<1,500 ft	3480237	11248777
41-021	6 1/4" diameter RP	Vertical	<1,500 ft	3480240	11248878
41-038	6 1/4" diameter RP	Vertical	<1,500 ft	3478860	11248135
41-145	6 1/4" diameter RP	Vertical	<1,500 ft	3478527	11247659
41-086	6 1/4" diameter RP	Vertical	<1,500 ft	3478443	11248054
41-029	6 1/4" diameter RP	Vertical	<1,500 ft	3478180	11247980
41-085	6 1/4" diameter RP	Vertical	<1,500 ft	3477951	11247692
41-032	6 1/4" diameter RP	Vertical	<1,500 ft	3478075	11248100
41-107	6 1/4" diameter RP	Vertical	<1,500 ft	3477812	11247740
41-190	6 1/4" diameter RP	Vertical	<1,500 ft	3477856	11247875
41-153	6 1/4" diameter RP	Vertical	<1,500 ft	3477902	11248006
41-165	6 1/4" diameter RP	Vertical	<1,500 ft	3477786	11248043
41-162	6 1/4" diameter RP	Vertical	<1,500 ft	3477553	11247455
41-163	6 1/4" diameter RP	Vertical	<1,500 ft	3477633	11248086
41-148	6 1/4" diameter RP	Vertical	<1,500 ft	3477709	11248352

(\*) Per NAD 83 HARN, Virginia State Plane Coordinate System South, U.S. Survey Feet with the right to move the exact location of the hole within the area of exploration;

(\*\*) Reserve right to use HWT (4 1/2" OD) casing with HQ (3.782"OD/2.500"ID) instead of NW (3.500" OD) NQ (2.360"OD/1.875"ID) core

Note: OD – outer diameter; ID – inner/core diameter

**Amendment C: Approximate Location of New Holes to be Diamond Core Drilled**

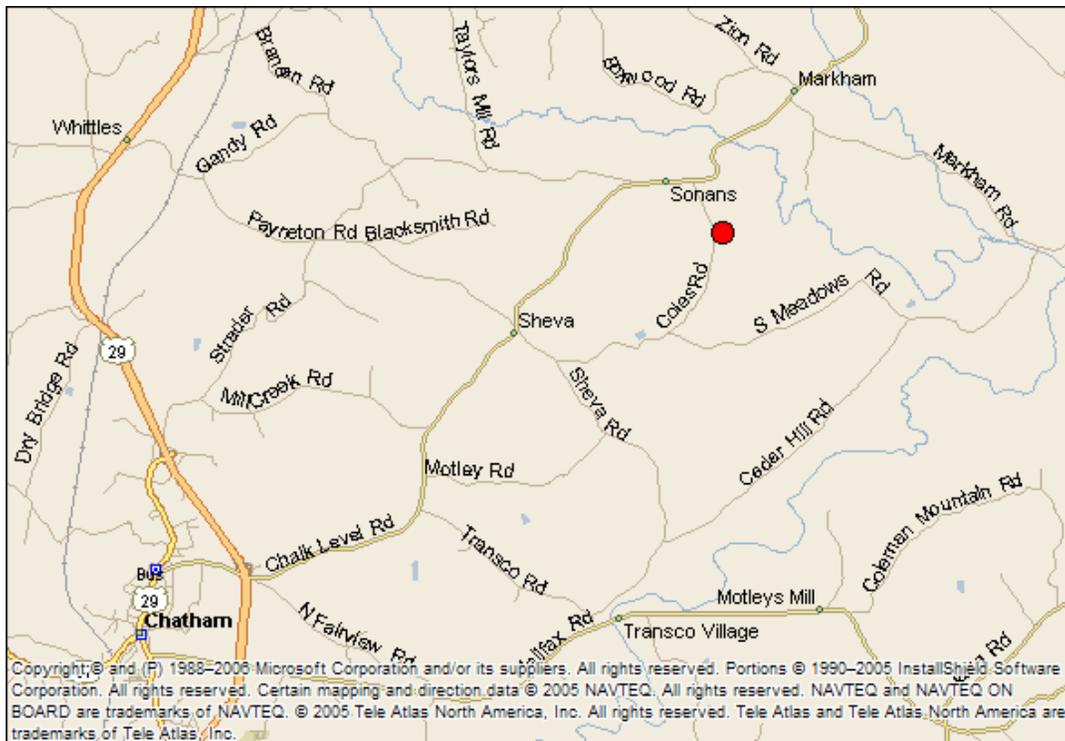
Drill Hole	Boring Diameter (inches) and Type	Vertical or Angled	Approximate Depth (feet)	Northing*	Easting*
N-304	3 ½" NW Casing for NQ Core (**)	Vertical	<1,500 ft	3480533	11248658
N-305	3 ½" NW Casing for NQ Core (**)	Vertical	<1,500 ft	3480529	11248842
N-306	3 ½" NW Casing for NQ Core (**)	Vertical	<1,500 ft	3480446	11248139
N-307	3 ½" NW Casing for NQ Core (**)	Vertical	<1,500 ft	3480353	11247760
N-308	3 ½" NW Casing for NQ Core (**)	Vertical	<1,500 ft	3480645	11247766
S-604	3 ½" NW Casing for NQ Core (**)	Vertical	<1,500 ft	3478047	11248304
S-605	3 ½" NW Casing for NQ Core (**)	Vertical	<1,500 ft	3477534	11248099
S-606	3 ½" NW Casing for NQ Core (**)	Vertical	<1,500 ft	3478535	11247846
S-607	3 ½" NW Casing for NQ Core (**)	Vertical	<1,500 ft	3478511	11247393
S-608	3 ½" NW Casing for NQ Core (**)	Vertical	<1,500 ft	3477512	11246996
S-609	3 ½" NW Casing for NQ Core (**)	Vertical	<1,500 ft	3477970	11247305
S-610	3 ½" NW Casing for NQ Core (**)	Vertical	<1,500 ft	3478189	11247360
S-611	3 ½" NW Casing for NQ Core (**)	Vertical	<1,500 ft	3477791	11247252
S-612	3 ½" NW Casing for NQ Core (**)	Vertical	<1,500 ft	3477597	11247799

(\*) Per NAD 83, Virginia State Plane Coordinate South, U.S. Survey Feet with the right to move the exact location of the hole within the area of exploration;

(\*\*) Reserve right to use HWT (4 ½" OD) casing with HQ (3.782"OD/2.500"ID) instead of NW (3.500" OD) NQ (2.360"OD/1.875"ID) core

Note: OD – outer diameter; ID – inner/core diameter

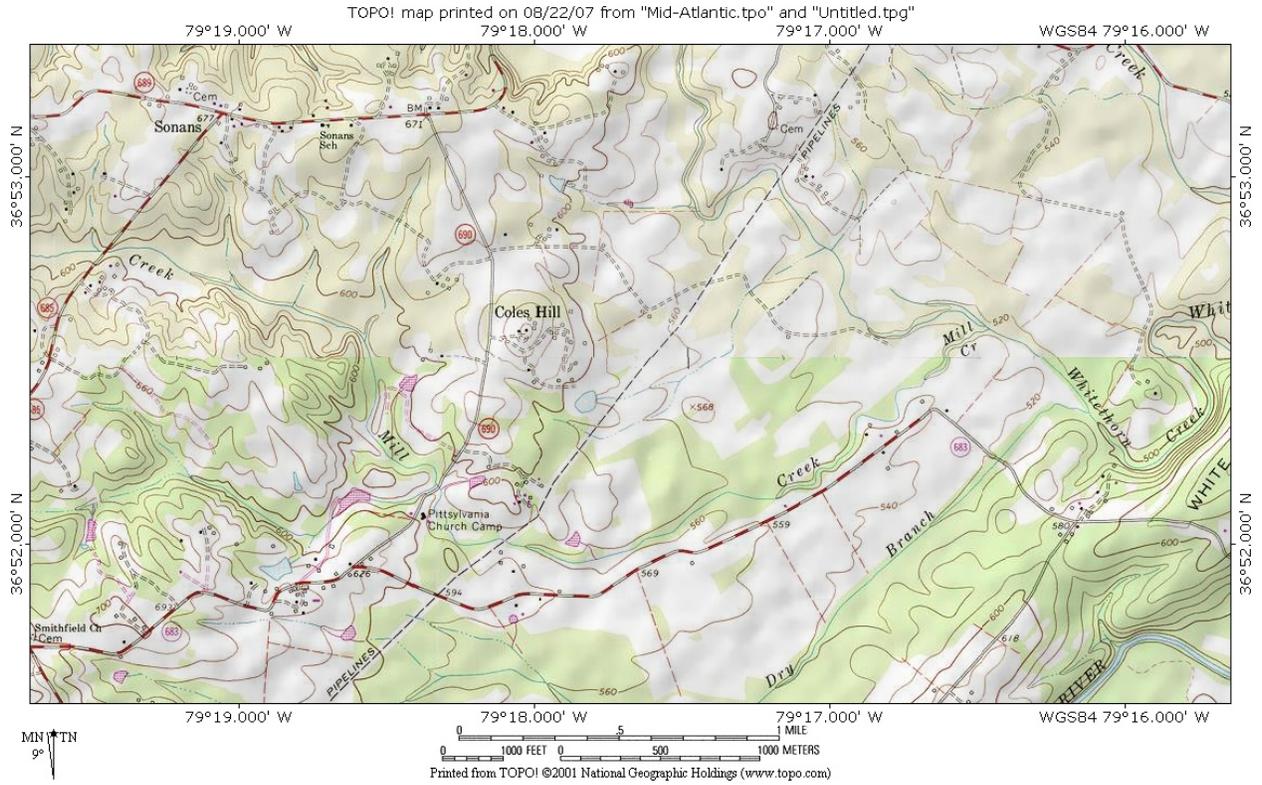
**Figure 1: General Location of Site and Directions**



Suggested directions to the site (see red circle for approximate location) are as follows:

- Take US 29 to Chatham, Virginia (south of Lynchburg and north of Danville)
- Go east on Chalk Level Road
- After passing Sonans take a right on to Coles Road (690)
- Exploration activities will be accessed from Coles Road (690)

**Figure 2: Overview Topographic Map**



**Appendix A: Legal Right to Enter Documentation**

**Appendix B: Archeological, Cultural and Historic Resources Report and Correspondences**

**Appendix C: Endangered or Threatened Species Summary Report and Correspondences**

**LEGAL RIGHT TO ENTER AND  
CONDUCT URANIUM EXPLORATION ACTIVITIES**

**Coles Hill, LLC** authorizes **Virginia Uranium, Inc. ("Virginia Uranium")** of Chatham, Virginia to enter and perform uranium exploration and related activities on the properties they have surface and mineral rights to as described on Exhibit 1 (the "Property"). Virginia Uranium is to coordinate with Coles Hill, LLC regarding all such activities on the Property and comply with the terms and conditions of that certain Mining Lease dated April 4, 2007, as amended.

COLES HILL, LLC

By ✓ Walter Coles Sr

Its Managers

## **EXHIBIT 1: Legal Description**

ALL of that certain tract situated in Pittsylvania County, Virginia and located to the east and west of State Road No. 690, as shown on Plat of Survey Showing Walter Coles Farm For Marline Uranium Corp., dated August 5, 1981, by E. L. Wilmarth, C.L.S., his File No. D 452, recorded in the Clerk's Office of the Circuit Court of Pittsylvania County, Virginia, in Map Book 43, at pages 380 A & B, to which map specific reference is here made for a more particular description of the property herein conveyed.

LESS AND EXCEPT the surface of the Protected Area as defined and determined as set forth below. As to the Protected Area, the Grantors are only conveying the mineral interest and no rights to the surface and all mining activities within the Protective Area shall be limited to underground mining. The legal description of the Protected Area will be determined after the recordation of this instrument as set forth above and recorded in a subsequent deed of correction.

BEING a part of the same real property conveyed to (i) Walter Coles, V by Deed of Partition dated December 21, 2005, of record in the aforesaid Clerk's Office in Deed Book 1530, page 207 and (ii) Sarah Coles McBrayer by Deed of Partition dated December 21, 2005, of record in the aforesaid Clerk's Office in Deed Book 1530, page 210.

The deed is dated March 28, 2007 and recorded as Instrument No. 07-2592 on April 2, 2007. The plat related to this property is the Marline plat referenced above in Map Book 43, at pages 380 A & B.



ENGINEERS • SCIENTISTS • SURVEYORS • PLANNERS

Direct Dial: (804) 550-9209  
acreechs@resourceintl.com  
<http://www.resourceintl.com>

October 25, 2007

P.N. 207034.01

Mr. Mick Mastilovic  
Vice President of Operations  
Virginia Uranium, Inc.  
231 Woodlawn Heights Road  
Chatham, VA 24531

**RE: Cultural Resources & Threatened and Endangered Species  
Coles Hill Deposit Exploration Area**

Dear Mr. Mastilovic:

This report represents the results of Threatened and Endangered Species, and Archaeological/Cultural Resources requests which were submitted to state and federal agencies, in order for them to review the above referenced project.

**Designated Project Area**

In making requests for information from state and federal agencies, Resource identified a project area in excess of 9500 acres, representative of the entire proposed Virginia Uranium site and a surrounding buffer. The Northern and Southern Deposit Exploration Areas, however, represents the approximate center of the full Virginia Uranium project.

**Cultural Resources**

Resource submitted correspondence to the Virginia Department of Historic Resources (VDHR) requesting information on occurrences of significant archaeological or cultural resources for the subject property. The VDHR provided a map indicating the location of numerous archaeological/architectural resources in and well beyond the designated project area. Resource personnel reviewed these files at the VDHR Richmond Office and prepared a summary table of the findings to accompany the VDHR response letter.

Of these, one is located inside the South Drill Exploration Area. Archaeological archive 44PY0088 denotes 1 projectile point fragment, chert, surveyed in 1983. No other archaeological or architectural archive is identified within the drill exploration areas.

**Threatened and Endangered Species**

Resource submitted correspondence to the U.S. Fish and Wildlife Service (USFWS), the Virginia Department of Game and Inland Fisheries (VDGIF), and the Virginia Department of

Mr. Mick Mastilovic  
P.N. 207034.01  
October 25, 2007  
Page 2

Conservation and Recreation (VDCR), Division of Natural Heritage requesting information on listed threatened or endangered species or habitats for these species on the subject property.

#### USFWS Records

The USFWS responded that one endangered species, the James spinymussel (*Pleurobema collina*) has been documented in an adjacent county.

#### VDGIF Records

The VDGIF responded that one endangered plant, *Nestronia umbellula* is located approximately 1.75 miles from the southernmost portion of the project area (i.e. greater than three miles from the drill exploration area). The VDGIF also noted that two fish species of concern (riverweed darter, *Etheostoma podostemone* and Roanoke hog sucker, *Hypentelium roanokense*) have been documented within 1.5 miles of the southernmost portion of the project area (i.e., greater than three miles from the drill exploration area).

#### VDCR Records

The Virginia Department of Conservation and Recreation responded that Markham Bottomland and Motleys Mill are two Conservation Sites of moderate significance located in or near the designated project area. *Nestronia* is documented in the Motleys Mill area and *Cardamine dissecta* is associated with the Markham Bottomland area. Neither are located in or within a mile of the drill exploration areas.

### **Summary and Conclusion**

Based on the information received from the above agencies, it is Resource's opinion that no threatened or endangered species have been identified on or in the immediate vicinity of the drill exploration areas. One cultural resource, a projectile point fragment, was identified in the Southern Drill Exploration Area, consistent with prehistoric Native American culture in Virginia, and is more than likely a discard.

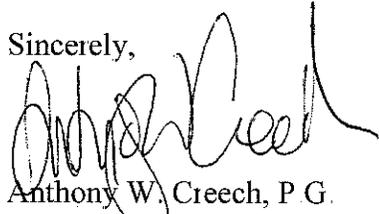
We believe that the above information is sufficient to satisfy the general conditions of the Virginia Department of Mines, Minerals and Energy Application for a Uranium Exploration Permit. However, it does not eliminate the possibility that either an undocumented case of a threatened or endangered species, or an undocumented case of an archaeological or cultural resource may occur on the subject property. Therefore, should either of the cases, or their potential, be identified on the subject property, the proper state or federal agency should be contacted for further consultation.

Resource will include the appropriate information obtained from these searches regarding threatened and endangered species and cultural resources on the map being prepared to accompany VUI's Exploratory Drilling Permit Application.

Mr. Mick Mastilovic  
P.N. 207034.01  
October 25, 2007  
Page 3

A copy of the state and federal agency's responses are attached. Should you have any questions, please contact me at the above referenced resources.

Sincerely,



Anthony W. Creech, P.G.  
Section Manager, Groundwater and Geology

/rr

Attachments: USFWS Correspondence September 4, 2007  
VDCR Correspondence August 1, 2007  
VDGIF Correspondence July 25, 2007  
VDHR Correspondence July 20, 2007  
VDHR Archives Summary (prepared by Resource)



207034.01  
United States Department of the Interior



FISH AND WILDLIFE SERVICE  
Ecological Services  
6669 Short Lane  
Gloucester, VA 23061

Date: September 4, 2007

Project name: 9500-ACRE AREA

Project number: 2007-TA-0462 City/County PITTSYLVANIA, VA

The U.S. Fish and Wildlife Service (Service) has reviewed your request for information on federally listed or proposed endangered or threatened species and designated critical habitat for the above referenced project. The following comments are provided under provisions of the Endangered Species Act (ESA) of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*)

       We have reviewed the information you have provided and believe that the proposed action will not adversely affect federally listed species or federally designated critical habitat because no federally listed species are known to occur in the project area. Should project plans change or if additional information on listed and proposed species becomes available, this determination may be reconsidered.

We recommend that you contact **both** of the following State agencies for site specific information on listed species in Virginia. Each agency maintains a different database and has differing expertise and/or regulatory responsibility:

Virginia Dept. of Game & Inland Fisheries  
Environmental Services Section  
P.O. Box 11104  
Richmond, VA 23230  
(804) 367-1000

Virginia Dept. of Conservation and Recreation  
Division of Natural Heritage  
217 Governor Street, 2nd Floor  
Richmond, VA 23219  
(804) 786-7951

If either agency indicates a federally listed species is present, please resubmit your project description with letters from both agencies attached.

If appropriate habitat may be present, we recommend surveys within appropriate habitat by a qualified surveyor. Enclosed are county lists with fact sheets that contain information the species' habitat requirements and lists of qualified surveyors. If this project involves a Federal agency (Federal permit, funding, or land), we encourage the Federal agency to contact this office if appropriate habitat is present and if they determine their proposed action may affect federally listed species or critical habitat.

       Determinations of the presence of waters of the United States, including wetlands, and the need for permits are made by the U.S. Army Corps of Engineers. They may be contacted at: Regulatory Branch, U.S. Army Corps of Engineers, Norfolk District, 803 Front Street, Norfolk, Virginia 23510, telephone (757) 441-7652.

Our website <http://virginiafieldoffice.fws.gov> contains many resources that may assist with project reviews. Point of contact is Mike Drummond at (804) 693-6694, ext. 114.

Sincerely,

*Karen L. Mayne*

ORIGINAL

COPY *Karla H.*

Karen L. Mayne  
Supervisor  
Virginia Field Office



**PITTSYLVANIA COUNTY, VIRGINIA**  
**Federally Listed, Proposed, and Candidate Species**

<u>SCIENTIFIC NAME</u>	<u>COMMON NAME</u>	<u>STATUS</u>
<u>FISH</u>		
Percina rex	Roanoke logperch	LE
<u>INVERTEBRATES</u>		
Pleurobema collina <sup>1</sup>	James spiny mussel	LE
<u>VASCULAR PLANTS</u>		
Echinacea laevigata <sup>1</sup>	Smooth coneflower	LE
Isotria medeoloides	Small whorled pogonia	LI

**Species of Concern (No official Federal status)**

<u>INVERTEBRATES</u>		
Paravitrea hera	Spirit supercoil	G1
Stygobromus obrutus	Pittsylvania well amphipod	G1G2

<sup>1</sup>This species has been documented in an adjacent county and may occur in this county.

# James Spiny mussel

## *Pleurobema collina*



**Description** - This freshwater mussel is found in the upper James and Dan River basins. The species has declined rapidly during the past two decades and now exists only in small, headwater tributaries of the upper James River basin in Virginia and West Virginia. In 2000, it was discovered in the Dan River basin in North Carolina and Virginia. The James spiny mussel is a small freshwater mussel slightly less than three inches in length. Adults have a dark brown shell with prominent growth rings and occasionally, short spines on each valve. Young mussels have a shiny yellow shell with or without one to three short spines.

**Life History** - Suitable habitat for this species includes free-flowing streams with a variety of flow regimes. The James spiny mussel is found in a variety of substrates that are free from silt. Like other freshwater mussels, this species is a filter feeder. It feeds on plankton collected from water that is passed over its gills. Reproduction

occurs sexually. Females carry eggs in their gills. During spawning, the male releases sperm into the water column and the sperm is taken into the female through the gills. The resulting larvae (known as glochidia) are released from the female into the water column and must attach to a fish host to survive. While attached to the fish host, development of the glochidia continues. Once metamorphosis is complete, the juvenile mussel drops off the fish host and continues to develop on the stream bottom. Known fish hosts for this species include the bluehead chub (*Nocomis leptcephalus*), rosyside dace (*Clinostomus funduloides*), blacknose dace (*Rhinichthys atratulus*), mountain redbelly dace (*Phoxinus oreas*), rosefin shiner (*Lythrurus ardens*), satinfish shiner (*Cyprinella analostana*), central stoneroller (*Camptostoma anomalum*), and swallowtail shiner (*Notropis procne*).

**Conservation** - The James spiny mussel was federally listed as an endangered species on July 22, 1988. The primary reason for its decline is habitat loss and modification. Threats to this species include siltation, invasion of the non-native Asiatic clam (*Corbicula fluminea*), impoundment of waterways, water pollution, stream channelization, sewage discharge, agricultural runoff including pesticides and fertilizers, poor logging and road/bridge construction practices, and discharge of chlorine.

**What You Can Do To Help** - If you reside on property that borders a stream or other waterway, avoid using chemicals or fertilizers. To help control erosion and reduce

runoff, maintain a buffer of natural vegetation along streambanks. Install fencing to prevent livestock from entering streams to reduce trampling of mussels, siltation, and input of waste products. Protecting water quality is the most effective way to conserve mussels.

To find out more about the James spiny mussel contact:

Virginia Department of Game and Inland Fisheries  
P.O. Box 11104  
Richmond, Virginia 23230  
(804) 367-1000

### References

Hove, M. C. and R. J. Neves. 1994. Life history of the endangered James spiny mussel *Pleurobema collina* (Conrad, 1837) (Mollusca: Unionidae). American Malacological Bulletin 11(1):29-40.

Neves, R. J. 1991. James spiny mussel. Pages 281-282 in K. Terwilliger, ed. Virginia's Endangered Species, Proceedings of a Symposium. McDonald and Woodward Publishing Company, Blacksburg, Virginia.

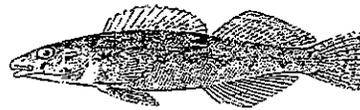
U.S. Fish and Wildlife Service. 1990. James spiny mussel (*Pleurobema collina*) recovery plan. Newton Corner, Massachusetts.



U.S. Fish and Wildlife Service  
Virginia Field Office  
6669 Short Lane  
Gloucester, Virginia 23061  
(804) 693-6694  
<http://www.fws.gov>  
June 2003

# Roanoke Logperch

## *Percina rex*



D S Jordan

**Description** - This species presently occurs in five populations in widely separated segments of the upper Roanoke, Pigg, Smith, Nottoway, and Meherrin Rivers. This small fish can grow up to 4.5 inches in length. Its back is dark green and its sides are greenish to yellowish, both with dark markings; the belly is white to yellowish.

**Life History** - The logperch typically inhabits medium-to-large, warm, usually clear streams and small rivers of moderate to low gradient. Adults usually inhabit the main body of stream pools, runs, and riffles and select areas with exposed, silt free gravel substrate. In the Roanoke and Pigg Rivers, adults were found primarily in runs and riffles. In the Nottoway River, adults were found primarily in pools. Young are usually found in slow runs and pools with clean sandy bottoms. Spawning occurs in April or May in deep runs over gravel and small cobble and logperch typically bury their eggs with no subsequent parental care. This species commonly lives five to six years.



U.S. Fish and Wildlife Service  
Virginia Field Office  
6669 Short Lane  
Gloucester, Virginia 23061  
(804) 693-6694  
<http://www.fws.gov>  
August 2003

Logperch actively feed during the warmer months by flipping over stones with their snout and ingesting the exposed prey that consists of bottom-dwelling insects.

**Conservation** - The Roanoke logperch was listed as an endangered species on August 18, 1989. It appears that massive habitat loss associated with the construction of the large impoundments of the Roanoke River Basin in the 1950s and 1960s (Roanoke Rapids, Gaston, Kerr, Leesville, Smith Mountain, and Philpott Reservoirs) was the original cause of significant population declines of this species. These reservoir systems resulted in major disruptions in the ability of this species to move throughout its historic range. The populations in the Roanoke and Nottoway basins probably represent remnants of much larger populations that once occupied much of the Roanoke and Nottoway River drainage upstream of the fall line. All the populations are small and no genetic exchange occurs among them because they are separated by large impoundments and wide river gaps. Each population is vulnerable because of its relatively low density and limited range. Current threats are nonpoint source pollution and spills and accidents associated with chemical releases and destruction and degradation of habitat. Small logperch populations could go extinct with minor habitat degradation. Water withdrawals may pose a serious threat to the species in the future as the human population of the Roanoke River basin increases.

**What You Can Do To Help** - If you own property that borders a stream or other waterway, avoid using

chemicals or fertilizers. To help control erosion and reduce runoff, maintain a buffer of natural vegetation along the stream bank. Install fencing to prevent livestock from entering the stream, this will reduce siltation and input of waste products.

To find out more about the Roanoke logperch contact:

Virginia Department of Game and  
Inland Fisheries  
P O Box 11104  
Richmond, Virginia 23230  
(804) 367-1000

### References

- Jenkins, R.E. and N.M. Burkhead. 1993. Freshwater fishes of Virginia. American Fisheries Society, Bethesda, Maryland.
- Rosenberger, A.E. 2002. Multi-scale habitat use patterns of Roanoke logperch (*Percina rex*) in Virginia rivers: a comparison among populations over ontogeny. Dissertation submitted to the Dept. of Fisheries and Wildlife Sciences, Virginia Polytechnic Institute and State University, Blacksburg, VA.
- Simonson, I.D. and R.J. Neves. 1986. A status survey of the orangefin madtom and Roanoke logperch. Report to Virginia Commission of Game and Inland Fisheries, Richmond, Virginia.

U.S. Fish and Wildlife Service. 1992. Roanoke logperch (*Percina rex*) recovery plan. Newton Corner, Massachusetts.

# Smooth Coneflower

*Echinacea laevigata*



I. W. Zettler

**Description** - The smooth coneflower occurs in Virginia, North Carolina, South Carolina, and Georgia. It no longer occurs in Pennsylvania. The smooth coneflower is a perennial herb with a single stem that grows up 59 inches in height. Stems are smooth with few leaves. The largest leaves are the elliptical leaves at the base of the plant which can reach a length of 7.8 inches. The petals of the flowers are light pink to purplish, usually drooping, and 1.9 to 3.1 inches in length. Flower heads are usually solitary.

**Life History** - This rare coneflower was formerly a plant of prairie-like habitats or oak savannahs maintained by fire and large herbivores such as elk and bison. Now, it is found in relatively open areas including dry woods, power line right-of-ways, dry limestone bluffs, roadsides, meadows, and clearcuts. Sites with bare soils rich in magnesium and/or calcium, abundant sunlight, and little

competition from other plants are optimal. Flowering occurs from May through July.

**Conservation** - The smooth coneflower was federally listed as an endangered species on October 8, 1992. Currently, fire or some other suitable form of disturbance, such as well-timed mowing or the careful clearing of trees, is essential to maintaining the habitat remnants upon which this species depends. Loss of open habitat due to conversion to agriculture, silviculture, urbanization, and industrial development, as well as suppression of natural disturbances, such as fire, are a significant threat to this species. Other threats to this species include unauthorized collection, woody plant invasion, residential and industrial development, highway construction and improvement, herbicides, and roadside and power line right-of-way maintenance.

**What You Can Do To Help** - If you find a plant that appears to be the smooth coneflower, take note of the location and photograph the plant, if possible. Please do not remove the plant! Contact one of the following agencies for assistance:

Virginia Department of Conservation  
and Recreation  
Division of Natural Heritage  
217 Governor Street, 3rd Floor  
Richmond, Virginia 23219  
(804) 786-7951

U.S. Fish and Wildlife Service  
Virginia Field Office  
6669 Short Lane  
Gloucester, Virginia 23061  
(804) 693-6694

## References

Gaddy, L.I. 1991. The status of *Echinacea laevigata* (Boynton and Beadle) Blake. Unpublished report to the U.S. Fish and Wildlife Service, Asheville, North Carolina.

Lugwig, J.C. 1991. Smooth coneflower. Pages 144-145 in K. Terwilliger, ed. Virginia's Endangered Species, Proceedings of a Symposium. McDonald and Woodward Publishing Company, Blacksburg, Virginia.

U.S. Fish and Wildlife Service. 1995. Smooth coneflower recovery plan. Atlanta, Georgia.



U.S. Fish and Wildlife Service  
Virginia Field Office  
6669 Short Lane  
Gloucester, Virginia 23061  
(804) 693-6694  
<http://www.fws.gov>

August 1999

Virginia Department of Agriculture  
and Consumer Services  
Office of Plant Protection  
P.O. Box 1163  
Richmond, Virginia 23209  
(804) 786-3515

# Small Whorled Pogonia

## *Isotria medeoloides*



© D.D Tyler

**Description** - The small whorled pogonia is a herbaceous perennial orchid. It has a widely scattered distribution in the eastern United States along the Atlantic coast from Maine to Georgia with outlying occurrences in the midwest and Canada. This species has pale green, elliptical leaves, usually five or six, that grow in a single whorl at the top of a hairless, grayish-green stem. The one or two flowers per plant are yellowish-green, unscented, and form in the center of the whorl.

**Life History** - In Virginia, the small whorled pogonia is found in ordinary looking third-growth upland forests with an open understory and a closed canopy where the topography is typically moderately sloping or almost level. The plants are usually associated with decaying vegetative matter such as fallen trunks and limbs, leaf litter, bark, and tree roots. The pogonia is found in soils that are acidic sandy loams with low nutrient

content. The flowers appear in late April to mid-May. The small whorled pogonia reproduces primarily through self-pollination and occasionally vegetatively. It is often confused with the Indian cucumber-root (*Medeola virginiana*) and the large whorled pogonia (*Isotria verticillata*). The Indian cucumber-root has deep green leaves with a stem that is thin, hairy, and wiry. The large whorled pogonia has a reddish-purple stem and dark green leaves; its flower is reddish-purple.

**Conservation** - The small whorled pogonia was federally listed as an endangered species on September 10, 1982. It was reclassified as threatened on November 7, 1994. This was possible because at the time of reclassification 61% of the viable populations had been protected. The small whorled pogonia and its habitat continue to be threatened, directly and indirectly, by residential and commercial development. The upland habitat where it is found is seldom protected by federal or state laws unless it occurs on federally-owned property. Without voluntary landowner protection many pogonia populations have been and will be destroyed. Other threats to this species are collection by plant enthusiasts and browsing by white-tailed deer and invertebrates.

**What You Can Do To Help** - If you find a plant that appears to be the small whorled pogonia, take note of the location and photograph the plant, if possible. Please do not remove the plant!

Contact one of the following agencies for assistance:

Virginia Department of Agriculture  
and Consumer Services  
Office of Plant Protection  
P.O. Box 1163  
Richmond, Virginia 23209  
(804) 786-3515

Virginia Department of  
Conservation and Recreation  
Division of Natural Heritage  
217 Governor Street, 3rd Floor  
Richmond, Virginia 23219  
(804) 786-7951

U.S. Fish and Wildlife Service  
Virginia Field Office  
6669 Short Lane  
Gloucester, Virginia 23061  
(804) 693-6694

### References

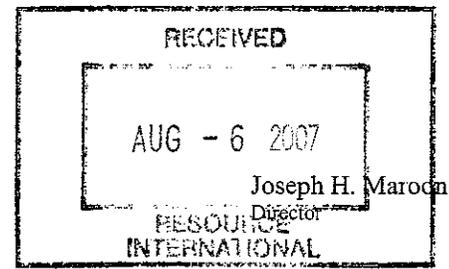
U.S. Fish and Wildlife Service.  
1992. Small whorled pogonia  
(*Isotria medeoloides*) recovery plan,  
first revision. Newton Corner,  
Massachusetts.

Ware, D.M.E. 1991. Small whorled  
pogonia. Pages 95-97 in K.  
Terwilliger, ed. Virginia's  
Endangered Species, Proceedings of  
a Symposium. McDonald and  
Woodward Publishing Company,  
Blacksburg, Virginia



U.S. Fish and Wildlife Service  
Virginia Field Office  
6669 Short Lane  
Gloucester, Virginia 23061  
(804) 693-6694  
<http://www.fws.gov>  
August 1999

L. Preston Bryant, Jr.  
Secretary of Natural Resources



# COMMONWEALTH of VIRGINIA

## DEPARTMENT OF CONSERVATION AND RECREATION

217 Governor Street  
Richmond, Virginia 23219-2010  
(804) 786-7951 FAX (804) 371-2674

ORIGINAL 207034.01  
COPY Karla H.  
August 1, 2007

Karla Hunt  
Resource International, LTD  
P O. Box 6160  
Ashland, VA 23005

Re: 9500-Acre Parcel-Pittsylvania County

Dear Ms. Hunt:

The Department of Conservation and Recreation's Division of Natural Heritage (DCR) has searched its Biotics Data System for occurrences of natural heritage resources from the area outlined on the submitted map. Natural heritage resources are defined as the habitat of rare, threatened, or endangered plant and animal species, unique or exemplary natural communities, and significant geologic formations

According to the information currently in our files, Markham Bottomland is within the project area and the Motleys Mill is within two miles of the project boundaries. Conservation Sites are a tool for representing key areas of the landscape worthy of protection and stewardship action because of the natural heritage resources and habitat they support. Conservation Sites are polygons built around one or more rare plant, animal, or natural communities designed to include the element and, where possible, its associated habitat, and buffer or other adjacent land thought necessary for the element's conservation. Conservation Sites are given a biodiversity significance ranking based on the rarity, quality, and number of element occurrences they contain. Markham Bottomland and Motleys Mill have been ranked a B4 conservation site, which indicates it is of moderate significance. The natural heritage resources of concern associated with Markham Bottomland is:

<i>Cardamine dissecta</i>	Divided Toothwort	G4?/S1/NL/NL
	Piedmont/Mountain Floodplain Forest	GNR/SNR/NL/NL

The natural heritage resource associated with Motleys Mill conservation site is:

<i>Nestronia</i>	Nestronia	G4/S1/NL/LE
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Nestronia is a state rare deciduous, rhizomatous shrub. This species has dark brown stems and grows up to 20 inches high. It often grows along wooded streams from the sandy margins onto the adjacent moderately steep, well-drained slopes. This species is a root parasite. Pines are the most frequently mentioned hosts; however, it has been found to parasitize a diversity of hosts (Musselman, 1991). The greatest potential danger to this plant is habitat destruction. In Virginia, Nestronia is currently known from four locations and historically known from two locations in the piedmont region. Please note that

the Virginia Department of Agriculture and Consumer Services (VDACS) currently classifies this species as endangered

Piedmont/Mountain Floodplain Forest are temporarily and intermittently flooded forests encompassing most river floodplain habitats of the Piedmont and major mountain valleys, except those that are cleared or occupied by swamp forests. From the James River north, sandy river banks and first-bottom terraces that are frequently (but shortly) flooded support forests dominated by silver maple (*Acer saccharinum*) and boxelder (*Acer negundo* var. *negundo*), with herb layers containing many broad-leaved forbs such as wood-nettle (*Laportea canadensis*), clear-weed (*Pilea pumila*), and white snakeroot (*Ageratina altissima* var. *altissima*). Higher, better drained, sandy or silty river floodplains support mixed forests of sycamore (*Platanus occidentalis*), black walnut (*Juglans nigra*), hackberry (*Celtis occidentalis*), American elm (*Ulmus americana*), and boxelder, with understories of paw-paw (*Asimina triloba*) and spicebush (*Lindera benzoin* var. *benzoin*). Herb layers in the mixed floodplains are usually very lush with nutrient-demanding, early-season species such as Virginia bluebells (*Mertensia virginica*), Canada waterleaf (*Hydrophyllum canadense*), wild ginger (*Asarum canadense* var. *canadense*), yellow trout-lily (*Erythronium americanum* ssp. *americanum*), white trout-lily (*Erythronium albidum*, Potomac River only), wild blue phlox (*Phlox divaricata* ssp. *divaricata*), miami-mist (*Phacelia purshii*), large solomon's-seal (*Polygonatum biflorum* var. *commutatum*), striped violet (*Viola striata*), and many others. Eastern cottonwood (*Populus deltoides* ssp. *deltoides*) is a frequent, early-successional pioneer of these habitats, while sycamore and river birch (*Betula nigra*) are pioneering invaders of stabilized depositional river bars

Most Piedmont/Mountain Floodplain Forests have been severely impacted by clearing, grazing, agricultural run-off, and invasive introduced weeds. Many of these forests have been destroyed and few, if any, of the remaining stands are in excellent or pristine condition (Fleming et al., 2006).

In addition, potential exists for other natural heritage resources within the project boundaries including Speckled Killifish (*Fundulus rathbuni*, G4/S2/NL/SC), James Spiny mussel (*Pleurobema collina*, G1/S1/LE/LE) Green Floater (*Lasmigona subviridis*, G3/S2/NL/SC), Atlantic Pigtoe (*Fusconaia masoni*, G2/S2/NL/LT) and other rare aquatic organisms.

Due to the potential for this site to support populations of natural heritage resources, DCR recommends an inventory for the resource in the study area. With the survey results we can more accurately evaluate potential impacts to natural heritage resources and offer specific protection recommendations for minimizing impacts to the documented resources.

The Virginia Department of Agriculture and Consumer Services (VDACS), which has regulatory authority to conserve rare and endangered plant and insect species through the Virginia Endangered Plant and Insect Species Act, has established a Memorandum of Agreement with the Virginia Department of Conservation and Recreation (DCR). Under this Agreement DCR's Division of Natural Heritage, in consultation with VDACS, represents VDACS in its comments and recommendations regarding the potential impact of reviewed projects or activities on state-listed plant and insect species. Since it has been determined that this project or activity may impact *Nestronia*, a state-protected plant, VDACS will respond directly to ensure compliance with Virginia's Endangered Plant and Insect Species Act. Further correspondence regarding the potential impacts of this project or activity on state-listed plant and insect species should be directed to VDACS.

Our files do not indicate the presence of any State Natural Area Preserves under DCR's jurisdiction in the project vicinity.

New and updated information is continually added to Biotics. Please contact DCR for an update on this natural heritage information if a significant amount of time passes before it is utilized.

A fee of \$120.00 has been assessed for the service of providing this information. Please find enclosed an invoice for that amount. Please return one copy of the invoice along with your remittance made payable to the Treasurer of Virginia, Department of Conservation and Recreation, 203 Governor Street, Suite 414,

Richmond, VA 23219, ATTN: Cashier. Payment is due within thirty days of the invoice date. Please note late payment may result in the suspension of project review service for future projects.

The Virginia Department of Game and Inland Fisheries maintains a database of wildlife locations, including threatened and endangered species, trout streams, and anadromous fish waters, that may contain information not documented in this letter. Their database may be accessed from [www.dgif.virginia.gov/wildlife/info\\_map/index.html](http://www.dgif.virginia.gov/wildlife/info_map/index.html), or contact Shirl Dressler at (804) 367-6913.

Should you have any questions or concerns, feel free to contact me at 804-371-2708. Thank you for the opportunity to comment on this project.

Sincerely,

A handwritten signature in black ink, appearing to read "S. René Hypes", with a long horizontal flourish extending to the right.

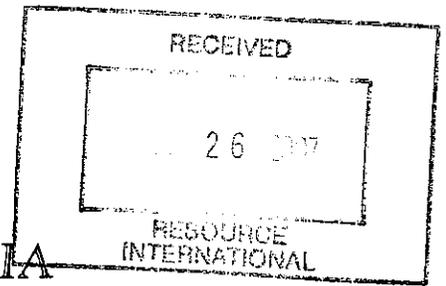
S. René Hypes  
Project Review Coordinator

Cc: Andy Zadnik, VDGIF  
Kim Smith, USFWS  
Keith Tignor, VDACS

## Literature Cited

Fleming, G.P., P.P. Coulling, K.D. Patterson, and K. Taverna. 2006. The natural communities of Virginia: classification of ecological community groups. Second approximation. Version 2.2. Virginia Department of Conservation and Recreation, Division of Natural Heritage, Richmond, VA.  
[http://www.dcr.virginia.gov/natural\\_heritage/ncintro.shtml](http://www.dcr.virginia.gov/natural_heritage/ncintro.shtml).

Musselman, L.J. 1991. Nestronia. In Virginia's Endangered Species: Proceedings of a Symposium. K. Terwilliger ed. The McDonald and Woodward Publishing Company, Blacksburg, VA.



# COMMONWEALTH of VIRGINIA

L. Preston Bryant, Jr.  
Secretary of Natural Resources

Department of Game and Inland Fisheries

J. Carlton Courter, III  
Director

ORIGINAL 207034.01  
COPY Karla W. Hunt

July 25, 2007

Karla Westfall Hunt  
Project Geologist III  
Resource International, Ltd.  
9560 Kings Charter Drive  
P.O. Box 6160  
Ashland, Virginia 23005-6160

RE: ESSLOG #24040, ~ 9500-Acre Area, P.N. 207034.01, Pittsylvania County, VA.

Dear Ms. Hunt:

This letter is in response to your request for information related to the presence of threatened or endangered species in the vicinity of the above referenced project.

**Data provided by the Virginia Department of Agriculture and Consumer Services (VDACS) indicate that the *state endangered* nestronia (*Nestronia umbellula*) has been documented approximately 1.75 miles from the southernmost portions of this project area. Therefore, the applicant should coordinate with Keith Tignor, VDACS, Office of Plant Protection at (804) 786-3515 concerning potential impacts to this species.**

In addition, the following *federal species of concern* have been documented either within the northeastern portion of this project area or approximately 1.5 miles from the same portion of this project area: riverweed darter (*Etheostoma podostemone*) and Roanoke hog sucker (*Hypentelium roanokense*). However, the classification of *federal species of concern* is not a legal designation and does not require further coordination.

Information about fish and wildlife species was generated from our agency's computerized Fish and Wildlife Information System, which describes animals that are known or may occur in a particular geographic area. Field surveys may be necessary to determine the presence or absence of some of these species on or near the proposed area. Also, additional sensitive animal species may be present, but their presence has not been documented in our information system.

Endangered plants and insects are under the jurisdiction of the Virginia Department of Agriculture

Karla Westfall Hunt  
ESSLog #24040  
7/25/2007  
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and Consumer Services, Bureau of Plant Protection. Questions concerning sensitive plant and insect species occurring at the project site should be directed to Keith Tignor at (804) 786-3515.

The Virginia Department of Conservation and Recreation, Natural Heritage Program, maintains a database of natural heritage resources, including the habitat of rare, threatened, or endangered plant and animal species, unique exemplary natural communities, and significant geologic formations, that may contain information not documented in this letter. Their database may be accessed from <http://www.dcr.state.va.us/dnh/nhrinfo.htm>, or by contacting S. Rene Hypes at (804) 371-2708.

This letter summarizes the likelihood of the occurrence of endangered or threatened animal species at the project site. If you have more questions in this regard, please contact me at (804) 367-1185.

There is a processing charge of \$25.00 for our response. Please remit a check, made payable to **TREASURER OF VIRGINIA**, within 30 days. To insure proper credit to your account, please address your payment envelope directly to MaryBeth Murr at the address listed in the letterhead.

Please note that this response does not constitute consultation or management recommendations regarding endangered or threatened wildlife, or any other environmental concerns. These issues are analyzed by our Environmental Services Section, in conjunction with interagency review of applications for state and federal permits. If you have any questions in this regard, please contact the Environmental Services Section at (804) 367-6913.

*Please note that the data used to develop this response are continually updated. Therefore, if significant changes are made to your project or if the project has not begun within 6 months of receiving this letter, then the applicant should request a new review of our data.*

For your reference, if you do not receive a response from our office within 30 days, this does not constitute a finding of "no adverse impact" to wildlife or wildlife resources. If you need an expedited response to your request, please call Shirl Dressler at (804) 367-6913.

The Fish and Wildlife Information Service, the system of databases used to provide the information in this letter, can now be accessed via the Internet! The Service currently provides access to current and comprehensive information about all of Virginia's fish and wildlife resources, including those listed as threatened, endangered, or special concern; colonial birds; waterfowl; trout streams; and all wildlife. Users can choose a geographic location and generate a report of species known or likely to occur around that point. From our main web page, at [www.dgif.virginia.gov](http://www.dgif.virginia.gov), choose the hyperlink titled "Virginia Fish and Wildlife Information Service". For more information about the service, please contact Shirl Dressler at (804) 367-6913.

Karla Westfall Hunt  
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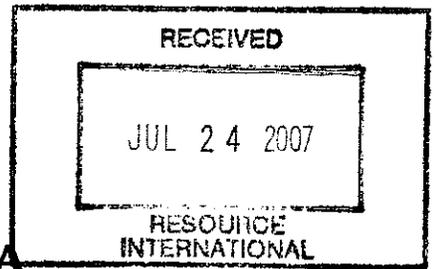
Thank you for your interest in the wildlife resources of Virginia.

Sincerely,

A handwritten signature in cursive script that reads "Susan H. Watson". The signature is fluid and extends to the right.

Susan H. Watson  
Information Specialist

cc: R.T. Fernald, VDGIF  
K. Tignor, VDACS  
R. Hypes, VDCR-NH



# COMMONWEALTH of VIRGINIA

## Department of Historic Resources

L. Preston Bryant, Jr.  
Secretary of Natural Resources

2801 Kensington Avenue, Richmond, Virginia 23221

Kathleen S. Kilpatrick  
Director

Tel: (804) 367-2323  
Fax: (804) 367-2391  
TDD: (804) 367-2386  
www.dhr.virginia.gov

ORIGINAL 207034-01  
COPY Karla W. Hunt

July 20, 2007

Karla Westfall Hunt  
Resource International, Ltd  
9560 Kings Charter Drive  
Ashland, Va 23005

RE: **Maps Only Archives Search**  
9500-Acre Area

Dear Ms. Hunt:

Thank you for your recent request for information from our archives on previously recorded archaeological and architectural resources within the area of potential effect, as delineated on your map, for the above-referenced project. Please note that your request for information from the Department of Historic Resources (DHR) Archives concerning the location of historic resources does not relieve you or your client from possible obligations under state or federal historic preservation regulations. I strongly recommend that you contact Dr. Ethel Eaton of the DHR's Resource Services and Review Division at (804) 367-2323, extension 112, if you have any questions concerning state and federal regulatory requirements.

Enclosed are the maps showing the location of any archaeological or architectural resources in or near the project area. If after examining the maps, you determine that you will require copies of files, those can be provided to you at the standard ten dollar per file charge. An invoice is enclosed for the charges incurred through your use of our archives search service.

DHR serves as the official state repository on historic resources. This information has been compiled primarily by independent cultural resource consultants. DHR makes no warranty as to the fitness of the data for any purpose. The absence of historic resources in DHR records does not necessarily mean that no historic properties are present. It is advisable to check with local government planning offices for information on any properties that may meet the age and significance tests of the National Register criteria and have not yet been recorded in the DHR archives. Also, the area in question may not have been systematically surveyed for resources, possibly necessitating a survey and submittal of that data with your Project Review application.

Please contact me at (804) 367-2323, extension 125, if I can be of further assistance.

Sincerely,

Kimberly Sacra  
Archives - DHR

Administrative Services  
10 Courthouse Ave.  
Petersburg, VA 23803  
Tel: (804) 863-1624  
Fax: (804) 862-6196

Capital Region Office  
2801 Kensington Office  
Richmond, VA 23221  
Tel: (804) 367-2323  
Fax: (804) 367-2391

Tidewater Region Office  
14415 Old Courthouse Way  
2<sup>nd</sup> Floor  
Newport News, VA 23608  
Tel: (757) 886-2807  
Fax: (757) 886-2808

Roanoke Region Office  
1030 Penmar Avenue, SE  
Roanoke, VA 24013  
Tel: (540) 857-7585  
Fax: (540) 857-7588

Winchester Region Office  
107 N Kent Street, Suite 203  
Winchester, VA 22601  
Tel: (540) 722-3427  
Fax: (540) 722-7535



DHR Resource #	Type	Time Period	Description	Survey Date	Existing Site Conditions at Time of Survey	Notes
44PY0058	Archaeological	Unknown	1 blade	August 16, 1983	Cultivated field	Isolated find, pastureland at one time
44PY0059	Archaeological	Middle Woodland	1 projectile point, 1 projectile point fragment, 1 biface fragment - Quartz, Quartzite.	August 16, 1983	Cultivated field planted in corn	Construction of State Route 683 may have destroyed a portion of site
44PY0060	Archaeological	Unknown	Fragments - 2 biface, 1 uniface - Quartzite.	August 16, 1983	Cultivated field planted in corn	
44PY0061	Archaeological	Middle Archaic - Cultural affiliation	Quartz projectile points, fragments, flake - Quartzite.	August 16, 1983	Cultivated field planted in corn	
44PY0062	Archaeological	Middle Archaic/Early Woodland	1 point, 7 point fragments, 1 preform, 3 bifaces, 3 biface fragments, 1 blade	August 16, 1983	Cultivated field planted in corn	
44PY0063	Archaeological	Late Archaic	3 projectile points	August 16, 1983	Cultivated field planted in corn	
44PY0064	Archaeological	Unknown	2 Quartzite chips	August 16, 1983	Cultivated field planted in corn	

DHR Resource #	Type	Time Period	Description	Survey Date	Existing Site Conditions at Time of Survey	Notes
44PY0065	Archaeological	Late Archaic	1 grinding stone/metate, 1 projectile point, 1 ground stone, 2 chunks – Quartzite, Sandstone.	August 16, 1983	Cultivated field planted in corn	
44PY0066	Archaeological	Unknown	2 biface fragments, 2 flakes – Shale, Chert.	August 17, 1983	Cultivated field planted in tobacco	
44PY0067	Archaeological	Late Archaic/ Middle Woodland	2 projectile points, 1 projectile point fragment, 1 biface, 1 biface fragment, 2 chips, 2 chunks – Quartzite, Chert, Claystone(?).	August 17, 1983	Cultivated field planted in tobacco	
44PY0068	Archaeological	Late Archaic	1 projectile point, 1 uniface, 1 chunk, 1 possible core. Sandstone, Quartzite, Quartz	August 17, 1983	Cultivated field planted in tobacco	

DHR Resource #	Type	Time Period	Description	Survey Date	Existing Site Conditions at Time of Survey	Notes
44PY0069	Archaeological	Middle Archaic	2 projectile points, 1 biface, 1 biface fragment. Shale, slate.	August 17, 1983	Cultivated field planted in tobacco	
44PY0070	Archaeological	Middle/Late Archaic	1 projectile point. Quartzite.	August 18, 1983	Cultivated field planted in corn	
44PY0071	Archaeological	Unknown	1 projectile point fragment. Quartzite.	August 18, 1983	Cultivated field planted in corn	
44PY0074	Archaeological	Late Archaic	1 projectile point fragment, Quartzite.	August 19, 1983	Cultivated field planted in tobacco	Erosional gullies flow to the south, erosion moderate in limited areas, elsewhere minimal
44PY0075	Archaeological	Middle/Late Archaic	1 projectile point, 1 projectile point fragment, Quartz, Chert.	August 19, 1983	Cultivated field planted in tobacco	
44PY0076	Archaeological	Late Archaic	1 projectile point fragment, 1 biface fragment, Quartzite.	September 10, 1983	Cultivated field planted in tobacco	

DHR Resource #	Type	Time Period	Description	Survey Date	Existing Site Conditions at Time of Survey	Notes
44PY0077	Archaeological	Early/Middle Archaic	2 projectile points, 1 projectile point fragment, 2 bifaces, 1 biface fragment, Quartzite, Slate, Claystone(?)	August 20, 1983	Cultivated field planted in tobacco	
44PY0078	Archaeological	Middle/Late Archaic	1 projectile point, Quartzite.	August 20, 1983	Cultivated field planted in tobacco	
44PY0079	Archaeological	Middle Archaic	1 projectile point, Quartzite.	August 20, 1983	Cultivated field planted in tobacco	
44PY0080	Archaeological	Unknown	1 biface fragment, 1 uniface fragment	August 22, 1983	Cultivated field planted in tobacco	
44PY0081	Archaeological	Unknown	1 flake, 1 chunk, Quartzite.	August 22, 1983	Cultivated field planted in tobacco	
44PY0082	Archaeological	Unknown	Ovate biface, Quartzite.	August 24, 1983	N/A	Found in an access road
44PY0088	Archaeological	Late Woodland	1 projectile point fragment, Chert.	August 18, 1983	Fallow field	Erosion minimal
44PY0089	Archaeological	Unknown	2 biface fragments, Quartzite, Chert.	August 18, 1983	Cultivated field planted in tobacco	

DHR Resource #	Type	Time Period	Description	Survey Date	Existing Site Conditions at Time of Survey	Notes
44PY0090	Archaeological	Unkown	1 flake, Chert.	August 23, 1983	Wooded area	
44PY0134	Archaeological	Historic	1 mason jar fragment	May 21, 1988	Wooded	Found on gently sloping ravine
071-0007	Architectural	1854	"Cherbourg Cottage", Gothic Revival Residence	April 1958	residence	Photos available.
071-0010	Architectural	1817-1823	"Coles Hill" and Kitchen, Greek Revival Residence	April 1958	residence	Only house in Southern counties with jackarches of rubbed brick. Photos available of main house and outbuildings.
071-0018	Architectural	1832 or earlier	"Hargraves House", architecture - part of late 18 <sup>th</sup> century	April 1958	Residence	Has beaded beams, an open staircase with interesting cut-out work, and a transitional 18 <sup>th</sup> century mantel. 3 photos of house available.

DHR Resource #	Type	Time Period	Description	Survey Date	Existing Site Conditions at Time of Survey	Notes
071-0032	Architectural	Late 18 <sup>th</sup> – 19 <sup>th</sup> Century	Pineville (Pinecrest Farm), residence; cemetery is on regional register	April 1958	Residence	"Doric" porch with columns that lack entasis, porch likely not original with house. Many photos available.
071-0080	Architectural	Late 18 <sup>th</sup> Century	"Cabel-Shelton House", or "Cedar Hill", has stone chimneys that are rare in the area	April 1958	Residence	Chimneys are off center as is typical of small 2 room deep houses. Largely original in both interior and exterior. Photo of exterior available.