Environmental Engineering and Science Waste Management / Grand Central Landfill Field Trip

(Modified from Information Sheet – Lafayette Geology Dept)

Purpose: The purpose of this field trip is to introduce you to the process of waste disposal, and the environmental considerations that must be taken when dealing with waste and its byproducts.

Introduction: The Waste Management / Grand Central Landfill in Pen Argyl. Pennsylvania is a modern Landfill Facility, covering approximately 600 acres. Waste Management Corporation, based in Houston, Texas, is one of the largest providers of waste collection and disposal in the United States. (More about Waste Management can be found at www.wm.com) The Landfill Facility contains a 52 acre capped old landfill, and an 87.5 acre currently operating landfill. The Site is in the process of applying for permits from the PA Department of Environmental Protection, and Local Municipalities to expand into a new landfill that would sit between the current and former landfills. This expansion was originally requested in 2000, and due to the heated issue of waste disposal, has been slow to process. Our tour today will take us through the landfill facility to see how the landfill operates, and what is done to insure isolation from the surrounding environment. Please see the attached map to orient yourself during the trip. Also included are various materials from Waste Management highlighting their commitment to the environment and the local communities.

Modern Sanitary Landfills

(Information provided by Waste Management)

-Large Environmentally secure regional facilities are built bigger so fewer are needed. But this also comes with a higher cost.

-Landfills are sealed from the surrounding environment with liners made of plastic and clay. (we will see an example of these)

-Include Groundwater monitoring, surface water control and other water safeguards.

-Incoming waste is weighed, identified and checked for acceptability (this makes sure that really nasty hazardous wastes are deposited in facilities that are designed for them).

-Waste is covered daily to control odors and vermin (rats, birds, etc).

-Landfill Gas is captured, and burned off at a flare, and/or used to generate power.

-After the landfill is filled to capacity, environmental controls must continue for a minimum of thirty (30) years. And money has to be available for this.

-Facilities provide many community benefits.

Some Facts and Figures about Grand Central Sanitary Landfill (Information provided by Waste Management)

PA Department of Environmental Protection Permit ID # 100265

GCSL Property

Closed/Capped Old Landfill	52.0 Acres
Operating Landfill	87.5
Proposed Expansion	25.0
Support and Setback Area	140.9
Green Knight Energy Center	4.3
Solid Waste Disposal Zoning District	309.7
Commercial/Industrial Zoning District	<u>122.4</u>
Total PA DEP Permit Area	432.1
Contiguous Buffer Area	<u>105.4</u>
Total Site Land Area	537.5 Total Acres

Former GCSL Property

Slate Belt Industrial Park (Northampton County) 19.2 Acres

Approved Non-Hazardous Solid Waste Accepted Municipal / Construction-Demolition / Residual Special Handling

Permitted Daily Volume

2750 Tons per Day / Average daily volume per quarter 3000 Tons per Day maximum – any one operating day 3500 Tons per Day maximum – (proposed)

Site Facilities

Recycling Drop-Off Area 100,000 Gallon per day Waste Water Treatment Plant Landfill Gas Recovery System Automatic Truck Wash Stone Aggregate Crushing/Screening Plant

Grand Central Hauling Company

130 – Truck Trash and Recyclables collection hauling fleet

WM/Grand Central Employment

285 Employees - Annual payroll \$14.3 million including benefits

Goods and Services

\$25 million annual average expenditures

The Slate Industry in Pennsylvania

September 15, 1992 Craig A. Dally Anthony Dally and Sons, Inc. Pen Argyl, PA

The various slate deposits found in Pennsylvania were formed over 200 million years ago. Slate was first quarried in the United States in 1734 near Delta, Pennsylvania, in what is known as the Peach Bottom District. The first slate quarry in Northampton County was in the village of Slateford and was opened in 1836. Slate was first discovered in Pen Argyl in the fall of 1853 and the first quarry was opened in the spring of 1854. This discovery eventually led to the naming of Pen Argyl by Augustus Wolfe, a Welsh merchant who resided in Bethlehem and assisted in the development of the slate industry in the Pen Argyl area. The word "Pen" came from the Welsh word meaning head and the Celtic word meaning "mountain." "Argyl" came from the Anglo-Saxon word "argylite" which means slate rock. This resulted in the name "Pen Argyl," which means head or mountain of slate rock. There is no other town in the world by this name. Pen Argyl is located in the middle of the Slate Belt region of Northampton County and it was once one of the greatest slate producing regions of the world. At the turn of the century, there were as many as 30 operating slate quarries in the Slate Belt. The Pennsylvania slate industry presently operates at but a fraction of the levels achieved during previous eras. Today only three operations remain, one in Pen Argyl, One in Wind Gap and one in Slatedale.

The Pen Argyl quarries are characterized by horizontal bedding planes and the slate deposit is quarried in a vertical fashion. This mining technique has resulted in some Pen Argyl quarries achieving great depths. As an example, the former parsons quarry located in Plainfield Township just southwest of the borough of Pen Argyl reached a depth in excess of 800 feet and at one time was known as the deepest open quarry in the world. Presently the deepest operating quarry in Pen Argyl is approximately 300 feet.

The production of finished slate products from the raw material quarried often generates large amounts of waste material that can amount to 85% of the quarried material. This phenomenon created a dilemma for the early slate producers in terms of disposing of this waste slate. The results is the large slate waste heaps that are prevalent throughout the Slate Belt region. Today this waste material is dumped into abandoned quarry holes. In an effort to utilize this waste material, various innovative ideas have been proposed but to date none of these have proven to be along term success**

While the Pennsylvania slate industry is but a mere shadow of its former self, local slate products, including roofing, structural and blackboard slates, are still sold throughout the United States and, to a limited extent, exported to foreign countries. Given the natural characteristics of Pennsylvania slate and its proven durability as quality building material, there should always be a market for its use.

** In 2004, Techo-Bloc, a Canadian building materials producer, established a production facility in the Grand Central Industrial zone. They are using the slate piles to create their products.

SANITARY LANDFILL CONSTRUCTION/OPERATION

TEAM WORK - ORGANIZATION EDUCATIONAL NEEDS/VOCATIONAL DISCIPLINES

1. Landfill Operations

- -Environmental monitoring, testing and sampling to identify incoming wastes for hazardous constituents
- Manager (probably four-year person with physical sciences background) who needs broad background in environmental sciences, regulation, safety, etc.
- Business/Accounting specialists
- Marketing/Sales/Community Outreach: communications, public affairs, marketing people who can bring in business and serve as spokespersons

2. Engineering

<u>Civil</u> –	Planning Construction (major earth moving) design, soils, mechanics, WWTP
Environmental –	Physical and chemical surroundings. Monitoring, Testing (scientist)
<u>Hydrogeology</u> –	Study of water Storm water management Ground water control Water Quality
<u>Geology</u> –	Study of Earth Subsurface factors Construction Analysis Chemical, physical, mathematical and biological
<u>Surveyors</u> –	Measurement of relative positions of points on earth Documentation grades/locations
<u>Chemical</u> –	Study of composition of substance Analyze waste and treatment plant processing. Monitoring and testing

3. Vocational/Technical

Specialized driver training (often different than standard over-the-road training) for garbage trucks in urban and suburban communities where tight maneuvering and other special requirements apply

Mechanical training for a wide range of equipment involved in collection, recycling, treatment and disposal; trucks, compactors, bulldozers, balers (drive trains, hydraulics, engines)

4. Design and construction of facilities

- All sorts of engineers (environmental, mechanical, chemical, civil)

- -Geologists
- Air toxicologists
- Health/Safety experts
- Computer scientists to design
- Technicians to run equipment, do sampling



Aerial Photo of Grand Central Landfill, taken April 2005. Locations are described below. Red Outline is proposed landfill extension.

	Location		Location
1	Entrance to Landfill and Weigh Station	5	Leachate processing Facility (Includes storage tanks)
2	Active Landfill	6	Gas Flare
3	Rock crushing facility	7	Green Knight Gas to Energy Plant
4	Former Landfill	8	Original Grand Central Quarry



Grand Central Sanitary Landfill

Fact Sheet

Location **Plainfield** Township Northampton County Pennsylvania

Address (off Rt. 512) 910 W. Pennsylvania Ave. M-F: 7 am - pm Pen Argyl, PA 18072

Hours of Operation Sat. 7 am - Noon

Community Facts

Economic

- Employ 177 employee/families annual payroll including benefits = \$11.5 million.
- Goods and Services average annual spending with vendors and contractors = \$20 million.
- Area Real Estate Taxes exceed \$370,000 annually.
- Plainfield Township Act 101Fee + Host Agreement Fee + Bus. Priv. Tax payments = \$1.3 million in 2006.
- Pen Argyl Borough Facility Cooperation Agreement Fee payments = \$380,000.00 in 2006
- •Pen Argyl Borough Free trash collection savings for 1,450 residents = \$435,000.00 in 2006.
- •Wind Gap Borough Neighboring Municipality Agreement payments = \$248,577.00 in 2006.
- •Wind Gap Borough Free trash collection savings for 1,100 residents = \$330,000.00 in 2006.

Civic

- \$10,000/year Pen Argyl Area School District Environmental Scholarship funding.
- \$750,000 paid for 45-acre tract of land to be donated for future expansion of Pen Argyl Area School District •\$1,000/month contribution to Blue Mountain Community Library
- •\$20,000/year Community athletic organizations Plainfield/Pen Argyl/Wind Gap & Nazareth YMCA.
- Green & White Athletic Association donated 11-acre tract that was used for ball fields past 50 years.
- Assisted in removal/disposal of shredded tires Wind Gap Waste Tire Pile

Economic Development

· Green Knight Economic Development Corporation, the non-profit owner of the Green Knight Energy Center, a 10 MW landfill-gas-to-electric plant located at GCSL, distributes \$800,000 per year in proceeds from sale of electricity to economic development and community support exclusive to the municipalities of the Pen Argyl Area School District. WM provides operational and debt guarantees.

• Slate Belt Industrial Center: WM subdivided a 19-acre tract of land adjacent to GCSL's entrance and donated it to the Northampton County Industrial Development Authority to attract economic development. Techo-Bloc, Inc. a Canadian concrete products firm located its first U.S. facility in a new 55,000 sq/. ft. building on the 19acre tract. The successful economic development project is the result cooperative efforts and incentives provided by the NCIDA, GKEDC and WM.

• Wind Gap Bypass - A planned industrial roadway extending from the GCSL Rt. 512 entrance west for 2.5 miles to a proposed new Rt. 33 connection will open a former landlocked 150-acre brown commercial/industrial economic development. WM & GKEDC paid consultant fees to develop feasibility studies and GKEDC committed \$1 million to construct an initial 1.3-mile section of the industrial roadway.



Grand Central Sanitary Landfill Fact Sheet

PA Department of Environmental Protection (DEP) Permit # 100265

Waste Management's Grand Central Sanitary Landfill (GCSL) is a municipal solid waste landfill located in Plainfield Township, Northampton County. Disposal operations date back to 1951. The site is located in the Lehigh Valley's Slate Belt Region. The facility is permitted to accept municipal solid waste, construction/demolition waste, residual waste and special handling municipal waste. GCSL <u>does not accept</u> hazardous waste or liquid waste.

The amount of waste received each day at the landfill is defined in the DEP Permit. The permit states that the acceptable limits are no more than 2,750 tons per day quarterly average with a daily maximum of 3,000 tons.

At GCSL environmental protection is a priority. Combining the highest available technologies with a professional staff to operate the landfill ensures the facility meets and/or exceeds DEP regulations.

Environmental Controls and Construction Standards

Grand Central Sanitary Landfill uses multiple collection and monitoring systems to protect the environment including a time tested double-synthetic liner system. Groundwater protection is an integral part of construction and operations. Twenty-five ground water monitoring wells around the site are sampled and analyzed by trained monitoring technicians on a quarterly basis. The water quality data is evaluated by third party professionals and is submitted to state and local regulatory agencies.

A collection and extraction system for wastewater is installed between the liner system and the waste disposed in the landfill. All wastewater flows to collection sumps and is piped to an on-site 100,000-gpd wastewater treatment plant. The treated effluent is then discharged to a local stream in accord with its NPDES permit.

GCSL's high performance landfill gas (LFG) collection system extracts gas a matrix of LFG wells through pipelines to three landfill flares and to a merchant-nonprofit 10MW three-turbine LFG-to-electric plant (the Green Knight Energy Center). The Green Knight Energy Center is important for environmental protection and our odor management system because it beneficially uses landfill gas to generate electricity. Plus, the electricity sales provide a long-term revenue stream for our communities.

The PA Department of Environmental Protection inspectors and Plainfield Township's DEP-trained Host Municipal Inspector inspects the landfill and its operating standards on a monthly basis. These unannounced inspections include a thorough review of the facility operations and record keeping. In addition, through the Pen Argyl/GCSL Facility Cooperation Agreement, the borough employs a facility inspector that is qualified to perform same tasks as a Host Municipal Inspector.

GCSL employs a rigorous waste-screening program to identify and restrict the disposal of unauthorized materials. Unauthorized wastes include hazardous wastes, liquid wastes and untreated medical wastes. All employees are trained in the proper observation, identification and handling of waste.

The acceptance of residual waste is a unique service provided for commercial and industrial customers. Each commercial and industrial waste is identified and profiled prior to acceptance. The profile indicates if any special handling requirements are necessary during the shipment and disposal of these wastes at the landfill. Certain wastes require laboratory testing to ensure the waste is acceptable for disposal under DEP regulations.

Besides providing a safe, economic and environmentally secure waste disposal service for its customers, Grand Central Sanitary Landfill works hard to improve the communities where it does business.

For more information please call 610-863-2414 to contact: Scott Perin, District Manager Harry Smith, Community Relations



WASTE MANAGEMENT FACT SHEET

CORPORATE PROFILE

Waste Management, based in Houston, Texas, is North America's leading provider of waste and environmental services.

We Think Green: For decades, Waste Management has taken innovative steps to protect and even enhance the environment in managing the four and a half pounds of garbage each person on the continent produces each day. Our subsidiaries provide collection, transfer, recycling and resource recovery and disposal services. We are also a leading developer, operator and owner of waste-toenergy and landfill gas-to-energy facilities in the United States. Waste Management's customers include residential, commercial, industrial and municipal customers throughout North America.

Waste Management is the largest provider of recycling services in North America. The 116 facilities of Waste Management and its WM Recycle America subsidiary can accommodate paper, cardboard, glass, plastics, metals and electronics. Waste Management was the first major solid waste company to focus on residential single-stream recycling that allows customers to mix recyclable paper, plastic, metals and glass into one container for collection. We have 30 single-stream facilities.

In 2006, Waste Management recycled:

- More than 5.5 million tons of waste material, saving enough energy to power 833,000 households.
- More than 32,000 tons of aluminum, saving enough energy to run one million televisions 17 hours a day for a year.
- More than 57,000 tons of steel cans, reducing greenhouse gases equivalent to taking more than 21,000 cars off the road each year.
- More than 2.4 million tons of paper, saving about 41 million trees.

Waste Management is also a leader in waste-based energy technologies. We continue to minimize the impact of our own operations on the environment by working with suppliers on alternative fuels. Both the U.S. Environmental Protection Agency and the U.S. Department of Energy have recognized Waste Management for our work in advancing technologies for alternative-fueled vehicles.

nink Green.

EXPESS

We continue to look for ways to improve the environment, while remaining a trusted and valued community partner. Waste Management landfills provide more than 17,000 acres of protected land for wetlands and wildlife habitats, all carefully managed in partnership with conservationists, universities and environmental groups. Working with the international Wildlife Habitat Council, we have developed comprehensive habitat management practices on these lands, which we set aside for the sole purpose of conservation. In all, 24 of our landfill sites have been certified by WHC.

Waste Management continues to make safety a part of the fabric of our culture. In recent years, we have worked diligently to instill a culture of safety across our workforce. In the last six years, our ongoing safety campaign has resulted in a total reduction in workplace injuries of about 80 percent. By the end of 2006, we believe our OSHA injury rate was the lowest in our industry by a significant margin.

In another safety achievement, the Wheelabrator Ridge Energy Plant was designated by OSHA as a Voluntary Protection Program Star site, joining 17 other Wheelabrator facilities in attaining this exclusive recognition. This rating is the highest given by OSHA through VPP and indicates a world-class health and safety system. Only one of every 4,000 worksites nationwide has been certified as a VPP Star facility.

CORPORATE INFORMATION (As of 12/31/2006)

Operating Areas: 48 states, District of Columbia, Canada and Puerto Rico

Customers Served: Nearly 20 million

Active Landfills: 283

Collection Operations: 379

Transfer Stations: 342

Waste-to-Energy Facilities: 17 **Collection & Transfer Vehicles:** 24,000

LNG- and CNG-powered Vehicles: Nearly 500

Recycling:

Recycling Facilities: 116

Recyclable Materials Processed Annually: 5.5 million tons

Employees: Nearly 50,000

INVESTOR INFORMATION Greg Nikkel (713) 265-1358 gnikkel@wm.com

MEDIA INFORMATION Lynn Brown (713) 394-5093 lynnbrown@wm.com

CORPORATE OFFICE

Waste Management, Inc. 1001 Fannin, Suite 4000 Houston, Texas 77002 (713) 512-6200 www.wm.com



Think Green:



FINANCIAL HIGHLIGHTS

For the year ended December 31, 2006

Total Revenues	\$13.36 Billion
Net Income	\$1.15 Billion
Diluted Earnings Per Share	\$2.10
Total Assets	\$20.6 Billion
NYSE: WMI	·

ion

Fiscal Year Ends: December 31

Shares Outstanding: 533 Million as of 12/31/2006

52-Week Stock Price Range: \$30.08 to \$38.64 as of 12/31/2006

WASTE MANAGEMENT OPERATIONS



COLLECTION. Waste Management provides solid waste collection services to millions of customers across North America, ranging in size from the single residential subscription to large national customers requiring comprehensive, one-source waste programs to serve hundreds of locations. With about 24,000 collection and transfer vehicles, the company has the largest trucking fleet in the waste industry and collects nearly 83 million tons of solid waste per year.



TRANSFER. With much of the waste collected by Waste Management going to its own landfills, a supporting network of transfer stations provides an important link for efficient disposal. Waste Management has 342 strategically located transfer stations to consolidate, compact and load waste from collection vehicles into long-haul trailers, barge containers and rail cars for transport to landfills.



DISPOSAL. Waste Management operates the largest network of landfills in its industry, with 283 active sites managing the disposal of more than 125 million tons of waste per year. The company operates its sites according to standards of safety and environmental compliance that go beyond regulatory requirements. Waste Management is focused on solutions that impact the future of solid waste management, including Next Generation Technology,sm which accelerates the decomposition of organic waste so that it occurs within years instead of decades. Currently, the company is conducting research at 14 landfills to confirm the environmental benefits of this alternative method for managing landfill waste.





RECYCLING. As the largest recycler of municipal solid waste in North America, Waste Management processes 5.5 million tons of recyclable materials each year through its 116 recycling facilities. Through the resources of WM Recycle America, we provide costefficient, environmentally sound recycling programs for municipalities, businesses and households across the U.S. and in Canada.

RENEWABLE ENERGY. For many years, Waste Management has worked with businesses, industries and public utilities across North America to develop beneficial use projects from landfill gas. This gas is a reliable, renewable energy source that is produced naturally as waste decomposes in landfills. When collected, it can be used directly as medium Btu gas for industrial use or sold to gas-to-energy plants to fuel engine or turbine-driven generators that produce electricity. Through 104 landfill gas projects, we currently supply enough landfill gas to create more than 470 megawatts of green energy that could power about 400,000 homes or replace about 7 million barrels of oil per year.

In addition, Wheelabrator Technologies Inc., our waste-toenergy subsidiary, burns solid waste to generate clean energy. Its 17 waste-to-energy plants have the capacity to process up to 24,000 tons of waste per day and have an electric generating capacity of more than 650 megawatts of energy, potentially saving more than 7.6 million barrels of oil and generating clean, renewable energy that could power about 700,000 homes each year.

Printed on 100% postconsumer recycled paper







David P. Steiner Chief Executive Officer

Prior to being elected CEO in March 2004, Steiner was Waste Management's Chief Financial Officer. He joined the company in November 2000 as Vice President and Deputy General Counsel and was appointed Senior Vice President, General Counsel and Corporate Secretary in July 2001. In April 2003, he was elected CFO. He joined WM from Phelps Dunbar, a law firm in New Orleans, La. Prior to that, he was an associate at Gibson, Dunn & Crutcher in San Jose, Calif.



Lawrence O'Donnell, III President and Chief Operating Officer

Before being elected President and COO in March 2004, O'Donnell was Waste Management's Executive Vice President, Operations Support and Chief Administrative Officer. Prior to that assignment, he was Executive Vice President of Waste Management's Western Group. Previously, O'Donnell was Vice President and General Counsel for Baker Hughes Inc. Before that, he was a partner in a Houston law firm.

Typical Leachate Collection and Recovery System



From everyday collection to environmental protection, Think Green." Think Waste Management.



Note: The information presented is based upon our knowledge and belief. Waste Management, Inc., makes no representations as to the completeness and/or accuracy of such information. Information contained in this documents? Waste Management Confidential, Proprietary information intended only for personal authorized by Waste Management TP data Estate to conduct sporved Waste Management TP data and the documents and the state of the state and the

Created June 27, 2007

0 3060 120 180 240 Miles

Typical Anatomy of a Landfill

Protective Cover

COVER VEGETATION

As portions of the landfill are completed, native grasses and shrubs are planted and the areas are maintained as open spaces. The vegetation is visually pleasing and prevents erosion of the underlying soils.

🛛 Top Soil

Helps to support and maintain the growth of vegetation by retaining moisture and providing nutrients.

PROTECTIVE COVER SOIL Protects the landfill cap system and provides additional moisture retention to help support the cover vegetation.

Composite Cap System

4 Drainage Layer

A layer of sand or gravel or a thick plastic mesh called a geonet drains excess precipitation from the protective cover soil to enhance stability and help prevent infiltration of water through the landfill cap system. A geotextile fabric, similar in appearance to felt, may be located on top of the drainage layer to provide separation of solid particles from liquid. This prevents clogging of the drainage layer.

⁵ Geomembrane

A thick plastic layer forms a cap that prevents excess precipitation from entering the landfill and forming leachate. This layer also helps to prevent the escape of landfill gas, thereby reducing odors.

6 Compacted Clay

Is placed over the waste to form a cap when the landfill reaches the permitted height. This layer prevents excess precipitation from entering the landfill and forming leachate and helps to prevent the escape of landfill gas, thereby reducing odors.

Working Landfill

2 Daily Cover

At the end of each working period, waste is covered with six to twelve inches of soil or other approved material. Daily cover reduces odors, keeps litter from scattering and helps deter scavengers.

8 Waste

As waste arrives, it is compacted in layers within a small area to reduce the volume consumed within the landfill. This practice also helps to reduce odors, keeps litter from scattering and deters scavengers.

Please Note: This illustration depicts a cross section of the standard environmental protection technologies of modern landfills. While the technologies used in most landfills are similar, the exact sequence and type of materials may differ from site to site depending on design, location, climate and underlying geology.





Leachate Collection System

Leachate is a liquid that has filtered through the landfill. It consists primarily of precipitation with a small amount coming from the natural decomposition of the waste. The leachate collection system collects the leachate so that it can be removed from the landfill and properly treated or disposed of. The leachate collection system has the following components:

Eeachate Collection Layer A layer of sand or gravel or a thick plastic mesh called a geonet collects leachate and

mesh called a geonet collects leachate and allows it to drain by gravity to the leachate collection pipe system.

10 Filter Geotextile

A geotextile fabric, similar in appearance to felt, may be located on top of the leachate collection pipe system to provide separation of solid particles from liquid. This prevents clogging of the pipe system.

Leachate Collection Pipe System

Perforated pipes, surrounded by a bed of gravel, transport collected leachate to specially designed low points called sumps. Pumps, located within the sumps, automatically remove the leachate from the landfill and transport it to the leachate management facilities for treatment or another proper method of disposal.

Composite Liner System

12 Geomembrane

A thick plastic layer forms a liner that prevents leachate from leaving the landfill and entering the environment. This geomembrane is typically constructed of a special type of plastic called high-density polyethylene or HDPE. HDPE is tough, impermeable and extremely resistant to attack by the compounds that might be in the leachate. This layer also helps to prevent the escape of landfill gas.

13 Compacted Clay

Is located directly below the geomembrane and forms an additional barrier to prevent leachate from leaving the landfill and entering the environment. This layer also helps to prevent the escape of landfill gas.

14 Prepared Subgrade

The native soils beneath the landfill are prepared as needed prior to beginning landfill construction.



©2003, Waste Management

www.wm.com

tal protection Think Green" Think Waste M

(Not to scale)

Environmental Geology

Waste Management / Grand Central Landfill Field Trip

Name:_____

1. What procedures are used to keep the waste isolated from the environment?

- 2. What is leachate and how is it created?
- 3. What is done with the leachate?
- 4. What gases are present in a landfill?
- 5. How are these gases dealt with here at GCSL?
- 6. What type of trash does GCSL accept?
- 7. What types (examples) does it not accept?

- 8. Where does most of the trash that goes into GCSL originate?
- 9. What is the life expectancy of the current landfill at the current filling rate?
- 10. What will the life expectancy be if the new landfill area is approved.

11. How long must the landfill be monitored by the landfill operator after the landfill is filled and no longer accepting waste?

12. Through what methods does GCSL try to reduce their presence on the local community?

- 13. What happens to rain that falls on the landfill?
- 14. Any other important pieces of information gained from today's field trip?