MAINE DEP CHAPTER 851, SECTION 11
RCRA CLOSURE OF THE
PRIME TANNING FACILITY
20 SULLIVAN STREET
BERWICK, MAINE

MAY 2009

prepared for

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Report of
Maine DEP Chapter 851, Section 11 Closure of the
Prime Tanning Facility
20 Sullivan Street, Berwick, Maine

1. Introduction

Overview. In a letter to the Maine DEP of September 10, 2008, Prime Tanning of Berwick provided notice to Edward Vigneault of the Maine DEP Bureau of Remediation and Waste Management of the pending RCRA closure of the facility, as required by Chap. 851, Sect. 11 of MDEP rules (see copy of notification letter in **Appendix C**). The USEPA generator identification for the Prime tanning site is MED001096395. All manufacturing operations ceased at the facility in December 2008. The entire facility has been subjected to the closure-related activities that have been conducted at the Prime Tanning site during the period November 2008 to May 2009.

This report of Maine Department of Environmental Protection (DEP) Chapter 851, Section 11 Closure for the Prime Tanning facilities on Sullivan Street in Berwick, Maine has been prepared for Prime Tanning Company, Inc. of Hartland, Maine by the team of Woodard & Curran and Tewhey Associates. The descriptions, findings and conclusions presented here are based on the research, assessment, clean up, and monitoring activities of the Maine DEP, Prime Tanning, Woodard & Curran and Tewhey Associates. On the basis of the substance of this report as presented herein, it is recommended that clean closure status be acknowledged for the Prime Tanning facility in Berwick, Maine.

Site Description. The Prime Tanning Co. Inc. (Prime) site in Berwick consists of four non-contiguous parcels totaling 11.4 acres. The parcels range in size from 0.25 acres to 7.7 acres. All four parcels have a common intersection at Sullivan and Wilson/Jordan Streets and all have a Sullivan Street address (see site plans in **Appendix A**).

- **Main Parcel and Plant.** The principal manufacturing operations of Prime Tanning were located in the large industrial plant at 20 Sullivan Street, identified in the Berwick Assessor's Office **as Map U4, Lot 146.** The 7.7-acre parcel is occupied by a two-story, 226,000 sq. ft. concrete block plant constructed on a slab foundation. The original tanning plant was built on the site in 1850 and there have been a reported 33 additions to the facility over the past 160 years, the latest being a 4,500 sq. ft. addition to the north end of the plant in 1994. The first floor of the plant was used for receiving and shipping; the processing of hides (e.g., buffing, shearing, coloring, sizing, drying, texturing); chemical storage, and research and development facilities. The second floor was used for inspection, trimming, and temporary storage of processed hides, a quality control laboratory, offices and a cafeteria. Floor plans for the first and second floors are provided in **Appendix A**.

Wastewater Pre-Treatment Plant. Outbuildings on the main parcel include a wastewater pre-treatment plant housed in a 900 sq. ft. concrete block building on a slab foundation with an adjacent lime silo, two 5,000-gallon above-ground storage tanks (ASTs) for aluminum chloride, and a vertical 180,000-gallon, reinforced concrete bulk storage tank for process water neutralization. A small brick Berwick Sewer District pumping station is located immediately east of the pre-treatment plant.

Storage Shed. A 1,900 sq. ft. three-sided shed constructed in 1989 is located along the eastern boundary of the main parcel. The shed was formerly used for chemical storage and has been used most recently for storage of equipment and a 5,000-gallon AST for mineral spirits. The mineral spirits AST was recently drained, cleaned, sold and removed from the site.

Outside Areas. The outside areas on the main parcel are paved with asphalt. Employee parking is located on the northwest portion of the parcel. The parcel is enclosed by a 6-foot cyclone fence with a cedar tree buffer. Gates are located on Sullivan, Wilson, and School Streets. The site is served by municipal water and sanitary sewer.

- **Other Parcels.** A 0.68-acre parcel at 35 Sullivan Street is identified in the Berwick Assessor's Office as **Map U4, Lot 130**. The parcel is occupied by a 14,341 sq. ft. steel-frame, corrugated metal building on a slab foundation. The building was used for receiving, sorting, and storage of tanned (blue) hides, thus the name, "bluesort" building. The building is currently used for equipment storage. Raw hides were reportedly processed at the site until the late 1970s.

  Prime also owns two undeveloped lots on Sullivan Street. A 2.8-acre lot located at 34 Sullivan Street is identified in the Berwick Assessor's Office as **Map U4, Lot 133**. The southern portion of the undeveloped site is paved and was used for employee parking. A test pit investigation was conducted on the site as part of the closure process (see Appendix E). A 0.25-acre lot located at 29 Sullivan Street is identified in the Berwick Assessor's Office as **Map U4, Lot 95**. The parcel is undeveloped and unpaved. Sanborn maps indicate that the two undeveloped lots were formerly occupied by residential structures.

Site plans, Town of Berwick tax maps and assessor cards, Sanborn maps (1925, 1946, 1965), topographic maps, and aerial photos of the four-lot complex are provided in **Appendix A**. Recent color photos of the Prime facility are provided in **Appendix B**.

Cultural Setting. The Prime plant site is located in the heart of downtown Berwick. A 1998 aerial photo of the four Prime parcels in Berwick is provided in **Appendix A**. The four-parcel Prime site is bordered by the following properties:

- To the west, across Sullivan Street, the plant site is bordered by the Berwick Town Hall and associated green space and parking lots; and five residential properties.

- To the north, across Wilson Street, the Prime parking area and former equipment storage lot is bordered by residential properties, a wooded area, the Berwick Police Station, and residential and commercial properties on Wilson Street.

- To the east, along and across School Street, the plant site is bordered by numerous residential and commercial properties, including the Berwick Fire Station.

- To the south, across Berwick Street, the site is bordered by a service station and the Salmon Falls River.

On the basis of site observations, Maine DEP spill reports, and the Environmental Data Resources (EDR) files, no environmental threats or impacts have been identified from the neighboring parcels. Photographs of the areas surrounding the Prime site are provided in **Appendix B**.

Geologic Setting. Information on the geologic characteristics of the site has been obtained from Maine Geologic Survey Surficial Geology Open-File Map No. 99-99 (Somersworth, Quadrangle, Maine). Base on this information, the entire site and vicinity are underlain by glacial till deposits. Till deposits are unsorted, heterogeneous mixtures of clay, silt, sand, and gravel which are relatively impervious to infiltration of surface water. No sand and gravel aquifers are located in the area of the Prime facility. The flow of shallow groundwater in the area of the plant is southward, toward the Salmon Falls River. Maine Geological Survey Open-File Map No. 99-99 is included in **Appendix A**.

UST Information. There are no registered underground storage tanks (UST) on the Prime site. There were formerly five USTs on the site; three tanks for No. 2 fuel oil ranging in size from 250 gallons to 1,000 gallons; one 1,000-gallon tank for unleaded gasoline; and one 8,000-gallon tank for diesel fuel. All five USTs were removed from the site during the period 1986 to 1994 and were not replaced. There has been one spill report associated with the removal of one 1,000-gallon USTs. Approximately 50 gallons of gasoline were released to soil during the removal of the 1,000-gallon gasoline UST in August 1987. The contaminated soil was removed from the excavation, aerated on site, and reused in the unpaved parking lot. Spill report P-288-1987 and the Maine DEP UST registration report for the Prime site (Reg. No. 1678) are included in **Appendix C**.

Transformer Information. All transformers at the site are currently owned and maintained by Central Maine Power (CMP) of Augusta. There are two external transformer locations on the site. An external bank of six CMP transformers is located within a fenced enclosure on the eastern side of the plant. Three transformers on the western end of the enclosure are PCB-free; three transformers on the northern end of the enclosure are older and are reported to contain PCBs at levels greater than 50 parts per

million (ppm). The in-place transformers are on concrete pads. The ground surface within the transformer enclosure is covered with tan/white pea stone. No surface staining was observed within the enclosure. Three new unconnected PCB-free transformers are located within an area of precast concrete barriers adjacent to the fenced enclosure. The new PCB-free transformers were meant to replace the existing PCB-containing units. The status of transformer replacement will be determined by the future use of the building. A large pad-mounted, PCB-free transformer in a green metal enclosure is located adjacent to the building on the north side of the plant (see transformer photos on **Appendix B**).

Historical Background. Berwick Assessor records indicate that the original industrial structure on the site was built in 1850. Sanborn insurance maps, appraisal records, and assessor files indicate that at least 33 additions were added to the original structure from 1925 to 1994 (see Sanborn map sequence and 1998 floor plans in **Appendix A**). Sanborn maps and property deeds indicate that tannery operations on the site in the early 20th century were conducted by the firm of Lennox and Neagle Leather Co. and, later, by L.R. Hersom & Sons Tannery.

The foreclosed tannery operations were purchased by the Kaplan family in 1934. Prime Tanning was started by the Kaplah family in Woburn, MA in 1914. In 1935, all Prime operations were moved from Woburn to Berwick. Prime has operated on the site from 1935 to late 2008, when the plant was closed. During their 73-year history on the site, Prime purchased additional parcels and expanded the plant to its existing size. Prime Tanning also operated the largest hide processing (blueing) facility in the U.S. in St. Joseph, MO. The Missouri facility is located near stock yards and furnished tanned hides to Berwick and other non-affiliated tanning facilities throughout the world. The Missouri facility was recently sold by Prime. In the 1980s and early 1990s, it is reported that the Berwick facility employed nearly 800 people and operated three shifts, seven days a week. A news article concerning the history and operations of Prime Tanning appeared in the Portland Sunday Telegram on February 17, 2008 and is included in **Appendix D**.

Recent Mergers. U.S. tannery operations have undergone substantial consolidation in the past five years. Irving Tanning of Hartland was reorganized and acquired by an investment firm, Meritum Fund LP, of San Francisco in September 2005. Prime Tanning acquired Cudahy Tanning of Wisconsin in November 2007 and merged the stock of Cudahy and Prime with Irving Tanning of Hartland, the resulting entity being called Prime Tanning. The Prime Tanning and Meritum Partners LLC websites indicate that the Hartland facility represents the largest tanning operation in the U.S., supplying leather to Cole Hahn, Coach, Wolverine, SAS, Timberland, the U.S. military, and many others.

Upon closing the Berwick facility, many pieces of leather processing machinery and equipment have been shipped to the Hartland facility. Other Berwick machinery has been purchased by tanneries all over the world and has been packed and shipped throughout the winter and spring of 2008-09. Plant equipment continues to be sold in May 2009. There appears to be substantial interest by investors / developers in the 11.4-acre Prime parcels in downtown Berwick.

Site Operations. Leather processing operations have occurred at the Prime Tanning site in Berwick for over 100 years. Prime and its tannery predecessors have been in operation at the site since the late 1890s and perhaps as early as 1850 when the first industrial structure was built on the site. The principal leather processing operations have occurred at the main plant at 20 Sullivan Street. The hides were formerly delivered to the site via rail; they were most recently delivered by truck. The nature of leather handling and processing at the plant is described below. All of the described processes are not applied to every hide. Individual processes were applied, as needed, based on the characteristics of the hides received and the end-use properties required by the buyer.

- **Receipt.** The leather hides were received from the Missouri facility as blue stock, i.e., leather that had been cleaned and preserved with chromium, imparting a characteristic blue color to the raw stock.

- **Re-tanning.** Hides came to the Berwick facility tanned, but the re-tanning process was done to impart specific characteristics and physical strength that is required by the end user. Re-tanning was done in mills (large wooden rotating drums) using re-tanning agents and dyes. Chromium-containing wastewater from the re-tanning process entered the floor drain system and flowed to the onsite pre-treatment plant for processing.

- **Coloring**. Coloring solutions were placed in mills at 120 – 150°F. The mills were loaded and unloaded manually with up to 1,500 lbs. of hides. Wastewater entered the floor drain system and flowed to the onsite pre-treatment plant.

- **Drying**. Three methods of drying the hides were used after re-tanning and/or coloring:

    - Pasting. Prime operated three pasting lines. Hides were pasted on each side of large flat composite sheets which were suspended vertically. The sheets were passed through long drying ovens which were vented to the atmosphere. After drying, the paste was removed from the frame with a caustic cleaner. The cleaner was recycled. No hazardous waste was generated from this process.

    - Vacuum Drying. Hides were pre-dried in round drying chambers, and then pressed under heat and vacuum. No hazardous waste was generated in this process.

    - Toggling. Prime operated five toggle lines. Hides were attached by toggle clips to both sides of large mesh screens which were suspended vertically and conveyed through a long drying oven which was vented to the atmosphere. The toggle system minimized shrinkage and gave the best yield of finished leather. No hazardous waste was generated from this process.

- **Coating**. Four leather coating processes were used at Prime:

  - Spraying. Prime operated nine spray lines. Each line consisted of a spray booth with rotating, high-efficiency spray guns and a down-process dryer. Hazardous waste was generated when a solvent-based coating was used. Excess solvent-based spray was considered to be characteristic hazardous waste with a flash point that could be less than 140°F (D001).

  - Silicone Line. Hides were subjected to a sheet spray of silicone and minerals spirits then passed through a dryer. This process provided a waterproof surface to the leather. No waste was produced until the spray lines were cleaned with mineral spirits. The cleaner was reused as long as possible. When it was spent, it was handled as a hazardous waste (D001).

  - Seasoning. Product-specific coatings were applied to hides with a bristled roller coater, then hand-swabbed to produce an even coating. Most seasoning coatings were water based. Hazardous waste was generated in the form of excess solvent-based seasoning coatings (D001).

  - Dubois. Dubois coating is similar to the seasoning coating process, except that the coating was initially applied by a roller. There were three Dubois coating machines at Prime. Most Dubois coatings are water based. Hazardous waste is generated from excess solvent-based coatings (D001).

- **Tumbling**. The large wooden tumbling drums were used to bring leather to a certain softness by a purely mechanical process. Particulate leather generated by tumbling was captured through a bag house.

- **Tenderizing, Staking, and Texturing.** Mechanical pounding or stamping was done to soften the hide or to impose a final texture or pattern. No hazardous waste was generated in this mechanical process.

- **Inspecting, Measuring, Marking, and Shipping.** These self-explanatory processes were done on the second floor of the plant.

- **Waste Water Processing**. The onsite pre-treatment plant was established on the site in the late 1960s. During its operational history, the plant neutralized approximately 200,000 gallons of process waste water per day. The incoming waste water from plant operations was screened to remove debris and lime was added to adjust the pH. Aluminum chloride solution was added to the waste water, as needed, to provide Al^{+3} ions for flocculation. The pre-treated waste water was fed to the onsite Berwick Sewer District pump station which directed the water to the Berwick Sewer District plant near the Salmon River.

- **Ancillary Operations.** Support operations at Prime included (1) an R & D area which contained small-scale mills and process machinery that were operated to test various materials and formulations; (3) a chemistry and physical testing laboratory on the second floor; and (3) a carpentry shop in an outbuilding on southern portion of the main site.

Environmental Background. Environmental files for the Prime Tanning site have been reviewed at (1) the Prime Tanning facility in Berwick, (2) the Berwick Town Hall, and (3) the offices of the Maine DEP in Augusta. Also, the Woodard & Curran / Tewhey Associates team contracted with Environmental Data Resources (EDR) of Milford, CT to procure an EDR Radius Map Report with GeoCheck which provides up-to-date Federal EPA and Maine DEP environmental records for the Prime site and vicinity in Berwick. The 291-page EDR report was reviewed and consulted in developing the closure report and a report summary is included here (**see Appendix C**). The USEPA generator ID No. for the Prime site is MED001096395. The site is listed as a large quantity RCRA generator. The following is a chronological summary of important findings of the environmental file search. The referenced documents are included in **Appendix C.**

- **Maine DEP Spill Reports.** The Prime Tanning Closure Notification letter of September 10, 2008 included a listing of 33 documented spill reports covering the period from May 1983 to June 2008 (see Prime Tanning letter of 9/11/08 and spill report listing in **Appendix C**). No further action was required by the Maine DEP after initial clean up of each spill. File searches at Prime Tanning and the Maine DEP file room have found eight additional spill reports from the period 1985 to 2004 that were inadvertently not included on the 9/11/08 listing. The additional eight spill reports are described below. Spill reports for the Prime Tanning site are included in **Appendix C.**

  - Spill Report P-36-1985, February 11, 1985. Approximately 50 gallons of T-13, a mixture of glycol ethers, was released from a tote due to a faulty faucet. The spill went to the Salmon River through a storm drain. The Maine DEP representatives urged that a new chemical storage area be constructed on the site. No further action on P-36-1985.

  - Spill Report P-285-1985, October 23, 1985. A 250-gallon spill of T-15, a sodium-neutralized condensate of naphthalene, occurred on the loading dock when a tote tank was dropped from a fork lift. Approximately 225 gallons was recovered. T-15 is not a hazardous waste. Spill report received special attention by the Maine DEP due to size and recurring location. No further action on P-285-1985.

  - Spill Report P-276-1985, November 19, 1985. A 55-gallon drum of Basyntan P, a phenol formaldehyde condensate of urea, was dropped from a fork lift in the loading dock area and the water-soluble contents washed to the river through an open stop gate. Spill report received special attention by the Maine DEP. No further action on P-276-1985.

- Spill Report P-333-1985, December 20, 1985. A 250-gallon spill of RU-3506, a high boiling point hydrocarbon containing 2-ethoxyethanol and ammonium hydroxide, occurred on the loading dock when a tote tank was dropped during off-loading. Approximately 50 gallons were lost down the storm drain. The remainder was recovered. This spill report and other similar reports received special attention by the Maine DEP for possible enforcement action. No further action on P-333-1985.

- Spill Report P-298-1988, January 19, 1988. An hydraulic line on a vehicle was ruptured and oil was released to the plant floor. The oil was remediated with solvents and the material was drummed and picked up by Clean Harbors for disposal. No further action required.

- Spill Report of May 19, 1988. A Roy Brothers truck driver was off-loading a bulk solvent shipment using a dual-head pump and failed to cap the unused side, releasing approx. 20 gallons of diacetone alcohol. Solvent and rainwater was trapped at storm gate and recovered. No further action required.

- Spill Report P-220-1989, March 24, 1989. A 75-gallon spill of a coating chemical occurred as a result of a loose fitting on an AST. Sorbents were used to clean up the spill. No further action required.

- Spill Report P-386-1994, June 18, 1994. A loose fitting on an AST for No. 4 fuel oil resulted in a release of 6 gallons of oil. Oil and soil were cleaned up and put into a drum for transport to off-site disposal. No further action required.

- **USEPA Site Inspection of June 21, 1985.** The USEPA site inspection of June 21, 1985 by Tom Michel resulted in a Notice of Violation (NOV) of September 17, 1985. The four violations involved (1) aisle width of less than 36 inches in hazardous waste container storage room; (2) no accumulation start-date on drums of hazardous waste (D001); (3) deficiencies in the personnel training program; and (4) deficiencies in the Site Contingency Plan. In response to the NOV, Prime updated the Contingency Plan and initiated plans for construction of a hazardous waste storage shed.

- **Maine DEP Administrative Consent Agreement, May 1988.** A number of large spills in the loading dock area in the mid-1980s prompted the Maine DEP to initiate a Consent Agreement with Prime to (1) take steps to prevent spills in the loading dock area from being released to the river and (2) construct a chemical storage shed. Prime responded to the Maine DEP in a letter of June 5, 1990 in which they indicated that the following tasks had been completed: (1) inspection of all floor drains in the plant area; (2) planning, design, and construction of a chemical storage area which was completed in June 1989; (3) planning, design, and implementation of a containment system for spills at the loading dock area;

(4) additional training of all employees on loading and unloading chemicals; and (5) twelve monthly water quality tests of the unnamed brook, upstream and downstream of the plant site.

- **Maine DEP Inspection of November 16, 1994.** An NOV resulted from the Maine DEP site inspection of November 16, 1994 by Glenn Guthrie and Andrew Slusarski. The three violations involved (1) deficiencies in the Site Contingency Plan; (2) failure to mark "hazardous waste" on an overspray collection bucket, and (3) failure to provide impervious working service in three satellite accumulation areas. The violations were addressed in a Prime Tanning letter to the Maine DEP of April 26, 1995. The Contingency Plan was updated. It was noted that the overspray collection bucket contained non-hazardous water-based coating. The satellite stations were found to be secure, i.e., they had intact concrete floors or welded metal pans.

- **Closure Certification of Hazardous Waste Storage Tank of October 1997.** Summit Environmental Consultants, Inc. of Auburn completed the closure certification to support removal of a 5,000-gallon liquid hazardous waste AST for finish waste located at the pre-treatment plant. Tasks completed as part of the closure process included (1) a review of Prime and Maine DEP files concerning the use of the tank; (2) interviews with Prime employees concerning history and use of the tank; (3) oversight of the removal of waste product and decontamination of the tank; and (4) certification of the closure process by a Maine professional engineer and Prime Tanning management. The Summit notification, closure report and certification are included in **Appendix C**.

- **Maine DEP Hazardous Waste Inspection of March 29, 2001.** The Maine DEP site inspection of March 29, 2001 by Cherrie Plummer and Andrew Slusarski resulted in an NOV of November 7, 2001. The NOV noted the following items: (1) failure to designate a forklift cleaner waste as hazardous; (2) failure to report a discharge, e.g., small chemical spills on floors, washing measuring cups in the sink in the R& D lab, and discharge of liquids from some coloring drums to the POTW system; (3) treating of the material specified in item 2 in the POTW; (4) failure to keep hazardous waste containers closed (open bung); (5) chemical drums stored adjacent to floor drains; (6) deficiencies in the Site Contingency Plan; (7) failure to update annual aid agreements with public safety departments; and (8) deficiencies in hazardous waste training program. Prime responded to the inspection report in a letter to the Maine DEP of September 14, 2001 which indicated that the plant would cease operation in the fall of 2001 due to global economic circumstances associated with the events of 9/11/01. A later press release of November 28, 2001 announced that Prime had changed course and was reopening their operations on/about January 2, 2002. The Maine DEP worked with Prime to address the issues associated with the March 2001 inspection prior to the reopening of the plant. In a letter to the Maine DEP of December 10, 2001, Prime indicated that the violations had been resolved and/or corrected.

- **Air Emission License No. 1542.** The Air Emission License for the Prime Tanning site in Berwick was issued on June 13, 1979 and there have been a number of amendments over the past 30 years. License No. 1542 documents operation of boilers 1 thru 4, two leather buffing machines with wet cyclones, five spray operations with dry filters, and three uncontrolled spray operations, and a propane fired water heater. Amendments have served to update the existing license to accurately reflect the fuel burning and process equipment with their respective emissions. An Administrative Consent Agreement and Enforcement Order addressing violations of License No. 1542 was issued to Prime Tanning in January 1995. The violations involved VOC emissions. The enforcement action was settled in February 1995.

- **Maine DEP Natural Resource Protection Act and Stream Alteration and Water Quality Certification of May 1989.** Prime Tanning received approval from the Maine DEP and the U.S. Army Corps of Engineers in the spring of 1989 to construct a reinforced concrete water intake structure on the Salmon River, across Berwick Street from the plant. The engineered intake structure replaced an 8-inch cast iron intake pump. The new intake system included a 12-inch force main to the Prime plant. The system is capable of drawing 250,000 gallons of water per day (175 gallons per minute) from the river.

- **Phase I Environmental Site Assessment (ESA) for Prime Tanning Co., Inc.** A Phase I Environmental Site Assessment for the four parcels of the Prime Tanning site in Berwick was completed in October 2007 by ENSR for Meritum Partners, LLC of San Francisco, CA. The text of the Phase I report is included in **Appendix C.**

The core environmental and engineering staff at the Prime Tanning plant in Berwick has been with the company for over two decades. Wayne Chasse, Manager of Engineering and Facilities at Berwick, provided guidance and assistance in the assessment, monitoring and certification of closure. Similarly, Mick Kuhns of Hartland, Sustainability Manager for all Prime facilities in Maine, was present at all site visits by the Maine DEP representatives and was involved with all phases of the closure process, including direct interactions with the Maine DEP.

2. Closure Activities

In a letter to the Maine DEP of September 10, 2008, Prime Tanning of Berwick provided notice to Edward Vigneault of the Maine DEP Bureau of Remediation and Waste Management of the pending RCRA closure of the facility, as required by Chap. 851, Sect. 11 of MDEP rules (see copy of notification letter in **Appendix C**). All manufacturing operations ceased at the facility in December 2008. The entire facility is going through closure. This section includes the following items: (1) a representative listing of the active categories of chemicals used at the plant, (2) a listing of the active categories of generated hazardous wastes, and (3) a description of the closure-related activities that

were conducted at the Prime Tanning site during the period November 2008 to April 2009.

Active Categories of Chemicals Used at the Plant. The categories and characteristics of chemical products used for re-tanning, coloring, softening, water proofing, and processing leather at the Prime facility in Berwick are described below. Representative MSDS sheets for each category are provided in **Appendix F.**

- **RU-3506 Coating** – 2-ethoxyethanol, ammonium hydroxide.
- **Peneteck** – Slab mineral oil.
- **Lipoderm Oil SK** – Chloroparaffin waxes.
- **Diacetone Alcohol** – 2-Pentanone
- **Ektasolve EB Solvent** – 2-Butoxyethanol.
- **Xeroderm 34080 Waterproofing Agent** – Petro. hydrocarbons, ethanolamine.
- **Basyntan P Liquid** – Phenol formaldehyde condensate of urea.
- **T-12** – 2-Propoxy ethanol
- **T-15 Sodium Neutralized Condensed Naphthalene** – Oxides of sulfur, CO, CO_2.
- **10345 Red Dye** - Propylene glycol monomethyl ether, butyl carbitol, Cr complex.
- **VF Blue LB Dye Concentrate** – 2-propoxyethanol, solvent blue 67.
- **K-10 Unacryl Resin** – 2-propoxyethanol, aromatic hydrocarbons.
- **K-1562 Unacryl** – 2-Methylpyrrolidone, proprietary polymer
- **Natural Blue R Cleaner** – Propylene glycol monomethyl, amine soap.
- **Netcare H/D Equipment Degreaser** – 2-butoxyethanol.
- **Water Dispersible Modified Polyurethane** – 1 Methyl-2-pyrrolidone, n,n,n-triethylamine, amorphous silica, polyurethane resin.
- **Dow Corning Silicone.**
- **Acids** - Formic, Phosphoric, Sulfuric.
- **Caustic** - Sodium Aluminate, Sodium Hydroxide.
- **Bleach** - Sodium Hypochlorite.

Active Categories of Generated Hazardous Waste. The categories of hazardous waste generated at the Prime Tanning site are listed below. Prime Tanning was a large quantity generator with EPA ID No. MED001096395. The hazardous waste products generated at the site have been collected, transported, and disposed of by Ashland Inc. of Binghamton, NY. Clean Harbors conducted the site remediation for closure. Waste Management transported and disposed of buried scrap leather which was excavated from the site in April 2009. The 2007 Annual Hazardous Waste Report to the Maine DEP is provided in **Appendix C.**

- **D001, D002, D007** – Low pH lab waste from perchloric acid oxidation process containing nitric, perchloric, and sulfuric acids;
- **D001, D007** – Flammable, off specification and unusable finish mixes containing glycol ethers and minor amounts of chromium complex dyes;
- **D001, D007** - Spent rags with solvents used during clean up operations – contain glycol ethers and 2-ethyl hexyl acetate;

- **D002, D007** - High pH lab waste from nitrogen content (Kjeldahl) digestion containing NaOH;
- **D007, D009** – Waste mercury debris from thermometers, thermostats, etc.;
- **D022, U044** – Chloroform used to rinse/clean lab flasks – contains oils and waxes;
- **D001** - Collection of spent aerosol cans containing paint used in maintenance operations;
- **D007** - Dry Chemical Room floor sweepings from process chemical weigh up operations which contain basic chromium sulfate;
- **D002** - Lime grit waste used in the pre-treatment plant to adjust wastewater pH prior to discharge to the Berwick sewer District.
- **D009** - Fluorescent light bulbs broken during change-out;

Closure-Related Activities. In undertaking the hazardous waste closure of the Berwick facility, the Prime Tanning staff, along with the team of Woodard & Curran / Tewhey Associates, has undertaken and completed the following closure-related tasks:

- Researched, collected, and reviewed the **environmental files** concerning the Berwick site.

- Participated in **initial site visits** with Prime Tanning staff and the Maine DEP representative on November 10 and 12, 2008.

- Developed a **site-specific closure plan** for the Prime Tanning site, including the initial closure plan of November 18, 2008 and addenda of January 6, 2009, February 2, 2009, and April 2, 2009. The closure plan and addenda responded to Maine DEP comments of November 20, 2008 and new findings at the site. The 2008-2009 closure plan and addenda for the Prime Tanning site and the DEP response of November 20, 2008 are included in **Appendix C**,

- Conducted site visit and **interviews** with long-term employees Wayne Downs (44 years of employment at the Berwick facility) and John Hussey (66 years of employment at the Berwick facility) on December 16, 2008.

- Prime Tanning **contracted with environmental contractor, Clean Harbors**, to clean and remediate floor drain system and pipelines to the POTW, the former and recent chemical storage areas, and the wastewater treatment plant. Cleaning of the drainage trenches was done by manual loosening of dried sludge, removal of the broken sludge by power vacuuming, and pressure washing of the metal- and concrete-lined floor-drain trenches. The cleanup and remediation of the treatment plant included scraping and pressure washing of the deep sumps and the large neutralization tank. A site plan of floor drains and pipelines leading to the POTW at the Prime site is provided in **Appendix A**. A plan of main and satellite hazardous waste storage areas in the plant is also provided in **Appendix A**. A total of 65.25 tons of dry sludge from floor drains was removed from the site by Clean Harbors (see waste receipts in **Appendix F**). Prime Tanning personnel and the team of Woodard & Curran and Tewhey Associates have done

a post-cleaning inspection of the floor drain system and all areas of the treatment plant and have found the systems to be adequately and appropriately remediated and cleaned.

- Conducted **site visits** on March 12, 2009, March 24, 2009 (with Maine DEP representative), and April 2, 2009 to observe and monitor Clean Harbors cleanup operations.

- Conducted a **site visit** with certifying engineer, Kurt Marston, P.E., of Woodard & Curran on January 15, 2009 to assess plant conditions and conduct **floor sampling of the surface scale** in the dry-weigh room. Samples of surficial scale on the concrete floor were taken from the eastern and western portions of the room. The gray-colored scale samples were analyzed for the eight RCRA metals at Katahdin Analytical Services in Scarborough, Maine. The only significant analytical result from the scale samples was the chromium content. Scale sample PR-1A(W) from the west side of the room had a Cr value of 4260 mg/kg. Scale sample PR-1A(E) from the east side of the room had a Cr value of 44,300 mg/kg. The Katahdin analytical report for the floor scale samples is included in **Appendix D.**

  The Maine DEP Remedial Action Guidelines for Soil does not include Cr III. In the Maine DEP response-to-the-closure plan of November 20, 2008, it was suggested that the USEPA Region III Risk-Based Concentration (RBC) tables be used for contaminants or media not covered by Maine DEP Remedial Action Guidelines for Contaminated Soil (RAGS). The RBC tables provide a residential soil criterion for Cr III of 120,000 mg/kg. The levels of Cr in the surficial scale on concrete in the dry-weigh do not exceed the residential standard from the Region III RBC tables. Nonetheless, the dry-weigh room floor was pressure washed as part of the Clean Harbors clean-up of the plant building and the friable portion of floor scale was removed and collected for off-site disposal at their facilities.

- **Test pit explorations** were conducted in the northern portion of the Prime site on February 11, 2009 and April 6, 2009 to determine the degree and extent of scrap leather in subsurface soil on the main plant site. Test pit explorations were also excavated on the undeveloped parcel located to the north of Wilson Street. Prime Tanning and Maine DEP representatives, along with Tewhey Associates, were present for both test pit exploration events. Doucette Excavation of Berwick conducted the test pit explorations using a CAT Model 315C track excavator. No environmental issues were revealed in the test pits on the undeveloped parcel to the north of Wilson Street. Field observations and photo-ionization detector (PID) analysis of soil samples revealed no environmental issues or concerns.

  Deposits of scrap leather were discovered at a depth of 2.5 to 3 feet deep in a 60 ft by 120 ft area of the paved parking lot located immediately north of the Prime plant. The results of the test pit explorations on the site were described in reports

of February 16, 2009 and April 8, 2009 which include test pit logs, site plans, and photos. Copies of the two test pit reports are included in **Appendix E.**

- **Removal and off-site disposal of buried scrap leather** was done on April 22-23, 2009. A 60 ft by 120 ft area located immediately north of the plant was identified as containing buried scrap leather at a depth of approximately 2.5 feet beneath sand fill and asphalt. The maximum thickness of the discrete leather layer was about one foot. The maximum depth of the bottom of the leather layer was about 4 feet. The removal contractor was Doucette Excavation of Berwick. Excavation and extraction was done with a CAT Model 315C track excavator. The removal process involved (1) removal and on-site stockpiling of asphalt paving, (2) removal and stockpiling of sand fill, and (3) removal and stockpiling of scrap leather. The excavation process was initiated along the centerline of the leather deposit and proceeded outward to the edges of the deposit. The water table at the excavation site was at about 3.5 feet depth at the time of the excavation. Subsequent to leather removal, the clay-bottom excavation was partially dewatered on the morning of April 23rd to facilitate backfilling. Approximately 800 gallons of rainwater was pumped from an installed sump onto the asphalt service. The water went through silt fences before discharging to storm drains.

  A total of 391.6 tons of scrapleather were removed and disposed of At the Waste Management Turnkey Landfill in Rochester, NH. The asphalt paving was taken off site for crushing and recycling. The stockpile of sand fill was used to backfill the excavation after the leather was removed. Approximately 450 yds. of additional gravel fill was brought to the site to complete the backfilling of the excavation. The scrap leather was placed on the asphalt parking lot prior to loading into 25-yard roll-off containers. There was minor wood, metal and bricks mixed with the scrap leather. Large pieces of the admixed wood, metal and bricks were manually removed from the leather stockpile prior to loading in the roll-off containers. The excavation site was not repaved.

  TCLP analysis of a sample of the scrap leather was done prior to it being transported off the Prime site. There were two detections in TCLP testing for the eight RCRA metals and hexavalent chromium. There was a detection of 0.59 mg/L for barium versus the TCLP criteria of 100 mg/L and a detection of 0.49 mg/L for chromium versus the criteria of 5 mg/L. A copy of the Katahdin laboratory analytical report for the TCLP testing of the leather sample is included in **Appendix D.** The Waste Management profile sheet for the scrap leather is included in **Appendix F.** An annotated photo-documentation of the two-day leather removal and backfilling operation is provided in **Appendix E.**

- Sub-slab **soil sampling** was conducted in the dry-weigh room on April 6, 2009. A three-quarter inch wide crack in the concrete floor of the dry-weigh room extends 50 feet across the room from the western to the eastern wall. A hammer drill with a 1-inch diameter hardened steel bit was used to drill through the 6- to

8-inch reinforced concrete slab at three locations along the existing fracture. Sufficient concrete was removed from the fracture trace to create 5-inch by 3-inch holes for sub-slab soil sampling. Samples of the brown coarse sand fill from beneath the slab were obtained for analysis of RCRA metals and VOCs at Katahdin Analytical Services of Scarborough. The only detection of VOCs in the sub-slab soil was 0.028 mg/kg of acetone in sample PM from the middle of the room. The Maine DEP remedial action guideline for acetone in soil is 475 mg/kg for residential settings. It is most likely that the lone acetone detection represents a laboratory artifact.

There were low detections of arsenic, barium, chromium, lead, and mercury in the sub-slab soils, all well below the Maine DEP soil guidelines. Of particular interest in the dry-weigh room is chromium. The detections of Cr in soil from west to east across the room were 126 mg/kg in sample PW (west), 200 mg/kg in sample PM (middle), and 87.4 mg/kg in sample PE (east). The average value for the three soil samples is 138 mg/kg. The Maine DEP soil guideline for chromium VI in residential settings is 950 mg/kg. The EPA Region III criteria for chromium III in residential settings is 120,000 mg/kg. The Katahdin laboratory analytical report for the sub-slab soil analyses are provided in **Appendix D**.

- This **closure report** was developed with supporting figures, tables and appendixes.

- A visit was made to the plant site by the certifying engineer, Kurt Marston, P.E., of Woodard & Curran on May 7, 2009. Mr. Marston was accompanied on the visit by Wayne Chasse and Mick Kuhns of Prime and John Tewhey of Tewhey Associates. Notes of the site visit will be included in the Closure Certification.

Onsite closure activities accomplished by Prime staff in the winter and spring of 2008 - 2009 are as follows:

- The components of the dust venting and collection systems were dismantled and cleaned.

- Many pieces of tannery equipment and machinery in all areas of the plants were disassembled, crated, and shipped to the Prime plant in Hartland and elsewhere. The floor areas around each of the machines was swept and cleaned to remove accumulated grime, if any. Best efforts were made to remove floor stains by means of sweeping, scraping and power washing.

- Unused leather treatment chemicals were packaged and shipped to the Prime facilities in Hartland.

- The past and present hazardous materials storage rooms and satellite areas were emptied of products and cleaned via scraping and power washing (see 2008 plan of hazardous waste storage areas in **Appendix C**).

- Stored materials and light equipment were removed from the manufacturing and non-manufacturing areas and were either shipped to the Prime facility in Hartland or packaged for offsite disposal.

- ASTs were emptied and the materials disposed of as hazardous or special waste.

- Propane cylinders, large and small, were emptied and allowed to equilibrate to atmospheric pressure.

- Universal waste was packaged and shipped for off-site disposal.

3. Closure Recommendation

On the basis of the research, assessment, clean up, and monitoring activities of the Maine DEP, Prime Tanning and the Woodard & Curran and Tewhey Associates team as presented herein, it is recommended that clean closure status be acknowledged for the Prime Tanning facility in Berwick, Maine.

Appendix A. Site Location Maps
Appendix B. Site Photographs
Appendix C. Regulatory Documents
Appendix D. Miscellaneous Items
Appendix E. Test Pit Reports (2) and Photo-Documentation of Leather Scrap Removal
Appendix F. Representative MSDS Documents and Contractor Documents Associated with Closure

STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

JOHN ELIAS BALDACCI
GOVERNOR

DAVID P. LITTELL
COMMISSIONER

July 1, 2009

Mr. Michael Kuhns
Prime Tanning Company, Inc.
PO Box 400
Hartland, ME 04943

Re: Hazardous Waste Generator Closure Certification
Prime Tanning Facility, 20 Sullivan Street, Berwick
EPA ID# MED 001096395

Dear Mr. Kuhns:

This letter is to acknowledge the closure certification document for the generator closure of the above referenced facility. The documents considered in this closure are as follow:

Report:
Maine DEP Chapter 851, Section 11
RCRA Closure of the
Prime Tanning Facility
20 Sullivan Street
Berwick, Maine
Prepared jointly by Woodard & Curran and Tewhey Associates
Dated: May 2009
(With attached Certification Letter from Prime Tanning dated May 18, 2009)

Letter:
From Woodard & Curran
RE: **Certification of Maine Chapter 851, Section 11 Site Closure**
Prime Tanning Facility, Berwick, Maine
Dated: May 20, 2009
(With PE Closure Certification)

Additional Submittals:
Final shipping documents demonstrating proper disposal of remaining Hazardous, Universal and Special Wastes.

AUGUSTA
17 STATE HOUSE STATION
AUGUSTA, MAINE 04333-0017
(207) 287-7688 FAX: (207) 287-7826
RAY BLDG., HOSPITAL ST.

BANGOR
106 HOGAN ROAD
BANGOR, MAINE 04401
(207) 941-4570 FAX: (207) 941-4584

PORTLAND
312 CANCO ROAD
PORTLAND, MAINE 04103
(207) 822-6300 FAX: (207) 822-6303

PRESQUE ISLE
1235 CENTRAL DRIVE, SKYWAY PARK
PRESQUE ISLE, MAINE 04769-2094
(207) 764-0477 FAX: (207) 760-3143

web site: www.maine.gov/dep

These documents meet the certification requirements of Chapter 851, Section 11 of the Maine Hazardous Waste Management Rules. Please be advised that the EPA identification number for this facility, MED 001096395, will be deactivated to reflect the closure. This number shall not be used again until it has been reactivated through subsequent notification to the Department and the USEPA. Nothing in this letter shall relieve the operator, Prime Tanning, of any responsibility or liability relating to the presence of or discharge of hazardous wastes at the above location. If there are any questions concerning this closure acknowledgment please call me at 207-287-2651.

Sincerely,

Edward J. Vigneault

Edward J. Vigneault
Division of Oil & Hazardous Waste Facilities Regulation
Bureau of Remediation and Waste Management

Pc: John Tewhey, Tewhey Associates.

prime tanning berwick closure.doc