

**VIRGINIA DIVISION OF MINERAL RESOURCES**

**PUBLICATION 133**

**COAL, OIL AND GAS, AND INDUSTRIAL AND METALLIC  
MINERALS INDUSTRIES IN VIRGINIA, 1992**

Palmer C. Sweet and Jack E. Nolde



**COMMONWEALTH OF VIRGINIA  
DEPARTMENT OF MINES, MINERALS, AND ENERGY  
DIVISION OF MINERAL RESOURCES  
Stanley S. Johnson, State Geologist**

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**FRONT COVER:** Crushing of Petersburg Granite for roadstone, concrete aggregate, and asphalt stone at Luck Stone Corporation, Boscobel Plant, Goochland County.

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# COAL, OIL AND GAS, AND INDUSTRIAL AND METALLIC MINERALS INDUSTRIES IN VIRGINIA, 1992

Palmer C. Sweet and Jack E. Nolde

## INTRODUCTION

The total value of mineral production in Virginia in 1992 was 1.96-billion dollars (Table 1). About 1.48-billion dollars resulted from coal sales, a 9 percent decrease in value from the 1991 figure of 1.63-billion dollars, even though coal production was up 228,000 short tons. This difference was due to the drop in coal prices. About 46-million dollars was produced from the sale of petroleum and natural gas, with the remaining 425-million dollars from production of industrial rocks and minerals (Table 2 and 3). This represents a 10-million dollar increase for 1992, when compared with 1991 statistics. Natural gas production was up 39 percent; petroleum production was up 6 percent and crushed stone production was up almost 5 percent. On the decline in production were clay (7 percent), sand and gravel (almost 3 percent) and lime (which was down less than 1 percent from 1991 figures).

The number of producers, and the number of processing plants remained constant during the year for cement, feldspar, gem stones, gypsum, industrial sand, iron-oxide pigments, kyanite, ornamental aggregate, sand and gravel, and vermiculite.

Virginia led the nation in the production of kyanite; was the only producer of feldspar, marketed as "Virginia aplite"; and was one of three states mining vermiculite. Virginia also ranked 9th in crushed stone production and 29th in the production of sand and gravel. Several mineral commodities, including lithium carbonate, magnetite, manganese, mica, perlite, and phosphate rock were imported for processing.

## COAL<sup>1</sup>

About 42.6 million short tons (Table 1) of bituminous coal were produced from 424 surface and underground mines in the southwest coalfields of Buchanan, Dickenson, Lee, Russell, Scott, Tazewell, and Wise Counties. Tables 4 through 6 show production data by county, coal bed, employment statistics, and fatality information. Almost 42 percent of total production was from the Pocahontas No. 3, Jawbone, and Dorchester coals. Included in this production total was 1,741 short tons of semianthracite coal "mined" near McCoy in the Valley Coal Field, Montgomery County.

Coal from Virginia is used for metallurgical purposes, electrical power generation (steam coal), industrial purposes, and residential heating. A large percentage of Virginia coal is contracted for export to overseas markets. This coal is exported through ports in the Hampton Roads area in Virginia and at Wilmington in North Carolina.

## OIL AND GAS<sup>2</sup>

Crude oil and gas condensate production in Virginia totaled

12,881 barrels in 1992, a 5.9 percent increase from the 1991 production of 12,161 barrels. Production was by 9 companies from 40 wells in three fields (Table 7), the Ben Hur-Fleenortown and Rose Hill in Lee County (crude oil) and the Roaring Fork in western Wise County (gas condensate). Almost all of Virginia oil comes from the Ordovician Trenton Limestone and the gas condensate comes from the Mississippian Greenbrier Limestone ("Big Lime"). The average price for Virginia oil in 1992 was 17.46 dollars per barrel. Virginia oil production was valued at \$224,902.

Natural gas production increased 65.9 percent, from 14,906,525 Mcf in 1991 to 24,733,611 Mcf in 1992. Production was from 1153 wells (Table 8). Coalbed methane wells produced 6 Bcf; 24.2 percent of the total production in the state. The average price paid to Virginia's natural gas producers in 1992 was 1.85 dollars per Mcf. The market value for Virginia's natural gas was \$45,757,180.

## PERMITTING ACTIVITY

Overall permitting activity continued to increase. The Department of Mines, Minerals, and Energy, Division of Gas and Oil issued 769 permits in 1992, an increase of 263.3 percent over 1991 figures. Of these, 174 permits were issued to drill new coalbed methane wells, 64 permits for new conventional wells, and 112 permits were for pipeline construction. One-hundred and nineteen permits were for conversion and modification of existing wells, while the remaining 300 permits were for transfer of existing wells of ANR production to Equitable Resources Exploration, Inc.

## DRILLING ACTIVITY

In 1992, a total of 186 wells were drilled in Virginia (Table 9). This represents a 22.0 percent increase over the 145 wells drilled during 1991. Of the 186 wells drilled, 41 were completed as conventional wells (47.7 percent) (Table 10), 143 were completed as coalbed methane (50.0 percent), and the remaining 2 (2.3 percent) were plugged and abandoned conventional wells. Virginia oil and gas owners/operators submitted 318 well completion reports to the Division of Gas and Oil; of these were 17 wells drilled in 1990, 27 wells drilled in 1991, and the remaining 274 wells were drilled in 1992. Total footage drilled in 1992 was 704,087 feet (Table 11), a 180 percent increase over the total 391,102 feet drilled in 1991. Of the 1992 total footage 216,548 feet were for conventional wells and 487,539 feet were for coalbed methane wells. Of the total for coalbed methane wells, 191,209 feet were for wells converted from vertical ventilation holes drilled prior to 1992. In 1992, the average depth drilled for conventional wells was 5,036 feet and for coalbed methane wells was 2,023 feet. The county with most active natural gas and coalbed methane wells drilled was Buchanan with 93, followed by Dickenson with 54, and Wise with 32. Completion zones ranged from the Pennsylvanian Lee Formation to the Devonian-Mississippian Chattanooga Shale. Table 12 provides data on

<sup>1</sup> Information supplied by DMME, Division of Mines, U.S. Route 23 South, P.O. Drawer 900, Big Stone Gap, Virginia 24219.

<sup>2</sup> Information supplied by DMME, Division of Gas and Oil, P.O. Box 1416, Abingdon, Virginia 24210.

the wells drilled in Virginia in 1992.

#### Buchanan County

Conventional wells: Two development wells were completed by Pocahontas Gas Partnership with a total footage of 10,934 feet during 1992. One of these wells co-produces from the Berea Sandstone and Greenbrier Limestone. The other well co-produces from the Berea Sandstone and the Stony Gap Sandstone Member of the Hinton Formation. One additional well was drilled by Pocahontas Gas Partnership into the Chattanooga Shale; but was plugged up to the top of the Bluestone Formation for production from the overlying coal beds in the Pocahontas and Lee Formations.

Coalbed methane wells: Eighty-seven development wells were completed by OXY USA and Pocahontas Gas Partnership in the Keen Mountain fields with a total footage of 177,127 feet. Fifty-one of these wells are shut-in. Ninety-eight vertical ventilation holes drilled prior to 1992 were converted into coalbed methane wells. The targets for coalbed methane are the Early Pennsylvanian Pocahontas and Lee Formations.

#### Dickenson County

Conventional wells: Eleven development wells were drilled with a total footage of 44,192 feet during 1992. Three of these wells produce only from the Berea Sandstone. The Berea co-produces with the Greenbrier Limestone in two wells, with the Chattanooga Shale and the Ravencliff member of the Hinton Formation in two wells, and with the Ravencliff in one well. One well produces only from the Greenbrier Limestone and two wells produce only from the Ravencliff.

Coalbed methane wells: Equitable Resources, Inc. drilled 26 coalbed methane wells in the Nora field. Total footage of the 26 wells drilled was 63,696 feet. Eighteen were completed during 1992 in the Lee and Pocahontas Formations.

#### Russell County

Coalbed methane wells: Equitable Resources, Inc. successfully completed four coalbed methane wells in the Nora field. These were development wells with a total footage of 11,169 feet. The targets for coalbed methane are the Lower Pennsylvanian Pocahontas and Lee Formations.

#### Westmoreland and King George Counties

Conventional wells: Texaco, Inc. drilled two exploratory wells in the Taylorsville Mesozoic basin. These wells, with a total footage of 18,238 feet, were plugged and abandoned.

#### Wise County

Conventional wells: Twenty-nine development wells were drilled in Wise County with a total footage of 143,184 feet. Five of these wells produce from the Berea Sandstone. The Berea is a co-producing formation in 17 wells. One well produces from the Ravencliff Member of the Hinton Formation and the Ravencliff is a co-producing formation in the remaining six wells.

Coalbed methane wells: Equitable Resources, Inc.

drilled three coalbed methane wells in the Nora field with a total footage drilled was 7,769 feet. Of the three wells drilled, two were completed during the year in the Lee and Pocahontas Formations. The third well will be completed in early 1993.

## INDUSTRIAL AND METALLIC COMMODITIES

### CEMENT

Three companies produce cement in Virginia. Roanoke Cement Company operates a plant in western Botetourt County that manufactures portland cement from locally mined limestone and shale and purchased iron scale from Roanoke Electric Steel Company. Burned calcium-and iron-aluminate-clinker is manufactured in five coal-fired kilns and ground into cement. Three-fourths of the cement is sold to ready-mix companies. The Riverton Corporation in Warren County produces masonry cement at its plant north of Front Royal. There, crushed limestone (Edinburg Formation) is calcined, hydrated, and mixed with portland cement from out-of-state sources to produce the masonry cement that is sold to building supply dealers in Virginia and surrounding states. LaFarge Calcium Aluminate, Inc. operates a cement manufacturing plant in the City of Chesapeake. Cement clinker is imported, ground, and made into six types of calcium aluminate cement at the facility. The advantages of this cement include rapid hardening, resistance to wear and corrosion and the capacity to be used under a wide range of temperatures.

### CLAY MATERIALS

Residual and transported clay, weathered phyllite and schist, and shale are used as raw material to produce bricks in Virginia. More than 690,000 metric tons of clay (exclusive of fuller's earth) were produced in Virginia in 1992 and the annual total capacity of all the brick plants in the Commonwealth is almost one-half-billion brick. The clay-material industry in the western part of the State mines Paleozoic-age shale primarily to produce face brick. Face-brick producers, in the central-to-eastern part of Virginia, mine Triassic-age shale and clay residuum in Orange and Prince William Counties and Precambrian-age schist and residual and transported clay in Amherst, Brunswick, Chesterfield, Greensville, and Henrico Counties.

Lightweight aggregate is produced in Buckingham, and Pittsylvania Counties. Before it closed in the Fall of 1992, Weblite Corporation, located in Botetourt County, mined shale from the Rome Formation to produce lightweight aggregate by the sintering process, using semi-anthracite waste coal from Montgomery County to fire its kilns. They utilized about 100 tons of coal per day to yield a lightweight-product having a weight as low as 31 lb/ft<sup>3</sup> for particle sizes of 5/16 to 3/4 inches. Solite Corporation, located in northern Buckingham County, utilizes the Arvonite Slate to produce lightweight aggregate. Triassic-age shale is mined by Virginia Solite Company southwest of Danville, Pittsylvania County, to produce a similar product (Figure 1).

Bennett Mineral Company located in the Walkerton area of King and Queen County, in eastern Virginia, mines and processes montmorillonite clay to produce an industrial and

sanitary absorbent. The facility uses wood waste as a fuel to dry the clay in a rotary kiln. During the year, Virginia Clay Co., Inc. located in King William County, received approval from the county for their plans to construct a plant to produce cat litter.

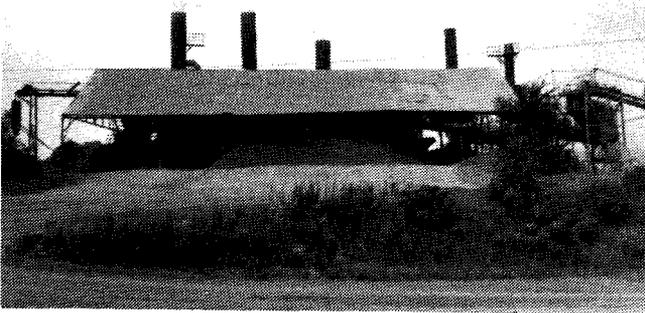


Figure 1. Raw material storage shed at Virginia Solite Company, Cascade, Pittsylvania County.

### CONSTRUCTION SAND AND GRAVEL

Construction sand and gravel producers accounted for 9.8 million short tons of material in 1992 at a value of 38 million dollars. Sand and gravel is extracted from river terraces and dredged from the rivers in central and eastern Virginia (Figure 2). Large tonnages of construction sand and gravel, from southeast of Fredericksburg, are shipped by rail into the northern Virginia-Washington, D.C. market area. A large portion of the production is by Tidewater Quarries, Inc. and Tarmac Mid Atlantic, Inc., located near Richmond, and is barged down the James River to the Norfolk area. Shipments are also made by rail and truck to the western part of the Commonwealth. Construction sand (concrete and masonry) is also produced from operations that crush and process sandstone.

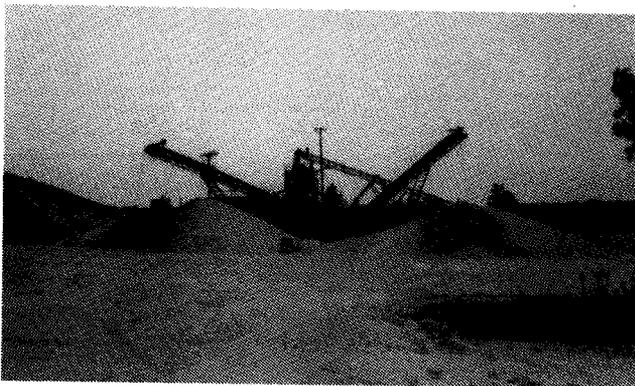


Figure 2. Stockpile of sand, Aylett Sand and Gravel Corporation, Aylett, King and Queen County.

### CRUSHED STONE

Crushed stone; including limestone, dolomite, sandstone, quartzite, granite, gneiss, diabase, basalt, greenstone, slate, "Virginia aplite," and marble, was produced in Virginia in 1992. Virginia's crushed stone was valued at more

than 253 million dollars and it was the ninth leading producer in the United States.

Producers of limestone, dolomite, shale, and sandstone and quartzite are located in the Valley and Ridge and Appalachian Plateaus provinces in the western part of the Commonwealth. Principal end uses for these commodities were for roadstone, concrete aggregate, asphalt stone, and agricultural application. Mine safety dust is produced in southwestern Virginia from limestone. Safety dust is used in coal mines to coat the roof, walls, and floor to prevent coal dust explosions. The safety dust should contain less than 5 percent  $\text{SiO}_2$  and 100 percent should pass 20 mesh, with 70 percent passing minus 200 mesh. Finely-ground dolomite and limestone is also marketed by several operations for use as a filler material.

Shale is excavated in Frederick and Rockingham Counties for use as local roadstone and fill material. Sandstone and quartzite are quarried in Carroll, Culpeper, Pittsylvania, Rockbridge and Wythe Counties for the production of roadstone, concrete aggregate, asphalt stone, and manufactured fine aggregate.

Granite, gneiss, diabase, basalt, slate, and marble are quarried in the central part of Virginia. Major uses for these materials are for roadstone, asphalt stone, and concrete aggregate. Slate is crushed near Arvonnia in Buckingham County by Solite Corporation for lightweight aggregate. Production of crushed slate, as a by-product of dimension slate operations, was increased by LeSueur-Richmond Slate Corporation as a result of local highway construction. Appomattox Lime Company, Inc., mines a marble (Mt. Athos Formation) near Oakville in Appomattox County for agricultural lime.

Fines produced at granite quarries in the Petersburg and Red Oak Granites, in the southern part of Virginia have been used for low-grade fertilizer as chemical analyses for granitic materials from Brunswick and Nottoway Counties in the southern Piedmont province indicate  $\text{K}_2\text{O}$  (potash) content is higher than 10 percent. Potassium-aluminum feldspars (orthoclase and microcline), common in igneous and metamorphic rocks, release potassium upon weathering. Additional uses for these fines are for road bedding, for concrete pipe, and for warning tracks for baseball fields, etc.

### DIMENSION STONE

Slate, diabase, quartzite, and soapstone were quarried for dimension stone in the Piedmont province in 1992. Slate was the leading dimension stone type quarried, in terms of cubic feet and value; LeSueur-Richmond Slate Corporation mines slate from two quarries in the Arvonnia area of Buckingham County (Figure 3). Arvonnia slate production dates from the late 1700s where slate was quarried for use as roofing shingles for the State Capitol in Richmond. Slate producers supply the building trade with a variety of products ranging from material for exterior applications, such as roofing shingles and flooring tile, hearths and sills. Diabase for use as monument stone is produced by New England Stone in southern Culpeper County (Figure 4). Quartzite, used as flagging material, was extracted from two quarries: Carter Stone Company in Campbell County, south of Lynchburg; and Mower Quarry in Fauquier County, north of Warrenton. The New Alberene Stone Company, Inc. began quarrying soapstone at Alberene in Nelson County in 1988 and opened a new quarry site in late 1989 in Albemarle County, just to the north of the Alberene site. Their products include soapstone fireplaces, fireplace

sanitary absorbent. The facility uses wood waste as a fuel to dry the clay in a rotary kiln. During the year, Virginia Clay Co., Inc. located in King William County, received approval from the county for their plans to construct a plant to produce cat litter.

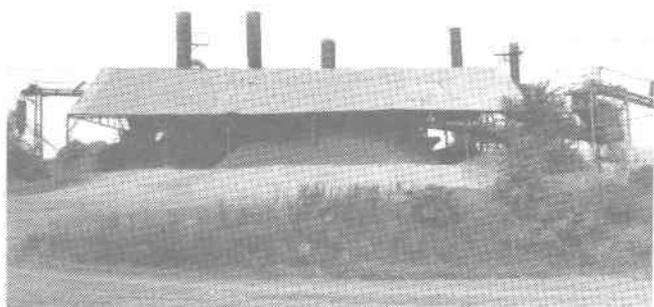


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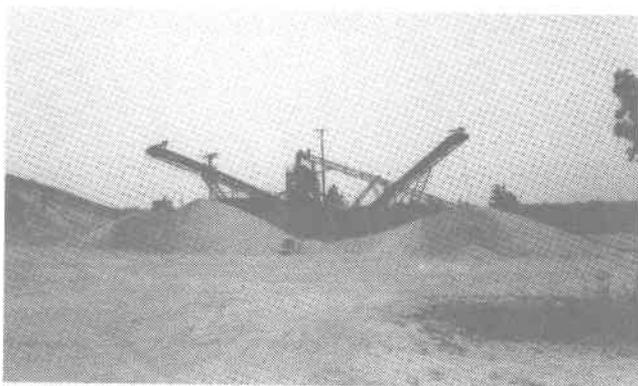


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facings, woodstoves, cooking ware, and other products made of solid soapstone.



Figure 3. Quarrying of dimension slate at LeSueur-Richmond Slate Corporation, Arvonnia, Buckingham County.



Figure 4. Quarrying of diabase for monumental stone, New England Stone, Rapidan, Culpeper County.

### FELDSPAR

The Feldspar Corporation operates a mine and plant near Montpelier in Hanover County in east-central Virginia and produces a feldspar-rich material marketed as "Virginia aplite," which is sold to the glass industry. The "aplite" improves the work-ability of the molten glass and imparts a chemical stability to the finished glassware. The feldspar is mined from medium- to coarse-grained meta-anorthosite by open pit methods. The rock is trucked to the plant adjacent to the mine for crushing, grinding, classifying, and drying. After processing, the aplite is stored in silos. Clay minerals are removed by gravity concentration. The heavy minerals in the feldspar (ilmenite, rutile, and sphene) are removed by electrostatic processes and by magnets. These minerals are titanium bearing and therefore were stockpiled until the early 1980s, but are currently being placed in settling ponds. The processed feldspar is shipped by truck and rail to markets in New Jersey, Pennsylvania, Ohio, and Indiana.

In Amherst County, feldspar is marketed as aggregate by the W.W. Boxley Company, The Blue Ridge Stone Corporation, and the Piney River Quarry. The fines that result from the crushing of

feldspar are stockpiled. In the past, feldspar has been mined from several pegmatite bodies in the Piedmont province including those in Amelia and Bedford Counties.

Clay and silt, with a high percentage of kaolinite and mica, has accumulated in settling ponds at The Feldspar Corporation operation in Hanover County. About 75,000 to 100,000 tons of this material are added to settling ponds per year. The waste "tailings" was evaluated in the mid-1960s and was found to be suitable for use in face brick and drain tile; the material fires dark brown to gray. These fines may have potential as a flux material for the brick industry.

### GEMSTONES

In 1992, mineral collectors and mining operations in Virginia produced natural gemstones. The Morefield pegmatite, operated by Piedmont Mining Company in Amelia County, is open to the public for collecting on a fee basis. Blue-green amazonstone, beryl, topaz, tantalite, tourmaline, and zircon are some of the minerals found in this pegmatite. The company also mines and sells "hand picked" mica. Stone Cross Mountain operates a fee basis collecting operation north of Stuart, Patrick County in southern Virginia. At this site pseudomorphs after staurolite crystals (fairystone crosses) are the main interest of collectors and, for a fee, the collectors can sift through and wash a bucket of material.

### GYPSUM

U.S. Gypsum Company operates an underground mine and plant at Locust Cove, Smyth County in the southwestern part of the state and a processing plant in Norfolk in the eastern part of the state. The Locust Cove mine is a slope-entry, multilevel operation. Isolated masses of gypsum in the Maccrady Formation are mined by a modified stoping system. The gypsum, after being run through a primary crusher, is trucked to their processing plant at Plasterco, near Saltville, in adjacent Washington County. At Plasterco, the gypsum is ground into "landplaster" ( $\text{CaSO}_4 + 2\text{H}_2\text{O}$ ). The material is calcined to remove the water and produce "stucco". Water is then added to the stucco with additional ingredients (sugar, starch, etc.) and poured, molded and dried between sheets of paper to produce wallboard. Eighty-three different kinds of wallboard are produced at Plasterco; average daily production at the plant could supply the needs for 80 three-bedroom homes.

The Norfolk plant processes crude gypsum from Nova Scotia to produce wallboard and other gypsum-based products. The plant also produces a fertilizer (land plaster) for the peanut industry. The Norfolk facility receives a few shipments of anhydrite from Nova Scotia for sale to cement manufacturers. The anhydrite is used as a source of sulfur in producing cement clinker.

### INDUSTRIAL SAND

Traction sand is produced in Dickenson County by Howard L. Daniels Sand Company. Glass sand is produced by Unimin Corporation near Gore in Frederick County from the Ridgeley Sandstone of Devonian-age. CED Enterprises, in Frederick County, recrystallizes purchased sand in a rotary kiln to produce cristobalite, which is marketed as a fine grit.

facings, woodstoves, cooking ware, and other products made of solid soapstone.



Figure 3. Quarrying of dimension slate at LeSueur-Richmond Slate Corporation, Arvonnia, Buckingham County.



Figure 4. Quarrying of diabase for monumental stone, New England Stone, Rapidan, Culpeper County.

### FELDSPAR

The Feldspar Corporation operates a mine and plant near Montpelier in Hanover County in east-central Virginia and produces a feldspar-rich material marketed as "Virginia aplite," which is sold to the glass industry. The "aplite" improves the work-ability of the molten glass and imparts a chemical stability to the finished glassware. The feldspar is mined from medium- to coarse-grained meta-anorthosite by open pit methods. The rock is trucked to the plant adjacent to the mine for crushing, grinding, classifying, and drying. After processing, the aplite is stored in silos. Clay minerals are removed by gravity concentration. The heavy minerals in the feldspar (ilmenite, rutile, and sphene) are removed by electrostatic processes and by magnets. These minerals are titanium bearing and therefore were stockpiled until the early 1980s, but are currently being placed in settling ponds. The processed feldspar is shipped by truck and rail to markets in New Jersey, Pennsylvania, Ohio, and Indiana.

In Amherst County, feldspar is marketed as aggregate by the W.W. Boxley Company, The Blue Ridge Stone Corporation, and the Piney River Quarry. The fines that result from the crushing of

feldspar are stockpiled. In the past, feldspar has been mined from several pegmatite bodies in the Piedmont province including those in Amelia and Bedford Counties.

Clay and silt, with a high percentage of kaolinite and mica, has accumulated in settling ponds at The Feldspar Corporation operation in Hanover County. About 75,000 to 100,000 tons of this material are added to settling ponds per year. The waste "tailings" was evaluated in the mid-1960s and was found to be suitable for use in face brick and drain tile; the material fires dark brown to gray. These fines may have potential as a flux material for the brick industry.

### GEMSTONES

In 1992, mineral collectors and mining operations in Virginia produced natural gemstones. The Morefield pegmatite, operated by Piedmont Mining Company in Amelia County, is open to the public for collecting on a fee basis. Blue-green amazonstone, beryl, topaz, tantalite, tourmaline, and zircon are some of the minerals found in this pegmatite. The company also mines and sells "hand picked" mica. Stone Cross Mountain operates a fee basis collecting operation north of Stuart, Patrick County in southern Virginia. At this site pseudomorphs after staurolite crystals (fairystone crosses) are the main interest of collectors and, for a fee, the collectors can sift through and wash a bucket of material.

### GYPSUM

U.S. Gypsum Company operates an underground mine and plant at Locust Cove, Smyth County in the southwestern part of the state and a processing plant in Norfolk in the eastern part of the state. The Locust Cove mine is a slope-entry, multilevel operation. Isolated masses of gypsum in the Maccrady Formation are mined by a modified stoping system. The gypsum, after being run through a primary crusher, is trucked to their processing plant at Plasterco, near Saltville, in adjacent Washington County. At Plasterco, the gypsum is ground into "landplaster" ( $\text{CaSO}_4 + 2\text{H}_2\text{O}$ ). The material is calcined to remove the water and produce "stucco". Water is then added to the stucco with additional ingredients (sugar, starch, etc.) and poured, molded and dried between sheets of paper to produce wallboard. Eighty-three different kinds of wallboard are produced at Plasterco; average daily production at the plant could supply the needs for 80 three-bedroom homes.

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## IRON-OXIDE PIGMENTS

Virginia is one of four states that produce pigments from natural iron-oxide. Hoover Color Corporation, located in Hiwassee, Pulaski County, produces ocher, umber, and sienna. The company is the only operation in the United States producing sienna. Raw materials are mined by open pit methods from deposits near the contact of the Erwin Formation with the overlying Shady Dolomite. Deposits, which may be associated with Cambrian age gossans, are concentrated as pockets composed of insoluble clay and iron oxide. Some iron oxide is also concentrated by precipitation from groundwater. The raw material is trucked to the company plant at Hiwassee where it is pulverized, dried, ground, air separated, blended, and packaged prior to shipping. The finished product is used as a coloring agent in a variety of products. The largest market continues to be for paint; additional markets are art supplies (crayons, chalk, water colors) as well as building products (colored cinderblock, brick, etc.). The pigments are shipped throughout the United States, Canada and Mexico. Virginia Earth Pigments Company mines a small quantity of iron oxide from the Brubaker #1 mine in southeastern Wythe County. The majority of this material is sold to the Hoover Color Corporation.

## KYANITE

Kyanite, an aluminum silicate, was first produced in Prince Edward County in the 1920s. Since September, 1986, Virginia is the only state producing kyanite. The majority of the world's kyanite is produced by Kyanite Mining Corporation from their deposit in Buckingham County. The company produces a concentrate with a maximum of 61.8 percent alumina and a minimum iron content of 0.16 percent. By calcining, the kyanite is converted to mullite at temperatures greater than 3000 degrees Fahrenheit. The mullite is a superduty refractory with a pyrometric cone equivalent of 36 to 37. Products, which are sold in 35, 48, 100, 200, and 325 mesh sizes are used in the refractory, ceramic, glass, metallurgical, and foundry industries. Mullite aids ceramics and glass to resist cracking, warping, slagging, and deforming at high temperatures.

Kyanite Mining Corporation operates two surface mines and three processing plants in central Buckingham County, one at Willis Mountain, one at East Ridge and one north of Dillwyn. At these locations, kyanite-bearing quartzite is quarried from open pits; this material is run through primary crushers, a log washer to remove clay, and onto the classifiers to remove kyanite. The material then passes through a rod mill, which reduces it to a minus 35-mesh size, and through froth flotation cells where the kyanite is skimmed off. The kyanite is dewatered and dried; the high temperature of the drier converts any sulfide minerals that are present to oxides. Pyrite is converted to ferrous iron oxide ( $Fe_3O_4$ ) or magnetite, which is then removed by magnetic separators and stockpiled.

The Willis Mountain plant processes the raw kyanite, which is then trucked to the East Ridge facility for calcining. Mullite is ground and bagged at the company's Dillwyn Plant and raw kyanite is ground and bagged at Willis Mountain.

Approximately 40 percent of the production is shipped through ports in the Hampton Roads area to customers worldwide. The company also markets sand as a by-product from the processing of kyanite. This sand is used for golf courses; masonry, and concrete sand; and for other applications such as sand for blasting.

## LIME

Virginia's lime production is from six companies located in Frederick, Giles, Shenandoah, and Warren Counties. Production in 1992 was 810,000 short tons valued at more than 38-million dollars. The paper industry uses lime for regeneration of sodium hydroxide and for the neutralization of sulfate water. Lime is used in iron furnaces to remove impurities and for water purification. During the last few years, lime has been used to neutralize acid mine water. It is used also for mason's lime, sewage treatment, and for agricultural purposes. One of the most important uses in the 1990s will be to abate the  $SO_2$  and  $NO_x$  emissions from coal fired boilers. Lime is presently supplied to several cogeneration coal-fired power plants in southern Virginia. Two companies, in northwestern Virginia, W.S. Frey Company, Inc. and Chemstone Corporation quarry and calcine the high-calcium New Market Limestone. The Riverton Corporation in Warren County quarries and calcines limestone from the Edinburg Formation. Shenvalley Lime Corporation in Stephens City, Frederick County purchases quicklime and produces a hydrated lime. Two companies in western Giles County, APG Lime Corporation and Eastern Ridge Lime Company operate underground mines in the Five Oaks Limestone (Figure 5). Both companies calcine the limestone in rotary kilns. Principal sales are to the paper and steel industries.

Lime kiln dust collected from the baghouse at the APG Lime Corporation, is presently marketed to neutralize and stabilize coal refuse from preparation plants in West Virginia.

## LITHIUM

At their Sunbright plant in Scott County, Cyprus Foote Mineral Company processes lithium carbonate (derived from brines in Nevada) with calcium hydroxide (from Virginia sources) to produce lithium hydroxide. Some lithium carbonate is also imported from Chile. Lithium hydroxide is used in multipurpose grease. In the past, limestone from an underground mine at the Sunbright site was utilized in the manufacturing process and a calcium carbonate precipitate was formed as a waste product. This material remains on the site. The approximate analysis of the material is 43 to 50 percent  $CaCO_3$ , 3 to 6 percent  $Ca(OH)_2$ , and 40 to 80 percent  $H_2O$ .

## MAGNETITE

Reiss Viking Corporation in Tazewell County processes out-of-state magnetite for use in cleaning coal. In the coal cleaning process, magnetite is mixed with water to form a heavy-media slurry into which raw coal is fed. The heavier impurities sink with the magnetite whereas the lighter coal floats and is recovered. About two pounds of magnetite are used for every ton of coal that is cleaned. The magnetite is obtained from various sources including Missouri, with minor amounts being imported. Magnetite is dried, ground in a ball mill, classified, and graded by percentage of material passing a 325-mesh sieve; grades produced are 40, 70, 90, 96.5, and 99. The magnetite is marketed in Virginia and Kentucky.

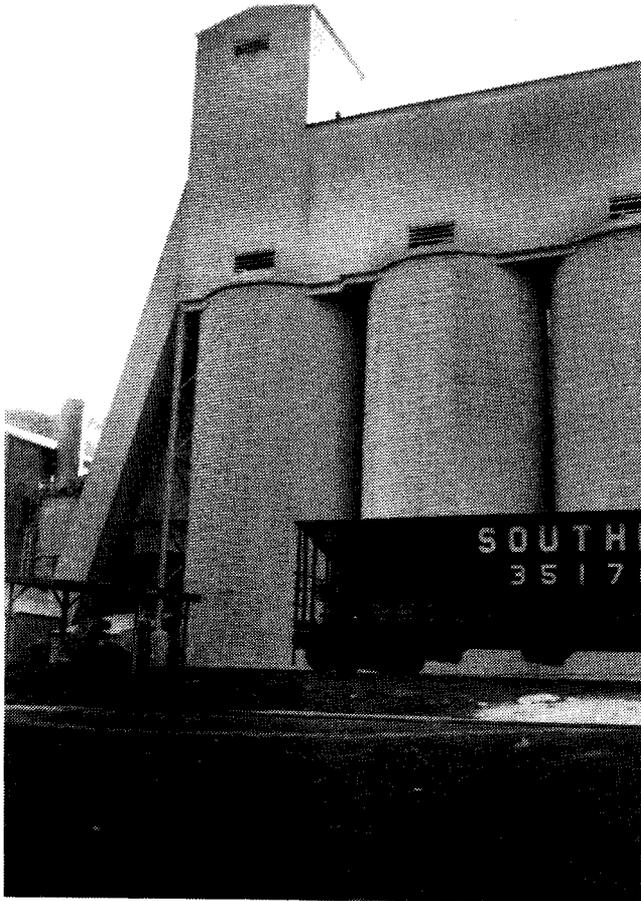


Figure 5. Storage silos at APG Lime Corporation, Ripplemead, Giles County.

#### MANGANESE

Eveready Battery Company, Inc., operates a manganese processing facility in the City of Newport News. Manganese ore, imported from Ghana, Africa and Mexico, is shipped to the Elizabeth River Terminals in the City of Chesapeake. The ore is trucked to the processing plant; quality control of the manganese content and potential contaminants are maintained through continual chemical/mineralogical analyses. The manganese is dried in a gas-fired rotary kiln and crushed with jaw and ball crushers into two basic sizes. Ground ore is shipped in bulk, bulk bags or in bags to plants in Iowa, Ohio, and North Carolina. The product is used in the manufacture of dry cell batteries in the midwest.

#### MICA

Plate mica is marketed for use in hair dryers and for other electrical applications; reconstituted mica composed of built-up mica plates is used to manufacture mica washers for terminals and as shields in lithium batteries. Asheville Mica Company, an affiliate of the Mica Company of Canada, process several grades of crude mica, which are purchased from Madagascar, India, and Brazil, at facilities in the City of Newport News. Asheville Mica Company produces fabricated plate-mica; Mica Company of Canada uses splittings from Asheville Mica Company to produce reconstituted plate-mica.

Presently no domestic mica is being produced, although it has been produced in the past from pegmatite bodies in several counties in Virginia, including Amelia, Henry, and Powhatan.

#### ORNAMENTAL AGGREGATE

Dolomite and quartzite from Botetourt and Rockbridge Counties are marketed as exposed-aggregate materials. Rock materials, such as black limestone (Edinburg Formation) from the Valley and Ridge province and greenstone from the Piedmont province, have been used as aggregate for terrazzo. Exposaic Industries, Inc. in Spotsylvania County utilizes a variety of rock materials for exposed panels, including greenstone from Albemarle County and Triassic-age sandstone from Culpeper County.

In past years several rock types have been utilized for ornamental aggregate. Vein quartz was quarried in Albemarle, Buckingham, Fauquier, Fluvanna, Greene and Rappahannock Counties, and quartz pebbles were extracted from the flood plain deposits along the Mattaponi River in Caroline County.

#### PERLITE

Manville Sales Corporation operates a plant at Woodstock in Shenandoah County to expand perlite (volcanic glass with high water content and "onion-skin" appearance) obtained from Taos County, New Mexico. Expanded perlite is used in the manufacture of roof insulation board, which is marketed throughout the eastern United States.

#### PHOSPHATE ROCK

Texas Gulf, Inc. ships phosphate rock from its Lee Creek operation in North Carolina to Glade Spring, Washington County. It is then transported by truck to the Texas Gulf plant in Saltville, Smyth County. A coal-fired rotary kiln is used to defluorinate the phosphate rock. The product is marketed as a poultry and animal feed supplement in southern and midwestern states.

#### SULFUR

Elemental sulfur is recovered from hydrogen sulfide gas by the Claus process during crude-oil refining by Amoco Oil Company. The refinery is adjacent to the York River, near Yorktown. Crude oil is heated in a furnace and fed under pressure into a cylinder where it vaporizes, expands, and condenses into liquid. Hydrogen sulfide is produced and converted into elemental sulfur, which is marketed for production of sulfuric acid.

#### VERMICULITE

Virginia is one of three states in which vermiculite, a hydrated magnesium-iron-aluminum silicate, is mined. Virginia Vermiculite, Ltd. operates an open-pit mine and processing facility near Boswells Tavern in Louisa County. The vermiculite is mined with a backhoe and front-end loader and trucked to the adjacent plant where pieces greater than four inches across are removed. These pieces are washed and processed in a rod mill to shear the vermiculite into thin platelets. Biotite, feldspar, and other impurities are further concentrated and removed by froth flotation. The vermiculite is then dewatered, dried in a rotary kiln, and screened to produce four basic sized products. Most of the crude vermiculite is shipped by rail in



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unexfoliated form to North Carolina, West Virginia, Ohio, North Dakota and other eastern states. James River Limestone Co., Inc., near Zion Crossroads, Louisa County, purchases some of the vermiculite which they exfoliate and market in 4 cubic foot bags. They also pre-mix exfoliated vermiculite with purchased cement and market the product thus produced as "Poolcrete". Other uses for the exfoliated material include packing, insulation, lightweight aggregate, and potting material.

Table 1. Mineral Resource Production In Virginia - 1992 <sup>1/p</sup>

Mineral Commodity	Quantity	Value (thousands)
Clay _____ metric tons _____	690,222	\$ 3,990
Coal (bituminous) <sub>2</sub> (\$34.88) - thousand short tons _____	42,564	1,484,403
Gemstones _____	NA	W
Lime _____ thousand short tons _____	810	38,888
Natural Gas <sub>2</sub> (\$1.85/1000 cu. ft.) - million cubic feet _____	24,734	45,757
Petroleum (crude) <sub>2</sub> (\$17.46/bl.) - 42-gallon barrels _____	12,881	225
Sand and gravel, _____ thousand short tons _____	10,200	39,600
Stone:		
Crushed _____ thousand short tons _____	47,500	261,300
Dimension _____ short tons _____	W	W
Combined value of cement, clay (fuller's earth), dimension stone, feldspar, gemstones, gypsum, industrial sand, sand and gravel, iron, oxide pigments, kyanite, sulfur, vermiculite _____	XX	81,484
Total _____	XX	\$ 1,955,647

NA, Not available. XX, Not Applicable p, Preliminary e, Estimated

W Withheld to avoid disclosing company proprietary data; value included with "combined value" data.

1/ Measured by mine shipments, sales, or marketable production (includes consumption by producers) - from U. S. Bureau of Mines.

2/ Virginia Department of Mines, Minerals, and Energy.

Table 2. Summary of metal/nonmetal mining by commodity, 1992.

COMMODITY	ANNUAL TONNAGE	OFFICE WORKERS	OFFICE HOURS	OFFICE WAGES	PLANT WORKERS	QUARRY WORKERS	PRODUCTION HOURS	PRODUCTION WAGES
Aplite	340,277.00	0	4,211	\$ 73,259	0	8	21,615	\$ 196,800
Basalt	735,483.00	2	2,400	\$ 25,645	0	17	40,814	\$ 473,537
Clay	143,312.00	1	3,038	\$ 44,409	0	16	6,143	\$ 105,942
Coal Refuse	255,100.00	7	0	\$ 0	0	0	0	\$ 0
Dionite	368,128.00	0	13,124	\$ 199,769	17	6	54,839	\$ 503,017
Dolomite	1,089,014.00	14	29,120	\$ 779,886	22	14	83,500	\$ 1,073,058
Feldspar	172,330.00	4	7,664	\$ 15,927	26	4	64,969	\$ 933,006
Fullers Earth	55,000.00	9	16,920	\$ 210,000	42	2	86,431	\$ 812,104
Gemstones	0.50	0	0	\$ 0	0	0	200	\$ 0
Granite	21,752,787.88	121	228,584	\$3,838,211	306	313	1,169,274	\$16,037,240
Gravel	579,137.00	4	121	\$ 1,276	1	12	5,745	\$ 77,400
Greenstone	292,752.00	1	2,903	\$ 25,180	9	2	29,043	\$ 306,746
Gypsum	302,144.00	8	17,666	\$ 316,370	0	62	148,703	\$ 1,594,378
Iron Oxide	300.00	1	5	\$ 50	0	2	32	\$ 1,280
Kyanite	749,750.00	18	49,052	\$ 833,422	123	33	305,018	\$ 3,458,033
Limestone	18,646,101.87	271	538,720	\$9,738,348	901	524	2,944,777	\$29,231,945
Limonite	600.00	11	23,947	\$ 425,644	29	0	67,288	\$ 490,154
Marl	17,148.00	3	5,315	\$ 90,066	0	8	17,370	\$ 204,121
Quartz	9,075.00	1	5	\$ 70	0	1	1,110	\$ 11,345
Quartzite	829,060.00	5	9,860	\$ 128,137	35	8	94,455	\$ 1,071,441
Sand	5,403,997.48	99	72,289	\$1,034,396	48	202	216,362	\$ 2,131,013
Sand & Gravel	8,488,745.92	58	92,836	\$1,006,635	159	165	657,526	\$ 6,052,984
Sandstone	980.00	13	10,361	\$ 184,546	44	38	86,063	\$ 1,029,504
Shale	921,322.00	60	87,532	\$1,563,645	327	152	680,315	\$ 5,037,195
Slate	346,277.00	25	52,559	\$ 914,050	110	22	265,446	\$ 2,165,660
Soapstone	980.00	5	5,750	\$ 174,035	27	2	23,203	\$ 179,407
Titanium	0.00	4	8,793	\$ 204,468	0	0	0	\$ 0
Traprock	7,991,171.00	47	92,180	\$1,628,759	70	116	383,497	\$ 6,284,880
Vermiculite	34,000.00	3	7,242	\$ 80,900	15	6	48,416	\$ 447,500
TOTAL	70,596,627.15	802	1,382,197	\$23,680,462	2311	1735	7,502,154	\$79,909,690

Table 3. Summary of metal/nonmetal mining by county/city, 1992.

COUNTY/ CITY	ANNUAL TONNAGE	OFFICE WORKERS	OFFICE HOURS	OFFICE WAGES	PLANT WORKERS	QUARRY WORKERS	PRODUCTION HOURS	PRODUCTION WAGES
Accomack	24,992.00	1	150	\$1,646	1	9	5,818	\$48,692
Albemarle	1,093,983.00	4	9,117	\$147,654	22	17	71,505	\$902,877
Amelia	0.50	0	0	\$0	0	0	200	\$0
Amherst	340,277.00	2	4,211	\$73,259	0	8	21,615	\$196,800
Appomattox	237,763.00	5	9,588	\$184,657	10	9	49,437	\$369,306
Augusta	1,109,758.00	9	5,061	\$199,140	24	43	84,049	\$1,168,942
Bedford	860,548.00	12	16,977	\$186,352	14	25	72,938	\$720,847
Bland	77,155.00	1	2,281	\$48,442	2	4	9,288	\$156,894
Botetourt	2,157,451.00	46	92,368	\$1,813,129	242	44	578,597	\$7,432,401
Brunswick	1,682,899.00	21	42,501	\$861,753	138	63	303,965	\$2,791,228
Buckingham	999,505.00	32	63,600	\$1,391,622	195	55	489,633	\$4,807,266
Campbell	1,444,535.00	10	14,097	\$150,504	34	15	103,480	\$1,157,141
Caroline	829,777.00	10	18,972	\$174,363	10	14	46,413	\$432,471
Charles City	558,647.00	4	9,095	\$123,711	12	9	45,221	\$440,107
Charlotte	6,785.00	0	0	\$0	3	0	1,540	\$11,000
Chesapeake	1,874,027.00	13	25,437	\$225,700	2	20	33,675	\$296,628
Chesterfield	1,342,751.00	23	36,969	\$418,879	57	21	206,386	\$1,675,689
Clarke	113,603.00	1	2,515	\$23,648	3	8	20,231	\$176,793
Craig	108,804.00	5	4,928	\$116,489	6	2	21,900	\$164,513
Culpeper	529,513.00	7	8,176	\$106,267	17	23	53,302	\$706,031
Danville (City of)	13,895.00	1	131	\$1,050	1	1	2,232	\$19,762
Dinwiddie	1,213,334.00	2	4,160	\$70,000	21	10	89,275	\$1,134,000
Essex	500.00	1	0	\$0	0	0	0	\$0
Fairfax	3,613,375.00	13	22,526	\$505,647	21	43	123,506	\$2,264,680
Fauquier	724,447.00	6	10,326	\$196,000	7	16	38,692	\$570,655
Franklin	10,400.00	0	0	\$0	0	2	975	\$6,135
Frederick	2,337,316.00	30	59,430	\$762,096	118	69	338,503	\$3,780,913
Giles	1,166,017.00	39	43,908	\$664,277	181	91	432,423	\$4,270,461
Gloucester	254,689.00	5	4,614	\$50,623	3	5	10,809	\$100,753
Goochland	2,582,307.00	14	26,491	\$420,038	18	53	111,145	\$1,630,864
Grayson	363,434.00	2	4,410	\$21,011	12	11	38,870	\$315,143
Greene	560,827.00	1	2,400	\$26,407	0	15	31,266	\$447,355
Greensville	1,735,570.00	28	55,185	\$1,071,931	138	68	305,115	\$2,852,452
Halifax	977,873.00	6	11,670	\$237,612	14	9	36,306	\$580,806
Hampton	148,622.00	1	2,224	\$30,858	0	6	3,256	\$32,605
Hanover	1,999,306.00	17	24,170	\$474,949	67	22	165,571	\$2,392,854
Henrico	3,613,906.00	8	8,718	\$75,184	37	56	188,461	\$2,066,576
Henry	898,843.00	13	23,366	\$312,004	26	16	98,556	\$1,027,446
Highland	9,294.00	1	1,541	\$10,460	0	2	2,687	\$17,600
Isle of Wight	397,092.00	14	22,695	\$365,849	2	35	74,355	\$865,679
James City	211,233.00	6	577	\$1,280	1	7	1,944	\$32,635
King and Queen	160,119.00	12	17,030	\$210,410	43	4	90,912	\$848,570
King George	1,128,866.00	5	10,432	\$108,123	14	17	46,737	\$448,296
King William	474,051.00	4	4,755	\$69,087	6	18	29,064	\$351,249
Lancaster	20,894.00	3	50	\$640	0	15	725	\$15,957
Lee	467,887.00	5	8,821	\$80,183	12	17	36,313	\$247,548
Loudoun	3,716,212.00	31	64,375	\$1,022,656	46	58	216,156	\$3,374,822
Louisa	417,301.00	8	17,237	\$197,371	18	21	82,525	\$816,411
Mathews	6,350.00	1	10	\$40	0	2	1,080	\$3,600
Mecklenberg	497,001.00	7	10,113	\$83,680	12	8	44,922	\$431,950
Middlesex	75,172.00	2	17	\$72	1	12	3,983	\$19,481
Montgomery	1,504,201.00	12	26,712	\$453,027	18	24	98,440	\$856,147
Nelson	3,220.00	6	5,760	\$174,105	27	3	23,293	\$180,037
New Kent	100.00	1	40	\$500	1	0	40	\$500
Northampton	17,703.00	1	320	\$1,920	0	11	1,545	\$9,446

Table 3. Summary of metal/nonmetal mining by county/city, 1992 (continued).

COUNTY/ CITY	ANNUAL TONNAGE	OFFICE WORKERS	OFFICE HOURS	OFFICE WAGES	PLANT WORKERS	QUARRY WORKERS	PRODUCTION HOURS	PRODUCTION WAGES
Northumberland	31,897.20	5	112	\$576	1	9	1,176	\$5,501
Nottoway	574,194.00	1	2,400	\$29,184	0	18	33,762	\$298,407
Orange	95,858.00	2	2,752	\$40,771	0	1	1,381	\$11,907
Patrick	10.00	1	48	\$6,000	0	1	8	\$0
Pittsylvania	163,468.00	15	25,804	\$373,476	28	9	52,763	\$458,607
Powhatan	519,774.00	1	2,400	\$22,408	0	12	27,319	\$293,947
Prince Edward	0.00	1	14,195	\$14,744	16	0	34,443	\$398,446
Prince George	959,042.00	4	8,320	\$173,000	12	23	74,161	\$712,000
Prince William	2,314,561.00	16	23,007	\$632,309	24	25	79,952	\$1,942,769
Pulaski	408,644.00	14	30,057	\$464,442	39	9	100,394	\$741,410
Richmond	2,000.00	1	10	\$0	0	1	150	\$1,500
Richmond (City of)	1,901,753.00	1	2,600	\$25,779	22	23	94,038	\$1,194,168
Roanoke	1,154,014.00	22	45,120	\$911,886	100	15	242,603	\$2,223,374
Rockbridge	359,406.00	11	19,396	\$243,655	10	24	46,699	\$352,216
Rockingham	1,637,996.00	22	40,489	\$690,355	46	54	115,516	\$1,023,076
Russell	1,504,373.00	20	45,568	\$691,313	66	29	202,210	\$1,741,126
Scott	378,251.00	2	3,716	\$31,848	2	15	28,292	\$342,067
Shenandoah	1,198,702.00	31	63,422	\$1,361,123	55	32	194,656	\$2,190,805
Smyth	563,676.00	15	25,052	\$426,670	5	78	174,414	\$1,798,313
Southampton	207,495.00	3	1,952	\$17,728	6	7	21,849	\$182,542
Spotsylvania	1,900,195.00	8	11,567	\$169,237	43	29	125,279	\$1,310,367
Stafford	1,670,165.00	11	19,321	\$367,353	14	19	61,729	\$881,406
Suffolk	638,042.00	3	3,120	\$30,300	1	13	4,274	\$34,796
Surry	410.00	0	0	\$0	0	0	0	\$0
Sussex	51,889.00	2	605	\$2,000	3	3	7,790	\$93,529
Tazewell	1,221,865.00	8	18,409	\$351,172	30	31	112,140	\$700,447
Virginia Beach	1,200,727.00	14	11,297	\$235,805	2	26	20,456	\$313,399
Warren	627,270.00	29	58,126	\$1,841,185	46	22	138,918	\$2,360,674
Washington	531,903.00	3	7,006	\$223,469	11	9	40,991	\$404,646
Westmoreland	67,038.00	3	2,565	\$63,998	1	3	2,765	\$35,798
Wise	500,849.00	2	3,236	\$26,775	2	19	39,790	\$403,936
Wythe	1,097,853.00	14	24,563	\$241,945	53	30	384,484	\$1,423,218
York	12,216.00	0	0	\$0	0	1	0	\$10,080
<b>TOTAL</b>	<b>70,209,673.15</b>	<b>797</b>	<b>1,376,492</b>	<b>\$23,656,811</b>	<b>2,296</b>	<b>1,726</b>	<b>7,453,277</b>	<b>\$79,553,491</b>

Table 4. Summary of coal mine production in Virginia, 1992.

	BUCHANAN	DICKENSON	LEE	MONTGOMERY	RUSSELL	SCOTT	TAZEWELL	WISE	TOTAL
<b>NUMBER OF MINES:</b>									
Auger	1	14	3	0	0	0	0	10	28
Strip	18	30	3	1	7	0	2	38	99
Surface Total	19	44	6	1	7	0	2	48	127
Tipple	0	0	0	0	0	0	0	0	0
Truck	149	45	19	0	8	1	36	41	299
Undg Total	<u>149</u>	<u>45</u>	<u>19</u>	<u>0</u>	<u>8</u>	<u>1</u>	<u>36</u>	<u>41</u>	<u>299</u>
TOTAL	168	89	25	1	15	1	38	89	426
<b>TONNAGES:</b>									
Auger	1,071	271,670	6,133	0	0	0	0	41,226	320,100
Strip	1,180,313	2,113,310	276,886	1,741	350,977	0	0	3,930,996	7,854,222
Surface Total	1,181,384	2,384,980	283,019	1,741	350,977	0	0	3,972,222	8,174,322
Tipple	0	0	0	0	0	0	0	0	0
Truck	16,360,444	4,601,683	2,855,751	0	393,387	48,120	2,846,126	7,283,687	34,389,198
Undg Total	<u>16,360,444</u>	<u>4,601,683</u>	<u>2,855,751</u>	<u>0</u>	<u>393,387</u>	<u>48,120</u>	<u>2,846,126</u>	<u>7,283,687</u>	<u>34,389,198</u>
TOTAL	<u>17,541,828</u>	<u>6,986,663</u>	<u>3,138,770</u>	<u>1,741</u>	<u>744,364</u>	<u>48,120</u>	<u>2,846,126</u>	<u>11,255,909</u>	<u>42,563,520</u>
<b>MINING METHODS:</b>									
<b>UNDERGROUND:</b>									
Longwall									
Tipple	0	0	0	0	0	0	0	0	0
Truck	6,765,543	766,227	955,337	0	0	0	0	835,080	9,322,187
TOTAL	<u>6,765,543</u>	<u>766,227</u>	<u>955,337</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>835,080</u>	<u>9,322,187</u>
Cont. Miner									
Tipple	0	0	0	0	0	0	0	0	0
Truck	<u>9,315,224</u>	<u>3,597,073</u>	<u>1,900,414</u>	<u>0</u>	<u>393,387</u>	<u>48,120</u>	<u>2,846,126</u>	<u>6,448,607</u>	<u>24,548,952</u>
TOTAL	<u>9,315,224</u>	<u>3,597,073</u>	<u>1,900,414</u>	<u>0</u>	<u>393,387</u>	<u>48,120</u>	<u>2,846,126</u>	<u>6,448,607</u>	<u>24,548,952</u>
<b>OTHER:</b>									
Tipple	0	0	0	0	0	0	0	0	0
Truck	279,677	238,383	0	0	0	0	0	0	518,060
TOTAL	<u>279,677</u>	<u>238,383</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>518,060</u>
TOTAL UNDG:	<u>16,360,444</u>	<u>4,601,683</u>	<u>2,855,751</u>	<u>0</u>	<u>393,387</u>	<u>48,120</u>	<u>2,846,126</u>	<u>7,283,687</u>	<u>34,389,198</u>
<b>SURFACE:</b>									
Auger	1,071	164,535	6,133	0	0	0	0	41,226	212,964
Strip	<u>1,180,313</u>	<u>1,933,258</u>	<u>276,866</u>	<u>1,741</u>	<u>350,977</u>	<u>0</u>	<u>0</u>	<u>3,922,361</u>	<u>7,665,536</u>
TOTAL SURF:	<u>1,181,384</u>	<u>2,097,793</u>	<u>283,019</u>	<u>1,741</u>	<u>350,977</u>	<u>0</u>	<u>0</u>	<u>3,963,587</u>	<u>7,878,500</u>

Table 5. Summary of coal mining in Virginia by coal bed, 1992.

COAL BED	BUCHANAN	DICKENSON	LEE	MONTGOMERY	RUSSELL	SCOTT	TAZEWELL	WISE	TOTAL
Aily	32,484	1,565	0	0	0	0	0	0	34,049
Big Fork	0	0	0	0	1,419	0	0	0	1,419
Blair	599,651	13,219	0	0	0	0	0	157,240	770,110
Campbell Creek	323	0	0	0	0	0	0	212,386	212,691
Cedar Grove	0	0	0	0	0	0	0	308,664	308,664
Clintonwood	149,996	1,399,042	0	0	0	0	0	669,658	2,218,696
Cove Creek	0	0	0	0	0	48,120	0	0	48,120
Dorchester	466,922	737,831	0	0	0	0	0	2,471,473	3,676,226
Eagle	224,655	6,839	0	0	0	0	0	0	231,494
Greasy Creek	0	0	0	0	0	0	594,139	0	594,139
Hagy	579,879	259	0	0	0	0	0	0	580,138
High Splint	0	0	0	0	0	0	0	480,748	480,748
Jawbone	2,314,704	1,676,999	0	0	361,612	0	0	523,140	4,876,456
Kelly	0	0	7,267	0	0	0	0	1,792,436	1,799,703
Kennedy	974,984	0	0	0	332,284	0	0	0	1,307,268
Lower Banner	7,665	943,411	0	0	0	0	312,322	1,313	1,264,711
Lower Horsepen	0	0	0	0	0	0	110,644	0	110,644
Low Splint	0	0	0	0	0	0	0	600,381	600,381
Lower Seaboard	0	0	0	0	0	0	387,144	0	387,144
Lower St. Charles	0	0	671,338	0	0	0	0	0	671,388
Lyons	0	13,539	0	0	0	0	0	152,278	165,817
Merrimac	0	0	0	1,741	0	0	0	0	1,741
Middle Seaboard	0	0	0	0	0	0	18,770	0	18,770
Morris	0	0	0	0	0	0	0	24,443	24,443
Pardee	0	0	22,244	0	0	0	0	623,056	645,300
Phillips	0	7,292	547,758	0	0	0	0	120,936	675,986
Pin Hook	0	0	0	0	0	0	0	51,669	51,669
Pocahontas No.3	8,827,777	0	0	0	0	0	345,468	0	345,468
Raven	1,061,494	640,120	0	0	20,320	0	163,618	85,366	1,970,918
Splash Dam	2,005,495	559,849	0	0	0	0	0	0	2,565,344
Taggart	0	0	1,256,599	0	0	0	0	543,157	1,799,756
Taggart Marker	0	0	15,201	0	0	0	0	41,892	57,093
Tiller	295,798	98,737	0	0	0	0	204,572	0	599,107
Upper Banner	0	887,960	0	0	28,729	0	0	1,036,820	1,953,510
Upper Horsepen	0	0	0	0	0	0	709,450	0	709,450
Upper Standiford	0	0	404,341	0	0	0	0	1,297,349	1,701,689
Wax	0	0	214,022	0	0	0	0	61,522	275,544
<b>TOTAL</b>	<b>17,541,828</b>	<b>6,986,663</b>	<b>3,138,769</b>	<b>1,741</b>	<b>744,364</b>	<b>48,120</b>	<b>2,846,126</b>	<b>11,255,909</b>	<b>42,563,520</b>

Table 6. Summary of coal mine employment in Virginia, 1992.

	BUCHANAN	DICKENSON	LEE	MONTGOMERY	RUSSELL	SCOTT	TAZEWELL	WISE	TOTAL
<b>PROD. EMPLOYEES</b>									
Auger	3	55	3	0	0	0	0	12	73
Strip	133	381	58	0	119	0	0	565	1,256
Surface Total	136	436	61	0	119	0	0	577	1,329
Tipple	0	0	0	0	0	0	0	0	0
Truck	3,451	1,301	507	0	78	12	622	1,709	7,680
Undg Total	<u>3,451</u>	<u>1,301</u>	<u>507</u>	<u>0</u>	<u>78</u>	<u>12</u>	<u>622</u>	<u>1,709</u>	<u>7,680</u>
TOTAL	3,587	1,737	568	0	197	12	622	2,286	9,009
<b>MAN DAYS</b>									
Auger	270	4,850	135	0	0	0	0	342	5,597
Strip	34,905	72,805	14,302	0	12,352	0	0	125,013	259,377
Surface Total	35,175	77,655	14,437	0	12,352	0	0	125,355	264,974
Tipple	0	0	0	0	0	0	0	0	0
Truck	743,695	343,210	115,072	0	20,731	2,400	135,773	407,958	1,768,839
Undg Total	<u>743,695</u>	<u>343,210</u>	<u>115,072</u>	<u>0</u>	<u>20,731</u>	<u>2,400</u>	<u>135,773</u>	<u>407,958</u>	<u>1,768,839</u>
TOTAL	778,870	420,865	129,509	0	33,083	2,400	135,773	533,313	2,033,813
<b>MAN HOURS</b>									
Auger	480	51,396	636	0	0	0	0	3,081	55,593
Strip	273,098	553,375	132,680	0	92,790	0	0	1,090,033	2,141,976
Surface Total	273,578	604,771	133,316	0	92,790	0	0	1,093,114	2,197,569
Tipple	0	0	0	0	0	0	0	0	0
Truck	6,360,893	2,249,870	941,266	0	149,844	17,853	990,365	3,056,893	13,766,984
Total Undg	<u>6,360,893</u>	<u>2,249,870</u>	<u>941,266</u>	<u>0</u>	<u>149,844</u>	<u>17,853</u>	<u>990,365</u>	<u>3,056,893</u>	<u>13,766,984</u>
TOTAL	6,634,471	2,854,641	1,074,582	0	242,634	17,853	990,365	4,150,007	15,964,553
<b>PROD. WAGES</b>									
Auger	3,840	833,368	5,426	0	0	0	0	33,895	876,529
Strip	4,659,679	9,107,234	1,373,770	0	1,635,581	0	0	17,471,042	34,247,306
Surface Total	4,663,519	9,940,602	1,379,196	0	1,635,581	0	0	17,504,937	35,123,835
Tipple	0	0	0	0	0	0	0	0	0
Truck	100,437,093	39,000,434	18,289,773	0	2,777,685	212,950	16,761,716	52,413,811	229,893,462
TOTAL	<u>100,437,093</u>	<u>39,000,434</u>	<u>18,289,773</u>	<u>0</u>	<u>2,777,685</u>	<u>212,950</u>	<u>16,761,716</u>	<u>52,413,811</u>	<u>229,893,462</u>
TOTAL UNDG:	105,100,612	48,941,036	19,668,969	0	4,413,266	212,950	16,761,716	69,918,748	265,017,297
<b>OFFICE EMPLOYEES</b>									
Auger	1	1	0	0	0	0	0	0	2
Strip	3	9	0	1	1	0	0	29	43
TOTAL SURFACE:	4	10	0	1	1	0	0	29	45
Tipple	0	0	0	0	0	0	0	0	0
Truck	120	19	12	0	0	1	18	43	213
UNDG Total	<u>120</u>	<u>19</u>	<u>12</u>	<u>0</u>	<u>0</u>	<u>1</u>	<u>18</u>	<u>43</u>	<u>213</u>
TOTAL	124	29	12	1	1	1	18	72	258
<b>OFFICE WAGES</b>									
Auger	0	50,000	0	0	0	0	0	0	50,000
Strip	18,000	218,701	0	0	8,640	0	0	1,388,681	1,634,022
Surface Total	18,000	268,701	0	0	8,640	0	0	1,388,681	1,634,022
Tipple	0	0	0	0	0	0	0	0	0
Truck	2,728,781	375,343	219,159	0	0	6,000	343,600	1,060,953	4,733,836
Undg Total	<u>2,728,781</u>	<u>375,343</u>	<u>219,159</u>	<u>0</u>	<u>0</u>	<u>6,000</u>	<u>343,600</u>	<u>1,060,953</u>	<u>4,733,836</u>
TOTAL	2,746,781	644,044	219,159	0	8,640	6,000	343,600	2,449,600	6,417,858

Table 7. Oil production by county and company, 1992.

COUNTY	COMPANY	PRODUCING WELLS NUMBER	(BBLs) VOLUME
Lee	APACO Petroleum	5	600.21
	Ben Hur Oil	5	1,556.00
	Eastern States	1	1,706.00
	Maverick Oil	5	2,000.00
	Petroleum Partners	1	600.00
	Pride Oil	1	1,856.47
	Stonewall Gas	2	667.19
	Witt Oil	<u>1</u>	<u>228.00</u>
		21	9,213.87
Wise	Equitable Resources	<u>19</u>	<u>3,667.13</u>
Total		40	12,881.00

Table 8. Gas production by county and company, 1992.

COUNTY	COMPANY	PRODUCING NUMBER	VOLUME MCF
Buchanan	Ashland Exploration	59	579,532
	Berea Oil & Gas	1	3,529
	Cabot Oil & Gas	4	60,631
	CD&G Development	2	30,293
	Columbia Natural Resc.	102	1,523,383
	Edisto Resources	6	27,137
	Island Creek Coal Co	24	1,560,080
	OXY USA, Inc.	27	124,391
	P & S Corporation	5	22,895
	Panther Creek	2	13,086
	Peake Operating	1	21,918
	Poca. Gas Partnership	96	2,588,131
	Virginia Gas Co.	<u>22</u>	<u>419,182</u>
TOTAL		351	6,974,926
Dickenson	Columbia Natural Resc.	33	703,462
	W. E. Elliott	2	26,791
	Equitable Resources	447	7,879,840
	Pine Mountain	9	129,461
	Virginia Gas Co.	<u>19</u>	<u>429,239</u>
TOTAL		510	10,962,851
Russell	Equitable Resources	16	500,154
	Pine Mountain	<u>2</u>	<u>23,933</u>
TOTAL		18	524,087
Scott	Equitable Resources	1	3,495
	Virginia Gas Co.	<u>14</u>	<u>125,952</u>
TOTAL		15	129,447
Tazewell	CNG Producing	2	15,833
	Columbia Natural Resc.	5	175,989
	Consol-Ray	14	27,451
	EMAX Oil	2	59,108
	Excel Energy	1	43,033
	R. & B. Petroleum	<u>2</u>	<u>9,725</u>
TOTAL		26	331,189

Table 8. Gas production by county and company, 1992 (continued).

COUNTY	COMPANY	PRODUCING NUMBER	VOLUME MCF
Washington	Virginia Gas Co.	<u>7</u>	<u>20,951</u>
TOTAL		7	20,951
Wise	Amvest Oil and Gas Equitable Resources	6 <u>220</u>	27,524 <u>5,762,636</u>
TOTAL		<u>226</u>	<u>5,790,160</u>
GRAND TOTAL		1,153	24,733,611

Table 9. Number of wells drilled, 1992.

COUNTY	CONVENTIONAL		COALBED METHANE		CONVERSION		TOTAL WELLS
	DEV.	EXPL.	DEV.	EXPL.	DEV.	EXPL.	
Buchanan	2	0	91	0	98	0	191
Dickenson	10	0	44	0	0	0	54
King George	0	1	0	0	0	0	1
Russell	0	0	5	0	0	0	5
Westmoreland	0	1	0	0	0	0	1
Wise	<u>29</u>	<u>0</u>	<u>3</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>32</u>
TOTAL	41	2	143	0	98	0	284
Percent	(14.4)	(0.7)	(50.4)	(0)	(34.5)	(0)	(100)

Table 10. Number of wells completed, 1992.

COUNTY	CONVENTIONAL		COALBED METHANE		CONVERSION		TOTAL WELLS
	DEV.	EXPL.	DEV.	EXPL.	DEV.	EXPL.	
Buchanan	2	0	87	0	102	0	191
Dickenson	11	0	39	0	0	0	50
King George	0	1	0	0	0	0	1
Russell	0	0	4	0	0	0	4
Westmoreland	0	1	0	0	0	0	1
Wise	<u>25</u>	<u>0</u>	<u>2</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>27</u>
TOTAL	38	2	132	0	102	0	274
Percent	(13.9)	(0.7)	(48.2)	(0)	(37.2)	(0)	(100)

Table 11. Total footage drilled for gas, 1992.

COUNTY	CONVENTIONAL		COALBED METHANE		CONVERSION		TOTAL FOOTAGE
	DEV.	EXPL.	DEV.	EXPL.	DEV.	EXPL.	
Buchanan	10,934	0	177,127	0	191,209	0	379,270
Dickenson	44,192	0	100,265	0	0	0	144,457
King George	0	10,213	0	0	0	0	10,213
Russell	0	0	11,169	0	0	0	11,169
Westmoreland	0	8,025	0	0	0	0	8,025
Wise	<u>143,184</u>	<u>0</u>	<u>7,769</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>150,953</u>
TOTAL	198,310	18,238	296,330	0	191,209	0	704,087
PERCENT	(28.2)	(2.6)	(42.1)	(0)	(27.1)	(0)	(100)

Table 12. Wells drilled or Completed in Virginia, 1992.

File Number	Permit Number	Operator	Well Name	7.5-minute Quadrangle	Latitude	Longitude	Well Class	Total Depth (Feet)	Formation at Total Depth (Mcf/d)	Producing Formation	Final Flow
<b>Buchanan County</b>											
BU-0418	1777	Poca. Gas Partnership	PGP-PKE - 26	Keen Mountain	8800' S. 37 15'00"	11900' W. 82 15'00"	Dev.	5478	Chattanooga Sh Greenbrier Ls	Berea Sa,	350 500
BU-0421	1791	Poca. Gas Partnership	PGP-56	Keen Mountain	899' S. 37 12'30"	1736' W. 81 57'30"	Dev.	2250	Pocahontas	Pocahontas	
BU-0424	1795	Poca. Gas Partnership	PGP-71	Keen Mountain	5708' S. 37 12'30"	21390' W. 81 57'30"	Dev.	2070	Pocahontas	Pocahontas	
BU-0425	1796	Poca. Gas Partnership	PGP-55	Keen Mountain	9012' S. 37 12'30"	3055' W. 81 57'30"	Dev.	1923	Pocahontas	Pocahontas	
BU-0426	1797	Poca. Gas Partnership	PGP-60	Keen Mountain	8132' S. 37 12'30"	1199' W. 81 57'30"	Dev.	2073	Pocahontas	Pocahontas	
BU-0427	1798	Poca. Gas Partnership	PGP-67	Keen Mountain	6451' S. 37 12'30"	1190' W. 81 57'30"	Dev.	2100	Pocahontas	Pocahontas	
BU-0428	1799	Poca. Gas Partnership	PGP-63	Keen Mountain	7273' S. 37 12'30"	1362' W. 81 57'30"	Dev.	2100	Pocahontas	Pocahontas	
BU-0429	1800	Poca. Gas Partnership	PGP-59	Keen Mountain	8135' S. 37 12'30"	3426' W. 81 57'30"	Dev.	1995	Pocahontas	Pocahontas	
BU-0433	1820	Poca. Gas Partnership	PGP-70	Keen Mountain	5663' S. 37 12'30"	3707' W. 81 57'30"	Dev.	2075	Pocahontas	Pocahontas	
BU-0434	1821	Poca. Gas Partnership	PGP-64	Keen Mountain	6287' S. 37 12'30"	6758' W. 81 57'30"	Dev.	2170	Pocahontas	Pocahontas	
BU-0435	1822	Poca. Gas Partnership	PGP-54	Keen Mountain	8776' S. 37 12'30"	4830' W. 81 57'30"	Dev.	2280	Pocahontas	Pocahontas	
BU-0436	1823	Poca. Gas Partnership	PGP-49	Keen Mountain	10694' S. 37 12'30"	1767' W. 81 57'30"	Dev.	2280	Pocahontas	Pocahontas	

Table 12. Wells drilled or Completed in Virginia, 1992.

File Number	Permit Number	Operator	Well Name	7.5-minute Quadrangle	Latitude	Longitude	Well Class	Total Depth (Feet)	Formation at Total Depth (Mcf/d)	Producing Formation	Final Flow
BU-0437	1824	Poca. Gas Partnership	PGP-48	Keen Mountain	10531' S. 37 12'30"	3018' W. 81 57'30"	Dev.	2250	Pocahontas	Pocahontas	
BU-0438	1825	Poca. Gas Partnership	PGP-66	Keen Mountain	6264' S. 37 12'30"	3260' W. 81 57'30"	Dev.	1689	Pocahontas	Pocahontas	75
BU-0439	1827	Poca. Gas Partnership	PGP-46	Keen Mountain	1173' S. 37 12'30"	1579' W. 81 57'30"	Dev.	2266	Pocahontas	Pocahontas	
BU-0440	1828	Poca. Gas Partnership	PGP-47	Keen Mountain	10566' S. 37 12'30"	4250' W. 81 57'30"	Dev.	2160	Pocahontas	Pocahontas	
BU-0441	1829	Poca. Gas Partnership	PGP-45	Keen Mountain	11471' S. 37 12'30"	2579' W. 81 57'30"	Dev.	2247	Pocahontas	Pocahontas	
BU-0442	1830	Poca. Gas Partnership	PGP-44	Keen Mountain	11456' S. 37 12'30"	3591' W. 81 57'30"	Dev.	2260	Pocahontas	Pocahontas	
BU-0446	1844	Poca. Gas Partnership	PGP-42	Keen Mountain	10566' S. 37 12'30"	4250' W. 81 57'30"	Dev.	2120	Pocahontas	Pocahontas	
BU-0447	1845	Poca. Gas Partnership	PGP-50	Keen Mountain	9838' S. 37 12'30"	5086' W. 81 57'30"	Dev.	1975	Pocahontas	Pocahontas	
BU-0448	1848	Poca. Gas Partnership	PGP-62	Keen Mountain	7259' S. 37 12'30"	3989' W. 81 57'30"	Dev.	2070	Pocahontas	Pocahontas	
BU-0449	1849	Poca. Gas Partnership	PGP-65	Keen Mountain	6420' S. 37 12'30"	5047' W. 81 57'30"	Dev.	2190	Pocahontas	Pocahontas	
BU-0450	1850	Poca. Gas Partnership	PGP-101	Keen Mountain	7425' S. 37 12'30"	3419' W. 81 57'30"	Dev.	1696	Pocahontas	Pocahontas	
BU-0451	1851	Poca. Gas Partnership	PGP-105	Keen Mountain	6420' S. 37 12'30"	2485' W. 81 57'30"	Dev.	2085	Pocahontas	Pocahontas	
BU-0452	1852	Poca. Gas Partnership	PGP-108	Keen Mountain	6537' S. 37 12'30"	2418' W. 81 57'30"	Dev.	2060	Pocahontas	Pocahontas	
BU-0453	1854	Poca. Gas Partnership	PGP-111	Keen Mountain	6603' S. 37 12'30"	918' W. 81 57'30"	Dev.	2030	Pocahontas	Pocahontas	
BU-0454	1855	Poca. Gas Partnership	PGP-112	Keen Mountain	3878' S. 37 12'30"	7434' W. 81 57'30"	Dev.	1667	Pocahontas	Pocahontas	
BU-0455	1856	Poca. Gas Partnership	PGP-52	Keen Mountain	9078' S. 37 12'30"	2321' W. 81 57'30"	Dev.	2257	Pocahontas	Pocahontas	
BU-0456	1857	Poca. Gas Partnership	PGP-51	Keen Mountain	9717' S. 37 12'30"	3812' W. 81 57'30"	Dev.	2209	Pocahontas	Pocahontas	
BU-0457	1858	Poca. Gas Partnership	PGP-61	Keen Mountain	7181' S. 37 12'30"	5948' W. 81 57'30"	Dev.	2040	Pocahontas	Pocahontas	
BU-0458	1860	Poca. Gas Partnership	PGP-106	Keen Mountain	5439' S. 37 12'30"	2447' W. 81 57'30"	Dev.	1875	Pocahontas	Pocahontas	

Table 12. Wells Drilled or Completed in Virginia, 1992 (continued).

File Number	Permit Number	Operator	Well Name	7.5-minute Quadrangle	Latitude	Longitude	Well Class	Total Depth (Feet)	Formation at Total Depth (Mcf/d)	Producing Formation	Final Flow
BU-0459	1861	Poca. Gas Partnership	PGP-110	Keen Mountain	7645' S. 37 12'30"	936' W. 81 57'30"	Dev.	2090	Pocahontas	Pocahontas	
BU-0460	1862	Poca. Gas Partnership	PGP-104	Keen Mountain	7940' S. 37 12'30"	2542' W. 81 57'30"	Dev.	1503	Pocahontas	Pocahontas	
BU-0461	1863	Poca. Gas Partnership	PGP-107	Keen Mountain	7639' S. 37 12'30"	1676' W. 81 57'30"	Dev.	1693	Pocahontas	Pocahontas	
BU-0462	1864	Poca. Gas Partnership	PGP-106C	Keen Mountain	3758' S. 37 12'30"	2379' W. 81 57'30"	Dev.	1407	Pocahontas	Pocahontas	
BU-0463	1871	Poca. Gas Partnership	PGP-68	Keen Mountain	5667' S. 37 12'30"	7434' W. 81 57'30"	Dev.	2415	Pocahontas	Pocahontas	
BU-0464	1873	Poca. Gas Partnership	PGP-314	Keen Mountain	13599' S. 37 12'30"	2575' W. 81 57'30"	Dev.	2070	Pocahontas	Pocahontas	
BU-0465	1874	Poca. Gas Partnership	PGP-69	Keen Mountain	5421' S. 37 12'30"	5337' W. 81 57'30"	Dev.	2435	Pocahontas	Pocahontas	
BU-0466	1880	Poca. Gas Partnership	PGP-117	Keen Mountain	2618' S. 37 10'00"	9734' W. 81 55'00"	Dev.	1710	Pocahontas	Pocahontas	
BU-0467	1881	Poca. Gas Partnership	PGP-118	Keen Mountain	201' S. 37 12'30"	9915' W. 81 55'00"	Dev.	2130	Pocahontas	Pocahontas	
BU-0468	1882	Poca. Gas Partnership	PGP-116	Keen Mountain	4610' S. 37 10'00"	9845' W. 81 55'00"	Dev.	2100	Pocahontas	Pocahontas	
BU-0469	1884	Poca. Gas Partnership	PGP-119	Keen Mountain	3844' S. 37 10'00"	8851' W. 81 55'00"	Dev.	1920	Pocahontas	Pocahontas	
BU-0470	1887	Poca. Gas Partnership	PGP-115	Keen Mountain	394' S. 37 12'30"	10690' W. 81 55'00"	Dev.	2145	Pocahontas	Pocahontas	
BU-0471	1888	Poca. Gas Partnership	PGP-113	Keen Mountain	4584' S. 37 10'00"	10628' W. 81 55'00"	Dev.	2065	Pocahontas	Pocahontas	
BU-0474	1894	Poca. Gas Partnership	PGP-114	Keen Mountain	2601' S. 37 10'00"	10483' W. 81 55'00"	Dev.	2040	Pocahontas	Pocahontas	
BU-0478	1906	Poca. Gas Partnership	PGP-321	Keen Mountain	10390' S. 37 10'00"	10100' W. 81 57'30"	Dev.	1871	Pocahontas	Pocahontas	25
BU-0479	1907	Poca. Gas Partnership	PGP-331	Keen Mountain	11690' S. 37 10'00"	10030' W. 81 57'30"	Dev.	2216	Pocahontas	Pocahontas	137
BU-0480	1908	Poca. Gas Partnership	PGP-332	Keen Mountain	11450' S. 37 10'00"	8970' W. 81 57'30"	Dev.	2250	Pocahontas	Pocahontas	137
BU-0481	1909	Poca. Gas Partnership	PGP-330	Keen Mountain	11750' S. 37 10'00"	11900' W. 81 57'30"	Dev.	2270	Pocahontas	Pocahontas	67
BU-0482	1910	Poca. Gas Partnership	PGP-322	Keen Mountain	10220' S. 37 10'00"	8200' W. 81 57'30"	Dev.	2209	Pocahontas	Pocahontas	137

Table 12 Wells Drilled or Completed in Virginia, 1992 (continued).

File Number	Permit Number	Operator	Well Name	7.5-minute Quadrangle	Latitude	Longitude	Well Class	Total Depth (Feet)	Formation at Total Depth (Mcf/d)	Producing Formation	Final Flow
BU-0483	1919	Island Creek Coal Co.	R13B.5EM9D3	Vansant	3600' S. 37 12'30"	1350' W. 82 02'30"	Dev.	2164	Pocahontas	Pocahontas	
BU-0484	1920	Island Creek Coal Co.	S13A.5EM9D4	Vansant	4750' S. 37 12'30"	1050' W. 82 02'30"	Dev.	1811	Pocahontas	Pocahontas	
BU-0485	1921	Poca. Gas Partnership	PGP-11A	Keen Mountain	12600' S. 37 12'30"	9475' W. 81 57'30"	Dev.	1670	Pocahontas	Pocahontas	
BU-0486	1929	Poca. Gas Partnership	PGP-42A	Keen Mountain	12450' S. 37 12'30"	1850' W. 81 57'30"	Dev.	1885	Pocahontas	Pocahontas	
BU-0487	1930	Poca. Gas Partnership	PGP-5A	Keen Mountain	14350' S. 37 12'30"	9875' W. 81 57'30"	Dev.	1404	Pocahontas	Pocahontas	
BU-0488	1931	Poca. Gas Partnership	PGP-58	Keen Mountain	8300' S. 37 12'30"	4675' W. 81 57'30"	Dev.	2060	Pocahontas	Pocahontas	
BU-0489	1932	Poca. Gas Partnership	PGP-56A	Keen Mountain	8900' S. 37 12'30"	2225' W. 81 57'30"	Dev.	1983	Pocahontas	Pocahontas	
BU-0490	1933	Poca Gas Partnership	PGP-114A	Keen Mountain	4390' S. 37 10'00"	10475' W. 81 55'00"	Dev.	1612	Pocahontas	Pocahontas	
BU-0491	1935	Island Creek Coal Co.	Borehole 5.2	Vansant	6372' S. 37 12'30"	2080' W. 82 02'30"	Dev.	2190	Pocahontas	Pocahontas	
BU-0492	1940	Poca Gas Partnership	PGP-109A	Keen Mountain	5875' S. 37 10'00"	1195' W. 81 57'30"	Dev.	1640	Pocahontas	Pocahontas	
BU-0493	1942	Island Creek Coal Co.	R13E.5EM9D5	Vansant	3600' S. 37 12'30"	1350' W. 82 02'30"	Dev.	2183	Pocahontas	Pocahontas	
BU-0494	1943	Poca Gas Partnership	PGP-106B	Keen Mountain	4680' S. 37 10'00"	2200' W. 81 57'30"	Dev.	1493	Pocahontas	Pocahontas	
BU-0495	1944	Poca Gas Partnership	PGP-BB27	Keen Mountain	7100' S. 37 10'00"	11290' W. 81 55'00"	Dev.	2217	Pocahontas	Pocahontas	
BU-0496	1947	Poca Gas Partnership	PGP-28C	Keen Mountain	4780' S. 37 10'00"	5990' W. 81 57'30"	Dev.	1383	Pocahontas	Pocahontas	
BU-0497	1949	Poca Gas Partnership	PGP-31B	Keen Mountain	5710' S. 37 10'00"	5480' W. 81 57'30"	Dev.	1415	Pocahontas	Pocahontas	
BU-0498	1950	Poca Gas Partnership	PGP-33B	Keen Mountain	6725' S. 37 10'00"	8025' W. 81 57'30"	Dev.	1737	Pocahontas	Pocahontas	
BU-0499	1951	Poca Gas Partnership	PGP-25A	Keen Mountain	4080' S. 37 10'00"	6500' W. 81 57'30"	Dev.	1391	Pocahontas	Pocahontas	
BU-0500	1953	Island Creek Coal Co.	Borehole 3.3	Vansant	1100' S. 37 12'30"	5250' W. 82 50'00"	Dev.	1511	Pocahontas	Pocahontas	
BU-0503	1961	Poca Gas Partnership	PGP-111A	Keen Mountain	12150' S. 37 10'00"	200' W. 81 57'30"	Dev.	1900	Pocahontas	Pocahontas	

Table 12 Wells Drilled or Completed in Virginia, 1992 (continued).

File Number	Permit Number	Operator	Well Name	7.5-minute Quadrangle	Latitude	Longitude	Well Class	Total Depth (Feet)	Formation at Total Depth (Mcf/d)	Producing Formation	Final Flow
BU-0504	1964	Poca Gas Partnership	PGP-108A	Keen Mountain	7095' S. 37 10'00"	1490' W. 81 57'30"	Dev.	1904	Pocahontas	Pocahontas	
BU-0505	1965	Poca Gas Partnership	PGP-103	Keen Mountain	5410' S. 37 10'00"	3145' W. 81 57'30"	Dev.	1899	Pocahontas	Pocahontas	
BU-0506	1966	Poca Gas Partnership	PGP-103C	Keen Mountain	4075' S. 37 10'00"	3150' W. 81 57'30"	Dev.	1900	Pocahontas	No Report	
BU-0508	1969	Island Creek Coal Co.	CBM Q-13E	Vansant	1300' S. 37 12'30"	12300' W. 82 00'00"	Dev.	2258	Pocahontas	Pocahontas	
BU-0510	1979	Poca Gas Partnership	PGP-CC28	Keen Mountain	8400' S. 37 10'00"	8940' W. 81 55'00"	Dev.	2191	Pocahontas	Not Stim	125
BU-0511	1980	Poca Gas Partnership	PGP-BB29	Keen Mountain	6300' S. 37 10'00"	7800' W. 81 55'00"	Dev.	1842	Pocahontas	Not Stim	50
BU-0512	1981	Poca Gas Partnership	PGP-VS4	Keen Mountain	12880' S. 37 12'30"	11400' W. 81 55'00"	Dev.	1616	Pocahontas	None	
BU-0513	1982	Poca Gas Partnership	PGP-109C	Keen Mountain	3910' S. 37 10'00"	1320' W. 81 57'30"	Dev.	1592	Pocahontas	No Report	
BU-0514	1983	Poca Gas Partnership	PGP-125	Keen Mountain	4190' S. 37 10'00"	7050' W. 81 55'00"	Dev.	1725	Pocahontas	No Records	
BU-0515	1984	Poca Gas Partnership	PGP-115A	Keen Mountain	1650' S. 37 10'00"	10600' W. 81 55'00"	Dev.	2035	Pocahontas	No Records	
BU-0516	1990	Poca Gas Partnership	PGP-122	Keen Mountain	4175' S. 37 10'00"	7950' W. 81 55'00"	Dev.	1880	Pocahontas	No Records	
BU-0517	1998	Poca Gas Partnership	PGP-123	Keen Mountain	2610' S. 37 10'00"	7795' W. 81 55'00"	Dev.	1755	Pocahontas	Pocahontas	73
BU-0518	1999	Poca Gas Partnership	PGP-118C	Keen Mountain	13600' S. 37 12'30"	10100' W. 81 55'00"	Dev.	1903	Pocahontas	Pocahontas	63
BU-0520	2001	Island Creek Coal Co.	CBM R-13 D	Vansant	2700' S. 37 12'30"	12300' W. 82 00'00"	Dev.	2230	Pocahontas	Pocahontas	
BU-0521	2002	Poca Gas Partnership	PGP-131	Keen Mountain	13590' S. 37 12'30"	6280' W. 81 55'00"	Dev.	1710	Pocahontas	Pocahontas	67
BU-0524	2009	Poca Gas Partnership	PGP-138	Keen Mountain	7290' S. 37 10'00"	11123' W. 81 55'00"	Dev.	2012	Pocahontas	Pocahontas	58
BU-0527	2013	Poca Gas Partnership	PGP-VH72	Keen Mountain	2080' S. 37 10'00"	3950' W. 81 57'30"	Dev.	1936	Pocahontas	None	
BU-0528	2014	Island Creek Coal Co.	R6A.3SM13D5	Vansant	2800' S. 37 12'30"	2100' W. 82 05'00"	Dev.	1422	Pocahontas	Pocahontas	
BU-0529	2015	Island Creek Coal Co.	R5A.3SM13D6	Vansant	3300' S. 37 12'30"	3300' W. 82 05'00"	Dev.	2074	Pocahontas	Pocahontas	

Table 12 Wells Drilled or Completed in Virginia, 1992 (continued).

File Number	Permit Number	Operator	Well Name	7.5-minute Quadrangle	Latitude	Longitude	Well Class	Total Depth (Feet)	Formation at Total Depth (Mcf)	Producing Formation	Final Flow
BU-0530	2016	Inland Creek Coal Co.	R13A.5EM9D2	Vansant	2700' S. 37 12'30"	1350' W. 82 02'30"	Dev.	2171	Pocahontas	Pocahontas	
BU-0531	2019	Poca Gas Partnership	PGP-130	Keen Mountain	190' S. 37 10'00"	6180' W. 81 55'00"	Dev.	1740	Pocahontas	Pocahontas	59
BU-0532	2020	Inland Creek Coal Co.	CBM Q-13 F	Vansant	1300' S. 37 12'30"	12300' W. 82 00'00"	Dev.	2287	Pocahontas	Pocahontas	
BU-0533	2021	Inland Creek Coal Co.	Q13A.5EM9D1	Vansant	1400' S. 37 12'30"	1300' W. 82 02'30"	Dev.	2066	Pocahontas	Pocahontas	
BU-0536	2026	Poca Gas Partnership	PGP-111B	Keen Mountain	6200' S. 37 10'00"	420' W. 81 57'30"	Dev.	1743	Pocahontas	Pocahontas	57
BU-0542	2037	Poca Gas Partnership	PGP-12A	Keen Mountain	12280' S. 37 12'30"	8790' W. 81 57'30"	Dev.	1898	Pocahontas	Pocahontas	65
BU-0543	2038	Poca Gas Partnership	PGP-12	Keen Mountain	12440' S. 37 12'30"	8300' W. 81 57'30"	Dev.	1986	Pocahontas	Pocahontas	70
BU-0544	2039	Poca Gas Partnership	PGP-8A	Keen Mountain	13390' S. 37 12'30"	9590' W. 81 57'30"	Dev.	1445	Pocahontas	Pocahontas	60
BU-0545	2040	Poca Gas Partnership	PGP-127	Keen Mountain	510' S. 37 10'00"	7110' W. 81 55'00"	Dev.	1455	Pocahontas	Pocahontas	67
BU-0546	2041	Poca Gas Partnership	PGP-136	Keen Mountain	4280' S. 37 10'00"	4415' W. 81 55'00"	Dev.	1885	Pocahontas	Pocahontas	63
BU-0547	2042	Poca Gas Partnership	PGP-126	Keen Mountain	2450' S. 37 10'00"	7150' W. 81 55'00"	Dev.	1592	Pocahontas	Pocahontas	57
BU-0548	2043	Poca Gas Partnership	PGP-132	Keen Mountain	4150' S. 37 10'00"	5300' W. 81 55'00"	Dev.	1588	Pocahontas	Pocahontas	54
BU-0549	2044	Poca Gas Partnership	PGP-112A	Keen Mountain	5500' S. 37 10'00"	530' W. 81 57'30"	Dev.	1784	Pocahontas	Pocahontas	83
BU-0550	2045	Poca Gas Partnership	PGP-137	Keen Mountain	2440' S. 37 10'00"	4480' W. 82 55'00"	Dev.	1828	Pocahontas	Pocahontas	71
BU-0551	2049	Poca Gas Partnership	PGP-401	Jewell Ridge	15040' S. 37 15'00"	9000' W. 81 50'00"	Dev.	1411	Pocahontas	Not Stim	62
BU-0552	2050	Poca Gas Partnership	PGP-16	Keen Mountain	11700' S. 37 12'30"	7180' W. 81 57'30"	Dev.	2073	Pocahontas	Pocahontas	72
BU-0553	2052	Inland Creek Coal Co.	BORE HOLE 53	Vansant	7820' S. 37 12'30"	675' W. 82 02'30"	Dev.	2361	Pocahontas	Pocahontas	
BU-0554	2058	Inland Creek Coal Co.	CBM R-13C	Vansant	3800' S. 37 12'30"	12300' W. 82 00'00"	Dev.	2176	Pocahontas	Pocahontas	

## VIRGINIA DIVISION OF MINERAL RESOURCES

Table 12 Wells Drilled or Completed in Virginia, 1992 (continued).

File Number	Permit Number	Operator	Well Name	7.5-minute Quadrangle	Latitude	Longitude	Well Class	Total Depth (Feet)	Formation at Total Depth (Mcf/d)	Producing Formation	Final Flow
BU-0555	2059	Island Creek Coal Co.	CBM S-13B	Vansant	4800' S. 37 12'30"	12150' W. 82 00'00"	Dev.	2167	Pocahontas	Pocahontas	
BU-0556	2062	Poca Gas Partnership	PGP-128	Keen Mountain	4025 S. 37 10'00"	2610' W. 81 55'00"	Dev.	1405	Pocahontas	Pocahontas	150
BU-0557	2064	Poca Gas Partnership	PGP-121 AND PIPELINE	Keen Mountain	625 S. 37 10'00"	8975' W. 81 55'00"	Dev.	1950	Pocahontas	Pocahontas	125
BU-0558	2065	Poca Gas Partnership	PGP-67D	Keen Mountain	6500' S. 37 12'30"	400' W. 81 57'30"	Dev. Lee	1847	Pocahontas	Pocahontas,	
BU-0559	2066	Poca Gas Partnership	PGP-124C AND PIPELINE	Keen Mountain	14600' S. 37 10'00"	7180' W. 81 55'00"	Dev.	1952	Pocahontas	Pocahontas	62
BU-0561	2073	Poca Gas Partnership	PGP-109	Keen Mountain	5320' S. 37 10'00"	1480' W. 81 57'30"	Dev.	1759	Pocahontas	Not Stim	125
BU-0562	2075	Poca Gas Partnership	PGP-420	Jewell Ridge	6100' S. 37 12'30"	11300' W. 81 50'00"	Dev. Lee	2004	Pocahontas	Pocahontas,	
BU-0563	2076	Poca Gas Partnership	PGP-BB28	Keen Mountain	6450' S. 37 10'00"	9800' W. 81 55'00"	Dev.	5886	Chattanooga Sh	Pocahontas	24
BU-0569	2086	Island Creek Coal Co.	R6B.3SM14D4	Vansant	3750' S. 37 12'30"	1900' W. 82 05'00"	Dev.	1378	Pocahontas	Pocahontas	
BU-0570	2088	Poca Gas Partnership	PGP-415	Jewell Ridge	10254' S. 37 12'30"	4127' W. 81 50'00"	Dev.	2008	Pocahontas	Pocahontas	
BU-0573	2094	Poca Gas Partnership	PGP-409	Jewell Ridge	4560' S. 37 12'30"	7850' W. 81 50'00"	Dev.	1798	Pocahontas	Not Stim	68
BU-0574	2095	Poca Gas Partnership	PGP-410	Jewell Ridge	3600' S. 37 12'30"	8020' W. 81 50'00"	Dev.	2013	Pocahontas	Pocahontas	55
BU-0575	2097	Poca Gas Partnership	PGP-419	Jewell Ridge	3820' S. 37 12'30"	11300' W. 81 50'00"	Dev.	1635	Pocahontas	Pocahontas	2
BU-576	2098	Poca Gas Partnership	PGP-418	Jewell Ridge	3820' S. 37 12'30"	11210' W. 81 50'00"	Dev. Lee	1548	Pocahontas	Pocahontas,	57
BU-0577	2099	Poca Gas Partnership	PGP-407	Jewell Ridge	1000' S. 37 12'30"	9900' W. 81 50'00"	Dev. Lee	1531	Pocahontas	Pocahontas,	57
BU-0578	2101	Poca Gas Partnership	PGP-408	Jewell Ridge	5880' S. 37 12'30"	8000' W. 81 50'00"	Dev.	1791	Pocahontas	Pocahontas	75
BU-0579	2102	Poca Gas Partnership	PGP-412	Jewell Ridge	9144' S. 37 12'30"	4023' W. 81 50'00"	Dev.	1999	Pocahontas	Pocahontas	62
BU-0580	2103	Poca Gas Partnership	PGP-C30	Jewell Ridge	14200' S. 37 15'00"	5400' W. 81 50'00"	Dev.	5456	Berea Ss Stony Gap Ss		350 1400
BU-0581	2107	Poca Gas Partnership	PGP-600	Jewell Ridge	13500' S. 37 15'00"	7200' W. 81 50'00"	Dev. Lee	2097	Pocahontas	Pocahontas	

Table 12 Wells Drilled or Completed in Virginia, 1992 (continued).

File Number	Permit Number	Operator	Well Name	7.5-minute Quadrangle	Latitude	Longitude	Well Class	Total Depth (Feet)	Formation at Total Depth (Mcf/d)	Producing Formation	Final Flow
BU-0582	2110	Poca Gas Partnership	PGP-604	Jewell Ridge	12600' S. 37 15'00"	9900' W. 81 50'00"	Dev. Lee	1727	Pocahontas	Pocahontas	63
BU-0583	2111	Poca Gas Partnership	PGP-414	Jewell Ridge	10324' S. 37 12'30"	5450' W. 81 50'00"	Dev.	2235	Pocahontas	Not Stim	61
BU-0584	2112	Poca Gas Partnership	PGP-601	Jewell Ridge	13520' S. 37 15'00"	8080' W. 81 50'00"	Dev. Lee	1987	Pocahontas	Pocahontas,	66
BU-0585	2113	Poca Gas Partnership	PGP-609	Jewell Ridge	10400' S. 37 15'00"	7800' W. 81 50'00"	Dev.	2191	Pocahontas	Pocahontas	73
BU-0586	2115	Poca Gas Partnership	PGP-603	Jewell Ridge	12500' S. 37 15'00"	7020' W. 81 50'00"	Dev.	2192	Pocahontas	Not Stim	51
BU-0588	2121	Poca Gas Partnership	PGP-610	Jewell Ridge	10520' S. 37 15'00"	9050' W. 81 50'00"	Dev. Lee	2008	Pocahontas	Pocahontas,	73
BU-0589	2126	Poca Gas Partnership	PGP-117A	Keen Mountain	4250' S. 37 10'00"	9640' W. 81 57'30"	Dev.	1911	Pocahontas	Pocahontas	100
BU-0590	2127	Poca Gas Partnership	PGP-133	Keen Mountain	2140' S. 37 10'00"	5270' W. 81 55'00"	Dev.	1550	Pocahontas	Pocahontas	72
BU-0592	2129	Poca Gas Partnership	PGP-602	Jewell Ridge	13650' S. 37 15'00"	9450' W. 81 50'00"	Dev.	1722	Pocahontas	Not Stim	74
BU-0594	2134	Poca Gas Partnership	PGP-612	Jewell Ridge	9500' S. 37 15'00"	7290' W. 81 50'00"	Dev.	2341	Pocahontas	Pocahontas, Lee	58
BU-0595	2135	Poca Gas Partnership	PGP-620	Jewell Ridge	8670' S. 37 15'00"	10490' W. 81 50'00"	Dev.	1501	Pocahontas	Pocahontas, Lee	52
BU-0596	2136	Poca Gas Partnership	PGP-411	Jewell Ridge	9306' S. 37 12'30"	5318' W. 81 50'00"	Dev.	2016	Pocahontas	Not Stim	75
BU-0597	2138	Poca Gas Partnership	PGP-402	Jewell Ridge	230' S. 37 12'30"	8030' W. 81 50'00"	Dev.	1464	Pocahontas	Pocahontas, Lee	63
BU-0598	2140	Island Creek Coal Co.	CC20A.63EM6D2	Keen Mountain	8320' S. 37 10'00"	11340' W. 81 57'30"	Dev.	1960	Pocahontas	Pocahontas	
BU-0599	2142	Poca Gas Partnership	PGP-400	Keen Mountain	15020' S. 37 15'00"	11870' W. 81 50'00"	Dev.	1650	Pocahontas	Pocahontas, Lee	
BU-0600	2143	Island Creek Coal Co.	BB20A.63EM6DS	Vansant	5740' S. 37 10'00"	11470' W. 81 57'30"	Dev.	2065	Pocahontas	Pocahontas	
BU-0601	2144	OXY USA	CBM R-5C	Vansant	3900' S. 37 12'30"	3100' W. 82 05'00"	Dev.	2095	Pocahontas	Pocahontas	
BU-0602	2145	Poca Gas Partnership	PGP-404	Jewell Ridge	1090' S. 37 12'30"	7440' W. 81 50'00"	Dev.	1623	Pocahontas	Pocahontas, Lee	74
BU-0603	2146	Poca Gas Partnership	PGP-52A	Keen Mountain	9840' S. 37 12'30"	2550' W. 81 57'30"	Dev.	1940	Pocahontas	Pocahontas	50
BU-0604	2148	Poca Gas Partnership	PGP-129	Keen Mountain	2330' S. 37 10'00"	5700' W. 81 55'00"	Dev.	1695	Pocahontas	Not Stim	74

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Table 12. Wells Drilled or Completed in Virginia, 1992 (continued).

File Number	Permit Number	Operator Name	Well Quadrangle	7.5-minute	Latitude	Longitude	Well Class	Total Depth (Feet)	Formation at TotalDepth (Mcfd)	Producing Formation	Final Flow
BU-0607	2154	Island Creek Coal Co.	AA19A.63EM4D6	Vansant	5580' S. 37 10'00"	1020' W. 82 00'00"	Dev.	2222	Pocahontas	Pocahontas	
BU-0608	2157-01	Island Creek Coal Co.	CBM Q-15A	Vansant	1300' S. 37 12'30"	10100' W. 82 00'00"	Dev.	2209	Pocahontas	Pocahontas	
BU-0609	2158-01	Island Creek Coal Co.	CBM Q-15B	Vansant	2000' S. 37 12'30"	10100' W. 82 00'00"	Dev.	2142	Pocahontas	Pocahontas	
BU-0610	2159	OKY USA	CBM R-15A	Vansant	2700' S. 37 12'30"	10100' W. 82 00'00"	Dev.	2015	Pocahontas	Pocahontas	
BU-0611	2160	Poca Gas Partnership	PGP-CC27	Keen Mountain	8990' S. 37 10'00"	1530' W. 81 55'00"	Dev.	1697	Pocahontas	Not Stim	69
BU-0612	2161	Poca Gas Partnership	PGP-405	Jewell Ridge	1640' S. 37 12'30"	9000' W. 81 50'00"	Dev.	1898	Pocahontas	Pocahontas	59
BU-0614	2163	Poca Gas Partnership	PGP-423	Keen Mountain	5750' S. 37 12 '30"	1675' W. 81 52'30"	Dev.	1578	Pocahontas	Not Stim	66
BU-0615	2164	Poca Gas Partnership	PGP-424	Keen Mountain	3310' S. 37 12'30"	1840' W. 81 52'30"	Dev.	1976	Pocahontas	Not stim	51
BU-0616	2166	Island Creek Coal Co.	S7B.3SM15D5	Vansant	4100' S. 37 12'30"	12250' W. 82 02'30"	Dev.	1918	Pocahontas	Pocahontas	
BU-0617	2168-01	Island Creek Coal Co.	CBM R-5D	Vansant	3900' S. 37 12'30"	3850' W. 82 05'00"	Dev.	2095	Pocahontas	Pocahontas	
BU-0618	2172	Island Creek Coal Co.	R5B.3SM15D8	Vansant	3900' S. 37 12'30"	2800' W. 82 05'00"	Dev.	2128	Pocahontas	Pocahontas	
BU-0620	2174-01	Island Creek Coal Co.	CBMS-15A	Vansant	4400'S 37 12'30"	10100'W. 82 00'00"	Dev.	2060	Pocahontas	Pocahontas	
BU-0621	2174-01	Island Creek Coal Co.	CBM R-15B	Vansant	3400'S. 37 12'30"	10100'W. 82 00'00"	Dev.	1834	Pocahontas	Pocahontas	
BU-0623	2180	Island Creek Coal Co.	R7C.3SM15D3	Vansant	3800' S. 37 12'30"	11400'W. 82 02'30"	Dev.	2005	Pocahontas	Pocahontas	
BU-0624	2181	Poca Gas Partnership	PGP-421	Keen Mountain	4150'S. 37 12'30"	2290'W. 81 50'00"	Dev.	1523	Pocahontas	NotStim	73
BU-0625	2183	Poca Gas Partnership	PGP-607	Jewell Ridge	11650'S. 37 15'00"	8600'W. 81 50'00"	Dev.	1672	Pocahontas	Not Stim	68
BU-0626	2184	Poca Gas Partnership	PGP-134	Keen Mountain	890'S. 47 10'00"	5220'W. 81 55'00"	Dev.	1998	Pocahontas	Not Stim	53
BU-0627	2185	Poca Gas Partnership	PGP-611	Jewell Ridge	10750'S. 37 15'00"	11300'W. 81 50'00"	Dev.	1501	Pocahontas	Not Stim	73
BU-0628	2186	Poca Gas Partnership	PGP-605	Jewell Ridge	12580'S. 37 15'00"	10860'W. 81 50'00"	Dev.	1502	Pocahontas	Not Stim	59
BU-0629	2187	Poca Gas Partnership	PGP-121D	Keen Moutain	12740'S. 37 12'30"	2470'W. 81 57'30"	Dev.	1699	Pocahontas	Pocahontas	

Table 12. Wells Drilled or Completed in Virginia, 1992 (continued).

File Number	Permit Number	Operator Name	Well	7.5-minute Quadrangle	Latitude	Longitude	Well Class	Total Depth (Feet)	Formation at TotalDepth (Mcf/d)	Producing Formation	Final Flow
BU-0630	2190	Poca Gas Partnership	PGP-417	Jewell Ridge	4875' S. 37 12'30"	11150' W. 81 57'30"	Dev.	1996	Pocahontas	Pocahontas, Lee	
BU-0631	2194	Poca Gas Partnership	PGP-124	Keen Mountain	575' S. 37 10'00"	7840' W. 81 55'00"	Dev.	1689	Pocahontas	Pocahontas	80
BU-0632	2195	Poca Gas Partnership	PGP-120 AND PIPELINE	Keen Mountain	2400' S. 37 10'00"	8950' W. 81 55'00"	Dev.	1729	Pocahontas	Pocahontas	110
BU-0633	2196	Poca Gas Partnership	PGP-617	Jewell Ridge	8670' S. 37 15'00"	10490' W. 81 50'00"	Dev.	1453	Pocahontas	Pocahontas, Lee	61
BU-0634	2197	Poca Gas Partnership	PGP-623	Jewell Ridge	6750' S. 37 15'00"	10750' W. 81 50'00"	Dev.	1674	Pocahontas	Pocahontas, Lee	71
BU-0635	2204-01	Inland Creek Coal Co.	CBG Y-19A	Vansant	580' S. 37 10'00"	1040' W. 82 00'00"	Dev.	2220	Pocahontas	Pocahontas	
BU-0636	2209-01	Inland Creek Coal Co.	CBG Y-19B	Vansant	420' S. 37 10'00"	1020' W. 82 00'00"	Dev.	2149	Pocahontas	Pocahontas	
BU-0637	2212	OKY USA	CBM S-15B	Vansant	5100' S. 37 12'30"	10100' W. 82 00'00"	Dev.	2190	Pocahontas	Pocahontas	
BU-0638	2216-01	Inland Creek Coal Co.	CBM Q-15E	Vansant	1050' S. 37 12'30"	10100' W. 82 00'00"	Dev.	2200	Pocahontas	Pocahontas	
BU-0639	2224-01	Inland Creek Coal Co.	CBM R-14A	Vansant	2100' S. 37 12'30"	11150' W. 82 00'00"	Dev.	2309	Pocahontas	Pocahontas	
BU-0641	2232	Poca Gas Partnership	PGP-135	Keen Mountain	14300' S. 37 12'30"	5290' W. 81 55'00"	Dev.	1967	Pocahontas	Pocahontas	50
BU-0642	2234-01	Inland Creek Coal Co.	CBM R-14C	Vansant	3800' S. 37 12'30"	11150' W. 82 00'00"	Dev.	2320	Pocahontas	Pocahontas	
BU-0643	2235-01	Inland Creek Coal Co.	CBM X-19B	Vansant	14020' S. 37 12'30"	1140' W. 82 00'00"	Dev.	1914	Pocahontas	Pocahontas	
BU-0644		Inland Creek Coal Co.	CBM X-19A	Vansant	14700' S. 37 12'30"	1020' W. 82 00'00"	Dev.	2265	Pocahontas	Pocahontas	
BU-0646	2240	Inland Creek Coal Co.	X20B.63DOE4	Vansant	13700' S. 37 12'30"	175' W. 82 00'00"	Dev.		Pocahontas	No records	
BU-0648	2242	OKY USA	CBG W-19C	Vansant	12880' S. 37 12'30"	1800' W. 82 00'00"	Dev.	1880	Pocahontas	Pocahontas	
BU-0649	2243	OKY USA	CBG W-19B	Vansant	12200' S. 37 12'30"	1160' W. 82 00'00"	Dev.	2042	Pocahontas	Pocahontas	
BU-0650	2244-01	Inland Creek Coal Co.	CBM R-14B	Vansant	2750' S. 37 12'30"	11200' W. 82 00'00"	Dev.	2302	Pocahontas	Pocahontas	
BU-0651	2245	Inland Creek Coal Co.	X20A.63DOE3	Vansant	14750' S. 37 12'30"	150' W. 82 00'00"	Dev.	2109	Pocahontas	Pocahontas	

Table 12. Wells Drilled or Completed in Virginia, 1992 (continued).

File Number	Permit Number	Operator Name	Well Quadrangle	7.5-minute	Latitude	Longitude	Well Class	Total Depth (Feet)	Formation at Total Depth (Mcf/d)	Producing Formation	Final Flow
BU-0658	2261	Poca Gas Partnership	PGP-427	Keen Mountain	3550' S. 37 12'30"	2730' W. 81 52'30"	Dev.	1928	Pocahontas	Not stim	57
BU-0664	2269	Poca Gas Partnership	CBM-PGP-70A	Keen Mountain	5700' S. 37 12'30"	4310' W. 81 57'30"	Dev. Lee	2025	Pocahontas	Pocahontas,	
BU-0666	2271	Island Creek Coal Co.	R7E.35M15D4	Vansant	3800' S. 37 12'30"	11400' W. 82 02'30"	Dev.	1890	Pocahontas	Pocahontas	
BU-0673	2284	OKY USA	CBG X-19C	Vansant	14600' S. 37 12'30"	2080' W. 82 00'00"	Dev.	2055	Pocahontas	Pocahontas	
BU-0675	2291	Poca Gas Partnership	CBM-PGP-613	Jewell Ridge	9800' S. 37 15'00"	8400' W. 81 50'00"	Dev.	2098	Pocahontas	Not Stim	60
BU-0677	2296	Island Creek Coal Co.	Bore Hole 3.4	Vansant	11950' S. 37 15'00"	6250' W. 82 05'00"	Dev.	1286	Pocahontas	Pocahontas	
BU-0683	2308	Poca Gas Partnership	PGP-52B	Keen Mountain	9690' S. 37 12'30"	790' W. 81 57'30"	Dev.	1800	Pocahontas	Pocahontas	50
BU-0687	2314	Island Creek Coal Co.	W20A.63DOE6	Vansant	12640' S. 37 12'30"	660' W. 82 00'00"	Dev.	2072	Pocahontas	Pocahontas	
Dickenson County											
DI-0104	165-01	EREX, Inc.	P-19C	Nora	14850' S. 37 05'00"	5990' W. 82 17'30"	Dev.	1989	Pocahontas	Pocahontas, Lee	21
DI-0120	198-01	EREX, Inc.	P-38C	Nora	6010' S. 37 05'00"	2590' W. 82 17'30"	Dev.	2751	Pocahontas	Lee	23
DI-0406	1099	EREX, Inc.	P-270	Hayti	12400' S. 37 10'00"	6720' W. 82 17'30"	Dev.	5101	Chattanooga Sh	Berea Ss, Greenbrier Ls	696 60
DI-0502	1463	EREX, Inc.	P-503	Clintwood	5225' S. 37 12'30"	5550' W. 82 22'30"	Dev.	4520	Chattanooga Sh	Berea Ss, U. Sh. Ravenciff	696
DI-0503	1464	EREX, Inc.	P-492	Clintwood	525' S. 37 10'00"	9325' W. 82 22'30"	Dev.	4360	Chattanooga Sh	Berea Ss, U. Sh. Greenbrier Ls	730 260
DI-0528	1513	EREX, Inc.	PC-15	Canev Ridge	12500' S. 37 05'00"8	9350' W. 2 22'30"	Dev.	2305	Bluestone	Pocahontas, Lee	33
DI-0533	1521-01	EREX, Inc.	PC-160	Nora	8280' S. 37 05'00"	8140' W. 82 17'30"	Dev.	2727	Pocahontas	Lee	
DI-0549	1580	EREX, Inc.	VC-1869	Nora	4210' S. 37 02'30"	159' W. 82 20'00"	Dev.	2382	Bluestone	Lee	68
DI-0556	1591	Va. Gas Co.	EH-84	Hayti	6295' S. 37 10'00"	825' W. 82 15'00"	Dev.	4906	Chattanooga Sh	Berea Ss	894
DI-0612	1761	EREX, Inc.	VC-2146	Duty	14950' S. 37 07'30"	9660' W. 82 12'30"	Dev.	2106	Bluestone	Pocahontas, Lee	46
DI-0618	1785	EREX, Inc.	VC-2145	Duty	1120' S. 37 05'00"	3250' W. 82 12'30"	Dev.	2589	Pocahontas	Lee	47

Table 12. Wells Drilled or Completed in Virginia, 1992 (continued).

File Number	Permit Number	Operator Name	Well Quadrangle	7.5-minute	Latitude	Longitude	Well Class	Total Depth (Feet)	Formation at TotalDepth (Mcf/d)	Producing Formation	Final Flow
DI-0619	1786	EREX, Inc.	VC-2151	Caney Ridge	4050' S. 37 02'30"	2300' W. 82 22'00"	Dev.	2334	Bluestone	Pocahontas, Lee	33
DI-0620	1801	EREX, Inc.	VC-2118	Nora	720' S. 37 02'30"	2150' W. 82 17'30"	Dev.	2259	Pocahontas	Lee	30
DI-0622	1813	EREX, Inc. PIPELINE	VC-2117 AND	Nora	2150' S. 37 02'30"	2580' W. 82 17'30"	Dev.	2132	Pocahontas	Lee	25
DI-0623	1835	EREX, Inc.	VC-2208	Nora	3700' S. 37 07'30"	6790' W. 82 22'00"	Dev.	2402	Pocahontas	Lee	24
DI-0624	1836	EREX, Inc.	VC-2200	Nora	1810' S. 37 07'30"	400' W. 82 15'00"	Dev.	2451	Bluestone	Lee	12
DI-0625	1846	EREX, Inc. PIPELINE	VC-2199 AND	Hayai	14480' S. 37 10'00"	190' W. 82 15'00"	Dev.	1876	Bluestone	Pocahontas, Lee	20
DI-0626	1847	EREX, Inc.	VC-2220	Nora	2120' S. 37 07'30"	5220' W. 82 20'00"	Dev.	2308	Bluestone	Lee	29
DI-0629	1885	Va. Gas Co.	BH-108	Hayai	12650' S. 37 12'30"	3120' W. 82 15'00"	Dev.	4900	Chattanooga Sh	Berea Ss	3916
DI-0630	1893	Va. Gas Co.	BH-118	Hayai	8220' S. 37 12'30"	3600' W. 82 15'00"	Dev.	2760	Hinton	Ravencdiff	985
DI-0631	1896	EREX, Inc.	VC-2275	Duty	8680' S. 37 07'30"	10225' W. 82 10'00"	Dev.	2316	Bluestone	Pocahontas, Lee	430
DI-0632	1897	EREX, Inc.	VC-2203	Nora	6680' S. 37 07'30"	2525' W. 82 10'00"	Dev.	2540	Bluestone	Lee	39
DI-0633	1899	EREX, Inc. PIPELINE	VC-2116 AND	Nora	780' S. 37 02'30"	4450' W. 82 17'30"	Dev.	2262	Pocahontas	Lee	18
DI-0634	1911	EREX, Inc.	VC-2274	Duty	8775' S. 37 07'30"	7600' W. 82 10'00"	Dev.	2402	Pocahontas	Pocahontas, Lee	33
DI-0635	1922	EREX, Inc.	VC-2276	Duty	10310' S. 37 07'30"	6275' W. 82 10'00"	Dev.	2297	Pocahontas	Pocahontas, Lee	125
DI-0637	1926	EREX, Inc.	VC-2010	Duty	14660' S. 37 07'30"	10775' W. 82 10'00"	Dev.	2584	Bluestone	Pocahontas, Lee	189
DI-0638	1927	EREX, Inc.	VC-2009	Duty	13680' S. 37 07'30"	140' W. 82 12'30"	Dev.	2272	Bluestone	Pocahontas, Lee	
DI-0639	1934	EREX, Inc.	VC-2391	Duty	7010' S. 37 07'30"	8830' W. 82 10'00"	Dev.	1844	Pocahontas	Pocahontas, Lee	78
DI-0640	1936	EREX, Inc.	VC-2389	Duty	6575' S. 37 07'30"	11725' W. 82 10'00"	Dev.	1879	Pocahontas	Pocahontas, Lee	212
DI-0641	1938	EREX, Inc.	VC-2477	Duty	11400' S. 37 07'30"	8500' W. 82 10'00"	Dev.	2342	Bluestone	Lee	44
DI-0642	1952	EREX, Inc.	VC-2283	Hayai	6531' S. 37 10'00"	5570' W. 82 17'30"	Dev.	2021	Bluestone	Pocahontas, Lee	12

Table 12. Wells Drilled or Completed in Virginia, 1992 (continued).

File Number	Permit Number	Operator Name	Well Quadrangle	7.5-minute	Latitude	Longitude	Well Class	Total Depth (Feet)	Formation at Total Depth (Mcf)	Producing Formation	Final Flow
DI-0645	1978	EREX, Inc.	VC-2471	Duty	12780' S. 37 05'00"	6890' W. 82 07'30"	Dev.	2368	Pocahontas	Pocahontas, Lee	330
DI-0648	1996	EREX, Inc.	VC-2390	Duty	9080' S. 37 07'30"	1200' W. 82 12'30"	Dev.	2464	Bluestone	Pocahontas, Lee	206
DI-0649	1997	EREX, Inc.	VC-2395	Haysi	12565' S. 37 10'00"	7880' W. 82 17'30"	Dev.	2045	Bluestone	Pocahontas, Lee	39
DI-0650	2010	EREX, Inc.	VC-2392	Duty	1800' S. 37 05'00"	9400' W. 82 10'00"	Dev.	1992	Bluestone	Pocahontas, Lee	74
DI-0651	2017	EREX, Inc.	VC-2279	Nora	2580' S. 37 07'30"	7750' W. 82 17'30"	Dev.	2372	Bluestone	Lee	48
DI-0653	2030	Va. Gas Co.	HH-37	Prater	8315' S. 37 10'00"	10450' W. 82 12'30"	Dev.	5012	Chattanooga Sh	Berea Ss	1008
DI-0657	2074	EREX, Inc.	VC-2280	Nora	3700' S. 37 07'30"	5800' W. 82 17'30"	Dev.	1879	Bluestone	Lee	112
DI-0660	2096	EREX, Inc.	VC-2600	Nora	6680' S. 37 07'30"	7820' W. 82 17'30"	Dev.	2103	Pocahontas	Lee	203
DI-0661	2100	EREX, Inc.	VC-2601	Nora	8120' S. 37 07'30"	6480' W. 82 17'30"	Dev.	2243	Pocahontas	Lee	96
DI-0662	2104	EREX, Inc.	VC-2602	Nora	7095' S. 37 07'30"	10585' W. 82 17'30"	Dev.	2286	Pocahontas	Pocahontas, Lee	246
DI-0663	2105	Va. Gas Co.	EH-69	Elkhorn City	6700' S. 37 17'30"	9304' W. 82 17'30"	Dev.	4050	Chattanooga Sh	Greenbrier Ls	2144
DI-0664	2106	EREX, Inc.	VC-2599	Nora	9780' S. 37 07'30"	12480' W. 82 17'30"	Dev.	2536	Bluestone	Pocahontas, Lee	70
DI-0665	2108	EREX, Inc.	VC-2558	Nora	8020' S. 37 05'00"	9910' W. 82 15'00"	Dev.	2460	Bluestone	Pocahontas, Lee	54
DI-0666	2122	EREX, Inc.	VC-2598	Nora	8510' S. 37 07'30"	13720' W. 82 17'30"	Dev.	2448	Bluestone	Pocahontas, Lee	143
DI-0671	2170	EREX, Inc.	VC-2593	Duty	10110' S. 37 07'30"	10650' W. 82 10'00"	Dev.	2296	Bluestone	Pocahontas, Lee	108
DI-0672	2182	EREX, Inc.	VC-2591	Duty	8810' S. 37 07'30"	11690' W. 82 10'00"	Dev.	2429	Bluestone	Pocahontas, Lee	346
DI-0673	2188	EREX, Inc.	VC-2589	Duty	7120' S. 37 07'30"	10110' W. 82 10'00"	Dev.	1823	Bluestone	Pocahontas, Lee	
DI-0675	2201	EREX, Inc.	VC-2565	Nora	14100' S. 37 05'00"	10050' W. 82 15'00"	Dev.	2448	Lee	Lee	48
King George County											
KG-002	1773	Texaco Inc.	Thorn Hill #1	Dahlgren	5950' S. 38 17'30"	8400' W. 77 02'30"	Expl.	10213	Basement		

Table 12. Wells Drilled or Completed in Virginia, 1992 (continued).

File Number	Permit Number	Operator Name	Well Quadrangle	7.5-minute	Latitude	Longitude	Well Class	Total Depth (Feet)	Formation at TotalDepth (Mcfd)	Producing Formation	Final Flow
<b>Russell County</b>											
RU-0029	1698	EREX, Inc.	VC-1990	Duty	13850' S. 37 02'30"	8480' W. 82 07'30"	Dev.	1958	Bluestone	Pocahontas, Lee	40
RU-0034	1898	EREX, Inc.	VC-2286	Carbo	6240' S. 37 00'00"	1260' W. 82 12'30"	Dev.	2120	Pocahontas	Pocahontas, Lee	22
RU-0035	1977	EREX, Inc.	VC-2469	Duty	2410' S. 37 02'30"	4750' W. 82 07'30"	Dev.	2433	Bluestone	Pocahontas, Lee	202
RU-0036	2071	EREX, Inc.	VC-2470	Duty	3680' S. 37 02'30"	1700' W. 82 07'30"	Dev.	2327	Pocahontas	Pocahontas, Lee	40
<b>Westmoreland County</b>											
WM-0004	1774	Texaco Inc	Gouldman #1	Camplain	7600' S. 38 07'30"	11100' W. 76 55'00"	Expl.	8025	Basement		
<b>Wise County</b>											
WS-0116	704-01	EREX, Inc.	VE3616	Appalachia	11500' S. 36 57'30"	750' W. 82 47'30"	Dev.	5373	Wildcat Valley Ss	Chattanooga Sh, Greenbrier Ls, Price	119, 127 42, 103
WS-0249	1104-01	EREX, Inc.	V-2342	Wise	5100' S. 36 55'00"	400' W. 82 30'00"	Dev.	4464	Chattanooga Sh	Berea Ss, U. Sh.	793
WS-0258	1156-01	EREX, Inc.	V-2340	Wise	5100' S. 36 55'00"	6350' W. 82 30'00"	Dev.	3818	Chattanooga Sh	Berea Ss, U. Sh. Greenbrier Ls.	754 754
WS-0261	1162-01	EREX, Inc.	V-2339	Wise	2450' S. 36 55'00"	9800' W. 82 30'00"	Dev.	3656	Chattanooga Sh	Berea Ss, U. Sh., Greenbrier Ls.	182 812
WS-0272	1187-01	EREX, Inc.	V-2324	Wise	4700' S. 36 55'00"	9425' W. 82 30'00"	Dev.	3627	Chattanooga Sh	Berea Ss, Big Stone Gap, Greenbrier Ls	495 245
WS-0278	1245-01	EREX, Inc.	V-2326	Coeburn	5900' S. 36 55'00"	11000' W. 82 27'30"	Dev.	5900	Chattanooga Sh	Berea Ss, U. Sh.	1078
WS-0293	1631-01	EREX, Inc.	V-2323	Wise	1200' S. 36 55'00"	11700' W. 82 30'00"	Dev.	4193	Chattanooga Sh	Chattanooga Sh, Greenbrier Ls.	84, 672 672
WS-0303	1459-01	EREX, Inc.	VAP-2347	Coeburn	3100' S. 36 55'00"	2100' W. 82 27'30"	Dev.	4576	Chattanooga Sh	Berea Ss, U. Sh.	381
WS-0304	1460-01	EREX, Inc.	V-2348	Coeburn	5650' S. 36 55'00"	9775' W. 82 25'00"	Dev.	4842	Chattanooga Sh	Berea Ss, U. Sh., Greenbrier Ls.	592 592
WS-0305	1475-01	EREX, Inc.	V-2289	Wise	500' S. 36 55'00"	5300' W. 82 30'00"	Dev.	3657	Chattanooga Sh	Berea Ss, U. Sh.	440
WS-0306	1505-01	EREX, Inc.	V-2332	Coeburn	5775' S. 36 55'00"	3200' W. 82 27'30"	Dev.	4562	Chattanooga Sh	Berea Ss, U. Sh.	381
WS-0310	1620-01	EREX, Inc.	V-2351	Coeburn	8400' S. 36 55'00"	0' W. 82 27'30"	Dev.	4856	Chattanooga Sh	Berea Ss, U. Sh.	823
WS-0311	1621-01	EREX, Inc.	V-2349	Coeburn	550' S. 36 55'00"	10950' W. 82 25'00"	Dev.	4639	Chattanooga Sh	Berea Ss, U. Sh. Greenbrier Ls.	582 582

Table 12. Wells Drilled or Completed in Virginia, 1992 (continued).

File Number	Permit Number	Operator Name	Well Quadrangle	7.5-minute	Latitude	Longitude	Well Class	Total Depth (Feet)	Formation at Total Depth (Mcf/d)	Producing Formation	Final Flow
WS-0312	1632-01	EREX, Inc.	V-2337	Coeburn	5500' S. 36 55'00"	7600' W. 82 25'00"	Dev.	4792	Chattanooga Sh	Berea Ss, U. Sh.	440
WS-0313	1633-01	EREX, Inc.	V-2287	Coeburn	3050' S. 36 55'00"	7300' W. 82 25'00"	Dev.	4796	Chattanooga Sh	Berea Ss, U. Sh.	1026
WS-0315	1637-01	EREX, Inc.	V-2350	Coeburn	3624' S. 36 55'00"	100' W. 82 27'30"	Dev.	4733	Chattanooga Sh	Berea Ss, U. Sh. Greensbrier La.	952 952
WS-0316	1638-01	EREX, Inc.	V-2430	Appalachia	950' S. 36 55'00"	5800' W. 82 47'30"	Dev.	5223	Chattanooga Sh	Chattanooga Sh, Price	84, 348 348
WS-0319	1657-01	EREX, Inc.	V-2338	Coeburn	2875' S. 36 55'00"	10100' W. 82 25'00"	Dev.	4701	Chattanooga Sh	Berea Ss, U. Sh.	1426
WS-0323	1775	EREX, Inc.	V-2267	Coeburn	7530' S. 36 55'00"	2650' W. 82 25'00"	Dev.	5038	Chattanooga Sh	Berea Ss	220
WS-0324	1915	EREX, Inc.	V-2468	Norton	5100' S. 37 00'00"	9800' W. 82 37'30"	Dev.	5851	Chattanooga Sh	Chattanooga Sh, Price, Greensbrier La.	270 348
WS-0325	1924	EREX, Inc.	V-2432	Appalachia	14250' S. 36 57'30"	700' W. 82 25'00"	Dev.	5581	Chattanooga Sh	Chattanooga Sh, Price	60, 146 732
WS-0326	1928	EREX, Inc.	V-2434	Appalachia	9500' S. 36 57'30"	900' W. 82 25'00"	Dev.	5772	Chattanooga Sh	Chattanooga Sh, Price	73 365
WS-0327	1971	EREX, Inc.	V-2437	Appalachia	950' S. 36 55'00"	10500' W. 82 47'30"	Dev.	5711	Wildcat Valley Ss	Chattanooga Sh, Price	103 293
WS-0328	1973	EREX, Inc.	V-2442	Appalachia	4950' S. 36 55'00"	11650' W. 82 47'30"	Dev.	5245	Chattanooga Sh	Chattanooga Sh, Price	84 1004
WS-0329	1994	EREX, Inc.	V-2438	Appalachia	14600' S. 36 57'30"	2900' W. 82 25'00"	Dev.	5556	Chattanooga Sh	Chattanooga Sh, Price	60, 399 398
WS-0333	2048	EREX, Inc.	VC-2024	Coeburn	160' S. 37 00'00"	3680' W. 82 27'30"	Dev.	2721	Bluestone	Lee	12
WS-0335	2061	EREX, Inc.	V-2445	Appalachia	2325' S. 36 55'00"	7100' W. 82 47'30"	Dev.	5478	Chattanooga Sh	Chattanooga Sh, Price	60, 1182 1182
WS-0344	2155	EREX, Inc.	VAC-2627	Flat Gap	450' S. 37 02'30"	3490' W. 82 37'30"	Dev.	2557	Lee	Lee, Norton	17