ASBESTOS, LIMITED LEAD BASED PAINT AND MISCELLANEOUS HAZARDOUS MATERIALS SURVEY

SEVERAL LOCATIONS INCLUDING SEVERAL DEBRIS PILES, BLOCK AND METAL BUILDINGS, COOLING TOWER, ASPHALT, BLAST WALLS, PIPE RACKS AND PIPE RUNS

TRONOX
8000 WEST LAKE MEAD PARKWAY, GATE 2
HENDERSON, NEVADA

Prepared for:

Northgate Environmental Management, Inc.
300 Frank H. Ogawa Plaza, Suite 510
Oakland, CA 94612

Converse Project No. 10-43153-01

April 26, 2010

Converse Consultants
Geotechnical Engineering, Environmental & Groundwater Science, Inspection & Testing Services

April 26, 2010 10-43153-01

Mr. James Hampton
Northgate Environmental Management, Inc.
300 Frank H. Ogawa Plaza, Suite 510
Oakland, CA 94612

Subject: **Asbestos, Limited Lead-Based Paint, and Miscellaneous Hazardous Materials Survey**
Several Locations Including Several Debris Piles, Block and Metal Buildings, Cooling Tower, Asphalt, Blast Walls, Pipe Racks and Pipe Runs
TRONOX
8000 West Lake Mead Parkway, Gate 2
Henderson, Nevada

Dear Mr. Hampton:

Converse Consultants (Converse) is pleased to submit the results of the Asbestos, Limited Lead Based Paint, and Miscellaneous Hazardous Materials Survey conducted at various locations at the TRONOX site located at 8000 West Lake Mead Parkway, Gate 2 in Henderson, Nevada. Based on our understanding of the project, our scope of services consisted of a visual inspection, bulk sample collection of suspect asbestos-containing materials (ACMs), collection of suspect lead based paint (LBP), laboratory analysis, identification of potentially mercury containing light bulbs and potentially polychlorinated biphenyl (PCB) containing light ballasts, and the generation of this report. The survey was performed in accordance with our proposal dated March 17, 2010 and your Master Subconsultant Agreement dated and signed April 21, 2010.

The suspect ACMs identified and sampled during the course of our investigation consisted of the following:

- Pipe insulation (various locations)
- Pipe wrap (east and west debris piles)

- Blast walls (around metal buildings)
- Gaskets (various locations on the site including debris piles)
- Black rubber material (east and west debris piles)
- Rubber coating materials (around base of above ground tanks (ASTs) and on concrete surfaces at various locations)
- Flooring of AST
- Common building materials throughout the structures including: drywall, drywall texture, drywall joint compound, ceiling tiles, ceramic floor tile, cove base, window putty, and roofing materials
- Asphalt (samples collected from various location at the site)
- Fire brick and grout (east and west debris pipes)

The investigation indicated the presence of ACMs. These materials consisted of:

- Black and Tan/Black Pipe wrap (located at west debris pile)
- Black Gasket material (located at the cooling tower)
- Window putty (located in small block building north of AP Shop)

The regulated asbestos containing materials (RACM) (e.g., pipe wrap and pipe wrap debris) must be removed by a Nevada licensed asbestos abatement contractor in order to comply with Federal, State, and County regulations. Though not required by law, the non-friable (NF) Category I materials (e.g., gasket(s)) and the NF-Category II (window putty) that will not become friable during demolition should be removed before demolition to avoid special procedures and training required by OSHA. If the ACMs are to be abated from the subject locations and building it would be necessary to perform a third party visual inspection after abatement but before the demolition to comply with Nevada Occupational Safety and Health Enforcement Section (OSHES) and Clark County Department of Air Quality and Environmental Management (CCDAQEM) regulations. Information regarding the ACM(s) identified and materials sampled is provided in the enclosed report.

The limited lead-based paint survey consisted of a visual survey, paint chip sample collection, laboratory analysis, and the preparation of this report. Fourteen painted chip samples were collected from various surfaces at various locations and buildings. Eleven of the fourteen samples contained concentrations of lead above the detection limit of

the analytical method used by the laboratory. The laboratory reported lead in the paint surfaces of metal buildings E-1, E-2, E-3 and E-6, exterior paint of small block building north of the AP shop, the exterior paint of the 25'x30' block building north of the pipe bridges, and the paint surfaces of the railroad depot. Three of the samples exceeded the EPA definition for lead-based paint of 5,000 parts per million (ppm). See *Section 2* of this report for details.

See *Section 3* for information on the potentially mercury containing light bulbs , potentially chlorofluorocarbon (CFC) and hydro-CFC (HCFC) (Freon) refrigerant containing air conditioning units, and the potentially PCB containing light ballasts found thoughout the structures assessed.

Thank you for the opportunity to be of service. Please do not hesitate to call our office should you have any questions or comments regarding our report.

Respectfully submitted,

CONVERSE CONSULTANTS

Dale Walsh, CIH, CSP, CEM
Certified Industrial Hygienist

FOR

DWW:JMW:ls

Asbestos, Limited Lead Paint, and Miscellaneous Hazardous Materials Survey

Contents

Section 1

Asbestos Survey

Contents

1.0 Survey

On March 29 & 30, 2010 and April 5, 2010, Converse Consultants (Converse) conducted a visual and sampling survey of various locations at the TRONOX site located at 8000 West Lake Mead Parkway, Gate 2 in Henderson, Nevada for the presence of asbestos-containing materials (ACMs). The survey was performed in accordance with our Proposal dated March 17, 2010 and your Master Subconsultant Agreement dated and signed April 21, 2010.

The purpose of this asbestos survey was to identify accessible friable and non-friable ACMs at the various locations and buildings.

According to the EPA's definition, friable asbestos is considered hazardous and refers to materials that can be crushed, pulverized, or reduced to powder by hand pressure when dry. Non-friable asbestos can be rendered friable by such actions as sanding, sawing, drilling, or breaking into pieces. This survey generally followed current EPA building inspection guidelines.

2.0 Credentials

John Watkins and Andy Kirk, both accredited and Nevada Licensed Asbestos Abatement Consultants (inspectors) performed the survey. Copies of the Inspectors' credentials are enclosed in Appendix A.

3.0 Methodology

Our visual survey was performed to classify each suspected building material by location and condition in order to establish homogeneous areas for bulk sample collection. Homogeneous areas refer to areas in which similar application, age, and appearance of building materials exist.

Following the visual portion of the survey, a total of eighty-two (82) bulk samples were collected from the various locations and areas representing the homogeneous use of suspect building materials in the buildings sampled. A summary of these samples is presented on the Laboratory Report in Appendix B.

In general, bulk samples were obtained by (1) adequately wetting the sample area with a water and surfactant mixture, and (2) placing bulk pieces of the building materials into labeled plastic bags. Where possible, bulk samples were obtained to the depth of the affected area. Bulk samples were transferred to an analytical laboratory with continuous chain-of-custody documentation.

4.0 Asbestos Bulk Sample Laboratory Testing

Samples were analyzed by Converse Consultants MR (CCMR) of Reno, Nevada. CCMR is accredited under the National Voluntary Laboratory Accreditation Program (NVLAP) for bulk asbestos analysis. Samples submitted for primary testing were analyzed by Polarized Light Microscopy (PLM). Laboratory analysis reports for these samples are enclosed in Appendix B.

5.0 Asbestos Survey Findings

Current State and Federal standards define an asbestos-containing material as *...any material containing asbestos in excess of one percent by weight.* It is noted that Federal and State OSHA regulates worker exposure to airborne asbestos fibers with Permissible Exposure Limits (PELs), and requires that, when disturbing materials containing asbestos, specific work practices and procedures shall be in accordance with 29 CFR 1926.1101. The State of Nevada Occupational Safety and Health Enforcement Section (OSHES) protects building occupants from airborne asbestos exposure and Clark County Department of Air Quality and Environmental Management (CCDAQEM) does not allow any visible airborne asbestos fiber generation.

Based on laboratory results and our survey, the following materials were found to contain in excess of one percent (>1%) asbestos by weight:

Table 1 – West Side Debris Pile – ACMs

Material Type	Material Location/Approx. Quantity	OSHA Class	EPA NESHAP Category	Demolition/Renovation Response	Material Condition
Black pipe wrap	West side debris pile. - Approx. 3,000 linear feet.	I	RACM	EPA-- Remove and notify (>240 linear feet) use control methods. OSHA-- Remove as Class I.	Poor

NESHAP = National Emission Standards for Hazardous Air Pollutants
RACM + Regulated Asbestos Containing Material
Contractor must verify all quantities

Table 2 – Small Block Building North of AP Shop – ACMs

Material Type	Material Location/Approx. Quantity	OSHA Class	EPA NESHAP Category	Demolition/Renovation Response	Material Condition
Window Putty	This material is located on the interior of three windows. Approx. 10 sq. ft.	II	NF-II	EPA—No action. OSHA—Demo using Class II methods.	Good

Sq ft = square feet
NESHAP = National Emission Standards for Hazardous Air Pollutants
Contractor must verify all quantities

Table 3 – Cooling Tower – ACMs

Material Type	Material Location/Approx. Quantity	OSHA Class	EPA NESHAP Category	Demolition/Renovation Response	Material Condition
Gaskets	This material is located on a pipe south of the tower. Approx. 4 sq. ft. Approx 8 gaskets	II	NF-II	EPA—No action. OSHA—Demo using Class II methods.	Good

Sq ft = square feet
NESHAP = National Emission Standards for Hazardous Air Pollutants
Contractor must verify all quantities

6.0 Conclusions and Recommendations

On the basis of the laboratory analysis and our survey, the materials in Tables 1, 2 and 3 were identified as ACMs. The window putty and gasket(s) are in good condition. The pipe wrap located on the west side debris pile was in poor condition with pipe wrap in the surrounding soil. The pipe wrap should be removed to a point where no visible debris remains prior to soil excavation. It is recommended that the window putty and gaskets be removed prior to demolition activities though they could legally remain in place, provided OSHA Class II procedures were used.

Regarding the removal of ACMs found at the subject site, the following steps are suggested to maintain regulatory compliance and minimize liability.

1. A qualified asbestos abatement contractor and workers licensed in the State of Nevada should perform any actions involving the removal of ACMs. Removal activities should conform to local, state, and federal laws, ordinances, and regulations.

2. A qualified asbestos abatement consultant licensed in the State of Nevada should be retained to assist in the design of the abatement project and to perform final visual inspection after the removal activities.

3. Prior to any renovation/demolition activities, notification of the governing agencies (i.e., Nevada OSHES, USEPA, and CCDAQEM) regulating the abatement of asbestos will be necessary.

If any non-friable ACMs remain in place during demolition activities (allowable per regulations but not suggested), the demolition contractor must comply with the Nevada Administration Code (NAC) 618.951 and OSHA Construction Industry Regulations 29 CFR 1926.1101. Among other things, these regulations require the demolition contractor employees to be properly trained and protected. In addition, air sampling is required to assess exposures.

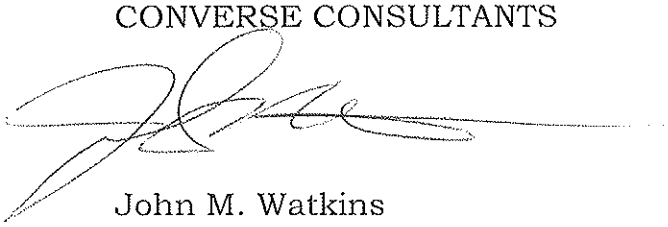
7.0 Closure and Limitations

This report is for the use of the Northgate Environmental Management, Inc. as it applies to the various locations at the subject site. This project was conducted using the current standard of care exercised by professionals practicing asbestos surveys. Converse is not responsible for any claims or damages associated with interpretation of available information. This assessment should not be regarded as a guarantee that no further asbestos, beyond that which was suspected to be present and sampled during our investigation, is present at the property. In addition, asbestos is usually not distributed uniformly throughout a material and Converse cannot guarantee that all areas sampled are exactly as represented throughout the entire facility. In the event that changes in the nature of the property occur, or additional relevant information about the property is brought to our attention, the recommendations contained in this assessment may not be valid unless these changes and additional relevant information are reviewed and the recommendations of this assessment are modified or verified in writing.

Thank you for the opportunity to be of service. Should you have any questions or comments regarding this report, or if you require further assistance, please do not hesitate to call our office.

Respectfully submitted,

CONVERSE CONSULTANTS



John M. Watkins
Project Geologist
NV License IPM - O199

JMW:ls

Encl: Appendices A, B, and C

Dist: 2/Addressee

STATE OF NEVADA
DEPARTMENT OF BUSINESS AND INDUSTRY
DIVISION OF INDUSTRIAL RELATIONS
OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION

ASBESTOS CONTROL PROGRAM

DATE 07/15/2009	LICENSE NO. IM-0926

THE ASBESTOS ABATEMENT CONSULTANT NAMED BELOW IS LICENSED UNDER THE PROVISIONS OF CHAPTER 618 OF N.R.S. AND N.A.C. THIS LICENSE EXPIRES ON 07/15/10

Andrew Kirk
Converse Consultants
731 Pilot Road #H
Las Vegas, NV 89119

DATE: 07/15/2009
LICENSE NO: IM-0926
INSPECTOR
PROJECT MONITOR

Andrew Kirk
Signature

[Wallet Card — Fold Here]

STATE OF NEVADA
DEPARTMENT OF BUSINESS AND INDUSTRY
DIVISION OF INDUSTRIAL RELATIONS
OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION

ASBESTOS ABATEMENT CONSULTANT
Andrew Kirk
Converse Consultants
HAS PAID THE FEE REQUIRED BY CHAPTER 618 OF N.A.C. 07/15/10

(NSPO Rev. 2-06) (O) 3656

STATE OF NEVADA
DEPARTMENT OF BUSINESS AND INDUSTRY
DIVISION OF INDUSTRIAL RELATIONS
OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION

ASBESTOS CONTROL PROGRAM

DATE 11/16/09	LICENSE NO. IPM-0199

THE ASBESTOS ABATEMENT CONSULTANT NAMED BELOW IS LICENSED UNDER THE PROVISIONS OF CHAPTER 618 OF N.R.S. AND N.A.C. THIS LICENSE EXPIRES ON 11/16/10

John M. Watkins
Converse Consultants
731 Pilot Road, Suite H
Las Vegas, NV 89119

DATE: 11/16/09
LICENSE NO: IPM-0199
INSPECTOR
PROJECT DESIGNER
PROJECT MONITOR

Signature

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STATE OF NEVADA
DEPARTMENT OF BUSINESS AND INDUSTRY
DIVISION OF INDUSTRIAL RELATIONS
OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION

ASBESTOS ABATEMENT CONSULTANT
John M. Watkins
Converse Consultants

HAS PAID THE FEE REQUIRED BY CHAPTER 618 OF N.A.C. 11/16/10

Converse Consultants
Geotechnical Engineering, Environmental & Groundwater Science, Inspection & Testing Services

POLARIZED LIGHT MICROSCOPY ANALYSIS REPORT

Client: CONVERSE CONSULTANTS
731 PILOT ROAD, SUITE H
LAS VEGAS, NEVADA 89119
Account: N/A
Contact: JOHN WATKINS
Project No.: 10-43153-01

Date Received: 03/31/10
Date Analyzed: 04/02/10
Date Reported: 04/02/10
Reported To: JOHN WATKINS
Submitted By: COURIER
Report No.: 71-181430
P. O. #: N/A

CALCINER BUILDING
TRONOX

I certify that these results are accurate for the samples obtained and comply with accepted methods of analysis.

Lab Manager, Dan R. Dolk

Analyst, Dan R. Dolk

RESULTS: LAB SAMPLE # LAB DESCRIPTION LOCATION	CLIENT SAMPLE #	PERCENT & TYPE OF ASBESTOS	PERCENT & TYPE OF NON-ASBESTOS	LAYER I-H APPEARANCE F-NF
181430 Grey Ceiling Tile Operations Building	CAL-CT-01	None Detected	30% Cellulose 55% Mineral Wool <1% Mineral Cleavages 5% Paint 10% Perlite	I F
181431 Grey Ceiling Tile Operations Building	CAL-CT-02	None Detected	25% Cellulose 60% Mineral Wool <1% Mineral Cleavages 5% Paint 10% Perlite	I F
181432 Grey Ceiling Tile Operations Building	CAL-CT-03	None Detected	25% Cellulose 60% Mineral Wool <1% Mineral Cleavages 5% Paint 10% Perlite	I F
181433A Cream Surfacing Operations Building	CAL-DW-04-A	None Detected	90% Carbonate Binders 5% Mineral Cleavages 5% Perlite	I NF
181433B Cream Joint Compound Operations Building	CAL-DW-04-B	None Detected	85% Carbonate Binders 10% Mineral Cleavages 5% Perlite	I NF
181433C White Drywall Operations Building	CAL-DW-04-C	None Detected	10% Cellulose <1% Glass Fibers 30% Gypsum 60% Mineral Cleavages	I F

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www.ConverseConsultants.com

RESULTS: LAB SAMPLE # LAB DESCRIPTION LOCATION	CLIENT SAMPLE #	PERCENT & TYPE OF ASBESTOS	PERCENT & TYPE OF NON-ASBESTOS	LAYER I-H APPEARANCE F-NF
181434A Cream Surfacing Operations Building	CAL-DW-05-A	None Detected	85% Carbonate Binders 10% Mineral Cleavages 5% Perlite	I NF
181434B White Drywall Operations Building	CAL-DW-05-B	None Detected	10% Cellulose 1% Glass Fibers 30% Gypsum 59% Mineral Cleavages	I F
181435 Grey Glazed Ceramic Tile Operations Building	CAL-CFT-06	None Detected	50% Binders 50% Mineral Cleavages	I NF
181436A Grey Basecove Operations Building	CAL-CB-07-A	None Detected	50% Carbonate Binders 40% Organic Binders 10% Mineral Cleavages	I NF
181436B Clear Yellow Mastic Operations Building	CAL-CB-07-B	None Detected	1% Cellulose 2% Carbonate Binders 95% Organic Binders 3% Mineral Cleavages	I F

Attached are the results of analysis of bulk samples submitted for asbestos identification. Converse Consultants follows EPA Method EPA/600/R-93/116; July 1993.

Each sample was initially examined under a stereoscopic microscopic at a magnification of 10x to 60x. Fibrous material was examined for morphology and content. Portions of each sample were immersed in a fluid with a known refractive index. The sample was examined under polarized light using a Nikon Labophot microscope with a McCrone Dispersion Staining objective under 100X magnification. Optical characteristics of the fibrous material were examined to determine the mineralogy of the fiber. The observed optical characteristics include angles of extinction, signs of elongation and dispersion staining colors. Asbestos fiber content is estimated by optically comparing the quantity of asbestos material and non-asbestos material to establish estimated percentages. Per the method, samples with distinct layers or inhomogenous character have each layer analyzed separately and reported as individual layers. (I – Inhomogeneous, H – Homogeneous, F – Fibrous, NF – Non-Fibrous)

Bulk sampling may not have been performed by Converse Consultants personnel. No warranty is made as to the acceptability of sampling strategies.

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Converse Consultants
Geotechnical Engineering, Environmental & Groundwater Science, Inspection & Testing Services

POLARIZED LIGHT MICROSCOPY ANALYSIS REPORT

Client: CONVERSE CONSULTANTS
731 PILOT ROAD, SUITE H
LAS VEGAS, NEVADA 89119
Account: N/A
Contact: JOHN WATKINS
Project No.: 10-43153-01

Date Received: 03/31/10
Date Analyzed: 03/31/10
Date Reported: 03/31/10
Reported To: JOHN WATKINS
Submitted By: COURIER
Report No.: 71-181392
P. O. #: N/A

SMALL BLOCK BUILDING
NORTH OF AP SHOP
TRONOX

I certify that these results are accurate for the samples obtained and comply with accepted methods of analysis.

Lab Manager, Dan R. Dolk

Analyst, Dan R. Dolk

RESULTS: LAB SAMPLE # LAB DESCRIPTION LOCATION	CLIENT SAMPLE #	PERCENT & TYPE OF ASBESTOS	PERCENT & TYPE OF NON-ASBESTOS	LAYER I-H APPEARANCE F-NF
181392 Grey Window Putty Interior on Windows	SBB-WP-01	>1-3% Chrysotile	75% Carbonate Binders 15% Organic Binders 7% Mineral Cleavages	I F
181393A Black Roofing Roof	SBB-RM-02-A	None Detected	5% Cellulose 30% Mineral Wool 55% Organic Binders 10% Mineral Cleavages	I F
181393B Black Roofing Roof	SBB-RM-02-B	None Detected	25% Cellulose 5% Mineral Wool 60% Organic Binders 10% Mineral Cleavages	I F
181393C Black Roofing Roof	SBB-RM-02-C	None Detected	60% Cellulose 5% Animal Fiber 30% Organic Binders 5% Mineral Cleavages	I F
181393D Black Roofing Roof	SBB-RM-02-D	None Detected	75% Cellulose <1% Animal Fiber 20% Organic Binders 5% Mineral Cleavages	I F
181393E Black Roofing Roof	SBB-RM-02-E	None Detected	5% Cellulose 70% Organic Binders 25% Mineral Cleavages	I F

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RESULTS: LAB SAMPLE # LAB DESCRIPTION LOCATION	CLIENT SAMPLE #	PERCENT & TYPE OF ASBESTOS	PERCENT & TYPE OF NON-ASBESTOS	LAYER I-H APPEARANCE F-NF
181393F Black Roofing Roof	SBB-RM-02-F	None Detected	75% Cellulose <1% Animal Fiber 20% Organic Binders 5% Mineral Cleavages	I F
181393G Black Roofing Roof	SBB-RM-02-G	None Detected	70% Cellulose <1% Animal Fiber 25% Organic Binders 5% Mineral Cleavages	I F
181393H Black Roofing Roof	SBB-RM-02-H	None Detected	60% Cellulose 35% Organic Binders 5% Mineral Cleavages	I F
181393I Black Roofing Roof	SBB-RM-02-I	None Detected	15% Cellulose 5% Animal Fiber 75% Organic Binders 5% Mineral Cleavages	I F

Attached are the results of analysis of bulk samples submitted for asbestos identification. Converse Consultants follows EPA Method EPA/600/R-93/116; July 1993.

Each sample was initially examined under a stereoscopic microscopic at a magnification of 10x to 60x. Fibrous material was examined for morphology and content. Portions of each sample were immersed in a fluid with a known refractive index. The sample was examined under polarized light using a Nikon Labophot microscope with a McCrone Dispersion Staining objective under 100X magnification. Optical characteristics of the fibrous material were examined to determine the mineralogy of the fiber. The observed optical characteristics include angles of extinction, signs of elongation and dispersion staining colors. Asbestos fiber content is estimated by optically comparing the quantity of asbestos material and non-asbestos material to establish estimated percentages. Per the method, samples with distinct layers or inhomogenous character have each layer analyzed separately and reported as individual layers. (I – Inhomogeneous, H – Homogeneous, F – Fibrous, NF – Non-Fibrous)

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Converse Consultants
Geotechnical Engineering, Environmental & Groundwater Science, Inspection & Testing Services

POLARIZED LIGHT MICROSCOPY ANALYSIS REPORT

Client: CONVERSE CONSULTANTS
731 PILOT ROAD, SUITE H
LAS VEGAS, NEVADA 89119
Account: N/A
Contact: JOHN WATKINS
Project No.: 10-43153-01

Date Received: 03/31/10
Date Analyzed: 04/02/10
Date Reported: 04/02/10
Reported To: JOHN WATKINS
Submitted By: COURIER
Report No.: 71-181453
P. O. #: N/A

SMALL BLOCK BUILDING
NEXT TO EAST PIPE BRIDGE
TRONOX

I certiiy that these results are accurate for the samples obtained and compiy with accepted methods of analysis.

Lab Manager, Dan R. Dolk

Analyst, Dan R. Dolk

RESULTS: LAB SAMPLE # LAB DESCRIPTION LOCATION	CLIENT SAMPLE #	PERCENT & TYPE OF ASBESTOS	PERCENT & TYPE OF NON-ASBESTOS	LAYER I-H APPEARANCE F-NF
181453 Painted Drywall Small Block Building Next to East Pipe Bridge	B-DW-01	None Detected	10% Cellulose <1% Glass Fibers 30% Gypsum 55% Mineral Cleavages 5% Paint	I F
181454 Painted Drywall Small Block Building Next to East Pipe Bridge	B-DW-02	None Detected	10% Cellulose <1% Glass Fibers 30% Gypsum 55% Mineral Cleavages 5% Paint	I F
181455A Brown Tile Small Block Building Next to East Pipe Bridge	B-CFT-03-A	None Detected	50% Binders 50% Mineral Cleavages	I NF
181455B Grey Grout Small Block Building Next to East Pipe Bridge	B-CFT-03-B	None Detected	30% Sulfate Binders 70% Mineral Cleavages	I NF

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Attached are the results of analysis of bulk samples submitted for asbestos identification. Converse Consultants follows EPA Method EPA/600/R-93/116; July 1993.

Each sample was initially examined under a stereoscopic microscopic at a magnification of 10x to 60x. Fibrous material was examined for morphology and content. Portions of each sample were immersed in a fluid with a known refractive index. The sample was examined under polarized light using a Nikon Labophot microscope with a McCrone Dispersion Staining objective under 100X magnification. Optical characteristics of the fibrous material were examined to determine the mineralogy of the fiber. The observed optical characteristics include angles of extinction, signs of elongation and dispersion staining colors. Asbestos fiber content is estimated by optically comparing the quantity of asbestos material and non-asbestos material to establish estimated percentages. Per the method, samples with distinct layers or inhomogenous character have each layer analyzed separately and reported as individual layers. (I – Inhomogeneous, H – Homogeneous, F – Fibrous, NF – Non-Fibrous)

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Converse Consultants
Geotechnical Engineering, Environmental & Groundwater Science, Inspection & Testing Services

POLARIZED LIGHT MICROSCOPY ANALYSIS REPORT

Client: CONVERSE CONSULTANTS
731 PILOT ROAD, SUITE H
LAS VEGAS, NEVADA 89119
Account: N/A
Contact: JOHN WATKINS
Project No.: 10-43153-01

Date Received: 03/31/10
Date Analyzed: 04/02/10
Date Reported: 04/02/10
Reported To: JOHN WATKINS
Submitted By: COURIER
Report No.: 71-181456
P. O. #: N/A

EAST PIPE BRIDGE AP AREA
TRONOX

I certify that these results are accurate for the samples obtained and comply with accepted methods of analysis.

Lab Manager, Dan R. Dolk

Analyst, Dan R. Dolk

RESULTS: LAB SAMPLE # LAB DESCRIPTION LOCATION	CLIENT SAMPLE #	PERCENT & TYPE OF ASBESTOS	PERCENT & TYPE OF NON-ASBESTOS	LAYER I-H APPEARANCE F-NF
181456 Cream Yellow Insulation North Side of Bridge from Pipe	EPB-PI-01	None Detected	5% Cellulose 5% Glass Fibers 5% Synthetic Fibers 35% Sulfate Binders 50% Mineral Cleavages	I F
181457 Cream Yellow Insulation South Side of Bridge from Pipe	EPB-PI-02	None Detected	5% Cellulose 15% Synthetic Fibers 35% Sulfate Binders 45% Mineral Cleavages	I F
181458 Cream Orange Insulation North Side of Bridge from Pipe	EPB-PI-03	None Detected	5% Glass Fibers 10% Synthetic Fibers 30% Sulfate Binders 55% Mineral Cleavages	I F
181459 Black Gasket South Side of Bridge from Pipe	EPB-G-04	None Detected	70% Organic Binders 10% Mineral Cleavages 20% Paint	I NF
181460 Grey Coating North Side at Base of Steel Columns	EPB-CC-05	None Detected	60% Organic Binders 15% Mineral Cleavages 25% Pigment	I NF

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www.ConverseConsultants.com

Attached are the results of analysis of bulk samples submitted for asbestos identification. Converse Consultants follows EPA Method EPA/600/R-93/116; July 1993.

Each sample was initially examined under a stereoscopic microscopic at a magnification of 10x to 60x. Fibrous material was examined for morphology and content. Portions of each sample were immersed in a fluid with a known refractive index. The sample was examined under polarized light using a Nikon Labophot microscope with a McCrone Dispersion Staining objective under 100X magnification. Optical characteristics of the fibrous material were examined to determine the mineralogy of the fiber. The observed optical characteristics include angles of extinction, signs of elongation and dispersion staining colors. Asbestos fiber content is estimated by optically comparing the quantity of asbestos material and non-asbestos material to establish estimated percentages. Per the method, samples with distinct layers or inhomogenous character have each layer analyzed separately and reported as individual layers. (I – Inhomogeneous, H – Homogeneous, F – Fibrous, NF – Non-Fibrous)

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Converse Consultants
Geotechnical Engineering, Environmental & Groundwater Science, Inspection & Testing Services

POLARIZED LIGHT MICROSCOPY ANALYSIS REPORT

Client: CONVERSE CONSULTANTS
731 PILOT ROAD, SUITE H
LAS VEGAS, NEVADA 89119
Account: N/A
Contact: JOHN WATKINS
Project No.: 10-43153-01

Date Received: 04/20/10
Date Analyzed: 04/21/10
Date Reported: 04/21/10
Reported To: JOHN WATKINS
Submitted By: COURIER
Report No.: 71-182022
P. O. #: N/A

SMALL BLOCK BUILDING NEAR WEST PIPE BRIDGE
TRONOX

I certify that these results are accurate for the samples obtained and comply with accepted methods of analysis.

Lab Manager, Dan R. Dolk

Analyst, Dan R. Dolk

RESULTS: LAB SAMPLE # LAB DESCRIPTION LOCATION	CLIENT SAMPLE #	PERCENT & TYPE OF ASBESTOS	PERCENT & TYPE OF NON-ASBESTOS	LAYER I-H APPEARANCE F-NF
182022 Grey Exterior Panel Small Block Building Next to West Pipe Bridge and North Side of Road Panels on North Side of Building	B-EP-01	None Detected	15% Cellulose 10% Synthetic Fibers 45% Sulfate Binders 30% Mineral Cleavages	I F
182023 Grey Exterior Panel Small Block Building Next to West Pipe Bridge and North Side of Road Panels on North Side of Building	B-EP-02	None Detected	10% Cellulose 10% Synthetic Fibers 50% Sulfate Binders 30% Mineral Cleavages	I F
182024 Grey Exterior Panel Small Block Building Next to West Pipe Bridge and North Side of Road Panels on North Side of Building	B-EP-03	None Detected	10% Cellulose 15% Synthetic Fibers 45% Sulfate Binders 30% Mineral Cleavages	I F

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Account: N/A
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Project No.: 10-43153-01

Date Received: 03/31/10
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Reported To: JOHN WATKINS
Submitted By: COURIER
Report No.: 71-181386
P. O. #: N/A

WEST BRIDGE AP AREA
TRONOX

I certify that these results are accurate for the samples obtained and comply with accepted methods of analysis.

Lab Manager, Dan R. Dolk

Analyst, Dan R. Dolk

RESULTS: LAB SAMPLE # LAB DESCRIPTION LOCATION	CLIENT SAMPLE #	PERCENT & TYPE OF ASBESTOS	PERCENT & TYPE OF NON-ASBESTOS	LAYER I-H APPEARANCE F-NF
181386A Grey Pipe Cover West Bridge, Near AP Area	WPB-PI-01-A	None Detected	40% Glass Fibers 50% Organic Binders 10% Mineral Cleavages	I F
181386B White Insulation West Bridge, Near AP Area	WPB-PI-01-B	None Detected	<1% Glass Fibers 30% Binders 70% Perlite	I F
181387 Yellow Pipe Insulation West Bridge, Near AP Area	WPB-PI-02	None Detected	10% Cellulose 5% Glass Fibers 45% Binders 40% Mineral Cleavages	I F
181388 Blue Coating West Bridge, On Concrete at Base	WPB-CC-03	None Detected	<1% Cellulose <1% Glass Fibers 10% Carbonate Binders 65% Organic Binders 25% Mineral Cleavages	I F
181389 Black Gasket West Bridge, From Pipe at Top of Tower in AP Area	WPB-G-04	None Detected	<1% Cellulose <1% Glass Fibers 5% Wollastonite 55% Organic Binders 15% Mineral Cleavages 25% Pigment	I F
181390 Black Gasket West Bridge, From Tank South of Bridge	WPB-G-05	None Detected	10% Carbonate Binders 60% Organic Binders 10% Mineral Cleavages 20% Pigment	I NF

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RESULTS: LAB SAMPLE # LAB DESCRIPTION LOCATION	CLIENT SAMPLE #	PERCENT & TYPE OF ASBESTOS	PERCENT & TYPE OF NON-ASBESTOS	LAYER I-H APPEARANCE F-NF
181391A Grey Coating West Bridge, From Wall East of Small Tank in AP Area	WPB-CC-06-A	None Detected	75% Organic Binders 25% Pigment	I NF
181391B Black Coating West Bridge, From Wall East of Small Tank in AP Area	WPB-CC-06-B	None Detected	60% Organic Binders 10% Mineral Cleavages 30% Pigment	I NF

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POLARIZED LIGHT MICROSCOPY ANALYSIS REPORT

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731 PILOT ROAD, SUITE H
LAS VEGAS, NEVADA 89119
Account: N/A
Contact: JOHN WATKINS
Project No.: 10-43153-01

Date Received: 03/31/10
Date Analyzed: 04/01/10
Date Reported: 04/01/10
Reported To: JOHN WATKINS
Submitted By: COURIER
Report No.: 71-181412
P. O. #: N/A

AP MIXING TOWER
TRONOX

I certify that these results are accurate for the samples obtained and comply with accepted methods of analysis.

Lab Manager, Dan R. Dolk

Analyst, Dan R. Dolk

RESULTS: LAB SAMPLE # LAB DESCRIPTION LOCATION	CLIENT SAMPLE #	PERCENT & TYPE OF ASBESTOS	PERCENT & TYPE OF NON-ASBESTOS	LAYER I-H APPEARANCE F-NF
181412 White Pipe Insulation AP Mixing Tower	APM-PI-01	None Detected	15% Synthetic Fibers 60% Carbonate Binders 25% Mineral Cleavages	I F
181413 Cream Pipe Insulation AP Mixing Tower	APM-PI-02	None Detected	<1% Glass Fibers 15% Synthetic Fibers 30% Carbonate Binders 55% Mineral Cleavages	I F
181414 Cream Pipe Insulation AP Mixing Tower	APM-PI-03	None Detected	10% Cellulose 35% Binders 55% Mineral Cleavages	I F
181415 Orange Conveyer Belt AP Mixing Tower	APM-CB-04	None Detected	25% Synthetic Fibers 50% Organic Binders 25% Mineral Cleavages	I F

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POLARIZED LIGHT MICROSCOPY ANALYSIS REPORT

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LAS VEGAS, NEVADA 89119
Account: N/A
Contact: JOHN WATKINS
Project No.: 10-43153-01

Date Received: 03/31/10
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Date Reported: 04/01/10
Reported To: JOHN WATKINS
Submitted By: COURIER
Report No.: 71-181397
P. O. #: N/A

AP AREA 2 ASTs NORTH
TRONOX

I certify that these results are accurate for the samples obtained and comply with accepted methods of analysis.

Lab Manager, Dan R. Dolk

Analyst, Dan R. Dolk

RESULTS: LAB SAMPLE # LAB DESCRIPTION LOCATION	CLIENT SAMPLE #	PERCENT & TYPE OF ASBESTOS	PERCENT & TYPE OF NON-ASBESTOS	LAYER I-H APPEARANCE F-NF
181397 Grey Gasket East Tank, North Side	T-G-01	None Detected	55% Synthetic Fibers 30% Organic Binders 15% Mineral Cleavages	I F
181398 Blue/Grey Coating Base of Tanks	T-CC-02	None Detected	70% Binders 30% Mineral Cleavages	I NF
181399 Grey Flooring West Tank from Floor of Tank	T-FM-03	None Detected	15% Ceramic 55% Organic Binders 30% Mineral Cleavages	I F

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LAS VEGAS, NEVADA 89119
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Contact: JOHN WATKINS
Project No.: 10-43153-01

Date Received: 03/31/10
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Reported To: JOHN WATKINS
Submitted By: COURIER
Report No.: 71-181394
P. O. #: N/A

ASPHALT SAMPLES
TRONOX

I certify that these results are accurate for the samples obtained and comply with accepted methods of analysis.

Lab Manager, Dan R. Dolk

Analyst, Dan R. Dolk

RESULTS: LAB SAMPLE # LAB DESCRIPTION LOCATION	CLIENT SAMPLE #	PERCENT & TYPE OF ASBESTOS	PERCENT & TYPE OF NON-ASBESTOS	LAYER I-H APPEARANCE F-NF
181394 Black Asphalt North of Metal Building E-1	MB1-A-01	None Detected	40% Organic Binders 60% Mineral Cleavages	I NF
181395 Black Asphalt Asphalt Near AP Buildings	AP-A-02	None Detected	30% Organic Binders 70% Mineral Cleavages	I NF
181396 Black Asphalt Asphalt Near AP Buildings	AP-A-03	None Detected	20% Organic Binders 80% Mineral Cleavages	I NF

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Account: N/A
Contact: JOHN WATKINS
Project No.: 10-43153-01

Date Received: 04/06/10
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Date Reported: 04/06/10
Reported To: JOHN WATKINS
Submitted By: COURIER
Report No.: 71-181703
P. O. #: N/A

COOLING TOWER
TRONOX

I certify that these results are accurate for the samples obtained and comply with accepted methods of analysis.

Lab Manager, Dan R. Dolk

Analyst, Dan R. Dolk

RESULTS: LAB SAMPLE # LAB DESCRIPTION LOCATION	CLIENT SAMPLE #	PERCENT & TYPE OF ASBESTOS	PERCENT & TYPE OF NON-ASBESTOS	LAYER I-H APPEARANCE F-NF
181703 Black Insulation Cooling Tower Pipe Along West Side	CT-PI-01	None Detected	<1% Cellulose 100% Glass <1% Mineral Cleavages	I F
181704 Black Gasket Cooling Tower from Pipe South of Tower	CT-G-02	>1-3% Chrysotile	87% Organic Binders 10% Pigment	I F
181705 Black Gasket Cooling Tower from Pipe South of Tower	CT-G-03	None Detected	85% Organic Binders 15% Pigment	I NF
181706 Black Gasket Cooling Tower from Pipe South of Tower	CT-G-04	None Detected	3% Cellulose 82% Organic Binders 15% Pigment	I F
181707 Black Gasket Cooling Tower from Pipe on Upper Level of Tower	CT-G-05	None Detected	1% Cellulose 2% Synthetic Fibers 82% Organic Binders 15% Pigment	I F

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Date Analyzed: 04/06/10
Date Reported: 04/06/10
Reported To: JOHN WATKINS
Submitted By: COURIER
Report No.: 71-181701
P. O. #: N/A

BLOCK ENCLOSURE WEST OF
COOLING TOWER
TRONOX

I certify that these results are accurate for the samples obtained and comply with accepted methods of analysis.

Lab Manager, Dan R. Dolk

Analyst, Dan R. Dolk

RESULTS: LAB SAMPLE # LAB DESCRIPTION LOCATION	CLIENT SAMPLE #	PERCENT & TYPE OF ASBESTOS	PERCENT & TYPE OF NON-ASBESTOS	LAYER I-H APPEARANCE F-NF
181701 Black Asphalt North in Front of the Block Enclosure	BBE-A-01	None Detected	<1% Cellulose 10% Organic Binders 90% Mineral Cleavages	I F
181702A Grey Cinder Block Block Enclosure	BBE-BW-02-A	None Detected	<1% Cellulose 40% Sulfate Binders 60% Mineral Cleavages	I F
181702B Grey Mortar Block Enclosure	BBE-BW-02-B	None Detected	<1% Cellulose 40% Sulfate Binders 60% Mineral Cleavages	I F

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Contact: JOHN WATKINS
Project No.: 10-43153-01

Date Received: 03/31/10
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Reported To: JOHN WATKINS
Submitted By: COURIER
Report No.: 71-181416
P. O. #: N/A

DEBRIS PIPE WEST SIDE
TRONOX

I certify that these results are accurate for the samples obtained and comply with accepted methods of analysis.

Lab Manager, Dan R. Dolk

Analyst, Dan R. Dolk

RESULTS: LAB SAMPLE # LAB DESCRIPTION LOCATION	CLIENT SAMPLE #	PERCENT & TYPE OF ASBESTOS	PERCENT & TYPE OF NON-ASBESTOS	LAYER I-H APPEARANCE F-NF
181416 Black Tar Gasket On Large Concrete Blocks	WDP-G-01	None Detected	<1% Cellulose 95% Organic Binders 5% Mineral Cleavages	I F
181417 Black Tar On Large Concrete Blocks	WDP-G-02	None Detected	<1% Cellulose 80% Organic Binders 20% Mineral Cleavages	I F
181418 Black Pipe Wrap Pipes on Side of Hill	WDP-PW-03	40-50% Chrysotile	<1% Cellulose 45% Organic Binders 5% Mineral Cleavages	I F
181419 Tan/Black Pipe Wrap Pipes on Side of Hill	WDP-PW-04	60-70% Chrysotile	20% Organic Binders 10% Mineral Cleavages	I F
181420 Dark Cream Firebrick Top of Hill East of Debris Pile	WDP-FB-05	None Detected	50% Binders 50% Mineral Cleavages	I NF
181421 Red Firebrick Top of Hill East of Debris Pile	WDP-FB-06	None Detected	50% Binders 50% Mineral Cleavages	I NF
181422 Grey Cementitious West Side Debris Pile	WDP-BG-07	None Detected	35% Sulfate Binders 30% Aggregate 35% Mineral Cleavages	I NF
181423 Grey Cementitious West Side Debris Pile	WDP-BG-08	None Detected	40% Sulfate Binders 20% Aggregate 40% Mineral Cleavages	I NF

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Project No.: 10-43153-01

Date Received: 03/31/10
Date Analyzed: 04/01/10
Date Reported: 04/01/10
Reported To: JOHN WATKINS
Submitted By: COURIER
Report No.: 71-181400
P. O. #: N/A

EAST SIDE DEBRIS PILE
TRONOX

I certify that these results are accurate for the samples obtained and comply with accepted methods of analysis.

Lab Manager, Dan R. Dolk

Analyst, Dan R. Dolk

RESULTS: LAB SAMPLE # LAB DESCRIPTION LOCATION	CLIENT SAMPLE #	PERCENT & TYPE OF ASBESTOS	PERCENT & TYPE OF NON-ASBESTOS	LAYER I-H APPEARANCE F-NF
181400 Cream Debris East Side Debris Pile	DP-D-01	None Detected	35% Binders 20% Aggregate 45% Mineral Cleavages	I NF
181401 Cream/Black Debris East Side Debris Pile	DP-D-02	None Detected	70% Glass Fibers 20% Organic Binders 10% Mineral Cleavages	I F
181402A Red Fire Brick East Side Debris Pile	DP-FB-03-A	None Detected	50% Binders 50% Mineral Cleavages	I NF
181402B Black Grout East Side Debris Pile	DP-FB-03-B	None Detected	75% Binders 25% Mineral Cleavages	I NF
181403 Black Grout East Side Debris Pile	DP-FBG-04	None Detected	<1% Cellulose 50% Binders 50% Mineral Cleavages	I F
181404 Black Grout East Side Debris Pile	DP-FBG-05	None Detected	40% Binders 60% Mineral Cleavages	I NF
181405 Black Asphalt East Side Debris Pile	DP-A-06	None Detected	10% Organic Binders 80% Aggregate 10% Mineral Cleavages	I NF
181406 Cream Metal Leachant East Side Debris Pile	DP-X-07	None Detected	25% Binders 75% Mineral Cleavages 5% Perlite	I NF
181407 Black Filtering Material East Side Debris Pile	DP-X-08	None Detected	75% Wollastonite 25% Binders	I F

4840 Mill Street, Suite 5
Reno, Nevada 89502
Telephone (775) 856-3833 ◆ Fax (775) 856-3513

4708 Roseville Road, Suite 114
North Highlands, California 95660
Telephone (916) 331-5444 ◆ Fax (916) 331-6444

www.ConverseConsultants.com

RESULTS: LAB SAMPLE # LAB DESCRIPTION LOCATION	CLIENT SAMPLE #	PERCENT & TYPE OF ASBESTOS	PERCENT & TYPE OF NON-ASBESTOS	LAYER I-H APPEARANCE F-NF
181408 Grey Cream Coating East Side Debris Pile Located on Concrete Blocks	DP-XX-09	None Detected	40% Binders 60% Mineral Cleavages	I NF
181409 Black Tar East Side Debris Pile on Pipes	DP-PI-10	None Detected	<1% Cellulose 95% Organic Binders 5% Mineral Cleavages	I F
181410 Black Tar East Side Debris Pile on Pipes	DP-PI-11	None Detected	85% Organic Binders 15% Mineral Cleavages	I NF
181411 Black Asphalt East Side Debris Pile	DP-A-12	None Detected	20% Organic Binders 60% Aggregate 20% Mineral Cleavages	I NF

Attached are the results of analysis of bulk samples submitted for asbestos identification. Converse Consultants follows EPA Method EPA/600/R-93/116; July 1993.

Each sample was initially examined under a stereoscopic microscopic at a magnification of 10x to 60x. Fibrous material was examined for morphology and content. Portions of each sample were immersed in a fluid with a known refractive index. The sample was examined under polarized light using a Nikon Labophot microscope with a McCrone Dispersion Staining objective under 100X magnification. Optical characteristics of the fibrous material were examined to determine the mineralogy of the fiber. The observed optical characteristics include angles of extinction, signs of elongation and dispersion staining colors. Asbestos fiber content is estimated by optically comparing the quantity of asbestos material and non-asbestos material to establish estimated percentages. Per the method, samples with distinct layers or inhomogenous character have each layer analyzed separately and reported as individual layers. (I – Inhomogeneous, H – Homogeneous, F – Fibrous, NF – Non-Fibrous)

Bulk sampling may not have been performed by Converse Consultants personnel. No warranty is made as to the acceptability of sampling strategies.

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Converse Consultants
Geotechnical Engineering, Environmental & Groundwater Science, Inspection & Testing Services

POLARIZED LIGHT MICROSCOPY ANALYSIS REPORT

Client: CONVERSE CONSULTANTS
731 PILOT ROAD, SUITE H
LAS VEGAS, NEVADA 89119
Account: N/A
Contact: JOHN WATKINS
Project No.: 10-43153-01

Date Received: 03/31/10
Date Analyzed: 04/02/10
Date Reported: 04/02/10
Reported To: JOHN WATKINS
Submitted By: COURIER
Report No.: 71-181424
P. O. #: N/A

DEBRIS PIPE NORTH OF STEAM PLANT
TRONOX

I certify that these results are accurate for the samples obtained and comply with accepted methods of analysis.

Lab Manager, Dan R. Dolk

Analyst, Dan R. Dolk

RESULTS: LAB SAMPLE # LAB DESCRIPTION LOCATION	CLIENT SAMPLE #	PERCENT & TYPE OF ASBESTOS	PERCENT & TYPE OF NON-ASBESTOS	LAYER I-H APPEARANCE F-NF
181424 Cream Debris Debris Pile North of Steam Plant	CDP-D-01	None Detected	30% Sulfate Binders 30% Gypsum 40% Mineral Cleavages	I NF
181425 Black Rubber Debris Pile North of Steam Plant	CDP-RM-02	None Detected	65% Organic Binders 10% Mineral Cleavages 25% Pigment	I NF
181426 Yellow Cream Pipe Insulation Debris Pile North of Steam Plant	CDP-PI-03	None Detected	10% Cellulose 5% Glass Fibers 35% Sulfate Binders 50% Mineral Cleavages	I F
181427 Grey Ceramic Board Debris Pile North of Steam Plant	CDP-CM-04	None Detected	50% Binders 50% Mineral Cleavages	I NF
181428 Grey Debris Debris Pile North of Steam Plant	CDP-CM-05	None Detected	50% Binders 50% Mineral Cleavages	I NF
181429 Turquoise/Grey Coating AST Next to Debris Pile North of Steam Plant	CDP-CM-06	None Detected	5% Cellulose 60% Organic Binders 35% Mineral Cleavages	I F

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Attached are the results of analysis of bulk samples submitted for asbestos identification. Converse Consultants follows EPA Method EPA/600/R-93/116; July 1993.

Each sample was initially examined under a stereoscopic microscopic at a magnification of 10x to 60x. Fibrous material was examined for morphology and content. Portions of each sample were immersed in a fluid with a known refractive index. The sample was examined under polarized light using a Nikon Labophot microscope with a McCrone Dispersion Staining objective under 100X magnification. Optical characteristics of the fibrous material were examined to determine the mineralogy of the fiber. The observed optical characteristics include angles of extinction, signs of elongation and dispersion staining colors. Asbestos fiber content is estimated by optically comparing the quantity of asbestos material and non-asbestos material to establish estimated percentages. Per the method, samples with distinct layers or inhomogenous character have each layer analyzed separately and reported as individual layers. (I – Inhomogeneous, H – Homogeneous, F – Fibrous, NF – Non-Fibrous)

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Converse Consultants
Geotechnical Engineering, Environmental & Groundwater Science, Inspection & Testing Services

POLARIZED LIGHT MICROSCOPY ANALYSIS REPORT

Client: CONVERSE CONSULTANTS
731 PILOT ROAD, SUITE H
LAS VEGAS, NEVADA 89119
Account: N/A
Contact: JOHN WATKINS
Project No.: 10-43153-01

Date Received: 03/31/10
Date Analyzed: 04/02/10
Date Reported: 04/02/10
Reported To: JOHN WATKINS
Submitted By: COURIER
Report No.: 71-181437
P. O. #: N/A

METAL BLDG E-2, E-3, & E-6
TRONOX

I certify that these results are accurate for the samples obtained and comply with accepted methods of analysis.

Lab Manager, Dan R. Dolk

Analyst, Dan R. Dolk

RESULTS: LAB SAMPLE # LAB DESCRIPTION LOCATION	CLIENT SAMPLE #	PERCENT & TYPE OF ASBESTOS	PERCENT & TYPE OF NON-ASBESTOS	LAYER I-H APPEARANCE F-NF
181437 Black Asphalt Building E-6 South of Building	MB6-A-01	None Detected	<1% Cellulose 15% Organic Binders 85% Mineral Cleavages	I F
181438A Cream Cover Building E-6, Interior North Side	MB6-PI-02-A	None Detected	30% Cellulose 30% Glass Fibers 20% Organic Binders 20% Aluminum	I F
181438B Black Insulation Building E-6, Interior North Side	MB6-PI-02-B	None Detected	100% Glass <1% Mineral Cleavages	I NF
181439A Grey Cinder Block Blast Wall South of Building E-6	MB6-BW-03-A	None Detected	35% Sulfate Binders 30% Aggregate 35% Mineral Cleavages	I NF
181439B Grey Grout Mortar Blast Wall South of Building E-6	MB6-BW-03-B	None Detected	35% Sulfate Binders 65% Mineral Cleavages	I NF
181440 Grey Rubber Blast Wall South of Building E-6 Between Block Wall Sections	MB6-X-04	None Detected	35% Sulfate Binders 55% Organic Binders 10% Mineral Cleavages	I NF
181441 Grey Rubber Blast Wall East of Building E-6 Between Block Wall Sections	MB6-X-05	None Detected	30% Carbonate Binders 60% Organic Binders 10% Mineral Cleavages	I NF
181442A Grey Cinder Block Blast Wall East of Building E-6	MB6-BW-06-A	None Detected	30% Sulfate Binders 25% Aggregate 45% Mineral Cleavages	I NF

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RESULTS: LAB SAMPLE # LAB DESCRIPTION LOCATION	CLIENT SAMPLE #	PERCENT & TYPE OF ASBESTOS	PERCENT & TYPE OF NON-ASBESTOS	LAYER I-H APPEARANCE F-NF
181442B Grey Mortar Blast Wall East of Building E-6	MB6-BW-06-B	None Detected	45% Sulfate Binders 55% Mineral Cleavages	I NF
181443 Black Asphalt Pad East of Building E-6	MB6-A-07	None Detected	15% Organic Binders 85% Mineral Cleavages	I NF
181444A Grey Cinder Block Blast Wall North of Building E-3	MB3-BW-08-A	None Detected	35% Sulfate Binders 25% Aggregate 40% Mineral Cleavages	I NF
181444B Grey Grout Blast Wall North of Building E-3	MB3-BW-08-B	None Detected	40% Sulfate Binders 60% Mineral Cleavages	I NF
181445 Black Rubber Blast Wall North of Building E-3 Between Block Wall Sections	MB3-X-09	None Detected	<1% Cellulose 5% Synthetic Fibers 60% Organic Binders 10% Mineral Cleavages 25% Paint	I F
181446A Cream Cover Building E-3, Interior South Side	MB3-PI-10-A	None Detected	45% Cellulose 20% Glass Fibers 15% Organic Binders 20% Aluminum	I F
181446B Black Insulation Building E-3, Interior South Side	MB3-PI-10-B	None Detected	<1% Cellulose 99% Glass <1% Mineral Cleavages	I F
181447 Black Asphalt North of Building E-3	MB3-A-11	None Detected	15% Organic Binders 85% Mineral Cleavages	I NF
181448 Black Asphalt North of Building E-2	MB2-A-12	None Detected	10% Organic Binders 90% Mineral Cleavages	I NF
181449 Black Rubber Blast Wall North of Building E-2 Between Block Wall Sections	MB2-X-13	None Detected	70% Organic Binders 10% Mineral Cleavages 20% Paint	I NF
181450A Grey Cinder Block Blast Wall North of Building E-2	MB2-BW-14-A	None Detected	35% Sulfate Binders 25% Aggregate 40% Mineral Cleavages	I NF
181450B Grey Grout Blast Wall North of Building E-2	MB2-BW-14-B	None Detected	40% Sulfate Binders 60% Mineral Cleavages	I NF
181451A Tan Cover Building E-2, Interior North Side	MB4-PI-15-A	None Detected	45% Cellulose 20% Glass Fibers 15% Organic Binders 20% Aluminum	I F
181451B Black Insulation Building E-2, Interior North Side	MB4-PI-15-B	None Detected	<1% Cellulose 99% Glass <1% Mineral Cleavages	I F
181452 Cream Tan Pipe Insulation Building E-2, Interior North Side	MB4-PI-16	None Detected	10% Cellulose 5% Glass Fibers 30% Sulfate Binders 55% Mineral Cleavages	I F

Attached are the results of analysis of bulk samples submitted for asbestos identification. Converse Consultants follows EPA Method EPA/600/R-93/116; July 1993.

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Photo 1 – Cooling tower gaskets on this piping contain asbestos, south side of cooling tower.

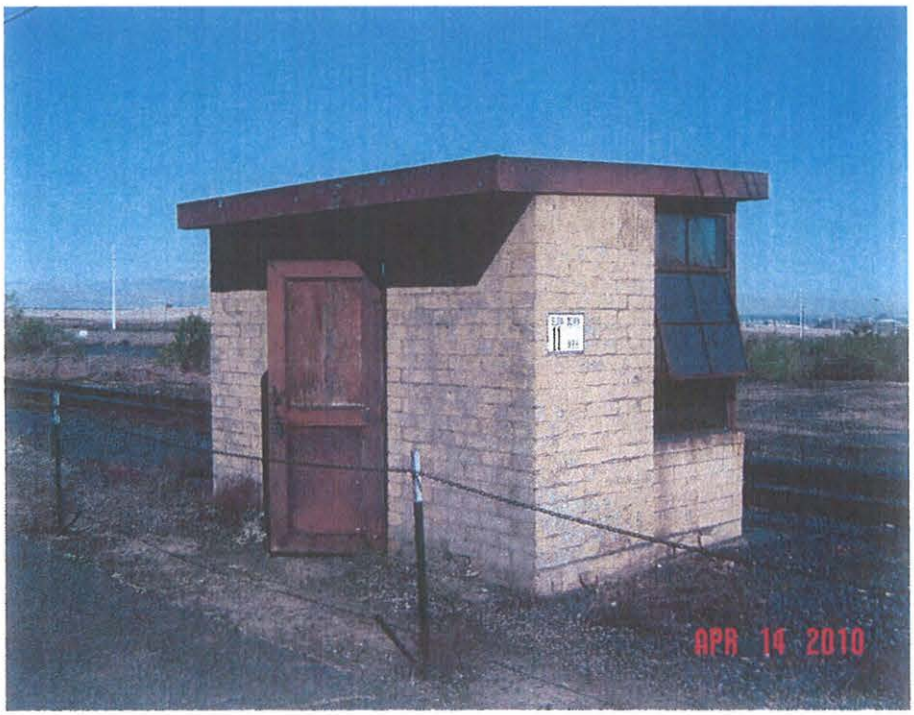


Photo 2 – Window putty on five windows contain asbestos.

Photo 3 – Interior of windows seen in above building contains asbestos window putty.

Photo 4 – Small building in center of picture has panels that are non-asbestos on north side of building

Photo 5 – These panels are non-Asbestos.

Photo 6 – West debris pile looking north/northeast

Photo 7 – West debris pile with pipe on side of hill. Pipe contains asbestos pipe wrap.

Photo 8 – West debris pile with pipe on side of hill. Pipe contains asbestos pipe wrap.

Photo 9 – West debris pile with pipe debris on ground on slop of hill.

Photo 10 – West side debris pile. Close-up of asbestos pipe wrap.

Photo 11 – West debris pile with pipe on side of hill. Pipe contains asbestos pipe wrap.

Photo 12 – West debris pile with pipe on side of hill. Pipe contains asbestos pipe wrap.

Photo 13 – West debris pile with pipe on side of hill. Pipe contains asbestos pipe wrap.

Photo 14 – West debris pile with pipe on side of hill. Pipe contains asbestos pipe wrap.

Photo 15 – West debris pile with pipe on side of hill protruding over hill. Pipe contains asbestos pipe wrap.

Photo 16 – West debris pile. Looking west from top of hill with pipe on slope of hill.

Photo 17 – West side debris pile looking northwest from top of hill.

Photo 18 – West side debris pile. Pipe protruding from ground on top of hill. Buried pipe may contain asbestos pipe wrap.

Photo 19 – West side debris pipe. View looking north at midpoint on hill.

Photo 20 – West side debris pile. Pipe under concrete at far south of hill.

Photo 21 – View looking north from far south point of hill.

Section 2

Limited Lead-Based Paint Survey

Contents

1.0 Introduction

On March 30, 2010, Converse Consultants (Converse) conducted a limited lead-based paint sampling survey of loose and flaking paint on various surfaces on several structures at the subject site. Our services were performed in accordance with our Proposal dated March 17, 2010 and your Master Subconsultant Agreement dated and signed April 21, 2010.

2.0 Credentials

John Watkins, a Converse EPA certified lead inspector and risk assessor, performed the survey. Mr. Watkin's credentials are enclosed in Appendix A.

3.0 Purpose and Scope of Work

The purpose of our work was to identify lead-containing paint on the surfaces with damaged paint surfaces. The identification of lead containing paints was accomplished by the collection of paint chip samples for laboratory analysis. Lead concentrations found in the paint chip samples were identified in parts per million (ppm) lead.

Ingestion and inhalation of dust and fumes are the major routes of lead exposure. Once absorbed, lead accumulates in the blood, soft tissues, and bones. Bioaccumulative toxic effects in adults include damage to the kidneys, gastrointestinal tract, central nervous system, reproductive system, and blood forming organs.

This survey generally followed the U.S. Department of Housing and Urban Development (HUD) *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing* and EPA regulations.

4.0 Paint Chip Sampling Methodology

Fourteen (14) paint chip samples where collected from exterior and interior painted surfaces of the components from the subject structures. A summary of paint chip samples is presented in Table 1.

Sampling protocol included the random collection of paint chip samples, the inclusion of all identifiable layers of paint in the sample, and the exclusion of substrate material to the greatest extent possible. Upon completion of sampling activities, paint chip samples were then shipped to an accredited analytical laboratory accompanied by chain-of-custody documentation.

5.0 Laboratory Testing

The samples were analyzed for lead content by EMS Laboratories (EMS) of Pasadena, CA. EMS is accredited by the American Industrial Hygiene Association (AIHA) under the Environmental Lead Laboratory Accreditation Program (ELLAP). EMS is also accredited by the California Department of Health Services through the Environmental Laboratory Accreditation Program (ELAP). Samples were digested using EPA method 3050M and analyzed for lead using EPA Method 7420. The laboratory report for these samples is enclosed in Appendix B.

6.0 Paint Survey Findings

Based on analytical results, eleven (11) of the paint-chip samples collected during our work contained concentrations of lead greater than the detection limit of the analytical method used for analysis. Three of the samples were greater than the EPA and HUD definition of lead-based paint (e.g., > 5000 ppm). Sample results are displayed in Table 1.

Table 1 - Analytical Results for Structures E-1, E-2, E-3, E-6, AP Pipe Bridge and Associated Block Buildings and Debris Pile North of Steam Plant, and Railroad Depot

Sample No.	Sample Location	Result ppm
MB6-P-01	Tan/white paint, interior wall in metal building E-6 on metal substrate	550
MB6-P-02	Blue/green paint, interior door in metal building E-6 on metal substrate	5300
MB3-P-03	Blue/green paint, interior wall in metal building E-3 on metal substrate	520
MB3-P-04	Blue/green paint, interior door and beams in metal building E-3 on metal substrate	5400
MB2-P-05	Tan/White paint, interior beam in metal building E-2 on metal substrate	2000
MB2-P-06	Blue/green paint, interior door frame in metal building E-2 on metal substrate	3900
MB2-P-07	Grey/white paint, interior walls in metal building E-2 on metal substrate	2800
CDP-P-08	Blue paint, on pipe in debris pile north of steam plant on metal substrate	<46
PB-P-09	Blue paint, on beams at AP pipe bridge on metal substrate	<46
PB-P-10	Blue paint, on beam at AP pipe bridge on metal substrate	<44
BB-P-11	Tan paint, on exterior of central block building, north end of pipe bridge on block substrate	49
SAP-P-12	Tan paint, on exterior of small block building north of AP shop on block and metal substrate	50
MB1-P-13	Grey paint, interior walls and beams in metal building E-1 on metal substrate	2500
RD-P-14	Tan/grey paint, surface of railroad depot on metal substrate	19000

Analytical result expressed in parts per million (ppm).

7.0 Conclusions and Recommendations

Based on the laboratory report, concentrations of lead above the analytical detection limit were identified on the interior painted surfaces of the four metal buildings (E-1, E-2, E-3, and E-6), the two small block buildings associated with the AP pipe area, and on the surface of the railroad depot. Copies of the analytical report have been provided in Appendix B. The paint surfaces were in poor condition.

The United States Department of Housing and Urban Development (HUD) considers paint containing 5,000 ppm or more of lead to be lead based. Converse recommends that paint containing any amount of lead be disturbed only by properly trained and protected workers following appropriate EPA and OSHA regulations. At a minimum the air monitoring, training, personal protective equipment, and controls specified in OSHA regulation 29 CFR 1926.62 for lead should be followed.

The structures sampled may be demolished without lead containing paint removal provided the paint is in good condition. Because the lead containing paint identified in Table 1 was damaged, it must be stabilized by removal or encapsulation before demolition of the structures may occur. The demolition debris must be tested using the Toxicity Characteristic Leaching Procedure (TCLP) for lead to determine if it is hazardous waste before disposal. In Nevada, this must be conducted by or under the supervision of a Nevada Certified Environmental Manager (CEM).

8.0 Closure and Limitations

This report is for the use of the Northgate Environmental Management, Inc. as it applies to the structures sampled during our survey at the subject site. Converse is not responsible for any claims or damages associated with interpretation of available information. This assessment should not be regarded as a guarantee that no further lead is present at the subject facility. In addition, lead is not usually distributed uniformly throughout a material and as such, Converse cannot guarantee that all areas sampled are exactly as represented throughout the entire facility. In the event that changes in the nature of the structures occur, or additional relevant information about the structures is brought to our attention, the recommendations contained in this assessment may not be valid unless these changes and additional relevant information are reviewed and the recommendations of this assessment are modified or verified in writing.

Thank you for the opportunity to be of service. Should you have any questions or comments regarding this report, please do not hesitate to call.

Respectfully submitted,

CONVERSE CONSULTANTS

John M. Watkins
Senior Geologist

JMW:ls

Encl: Appendices A, B, and C

United States Environmental Protection Agency

This is to certify that

John Michael Watkins

has fulfilled the requirements of the Toxic Substances Control Act (TSCA) Section 402(a)(1), and has received certification to conduct lead-based paint activities pursuant to 40 CFR Part 745.226 as a:

Risk Assessor

In the Jurisdiction of:

Nevada

This certification is valid from the date of issuance and expires June 17, 2011

NV-R-11972-2

Certification #

JUN 18 2008

Issued On

Adrienne Priselac, Manager, Toxics Office

Communities and Ecosystems Division

Laboratory Report

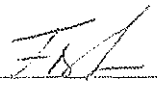
Sample Info

Date of Analysis:	3/31/2010
Lab ID:	136640
Client:	Converse Consultants SW Inc.
Date Received:	3/31/2010
Project Number:	10-43153-01
Analyte:	Pb
Matrix:	PAINT CHIP
Method:	EPA 3050M/7420
Comments:	

Reporting Limit (mg):	0.007
Method blank (mg):	<0.007

Sample Results

Sample Name	*Bulk Weight (g)*	*Pb Weight (mg)*	*Pb Concentration (ppm)*
MB6-P-01	0.1659	0.091	550
MB6-P-02	0.1610	0.85	5300
MB3-P-03	0.1771	0.092	520
MB3-P-04	0.1518	0.82	5400
MB2-P-05	0.1502	0.31	2000
MB2-P-06	0.1791	0.70	3900
MB2-P-07	0.1812	0.50	2800
CDP-P-08	0.1538	< 0.007	< 46
PB-P-09	0.1513	< 0.007	< 46
PB-P-10	0.1593	< 0.007	< 44
BB-P-11	0.1753	0.0086	49
SAP-P-12	0.1729	0.0086	50
MB1-P-13	0.1508	0.38	2500
RD-P-14	0.1687	3.3	19000

Chemist: 

SUBMITTAL FORM/*Laboratory Services*

136640

PAGE 1 OF 1

TURNAROUND TIME: STD ☐ 48 HR. ☒ 24 HR. ☐
<8 HR. ☐ WKND ☐ OTHER:

RELINQUISHED BY John Watkins
TIME / DATE 2:15pm 3-30-10

CLIENT Converse Consultants
ADDRESS 731 Pilot Road Suite H

DATE OF SHIPMENT 3-30-10 CARRIER
CLIENT P.O. NO.
CLIENT JOB/PROJECT ID NO(S). 10-43153-01

TELEPHONE 702-263-7600
CONTACT John Watkins

PACKAGE SHIPPED FROM

RESULTS REQUESTED VIA VERBAL ☐ FAX ☒ CLIENT FAX NO. 702-269-8353
(NOTE: Complete written reports will follow all analyses, in addition to any prior transmitted verbal or fax results.)

DATE/TIME OF SAMPLE COLLECTION 3-30-10 AM/PM
SAMPLE PRESERVATIVES HOLDING TIMES
NO. OF SAMPLES SENT 14 SAMPLER'S NAME [signature] (SIGNATURE) John Watkins (PRINTED)
TYPE: ☐ WATER ☐ WASTE WATER ☐ SOIL ☐ FILTER ☒ SORBENT TUBE ☐ IMPINGER ☐ OTHER Lead

(FOR EMS ONLY) EMS Sample No.	CLIENT SAMPLE NO.	DESCRIPTION/LOCATION/ANALYSIS	VOLUME: TIME/WEIGHT (IF APPLICABLE)
136640 - 1	MB6-P-01	Paint-TAN/White metal substrate	Interior Wall Building E-6
	MB6-P-02	Paint - Blue/green "	From Door Building E-6
	MB3-P-03	Paint - blue/green "	INT. walls Building E-3
	MB3-P-04	Paint - Blue/green "	From Doors & Beams - BLDG E-3
	MB2-P-05	Paint - white/tan "	INT. Beam Building E-2
	MB2-P-06	Paint - Blue/green "	Door From Building E-2
	MB2-P-07	Paint - Grey? "	INT. walls Building E-2
	CDP-P-08	Paint - Blue on metal APe Debris	Debris Rlz S. of Steam Plant
	PB-P-09	Pain - Blue AP Pipe Bridge Base on Beams	AP APe Bridge
	PB-P-10	" " "	"
	PB-P-11	Paint - TAN concrete substrate	Central Block Building
	SAP-P-12	Paint - TAN Block/metal substrate	small Block-BLDG North of AP Shop
	MB1-P-13	Paint - Grey metal substrate	Interior walls & Beams E-1
14	RD-P-14	Paint - TAN/Grey metal substrate	Rail road Depot canopy
1			

(SF 5/00)

136640

FOR EMS ONLY

Laboratory No.
Received By Maryann Ng Time 8:33
Date of Package Delivery 3/31/10
Shipping Bill Retained: YES ☐ NONE ☒
Condition of Package on Receipt ok
Condition of Custody Seal None
(NOTE: If the package has sustained substantial damage or the custody seal is broken, stop and contact the project manager and the shipper.)

No. of Samples 14
Chain-of-Custody Signature [signature]
Date of Acceptance into Sample Bank 3/31/10
Misc. Info.
Disposition of Samples EMS Labs

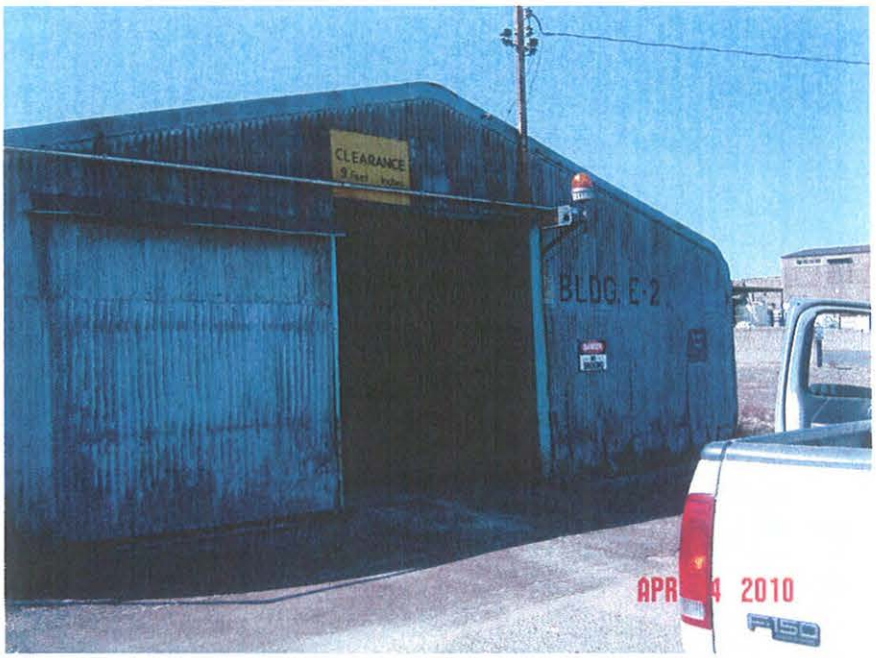


Photo 1 – Example of metal building with loose and flaking paint on the interior beams. Four Buildings such as this one are located on the north side of the facility.

Photo 2 – Beam with loose and flaking lead containing paint on beam inside metal building(s) as seen in previous photo.

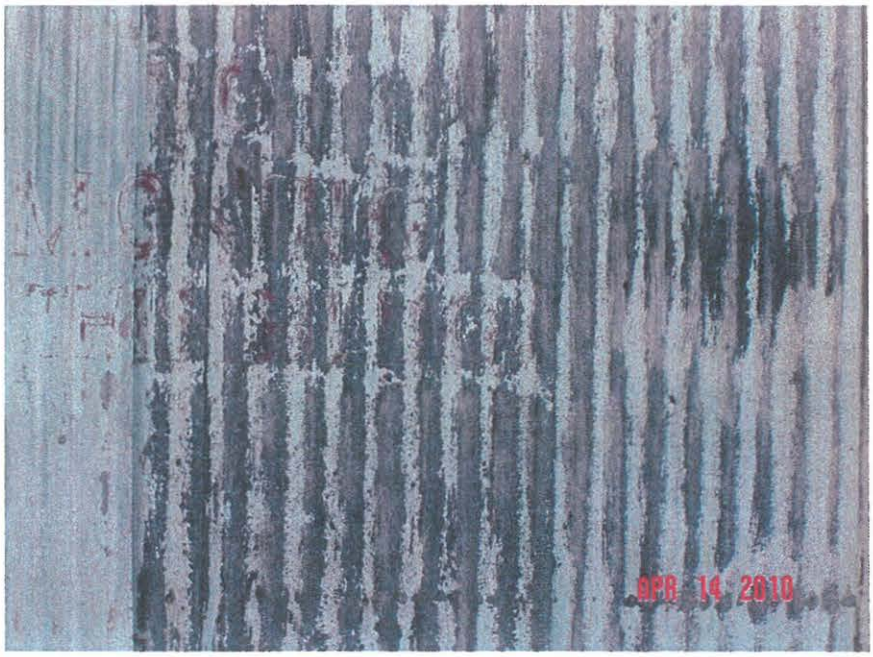


Photo 3 – Door with blue/greenish paint on door of metal building as seen in photo 1.

Photo 4 – Rail road depot has loose and flaking lead containing paint.

Photo 5 – Loose and flaking lead containing paint on the underside of the roof deck.

Photo 6 – Loose and flaking lead containing paint on beam of railroad depot.

Section 3

Miscellaneous Hazardous Materials Survey

Contents

1.0 Fluorescent Light Bulbs and Mercury Vapor Lamps

Fluorescent light bulbs and mercury vapor lamps were identified in two block buildings (Calciner building and a small block building adjacent to the pipe rack in the AP area) during the survey. Mercury vapor lamps were identified in several locations including pipe racks, manufacturing building (steel frame), both pipe bridges, and the material unloading facility.

The US EPA has defined fluorescent bulbs and mercury vapor lamps as Universal Waste. Because the amount of fluorescent bulbs and mercury vapor lamps identified during this survey was less than 5,000 kilograms the facility may be considered a Small Quantity Handler of Universal Waste.

In order to maintain the bulbs and lamps as Universal Waste, making them easier to manage, they may NOT be crushed. If they are crushed they must be handled as Hazardous Waste.

The bulbs and lamps must be packaged in their original containers or sturdy containers designed to prevent breakage. They may be stored on site for up to one year before shipping them under a bill of lading (manifesting is not required) to another Universal Waste Handler or a Recycling Facility or licensed Treatment, Storage and Disposal (TSD) facility. Converse recommends they be sent to a Recycling Facility. Records are not required. However, Converse recommends shipping and other disposal support documents be maintained.

2.0 Polychlorinated Biphenyl (PCB) in Light Ballasts

The fluorescent light ballasts in the subject facilities should be evaluated for whether they contain PCBs by looking for the "No PCBs" note on their label. If there is no label or no "No PCBs" on the label, then they should be assumed to contain PCBs. The ballasts not containing PCBs and those assumed to contain PCBs should be separated. The non-PCB ballasts may be disposed as municipal waste. The amount of ballasts assumed to contain PCBs should be determined and the local disposal agency contacted as to whether they will accept them as municipal waste. EPA regulation 40 CFR 761.60(b)(2)(ii) states that "any person may dispose of PCB Small Capacitors as municipal solid waste...". If any of the ballasts assumed to contain PCBs are leaking, they must be carefully handled using proper personal protective equipment (e.g., Viton or equivalent gloves), segregated in a spill proof container, and disposed as hazardous waste.

3.0 Air Conditioning Refrigerant

Before disposing of refrigeration or air-conditioning units that may contain chlorofluorocarbon (CFC) or hydro-CFC (HCFC) refrigerants, the refrigerant should be removed by a properly certified technician. The technician should be certified to service and dispose of small appliances such as the subject air conditioning units under the EPA Section 608 Technician Certification Program. The refrigerant should be reclaimed by sending it to an EPA Certified Refrigerant Reclaimer.

Converse Consultants

Photo 1 – Light fixtures with fluorescent lights.

Photo 2 – AC unit in back of block building near west pipe bridge.

Photo 3 – AC unit on calciner building.

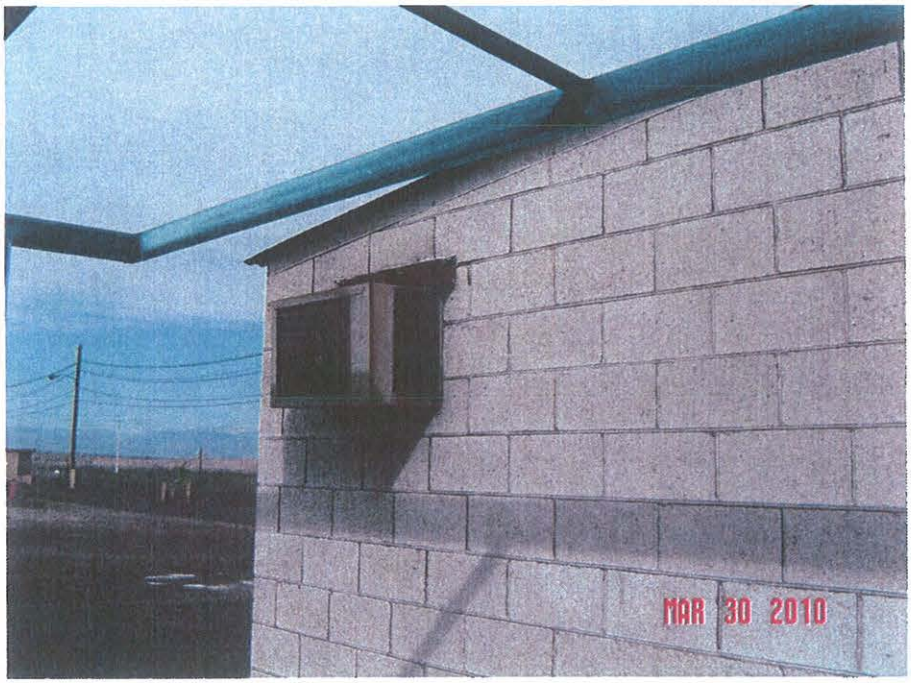


Photo 4 – AC unit on calciner building

Photo 5 – Mercury containing light, these lights can be found throughout the AP area.

Photo 6 – Mercury containing light, these lights can be found throughout the AP area

Photo 7 – Mercury containing light, close up view

(2) For liquids other than mineral oil dielectric fluid, in a high efficiency boiler according to §761.71(b).

(3) For liquids from incidental sources, such as precipitation, condensation, leachate or load separation and are associated with PCB Articles or non-liquid PCB wastes, in a chemical waste landfill which complies with §761.75 if:

(i) [Reserved]

(ii) Information is provided to or obtained by the owner or operator of the chemical waste landfill that shows that the liquids do not exceed 500 ppm PCB and are not an ignitable waste as described in §761.75(b)(8)(iii).

(b) *PCB Articles.* This paragraph does not authorize disposal that is otherwise prohibited in §761.20 or elsewhere in this part.

(1) *Transformers.* (i) PCB Transformers shall be disposed of in accordance with either of the following:

(A) In an incinerator that complies with §761.70; or

(B) In a chemical waste landfill approved under §761.75; provided that all free-flowing liquid is removed from the transformer, the transformer is filled with a solvent, the transformer is allowed to stand for at least 18 continuous hours, and then the solvent is thoroughly removed. Any person disposing of PCB liquids that are removed from the transformer (including the dielectric fluid and all solvents used as a flush), shall do so in an incinerator that complies with §761.70 of this part, or shall decontaminate them in accordance with §761.79. Solvents may include kerosene, xylene, toluene, and other solvents in which PCBs are readily soluble. Any person disposing of these PCB liquids must ensure that the solvent flushing procedure is conducted in accordance with applicable safety and health standards as required by Federal or State regulations.

(ii) [Reserved]

(2) *PCB Capacitors.* (i) The disposal of any capacitor shall comply with all requirements of this subpart unless it is known from label or nameplate information, manufacturer's literature (including documented communications with the manufacturer), or chemical analysis that the capacitor does not contain PCBs.

(ii) Any person may dispose of PCB Small Capacitors as municipal solid waste, unless that person is subject to the requirements of paragraph (b)(2)(iv) of this section.

(iii) Any PCB Large High or Low Voltage Capacitor which contains 500 ppm or greater PCBs, owned by any person, shall be disposed of in accordance with either of the following:

(A) Disposal in an incinerator that complies with §761.70; or

(B) Until March 1, 1981, disposal in a chemical waste landfill that complies with §761.75.

(iv) Any person who manufactures or at any time manufactured PCB Capacitors or PCB Equipment, and acquired the PCB Capacitor in the course of such manufacturing, shall place the PCB Small Capacitors in a container meeting the DOT packaging requirements at 49 CFR parts 171 through 180 and dispose of them in accordance with either of the following:

(A) Disposal in an incinerator which complies with §761.70; or

(B) Until March 1, 1981, disposal in a chemical waste landfill which complies with §761.75.

(v) Notwithstanding the restrictions imposed by paragraph (b)(2)(iii)(B) or (b)(2)(iv)(B) of this section, PCB capacitors may be disposed of in PCB chemical waste landfills that comply with §761.75 subsequent to March 1, 1981, if the Assistant Administrator for Prevention, Pesticides and Toxic Substances publishes a notice in the FEDERAL REGISTER declaring that those landfills are available for such disposal and explaining the reasons for the extension or reopening. An extension or reopening for disposal of PCB capacitors that is granted under this subsection shall be subject to such terms and conditions as the Assistant Administrator may prescribe and shall be in effect for such period as the Assistant Administrator may prescribe. The Assistant Administrator may permit disposal of PCB capacitors in EPA approved chemical waste landfills after March 1, 1981, if in his opinion,

(A) Adequate incineration capability for PCB capacitors is not available, or

(B) The incineration of PCB capacitors will significantly interfere with the incineration of liquid PCBs, or

waste is released from disposal to the environment, in particular by leaching out from the land disposal unit.

(ii) *Metal surfaces in contact with PCBs.* Any person disposing of metal surfaces in contact with PCBs (e.g., painted metal) may use thermal decontamination procedures in accordance with §761.79(c)(6) (see §761.62(a)(6)).

(5) *PCB household waste.* Any person storing or disposing of PCB household waste, as that term is defined in §761.3, must do so in accordance with §761.63.

(6) *PCB research and development waste.* Any person disposing of PCB wastes generated during and as a result of research and development for use under §761.30(j), or for disposal under §761.60(j), must do so in accordance with §761.64.

(7) *PCB/Radioactive waste.* (i) Any person storing PCB/radioactive waste ≥50 ppm PCBs must do so taking into account both its PCB concentration and its radioactive properties, except as provided in §761.65(a)(1), (b)(1)(ii), and (c)(6)(i).

(ii) Any person disposing of PCB/radioactive waste must do so taking into account both its PCB concentration and its radioactive properties. If, taking into account only the properties of the PCBs in the waste (and not the radioactive properties of the waste), the waste meets the requirements for disposal in a facility permitted, licensed, or registered by a State as a municipal or non-municipal non-hazardous waste landfill (e.g., PCB bulk product waste under §761.62(b)(1)), then the person may dispose of the PCB/radioactive waste, without regard to the PCB component of the waste, on the basis of its radioactive properties in accordance with all applicable requirements for the radioactive component of the waste.

(8) *Porous surfaces.* In most cases a person must dispose of porous surfaces as materials where PCBs have penetrated far beneath the surface, rather than a simple surface contamination. Any person disposing of porous surfaces on which PCBs have been spilled and meeting the definition of PCB remediation waste at §761.3 must do so in accordance with §761.61. Any person disposing of porous surfaces which are part of manufactured non-liquid products containing PCBs and meeting the definition of PCB bulk product waste at §761.3 must do so in accordance with §761.62. Any person may decontaminate concrete surfaces upon which PCBs have been spilled in accordance with §761.79(b)(4), if the decontamination procedure is commenced within 72 hours of the initial spill of PCBs to the concrete or portion thereof being decontaminated. Any person may decontaminate porous non-liquid PCBs in contact with non-porous surfaces, such as underground metal fuel tanks coated with fire retardant resin or pitch, for purposes of unrestricted use or disposal in a smelter in accordance with §761.79(b)(3).

(c) *Storage for disposal.* Any person who holds PCB waste must store it in accordance with §761.65.

(d) *Performance specifications for disposal technologies*—(1) *Incinerators.* Any person using an incinerator to dispose of PCBs must use an incinerator that meets the criteria set forth in §761.70.

(2) *High efficiency boilers.* Any person using a high efficiency boiler to dispose of PCBs must use a boiler that meets the criteria set forth in §761.71.

(3) *Scrap metal recovery ovens and smelters.* Any person using scrap metal recovery ovens and smelters to dispose of PCBs must use a device that meets the criteria set forth in §761.72.

(4) *Chemical waste landfills.* Any person using a chemical waste landfill to dispose of PCBs must use a chemical waste landfill that meets the criteria set forth in §761.75.

(e) *TSCA PCB Coordinated Approval.* Any person seeking a TSCA PCB Coordinated Approval must follow the procedures set forth in §761.77.

[63 FR 35444, June 29, 1998, as amended at 64 FR 33760, June 24, 1999]

§761.60 Disposal requirements.

(a) *PCB liquids.* PCB liquids at concentrations ≥50 ppm must be disposed of in an incinerator which complies with §761.70, except that PCB liquids at concentrations ≥50 ppm and <500 ppm may be disposed of as follows:

(1) For mineral oil dielectric fluid, in a high efficiency boiler according to §761.71(a).

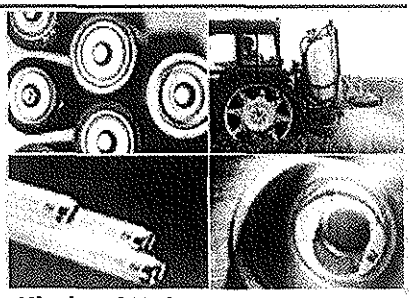
http://www.epa.gov/epawaste/hazard/wastetypes/universal/compare.htm
Last updated on Friday, September 26, 2008

Wastes - Hazardous Waste - Universal Wastes

Comparison to Other Requirements

The following tables have a comparison of requirements for:

1. Generators
2. Transporters
3. Destination Facilities



Kinds of Universal Waste

- Batteries
- Pesticides
- Mercury-Containing Equipment
- Bulbs (Lamps)

These tables are a guide, please see the complete universal waste regulations (EXIT Disclaimer) for the entire requirements. These tables are not intended to modify or affect in any way existing statutory or regulatory requirements; they are intended to briefly summarize existing requirements. In addition, states can have more stringent requirements. In many cases a state has lowered the amounts allowed for the conditionally exempt small quantity generators (lower than 220 lb).

1. General comparison of generator requirements to universal waste requirements.

	Universal Waste Requirements		Generator Requirements		
	Small Quantity Handler of Universal Waste (SQHUW)	**Large Quantity Handler of Universal Waste (LQHUW)**	**Conditionally Exempt Small Quantity Generator (CESQG)**	**Small Quantity Generator (SQG)**	**Large Quantity Generator (LQG)**
Quantity Handled by Category	accumulate < 5,000 kg (11,000 lb) on site at any one time §273.9	accumulate 5,000 kg (11,000) or more on site at any one time §273.9	generate ≤ 100 kg (220 lb) per month ≤ 1 kg acute* per month §261.5 (a) and (e)	generate < 1,000 kg (2,200 lb) per month §260.10	generate ≥ 1,000 kg per month > 1 kg acute* per month Part 262 and §261.5 (e)

EPA Identification Number	Not required §273.12	Required §273.32	Not required §261.5	Required §262.12	Required §262.12
On-Site Accumulation Limit	< 5,000 kg §273.9	No quantity limit	≤ 1,000 kg ≤ 1 kg acute* ≤ 100 kg spill residue from acute §261.5(f)(2) & (g)(2)	< 6,000 kg §262.34(d)(1)	No quantity limit
Storage Time Limit (without a storage permit)	1 year, unless for proper recovery, treatment, or disposal §273.15	1 year, unless for proper recovery, treatment, or disposal §273.35	None §261.5	≤ 180 days or ≤ 270 days §262.34(d) & (e)	≤ 90 days §262.34(a)
Manifest	Not required §273.19	Not required, but must keep basic shipping records §273.39	Not required §261.5	Required §262.20	Required §262.20
Personnel Training	Basic training §273.16	Basic training geared toward employee responsibilities §273.36	Not required §261.5	Basic training §262.34(d)	Full training §262.34(a)

The universal waste citations listed can be found at 40 CFR 273. EXIT Disclaimer
The conditionally exempt small quantity generator citations listed can be found at 40 CFR 261.5. EXIT Disclaimer

The generator citations listed can be found at 40 CFR 262. EXIT Disclaimer

General definitions of terms applicable to these regulations are found in 40 CFR 260.10. EXIT Disclaimer

Note: "§" is used in this page to refer to a section in title 40 of the Code of Federal Regulations (For example "§273.15" is also referred to as "40 CFR 273.15" or "title 40, part 273, section 15.")

* "Acute" refers to acute hazardous waste as identified in 40 CFR 261.

2. General comparison of hazardous waste transporter requirements to universal waste transporter requirements.

Universal Waste Transporters 40 CFR part 273 subpart D EXIT Disclaimer	**Hazardous Waste Transporters 40 CFR part 263** EXIT Disclaimer

Compliance with Department of Transportation (DOT)	**Yes** §273.52(a) cites DOT Requirements **49 CFR parts 171-180** EXIT Disclaimer	**Yes** §263.10 DOT Requirements **49 CFR parts 171-179** EXIT Disclaimer
EPA ID Number (Notification Requirements)	**none**	**yes** §263.11
Allowance to Store up to 10 days at a Transfer Facility	**yes** §273.53	**yes** §263.12
Manifest Requirements	**none**	**yes** §263.20-22
Response to Releases	**yes** §273.54	**yes,** with more complex requirements §263.30-31

3. Comparison of hazardous waste recycling, treatment storage, and disposal facility requirements and universal waste "destination facility " requirements

"Destination facilities" are facilities that treat, dispose of, or recycle a particular category of universal waste and are subject all applicable requirements that apply to any hazardous waste treatment, storage and disposal facilities. 40 CFR 273.9, 273.60.

Facilities that are just accumulating a universal waste, but not recycling, treating, or disposing of that waste category can use the less stringent universal waste requirements for handling that universal waste category.

The universal waste rule does not change the requirement for recycling facilities to get a storage permit if they store waste before they recycle it. Also if a recycling facility does not store, they still have to comply with the requirements of 40 CFR 261.6(c)(2) according to 40 CFR 273.60(b)

Universal Waste Destination Facilities - part 273 subpart E EXIT Disclaimer

Please see the regulations for the full requirements, also state regulations can be different.

Business Environmental Program

College of Business Administration

Business Environmental Program Hazardous Waste Fact Sheet

Universal Waste Lamps

The United States Environmental Protection Agency (EPA) in an effort to ease management of common wastes developed the Universal Waste Rules. These rules cover batteries, recalled pesticides, thermostats, and as of January 2000, hazardous waste lamps (lamps). Lamps may be hazardous due to high levels of mercury, other heavy metals, and leaded glass which may contaminate landfills. **Small and large quantity generators must manage hazardous waste lamps either as a hazardous waste or under the universal waste rule.** The universal waste rules are designed to be business friendly, and easily implemented. Universal wastes are not manifested, do not count toward generator status and the storage and record keeping requirements are more relaxed.

There are two levels of regulation regarding universal waste:

Small Quantity Handler of Universal Waste (SQHUW) is defined as any business (handler) which *does not* accumulate more than 5,000 kilograms (11,000 pounds) at anytime.

Large Quantity Handler of Universal Waste (LQHUW) is defined as any business (handler) which accumulates *more than* 5,000 kilograms (11,000 pounds) at anytime.

This fact sheet addresses the requirements for SQHUW. Requirements are different for large LQHUW. If you feel your business may be a LQHUW, please contact the Business Environmental Program (BEP) for additional guidance (800) 882-3233 or (775) 689-6688.

Conditionally Exempt Small Quantity Generators are facilities which accumulate less than 100 kilograms (220 pounds) of all hazardous wastes in a month. These facilities have the options of managing waste lamps under this rule or under the CESQG exemption in 40 CFR 261.5. NDEP and BEP encourage these generators to participate voluntary in collection and recycling programs to ship these waste lamps to collection centers for recycling or proper treatment and disposal.

Can I use a Bulb Crusher for my Fluorescent Lamps?

Bulb crushing is considered treatment under RCRA and is not a management option for handlers of Universal Waste. Crushed tubes or lamps may not be managed as a Universal Waste. A business that uses a bulb crusher must follow applicable hazardous waste generator rules found in 40 CFR 262, and 268 and Nevada Administrative Code 444.8671. Because the Land Disposal Restrictions (40CFR 268) impose the restriction requirements to the waste at the point of generation, these regulations are determined by the hazardous characteristics of the fluorescent tubes before they enter the bulb crusher unit. This means that you cannot make a waste determination by conducting an analysis of the crushed bulbs in the unit, you must determine whether the bulbs you intend to put into the crusher are hazardous waste. This requires a special testing protocol that is typically conducted by the manufacturer of the florescent tubes and documented in the MSDS. Unless a facility is able to document that each bulb or tube placed in the bulb crusher is not hazardous for Mercury or other metals, the crushed bulbs are required to be managed as hazardous waste. The crushed bulbs would then be counted in the generator's monthly quantity determination to determine the business' generator status. A generator of hazardous waste is obligated to minimize the release of the mercury found in the lamps and the bulb crusher must be a closed container, so a control device is required on all crushers to prevent emissions.

This fact sheet was developed by the Business Environmental Program of the Nevada Small Business Development Center with funding provided by the Nevada Division of Environmental Protection.

(Continued from page 1)

How do I Manage the "Green" Fluorescent Lamps?

Newer "green" lamps that do not fail the hazardous waste toxicity test for mercury are available from several manufacturers. But, the bottom line is that all fluorescent lamps contain some type of mercury. Please check the manufacturer's literature and with your disposal facility to ensure that these lamps may be safely managed as non-hazardous solid waste. Although these lamps may pass the hazardous waste test, they nevertheless contain mercury, so remember to manage these lamps properly. Like hazardous and universal waste lamps, these lamps may also be sent off to lamp processor/recyclers.

Can household owners dispose of fluorescent lamps in the trash?

Mercury-containing waste lamps are also generated by households, **which are not regulated under RCRA**. Households are allowed to dispose of lamps in the trash. However, NDEP highly encourages residents to take these lamps to collection centers, if available.

What types of lamps are considered universal wastes?

EPA defines "lamp" or "universal waste lamp" as "the bulb or tube portion of an electric lighting device. A lamp is specifically designed to produce radiant energy, most often in the ultraviolet, visible, and infra-red regions of the electromagnetic spectrum" Examples of lamps include, but are not limited to, fluorescent, high intensity discharge, neon, mercury vapor, high-pressure sodium, and metal halide lamps.

Management of universal waste lamps

Storage and Accumulation Time

Universal waste lamps should be re-packaged in the original container they were received in, or sturdy containers designed to prevent breakage or leakage during foreseeable conditions. DO NOT CRUSH HAZARDOUS WASTE LAMPS IF YOU INTEND TO HANDLE THEM AS UNIVERSAL WASTES. Intentionally crushing lamps is considered treatment, and crushed lamps must be handled as hazardous waste. In the event a lamp is unintentionally broken, the debris must be placed into a suitable container. Universal Waste Handlers may or may not take unintentionally broken lamps as a universal waste. If a lamp that has been unintentionally broken requires disposal then it should be managed as a hazardous waste unless the generator has documentation from the manufacturer that the lamp in non-hazardous.

Lamps may not be stored on-site for longer than one year unless the handler (generator) can demonstrate to the EPA that more time is necessary to recycle the waste. Businesses accumulating universal wastes need to be able to demonstrate the length of time the universal waste has accumulated on-site. This can be accomplished by marking the initial date of accumulation on the container, using an inventory system, or placing the universal waste in a segregated storage area.

Transportation

Universal waste lamps may be shipped under a bill of lading. Manifesting is not required unless the shipment goes through a state where the universal waste is considered a hazardous waste.

Universal waste may be shipped to:

- Another universal waste handler, or
- Destination facility (state approved recycling facility or a licensed Treatment, Storage or Disposal Facility (TSDF)).

Recordkeeping

SQHUW are not required to keep records of universal waste shipments. However, BEP recommends business accumulating and shipping universal waste maintain documents supporting their practices.

Training

Employees who handle or manage universal waste must be trained regarding the handling and emergency procedures appropriate to the universal waste accumulated on-site.

Note: Conditionally Exempt Small Quantity Generators (CESQG) are not bound by federal law to manage their spent lamps under the universal waste rules. Both NDEP and BEP strongly advocate the proper recycling of these wastes.

(Continued on page 3)

Companies Accepting Universal Waste Lamps or Sources of Low Mercury Florescent Lamps
Note: BEP is aware that the following companies accept universal waste lamps or sell low mercury lamps in Nevada. Other companies may also accept lamps or sell low mercury lighting.

Companies Accepting Universal Waste Lamps

Northern Nevada

Safety-Kleen Sparks, NV (775) 331-4477	Superior Services Inc (800) 556-LAMP	Philip Services Fernley, NV (775) 575-2760	Have Lights Will Travel Sparks, NV (775)	Wedco Inc. Lamp recycling boxes (775) 329-1131

Southern Nevada

Safety-Kleen N. Las Vegas, NV (702) 633-4282	Superior Services Inc (800) 556-LAMP	Philip Services Fernley, NV (775) 575-2760	Pest West Environmental Las Vegas NV Toll Free 1-866-476-7378 or 954-410-5869 Fax Request for Boxes: 1-866-347-8372

Northern Nevada

Phillips Pat Becker (818) 519-8382	General Electric Mark Laffin (916) 922-1903	Sylvania Royal Wholesale Electric Sparks, NV Don Atwood (775) 359-8330	Grainger (775) 331-7504 (800) 846-7366 Sparks, NV	Superior Lamps (775) 378-4434 Reno, NV

Southern Nevada

Phillips Pat Becker (818) 519-8382	General Electric John Spadora (702) 396-9090	Sylvania Don Ziemski Las Vegas, NV (800) 795-8264 x100-1222	Grainger (702) 385-6833 Las Vegas, NV	AERC Recycling Solutions 30677 Huntwood Ave. Hayward, CA 94544 (510) 429-1129

Web Resources for Universal Waste Lamps

For more information regarding universal waste, visit http://www.epa.gov/osw/hazard/wastetypes/universal/

http://www.epa.gov/Region9/toxic/pcb/ballast.html
Last updated on Thursday, August 23, 2007

Region 9: Polychlorinated Biphenyls (PCBs)

Storage & Disposal: Ballasts

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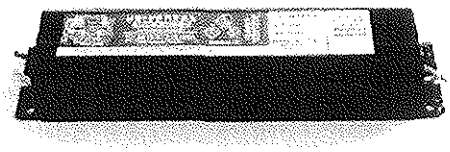


An intact ballast from a typical pre-1979 fluorescent light fixture.

This ballast sparked a fire at a Southern California school in 1999.

PCBs were commonly used in the small capacitor within fluorescent light ballasts. Ballasts manufactured through 1979 may contain polychlorinated biphenyls (PCBs).

PCB containing ballasts become a concern if they are leaking or they will be removed and disposed of as hazardous waste. According to EPA Toxic Substances Control regulations (TSCA) the material must be incinerated. The entire lighting fixture does not need special handling and disposal as long as the ballast (electrical box) is not leaking. The non-leaking ballasts can be removed and recycled or disposed of properly.

PCB Lighting Ballasts in Schools

The California Department of Education (CDE) and Department of Toxic Substances Control (DTSC) recommend removal of pre-1979 PCB ballasts from schools as soon as practicable. They recommend that school districts planning modernization projects should include PCB fluorescent light ballast removal where pre-1979 lighting systems are still in use.

> **Fluorescent light ballasts manufactured before 1978 or which are not stamped: "NO PCBs" should be considered PCB fluorescent light ballasts (PCB ballasts) because the small capacitor included as one component of the ballast probably contains polychlorinated biphenyls (PCB).**

PCB lighting ballasts remain in use in schools throughout the country. As this equipment ages, it is critical that school personnel are aware of how to properly handle and dispose of ballasts.

Should you consider replacing light ballasts in your school?

Yes, if your school:
- was built before 1979 or,
- has not had a complete lighting retrofit since 1979.

EPA has developed two guides to help schools manage PCBs in lighting ballasts and

conduct a lighting retrofit. Because the ballasts contain PCBs and the fluorescent tubes contain mercury, safe disposal of the old ballasts and fluorescent tubes is critical.

- ***A Guide for School Administrators***
Removing PCBs from Light Fixtures: Protecting Students from Hidden Dangers (PDF) (8 pages, 2.1 MB) An overview of proper management of lighting ballasts, case studies of clean up and retrofit experiences at other schools, information resources for lighting retrofits, and answers to questions from parents and students.

- ***A Guide for School Maintenance Personnel***
Removing PCBs from Light Fixtures: Protecting Students from Hidden Dangers (PDF) (10 pages, 3.7 MB) Detailed information on identifying PCB ballasts, emergency response and follow-up in case of a ballast fire and leak, proper disposal of ballasts and lamp tubes, and guidance and resources for designing and conducting a lighting retrofit.

NOTE: You will need Adobe Acrobat Reader to view these files. See EPA's PDF page to learn more.

Additional Ballast Resources

More information on PCBs in schools, energy efficiency, children's health issues and healthy school facilities:

TSCA Disposal Requirements for fluorescent light ballasts (PDF)

EPA's Energy Star Program
General info on energy efficient lighting retrofits.

California Energy Commission's Bright Schools Program (916) 654-5074
This program offers specific services to help you become more energy wise, such as identifying cost-effective energy-efficient systems to meet your needs providing design, technical and implementation assistance. The program can also help you get loans to obtain the matching funds required by some State programs.

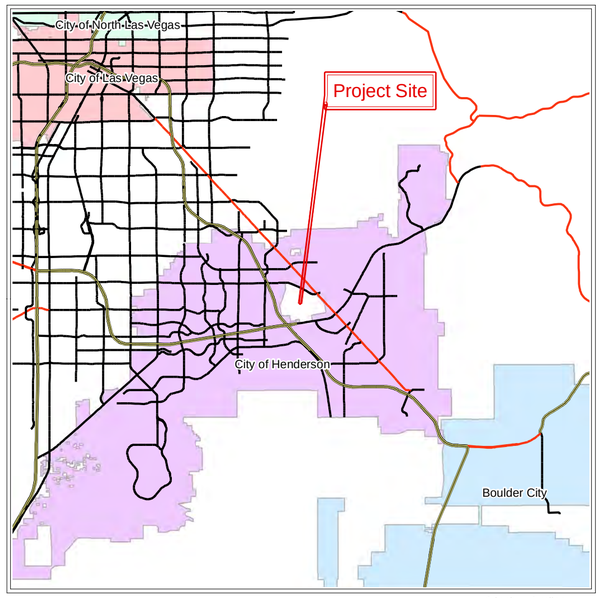
Section 4

Drawing

1 inch = 400 feet

0 400 800 1,200 1,600 Feet

tronox.mxd



1 inch = 4 miles

Converse Consultants
Over 60 Years of Geotechnical Engineering, Environmental & Groundwater Science, Inspection & Testing Services

SITE MAP

ITEMS FOR DEMOLITION AND ABATEMENT

Tronox
Henderson, NV

Plate 1

Date Created: 04/27/10 Project No: 10-43153-01