

HYDROGEOLOGIC EVALUATION
AND
LANDFILL CLOSURE PLAN
FOR
DELTA CHEMICALS, INC.
SEARSPORT, MAINE

VOLUME II - LANDFILL CLOSURE PLAN

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4.0 SITE MAINTENANCE & IMPROVEMENTS

EROSION CONTROL

There are three principal areas of concern regarding erosion at Delta's landfill facilities. They are 1) the earthen embankments surrounding the landfill; 2) the construction/demolition debris section; and 3) the waste material in the special-waste landfill. Each is discussed below.

The earthen embankments surrounding the landfill have existed for many years. A lush vegetative growth of grasses, bushes and small trees exists on the embankments. The embankments are inspected regularly by Delta personnel as detailed below under Inspections. As trees develop on the embankment, they are cut to minimize root penetrations and to reduce the potential for the wind uprooting a large tree. The top of the embankments are characterized as flat, 12-foot wide gravel surface roadways that have also been in place for many years. The vegetative growth and flat nature of the roadways greatly reduce the potential for erosion of the embankments or roadways. However, if erosion is noted during routine inspections, a contractor is retained to repair the damage. Repairs consist of soil replacement, jute matt or other erosion control mesh followed by seeding and mulching to promote rapid redevelopment of the surface vegetation.

The construction/demolition debris facility is surrounded by dense vegetation. The area is relatively flat and has an active working face with a slope of less than 5%. The construction/demolition debris is not generally susceptible to erosion. Historical use of the area has consisted of depositing small quantities of material in the vegetation that has developed. There are no visible signs of erosion and no additional erosion control measures are necessary.

Material disposed of in the special waste facility is deposited into an area that is completely enclosed by the earthen berms. This material is susceptible to erosion from surface runoff but this erosion is of no consequence since it occurs within the confines of the berms.

VECTOR CONTROL

The nature of the waste material disposed of at Delta's landfill facilities is not conducive to the generation of disease vectors. Should the need arise to eliminate or control potential vector carriers, the Production and Maintenance Manager will arrange for the appropriate extermination program to be implemented.

DUST CONTROL

Delta implements measures to control and minimize the generation of dust by wind action or movements of transport vehicles and equipment. Such measures include the maintenance of well-vegetated buffer strips around the perimeters of

the facilities, maintenance of the access road to ensure it consists predominantly of gravel, limiting on-site traffic speeds to below 20 miles per hour, and vegetating areas covered with intermediate or final soil material as soon after their completion as possible. In addition, during dry summer months, the unpaved access road is treated with water or calcium chloride as necessary to minimize dust from becoming airborne. Vehicles used to transport waste material use only private roads. These efforts, in concert with the nature of material disposed in the landfill facilities, ensure that dust will not be a nuisance to abutting property owners or plant operations.

LITTER CONTROL

Due to the nature of the waste material disposed of in Delta's landfills, litter is not a concern. However, during monthly site inspections, efforts are made to collect any litter that may exist in the landfill areas.

BUFFER STRIPS

As shown on Figure 2, Delta's landfill facilities are approximately 300 feet from the nearest property boundary. This is well in excess of the 100-foot property setback required for landfill facilities that were established prior to 1973.

The immediate area surrounding the disposal facilities is vegetated with a variety of deciduous and coniferous trees and shrubs that ensure a year-round visual buffer from public roads and adjacent properties. This vegetative buffer will be maintained and preserved insofar as practicable.

Vegetation also provides visual screening of the disposal facilities from the plant area. In addition, the access road leading to the landfills is curved in such a way as to eliminate visibility to the landfill via this route.

ACCESS MAINTENANCE

The primary access road is clear of water and snow at all times to ensure safe passage of transport vehicles. Provisions have been made to spread sand as needed during the winter months to improve traction.

During wet seasons, i.e., fall and spring, disposal operations are managed such that off-loading occurs as near as practical to the access road. This allows transport vehicles to be near the active working face without becoming stuck. During these seasons, gravel is sometimes added to improve access. Delta has available a reputable contractor to provide the necessary repair services. All aspects directed toward ensuring safe access to the disposal facilities are the responsibility of the Production and Maintenance Manager.

INSPECTIONS

In order to maintain environmental and operational integrity and to evaluate operational performance, regularly scheduled inspections occur. Inspections are the primary responsibility of the Production and Maintenance Manager. The following details the type and frequency of inspection.

Monthly

1. the access road is inspected and maintained as necessary,
2. litter in the vicinity of the disposal areas is picked up and disposed of properly,
3. erosion control and prevention measures are inspected to ensure they function properly,
4. buffer strips are maintained with plantings/seedings as needed, and
5. slopes on the active portions of the disposal facilities are maintained
6. vector control inspections are performed to ensure that birds and rodents do not become problems.

Quarterly Inspections

1. Ground and surface-water monitoring points are sampled. During samplings, wells and monitoring points are carefully inspected to ensure their integrity.

A landfill inspection form is used by the site inspector to assure that each aspect of the operation is inspected. Copies of the inspection reports are provided to the Production and Maintenance Manager. Appropriate repairs are initiated by the Production and Maintenance Manager.

5.0 WATER-QUALITY MONITORING PROGRAM

Delta's current water-quality monitoring program is designed to detect changes in the quality of ground and surface waters in the immediate vicinity of their disposal facilities. Samples are collected on a quarterly basis and analyzed for the following parameters:

aluminum
sulfate
specific conductance
pH

The locations of the ground-water monitoring points are shown on Figure 2. Wells installed at these locations are constructed of PVC and are designed to provide ground-water quality data upgradient and downgradient of the disposal facilities. Construction details for these wells are summarized in Table 1.

Sample-collection procedures adhere to a regimented program designed to provide representative and unbiased samples. Prior to sampling, water levels are obtained from each well. The wells are then purged with a peristaltic pump until approximately three times the volume of water in the well is removed. The purge water is allowed to infiltrate the ground at the well head. Following sufficient purging, water samples are obtained directly from the pump discharge. The pump is thoroughly cleaned following use in each well. Decontamination procedures involve a tap water rinse, methanol spray and final rinse of distilled water.

The sample waters are placed directly into pre-labeled 8-ounce sample containers and readied for transport to the laboratory for analysis. A chain-of-custody form is completed and accompanies the samples during transport.

Environmental water samples are also obtained from nearby surface waters. The locations of the sample-collection points are shown on Figure 2. Grab samples are collected at each location using a pre-labeled 8-ounce sample container. Standing downstream of the sample

location, the uncapped container, with its mouth facing upstream, is lowered approximately 6 inches below the surface and allowed to fill. Upon filling, the container is removed, capped, and readied for transport to the laboratory. The appropriate sections of the chain-of-custody are then completed.