Everett Griffith, Jr. & Associates Inc.
ENGINEERS • SURVEYORS

March 29, 2010

Mr. Gale L. Baker, P.G.
Municipal Solid Waste Permits Section
Waste Permits Division
Texas Commission on Environmental Quality
MC-124
P.O. Box 13087
Austin, Texas 78711-3087

Re: Angelina County Waste Management Center - Angelina County
Municipal Solid Waste - Permit No. 2105A
Permit Modification - Site Operating Plan - Alternate Daily Cover
Response to NOD dated March 17, 2010
Tracking No. 12972272; RN101947623; CN600833511

Dear Mr. Baker:

I am in receipt of the Notice of Deficiency noted above and offer the following:

1. As noted, the requested permit modification requires public notice. At this time, the application has been posted to the URL www.angelinacounty.net/waste/lpnotices.html as required.

2. The attached Table of Contents has been signed and sealed by Jerod L. Morris, P.E.

3. A section concerning the required Alternate Daily Cover Operating Plan (ADCOP) has been added to the text of Section 26.

4. The referenced Material Data Safety Sheets were inadvertently left out of the original package and are enclosed.

Enclosed you will find one original, one unmarked copy and one redline copy for your review and approval. Mr. Eades is being sent one unmarked copy.

Sincerely,

Rick Freeman

cc: Mr. Derek Eades, TCEQ Region 10
Mr. Chris Fitzgerald, Landfill Manager

408 North Third Street
P.O. Box 1746
Lufkin, Texas 75902-1746
936/634-5528 • FAX # 936/634-7989
admin@everettgriffith.com

Texas Engineering Registration No. F-1156
Texas Surveying Registration No. 100291-00

Signature Page

I, Wes Suiter (Operator), County Judge (Title),

certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature: _____ Date: 3/24/2010

TO BE COMPLETED BY THE OPERATOR IF THE APPLICATION IS SIGNED BY AN AUTHORIZED REPRESENTATIVE FOR THE OPERATOR

I, _____ (Print or Type Operator Name), hereby designate _____ (Print or Type Representative Name)

as my representative and hereby authorize said representative to sign any application, submit additional information as may be requested by the Commission; and/or appear for me at any hearing or before the Texas Commission on Environmental Quality in conjunction with this request for a Texas Water Code or Texas Solid Waste Disposal Act permit. I further understand that I am responsible for the contents of this application, for oral statements given by my authorized representative in support of the application, and for compliance with the terms and conditions of any permit which might be issued based upon this application.

_____
Printed or Typed Name of Operator or Principal Executive Officer

_____
Signature

SUBSCRIBED AND SWORN to before me by the said Wes Suiter

On this 26th day of March, 2010

My commission expires on the 20th day of February, 2014

SALLIE ALEXANDER
Notary Public
State of Texas
My Comm. Expires 02-20-2014

Sallie Alexander
Notary Public in and for

Angelina County, Texas

(Note: Application Must Bear Signature & Seal of Notary Public)

ANGELINA COUNTY WASTE MANAGEMENT CENTER
TYPE I SANITARY LANDFILL
ANGELINA COUNTY, TEXAS
MSW PERMIT NO. 2105A

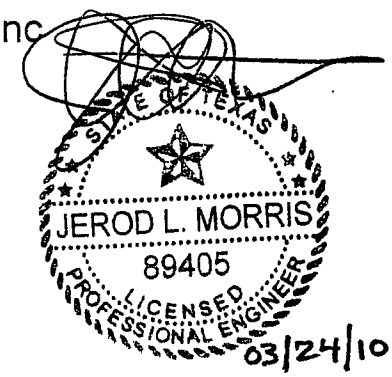
PART IV
SITE OPERATING PLAN
JULY 2006
(REV 1 - APRIL, 2007)
(REV 2 - AUGUST, 2009)
(REV 3 - JANUARY, 2010 - SECTION 26 AND APPENDIX D)

Applicant:

Angelina County Waste Management Center
P.O. Box 1862
Lufkin, Texas 75902-1862

Prepared by:

Everett Griffith, Jr. & Associates, Inc
P.O. Box 1746
Lufkin, Texas 75902-1746
TX Engineering Firm No. F-1156



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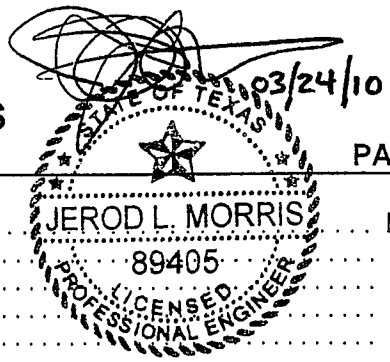

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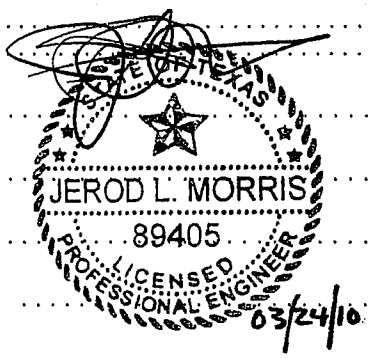

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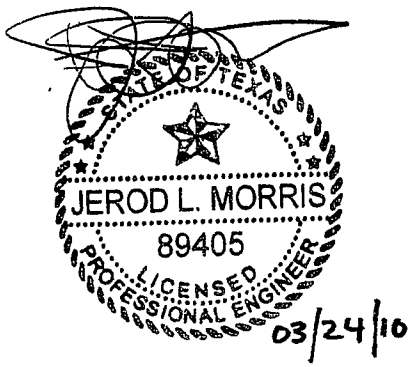

26.1 DAILY COVER - Exposed waste around the working face will be covered periodically throughout the day to control the size of the working face and to ensure that no waste is exposed for more that 24-hours. The daily cover material shall consist of 6-inches of well-compacted earthen material not previously mixed with solid waste, placed at the end of each operating day or an alternative material day cover approved by the TCEQ. If soil is utilized, it will be placed in one lift with a minimum thickness of 6-inches, and compacted sufficiently to minimize rutting and erosion, and prevent the blowing of waste materials and insect and rodent problems. The surrounding undisturbed areas and areas with intermediate or final cover will be graded to direct runoff away from the working face to minimize the amount of water coming into contact with waste and daily cover and becoming contaminated. If the advancing face of the working area will be inactive for eight hours or more, it will be covered with daily cover.

Alternative Daily Cover (ADC) may be used instead of soil daily cover. Use of an ADC provides for a more prudent utilization of the landfill space.

The following ADC's have been approved for this facility:

1. One ADC that has been approved for this site (see Appendix C for approval letters) and may be utilized at the landfill is a biodegradable clay based product, such as Formula 480 as manufactured by Monsey Products Company. This type of liquid clay product is sprayed on the working face and, when dry, provides an environmentally safe cover. The clay product inhibits the activities of vectors and birds, it also controls dust, erosion, smell and blowing debris. Appendix D includes a copy of the Material Safety Data Sheet for this product.

2. A second ADC that has been approved for this site is an airtrol plaster and mulch (see Appendix C for approval letters). Airtrol plaster is an inorganic geobinder that, when mixed with water and cellulose fiber mulch, forms a cementitious binder over whatever it is applied. Airtrol plaster is nontoxic, non-combustible, totally biodegradable and harmless to fish, birds, plants and animals. It will also control dust, erosion, smell and blowing debris. Appendix D includes a copy of the Material Safety Data Sheet for this product.

3. Posi-Shell, as manufactured by the Landfill Service Corporation. Posi-Shell is a spray-applied, cement mortar coating (similar to stucco). Its composition is a mixture of water, a setting agent and fibers and can include portland cement and/or coloring agents. The setting agent is a powdered combination of finely ground volcanic clay and natural and synthetic adhesives and is non-toxic. The fibers are very fine polyester reinforcing fibers specially coated to disperse in liquid slurries without clumping. The fibers eliminate cracking and increase the durability of the ADC. Appendix D includes copies of the Material Safety Data Sheet of the various components.

Alternate Daily Cover Operating Plan (Posi-Shell)

For use as an alternate daily cover, the manufacturer of the product, Landfill Service Corporation, recommends that the material be applied so that when dry, the material has a thickness of 1/8" to 3/16". The material forms a durable non-flammable crust that resists wind and water erosion. Posi-Shell conforms to the irregular surfaces of the landfill, thereby creating an efficient barrier to mitigate odors, reduce windblown debris and to help control vector populations.

Posi-Shell is generally applied by the use of a hydro-seeding unit. The material is applied in two directions to eliminate spray shadow. No waste or soil should be visible from an angle after the application.

Appendix D includes copies of the Material Safety Data Sheet of the various components.

ADC will not be used during periods when the landfill is closed for more than 24 hours unless authorized by the TCEQ.

During normal operations, the smallest practical working face will be maintained. Areas which have received daily cover will be inspected and maintained as necessary to minimize the exposure of previously placed wastes.

26.2 INTERMEDIATE COVER - As referenced in 30 TAC §330.165(c), all areas that received waste but will be inactive for longer than 180 days must provide intermediate cover. This intermediate cover must include six inches of suitable earthen material that is capable of sustaining native plant growth and must be seeded or sodded following its application in order to control erosion, or must be a material approved by the executive director that will otherwise control erosion. This intermediate cover must not be less than 12 inches of suitable earthen material. The intermediate cover must be graded to prevent ponding of water. Plant growth or other erosion control features must be maintained. Runoff from area that have intact intermediate cover is not considered as having come into contact with the working face or leachate.

As required by 30 TAC §330.165(g), erosion gullies or washed-out areas deep enough to jeopardize the intermediate layer must be repaired within five days of detection by restoring the cover material, grading, compacting, and seeding unless the commission's regional office approves otherwise, based on the extent of the damage requiring more time to repair or the repairs are delayed because of weather conditions. An eroded area is considered to be deep enough to jeopardize the intermediate cover if it exceeds four inches in depth as measured from the vertical plane from the erosion feature and the 90-degree intersection of this plane with the horizontal slope face or surface. The date of detection of erosion and date of completion of repairs, including reasons for any delays, must be documented in the cover inspection record. The intermediate cover will be inspected for erosion damage quarterly to detect the need for repairs during the entire operational life of the facility.

26.3 FINAL COVER - There are two final cover designs for the Angelina County Waste Management Center. The original developed sections of the landfill has a pre-Subtitle D liner consisting of three feet of compacted clay overlain by one foot of protective cover and will require one final cover design. All other developed sections of the landfill will consist of Subtitle D liners and will require a different final cover design. Attachment 12 of Part III, Site Development Plan contains a full discussion of the final cover components and details concerning the construction of the cover.

The overall geometry of the cap will consist of 4:1 side slopes from natural ground at the perimeter of the landfill to the top of the cap with an intermediate plateau along portions of the slope. The top of the cap will be fairly gently sloping, with slopes from 2 percent to 6 percent.

As required by 30 TAC §330.165(g), erosion gullies or washed-out areas deep enough to jeopardize the final layer must be repaired within five days of detection by restoring the cover material, grading, compacting, and seeding unless the commission's regional office approves otherwise, based on the extent of the damage requiring more time to repair or the repairs are delayed because of weather conditions. An eroded area is considered to be deep enough to jeopardize the final cover if it exceeds four inches in depth as measured from the vertical plane from the erosion feature and the 90-degree intersection of this plane with the horizontal slope face or surface. The date of detection of erosion and date of completion of repairs, including reasons for any delays, must be documented in the cover inspection record. During the active period, the final cover will be inspected quarterly and after 25-year storm events. During the post-closure period, the final cover will be inspected for erosion annually and after 25-year storm event.

26.3.1 PRE-SUBTITLE D SECTION - The section with the pre-Subtitle D liner, which has no synthetic bottom liner, will be capped with 18-inches of compacted clay as an infiltration layer, having a coefficient of permeability less than or equal to 1×10^{-7} cm/sec. A minimum of 6-inches of earthen material that is capable of sustaining native plant growth will overlay the compacted clay layer.

26.3.2 SECTIONS CONSTRUCTED AFTER OCTOBER 9, 1993 - Requirements for final cover 30 TAC §330.165(f) and in Subchapter K (pertaining to Closure and Post Closure). As required by 30 TAC §330.457(a), the owner or operator shall install a final cover system for the unit that is designed and constructed to minimize infiltration and erosion. The final cover system shall be composed of no less than two feet of soil and consist of a clay-rich soil cover layer overlain by an erosion layer as follows:

1. For municipal solid waste landfill (MSW) units with a synthetic bottom liner, a syntheticmembrane that has a permeability less than or equal to the permeability of any bottom liner system overlain by a clay-rich soil cover layer consisting of a minimum of 18 inches of earthen material with a coefficient of permeability no greater than 1×10^{-5} centimeters per second (cm/sec). The minimum thickness of the synthetic membrane shall be 20 mils, or 60 mils in the case of high-density polyethylene, in order to ensure proper seaming of the synthetic membrane.

2. For MSW landfill units with no synthetic bottom liner, the clay-rich soil cover layer shall consist of a minimum of 18 inches of earthen material with a coefficient of permeability less than or equal to the permeability of any constructed bottom line or natural subsoil present. The coefficient of permeability of the infiltration layer shall in no case exceed 1×10^{-5} cm/sec, even though the coefficient of permeability of the constructed bottom liner or natural subsoil is greater than 1×10^{-5} cm/sec or no data exist for the value(s) of the coefficient of permeability of the constructed bottom liner or natural subsoil.

3. For all MSW landfill units, the erosion layer shall consist of a minimum of six inches of earthen material that is capable of sustaining native plant growth and shall be seeded or sodded immediately following the application of the final cover in order to minimize erosion.

26.4 COVER APPLICATION LOG - The site operator will document in a daily log those areas where waste, daily cover, alternate material daily cover (ADC), intermediate cover and final cover has been placed. The log will be keyed to the site grid system. The log will be kept at the site readily available for inspection by the TCEQ or other agencies. For daily and intermediate cover and ADC, the log will specify the date cover was installed (i.e. no exposed waste), what cover procedure was accomplished and the location of the cover. For final cover, the log will specify the area covered, the date cover was applied and the thickness of cover applied on that data. Each entry will be certified by the signature of the landfill manager or his designated representative that the work was accomplished as stated in the log.

All repairs to final cover will be documented in the cover log and will specify the area repaired, the date the repair was accomplished, and a description of the repair performed. Each repair entry will be certified by the signature of the landfill manager or his designated representative that the work was accomplished as stated in the log.

MATERIAL SAFETY DATA SHEET

MATERIAL: **OSHA 29CFR 1910.1200**

POSI-PAK® TYPE P-100 **DATE OF PREPARATION:** **SEPTEMBER 2004**

SECTION I – IDENTITY

Distributor's Name and Address:	Landfill Service Corporation 2183 Pennsylvania Avenue Apalachin, NY 13732
Emergency Telephone:	(607) 625-3050
Chemical Name and Synonyms:	
Generic Name:	Polyester Staple
Trade Name:	Posi-Pak® Type P-100

SECTION II – HAZARDOUS INGREDIENTS

Ingredient:	Polyethylene terephthalate polymer and one or more surface finishes (organic lubricants).
CAS No.:	25038-59-9
Hazard:	No known physical or health hazards associated with this product.
Note:	Polyester Staple is a family of fiber products having similar hazard and physical property characteristics. The polymer immobilizes the constituents of the polymer system (delusterants, catalyst residues, etc.) which, therefore, present no likelihood of exposure under normal conditions of processing and handling. However, exposure to chemical substances may occur as a result of processing these fibers. Processing may release and aerosolize the residual moisture and surface finishes. Heating the fibers may volatilize the finishes or produce a chemical change. Landfill Service Corporation recommends a 3 mg/m³ 8-hour TWA exposure limit on finish mists.

SECTION III – PHYSICAL DATA

Melting Point: Approx. 500° F (260° C)

SECTION IV – CHEMICAL DATA

Polyethylene terephthalate is chemically stable and resistant to attack by oils, solvents, weak acids, and weak alkalis.

SECTION V – FIRE AND EXPLOSION HAZARD DATA

Polyester Staple will burn if exposed to flame. Decomposition products generated from molten polymer may be subject to autoignition. Combustion products will be comprised of carbon, hydrogen, and oxygen. The exact composition will depend on the conditions of combustion.

SECTION VI – HEALTH HAZARD DATA

This product has not been fully evaluated for toxicological properties. Preliminary evaluation of chemical components used in the finish and toxicological testing of the polymer have given no indication that health problems would occur in normal handling and use.

Similar products have given no indication that health problems would occur in normal handling and use.

SECTION VII – REACTIVITY DATA

N/A

SECTION VIII – SPILL PROCEDURES

N/A

SECTION IX – EXPOSURES OF CONCERN

Inhalation of finish mist above the recommended 3 mg/m³ 8-hour TWA would be an exposure of concern.

SECTION X – HANDLING AND USE PRECAUTIONS

Personal hygiene measures, such as washing hands and face immediately after working with the fibers and before eating, smoking, or using lavatory facilities, are recommended.

SECTION XI – INDUSTRIAL HYGIENE CONTROL MEASURES

Adequate ventilation is recommended to maintain finish mist levels below 3 mg/m^3 8-hour TWA and minimize exposure.

Fire fighters should protect themselves from decomposition and combustion products that may include carbon monoxide and other toxic gases.

SECTION XII – SPECIAL PRECAUTIONS

N/A

SECTION XIII – DISPOSAL AND SHIPPING INFORMATION

These products are not classified as hazardous wastes under the Resource Conservation and Recovery Act, and unless prohibited by state or local regulation, can be disposed of in a municipal landfill or incinerated. Any finish oils contained in plant wastewater should be biodegradable in conventional biological wastewater treatment systems.

These fibers are not classified by the Department of Transportation as a hazardous material.

N/A = Not Applicable. **N/D = Not Determined

All information presented herein is believed to be accurate; however, it is the user's responsibility to determine in advance of need that the information is current and suitable for their circumstances.
No warranty or guarantee, expressed or implied, is made by Landfill Service Corporation as to this information or as to the safety, toxicity, or effect of the use of this product.

MATERIAL SAFETY DATA SHEET

MATERIAL: **OSHA 29CFR 1910.1200**

EARTHTONE DYE **DATE OF PREPARATION: SEPTEMBER 1997**

SECTION I - IDENTITY

Distributor's Name and Address:	Landfill Service Corporation 2183 Pennsylvania Avenue Apalachin, NY 13732
Emergency Telephone:	(607) 625-3050
Chemical Name and Synonyms:	Brown ferrous oxide
Generic Name:	Earthtone Coloring Agent
Trade Name:	Earthtone Dye

SECTION II - HAZARDOUS INGREDIENTS

N/A

SECTION III - PHYSICAL DATA

Boiling Point (°F):	N/A
Vapor Pressure (mm. Hg):	N/A
Vapor Density (Air=1):	N/A
Solubility in Water:	Slight (0.1 - 1.0%)

Specific Gravity (H2O=1):	4.4 - 4.8
Evaporation Rate:	N/A
Appearance and Odor:	Brown, odorless dry powder

SECTION IV – CHEMICAL DATA

Chemical Family:	Metal oxide
Formula:	Fe2O3; Balance MnO2 and silicates
Product Class:	CAS# 1317-61-9, 51274-00-1, 1309-37-1
Bulk Density:	0.5 - 0.8 g/ml

SECTION V – FIRE AND EXPLOSION HAZARD DATA

Nonexplosive; Nonflammable

SECTION VI – HEALTH HAZARD DATA

Threshold Limit Value:	N/D
Effects of Overexposure:	None observed.
Emergency and First Aid Procedures:	Irrigate eyes with water, consult eye physician. Wash exposed skin areas with soap and water.

SECTION VII – REACTIVITY DATA

Stability:	Product is stable.
Hazardous Polymerization:	Will not occur.
Incompatibility:	None known.
Hazardous Decomposition Products:	None known.

SECTION VIII – SPILL PROCEDURES

Steps to be Taken if Material is Released or Spilled:	Handle as normal solid waste. Minimum fugitive dust release.

SECTION IX – EXPOSURES OF CONCERN

N/A

SECTION X – HANDLING AND USE PRECAUTIONS

Store dry at ambient temperature away from food and drink.

SECTION XI – INDUSTRIAL HYGIENE CONTROL MEASURES

Ventilation Requirements:	Local exhaust may be used.
Respiratory Protection:	A NIOSH approved respirator is recommended during mixing procedure.
Eye Protection:	Use of safety glasses is recommended.
Skin Protection:	Wear leather, plastic, or cloth gloves.

SECTION XII – SPECIAL PRECAUTIONS

N/A

SECTION XIII – DISPOSAL AND SHIPPING INFORMATION

Shipping Name:	Earthtone Dye is not hazardous under US Dept. of Transportation (DOT) regulations.
Hazardous Substance:	N/A
Hazard Class:	N/A
Caution Labeling:	N/A

Identification Number:	N/A
Disposal Method:	Dispose at approved facility.

N/A = Not Applicable. **N/D = Not Determined

All information presented herein is believed to be accurate; however, it is the user's responsibility to determine in advance of need that the information is current and suitable for their circumstances.

No warranty or guarantee, expressed or implied, is made by Landfill Service Corporation as to this information or as to the safety, toxicity, or effect of the use of this product.

MATERIAL SAFETY DATA SHEET

MATERIAL:

GREEN DYE **DATE OF PREPARATION: JUNE 2002**

SECTION I - IDENTITY

Distributor's Name and Address:	Landfill Service Corporation 2183 Pennsylvania Avenue Apalachin, NY 13732
Emergency Telephone:	(607) 625-3050
Chemical Name and Synonyms:	Organic Colorants
Generic Name:	Color Additive
Trade Name:	Blue Vail

SECTION II - HAZARDOUS INGREDIENTS

N/A

SECTION III - PHYSICAL DATA

Boiling Point (°F):	212°F
Vapor Pressure (mm. Hg):	20
Vapor Density (Air=1):	ND
Solubility in Water:	Soluble

Specific Gravity (H2O=1):	1.2
Evaporation Rate:	<1
Appearance and Odor:	Dark blue colored solution with bland odor.

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Nonexplosive; Nonflammable

SECTION V - HEALTH HAZARD DATA

Permissable concentrations (air):	N/A
Effects of Overexposure:	ND
Emergency and First Aid Procedures:	Irrigate eyes with water, consult eye physician. Wash exposed skin areas with soap and water.

SECTION VI - REACTIVITY DATA

Stability:	Under normal storage and handling conditions; this is a stable material when kept in a closed container.
Hazardous Polymerization:	Will not occur.
Incompatibility:	None known.
Hazardous Decomposition Products:	None known.

SECTION VII - SPILL PROCEDURES

Steps to be Taken if Material is Released or Spilled:	If dry, shovel vacuum or sweep color up for disposal. Wet surfaces may become slippery or sticky. Mop, sweep, or absorb, and hold for disposal. Spills should be thoroughly flushed with soapy water until all apparent color is removed.

SECTION IX - EXPOSURES OF CONCERN

N/A

SECTION X - HANDLING AND USE PRECAUTIONS

Keep away from children. Store in tightly stored container.

SECTION XI - INDUSTRIAL HYGIENE CONTROL MEASURES

Respiratory Protection:	No respiratory protection required, but dust masks are suggested.
Eye Protection:	Use of safety glasses is recommended.
Skin Protection:	Non required. To minimize clean-up, wear gloves when handling materil. Some dyes may temporarily stain skin.

N/A = Not Applicable. **N/D = Not Determined

All information presented herein is believed to be accurate; however, it is the user's responsibility to determine in advance of need that the information is current and suitable for their circumstances.
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MATERIAL SAFETY DATA SHEET

MATERIAL: **OSHA 29CFR 1910.1200**

PSM 200 SETTING AGENT **DATE OF PREPARATION: JUNE 2005**

SECTION I - IDENTITY

Distributor's Name and Address:	Landfill Service Corporation 2183 Pennsylvania Avenue Apalachin, NY 13732
Emergency Telephone:	(607) 625-3050
Chemical Name and Synonyms:	Sodium Montmorillonite Clay (SMC) (CAS No. 1318-93-0)
Generic Name:	SMC with proprietary additives (CAS No. 1318-93-0)
Trade Name:	Posi-Shell® PSM 200 Setting Agent

SECTION II - HAZARDOUS INGREDIENTS

Ingredient:	Crystalline Silica (SiO_2) as Quartz
CAS No.:	14808-60-7
Hazard:	Low concentrations of crystalline silica in the form of quartz may be present in airborne SMC dust. See Section VI for discussion of health hazard.
Note:	Although the typical quartz content of western SMC is in the range of 2 to 6% most of the quartz particles are larger than the 10μ respirable threshold size. The actual respirable quartz concentration in airborne SMC dust will depend upon SMC source, fineness of product, moisture content of product, local humidity and wind condition at point of use and other use specific factors.

SECTION III - PHYSICAL DATA

Boiling Point (°F):	N/A
Vapor Pressure (mm. Hg):	N/A
Vapor Density (Air=1):	N/A
Solubility in Water:	Insoluble, forms colloidal suspension
Density (at 20° C):	55 lbs/cu ft as product
Specific Gravity (H2O=1):	2.45-2.55
Melting Point:	Approx. 1450° C
Evaporation Rate (Butyl Acetate=1):	N/A
pH:	8-10 (5% aqueous suspension)

SECTION IV - CHEMICAL DATA

N/A

SECTION V - FIRE AND EXPLOSION HAZARD DATA

Flash Point:	N/A
Special Fire Fighting Procedures:	N/A
Unusual Fire and Explosion Hazards:	None. Product will not support combustion.
Extinguishing Media:	None for product. Any media can be used for the packaging. Product becomes slippery when wet.
Flammable Limits:	LEL: N/A UEL: N/A

SECTION VI - HEALTH HAZARD DATA

Routes of Exposure and Effects:

Skin:	Possible drying resulting in dermatitis.
Eyes:	Mechanical irritant.
Inhalation:	*Acute (short term) exposure to dust levels exceeding the PEL may cause irritation of respiratory tract resulting in a dry cough. Chronic (long term) exposure to airborne SMC dust containing respirable size (=10μ) quartz particles, where respirable quartz particle levels are higher than TLVs, may lead to development of silicosis or other respiratory prolems. Persistent dry cough and labored breathing upon exertion may be symptomatic.*
Ingestion:	No adverse effects.

Permissible Exposure Limits: (for air contaminants)	OSHA PEL (8 HR. TWA)	ACGIH TLV
SMC as "Particulates not otherwise regulated" (formerly nuisance dust)		
Total dust	15mg/m³	N/D
Respirable dust	5mg/m³	N/D
Crystalline Quartz (respirable)	0.1mg/m³	0.1mg/m³

Carcinogenicity: SMC is not listed by ACGIH, IARC, NTP, or OSHA. IARC, 1997, concludes that there is sufficient evidence in humans for the carcinogenicity of inhaled crystalline silica from occupational sources (IARC Class 1), that carcinogenicity was not detected in all industrial circumstances studied and that carcinogenicity may depend on characteristics of the crystalline silica or on external factors affecting its biological activity. NTP classifies respirable crystalline silica as "known to be a human carcinogen" (NTP 9th Report on Carcinogens - 2000). ACGIH classifies crystalline silica quartz as a suspected human carcinogen (A2).

Acute Oral LD50:	N/D
Acute Dermal LD50:	N/D
Aquatic Toxicology LC50:	N/D

Emergency and First Aid Procedures:

Skin:	Wash with soap and water until clean.
Eyes:	Flush with water until irritation ceases.
Inhalation:	Move to area free from dust. If symptoms of irritation persist, contact physician. Inhalation may aggravate existing respiratory illness.

SECTION VII – REACTIVITY DATA

Stability:	Stable
Hazardous Polymerization:	None
Incompatibility:	None
Hazardous Decomposition Products:	None

SECTION VIII – SPILL PROCEDURES

Steps to be Taken if Material is Released or Spilled:	Avoid breathing dust; wear respirator approved for silica bearing dust. Vacuum up to avoid generating airborne dust. Avoid using water. Product slippery when wetted.

SECTION IX – EXPOSURES OF CONCERN

N/A

SECTION X – HANDLING AND USE PRECAUTIONS

Waste Disposal Methods:	Product should be disposed of in acordance with applicable local, state, and federal regulations.
Handling and Storage Precautions:	Use NIOSH/MSHA respirators approved for silica bearing dust when free silica containing airborne SMC dust levels exceed PEL/TLVs. Clean up spills promptly to avoid making dust. Storage area floors may become slippery if wetted.

SECTION XI – INDUSTRIAL HYGIENE CONTROL MEASURES

Ventilation Requirements:	Mechanical, general room ventilation. Use local ventilation to maintain PELs/TLVs.
Respirator:	Use respirators approved by NIOSH/MSHA for silica bearing dust.
Eye Protection:	Generally not necessary. Personal preference.
Gloves:	Generally not necessary. Personal preference.
Other Protective Clothing or Equipment:	None.

SECTION XII – SPECIAL PRECAUTIONS

Avoid prolonged inhalation of airborne dust.

SECTION XIII – DISPOSAL AND SHIPPING INFORMATION

Shipping Name:	N/A (Not Regulated)
Hazardous Substance:	N/A
Hazard Class:	N/A
Caution Labeling:	N/A

N/A = Not Applicable. **N/D = Not Determined

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MATERIAL SAFETY DATA SHEET

MATERIAL: **OSHA 29CFR 1910.1200**

PORTLAND CEMENT **DATE OF PREPARATION: MARCH 2006**

SECTION I - IDENTITY

Distributor's Name and Address:	Landfill Service Corporation 2183 Pennsylvania Avenue Apalachin, NY 13732
Emergency Telephone:	(607) 625-3050
Chemical Name and Synonyms:	Portland Cement
Generic Name:	Also known as hydraulic cement
Trade Name:	Portland Cement Type I, IA, II III, V

SECTION II - HAZARDOUS INGREDIENTS

Component (percentage)	CAS No.	OSHA PEL (8-hour TWA)	ACGIH TLV-TWA (2002)
Tri-calcium silicate (20-70)	12168-85-3	see Nuisance Dust PEL	see Nuisance Dust TLV
Di-calcium silicate (10-60)	10034-77-2	see Nuisance Dust PEL	see Nuisance Dust TLV
Tetra-calcium-alumino-ferrite (5-15)	12068-35-8	see Nuisance Dust PEL	see Nuisance Dust TLV
Calcium sulfate (2-10)	N/D	see Nuisance Dust PEL	see Nuisance Dust TLV
Tri-calcium Aluminate (1-15)	12042-78-3	see Nuisance Dust PEL	see Nuisance Dust TLV
Magnesium oxide (0-4)	1309-48-4	see Nuisance Dust PEL	see Nuisance Dust TLV
Nuisance Dusts	N/D	15 mg/m³ (total dust) 5 mg/m³ (respirable dust)	10 mg/m³ (total dust) 3 mg/m³ (respirable dust)
Crystalline Silica (Quartz)* (0-1)	14808-60-7	10mg/m³ /percent silica + 2 (respirable dust) 30 mg total dust/m³/percent silica + 2 (total dust)	0.10 mg/m³
Hexavalent Chromium (measured as chromic acid and chromates)	18540-29-9	(100 mg/m³)	N/D

***Trace Constituents:** Portland cement has a variable composition depending upon the cementitious products produced in the cement kiln. Small amounts of naturally occurring, but potentially harmful, chemical compounds might be detected during chemical analysis. These trace compounds might include free crystalline silica, potassium, and sodium compounds; heavy metals, including cadmium, chromium, nickel, and lead; and organic compounds. Other trace constituents may include calcium oxide (also known as free lime or quick lime).*

SECTION III – PHYSICAL DATA

Boiling Point (°F) (Aqueous Portion):	N/A
Vapor Pressure (mm. Hg):	N/A
Vapor Density (Air=1):	N/A
Solubility in Water:	Slight (0.1-1.0%)
pH (in water):	12-13
Specific Gravity (H2O=1):	2.9-3.15
Evaporation Rate:	N/A
Appearance and Odor:	Gray or white powder, no distinct odor

SECTION IV – CHEMICAL DATA

N/A

SECTION V – FIRE AND EXPLOSION HAZARD DATA

Portland cement is non-combustible and not explosive.
Special firefighting procedures are not applicable. (Although Portland cement poses no fire-related hazards, a self-contained breathing apparatus is recommended to limit exposure to combustion products when fighting any fire.)

SECTION VI – HEALTH HAZARD DATA

Threshold Limit Value: N/A

Effects of Overexposure:

Acute: Wet cement on unprotected skin, whether direct or through saturated clothing, can cause severe, third-degree caustic burns.
NOTE: Portland cement burns skin with little warning; discomfort or pain cannot be relied upon to alert a person to a hazardous skin exposure. The severity of the burn may not be detected until several hours after the damage begins.
Dry Portland cement can produce mild irritation to severe burns of the eye; it can irritate the upper respiratory system.

Chronic: Dry Portland cement can cause inflammation of the lining of the nose and the cornea. Repeated exposure to Portland cement may result in drying of the skin and may lead to thickening, cracking, or fissuring, of the skin. Hypersensitive individuals may develop an allergic dermatitis (possibly due to trace amounts of hexavalent chromium at less than 0.005%). This reaction may appear in several forms including a mild rash to severe skin ulcers. Persons already sensitized may react to their first contact with the product. Other persons may experience this effect after years of exposure to Portland cement products.
While Portland cement typically has less than 0.2% crystalline silica, other additives to Portland cement and those components (e.g. aggregates) added to produce Portland cement concrete may significantly increase the amount of crystalline silica that is present. Exposure to respirable crystalline silica without the use of a respirator can cause silicosis and may aggravate other lung conditions.

Signs and Symptoms of Exposure: Burning sensation around moist tissue areas (i.e., eyes, nose, upper respiratory system); painful burning on exposed skin that can develop with little warning. *Exposure of sufficient duration to wet Portland cement can cause serious, potentially irreversible tissue (skin or eye) destruction in the form of chemical (caustic) burns, including third-degree burns. The same kind of destruction can occur if wet or moist areas of the body are exposed for sufficient duration to dry Portland cement.*
Do not allow wet Portland cement to get inside boots, shoes, or gloves, and do not allow wet, saturated clothing to remain against the skin.

Emergency and First Aid Procedures:	• Irrigate eyes immediately and repeatedly with large amount of clean water for at least 15 minutes and get prompt medical attention. • Wash exposed skin areas with pH-neutral soap and clean water. • Apply sterile dressings; seek medical treatment in all cases of prolonged exposure to wet Portland cement, Portland cement mixtures, liquids from fresh Portland cement products, or prolonged wet skin exposure to dry Portland cement. • If ingested, consult a physician immediately. • Do not induce vomiting. If conscious, have the victim drink plenty of water and call a physician immediately. • In the event of inhalation, remove to fresh air. • Seek medical attention if coughing and other symptoms do not subside. • Inhalation of gross amounts of Portland cement requires immediate medical attention.

SECTION VII – REACTIVITY DATA

Stability:	Product is stable. Keep dry until used.
Hazardous Polymerization:	Will not occur.
Incompatibility:	Aluminum powder and other alkali and alkaline earth elements will react in wet mortar or concrete, liberating hydrogen gas. Portland cement is highly alkaline and will react with acids to produce a violent, heat-generating reaction. Toxic gases or vapors may be given off, depending on the acid involved.
Hazardous Decomposition Products:	None known.

SECTION VIII – SPILL PROCEDURES

Steps to be Taken if Material is Released or Spilled:	Use dry cleanup methods that do not disperse the dust into the air. Avoid breathing the dust. Emergency procedures are not required.

SECTION IX – EXPOSURES OF CONCERN

Medical Conditions Generally Aggravated by Exposure:	Pre-existing skin conditions may be worsened. Silicosis may aggravate other chronic pulmonary conditions and may increase the risk of pulmonary tuberculosis infection.

Chemical Listed as Carcinogenic or Potential Carcinogen:	Portland cements are not considered carcinogenic. However, the International Agency for Research on Cancer (IARC) has determined, primarily through animal studies, that silica is a known human carcinogen. The National Toxicology Program (NTP) has characterized respirable quartz silica as reasonably anticipated to be a carcinogen. OSHA does not regulate silica as a carcinogen.

SECTION X - HANDLING AND USE PRECAUTIONS

Portland cement should only be used by knowledgeable persons. While the information provided in the material safety data sheet is believed to provide a useful summary of the hazards of Portland cement, as it is commonly used, the sheet cannot anticipate and provide all of the information that might be needed in every situation. Inexperienced product users should obtain proper training before using this product.

A key to using the product safely requires the user to recognize that Portland cement chemically reacts with water, and that some of the intermediate products of this reaction (that is, those present while a Portland cement product is "setting") pose a more severe hazard than does Portland cement itself. These hazards include potential injuries to eyes and skin.

The data furnished in this sheet do not address hazards that may be posed by other materials mixed with Portland cement to produce Portland cement products. Users should review other relevant material safety data sheets before working with this Portland cement or with Portland cement products, including, for example, Portland cement concrete.

SECTION XI - INDUSTRIAL HYGIENE CONTROL MEASURES

Ventilation Requirements:	Local exhaust can be used to control airborne dust levels.
Respiratory Protection:	Avoid actions that cause dust to become airborne. Use local or general ventilation to control exposures below applicable exposure limits. Use NIOSH/MSHA-approved (under 30 CFR 11) or NIOSH-approved (under 42 CFR 84) respirators in poorly ventilated areas, or if an applicable exposure limit is exceeded, or when dust causes discomfort or irritation. *(Advisory: Respirators and filters purchased after July 10, 1998, must be certified under 42 CFR 84.)*
Eye Protection:	When engaged in activities where Portland cement dust or wet Portland cement or concrete could contact the eye, wear goggles or safety glasses with side shields. In extremely dusty environments and unpredictable environments, wear unvented or indirectly vented goggles to avoid eye irritation or injury. Contact lenses should not be worn when working with Portland cement or wet Portland cement products.

Skin Protection:	Prevention is essential to avoiding potentially severe skin injury. Avoid contact with unhardened (wet) Portland cement products. If contact occurs, promptly wash affected area with soap and water. *Do Not Allow Wet Portland Cement to Get Inside Boots, Shoes, or Gloves; and Do Not Allow Wet, Saturated Clothing to Remain Against the Skin.* *Do not rely on barrier creams. Barrier creams should not be used in place of gloves. Use impervious, abrasion- and alkali-resistant gloves, boots, and protective clothing to protect the skin from prolonged contact with wet Portland cement in plastic concrete, mortar, or slurries.*

SECTION XII - SPECIAL PRECAUTIONS

Work/Hygienic Practices:	• Periodically wash areas contacted by dry Portland cement, or by wet Portland cement, or concrete fluids with a pH neutral soap and clean, uncontaminated water. • Wash again at the end of the work. • If irritation occurs, immediately wash the affected area and seek treatment. • If clothing becomes saturated with wet Portland cement or concrete, it should be removed and replaced with clean, dry clothing. • Follow listed precautions as appropriate, during repair or maintenance work on contaminated equipment.

SECTION XIII - DISPOSAL AND SHIPPING INFORMATION

Shipping Name:	Portland cement is not hazardous under US Dept. of Transportation (DOT) regulations.
Hazardous Substance:	N/A
Hazard Class:	N/A
Caution Labeling:	N/A
Identification Number:	N/A
Disposal Method:	Small amounts of material can be returned to the container for later use if it is not contaminated. Dispose of waste material in accordance with Federal, State, and Local requirements. Portland cement is not a hazardous waste as defined by the Resource Conservation and Recovery Act (40 CFR 261).

SECTION XIV - OTHER REGULATORY INFORMATION

Status under USDOL--OSHA Hazard Communication Standard (29 CFR 1910.1200):

Portland cement is considered a "hazardous chemical" under this regulation and should be a part of any Hazard Communication Program.

Status under CERCLA / Superfund (40 CFR 117 and 302):

Not listed.

Status under SARA (Title III, Sections 311 and 312):

Portland cement qualifies as a "hazardous substance" with delayed health effects.

Status under SARA (Title III, Section 313):

This product may contain constituents listed under SARA (Title III, Section 313,) but not in amounts requiring supplier notification under 40 CFR Part 372 Subpart C.

Status under TSCA (as of May 1997):

Portland cement and some of the substances in Portland cement are on the TSCA inventory list.

Status under the Federal Hazardous Substances Act:

Portland cement is a "hazardous substance" subject to statutes promulgated under the subject act.

Status under California Proposition 65:

Portland cement contains chemicals (trace metals) including silica and hexavalent chromium, known to the State of California to cause cancer, birth defects or other reproductive harm. California law requires the manufacturer to give the above warning in the absence of definitive testing to prove that the defined risks do not exist.

Status under the Canadian Environmental Protection Act:

Not listed.

Workplace Hazardous Material Information System (Canada):

Portland cment is considered to be a hazardous material under the Hazardous Product Act as defined by the Controlled Products Regulations (Class E - Corrosive Material), and is therefore, subject to the labeling and MSDS requirements of the Workplace Hazardous Materials Information System (WHMIS).

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MATERIAL SAFETY DATA SHEET

MATERIAL: **OSHA 29CFR 1910.1200**

POSI-SHELL® SYNTHETIC COVER ADVANCED FORMULATION **DATE OF PREPARATION: APRIL 2006**

SECTION I – IDENTITY

Distributor's Name and Address:	Landfill Service Corporation 2183 Pennsylvania Avenue Apalachin, NY 13732
Emergency Telephone:	(607) 625-3050
Chemical Name and Synonyms:	Aqueous alkaline slurry
Generic Name:	N/A
Trade Name:	Posi-Shell® Synthetic Cover Advanced Formulation

SECTION II – HAZARDOUS INGREDIENTS

N/A

SECTION III – PHYSICAL DATA

Boiling Point (°F) (Aqueous Portion):	212
Vapor Pressure (mm. Hg):	N/A
Vapor Density (Air=1):	N/A

Solubility in Water:	N/A
Percent Volatile by Volume (%):	N/A
Specific Gravity (H2O=1):	1.21
Evaporation Rate:	N/A
Appearance and Odor:	Brown viscid liquid slurry with a smell similar to wet Portland cement and liquid clay.

SECTION IV – CHEMICAL DATA

Chemical family:	N/A
Formula:	The major constituents are water, Portland cement, and PSM-200 Setting Agent, a blend of sodium montmorillinite clay with synthetic polymers and a processed starch. The slurry also contains P.E.T. fibers, water (or landfill leachate), and optional iron oxide coloring agent.
Hazardous mixtures of other liquids, solids, or gases:	N/A

SECTION V – FIRE AND EXPLOSION HAZARD DATA

Non-explosive, Non-flammable

SECTION VI – HEALTH HAZARD DATA

Threshold Limit Value: N/A

Effects of Overexposure:

Acute:	Can dry skin and cause alkali burns. May cause eye and skin irritation to those with sensitive skin.
Chronic:	Non-observed, if properly handled. If cured material is pulverized and dispersed, fugitive dust can cause inflammation of the lining tissue of the interior of the nose and inflammation of the cornea. Hypersensitive individuals may develop an allergic dermatitis.

Emergency and First Aid Procedures: Irrigate eyes with water. Wash exposed skin areas with soap and water.

SECTION VII – REACTIVITY DATA

Stability:	Product is stable.
Hazardous Polymerization:	Will not occur.
Incompatibility:	None known.
Hazardous Decomposition Products:	None known.

SECTION VIII – SPILL PROCEDURES

Steps to be Taken if Material is Released or Spilled:	Handle as normal non-hazardous solid waste.

SECTION IX – EXPOSURES OF CONCERN

N/A

SECTION X – HANDLING AND USE PRECAUTIONS

Waste Disposal Methods:	Material can be disposed of as common waste in approved landfill.

SECTION XI – INDUSTRIAL HYGIENE CONTROL MEASURES

Ventilation Requirements:	Local exhaust may be used.
Respiratory Protection:	A dust mask is recommended during mixing procedures.
Eye Protection:	Use of tight-fitting goggles is recommended.
Skin Protection:	Avoid skin contact with wet slurry. Wear rubber or plastic gloves.

Other Protective Clothing or Equipment: Use barrier creams; wear coveralls; shower with soap and water.

SECTION XI - SPECIAL PRECAUTIONS

No special precautions need to be taken in handling and storing.

SECTION XII - DISPOSAL AND SHIPPING INFORMATION

Shipping Name:	N/A (Not Regulated)
Hazardous Substance:	N/A
Hazard Class:	N/A
Caution Labeling:	N/A

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