**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**
**REGION 5**
**77 W. JACKSON BOULEVARD**
**CHICAGO, IL 60604**

# SITE VISIT REPORT - FINAL

## MEMORANDUM TO FILE

| | |
|---|---|
| **INSTALLATION NAME:** | Polychem Services, Inc., LLC |
| **U.S. EPA ID No.:** | ILD 980 578 876 |
| **LOCATION ADDRESS:** | 374 E. Joe Orr Road<br>Chicago Heights, IL 60411 |
| **NAICS CODES:** | 325211 (Plastics, Material and Resin Manufacturing); 424690 (Other Chemical and Allied Products Merchant Wholesalers) |
| **DATE OF INSPECTION:** | January 18, 2012 |
| **EPA INSPECTOR:** | Michael Valentino |

**PREPARED BY:** Michael Valentino 5-2-12

Michael Valentino,
Environmental Engineer

Date

**REVIEWED BY:** Lorna M. Jereza 5/2/12

Lorna M. Jereza, Chief
Compliance Section 1
RCRA Branch

Date

**Purpose of Site Visit:**

The purpose of the site visit was for the assigned RCRA inspector to assist the Region 5 Superfund Division (SFD) On-Scene Coordinator (OSC) in SFD's initial site visit/preliminary assessment, and to witness the facility's signing of a site access agreement which the OSC presented on the day of the site visit.

**Enforcement History:**

In July 2007, the Illinois Environmental Protection Agency (IEPA) conducted a RCRA inspection at Heartland Polymer, Inc. in Chicago Heights, Illinois. Following its findings IEPA issued a Violation Notice to Heartland Polymer, Inc. and Heartland Polymers Realty, Inc. in August 2007. After failure to reach a settlement with Heartland Polymer, Inc. and Heartland Polymers Realty, Inc., IEPA re-inspected the site in May 2008 at which time Polychem Services, Inc., LLC (Polychem) was the operator of the facility while ownership of the property was held by Heartland Polymers Realty, Inc. IEPA observed hundreds of containers, according to its inspectors, consisting of 55-gallon drums and totes located outside on the north and east sides of the site. IEPA referred the matter to EPA for formal action in December 2008.

EPA inspected the facility in November 2009 and August 2010 under its RCRA authority. EPA also observed hundreds of drums of hazardous and non-hazardous waste and hundreds of totes of dimethyl ethyl amine (DMEA) and unknown materials during both its inspections.

On November 17, 2009, EPA and IEPA inspected the facility. Situated outside, along the western, northern and eastern sides of the site were nearly 500 containers consisting of 55-gallon steel drums, totes and poly bags. In general, site conditions (housekeeping) were poor: the containers were staged in such a way that access was often difficult. Aisle space in many locations was not sufficient to allow for ease of human movement or for emergency equipment to be easily moved in and out, such as over-pack drums. The drums had the appearance of being outside for some time, as labels were hanging on a number of drums. Those drums with hazardous waste labels were dated May 12, 2009. At the time of the inspection, the drums had been on-site for more than 180 days. At the time of the inspection, the top production process was dimethyl ethyl amine (DMEA) recovery.

On July 15, 2010, IEPA inspectors observed surface water run-off from the facility releasing off-site to the street that borders the property on the west. IEPA photographed two cloth containment booms outside the Polychem fence line. IEPA also observed and photographed standing liquids which had pooled on the facility property in the northwest corner of the site. IEPA also observed and photographed liquids running off-site to a manhole in the street, leaking poly bags, open containers and evidence of historical spillage onto the facility's blacktop.

On August 5, 2010, EPA inspected the facility again, at which time it appeared site conditions had deteriorated from November 2009. There were approximately 550 to 600 55-gallon steel drums staged on the blacktop throughout the facility. Of these, numerous drums were either

unlabeled, found to have illegible labels or were inaccessible or non-discernable (i.e., labels may have been present but were turned inward). At least 110 drums were verified to have hazardous waste labels that were either dated May 12, 2009, or left undated. There were also more than 200 totes on site on the day of the inspection, the vast majority of which were believed to contain DMEA.

In March 2011, EPA's Criminal Investigation Division and National Enforcement Investigations Center (Denver office) conducted a joint investigation at the Polychem facility. At this time, the field investigation team selected containers to be sampled and the number of drums were inventoried.

On December 19, 2011, Land and Chemicals Division referred the matter to SFD, prompting the site visit of January 18, 2012.

**Participants:**

Ed Babinski (ph: 219-902-7514; babinskied@yahoo.com) and John Hart (ph: 630-925-1375; jhart@chemtechservicesinc.com) represented Polychem. William Seith (ph: 312-327-0014; wseith@brycedowney.com) of Bryce, Downey & Lenkov, LLC, was also present on behalf of Polychem. Tom Wiggins (ph: 630-429-3640; twiggins@chemtechservicesinc.com) represented Chemtech Services, Inc. Michael Valentino represented EPA Region 5 Land and Chemicals Division. Ramon Mendoza (ph: 312-886-4314), OSC, represented EPA Region 5 Superfund Division. Lisa Graczyk (ph: 312-424-3339; lgraczyk@dynamac.com), an EPA START contractor for SFD, represented Weston-Dynamac.

**Facility Description:**

Polychem operates a medium-sized chemical conversion facility occupying a single building housed under approximately 25,000 square feet of roof and resting on approximately four acres of property in an industrial area of Chicago Heights, Illinois. The site is located approximately one and one-half miles east of I-394 (Bishop Ford Freeway) and one mile north of Route 30 (Lincoln Highway), and is set back about 500 to 600 ft south of Joe Orr Road.

Polychem was incorporated in February 2008. In May of that year, it had purchased the building and equipment (tanks, reactors, instrumentation, etc.) housed at 374 E. Joe Orr Road in Chicago Heights. The facility was previously owned and operated by Heartland Polymer, Inc.

Polychem is a diverse chemical conversion company whose processes have historically included condensation reactions, free radical polymerization and Lewis acid alkylation reactions. Polychem produces polyesters, alkyd resins, acrylic resins and thermal-pressure addition resins. In 2009, Polychem primarily focused on the recovery of dimethyl ethyl amine (DMEA) from spent amine solutions from foundry operations.

As of January 2012, the only active process at the site was recovery of DMEA. DMEA is received in totes and processed first by dissolving it in an amine sulfate solution in a continuous stirred tank reactor (CSTR). From the CSTR the DMEA vapors are condensed and sent to a

recovery tank where they are subsequently packaged and sold to Chemtech on a converted per-pound basis.

A comparison of aerial photos circa July 2010 (Attachment 1) and early Spring 2012[1] (Attachment 2) show the presence of more DMEA totes in northeastern and eastern sections of the site and less DMEA totes in the northern and east-central sections of the site in 2012.

**Opening Meeting:**

I met OSC Mendoza and Ms. Graczyk at a predetermined rendezvous point about 300 feet up the road and to the north of the Polychem facility. After briefly discussing our course of action, OSC Mendoza and Ms. Graczyk followed me in separate vehicles through the facility's main gate.

Upon arrival at the site, OSC Mendoza, Ms. Graczyk and I proceeded to the second floor office area where we met with Messrs. Seith, Hart, Babinski and Wiggins. OSC Mendoza and I displayed our EPA credentials. After opening remarks by Mr. Seith, OSC Mendoza discussed the purpose of the site visit, the referral of the site investigation from the Region 5 RCRA Program to the Superfund Program and various mechanisms by which site remediation can take place under Superfund (CERCLA) authorities.

Mr. Seith said that Polychem had obtained removal estimates from two vendors, with each estimate at approximately $87,000 to $90,000. He further stated that there remains $100,000 in escrow. Mr. Hart stated that the purchase agreement between Heartland and Polychem included a non-usable inventory list, and to ensure disposal of these materials, as well as any other unusable materials that might later be discovered, an escrow fund was established in the amount of $300,000. The fund was established using capital from the purchase of the facility. The purchase agreement – and understanding of the purpose of the escrow fund – was entered into between John Balaco of Heartland and Polychem officials.

Messrs. Seith, Hart and Babinski each expressed frustration that the escrow was set up by the third party (Harris Bank) in such a way that only Mr. Balaco could draw down reserves from the account. Heartland, with the help of JAS Environmental, Inc. (specifically, Jeffrey Stofferahn of JAS), did identify non-usable materials and removed a significant amount of hazardous and non-hazardous waste off-site between March 2009 and October 2009.[2]

Wastes remain on-site, including some drums which have remained on-site since prior to November 2009, but Polychem officials say they do not have access to the escrow funds that exist for the purpose of removing those wastes.

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[1] Judging by aerial photograph at Google maps, the author believes the photo to be approximately March 2012. The evidence of red drum tops (northwest corner of site) confirms the aerial photo was taken after the conclusion of the emergency removal (ER) action in early February 2012.

[2] Based on review of 2009 hazardous waste manifests and a manifest summary log provided by Terry Hartford, Polychem, via email to Michael Valentino on November 17, 2009, Heartland manifested and shipped off-site roughly 600,000 lbs of waste material carrying waste codes, D001, F003 and/or D035 between March 2009 and October 2009.

Mr. Hart said that the only ongoing process at the facility is DMEA recovery. He further stated that in the recovery of DMEA, sodium sulfate ($Na_2SO_4$) salt is generated. He said that Polychem has temporarily discontinued resin manufacturing, and that Polychem lost most of its resin customers after the March 2011 inspection.

According to the Polychem representatives, Terry Hartford, who holds 40% of Polychem's stock, has relocated to Phoenix, Arizona, and is no longer involved with operations at Polychem. Mr. Wiggins manages day-to-day operations at the site, and he stated that he is at the site approximately four days per week.

OSC Mendoza presented the Polychem representatives with a standard access agreement. After Mr. Seith reviewed it, he recommended Polychem sign it. Mr. Babinski signed the access agreement in my presence.

OSC Mendoza informed the Polychem representatives that EPA will seek to identify the potentially responsible parties (PRPs) and once that is completed, will issue notice letters to the PRPs. He stated that EPA may issue an order requiring the PRPs to clean up the site, or EPA may undertake the clean-up itself and later seek cost recovery from the PRPs. He also informed them that EPA would prepare a sampling plan and return within a week or thereabout to sample containers and soils, the latter to determine if on-site releases and/or off-site migration has taken place.

At the conclusion of the meeting, the Polychem representatives toured the site with OSC Mendoza, Ms. Graczyk and myself.

**Facility Walk-Through/Photographs:**

We began the facility walk-through at approximately 10:50 am CST. We met in the parking lot to the south of the office/lab building and began the tour in the southwest quadrant of the facility, working northward and then eastward.

During the course of the walk-through, I took twenty-five (25)[3] photographs on a Nikon Coolpix P4 digital camera, with 8.1 megapixel resolution. These photographs are contained within this narrative. They are true and representative of the conditions I observed at the installation on the date of the site visit. Descriptions of the photographs are provided directly below each.

[3] This report includes twenty-four (24) photos because the 25th and final photo taken was a duplicate of photo no. 24.


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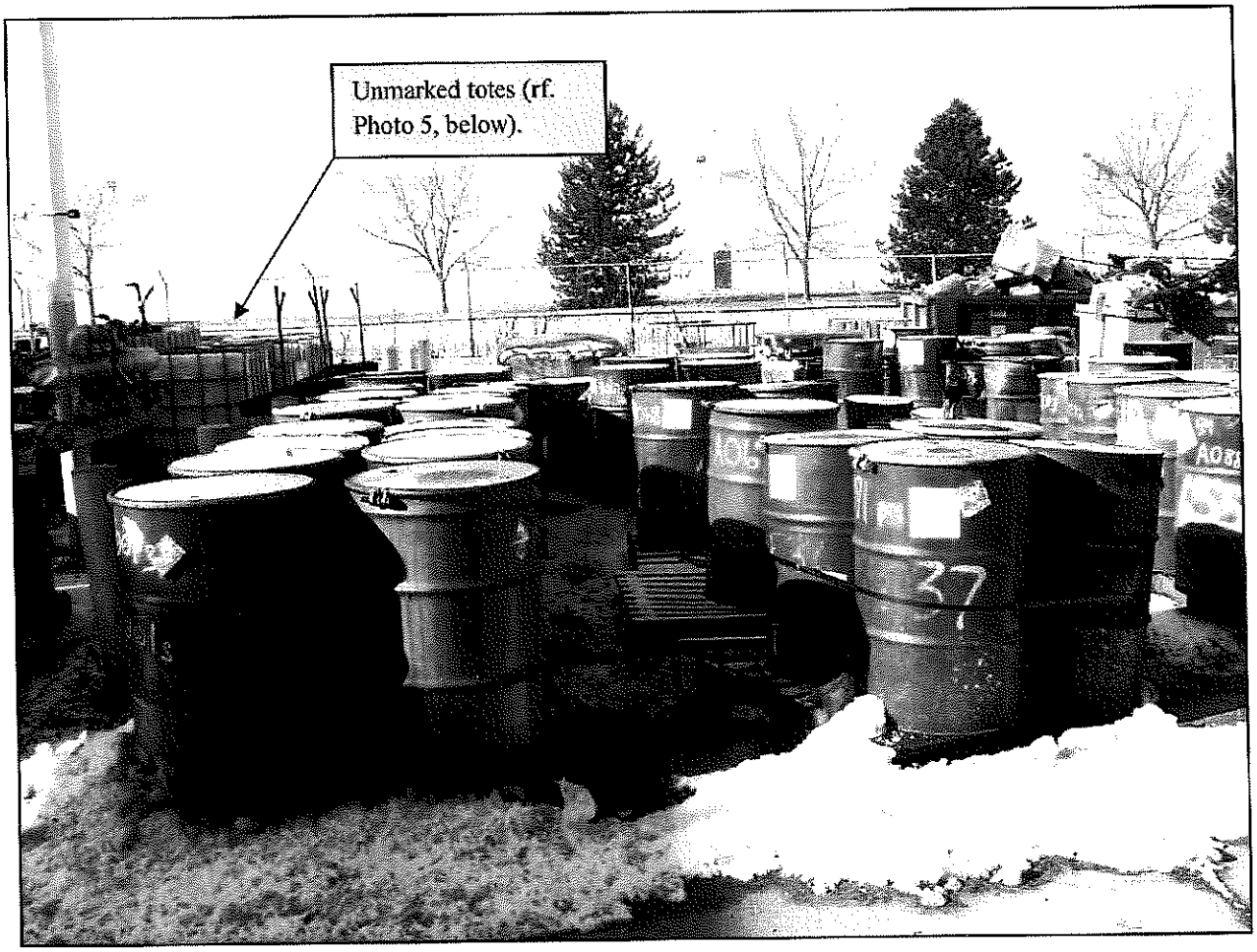
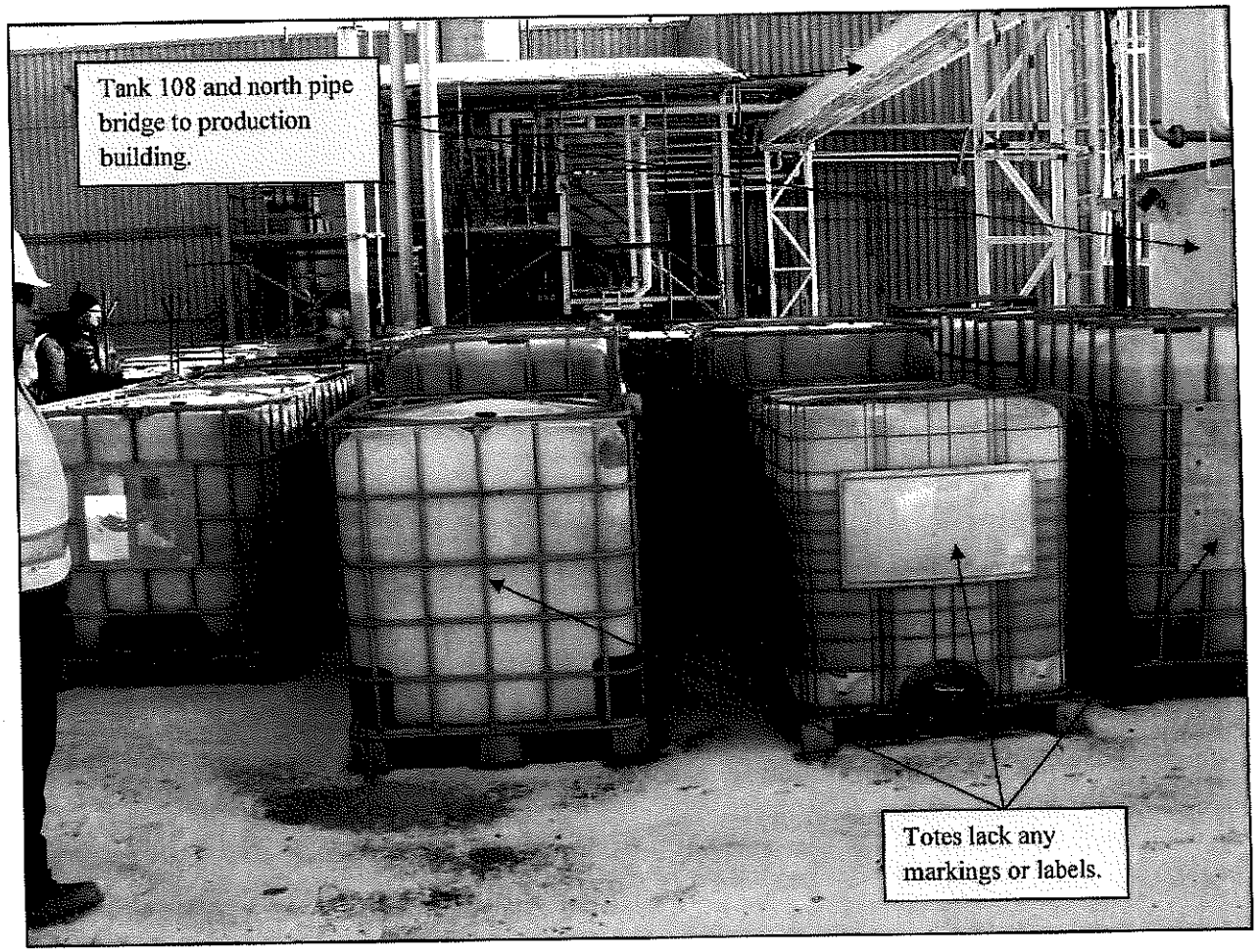
| Photo 1 Taken by: Michael Valentino | Polychem Services, Inc. |
|---|---|
| 1/18/12 10:52 am<br>Orientation: West | West of production building just north of product tank farm. Photo shows rows of hazardous waste drums affixed with hazardous waste lables and flammable decals. Alpha-numeric markings on drums (e.g., "A025, C017") are from EPA during its March 2011 investigation. Overpack drum (R. foreground) is from EPA's March 2011 investigation. (Approx. drum count: 48) |

| Photo 2 Taken by: Michael Valentino | Polychem Services, Inc. |
|---|---|
| 1/18/12 10:52 am<br>Orientation: West | West of production building just north of product tank farm. Just north of where Photo 1 was taken. More rows of hazardous waste drums. Painted numbers (e.g., "55") on furthest left drum in foreground are indicative of JAS Environmental drum identification used in developing its waste inventory for Heartland. (Drum count, center pallets only: 8) |

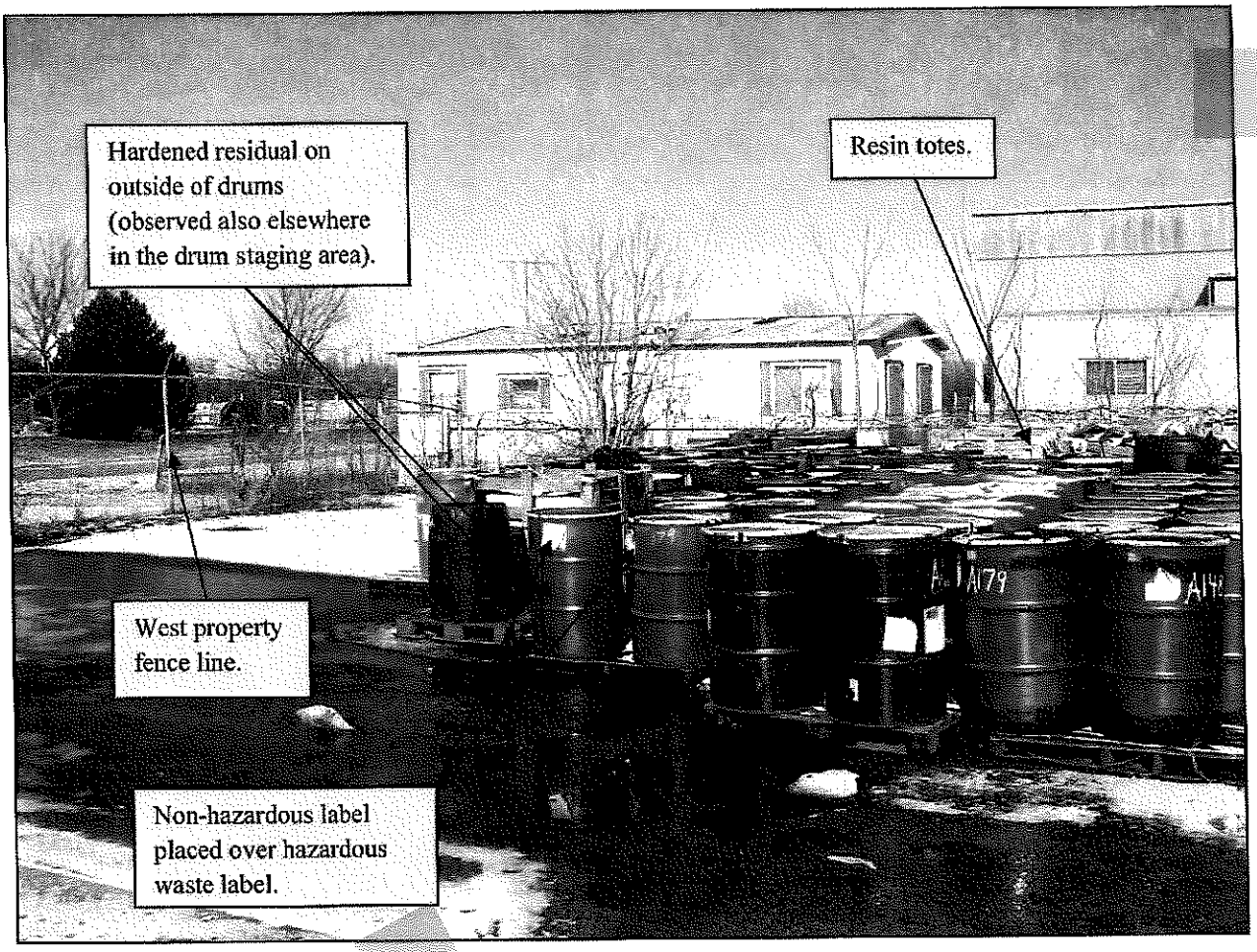



| Photo 3 Taken by: Michael Valentino | Polychem Services, Inc. |
|---|---|
| 1/18/12 10:52 am<br>Orientation: West | West of production building just north of product tank farm. Just north of where Photo 2 was taken. (Approx. drum count, left and center-right pallets only: 27) |


| | |
|---|---|
| Photo 4 Taken by: Michael Valentino | Polychem Services, Inc. |
| 1/18/12 10:53 am<br>Orientation: West | West of production building just north of product tank farm. Just north of where Photo 3 was taken. (Approx. drum count, excluding furthest left pallets: 47) |

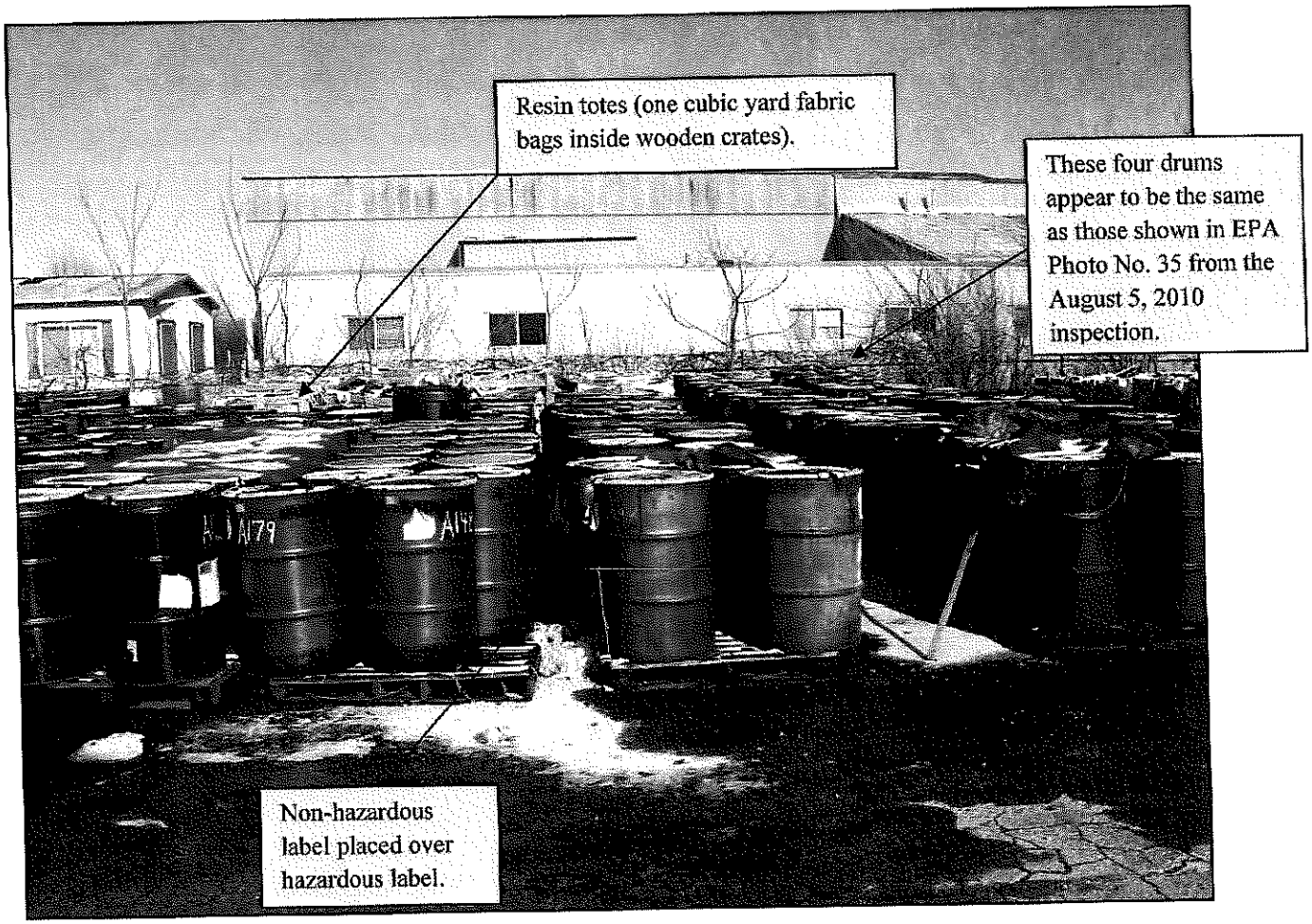



| | |
|---|---|
| Photo 5 Taken by: Michael Valentino | Polychem Services, Inc. |
| 1/18/12 10:56 am<br>Orientation: East | West of production building just north of product tank farm. Unmarked totes possibly containing hardened sodium sulfate salt, according to Polychem officials. |

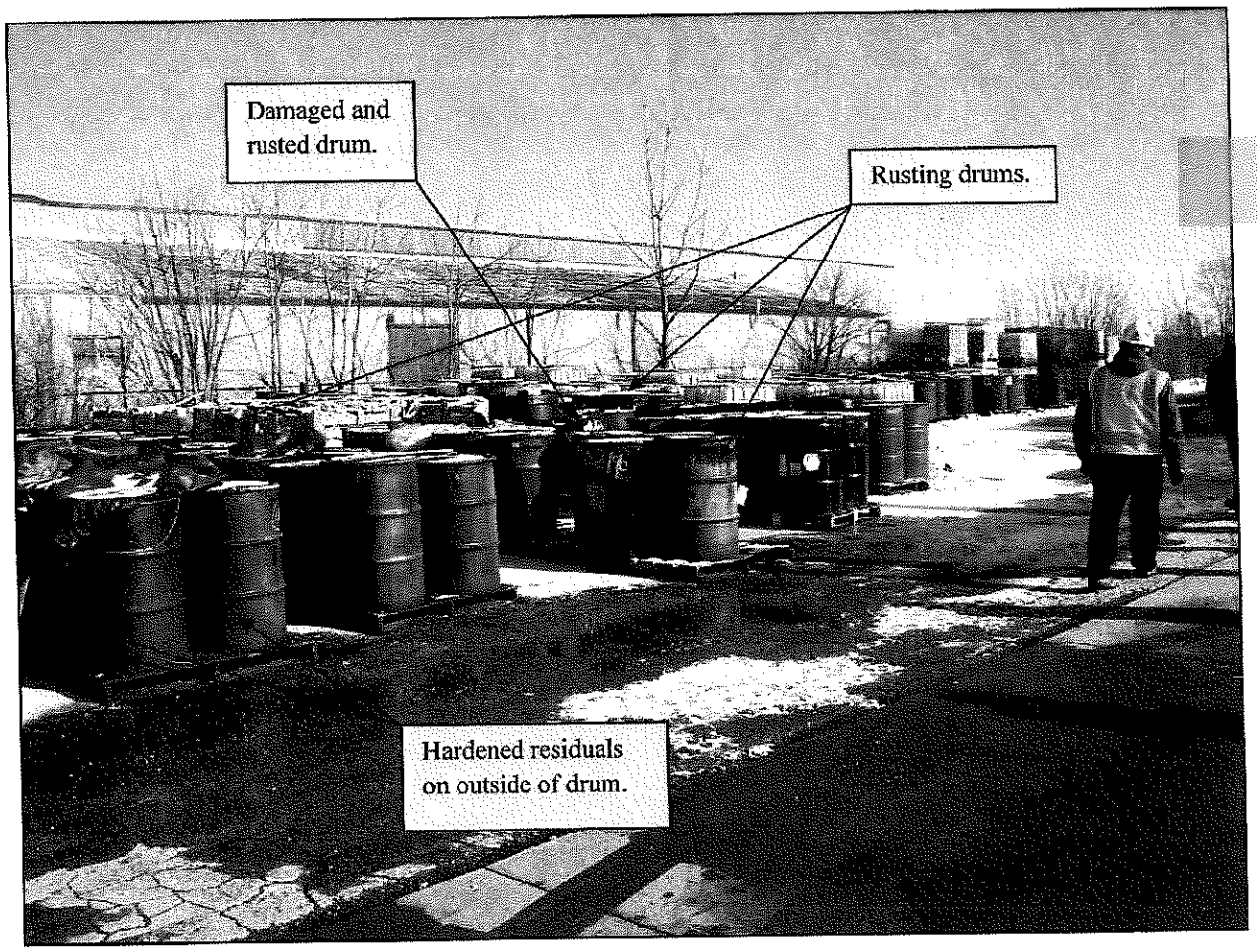



property line

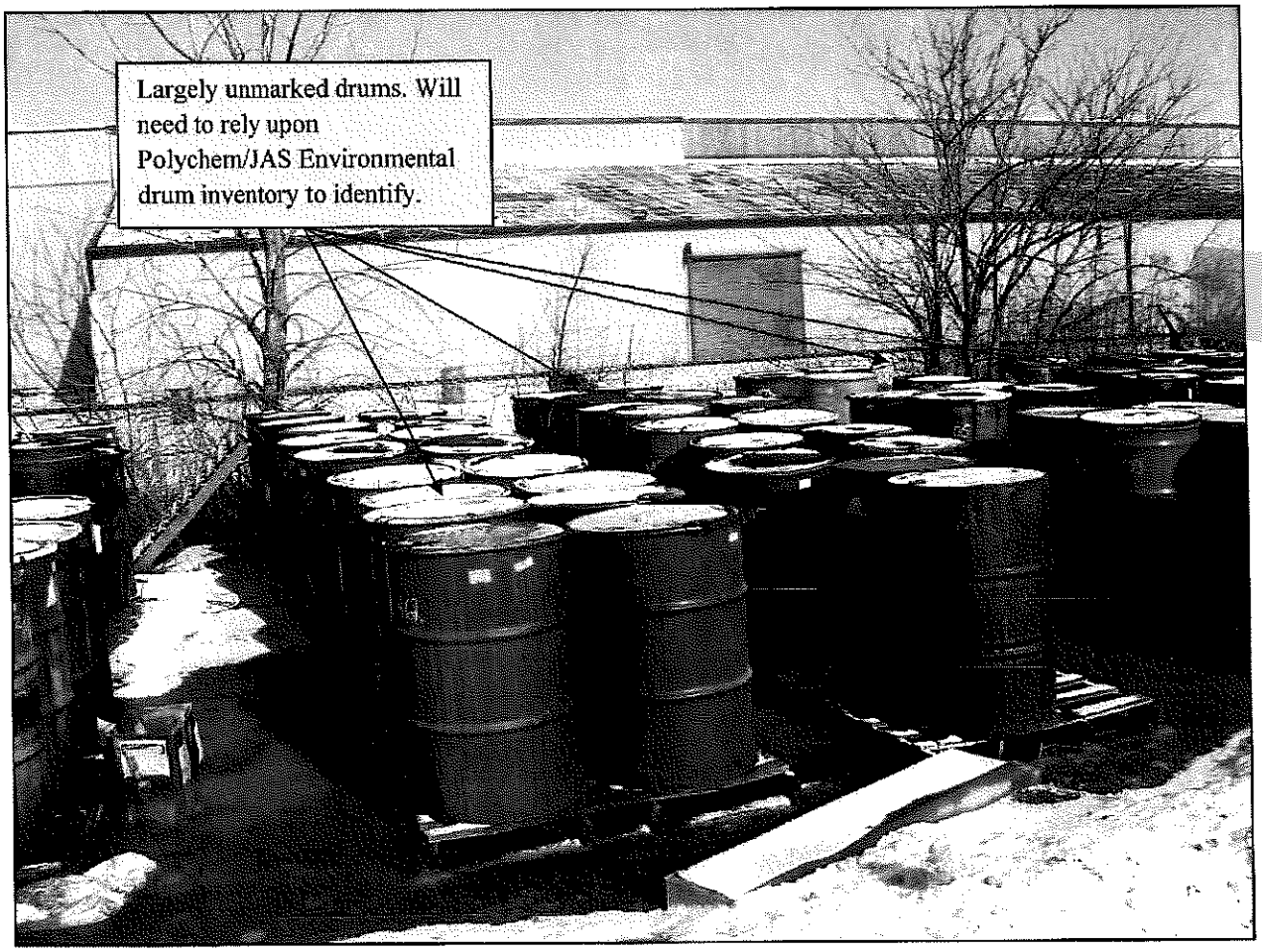
| Photo 6 Taken by: Michael Valentino | Polychem Services, Inc. |
|---|---|
| 1/18/12 10:58 am<br>Orientation: Northwest | Northwest corner of site. Mixture of hazardous and non-hazardous (predominantly) drums, resin totes left by Heartland, according to Polychem officials. (Approx. drum count, to the left of drum "A179" in right foreground: 34) |




| Photo 7 Taken by: Michael Valentino | Polychem Services, Inc. |
|---|---|
| 1/18/12 10:58 am<br>Orientation: North | Northwest corner of site. Mixture of hazardous and non-hazardous (predominantly) drums, resin totes left by Heartland, according to Polychem officials. Just east of Photo 6. (Approx. drum count, from drum "A179" to the row of full pallets to the right: 70) |

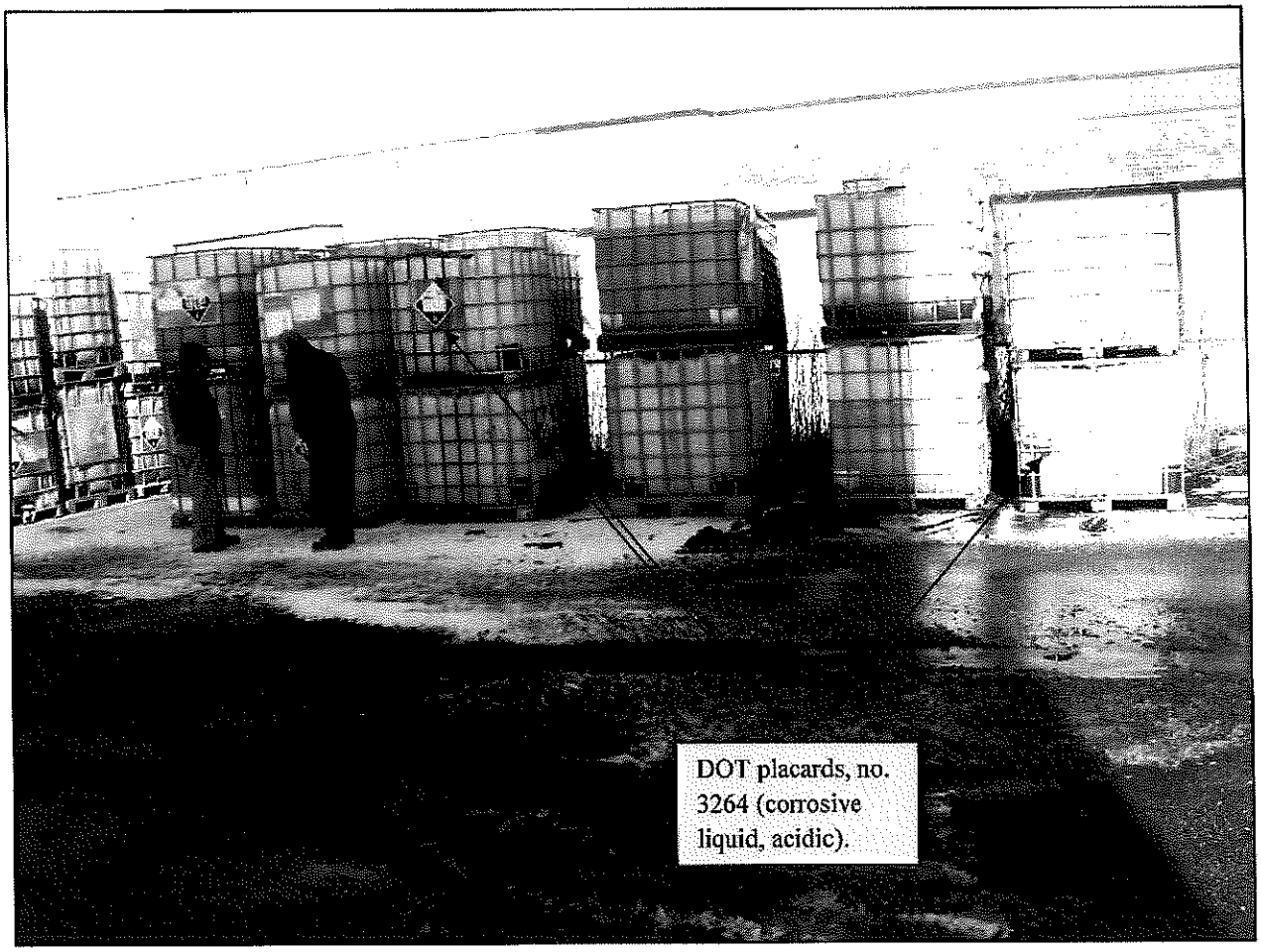



| | |
|---|---|
| Photo 8 Taken by: Michael Valentino | Polychem Services, Inc. |
| 1/18/12 10:58 am<br>Orientation: Northeast | North side of site. Mixture of hazardous and non-hazardous (predominantly) drums, resin totes left by Heartland, according to Polychem officials. Just east of Photo 7. (Approx. drum count, to the right of drums "211/A190" and "545/A189": 42) |




| Photo 10 Taken by: Michael Valentino | Polychem Services, Inc. |
|---|---|
| 1/18/12 11:00 am<br>Orientation: North | North side of site. Drums left by Heartland, according to Polychem officials. Did not observe hazardous waste labels here. (Approx. drum count, excluding furthest left row and drums in right background: 46) |

| Photo 11 Taken by: Michael Valentino | Polychem Services, Inc. |
|---|---|
| 1/18/12 11:00 am<br>Orientation: North-Northeast | North/Northeast part of site. Unidentified drums to left, DMEA totes in rear. Polychem officials claim these drums were left by Heartland. (Approx. drum count, excluding drum "A503" and to its left: 35) |




| Photo 12 Taken by: Michael Valentino | Polychem Services, Inc. |
|---|---|
| 1/18/12 11:02 am<br>Orientation: North-Northwest | North/Northeast part of site. DMEA totes. Some uncertainty as to labeling (i.e., Rohm & Haas labels on some totes), according to Polychem officials. DOT placard, no. 3264 indicates corrosive liquid, acidic. |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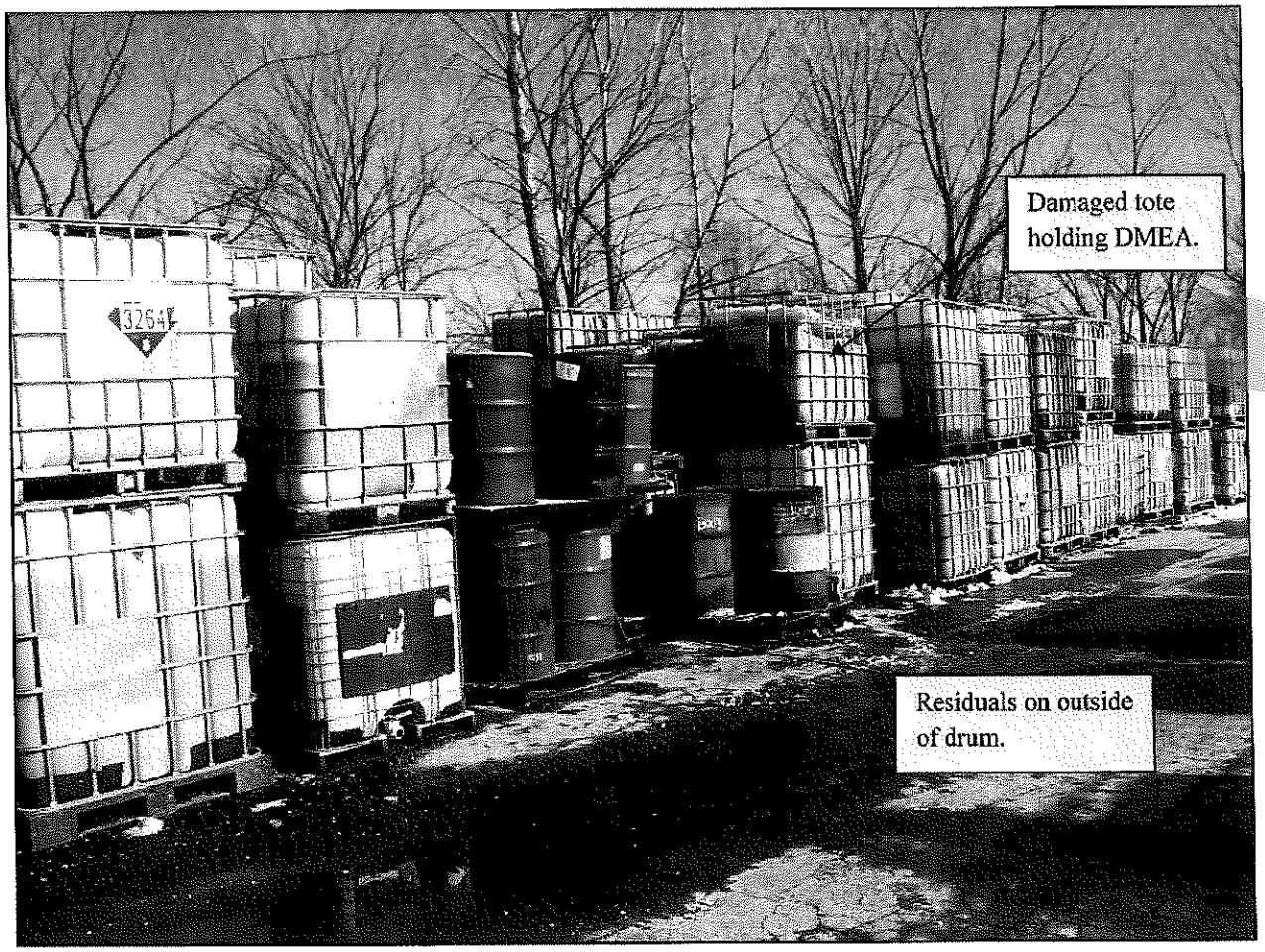
|---|---|
| Photo 13 Taken by: Michael Valentino | Polychem Services, Inc. |
| 1/18/12 11:05 am<br>Orientation: North | Northeast corner of site. DMEA totes. DOT placard, no. 3264 indicates corrosive liquid, acidic. |




| | |
|---|---|
| Photo 14 Taken by: Michael Valentino | Polychem Services, Inc. |
| 1/18/12 11:05 am<br>Orientation: Northeast | Northeast corner of site. DMEA totes. DOT placard, no. 3264 indicates corrosive liquid, acidic. Mixture of Heartland materials and Polychem drums (for processing), according to Polychem officials. |

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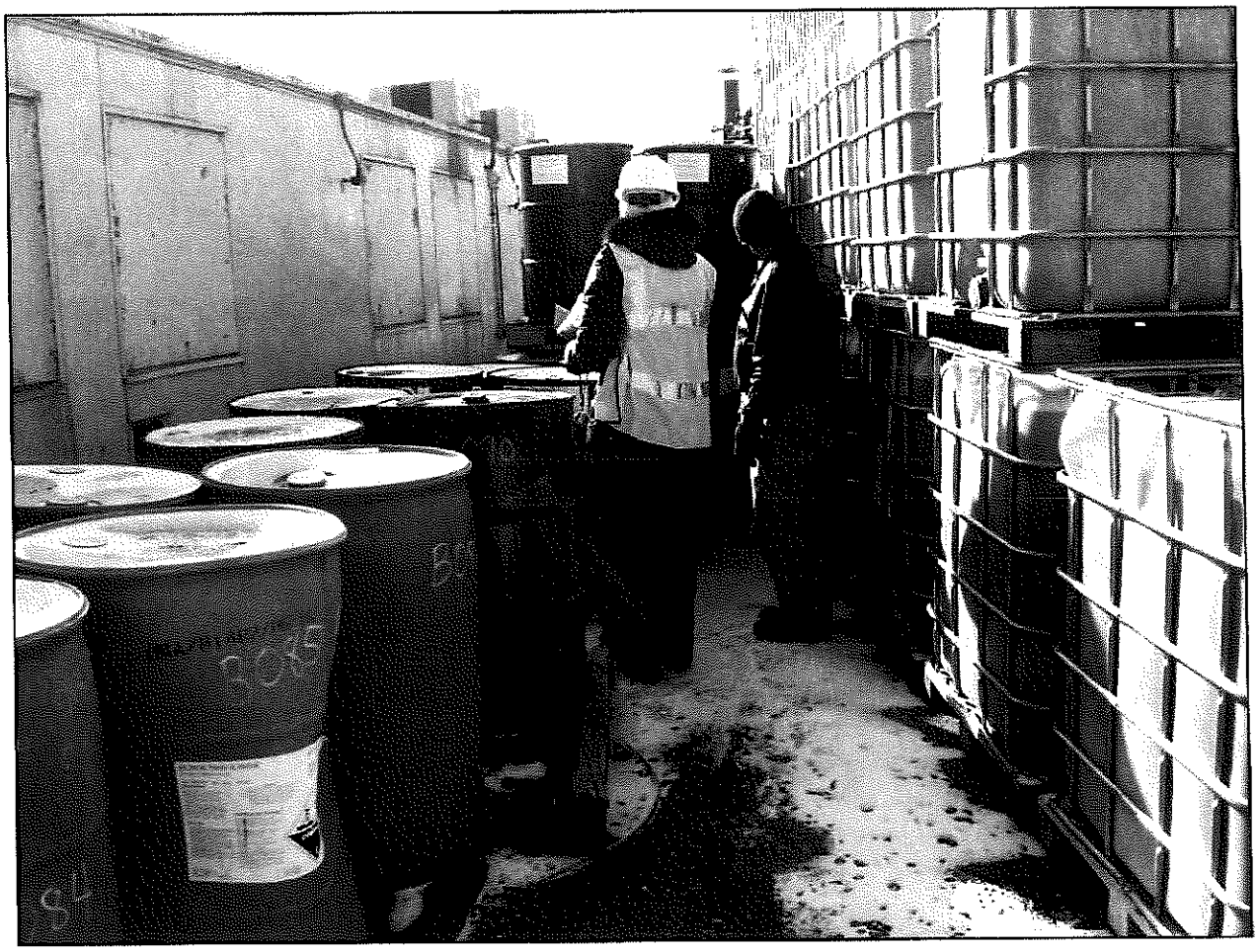
|---|---|
| Photo 15 Taken by: Michael Valentino<br>1/18/12 11:06 am<br>Orientation: Northeast | Polychem Services, Inc.<br>Northeast corner of site. DMEA totes. Just to south of Photo 14. |

| | |
|---|---|
| Photo 16 Taken by: Michael Valentino | Polychem Services, Inc. |
| 1/18/12 11:07 am<br>Orientation: South-Southeast | East end of site, near peroxide storage bldg. Blue poly drums contain monethanolamine. |



| Photo 17 Taken by: Michael Valentino | Polychem Services, Inc. |
|---|---|
| 1/18/12 11:07 am<br>Orientation: South | East end of site, near peroxide storage bldg. Blue poly drums contain monethanolamine. Steel drums behind blue poly are unmarked. Stacked steel drums in rear are filter bags marked as non-hazardous. DMEA totes to right. |

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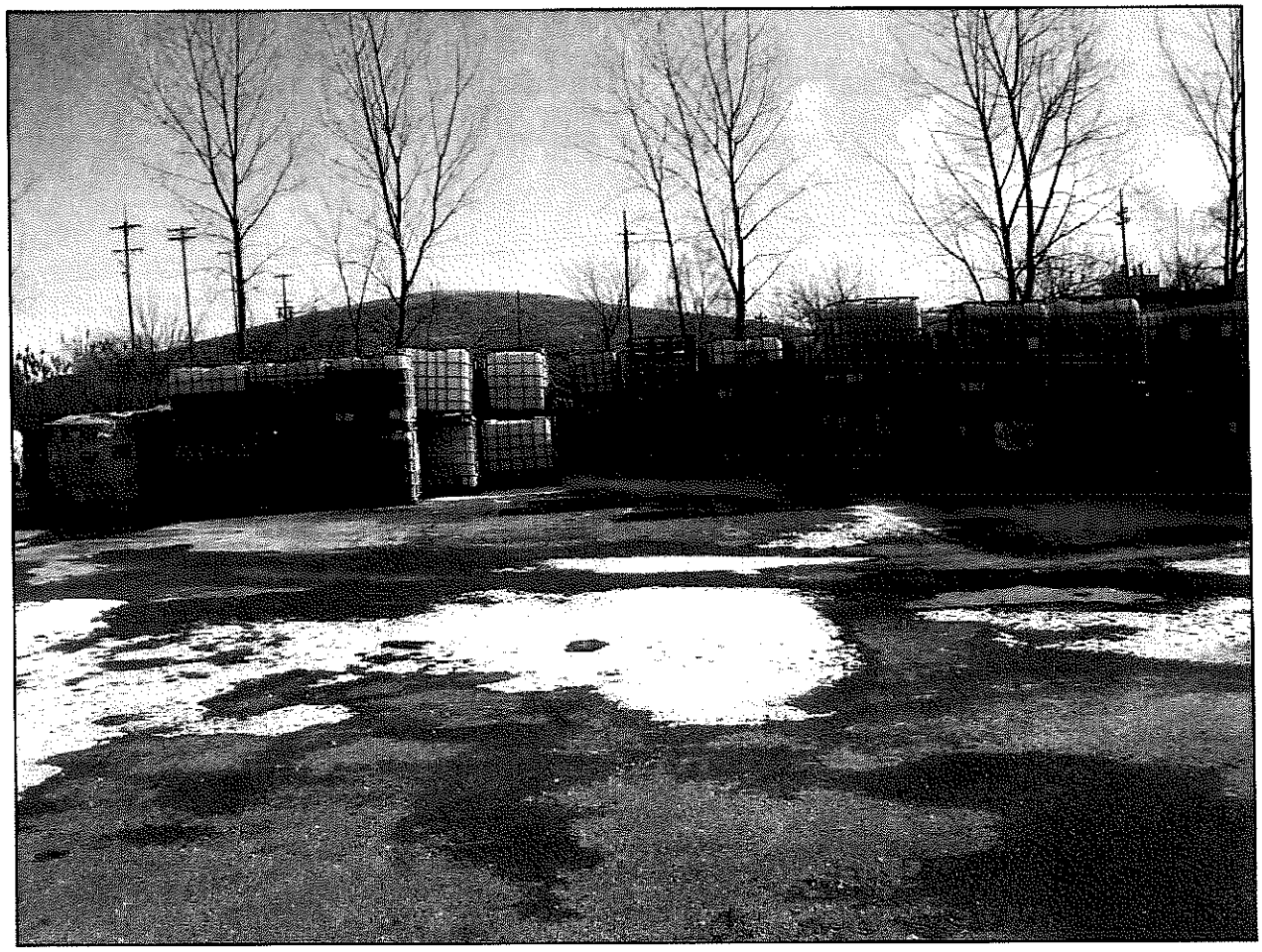
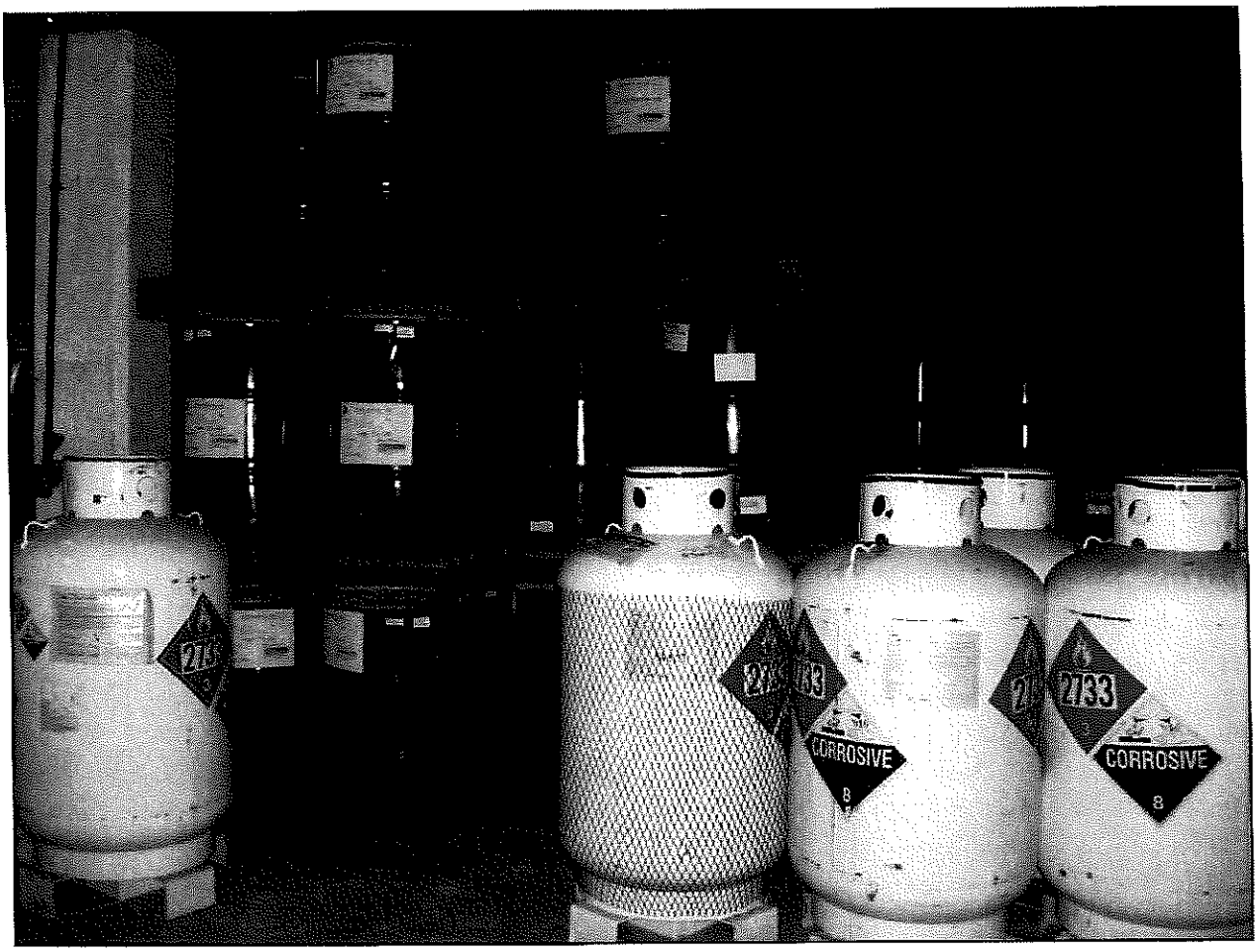
|---|---|
| Photo 18 Taken by: Michael Valentino | Polychem Services, Inc. |
| 1/18/12 11:10 am<br>Orientation: Southwest | Just east of warehouse. Mixture of drums, some marked from EPA's March 2011 inspection, others for rework by Polychem, according to Polychem officials. |

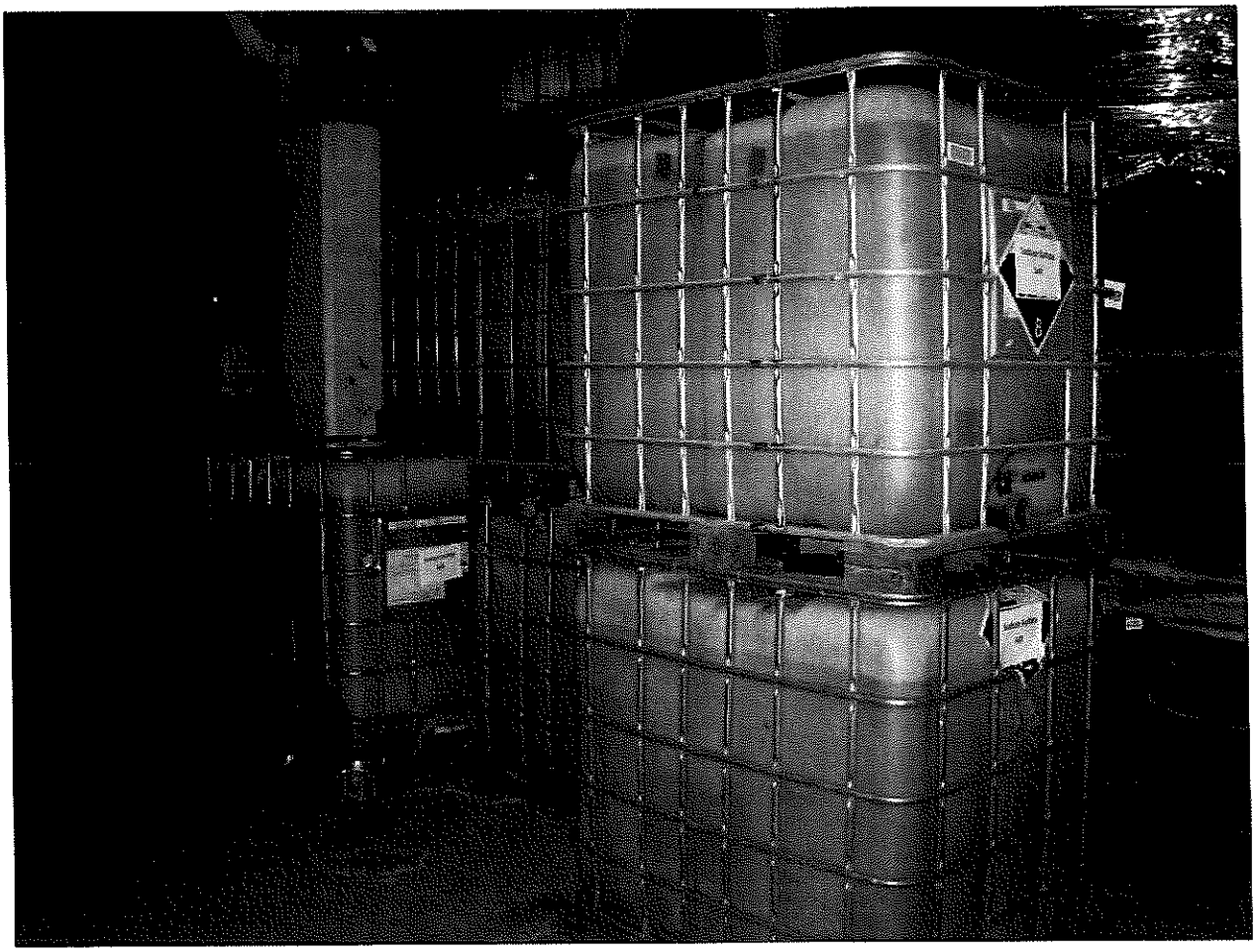

| | |
|---|---|
| Photo 19 Taken by: Michael Valentino | Polychem Services, Inc. |
| 1/18/12 11:10 am<br>Orientation: Southwest | Just east of warehouse. Mixture of drums, some marked from EPA's March 2011 inspection, others for rework by Polychem, according to Polychem officials. |



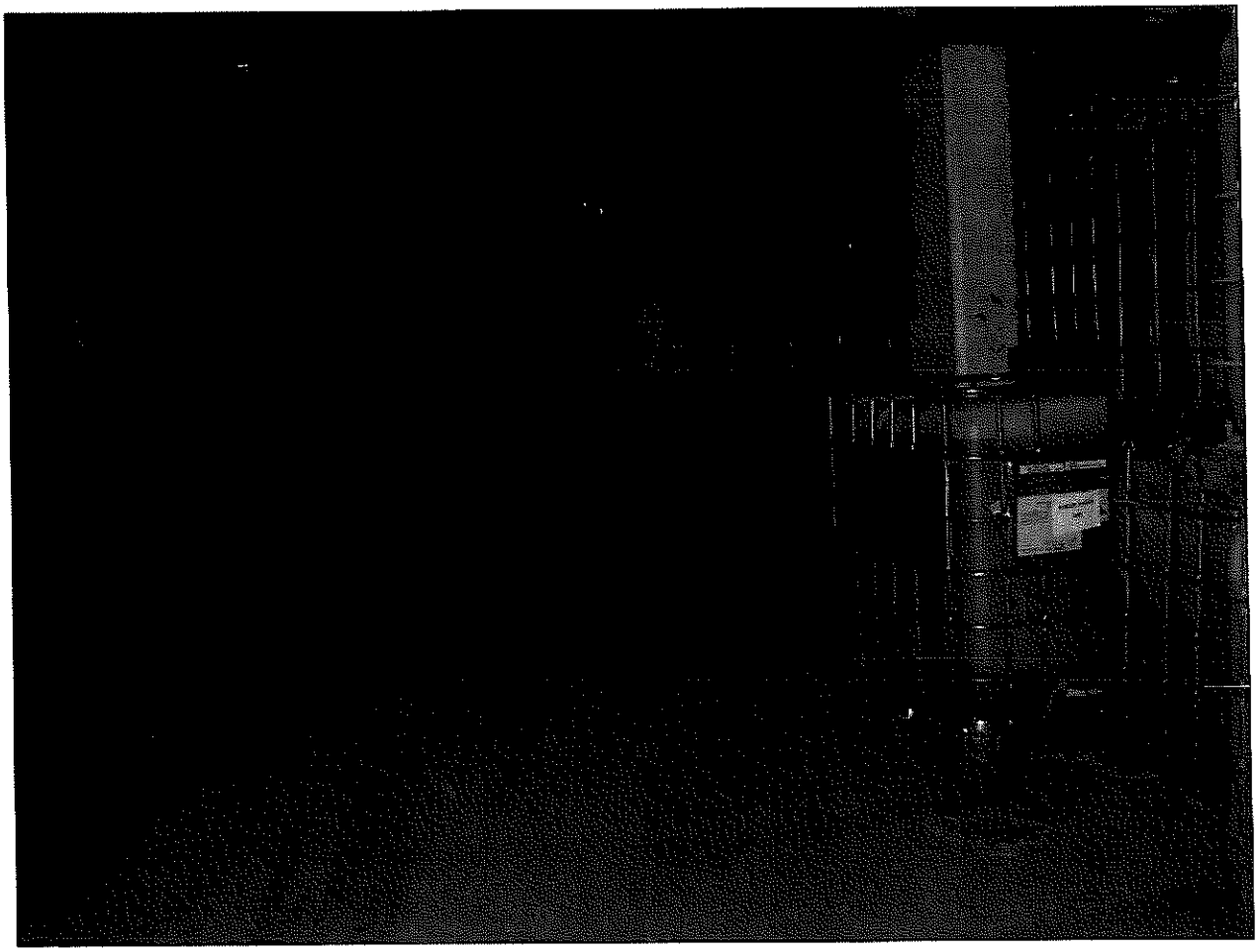
| | |
|---|---|
| Photo 20 Taken by: Michael Valentino | Polychem Services, Inc. |
| 1/18/12 11:11 am<br>Orientation: East | East side of site. DMEA totes to be processed. |




| Photo 21 Taken by: Michael Valentino | Polychem Services, Inc. |
|---|---|
| 1/18/12 11:13 am<br>Orientation: West | Inside of warehouse. Drums of alkyd resin (black, 55-gal drums in rear). Steel canisters affixed with DOT placard no. 2733 (amines, flammable, corrosive or polyamines, flammable, corrosive). |



| | |
|---|---|
| Photo 22 Taken by: Michael Valentino | Polychem Services, Inc. |
| 1/18/12 11:13 am<br>Orientation: Southwest | Inside of warehouse. Totes of sodium sulfate salt solution. |



| | |
|---|---|
| Photo 23 Taken by: Michael Valentino | Polychem Services, Inc. |
| 1/18/12 11:14 am<br>Orientation: South | Inside of warehouse. Just north of where Photo 22 was taken. |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|---|---|
| Photo 24 Taken by: Michael Valentino | Polychem Services, Inc. |
| 1/18/12 11:14 am<br>Orientation: South-Southeast | Inside of warehouse. DOT placard no. 1296, triethylamine, flammable, corrosive. |

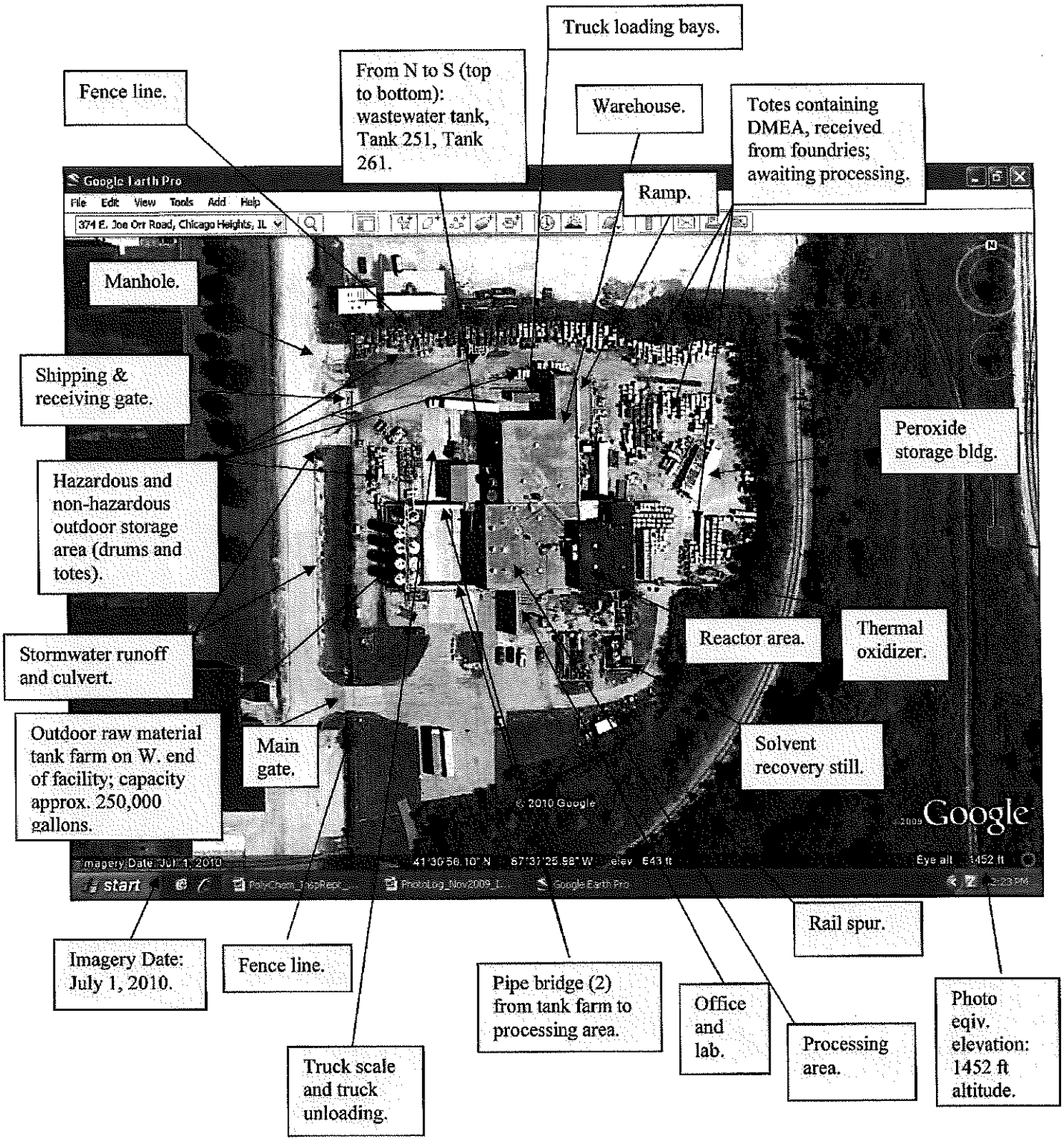
**Attachments:**

Attachment 1 – Aerial photo July 2010

Attachment 2 – Aerial photo March 2012 (est.)

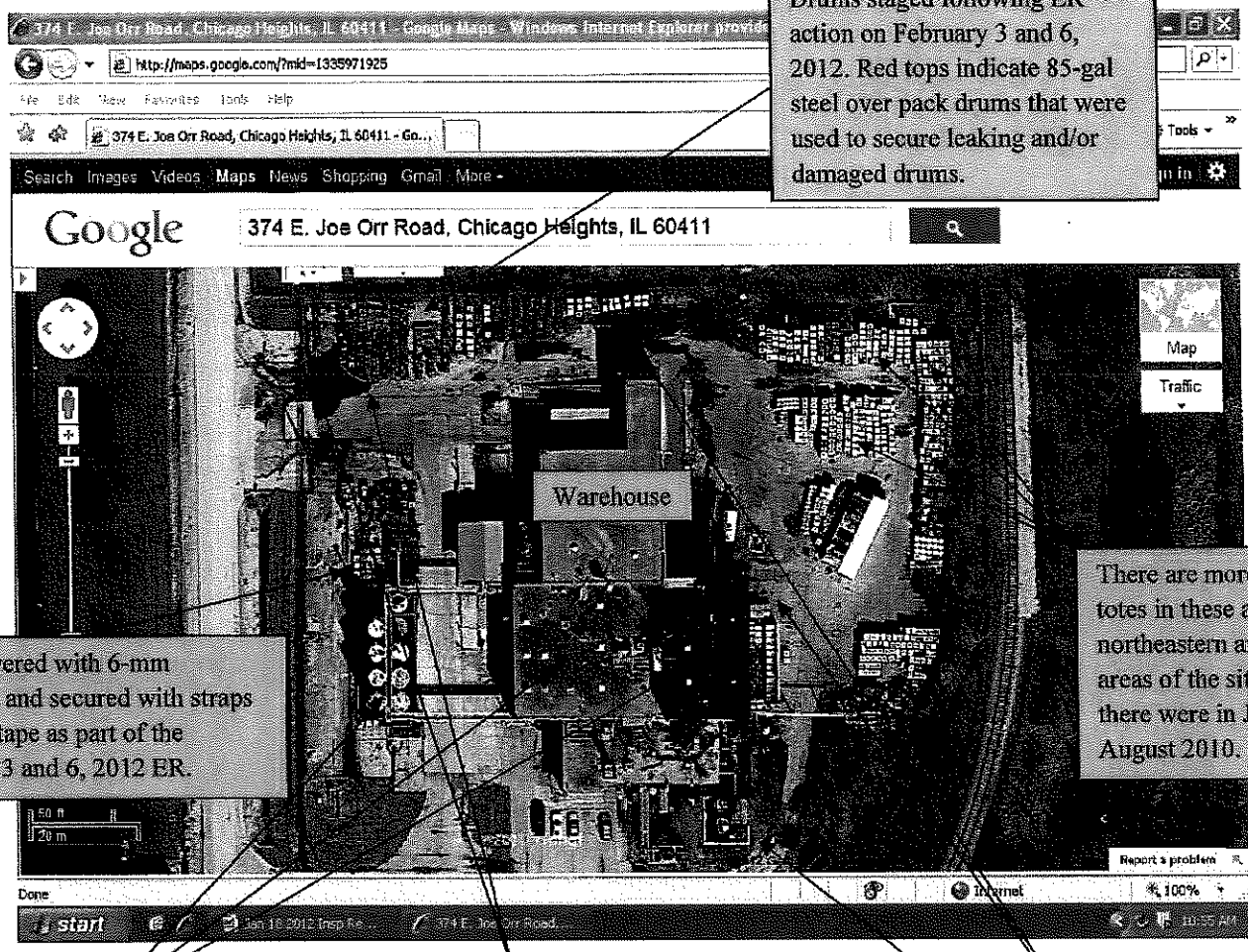
# ATTACHMENT 1

## AERIAL PHOTO OF POLYCHEM FACILITY CIRCA JULY 2010


Truck loading bays.
Fence line.
From N to S (top to bottom): wastewater tank, Tank 251, Tank 261.
Warehouse.
Totes containing DMEA, received from foundries; awaiting processing.
Ramp.
Manhole.
Shipping & receiving gate.
Peroxide storage bldg.
Hazardous and non-hazardous outdoor storage area (drums and totes).
Stormwater runoff and culvert.
Reactor area.
Thermal oxidizer.
Outdoor raw material tank farm on W. end of facility; capacity approx. 250,000 gallons.
Main gate.
Solvent recovery still.
Rail spur.
Imagery Date: July 1, 2010.
Fence line.
Pipe bridge (2) from tank farm to processing area.
Office and lab.
Processing area.
Photo eqiv. elevation: 1452 ft altitude.
Truck scale and truck unloading.

ATTACHMENT 2

AERIAL PHOTO OF POLYCHEM FACILITY CIRCA MARCH 2012 (EST.)


Drums staged following ER action on February 3 and 6, 2012. Red tops indicate 85-gal steel over pack drums that were used to secure leaking and/or damaged drums.
http://maps.google.com/?mid=1335971925
374 E. Joe Orr Road, Chicago Heights, IL 60411 - Go...
Search Images Videos Maps News Shopping Gmail More
Google
374 E. Joe Orr Road, Chicago Heights, IL 60411
Map
Traffic
Warehouse
Totes covered with 6-mm Visqueen and secured with straps and duct tape as part of the February 3 and 6, 2012 ER.
There are more DMEA totes in these areas of the northeastern and eastern areas of the site than there were in July-August 2010.
Report a problem
Done
Internet
100%
start
Product tank farm (left), office and lab (center), and reactor area (right).
Absorbent booms placed along western fence line and immediately southwest of staged drums on February 1, 2012 during the ER action.
Solvent recovery still.
There are less DMEA totes in these areas of the northeastern and eastern areas of the site than there were in July-August 2010.