DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION

RCRA Corrective Action
Environmental Indicator (EI) RCRIS code (CA725)
Current Human Exposures Under Control

Facility Name: **Universal Aluminum Extrusion Corporation**
Facility Address: **5 Canale Drive, Egg Harbor Township, New Jersey**
Facility EPA ID#: **NJD046554655**

Definition of Environmental Indicators (for the RCRA Corrective Action)

Environmental Indicators (EI) are measures being used by the Resource Conservation and Recovery Act (RCRA) Corrective Action program to go beyond programmatic activity measures (e.g., reports received and approved) to track changes in the quality of the environment. The two EIs developed to date indicate the quality of the environment in relation to current human exposures to contamination and the migration of contaminated groundwater. An EI for non-human (ecological) receptors is intended to be developed in the future.

Definition of ACurrent Human Exposures Under Control@ EI

A positive ACurrent Human Exposures Under Control@ EI determination (AYE@ status code) indicates that there are no unacceptable human exposures to Acontamination@ (i.e., contaminants in concentrations in excess of appropriate risk-based levels) that can be reasonably expected under current land- and groundwater-use conditions (for all contamination subject to RCRA corrective action at or from the identified facility [i.e., site-wide]).

Relationship of EI to Final Remedies

While Final remedies remain the long-term objectives of the RCRA Corrective Action program, the EIs are near-term objectives, which are currently being used as Program measures for the Government Performance and Results Act of 1993 (GPRA). The ACurrent Human Exposures Under Control@ EI is for reasonably expected human exposures under current land- and groundwater-use conditions ONLY, and does not consider potential future land- or groundwater-use conditions or ecological receptors. The RCRA Corrective Action program=s overall mission to protect human health and the environment requires that Final remedies address these issues (i.e., potential future human exposure scenarios, future land and groundwater uses, and ecological receptors).

Duration / Applicability of EI Determinations

EI Determination status codes should remain in the Resource Conservation and Recovery Information System (RCRIS) national database ONLY as long as they remain true (i.e., RCRIS status codes must be changed when the regulatory authorities become aware of contrary information).

Facility Information

The facility is located at 5 Canale Drive in Egg Harbor Township, Atlantic County, New Jersey. It covers approximately 10 acres in size in an industrial park and is surrounded by commercial or light industries, such as warehouses. Approximately 5 acres of the facility, where the manufacturing operations and related activities occurred, is surrounded by a chain link fence. The operations ceased in 1988. Waste materials and manufacturing equipment were subsequently removed from the facility. Since 1992, the building has been leased by Tropworld for warehouse space. It was noted during a site visit on May 3, 2007 that the site and the building appeared to not be actively utilized.

The site was purchased by the Silver Building Co. in the late 1950's and sold to the Hewit-McKelvey Partnership in 1978. The building on site was constructed between 1967 and 1968 to operate as an aluminum extrusion facility. Aluminum billets as raw material were heated and extruded through dies under pressure. Lineal products from the extrusion processes were subsequently applied with a chromium coat and then with paints. The products were then cut to specified lengths before shipping to customers. The shipped products were further fabricated to produce consumer products such as residential windows and doors, light fixtures, truck bodies, and electrical and computer equipment.

Rinse waters and waste materials were generated at the facility from the manufacturing operations. An evaporation tank was utilized to treat rinse waters but was later replaced. Other waste materials were stored at various locations before being shipped off-site for disposal. Various chemical compounds were utilized in the manufacturing operations including chromium, xylene, paints, oils, caustic solutions, and methylene chloride.

Soil and groundwater underneath the facility are impacted primarily from the operation of two areas of concern – Chromate Spill Cleanup Area (Area N) and Vault #2 (Area P-2) - with chromium (total and hexavalent) and volatile organic compounds (VOCs).

Contaminated soils were excavated and sent off-site for disposal as part of the cessation of the facility operations and subsequent remedial investigations/actions. The liquid wastes in the Evaporation Tank (Area M) and surrounding contaminated soil near Area M and Area N were reportedly removed and the excavated area was backfilled with clean soil/material to the ground surface. In addition, a soil extraction system combined with an air sparging system was utilized to remediate contaminated soils and groundwater near Vault #2. The post-remediation sampling showed that the soil extraction system was effective in removing VOCs in soils but slightly elevated levels of VOCs were still detected in groundwater.

Groundwater data collected in the area of the Chromate Spill Cleanup Area during 1983 through 1984 showed significant levels of chromium (hexavalent and total). The data collected in 1985 through 1987 showed that the levels of chromium in groundwater were significantly reduced after the closure of the Tank. The groundwater data collected in March 2006 showed the levels of chromium (hexavalent and total) marginally above the Class IIA Groundwater Quality Standard, which was similar to the data collected in 1991 through 1992. Groundwater in the area of Vault #2 was contaminated with VOCs. The results of the groundwater samples collected in 1999 showed tetrachloroethylene at MW5 and MW6 slight above its Class IIA Groundwater

Quality Standard of 1 ppb. The results of groundwater samples collected in March 2006 showed tetrachloroethylene and Total Volatile Organic Compounds (TVOCs) at MW9 slightly above their respective Class IIA GWQS of 1 ppb and 500 ppb.

However, the facility is in the Pinelands and the groundwater classification at the site is Class I-PL (Protective Area). The Groundwater Quality Standards for Class I-PL is background water quality or Practical Quantification Limits. No chromium, tetrachloroethylene and TVOCs were detected at the background well (MW7). Further investigation is necessary to delineate the extent of groundwater contaminated with chromium and VOCs.

1. Has **all** available relevant/significant information on known and reasonably suspected releases to soil, groundwater, surface water/sediments, and air, subject to RCRA Corrective Action (e.g., from Solid Waste Management Units (SWMU), Regulated Units (RU), and Areas of Concern (AOC)), been **considered** in this EI determination?

   _X_ If yes - check here and continue with #2 below.

   ____ If no - re-evaluate existing data, or

   ____ If data are not available skip to #6 and enter IN (more information needed) status code

Solid Waste Management Units/Areas of Concern (SWMUs/AOCs)

Area A (Underground Storage Tanks): Two underground storage tanks were located at the southeast corner of the office. Tank #1 was a 3,000 gallon steel gasoline tank. Tank #2 was a 4,000 gallon steel diesel tank.

Soil sampling was performed for the tanks in December 1987 to determine their structural integrity. The results showed that no targeted compounds were detected above the respective State standards. The tanks were removed in November 1989. All materials in the tanks were removed along with the associated piping and sent off-site for disposal. Post-excavation sampling confirmed no residual contaminants above the respective State standards. It was backfilled with the excavated soils and subsequently covered with certified clean fill.

The site Assessment Compliance Statement (SACS-2, 1/89) dated February 8, 1990 was submitted certifying the removal of the underground storage tanks.

Area B (Septic System #1): The oldest septic system on-site serviced the men's restroom located adjacent to the manufacturing area. The system consists of four concrete seepage pits with depths of approximately 7.5 feet.

Sampling was performed in December 1987 and the results showed no targeted contaminants detected above the respective State standards. Additional sampling was performed in July 1989 and the results showed that no targeted contaminants were detected above the respective standards, except for one sample showing a total of base/neutral concentration at 41.72 ppm above the State standard of 10 ppm. Almost all of the total concentration (41.66 ppm out of the total B/N concentration of 41.72 ppm) was composed of tentatively-identified compounds (TICs) and only bis (2-ethylhexyl) phthalate and di-N-butylphthalate were detected among the targeted compounds at a combined total of 0.06 ppm. However, the results appeared not to be representative of the area since the results for the other remaining samples were below the State standards of 10 ppm. No additional sampling or cleanup was proposed for the area. In January 1991, NJDEP approved a Negative Declaration.

Area C (Septic System #2): The septic system was installed in 1981 to service the women's restroom. Due to the demography of the area, the system was used infrequently. Although the exact size and location of the leachfield were not know, the distance from the septic tank to the leachfield was known and was utilized to locate a sampling location. One boring was completed

in December 1987 from the suspected leachfield location with samples taken at two different depths. Since the only contaminants which could have possibly been introduced to the septic system would have been volatile compounds, the samples were analyzed for VOCs. The results were below the NJDEP standard of 1 ppm for VOCs. An affidavit was provided to NJDEP certifying that only sanitary wastes were discharged to this septic system. In January 1991, NJDEP approved a Negative Declaration.

Area D (Septic System #3): The septic system serviced men's and women's bathrooms in the office. Since only sanitary discharges were connected to this system, no sampling was required. An affidavit was provided to NJDEP certifying that only sanitary wastes were discharged into the system.

Area E (Former Fiberglass Blanket Storage Area): The area was located at the rear of the building. Fiberglass blankets were used to collect the overspray from the aluminum extrusion paint line. The blankets were determined non-hazardous. The blankets stored in the area were placed on and covered with plastic sheets and then removed for disposal. The practice ceased in 1983 with the blankets being placed in a covered dumpster. Since the paints were known to contain VOCs, two soil samples were collected in the area and analyzed for VOCs. The results showed a total concentration of VOCs detected below the State standard of 1 ppm. In January 1991, NJDEP approved a Negative Declaration.

Area F (Former Dumpster/Pad Area): The dumpster located adjacent to the concrete pad was used for the collection of fiberglass blankets prior to disposal. The concrete pad was utilized as a staging area for forklifts which were used for loading blankets into the dumpster.

Soil sampling was conducted for the area in December 1987 with the collection of four soil samples and the analyses for VOCs. The results showed a total concentration of VOCs detected below the State standard of 1 ppm, except for one sample showing approximately 26.0 ppm of total VOCs.

Additional sampling was conducted in July 1989 with the collection of one sample approximately 40 feet from where the elevated level of VOCs was previously detected. While performing the sampling, a concrete vault structure buried below the soil surface was revealed near the sampling location. It had the depth of approximately 6 feet and contained liquid and sludge material with strong solvent odor. The results showed a total VOC concentration of approximately 2,120 ppm and a total PHC concentration of 970 ppm. The elevated levels of VOCs observed nearby might have been due to the existence of the vault (Area P-2) and its associated content in close proximity to Area F. In January 1991, NJDEP approved a Negative Declaration.

Area G (Former Empty Solvent Drum Storage Area): The Area was located at the rear of the facility adjacent to the dumpster area. Empty solvent drums were stored in the Area. Sampling was conducted in December 1987 with the collection of three samples and analyses for VOCs. The results showed a total VOC concentration below the NJDEP standard of 1 ppm. In January 1991, NJDEP approved a Negative Declaration.

Area H (Former Compressor Blowdown Area): The area was located in the rear of the building. It had received an oily discharge from the compressor blowdown during plant operations.

Soil sampling was conducted in December 1987. The results showed that PHC was detected above the NJDEP standard of 100 ppm. After delineation, the area of contamination was excavated to a depth of 4 feet in July and November 1989. The cleanup also consisted of backfilling of the excavated area with certified clean soil or fill and off-site disposal of the excavated soil. In January 1991, NJDEP approved a Negative Declaration.

Area I (Former Empty Chromate Drum Storage Area): The Area was located at the eastern side of the facility in an area which was used to store empty chromate drums.

Soil sampling was conducted in December 1987. Additional soil sampling was conducted targeting soils at deeper depths. The results showed no targeted compounds above the NJDEP standards. In January 1991, NJDEP approved a Negative Declaration.

Area J (Hazardous Waste Drum Storage Pad): The Area was located at the southwestern side of the building and was used as a Hazardous Waste Storage Pad. The pad was constructed of concrete with a 6-inch curb surrounding its perimeter. The Area was closed under the State Hazardous Waste program and the RCRA Closure Plan Certification letter and RCRA Sampling Report was submitted to NDJEP in November 1989. In October 1991, NJDEP approved the closure certification.

Area K (Concrete Storage Pad): The area was used to receive aluminum billet. There were no spills or discharges. Therefore, no sampling was required. In January 1991, NJDEP approved a Negative Declaration.

Area L (Non-Contact Cooling Water Recycling Tank): The concrete tank was used for the storage of non-contact cooling water. The water was used to cool the aluminum after being extruded. No sampling was required. In January 1991, NJDEP approved a Negative Declaration.

Area M (Former Evaporation Tank): The area was the former location of an evaporation tank which received rinse water from the chrome coating line. Universal Aluminum was required to close the Area under an Administrative Consent Order issued by the U.S. Environmental Protection Agency (EPA) in March 1985. The liquid wastes in the Tank and surrounding contaminated soil were reportedly removed and the excavated area was backfilled with clean soil/material to the ground surface. However, no documentation is available to confirm that the closure had been completed. Since contaminated surface soils within the Area were excavated, there is no potential for human exposure to residual contaminated soils, if any, within the Area.

Area N (Chromate Spill Cleanup Area): The Area was located to the south of the Former Evaporation Tank (Area M) where waste was discharged from the Evaporation Tank. Universal Aluminum was required to close/clean up the Area under an Administrative Consent Order issued by EPA in March 1985. Contaminated soils were reportedly excavated and removed and the excavated area was backfilled with clean soil/material. No documentation is available to confirm that the closure/cleanup had been completed. Since contaminated surface soils were

excavated, there is no potential for human exposure to residual contaminated soil, if any, within the Area.

Area O (Evaporation Treatment Pans): All hazardous wastes were removed and manifested off-site. The two evaporation pans were decontaminated. All standing liquid and residual material was pumped into drums along with the water generated by the steam cleaning procedure utilized to clean the stainless steel pans. The cleaned stainless steel pans were then cut up and sold for scrap (Ref .3). In October 1991, NJDEP approved the closure certification.

Area P (Underground Concrete Vaults): Two concrete vaults were discovered at the site in July 1989 while performing soil sampling nearby.

Area P-1 (Underground Concrete Vault #1): The vault was located approximately 14 feet from the building to the north. It was reportedly 4 feet in depth. It contained a liquid material which had no apparent odor nor color. A liquid sample was collected in July 1989 and the results showed low levels of metals, VOCs, and base neutral/acid extractable (BN/AE) compounds. In November 1989, the liquid content was pumped out by a tanker truck and disposed of off-site.

The Remedial Investigation Report (Ref. 12) confirmed that no contaminants were detected above the standards in soil. The Remedial Action Workplan (Ref. 13) proposed that it be left in place with a concrete and sand mix. No documentation is available to confirm that it had been completed but, there is no potential for human exposure.

Area P-2 (Underground Concrete Vault #2): The vault was located approximately 5 feet from the building (paint mixing addition) to the south. It is reportedly 6 feet in depth and a conical cinder block seepage pit with a two-foot diameter opening at the top and eight-foot diameter at the bottom. This vault contained liquid and sludge materials with a distinctive solvent odor. Liquid and sludge samples were collected in July 1989. The results showed that high levels of total petroleum hydrocarbons (TPH), VOCs, BN/AE compounds, and polychlorobiphenyls (PCBs) as well as low levels of metals. In November 1989, the liquid content was pumped out by a tanker truck and disposed of off-site. However, the solid/sludge material could not be removed at that time and was left in place.

A soil gas survey was performed in July 1990 in the vicinity of the vault (Ref. 6). The results appeared to show that soils within a 20 to 40 feet radius of the vault were contaminated with VOCs. Further investigation needed to be performed to delineate the magnitude and extent of potentially affected soils.

The Remedial Investigation Report (Ref. 12) showed that soils near the vault were contaminated primarily with xylenes and low levels of ethylbenzene and that the extent of the contamination was delineated to approximately a quarter of circle with a 45-foot radius up to a depth of 9 feet. It also recommended that a soil vapor extraction system be implemented as the remedial measure. The Remedial Action Workplan (Ref. 13) proposed that it be cleaned and left in place with a concrete and sand mix. It proposed that a soil venting system be used with five extraction wells screened at various depths and that off-gas be treated with vapor phase carbon units.

The November 1995 letter (Ref. 14) proposed that additional 3 extraction points be installed and that all the extraction points be connected with air sparging points to address any potential groundwater contamination nearby. It also proposed that the soil extraction wells be installed to an estimated depth of 13 feet below grade and the air sparging wells be installed to an estimated depth of 27 feet. The preliminary groundwater investigation showed that groundwater was contaminated with various chlorinated compounds including chloro- and fluorobenzene and it appeared to be limited within the area of the proposed treatment.

The January 1998 letter (Ref. 15) indicated that, in November 1995, the impacted soils surrounding the Vault were excavated along with the vault structural material and polymerized paint waste contained in the vault. Approximately 30 cubic yards of impacted material were removed from the general vault area and sent to Envirotech Management Services, Inc. in Belleville, Michigan for disposal. Approximately 600 gallons of water contained in the Vault was removed and sent to Cycle Chem Inc., in Elizabeth, New Jersey.

The same letter also indicated that the soil vapor extraction system with air sparging wells was activated in January 1996 but was taken off-line for three months due to elevated concentrations of volatile organic compounds in the influent stream which was much higher than anticipated. The system was reactivated in July and remained in operation through November 1996. The post-remediation sampling showed no compounds detected in soil and groundwater above their respective standards. However, the data for the groundwater sampling performed in March 2006 showed that tetrachloroethylene and TVOCs were detected slightly above the respective Class IIA GWQS.

Since contaminated surface soils were excavated and disposed off-site, there is no potential for human exposure exceeding acceptable health based standards.

Area Q (1,750 Gallon Caustic Sludge Storage Tank): It was located adjacent to the building to the southwestern corner and to the north of Area E (Former Fiberglass Blanket Storage Area). Spent caustic water (primarily aluminum hydroxide), after it was used to clean dies which were used for the aluminum-extrusion operation, was collected and settled in the tank. The tank was located on the concrete pad with a 6-inch curb surrounding its perimeter. The tank was closed and removed. No documentation is available to assess that the soils near and around the Area are clean. However, since the Area was surrounded with the curb, any releases into surrounding soils appear unlikely. There is no potential for human exposure above the health risks.

Groundwater: Groundwater is contaminated primarily from the operations of two Areas: Chromate Spill Cleanup Area (Area N) and Vault #2 (Area P-2). Chromium (hexavalent and total) is the primary constituent of concern in groundwater near the Chromate Spill Cleanup Area and volatile organic compounds (VOCs) are primary constituents of concern in groundwater near the Vault.

The latest available data for groundwater near the Vault and Chromate Spill Cleanup Area is from the groundwater sampling performed in March 2006. It shows that tetrachloroethylene and TVOCs were detected near the Vault above the respective State of New Jersey Class IIA Groundwater Quality Standard of 1.0 ppb and 500 ug/l at one groundwater monitoring well,

MW9. The extent of groundwater contaminated with VOCs appears limited. In addition, the data also shows that the levels of chromium (total and hexavalent) are detected near the Chromate Spill Cleanup Area marginally above the Class IIA GWQS, which is similar to the results collected for the groundwater sampling performed in March 1992.

However, the groundwater classification at the site is Class I-PL (Protective Area). The Groundwater Quality Standards for Class I-PL is background water quality or the Practical Quantification Limits (PQLs). No chromium or VOCs were detected at the background well (MW7). Further investigation is needed to delineate the extent of contaminated groundwater to these standards and remedial actions, if deemed necessary, need to be implemented.

References

(1) Sampling & Analytical Report, U.A. Industries, Inc., Egg Harbor Township, Atlantic County, ECRA Case #88056, Prepared by Enviro-Sciences, Inc., Dated February 1990.
(2) Site Assessment Compliance Statement (SACS-2, 1/89), Dated February 8, 1990.
(3) Results of RCRA Sampling for Universal Aluminum Extrusion Corp. Delilah Road & Canale Drive, Egg Harbor, New Jersey, Prepared by Enviro-Sciences, Inc., Dated November 1989.
(4) Letter Report from Ronald Schultz of Enviro-Sciences Inc. to Thomas Downey of NJDEP dated January 29, 1990.
(5) Letter from Ronald Schultz of Enviro-Sciences, Inc. to Thomas Downey of NJDEP dated February 9, 1990.
(6) Letter from Ronald Schultz of Enviro-Science, Inc. to Thomas Sherman of NJDEP dated November 29, 1990.
(7) Letter from Kenneth H. Hart, NJDEP Acting Assistant Director, to Joseph M. Galley of Enviro-Sciences, Inc. dated January 8, 1991.
(8) Letter from Thomas Sherman, NJDEP Bureau Chief, to James McKelvey of Universal Aluminum dated March 26, 1991.
(9) Letter from Thomas Sherman, NJDEP Bureau Chief, to James McKelvey of Universal Aluminum dated October 1, 1991.
(10) Letter from Thomas Sherman, NJDEP Bureau Chief, to James McKelvey of Universal Aluminum dated January 10, 1992.
(11) Final Draft Environmental Priority Initiative Preliminary Assessment Report, Universal Aluminum Extrusion Corporation, Pleasantville, Atlantic County, New Jersey, Dated September 30, 1992.
(12) Remedial Investigation Report, Former Universal Aluminum Industries, Inc. Facility, Deliliah Road & Canale Drive, Egg Harbor Township, New Jersey, Prepared by Environmental Strategies and Applications, Inc., Dated January 15, 1995.
(13) Remedial Action Workplan, Former Universal Aluminum Extrusion Facility, Delilah Road & Canale Drive, Egg Harbor Township, New Jersey, Dated January 15, 1995.
(14) Letter from Rose M. Sinclair of Environmental Risk Limited to Jon Malkin of NJDEP dated November 10, 1995.
(15) Letter report from Rose M. Sinclair of Environmental Risk Limited to Jon Malkin of NJDEP dated January 13, 1998.
(16) Supplemental Remedial Investigation Workplan, Former Universal Aluminum Site, Egg Harbor Township, New Jersey, Dated April 22, 2002.

(17) Letter from Donna McBride of the Pinelands Commission of the State of New Jersey to Jon Malkin of NJDEP dated November 1, 2006.
(18) Letter from Craig J. Huber of Archer & Greiner to Jon Malkin of NJDEP dated March 6, 2007.

2. Are groundwater, soil, surface water, sediments, or air **media** known or reasonably suspected to be A**contaminated@**[1] above appropriately protective risk-based levels (applicable promulgated standards, as well as other appropriate standards, guidelines, guidance, or criteria) from releases subject to RCRA Corrective Action (from SWMUs, RUs or AOCs)?

Media	**Yes**	**No**	**?**	**Rationale/Key Contaminants**
Groundwater	X			VOCs, Chromium
Air (Indoors)[2]		X		
Surface Soil (e.g., <2 ft)		X		
Surface Water		X		
Sediment		X		
Subsurface Soil (e.g., >2 ft)	X			VOCs, Chromium
Air (Outdoors)		X		

____ If no (for all media) - skip to #6, and enter YE, status code after providing or citing appropriate levels, and referencing sufficient supporting documentation demonstrating that these levels are not exceeded.

_X_ If yes (for any media) - continue after identifying key contaminants in each contaminated medium, citing appropriate levels (or provide an explanation for the determination that the medium could pose an unacceptable risk), and referencing supporting documentation.

____ If unknown (for any media) - skip to #6 and enter IN status code.

Rationale:

GROUNDWATER:

Geology and Hydrology

Information on observation well installation and available area drill logs shows that the site is directly underlain by sands, silts, clays and gravel common to the Coastal Plain Region. Two

[1] AContamination@ and Acontaminated@ describes media containing contaminants (in any form, NAPL and/or dissolved, vapors, or solids, that are subject to RCRA) in concentrations in excess of appropriately protective risk-based Alevels@ (for the media, that identify risks within the acceptable risk range).

[2] Recent evidence (from the Colorado Dept. of Public Health and Environment, and others) suggests that unacceptable indoor air concentrations are more common in structures above groundwater with volatile contaminants than previously believed. This is a rapidly developing field and reviewers are encouraged to look to the latest guidance for the appropriate methods and scale of demonstration necessary to be reasonably certain that indoor air (in structures located above (and adjacent to) groundwater with volatile contaminants) does not present unacceptable risks.

distinct formations predominate. The site is underlain by the Bridgeton Formation (quarternary gravel and sand locally solidified by iron oxide). The Bridgeton Formation unevenly overlies the Cohansey Formation. The Cohansey sand is described as a Tertiary deposit primarily composed of quartz sand with local beds of clay and gravel. This general lithology is confirmed through review of available drill logs from area wells. Inspection of drilling records and information from local drillers indicate the presence of a clay layer (recorded thickness up to 11 feet) underlying the immediate site and surrounding areas at depths ranging from 100 to 130 feet below grade. This clay layer zone appears to separate the shallow water table aquifer from the deeper water bearing horizons of the Cohansey Formation. (Ref. 2)

Flow within the deeper zones of the Cohansey and regional groundwater flow throughout the Coastal Plain is southeast toward the Atlantic Ocean. Groundwater in the overlying shallow system in the area of the site appears to move in an easterly or southeasterly direction. The two (shallow and deep) water bearing zones within the Cohansey underneath the area appear independent, separated by the clay layer. (Ref. 2)

Groundwater Investigations

1. Chromate Spill Cleanup Area (Area N)

The results of groundwater sampling performed between June 1983 and May 1984 showed that groundwater was contaminated with elevated levels of chromium (total and hexavalent). The highest levels of total and hexavalent chromium were 32.70 ppm at MW2 (5/84) and 31.0 ppm at MW2 (5/84), respectively. The results of groundwater sampling performed between March 1985 and March 1987 showed that total chromium was detected in a range of 0.14 ppm (MW1, 12/86) and 1.88 ppm (MW4, 9/86) and hexavalent chromium was detected in a range of 0.12 ppm (MW3, 3/85) and 1.9 ppm (MW4, 9/85). Groundwater samples were also collected from the production well which was located upgradient but screened for a deeper zone (approximately 100 feet deep). The results for the production well showed no detection of chromium. (Ref. 2)

The results of groundwater sampling performed between March 1991 and March 1992 showed that hexavalent chromium was detected in a range of 0.13 ppm (MW3, 12/91) and 0.68 ppm (MW4, 9/91) and total chromium was detected in a range of 0.12 ppm (MW4, 3/92) and 0.60 ppm (MW4, 9/91). No chromium was detected from the production well. (Ref. 3)

The latest available data for groundwater near the Chromate Spill Cleanup Area is from the groundwater sampling performed in March 2006. The data shows that the levels of hexavalent chromium are detected in a range of non-detect (MW3 and MW7) and 130 ug/l (MW2) and the levels of total chromium in a range of 76.8 ug/l (MW1) and 134 ug/l (MW2), marginally above the Class IIA GWQS of 70 ug/l (for hexavalent or total). However, the groundwater classification at the site is Class I-PL (Protective Area). The Groundwater Quality Standards for Class I-PL is the background water quality or the Practical Quantification Limits (PQLs). No chromium is detected at the background well (MW7). Further investigation is needed to delineate the extent of contaminated groundwater to these standards and remedial actions, if deemed necessary, need to be implemented.

2. Vault #2 (Area P-2)

A soil gas survey in the vicinity of the vault was performed in July 1990. The results appeared to show that soils within a 20 to 40 feet radius of the vault were contaminated with VOCs. Further investigation was recommended to delineate the magnitude and extent of potentially affected soils. (Ref. 1)

The Remedial Investigation Report (Ref. 4) showed that soils near the vault were contaminated primarily with xylenes and low levels of ethylbenzene and that the extent of the contamination was delineated to approximately a quarter of a circle with a 45-foot radius up to a depth of 9 feet. It recommended that a soil vapor extraction system be implemented as the remedial measure. The Remedial Action Workplan (Ref. 5) proposed that the vault be cleaned and left in place with a concrete and sand mix. In addition, it proposed that a soil venting system be used with five extraction wells screened at various depths and that off-gas be treated with vapor phase carbon units. The November 1995 letter (Ref. 6) proposed that additional 3 extraction points be installed with all the extraction points connected with sparging points to address any potential groundwater contamination nearby. It also proposed that the soil extraction wells be installed to an estimated depth of 13 feet below grade and the air sparging wells be installed to an estimated depth of 27 feet. It was noted that the preliminary groundwater investigation showed that groundwater was contaminated with various chlorinated compounds including chloro- and fluorobenzene and appeared to be limited to the area covered by the proposed treatment

The January 1998 letter (Ref. 7) reported that, in November 1995, impacted soils surrounding the Vault were excavated along with the Vault structural material and polymerized paint waste. Approximately 30 cubic yards of impacted material were removed from the general Vault area and sent to Envirotech Management Services, Inc. in Belleville, Michigan for disposal. Approximately 600 gallons of water contained in the Vault was removed and sent to Cycle Chem Inc., in Elizabeth, New Jersey. In addition, it reported that the soil vapor extraction system with air sparging wells was activated in January 1996 but was taken off-line for three months due to elevated concentrations of volatile organic compounds in the influent stream which was much higher than anticipated. The system was reactivated in July and remained in operation through November 1996.

The September 1999 facsimile (Ref. 8) provided the results of two rounds of groundwater sampling conducted in February and July 1999, showing that tetrachloroethylene was detected at MW5 and MW6 (located to the east of the former Vault), above its NJDEP Class-IIA Groundwater Quality Standard of 1.0 ppb. The data also showed that several volatile organic compounds were detected slightly above the Standards.

The October 2006 letter (Ref. 10) reported that tetrachloroethylene and Total Volatile Organic Compounds (TVOCs) were detected at one well (MW-9) slightly above the respective Class IIA Groundwater Quality Standards of 1 ppb and 500 ppb. However, the groundwater classification at the site is Class I-PL (Protective Area). The Groundwater Quality Standards for Class I-PL is the background water quality or the Practical Quantification Limits (PQLs). No tetrachloroethylene and TVOC were detected at the background well (MW7). Lead was detected from MW6 and MW9 at 5.4 ug/l and 9.3 ug/l, respectively but was also detected from the background well (MW7) at 4.3 ug/l. The historical manufacturing operations further supports

that lead may have come from off-site sources. Further investigation is needed to delineate the extent of contaminated groundwater to the standards and remedial actions, if deemed necessary, need to be implemented.

AIR (INDOORS): The latest available groundwater data (from the samples collected in March 2006) showed that only tetrachloroethylene, among the VOCs analyzed, was detected marginally above the Class IIA Standard (1.0 ppb) but less than the 10^{-6} risk targeted groundwater concentration of 5.0 ppb as in EPA's draft Vapor Intrusion Guidance (Ref. 13). Furthermore, the building appears to be utilized primarily as storage but not for human occupancy. No potential for exposures via vapor intrusion exists.

SURFACE SOIL: Contaminated soils at and near the Former Evaporation Tank (Area M) and the Chromate Spill Cleanup Area (Area N) were reportedly excavated and sent off-site for disposal pursuant to the Administrative Consent Order issued by EPA in March 1985.

The Remedial Investigation Report (Ref. 4) showed that surface soil near Vault #2 (Area P-2) was contaminated with VOCs or BTEX and the extent of the contamination appeared localized. The level at S05 appeared significantly elevated and the levels at the other two appeared marginal. The January 1998 letter report (Ref. 7) showed that impacted soils surrounding the Vault were excavated and removed. Soils were further remediated via a soil vapor extraction/air sparging system. After the remediation, soil samples collected at depths ranging from 12 feet to 16 feet below grade showed no contaminants detected above the standards.

Since contaminated surface soils were excavated and removed, there is no potential for human exposure.

SURFACE WATER AND SEDIMENT: There is no observed or suspected release of contaminants to surface water or sediment. The permeability of the soil is so high that overland flow, except in established stream channels, seldom occurs even in the heaviest storms. The nearest surface water body (Ingersolls Branch) located 0.4 mile northeast of the facility is not expected to be impacted with contaminated groundwater, which appears to flow in a southeasterly direction. (Ref. 2)

SUBSURFACE SOIL:

The Former Evaporation Tank (Area M) including the liquid wastes and surrounding contaminated soils was reportedly excavated and removed and the excavated area was backfilled with clean soil/material to the ground surface. However, no documentation is available to confirm the excavation and removal and to confirm that it had achieved the standards for subsurface soil. Since contaminated surface soils were excavated and removed, there is no potential for human exposure to contaminants above the acceptable health risks.

The Chromate Spill Cleanup Area (Area N) was reportedly closed/cleaned up with excavation and removal of contaminated soils. However, no documentation is available to confirm that the closure/cleanup had achieved the standards for subsurface soil. Since contaminated surface soils were excavated and removed, there is no potential for human exposure to contaminants exceeding health based standards.

In the January 1998 letter report, the results of the post-remediation soil sampling confirmed that no contaminants were detected above the standards within and near Vault #2.

AIR (OUTDOORS): No potential for exposures via outdoor airs exists.

References:

(1) Letter from Ronald Schultz of Enviro-Science, Inc. to Thomas Sherman of NJDEP dated November 29, 1990.
(2) Final Draft Environmental Priority Initiative Preliminary Assessment Report, Universal Aluminum Extrusion Corporation, Pleasantville, Atlantic County, New Jersey, Dated September 30, 1992.
(3) Letter from Chris McCardell of Groundwater Technology to Richard Adler of NJDEP dated April 13, 1992
(4) Remedial Investigation Report, Former Universal Aluminum Industries, Inc. Facility, Deliliah Road & Canale Drive, Egg Harbor Township, New Jersey, Prepared by Environmental Strategies and Applications, Inc., Dated January 15, 1995.
(5) Remedial Action Workplan, Former Universal Aluminum Extrusion Facility, Delilah Road & Canale Drive, Egg Harbor Township, New Jersey, Dated January 15, 1995.
(6) Letter from Rose M. Sinclair of Environmental Risk Limited to Jon Malkin of NJDEP dated November 10, 1995.
(7) Letter report from Rose M. Sinclair of Environmental Risk Limited to Jon Malkin of NJDEP dated January 13, 1998.
(8) Facsimile from Brian Damstrom of Environmental Risk Limited to Jon Malkin of NJDEP dated September 15, 1999.
(9) Supplemental Remedial Investigation Workplan, Former Universal Aluminum Site, Egg Harbor Township, New Jersey, Dated April 22, 2002.
(10) Letter from Craig J. Huber of Archer & Greiner to Jon Malkin of NJDEP dated October 11, 2006
(11) Letter from Donna McBride of the Pinelands Commission of the State of New Jersey to Jon Malkin of NJDEP dated November 1, 2006.
(12) Letter from Craig J. Huber of Archer & Greiner to Jon Malkin of NJDEP dated March 6, 2007.
(13) OSWER Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway from Groundwater and Soils (Subsurface Vapor Intrusion Guidance) dated November 2002

3. Are there **complete pathways** between AContamination@ and human receptors such that exposures can be reasonably expected under the current (land- and groundwater-use) conditions?

Summary Exposure Pathway Evaluation Table
*Potential **Human Receptors** (Under Current Conditions)*

AContaminated@ Media	Residents	Workers	Day-Care	Construction	Trespasser	Recreation	Food[3]
Groundwater	- -	No	No	No	No	No	- -
~~Air (indoors)~~							
~~Surface Soil (e.g. < 2 ft)~~							
~~Surface Water~~							
~~Sediment~~							
Subsurface Soil (e.g., > 2ft)	No	No	No	- -	No	No	No
~~Air (outdoors)~~							

Instruction for Summary Exposure Pathway Evaluation Table:

1. Strike-out specific Media including Human Receptors= spaces for Media which are not Acontaminated@ as identified in #2 above.

2. Enter Ayes@ or Ano@ for potential Acompleteness@ under each AContaminated@Media C Human Receptor combination (Pathway).

Note: In order to focus the evaluation to the most probable combinations some potential AContaminated@ Media - Human Receptor combinations (Pathways) do not have check spaces. These spaces instead have dashes (A--@). While these combinations may not be probable in most situations they may be possible in some settings and should be added as necessary.

_X_ If no (pathways are not complete for any contaminated media-receptor combination) - skip to #6, and enter AYE@ status code, after explaining and/or referencing condition(s) in-place, whether natural or man-made, preventing a complete exposure pathway from each contaminated medium (e.g., use optional Pathway Evaluation Work Sheet to analyze major pathways).

____ If yes (pathways are complete for any AContaminated@ Media - Human Receptor combination) - continue after providing supporting explanation.

____ If unknown (for any AContaminated@ Media - Human Receptor combination) - skip to #6 and enter AIN@ status code

Rationale:

Groundwater: The September 1992 Draft Report (Ref. 1) indicated that approximately 10 wells were located within a two mile radius of the site. The nearest (municipal) drinking water well

[3] Indirect Pathway/Receptor (e.g., vegetables, fruits, crops, meat and dairy products, fish, shellfish, etc.)

was located approximately 1,000 feet north-northwest upgradient of the facility. Well log records reported that the depth of the well was 208 feet. The drilling log recorded the well to penetrate clay layers at 30 to 47 feet and 114 to 125 feet below the ground surface. Based upon the available data, 36' of screen was set above the base of the well below the clay layer. The well was capable of producing up to 700 gallons per minute (gpm). Based on the log and well screen, the yield was from the lower water bearing zone. No contamination of the well was reported.

A well formerly used to supply Universal Aluminum with water still exists on the site but is no longer in use. The construction records are not available but, based on the driller's recollection, it was more than 100 feet in depth. A clay layer exists at depth and groundwater samples collected from the well showed no detection of chromium (total and hexavalent).

The manufacturing operations ceased in 1988 and waste materials and manufacturing equipment were subsequently removed from the facility. Since 1992, the building has been leased for warehouse space. Subsequent to the 1992 Draft Report, all contaminated surface soils at the site were reportedly excavated and sent off-site for disposal. In addition, the Soil Venting/Sparging System was utilized in 1996 to remediate contaminated subsurface soils and groundwater. The Draft Report concluded (in Part IV - Hazard Assessment, Question 5) that no one obtained drinking water from wells that were documented or suspected to be located within the contamination boundary of the release.

Subsurface Soil: No documentation is available to confirm whether the closure/cleanup of the Former Evaporation Tank (Area M) and the Chromate Spill Cleanup Area (Area N) were completed. There is a possibility that any residual contaminants in subsoil in the Areas may be exposed to construction workers who may perform field works such as drilling bore holes or installing groundwater wells in the area. However, such potential can be adequately managed by requiring the workers to wear necessary protective gear.

References:

(1) Final Draft Environmental Priority Initiative Preliminary Assessment Report, Universal Aluminum Extrusion Corporation, Pleasantville, Atlantic County, New Jersey, Dated September 30, 1992.

4. Can the **exposures** from any of the complete pathways identified in #3 be reasonably expected to be **significant**[4] (i.e., potentially Aunacceptable@ because exposures can be reasonably expected to be: 1) greater in magnitude (intensity, frequency and/or duration) than assumed in the derivation of the acceptable Alevels@ (used to identify the Acontamination@); or 2) the combination of exposure magnitude (perhaps even though low) and contaminant concentrations (which may be substantially above the acceptable Alevels@) could result in greater than acceptable risks?

____ If no (exposures cannot be reasonably expected to be significant (i.e., potentially Aunacceptable@) for any complete exposure pathway) - skip to #6 and enter AYE@ status code after explaining and/or referencing documentation justifying why the exposures (from each of the complete pathways) to Acontamination@ (identified in #3) are not expected to be Asignificant.@

____ If yes (exposures could be reasonably expected to be Asignificant@ (i.e., potentially Aunacceptable@) for any complete exposure pathway) - continue after providing a description (of each potentially Aunacceptable@ exposure pathway) and explaining and/or referencing documentation justifying why the exposures (from each of the remaining complete pathways) to Acontamination@ (identified in #3) are not expected to be Asignificant.@

____ If unknown (for any complete pathway) - skip to #6 and enter AIN@ status code

Rationale:

This question is not applicable. See response to question #3.

[4] If there is any question on whether the identified exposures are Asignificant@ (i.e., potentially Aunacceptable@) consult a human health Risk Assessment specialist with appropriate education, training and experience.

5. Can the Asignificant@ **exposures** (identified in #4) be shown to be within acceptable limits?

____ If yes (all Asignificant@ exposures have been shown to be within acceptable limits) - continue and enter AYE@ after summarizing and referencing documentation justifying why all Asignificant@ exposures to Acontamination@ are within acceptable limits (e.g., a site-specific Human Health Risk Assessment).

____ If no (there are current exposures that can be reasonably expected to be Aunacceptable@)- continue and enter ANO@ status code after providing a description of each potentially Aunacceptable@ exposure.

____ If unknown (for any potentially Aunacceptable@ exposure) - continue and enter AIN@ status code

Rationale:

This question is not applicable. See response to question #3.

6. Check the appropriate RCRIS status codes for the Current Human Exposures Under Control EI event code (CA725), and obtain Supervisor (or appropriate Manager) signature and date on the EI determination below (and attach appropriate supporting documentation as well as a map of the facility):

_X_ YE - Yes, ACurrent Human Exposures Under Control@ has been verified. Based on a review of the information contained in this EI Determination, ACurrent Human Exposures@ are expected to be AUnder Control@ at the Universal Aluminum Extrusion Corporation facility, EPA ID# NJD046554655, located at 5 Canale Drive in Egg Harbor Township, New Jersey, under current and reasonably expected conditions. This determination will be re-evaluated when the Agency/State becomes aware of significant changes at the facility.

___ NO - ACurrent Human Exposures@ are NOT AUnder Control.@

___ IN - More information is needed to make a determination.

Completed by: _____ Date:_____

Andrew Park
RCRA Programs Branch
EPA Region 2

Reviewed by: _____ Date:_____

Barry Tornick, Section Chief
RCRA Programs Branch
EPA Region 2

Approved by: Original signed by: Date: 8/06/2007

Adolph Everett, Chief
RCRA Programs Branch
EPA Region 2

Locations where references may be found:

References reviewed to prepare this EI determination are identified after each response. Reference materials are available at the USEPA Region 2, RCRA Records Center, located at 290 Broadway, 15th Floor, New York, New York, and the New Jersey Department of Environmental Protection Office located at 401 East State Street, Records Center, 6th Floor, Trenton, New Jersey.

Contact telephone and e-mail numbers: Andrew Park, EPA
(212) 637-4184
park.andy@epa.gov

FINAL NOTE: THE HUMAN EXPOSURES EI IS A QUALITATIVE SCREENING OF EXPOSURES AND THE DETERMINATIONS WITHIN THIS DOCUMENT SHOULD NOT BE USED AS THE SOLE BASIS FOR RESTRICTING THE SCOPE OF MORE DETAILED (E.G., SITE-SPECIFIC) ASSESSMENTS OF RISK.

Attachments

The following attachments have been provided to support this EI determination.

- Attachment 1 - Summary of Media Impacts Table
- Attachment 2 - Site and AOC Map - available upon request
- Attachment 3 - Site and AOC Photographs

Attachment 1: Summary of Media Impacts Table

Area	GW	Air (Indoors)	Surf Soil	Surf Water	Sed	Sub Surf Soil	Air (Outdoors)	Corrective Action Measure	Key Contaminants
Area M	Yes	No	No	No	No	Yes	No	Contaminated soil reportedly excavated and removed off-site. Backfilled with Clean Soil/Material. Need to evaluate whether further engineering control or deed notice is necessary.	Chromium
Area N	Yes	No	No	No	No	Yes	No	Contaminated soil reportedly excavated and removed off-site. Backfilled with Clean Soil/Material. Need to evaluate whether further engineering control or deed notice is necessary.	Chromium
Area P-2	Yes	No	No	No	No	Yes	No	Excavation and off-site disposal of contaminated soils. Need to evaluate whether further engineering control or deed notice is necessary.	VOCs
Sitewide Groundwater	Yes	No	No	No	No	No	No	Monitoring Groundwater. Need to perform investigations to delineate the extent of contaminated groundwater & to implement appropriate corrective measures, if necessary. Need to evaluate whether a CEA is necessary.	Chromium, VOCs

Area A (Underground Storage Tanks), View to the Northwest

Areas B & C (Septic Systems # 1& 2) & Area E (Former Fiberglass Blanket Storage Area), View to the Northwest

Area A, View to the West

Area D (Septic System #3) & Vent

Area F (Former Dumpster/Pad Area), View to the Northeast

Area H (Former Compressor Blowdown Area), View to the Northwest

Area I (Former Empty Chromate Storage Area), View to the North

Area J (Hazardous Waste Drum Storage Pad), View to Northwest


Area K 9 (Concrete Storage Pad), View to the North

Area J, View to the North

Area K, View to Southwest

Area L (Non-Contact Cooling Water Recycling Tank), View to the South

Area M, View to the Southwest

Area M (Former Evaporation Tank), View to the South


Area M, View to Northwest

Area M, View to Northeast

Area N, Located behind the fence, View to the South

Area N (Chromate Spill Cleanup Area), Located behind the fence, View to the South

Area P-1 (Underground Concrete Vault #1), View to the Southwest

Area P-1, View to the Southeast

Area P-2 & Area G, View to the North

Area P-2 (Underground Concrete Vault #2) & Area G (Former Empty Solvent Drum Storage Area), View to the North

Area Q (1,750 Gallon Caustic Sludge Storage Tank), View to the Northwest

Production Building & Maintenance Shop, View to the Northwest

VOC Well past the Fence

Soil Venting/Sparging System - Piping

Soil Venting/Sparging System - Well

Soil Venting/Sparging System - Treatment Units & Piping (Housed in Area G)

Soil Venting/Sparging System - Treatment Units & Piping (House in Area G)

Former Plant Production Well, View to the Northeast

Former Plant Production Well