STOKES
ENVIRONMENTAL
ASSOCIATES, LTD.

PHASE I ENVIRONMENTAL SITE ASSESSMENT

APPROXIMATELY 216 ACRES
ETHERIDGE GREEN
CENTERVILLE TURNPIKE AT WHITTAMORE ROAD
CHESAPEAKE, VIRGINIA

PREPARED FOR:
Mr. ROBERT DIBERARDINIS
NATIONAL DIRECTOR OF GOLF COURSE DEVELOPMENT
COMBUSTION PRODUCTS MANAGEMENT
1229 KINGSBURY DRIVE
CHESAPEAKE, VIRGINIA 23322

PREPARED BY:
STOKES ENVIRONMENTAL ASSOCIATES, LTD.
PROJECT NUMBER SEA 01-1359
REPORT ISSUED: 23 AUGUST 2001

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PHASE I ENVIRONMENTAL SITE ASSESSMENT

CONDUCTED AT

Etheridge Green
Centerville Turnpike at Whittamore Road
Chesapeake, Virginia

for

Mr. Robert DiBerardinis
National Director of Golf Course Development
Combustion Products Management
1229 Kingsbury Drive
Chesapeake, Virginia 23322

The following Environmental Professionals prepared this Phase I Environmental Site Assessment:

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23 August 2001
Date

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23 August 2001
Date

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Report Issued: 23 August 2001

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EXECUTIVE SUMMARY

Stokes Environmental Associates, Ltd., (SEA, Ltd.), performed a Phase I Environmental Site Assessment of the 216 acre farm known as the Etheridge Green property located at Centerville Turnpike at Whittamore Road in Chesapeake Virginia. The purpose of this assessment was to identify, to the extent feasible pursuant to the investigative method, recognized environmental conditions in connection with the property.

The investigative method applied in this assessment was based on the ASTM Standard Practice E1527-97, as expanded based on additional selected standards available in the industry which Stokes Environmental Associates, Ltd. considers appropriate to this specific case. Any exceptions to, or deletions from the ASTM practice are described in the report.

The information found during this investigation did not indicate presence of recognized environmental conditions at the subject site, and no further environmental investigation or evaluation appears to be warranted at this time, except as follows:

Additional information is provided in the text of this report to appropriately document the scope, limitations, and findings of this assessment.

1. Soils at the site are poorly drained, and a network of ditches is present throughout the property. The Natural Resources Conservation Service has been requested to confirm the site does not contain wetlands. Confirmation that wetlands are not present has also been requested from the U.S. Army Corps of Engineers. IT is anticipated that the U.S. Army Corps of Engineers may claim jurisdiction on the south side of the property, and possibly over small areas within the wooded triangle at the southeast corner of the property.

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INTRODUCTION

Stokes Environmental Associates, Ltd., (SEA, Ltd.), was authorized by Mr. Robert DiBerardinis, National Director of Golf Course Development, of Combustion Products Management to perform a Phase I Environmental Site Assessment of a 216 acre property known as the Etheridge Green at Centerville Turnpike at Whittamore Road in Chesapeake, Virginia.

Objectives

The objective of this Phase I Environmental Site Assessment was to identify and record recognized environmental conditions (RECs) on the subject property. The term "recognized environmental conditions" means the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property. RECs include hazardous substances or petroleum products even under conditions in compliance with applicable laws. RECs do not include *de minimis* conditions that generally do not present a material risk of harm to public health or the environment, and that generally would not be the subject of an enforcement action if brought to the attention of appropriate government agencies. The investigation also includes evaluation of selected environmental conditions, other than hazardous substances or petroleum products, that may impose liabilities to, or restrict the use of, the subject property.

This investigation is intended to satisfy one of the requirements to qualify for the innocent landowner defense to CERCLA (Comprehensive Environmental Response, Compensation and Liability Act) liability; that is, the investigation is intended to constitute "all appropriate inquiry into the previous ownership and uses of the property consistent with good commercial or customary practice." The assessment cannot wholly eliminate uncertainty regarding the potential for adverse environmental conditions in connection with the property. However, by performing appropriate inquiry within reasonable limits of time and cost, it is possible to substantially reduce uncertainties regarding the existence of adverse environmental conditions.

The investigative method applied in this assessment was based on the ASTM Standard Practice E1527-97, as expanded based on additional selected standards available in the industry which Stokes Environmental Associates, Ltd. considers appropriate to this specific case. Any exceptions to, or deletions from the ASTM practice are described in the report.

Tasks completed in the course of this assessment included, without limitation:

Examine deeds, maps, surveys, aerial photographs, and other information pertaining to property location and use.

Perform an on-site inspection of the subject property, including an overall characterization of the property, assessment of environmental practices, site conditions, property access, landscape and topography, land uses, adjoining properties, and other conditions in the general vicinity of the subject property which pertain to environmental liabilities.

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Evaluate the potential for occurrence of jurisdictional wetlands on the subject property based on review of readily available documentation and on site observations.

Review zoning requirements, the types of businesses and activities operating in the area, and the surrounding land uses to reveal potential environmental influences on the subject property.

Review other available historical records and agency lists to reveal potential existence of adverse environmental conditions at the site caused by prior activities at the property.

Perform appropriate interviews with individuals knowledgeable of environmental practices affecting the property. Pertinent information obtained from interviews and a listing of people contacted is included in the References and Communications section of the report.

Investigate structures or storage tanks, the nature of trash or rubble found on the site, evident storage and disposal practices, and other conditions indicative of environmental liabilities at the site.

This report presents a summary of findings, a statement of conclusions and recommendations, and a determination of whether additional site investigation or remedial action is appropriate.

Period of Investigation and Key Investigators

Investigation of the subject site was performed during the period of 9 August 2001 through 23 August 2001 as Stokes Environmental Associates, Ltd., Project SEA 01-1359.

The following Environmental Professionals performed this investigation:

Mr. Jesse A. Redd was the Project Manager for this Phase I Environmental Site Assessment, and performed the site visit on 14 August 2001.

Mr. Thomas L. Stokes, Jr. assisted in research, analysis, and technical review of this report, and supervised this Phase I Environmental Site Assessment.

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SITE DESCRIPTION

Site Overview

The subject site is an approximately 216 acre property known as Etheridge Green and located at Centerville Turnpike at Whittamore Road in Chesapeake Virginia. The property is designated as Tax Map 62 Parcel 2. Land uses and general characteristics on the property included approximately 215 acres of agricultural land and one acre of forested land. There are no Improvements on the property. Please see maps, aerial photographs, and site sketch in Appendix A, and photographs in Appendix B for a visual overview of the subject site.

According to Mr. C. W. Bradshaw of Weaver Fertilizer Company Inc. , current and future uses of the site are to include agriculture production. It is understood that the property is also being considered as a Combustion Products Management/Golf Course site.

According to information obtained by phone during this investigation from the City of Chesapeake Zoning Department, date of contact 14 August 2001 , the site is currently zoned A1.

According to the City of Chesapeake Public Works Department the surrounding area does not currently have city sewer service; therefore, the residences, churches and businesses are serviced by septic systems.

Land uses found in the vicinity of the subject site included single family residential, silviculture, agricultural, and light industrial, and is described more fully in the Site Reconnaissance section of this report.

Current Site Use

Current activities and processes conducted on site or believed to be conducted at the site based on the results of this assessment, included:

agriculture production

Equipment and vehicle maintenance and cleaning operations were not found to be conducted at the site.

Potable water was not found to be provided on the property.

Wastewater treatment is not provided on the property.

Structures: Interior and Exterior Characteristics

There were no structures found on the subject property at the time of the site visit, 14 August 2001.

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Land

The subject site is irregular in shape, and includes approximately 216 acres of agricultural and forest land, as shown on the site sketch in Appendix A. The property borders include approximately 2390 feet of frontage on Centerville Turnpike and approximately 3990 feet of frontage on Whittamore Road. The property is bounded by Whittamore Road to the north, woods to the east, residential neighborhood to the south, and Centerville Turnpike to the west.

The property was generally level, and occurred roughly at street grade.

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SITE HISTORY

Introduction

Reasonably available historical information source evaluated during this investigation included property tax files, recorded land title records, local city directories, Sanborn fire insurance maps, USGS topographic maps, other historic land use maps, aerial photographs, building permits and inspection records, and other historic information sources, such as, other zoning/land use records, and previous environmental investigations found during this review. The time period included in this review is based on the extent of reasonably available data and the evident dates of initial development of the subject property. The search intervals used and the data reported below are believed to be adequate to identify prior uses, considering the dates when changes in use occurred at this site.

Current Ownership

According to information obtained from the City of Chesapeake Tax Assessor's Office, date of contact 14 August 2001, the current owner of the subject property is Weaver Fertilizer Company Inc.

Prior Ownership

A review of title records by Mr. Jesse A. Redd from1890 through current on file at the Clerk's Office of the Circuit Court of the City of Chesapeake indicated prior owners as listed in the table below.

Date	Deed Book	Page	Seller	Buyer
12/8/48	935	357	Frank V. Atkinson	Weaver Fertilizer Company Inc.
12/7/46	851	35	Richard B. Kellam Sp. Comm. et al	Frank V. Atkinson
2/25/38	641	365	Reginald E. Hearring et al	A. W. Weaver, Trustee
2/13/28	577	12	W. E. Hearring, et al	Federal Land Bank of Baltimore
9/20/27	570	547	Rena Hearring et al	W. E. Hearring
4/25/18	499	12	William J. Hearring et ux.	William E. Hearring
11/21/1895	196	401	W. A. Jackson	W. J. and Bettie Hearring

This chain of ownership has not been verified by a professional title company for accuracy or completeness, and is not represented as a final determination of prior ownership. Considering other information obtained in the assessment, the ownership data is believed sufficient to the objective of this investigation.

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City Directories

City directories for Chesapeake, Virginia were not reviewed during this investigation. It appears that the subject site had not been previously developed. This observation is made from aerial photographs.

Sanborn Maps

Sanborn Maps for Chesapeake Virginia were not found for the area in and around the subject site.

Maps

The U. S. Geological Survey Topographic Map for Fentress Quadrangle, Virginia (1954, photo revised 1964, scale 1" = 2,000') showed the subject site to occur at an elevation of approximately 15 feet above mean sea level (please see topographic map in Appendix A). The map showed the nearest major highway as Battlefield Boulevard at approximately 12,000 feet west from the site. A rail line was identified as Norfolk Southern at approximately 1000 feet west from the site. Industrial-sized or evident commercial buildings were not indicated within a mile of the site. No evidence of large above ground storage tanks, sewage lagoons, major fill or excavation areas, or other significant condition was noted within one mile of the subject site.

The local vicinity map (ADC of Alexandria, Inc., dated 2000, scale 1"=2,000') showed no evidence of adverse environmental conditions in the vicinity of the subject site (please see site vicinity map in Appendix A).

Other Maps and Drawings

Air Installations Compatible Use Zones (AICUZ) map, provided by U.S. Department of the Navy 1999, was also reviewed and it appears that the majority of the property is included in the noise level zone marked greater than 75Ldn. Land use compatibility for this noise zone has this area listed for non compatible with land uses such as athletic fields, golf courses, etc. A portion of the property appears in the Accident Potential Zone marked APZ2. This means that the potential for an accident it is less likely to happen in this area than in the clear zone or APZ1. It is recommended that people intensive uses such as regional shopping malls, theaters, etc. not be placed in these areas.

Aerial Photographs

Overflight photographs are used to identify structures and land uses. They sometimes can reveal disturbed areas, suspect landfills, pits or piles, tanks, drums, and other indications of potential hazardous materials. However, the absence of stereoscopic images, small scale, and limited clarity of the photographs reviewed makes all findings subject to confirmation. It is also noted that changes in land uses which occur between the dates of photography may not be evident in the photographic record.

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Readily available aerial black and white photographs of the site vicinity were obtained from City of Chesapeake Natural Resources Conservation Service, and were evaluated by Mr. Jesse A. Redd, with findings as follows:

1949	DGF 2E 19, Scale 1"=1250'
	Subject site appeared as agricultural land with an extensive ditching system throughout the land. The surrounding properties appeared to be used for agriculture and forest land. There appeared to be several residential sites close to the property.
1958	DGF 1V 215, Scale 1"=1650'
	Subject site appeared as agricultural land with an extensive ditching system throughout the land. The surrounding properties appeared to be used for agriculture and forest land. There appeared to be several residential sites close to the property.
1964	4EE 134, Scale 1"=1650'
	Subject site appeared as agricultural land with an extensive ditching system throughout the land. The surrounding properties appeared to be used for agriculture and forest land. There appeared to be more residential sites close to the property.
1981	Subject site appeared as agricultural land with an extensive ditching system throughout the land. There appeared to be some modification to the ditching system. The surrounding properties appeared to be used for agriculture and forest land. There appeared to be small residential sections or neighborhoods near to the property.

Interviews

Mr. Jesse Redd spoke with Mr. C. W. Bradshaw on 17 August 2001. Mr. Bradshaw is the owner and site manager and has been familiar with the property for over fifty years. Mr. Bradshaw indicated that he had no knowledge of any environmental related problems with the subject site.

Interviews were attempted, but could not be completed with the following individuals:

> Mr. Frank T. Williams, current farmer, was unable to be reached before the report date. Mr. Williams has farmed the property for thirty years according to the property owner, Mr. Bradshaw of Weaver Fertilizer.

Interviews with government officials are discussed in the Agency Review portion of this report.

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None of the interviewees indicated knowledge of adverse or suspected adverse environmental conditions at the subject site.

Limited evaluation of information regarding purchase price and valuation of the property does not indicate major discrepancies with comparable properties (please see "further evaluations" below).

Environmental liens on the subject property were not reported to the Environmental Professional conducting this investigation. Additionally, specialized knowledge or experience of the Client material to any recognized environmental conditions on the site were not reported to the Environmental Professional.

Prior Uses of Properties in Surrounding Vicinity

Properties in the immediate vicinity of the subject site appear to have been historically used for agricultural, silvicultural, and residential, based on information reviewed in this assessment.

Evident or anticipated adverse environmental conditions associated with historic uses of the adjoining property are estimated as follows:

None

This review of site history has been extended back through available documentation to a point where the records evaluated showed no significant potential environmental hazards associated with use of the property. The search intervals used appeared adequate to identify prior uses, considering the dates when changes in use occurred at the site.

Based on the review of historical documents discussed above the following items of concern were investigated during site reconnaissance and are reported in the Site Reconnaissance section of this report.

Summary of Site History

Based on the review of historical information reported above, it appears that the following prior land uses and businesses have operated at this site:

prior to 1949 cropland and undeveloped land

cropland from 1949 to current

Prior uses of the property likely to have involved the use, treatment, storage, disposal, or generation of hazardous substances, petroleum products, or hazardous wastes include agriculture and silviculture.

No evidence of historic fires, chemical discharges, train derailments, or occurrences of other

environmentally significant events was found during this investigation, with regard to the subject site.

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ENVIRONMENTAL SETTING

Topography

Based on the USGS Fentress Quadrangle, Virginia map, elevations at the subject site were estimated in the range of 15 feet above mean sea level (see USGS map in Appendix A). Topography is relatively flat.

Surface Water Characteristics

According to information reviewed and on-site observations surface water drainage at the subject site appeared to be generally toward the East. There appeared to be an extensive ditching system installed on the subject property. There appeared to be one main ditch situated in the center of the field running from west to east. The ditch was approximately 6 feet deep by 5 feet wide at the bottom and 15 feet across at the top. There appeared to be numerous ditches running into the main ditch on the north and south side of the main ditch. These ditches were approximately 2 feet deep and 3 feet wide. Most of the ditches occurred at intervals of 175 to 200 feet. On the south boundary of the property there appeared to be a large drainage ditch which was approximately 7 feet deep and 20 feet across at the top and 6 feet wide at the bottom. This ditch appeared to cross the southeast corner of the property. Surface drainage appeared to lead to a unnamed ditch which is a perennial/intermittent stream located on the boundary of the property east from the site.

Floodplains

According to information found in Flood Hazard Boundary Map H-17 and Flood Insurance Rate Map I-17 dated 2 February 1977 for Chesapeake Virginia, reviewed by Jesse A. Redd, the majority of the property is located above the 500-year flood plain. The nearest 100-year flood plain is located 800 feet east from the subject site.

Soils

According to the *Soil Survey of Norfolk County* soils at this site are classified as Portsmouth Loam, Othello-Fallsington, Elkton, Elkton-Othello, Bladen, and Othello series. These soils generally exhibit the following characteristics:

Series	Texture	Permeability	Shrink-swell potential
Portsmouth	Loam	Moderate	Low to Moderate
Othello-Fallsington	Fine Sandy Loam	Slow	Low to Moderate

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Elkton	Silt Loam	Slow	Low to Moderate
Elkton-Othello	Very Fine Sandy Loam	Slow	Low to Moderate
Bladen	Silt Loam	Slow	Moderate to High
Othello	Very Fine Sandy Loam	Slow	Low to Moderate

These soils are shown on the list of Hydric Soils of the United States, 1991.

The moderate to slow permeability of loamy surface soils on most of the site may slightly inhibit the rate of vertical migration of materials from the ground surface to the water table aquifer. The rapid permeability of the subsoil and the sandy substratum indicate a significant risk of pollutant migration associated with subsurface contaminant sources in this soil type. It is important to recognize that some solvents may alter soil permeability, resulting in potential for atypical rapid flow velocities of solvent through clays or other soils which normally have slow permeability rates.

Geology and Groundwater Hydrogeology

The subject site is situated within the Atlantic Coastal Plain Physiographic Province of Virginia, which consists of an eastward-thickening wedge of stratified, unconsolidated and semi-consolidated alluvial and marine deposits above a crystalline basement surface. These sediments are composed primarily of gravels, sands, silts, and clays. At the project site, depth to the crystalline basement rocks is greater than 2000 feet.

The groundwater flow system in the Atlantic Coastal Plain consists of an unconfined, water table aquifer and an underlying sequence of semi-confined to confined aquifers and intervening confining units. The aquifers are composed of permeable sands and gravels through which water readily flows. The confining layers are composed of clayey materials which retard water flow. In the Atlantic Coastal Plain, the confining layers are often "leaky" allowing exchange of water between aquifers.

The regional geologic map (Mixon *et al.*, 1989) has assigned the sediments to the Quaternary-age Lynnhaven Member of the Tabb Formation which is described as fine to coarse gray sand grading upward into clayey and silty fine sand and sandy silt. These materials form the surficial deposits of river- and coast-parallel plains. Permeable portions of the Lynnhaven Member form a part of the water table, or Columbia aquifer, beneath the site; overall, the Lynnhaven Member functions as a leaky aquitard to underlying aquifers.

Site-specific hydrologic reports and maps were not found to be readily available for the subject site during this investigation. Information regarding the groundwater characteristics in the vicinity of the site was obtained from published information from the Virginia State Water Control Board and the United States Geological Survey (Siudyla, May and Hawthorne, 1981; Hamilton and Larson, 1988; and Meng and Harsh, 1988). The following discussion is abstracted from these publications.

One unconfined and one confined aquifer are present beneath the site in the interval from the ground surface to 100 feet below ground surface (BGS). The uppermost aquifer is the unconfined water

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table, or Columbia, aquifer. According to hydrogeologic cross sections, the water table aquifer generally occurs in the depth interval from immediately below the surface to approximately 10 feet BGS. The surface of the water table at this site is estimated to occur within a few feet of the surface. Saturated thickness of the Columbia aquifer in this area is less than 10 feet. Precipitation is the principal source of recharge for this aquifer, and averages about 44 inches per year. Approximately 12 to 20 inches per year of the total precipitation (27 - 45 percent) is estimated to infiltrate the ground surface and reach the Columbia aquifer; the remainder of the annual precipitation is lost due to surface runoff, evaporation, etc. The following median values have been reported for hydraulic characteristics of the Columbia aquifer in other areas: well yield of 30 gallons per minute, specific capacity of 6.1 gallons per minute per foot of well drawdown, median transmissivity of 1070 square feet per day, and a horizontal hydraulic conductivity of 28.7 feet per day. However, the surficial sediments are less permeable in this area and surficial wells may not produce as much available water as in other areas.

The Yorktown-Eastover confined aquifer system underlies the Columbia aquifer. The Yorktown-Eastover aquifer system is generally separated from the overlying Columbia aquifer by beds of silt, clay and sandy clay which function as an aquitard between the two aquifers. Although the Yorktown Formation is 300 to 400 feet thick, the major water-bearing zones comprising the Yorktown-Eastover aquifer system are restricted to the upper portion of the Yorktown Formation. The remainder of the Yorktown Formation serves as aquitards between the aquifers. The Yorktown-Eastover aquifer system is divided into three distinct aquifers. According to geologic cross sections, the top of the Yorktown-Eastover aquifer occurs at a depth of approximately 70 feet BGS . Recharge to the Yorktown aquifer system is primarily through downward leakage of water from the overlying Columbia aquifer. The following median values have been reported for hydraulic characteristics of the Yorktown aquifer: well yield of 46 gallons per minute, specific capacity of 8.1 gallons per minute per foot of well drawdown, a transmissivity of 2460 square feet per day, and a horizontal hydraulic conductivity of 23.1 feet per day.

The flow of shallow groundwater generally follows the regional topography. Since the topography at the subject site slopes toward the east, recharge of the water table aquifer by infiltration of precipitation should result in groundwater flow in the vicinity of the site that is generally east toward the Pocaty River. However, published reports of groundwater flow directions for the site and adjacent areas were not available, and further research and/or subsurface testing would be necessary to confirm the flow direction and to identify the location and characteristics of deeper groundwater aquifers.

A water supply well was not found at the subject site. General utilization and consumption of ground water within one half mile of the subject site is from private wells, and is generally used in older residences for potable water, irrigation, and possible other nonpotable uses. Water supply for human consumption in this area for the recent subdivisions is generally provided by private wells.

Geotechnical reports were not found to be readily available for the subject site.

Oil and gas exploration do not appear to be of concern at the subject site.

Radon and Other Geologic Hazards

Radon is an odorless, colorless, carcinogenic gas which results from decay of naturally occurring

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radioactive elements found in rocks and certain sediments. Radon gas can enter buildings through openings in the foundation, sumps, or other spaces, and may accumulate in harmful quantities within enclosed spaces, and is of concern in residences and other occupied buildings.

Radon is rarely encountered at harmful concentrations in Tidewater. Tidewater is considered to be an area of low geologic radon potential, according to USEPA's 1993 data on radon zones in Virginia. Nevertheless, radon hazards are occasionally found in the low risk areas. Further testing would be necessary to provide a greater degree of assurance that radon contamination is not present at levels of concern at the subject site. Based on available information, the risk of radon contamination at the subject site is estimated as low.

Other geologic hazards such as subsidence and collapse features, landslide scarps, etc., were not apparent at the subject site.

Wetlands and Chesapeake Bay Preservation Areas

The National Wetlands Inventory Map for the Fentress Quadrangle, Virginia, based on photographs dated March 1973, shows designated wetlands on the southeast part of the subject site (see NWI map in Appendix A). The designation is Riverine Lower perennial Open water Sub-tidal (R2OWL).

According to the city of Chesapeake the property is not located within a Chesapeake Bay Preservation Area and is not regulated under the Chesapeake Bay Preservation Ordinance. Resource Protection Areas (RPAs) were not found on the property. The drainage of this property flows into an unnamed ditch which flows into the Pocaty River. The Pocaty River flows into the North Landing River. Therefor this property has no RPAs and is not located within a Chesapeake Bay Preservation Area.

During the site reconnaissance the site appeared to be moderately well drained with no evidence of flooding.

Jurisdictional wetlands were not found at the subject site, based on preliminary visual inspection. The larger drainage ditches on the site may be potentially jurisdictional. It should be noted that only the U.S. Army Corps of Engineers and Natural Resources Conservation Service (formerly Soil Conservation Service) can make the final official jurisdictional determination for nonagricultural and agricultural areas, respectively.

Endangered and Threatened Species

Investigation of listed endangered, threatened, or rare species, or the critical habitats of such species and other unique habitats was not conducted during this Phase I Environmental Site Assessment. However, conditions observed did not suggest a high potential for the presence of endangered species.

Historic and Cultural Resources

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Investigation of historic and cultural resources, including sites listed or potentially eligible for listing on the National Register of Historic Places (NRHP), was not conducted during this Phase I Environmental Site Assessment.

Location of Sensitive Receptors

The stringency of environmental quality required by regulatory agencies depends significantly on the location of sensitive receptors which could be affected by any contaminants which are present at or migrate from the subject site.

Sensitive receptors in this vicinity include occupants of the site, residential areas, aquatic life in the nearby rivers and streams, any nearby water supply wells (wells not noted in the immediate vicinity), and surface waters in the vicinity. Wells were not found at the site. Property in the general vicinity uses municipal water for domestic and industrial purposes, according to local government officials in Chesapeake. Further review of receptors is not recommended at this time.

Regional Climate

Virginia's climate is classified as humid subtropical. Prevailing winds flow from west to east, although occasional storms track up the coast producing northeasterly winds. These "northeasters", tropical storms, and hurricanes can produce substantial flooding and wind damage in Tidewater Virginia. According to climatological data compiled by the National Oceanic and Atmospheric Administration, average annual precipitation in the Tidewater region of Virginia is 43.87 inches. Average annual temperature is 58.5 degrees Fahrenheit. According to U.S. EPA (1986), the mid-Atlantic region, in which the site is located, has an average of 62 rainstorms per year, with an average duration of ten hours, intensity of 0.09 inches per hour, volume of 0.64 inches, and average time between rainstorms of six days.

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SITE RECONNAISSANCE

Introduction

The site was visually and physically inspected by Mr. Tom Stokes and Mr. Jesse Redd on 14 August 2001 by walking the following areas: entire perimeter of property and grid pattern through the property, and perimeter of drainage ways and ditches. All roads or paths on the site were physically inspected. The subject site and neighboring sites were viewed from all adjacent public thoroughfares.

Obstructions and inaccessible areas at the subject site included wooded area obscured by dense vegetation and large drainage way southeast portion of the subject property. General environmental assessment limitations are discussed in an attachment to this report.

Weather during the inspection was sunny at approximately 83 degrees Fahrenheit. Wind was westerly at approximately 2 to 5 miles per hour.

Site representatives were not present during the visit.

Subject Property

Exterior reviews. Housekeeping in all exterior areas was characterized as good.

Visible spills, noxious odors, or leaks were not observed within the property exterior.

The current land owner of the subject property, Mr. C. W. Bradshaw, reported that he owned the property for over fifty years. He indicated that biosolids (municipal sewage sludge) have not been used as a soil amendment and fertilizer at the subject site. Additionally, Mr. C. W. Bradshaw indicated no knowledge of any pesticide storage areas, spills, or improper application of agricultural chemicals at or near the site.

Observed routes of surface access to and egress from the site included: No evidence of recent vehicular access, such as tire tracks or tire rutting, was observed at the site. The majority of the accessible areas on the site were visible from roadways and neighboring properties, and do not indicate high risk of unauthorized dumping.

Evidence of the following was noted at the subject property.

jugs
monitoring wells
wooded areas

Identification of Wastestreams and Regulated Substances. Based on observations during the site reconnaissance and research during this investigation, wastestreams at this appeared to be non-

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existing.

No evidence of routine wastestreams involving hazardous wastes was found during our inspection of the subject property.

Regulated substances observed to be present, and materials identified in Material Safety Data Sheets and confirmed by interviews, include: pesticides that have been applied to the agriculture crops.

Information reviewed during this investigation did not indicate that hazardous or toxic materials have been used, treated, stored, or disposed on-site in violation of federal, state, or local laws, regulations, or ordinances. Activities at the subject site did not appear to require state or federal environmental permits.

Based on the current usage of the site, it may be anticipated that the following classes of chemicals have been used at the site: lawn care supplies (e.g., fertilizers, pesticides, motor oils/fuels/solvents), and equipment maintenance supplies (e.g., oils, lubricants, paints, and solvents). No current uses other than normal agricultural activity are likely to involve the use, treatment, storage, disposal, or generation of hazardous substances or petroleum products.

Prior uses of the site have included agriculture and silviculture, according to information found during this investigation. Based on these uses, it may be anticipated that the following classes of chemicals have been used at the site: fertilizers, pesticides, motor oils, fuels, and solvents. Prior bulk storage, significant spillage, overapplication, or environmentally problematic use of such materials are not anticipated based on observations at the site, and other information obtained during this investigation.

According to Mr. C. W. Bradshaw, no hazardous wastes are, or have been, produced or discovered on the subject property. Therefore, no hazardous waste disposal records or manifests were available for review.

No further review of wastestreams and regulated materials at the subject site appears warranted at this time.

Surrounding Properties

The following observations of surrounding properties were made during the site reconnaissance:

Property immediately north of the subject site included farm land and Fentress Fire Service Facility. Adverse environmental conditions were not observed in connection with these properties.

Property immediately east of the subject site included farm land and residential homes. Adverse environmental conditions were not observed in connection with these properties.

Property immediately south of the subject site included Green Haven neighborhood. Adverse environmental conditions were not observed in connection with these properties.

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Property immediately west of the subject site included residential homes, farm land, and Adverse environmental conditions were not observed in connection with these properties.

Other businesses and land uses observed in the general vicinity of the subject site included:

U S Naval Reservation (Fentress landing field)

Evidence of the following was noted at the adjacent neighboring properties, based on research conducted, evaluation from the subject site and from public roads, but not including any on-site physical examination of the adjacent properties:

Above Ground Storage Tanks
Drums
Wooded Areas
Septic Systems
Five Gallon Buckets

Considering land use at the subject site, observations of neighboring properties, topographic and drainage conditions, and anticipated geologic and hydrologic conditions in the vicinity, it appears that the adjoining properties are unlikely to cause recognized adverse environmental conditions, in connection with the subject property.

Asbestos-Containing Materials (ACMs)

There were no structures located on the subject property, therefor it is not anticipated that any ACMs will be present on the subject site.

Drinking Water Quality

Potable water did not appear to be provided on this site. There were no wells or other sources of potable water at the time of the site visit.

Drinking was not tested at the subject site for lead content during this preliminary review. Additional testing is needed for properties which are not connected to municipal water supplies, and is recommended for all properties constructed prior to 1978. Local agency data concerning drinking water is provided in a subsequent section of this report.

Fill Materials

Evident landfill areas, mounds, or depressions suggesting trash or other solid waste disposal were not found at the site.

It is reasonable to assume that some fill material may have been added to the site during construction of the existing drainage system. Fill material along the under ground utilities may enhance migration

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of subsurface contaminants onto or off of the site.

Lead-based Paint and Other Lead-Containing Materials

Testing for lead-containing materials was not conducted during this Phase I Environmental Site Assessment.

Polychlorinated Biphenyls: Transformers and Other PCB Equipment

Polychlorinated biphenyls (PCBs) are toxic chemicals whose use, handling, and disposal are regulated by the U.S. Environmental Protection Agency. Suspect or potential PCB equipment observed at the subject site include the following: transformers

No evidence of subsurface transformer vaults was found at the subject site.

Several transformers were located on or near the subject property. All but three transformers appeared to be labeled as non PCB containing. Evidence of existing leaks was observed on the outer casing of a transformers near the site. Streaking and weathering of the casings was observed.

The transformers on the property appeared to be owned by Virginia Power. No further evaluation of these evidently non-leaking utility-owned transformers in good condition is recommended at this time.

Storage Tanks and Pipelines

Information regarding storage tanks included observations of the site, interviews, and other research. Such research is documented within the appropriate sections of this report. The following is a summary of the information found during site reconnaissance.

Above Ground Storage Tanks and Pipelines

On-site. No evidence of above ground storage tanks (ASTs) was found at the subject site. Indicators of ASTs, such as suspect retaining walls, vaults, pumping equipment, manometers or other volumetric indicators, petroleum or chemical odors, were not found at the site.

Off-site. Neighboring properties were inspected from the subject site and from public right of way areas for the presence of ASTs. No visible leakage was observed at neighboring ASTs (based on review from the subject site and public property). ASTs observed on adjacent properties are as follows:

One Above Ground Storage Tank, located at the Fentress Fire Service Station, was observed from public road ways. The tank site is at the northwest corner of the subject site.

Underground Storage Tanks and Pipelines

On-site. No evidence of unregistered existing or prior underground storage tanks (USTs), such as manhole covers, vent or fill pipes, UST-sized patched areas of asphalt or cement, pumping equipment, volume indicators, petroleum or chemical odors, sheening on ditch banks, or sheening on surface water was observed on site or indicated by other research performed during this investigation.

No evident sheening or petroleum seepage was observed on ditch banks or on surface water at this site.

Off-site. Records maintained by the Virginia Department of Environmental Quality/Water Division concerning USTs and leaking USTs in the vicinity of the subject site are discussed in the Regulatory Review section of this report. Evidence of unregistered USTs was not observed on adjacent properties.

Considering the relatively low estimated risk associated with the off-site tanks, no further investigation of on-site or off-site USTs with regard to environmental conditions at the subject site is recommended at this time.

Utilities

Underground utilities were indicated or anticipated in the vicinity of the subject site, including electric, telephone, and natural gas. Verification of specific locations of such underground utilities was beyond the scope of this preliminary investigation.

Virginia Power overhead high voltage transmission lines (typical tower supported or multi-pole supported lines) and overhead distribution lines (typical single-pole supported lines) were observed at or adjacent to the site.

Accelerated contaminant migration along the soil-conduit interface or within the sand/gravel deposited as backfill in utility excavations can increase the risk of contaminant migration from on-site or off-site sources. No evident adverse conditions were noted at the site with regard to utilities. No further investigation of environmental conditions associated with utilities at the subject site is recommended at this time.

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REGULATORY AGENCY REVIEW

Federal, State and Local databases were searched on-line by SEA, Ltd., based on the city and zip code area(s) of the subject site encompassing a pre-specified radius around the property. In this instance, the zip code area searched was in Chesapeake Virginia. The resultant database printouts are enclosed as an Appendix of this report.

A review of data available from regulatory agencies can provide useful information regarding the potential for contamination at or near the site. However, the databases are known to be incomplete and contain numerous inaccuracies, with the result that all positive or negative findings are considered tentative and are subject to confirmation.

The databases searched are updated by the various agencies on an irregular basis. Some databases are maintained relatively up to date by the agencies, while others are updated only infrequently by the agencies. This investigation has used the most recent update of each database, which we have found to be publicly available, practically reviewable, and obtainable within a reasonable time and cost.

Sites identified within the approximate minimum search distances (AMSD) using EDR® on-line geographic information system (GIS) are listed below. Additional sites which may occur within the AMSD, but could not be accurately located by the GIS, are provided in an appendix to this report. The database and AMSD specified by the ASTM Standard 1527 - 97 are as follows:

DATABASE	AMSD, miles (kilometers)	Version Date
Federal NPL site list	1.0 (1.6)	13 June 2000
Federal CERCLIS list	0.5 (0.8)	16 April 2000
Federal RCRA TSD Facilities (CORRACTS and non-CORRACTS)	1.0 (1.6)	20 April 2000
Federal RCRA generators list (RCRIS)	property and adjoining properties	18 May 2000
Federal ERNS list	property only	30 May 2000
State lists of hazardous waste sites (HWS) identified for investigation or remediation (NPL and CERCLIS equivalents)	1.0 (1.6)	24 Feb 2000
State landfill (SWF/LF) and/or solid waste disposal site lists	0.5 (0.8)	13 June 2000
State leaking UST (LUST) lists	0.5 (0.8)	24 July 2000
State registered UST (UST) lists	0.25	22 Sept 1999

Several additional databases are included in the research below in order to provide thorough analysis of available agency information. Among these are the following databases:

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DATABASE	AMSD, miles (kilometers)	Version Date
Federal TRIS – Toxic Release Inventory	property only	31 Dec 1997
Federal FINDS – Facility Index System	property and adjoining properties (within 0.25 mile)	13 Oct 1999
Federal CONSENT – Superfund Decrees	1.0 (1.6)	Varies
Federal NFRAP – No Further Remedial Action Planned	property and adjoining properties (within 0.25 mile)	16 April 2000
Federal NPL Liens – Superfund Liens	property only	15 October 1991
Federal PADS – PCB Activity	property only	1 Jan 2000
Federal RAATS – RCRA Administrative Tracking System	property only	17 April 1995
Federal HMIRS – Hazardous Materials Incident reporting System	property only	30 June 1999
Federal ROD – Records of Decision	1.0	31 January 1999
Nuclear Regulatory Commission, Material License Tracking System (MLTS)	property only	23 April 2000
TSCA – Toxic Substances Control Act	property only	31 Dec 1998
MINES – Mines Master Index File	0.25	1 Aug 2000
Virginia Voluntary Remeditation Program (VRP) Site Listing	0.5 (0.8)	1 April 2000
CEDS – Comprehensive Environmental Data System	property only	1 July 2000
Aboveground Storage Tank (AST) Database	Property and adjoining	22 September 1999
State SPL – State Spill	property only	1 June 1996

The findings of the database investigations are presented below:

ASTM Standard Databases

U.S. Environmental Protection Agency - National Priorities List (NPL) Database. The NPL is a listing of contaminated sites that have been tested and found by U.S. EPA Hazard Ranking System to present a demonstrated high risk to human health or the environment. NPL sites are designated

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by EPA as national priorities for cleanup.

The subject site was NOT FOUND in the NPL database.

Our review found the following NPL facilities within an approximate minimum search distance of one mile of the subject site:

NONE FOUND.

U. S. Environmental Protection Agency - CERCLA (Comprehensive Emergency Response, Compensation and Liability Act)(CERCLA) Information System (CERCLIS) Database. CERCLIS is an inventory of hazardous and potentially hazardous waste sites being investigated or cleaned under CERCLA. The CERCLIS database provides site names, addresses, and status of any investigation or cleanup.

The subject site was NOT FOUND in the CERCLIS database.

Our review found the following CERCLIS facilities within an approximate minimum search distance of one-half mile of the subject site:

NONE FOUND.

U. S. Environmental Protection Agency - Resource Conservation and Recovery Act (RCRA) Information System (RCRIS) Database. RCRIS is a compilation of data concerning hazardous waste activity, including the status of registrations, permits, reports, inspections, enforcement activities, and financial data for facilities regulated under the Resource Conservation and Recovery Act (RCRA).

This database categorizes RCRA facilities by type (large or small generator, conditionally exempt, transporter and treatment, storage or disposal), and provides information on the existence of violations, corrective action requirements, and other details. Such classifications are abbreviated as follows in the information provided in this report:

RCRACE - RCRA Conditionally Exempt Generator
RCRALG - RCRA Large Quantity Generator
RCRAOT - RCRA status unknown
RCRASM - RCRA Small Quantity Generator
RCRATR - RCRA Transporter
TSD - RCRA Treatment Storage or Disposal Facility

The subject site was NOT FOUND in the RCRIS database.

The RCRA Generator and TSD listing contains facilities which use, generate, handle, transport, treat, store, or dispose hazardous materials regulated under RCRA. The RCRA Violator listing contains facilities which have been cited by EPA for violations of the requirements of RCRA. Such violations may include deviations from regulations, compliance orders, consent agreements, or permit conditions. The RCRA Enforcement Site Report contains facilities at which enforcement

action has been taken by EPA for violations of the requirements of RCRA. Our review included RCRA TSD facilities within an AMSD of one mile of the site, and RCRA generators, violators, and enforcement sites within an AMSD encompassing the subject site and adjoining sites. This review found the following facilities within the specified AMSD:

NONE FOUND.

U. S. Environmental Protection Agency - Resource Conservation and Recovery Act (RCRA) Information System (RCRIS) Corrective Action Report (CORRACTS) Database. CORRACTS is a compilation of data concerning hazardous waste corrective action activity for facilities regulated under the Resource Conservation and Recovery Act (RCRA). This database categorizes RCRA facilities with corrective action activity.

The subject site was NOT FOUND in the CORRACTS database.

Our review found the following CORRACTS facilities within an approximate minimum search distance one mile of the subject site:

NONE FOUND.

U.S. Environmental Protection Agency - Emergency Response Notification System (ERNS) Database. ERNS is a national database providing information on releases of oil or hazardous substances to the environment.

The subject site was NOT FOUND in the ERNS database.

Our review found the following ERNS facilities within an approximate minimum search distance encompassing the subject site and adjacent sites:

NONE FOUND.

Virginia Department of Environmental Quality, Waste Division - State Superfund-Equivalent Sites. The Virginia Department of Environmental Quality maintains a database of Alleged Abandoned Solid and Hazardous Waste Sites (AWS) and Voluntary Remediation Program (VRP) Facilities which collectively constitute the State "Superfund" List. These facilities are designated in the database printouts as State Hazardous Waste Sites, or SHWS.

The subject site was NOT FOUND in the SHWS database.

Our review of the SHWS Database found the following facilities within an approximate minimum search distance of one mile of the subject site:

NONE FOUND

Virginia Department of Environmental Quality, Waste Division - State Landfill/Solid Waste Facilities. The Virginia Department of Environmental Quality maintains a listing of landfills and

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which routinely or accidentally release toxic chemicals to the environment are required to report such releases to the U.S. EPA under SARA Title III. The TRIS is an inventory of these releases.

The subject site was NOT FOUND in the TRIS database.

U.S. Environmental Protection Agency - Facility Index System (FINDS) Database. FINDS gives the location of facilities which are known to be regulated by EPA. FINDS indexes data relating to sites or facilities covered in 13 other site-oriented databases maintained by EPA.

A description of principal databases contained in FINDS follows:

RCRIS, or RCRA Information System, lists the names and locations of facilities which are regulated under the federal Resource Conservation and Recovery Act (RCRA). These sites are involved in the use, generation, handling, treatment, disposal, or transportation of hazardous wastes.

PCS, or Permit Compliance System, is a computerized management information system which contains data on National Pollutant Discharge Elimination System (NPDES).

AIRS(AFS), or Aerometric Information Retrieval System (AIRS Facility Subsystem), lists facilities that are subject to air quality monitoring or reporting under the Clean Air Act.

DOCKET, the Civil Enforcement Docket database, contains information on civil enforcement cases filed against suspect violators by the Environmental Protection Agency.

NCDB(FTTS) is the National Compliance Database (FIFRA/TSCA Tracking System). FIFRA is the Federal Insecticide, Fungicide, and Rodenticide Act and TSCA is the Toxic Substances Control Act. NCDB(FTTS) is a database that lists sites subject to inspections, enforcement actions, or settlements undertaken under the authority of FIFRA and TSCA.

SSTS or Section Seven Tracking System tracks the registration of all pesticide-producing establishments and tracks annually the types and amounts of pesticides, active ingredients, and devices that are produced, sold, or distributed in each year.

TRI, or Toxic Release Inventory, contains entries for facilities reporting releases of certain toxic substances regulated by the Superfund Amendments and Reauthorization Act of 1986.

FFIS, the Federal Facility Information System, contains a listing of facilities that have submitted specific environmental project budget plans.

CICIS, the Chemicals in Commerce Information System, contains data on manufactured or imported chemicals, including information on facilities which submit information to the system.

PADS, or PCB Activity Data System, identifies PCB generators, storers, transporters, or permitted disposers.

CUS, or Chemical Update System, identifies facilities which manufacture or import specific toxic chemicals in excess of 10,000 pounds per year.

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The subject site was NOT FOUND in the FINDS database.

Our review found the following FINDS facilities within an approximate minimum search distance encompassing the subject site and adjoining properties:

NONE FOUND.

U.S. Environmental Protection Agency – Superfund (CERCLA) Consent Decrees (CONSENT) Database. The Superfund Consent Decrees is the system used by EPA to track major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites.

The subject site was NOT FOUND in the CONSENT database.

Our review found the following CONSENT facilities within an approximate minimum search distance encompassing the subject site and adjacent sites:

NONE FOUND.

U.S. Environmental Protection Agency – No Further Remedial Action Planned (NFRAP) Database. Facilities formerly listed on CERCLIS and designated as "no further remedial action planned" were removed from that database as of February, 1995. NFRAP facilities may be sites where, after an initial investigation, no contamination was found, contamination was removed quickly without need of the site being placed on the National Priorities List (NPL), or sites where the contamination was not serious enough to require NPL consideration or Federal Superfund action.

The subject site was NOT FOUND in the NFRAP database.

Our review found the following NFRAP facilities within an approximate minimum search distance encompassing the subject site and adjacent sites:

NONE FOUND.

U.S. Environmental Protection Agency – PCB Activity Database System (PADS) Database. The PCB activity database identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

The subject property was NOT FOUND on the PADS database.

U.S. Environmental Protection Agency – RCRA Administrative Action Tracking System (RAATS) Database. The RAATS database contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civl actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA retains a copy of the database for historical records.

The subject property was NOT FOUND on the RAATS database.

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U.S. Department of Transportation (DOT) – Hazardous Materials Incident Report Subsystem (HMIRS) Database. HMIRS is a listing of incidents involving the unintentional release of hazardous materials incidents reported by carriers of hazardous materials.

The subject site was NOT FOUND in the HMIRS database.

Our review found the following HMIRS incidents within an approximate search distance of one quarter mile of the subject site.

NONE FOUND

U. S. Environmental Protection Agency – Records of Decision Database (ROD). ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

The subject site was NOT FOUND in the ROD database.

Our review found the following ROD facilities within an approximate search distance of one mile of the subject site.

NONE FOUND

Nuclear Regulatory Commission (NRC) – Material License Tracking System (MLTS) Material License-Radioactive Database. MLTS database lists the NRC's licenses issued for the operation of nuclear power plants or nuclear waste repositories or medical, industrial, or research applications. The MLTS database lists license quantities and uses of nuclear materials.

The subject site was NOT FOUND in the MLTS database.

Our review found the following MLTS licensed facilities within an approximate minimum search distance of one mile of the subject site:

NONE FOUND.

U.S. Environmental Protection Agency – Toxic Substances Control Act (TSCA) Database. The TSCA database identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

The subject property was NOT FOUND on the TSCA database.

Department of Labor, Mine Safety and Health Administration – Mines Master Index File (MINES) Database. The MINES database list all the mines legally recorded in the United States.

The subject site was NOT FOUND on the MINES database.

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Our review found the following MINES facilities within an approximate minimum search distance encompassing the subject site and adjoining properties:

NONE FOUND.

Virginia Voluntary Remediation Program (VRP) Site Listing Database. The Virginia Voluntary Remediation Program Site List tracks summary information pertaining to facilities which have undertaken or completed on-site remediation activities.

The subject site was NOT FOUND in the VRP database.

Our review found the following pollution incidents within an approximate minimum search distance of one-half mile of the subject site:

NONE FOUND.

Virginia Department of Environmental Quality -- Comprehensive Environmental Data System (CED) Database. The CED reports Virginia Water Protection Permits, Virginia Discharge System (point discharge) permits and Virginia Pollution Abatement (no point discharge) permits.

The subject site was NOT FOUND in the CED database.

Virginia Department of Environmental Quality, Water Division - Aboveground Storage Tank (AST) Database. Regulated underground storage tanks are required to be registered with the DEQ. Facilities with registered tanks are inventoried on the DEQ/Water Division AST database.

The subject site was NOT FOUND in the AST database.

Our review found the following AST facilities within an approximate minimum search distance encompassing the subject site, immediately adjacent sites.

NONE FOUND

Virginia Water Control Board Office of Spill Response And Remediation Response Investigation (SPILL) Database. The Pollution Complaint report includes the initial release reporting of leaking underground storage tanks and all other releases of petroleum to the environment as well as releases to State waters.

The subject site was NOT FOUND in the SPILL database.

Our review found the following pollution incidents within an approximate minimum search distance of one-half mile of the subject site:

NONE FOUND.

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U.S. Army Corps of Engineers – Regulatory Branch. Information on jurisdictional wetlands determinations, or wetlands applications identified by the Corps for the subject site, based on selected review of available computer records, included the following:

NONE FOUND.

Local Agencies

Southeastern Virginia Planning District Commission - Elizabeth River Basin Environmental Management Program. Portions of this study were based on a preliminary EPA study (Elizabeth River Basin Study, or ERBS) which identified 649 potential hazardous waste sites in the Elizabeth River drainage basin, based on a review of historical aerial photography covering the period of 1937 through 1986. The preliminary study was reviewed and the following types of sites were eliminated from the listing: existing CERCLIS sites, existing TSD sites, "blacked out" sites (generally military lands), federal facilities, auto junkyards, sewage treatment impoundments, dry docks, and tanks and containers. The final list resulted in 285 potential hazardous waste sites which needed additional investigation. The study provided site locations only; facility names were not available.

ERBS were NOT FOUND at the subject site.

Our review found the following number of final list ERBS sites within an approximate minimum search distance of one mile of the subject site:

NONE FOUND.

Chesapeake Health Department. The Health Department was requested to provide information on septic systems, water wells, nuisance complaints, or other available data on 17 August 2001. A response to our inquiry was not received prior to the issue date of this report.

It is noted that permits were not required for well installation prior to 1982. Between 1982 and 1990, permits were issued for well installation if associated with new house construction. No permits were required for replacement wells at existing homes. In 1990, new regulations were enacted to require permitting of new and replacement water wells as well as irrigation wells.

Information received from respondents during the most recent Census, in 1990 (NGWA), indicates that there are 3019 households within Chesapeake having the same zip code, 23322, as the site. Of the respondents, 513 of these households indicated they are served by a privately or publicly owned water supply company. The respondents of the other 2506 households indicated they obtained water from private wells, drilled and dug, or some other unspecified source such as a creek or a spring. No reports of poor water quality or unacceptable water, relative to federal drinking water quality standards, were forwarded by the Chesapeake Health Department.

Chesapeake Fire Department. A telephone interview with Marilyn Dewispelaere on 20 August 2001 indicated no knowledge or records of UST installations, closures, leaks, hazardous material events, emergency response, or other significant event. Fire Department inspections of the subject site indicated no instances of environmentally significant conditions at the subject site or adjacent properties.

Chesapeake Building Inspector's Office. An interview with the Chesapeake Building Inspector's Office was not conducted, as there were no structures located on the property. An office visit confirmed this on 14 August 2001. The office had no records on the subject property.

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OTHER ISSUES

Additional Considerations By User of Report

This Phase I Environmental Site Assessment (ESA) has been conducted generally in accordance with the ASTM standard. The ASTM standard indicates additional issues which may help to support CERCLA's innocent landowner defense.

According to ASTM, the user of this Phase I report should consider his or her own specialized knowledge or expertise when evaluating site conditions. The user of this report should discuss any questions or concerns regarding environmental conditions at this site with the preparer of this report. Such discussion will facilitate incorporation of the user's knowledge in the overall evaluation of the property.

According to ASTM, a title company or title professional should be engaged by the user of a Phase I report to check reasonably ascertainable recorded land title records for environmental liens currently recorded against the property. The Environmental Professional preparing this report was not notified of any environmental liens encumbering the property.

If the user of this report has actual knowledge that the purchase price of the subject property is significantly less than the purchase price of comparable properties, the user should try to identify a reason for the lower price, make a written record of such reason, and discuss any concerns with the Environmental Professional who prepared this report. Information provided in the Phase I ESA should be included when evaluating the purchase price.

The user should make known to the environmental professional conducting this assessment any questions which arise on review of the report, and should determine whether any further investigation is desired in order to answer any questions and meet the users objectives with regard to this study. The user should confirm his understanding of whether the investigation has satisfied one of the requirements to quality for the innocent landowner defense to CERCLA liability, or his understanding of any potential environmental liabilities that could materially impact the operation of the business associated with the parcel of commercial real estate.

Other Environmental Issues

Other environmental issues exist which persons may want to assess in connection with commercial real estate. The following comments are not intended to imply the relative importance of inquiry into such matters, and the following topics are not intended to be an all-inclusive listing of other environmental issues.

Indoor Air Quality. Indoor air quality is a complex, controversial, and subjective issue. While radon and asbestos concerns have been briefly evaluated, other indoor air quality concerns are beyond the scope of this preliminary investigation. Such concerns may include ventilation and air exchange rates, air filtration, pollutant source evaluation, and other issues. This preliminary investigation is not intended to evaluate indoor air quality, with the exception of limited review of radon and asbestos.

Electromagnetic Fields. Electromagnetic fields (EMFs) are a controversial, much studied, and poorly understood with regard to human health effects. Evaluation of high voltage power lines, switching stations, and other EMF sources is beyond the scope of this investigation. Research literature, policies, on-site testing, and other data may be provided on request.

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Facility-related Off-Site Conditions. Facility-related environmental liabilities may extend beyond the boundaries of the property. Such liabilities may arise from petroleum or hazardous waste releases that have migrated off-site, from contamination occurring at treatment, storage, or disposal facilities that received wastes from the subject facility, or from other forms of offsite contamination related to the facility's operations. The determination of off-site, contingent liabilities is beyond the scope of the Phase I Environmental Site Assessment.

Regulatory Compliance Issues. Complete assessment of existing and proposed site uses with environmental regulations is beyond the scope of this initial assessment. A regulatory compliance assessment may be conducted on request in order to assist the facility to comply with environmental regulations. Matters which may be assessed during a regulatory compliance audit may include occupational safety and health compliance, industrial hygiene assessments, environmental impact assessment, regulatory reporting requirements, and facility environmental compliance history.

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CONCLUSIONS AND RECOMMENDATIONS

Stokes Environmental Associates, Ltd., (SEA, Ltd.), performed a Phase I Environmental Site Assessment of the 216 acre farm known as the Etheridge Green property located at Centerville Turnpike at Whittamore Road in Chesapeake Virginia. The purpose of this assessment was to identify, to the extent feasible pursuant to the investigative method, recognized environmental conditions in connection with the property.

The investigative method applied in this assessment was based on the ASTM Standard Practice E1527-97, as expanded based on additional selected standards available in the industry which Stokes Environmental Associates, Ltd. considers appropriate to this specific case. Any exceptions to, or deletions from the ASTM practice are described in the report.

The information found during this investigation did not indicate presence of recognized environmental conditions at the subject site, and no further environmental investigation or evaluation appears to be warranted at this time, except as follows:

Additional information is provided in the text of this report to appropriately document the scope, limitations, and findings of this assessment.

1. Soils at the site are poorly drained, and a network of ditches is present throughout the property. The Natural Resources Conservation Service has been requested to confirm the site does not contain wetlands. Confirmation that wetlands are not present has also been requested from the U.S. Army Corps of Engineers. IT is anticipated that the U.S. Army Corps of Engineers may claim jurisdiction on the south side of the property, and possibly over small areas within the wooded triangle at the southeast corner of the property.

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SITE ASSESSMENT DISCLAIMER AND LIMITATIONS

Stokes Environmental Associates, Ltd. is pleased to assist Mr. Robert DiBerardinis of Combustion Products Management in the preliminary assessment of environmental conditions at the subject property, as outlined in this report. This report has been prepared solely for the exclusive use of Combustion Products Management and its agents for specific application to the property assessed. No other person or business entity shall have any rights with regard to our contract for this project, or any rights of reliance on this report or related documents prepared by Stokes Environmental. The scope of services included in this study may not be appropriate to the needs of other users of this document, and any such use is at the risk of user. This investigation was conducted in accordance with the scope of work, terms, and conditions outlined in the applicable contract or letter of agreement between Combustion Products Management and Stokes Environmental Associates, Ltd. In the event of any conflict between this disclaimer and the applicable contract or letter of agreement, the contract or letter of agreement shall take precedence.

This work has been performed using reasonable care within the scope of work and in accordance with budgetary limitations. Stokes Environmental Associates strives to conduct its services in keeping with industry standards and in accordance with generally accepted environmental science practice. No other warranty, expressed or implied, is made.

Our conclusions and recommendations are based upon our observations at the site, the reviewed documentation, any test results reviewed, interviews, any other information provided and our previous experience in this area. The conclusions and recommendations assume that data and other information provided are reasonably accurate. It must be recognized that available agency records, addresses, maps, and other information reviewed in this assessment are often incomplete, contain errors, may not be current, may list alternate facility names or addresses, or may provide otherwise misleading data. Verification of agency data, determination of facility locations that are listed by post office box, continuous updating and other tasks related to database information are generally beyond the scope and cost allowances of this investigation. However, the Environmental Professional performing the review has made a reasonable effort to compensate for mistakes or insufficiencies in the information reviewed that are obvious in light of other information actually known to the Environmental Professional. It should also be recognized that information may be available which was not found or reviewed in this assessment. The conclusions and recommendations are based on a limited review of the site and cannot provide complete assurance that all liabilities were detected. The conclusions and recommendations do not reflect variations in site conditions not visually apparent or which could exist intermediate of the sample locations or which could exist in the future.

Stokes Environmental Associates, Ltd. has analyzed the information obtained in this investigation in keeping with existing guidelines and regulations, but cannot accurately predict what actions or interpretations any given agency may take presently, or what standards and practices may apply to the site in the future. Should such variations in regulations, guidelines or site conditions become apparent in the future, it will be necessary to reevaluate our conclusions and recommendations based upon additional analyses and on-site observations as appropriate. It should be noted that only the appropriate regulatory agencies can make the final decision with respect to the extent of their jurisdiction. This site assessment report is not intended to provide a regulatory compliance audit. Unless known conditions indicate other durations, it is generally assumed that a site assessment is viable for a period of 180 days.

The pricing for this work is based on the absence of personal liability of the preparers with respect to the work, and the understanding that any claim associated with the work shall look solely to Stokes Environmental Associates, Ltd.

Stokes Environmental Associates, Ltd. acknowledges that it maintained in full force and effect at the time the services described in the investigation were performed, professional liability (errors and omissions) insurance with minimum policy limits of one million dollars each occurrence and one million dollars in the aggregate. Stokes Environmental Associates, Ltd. currently maintains such insurance in full force and effect and currently has no plan to terminate such insurance in the foreseeable future. Stokes Environmental Associates, Ltd.'s liability in connection with this investigation shall cease after a period of three years from the date of completion of the study, and Stokes Environmental Associate's total aggregate liability in connection with the investigation shall not exceed that amount actually covered by insurances on any such claim.

Please note that no environmental investigation can wholly eliminate uncertainty regarding the potential for adverse environmental conditions in connection with a property. This study is intended to reduce, but not eliminate, such uncertainty. The investigation recognizes reasonable limits of time and cost, and is designed to provide an appropriate level of inquiry, based on existing industry standards.

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