

CLOSURE REPORT NYSDEC SPILL #0650719 SPECIAL METALS CORPORATION DUNKIRK, NEW YORK

PREPARED FOR:

Special Metals Corporation Dunkirk. New York

PREPARED BY:

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Engineers and Scientists

November 27, 2006 File No. 21.0056196.10



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Dunkirk, New York Spill No. 0650719

Dear Eugene:

Re:

GZA GeoEnvironmental of New York (GZA), as requested by Special Metals Corporation (SMC) and on its behalf, prepared the attached report documenting the closure of New York State Department of Environmental Conservation (NYSDEC) Spill Number 0650719 at the above referenced Site. Three (3) petroleum product spills were reported to NYSDEC that were encountered during facility expansion construction. Each reported spill report was issued a separate spill number as noted below.

- 1. Spill No. 0650719 was reported on July 28, 2006;
- 2. Spill No. 0606195 was reported on August 29, 2006; and
- 3. Spill No. 0606199 was reported on August 29, 2006.

The three reported spills have been consolidated into one spill number (0650719). Spill numbers 0606195 and 0606199 were both listed as closed on August 30, 2006.

Based on our observations of the work done and review of analytical data from testing on soil and groundwater samples, GZA has concluded that SMC has successfully remediated the petroleum based contamination encountered during its expansion construction. Although, low levels of petroleum related compounds were detected in some of the soil and groundwater samples collected following remediation, we believe that "source" level petroleum contaminated materials have been removed. We do not feel that further remedial work is required and request the closure of Spill number 0650719.

The attached report summarizes the work completed, presents the analytical reports from oil, soil and groundwater testing and provides copies of disposal documentation. Should you have any questions or require additional information following your review, please do not hesitate to contact the undersigned.



Sincerely,

GZA GEOENVIRONMENTAL OF NEW YORK

Christopher Boron

Project Manager

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Principal

Cc: Robert DiFondi (Special Metals Corporation)

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1.00 INTRODUCTION



This report documents the closure of the New York State Department of Environmental Conservation (NYSDEC) Spill Number 0650719 at the Special Metals Corporation (SMC) facility located at 100 Willowbrook Drive in Dunkirk, New York. To date, SMC has reported three (3) petroleum product spills to NYSDEC, which were encountered during construction of a facility expansion (see Section 1.10 for more detail on the facility expansion). Each spill report was issued a separate spill number as noted below.

- 1. Spill No. 0650719 was reported on July 28, 2006 for oil observed at the interior excavation floor about 17 feet below ground surface (bgs). Fingerprinting analysis of the oil product identified it as lubricating oil.
- 2. Spill No. 0606195 was reported on August 29, 2006 for a closed-in place diesel underground storage tank (UST) that was encountered during the excavation along the western exterior wall, just north of the overhead door of the Site building.
- 3. Spill No. 0606199 was reported on August 29, 2006 when approximately 3 gallons of an oil/water mixture were encountered while excavating outside of the overhead door on the west side of the facility.

Based on a recent review of the NYSDEC Spill Database, it appears that the three reported spills have been consolidated into one spill number (0650719). Spill numbers 0606195 and 0606199 were both listed as closed on August 30, 2006.

A Locus Plan is provided as Figure 1, Figure 2 identifies the three spill locations and locations were oil was encountered, Figure 3 identifies Spill # 0650719 sample locations, Figure 4 identifies Spill # 0606195 sample locations, Figure 5 identifies Spill # 0606199 sample location and Figure 6 identifies the soil boring locations done as part of the preconstruction work discussed in Section 1.10.

1.10 PRE-CONSTRUCTION WORK

The Site is an approximate 8-acre industrial property in Dunkirk, New York (see Figure 1) operated by SMC that consists of one parcel identified at 100 Willowbrook Avenue. The Site is utilized for the manufacture of alloys for the aerospace industry. An expansion on the western portion of the existing building is currently underway, which involves the installation of a new rotary forge. Installation of the new rotary forge will result in a building expansion over an area of about 72-feet (north-south) by 87-feet to the west.

Prior to the start of the expansion, geotechnical borings were completed at the Site to evaluate Site conditions within the planned expansion area (both inside and outside of the building) and along the access road around the existing building (See Figure 6). Site conditions were characterized by a subsurface exploration program, which included:

 Test Borings B1 through B3, drilled within the planned expansion area on the exterior and west side of the building;

- Test Borings B4 through B7, drilled within interior portions of the building in the area of the planned rotary forge construction (adjacent to the expansion area); and
- Pavement Cores PC1 through PC7, drilled to a depth of about 5-feet below ground surface (bgs), along the existing access road on the south, east and north side of the building.



The overburden soil thickness at the boring locations ranged from about 16 to 17-feet bgs. Bedrock was encountered beneath the overburden soils. Bedrock, which consists of shale, was cored at several locations for lengths that ranged from 10 to 40-feet. Soil and bedrock samples were collected and screened using visual and olfactory senses to check for obvious signs of potential contaminants of concern. In addition, samples were screened using an organic vapor meter (OVM), equipped with a photo-ionization detector (PID), for volatile organic compounds (VOCs). Our field screening did not note visual or olfactory evidence of potential contamination. The OVM/PID field screening resulted in measurements that ranged from 0 to 10 parts per million (ppm). Background measurements within empty sample bags resulted in OVM/PID measurements of between 0 to 8 ppm.

At the time of the geotechnical borings, GZA collected and submitted environmental samples for chemical analysis (See Table 1). Because our field screening did not identify potential contamination, soil samples were randomly selected and sent to a laboratory for further analysis. The analytical methods used were:

Volatile Organic Compounds (VOCs)	EPA Method 8260
Semi-volatile Organic Compounds (SVOCs)	EPA Method 8270
Polychlorinated Biphenyls (PCBs)	EPA Method 8080
Metals	EPA Method 6010

Results of our analysis on the soil samples follows.

VOCs: Benzene was detected within one soil sample (B-3, 0 to 2 feet bgs) at a concentration of 0.082 parts per million (ppm) slightly above its TAGM 4046¹ recommended soil cleanup objective (RSCO) of 0.06 ppm.

SVOCs: No SVOCs were detected above method detection limits within the five soil samples analyzed.

PCBs: No PCBs were detected above method detection limits within the five soil samples analyzed.

Metals: Several metals were detected within each of the five soil samples analyzed. Chromium was the only compound detected at a concentration above its recommended soil cleanup objective. However, the concentration of chromium detected was within the range established for Eastern USA Background.

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¹ Technical and Administrative Guidance Memorandum: Determination of Soil Cleanup Objectives and Cleanup Levels, prepared by New York State Department of Environmental Conservation, January 1994 (This TAGM was subsequently amended in the course of pulling the Spills program into DER).

Groundwater was not observed within the overburden soils during the subsurface investigation.



At the request of SMC, GZA prepared a Soils and Site Management Plan (SSMP), dated July 2006, that set forth the procedures to be followed by SMC construction contractors in the event contaminated or suspected contaminated soils and/or groundwater were encountered during the planned construction activities. A copy of the SSMP prepared for the SMC expansion project was previously provided to NYSDEC.

2.00 SCOPE OF WORK

GZA made periodic Site visits during the course of the excavation activities and had numerous telephone communications with SMC field representatives to verify that the following were generally being done.

- Suspect or apparently impacted soil from construction excavations were field screened using an OVM, segregated and staged separate from clean materials.
- Field screening was conducted and confirmation soil samples were collected by Pinto Construction Services (Pinto) during the UST excavation/removal.
- Oil and petroleum impacted water was removed from the excavation, contained in on-Site storage containers (55-gallon drums for oil products and a Baker Tank for water), which were subsequently sampled and properly disposed of.
- Numerous soil, groundwater and oil product samples were collected during various phases of the excavation, following the UST removal and at the limits of the excavation. Table 1 is a summary of the various samples collected. Sample analysis included TCL VOC, VOC STARS² parameters, SVOC STARS parameters, total petroleum hydrocarbon (TPH) and fingerprint analysis via NYS Department of Health Method 310.13, and PCBs via EPA Method 8082.

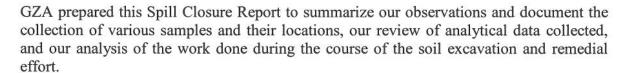
During our Site visits, we noted that SMC, through its earthwork subcontractor (Pinto Construction), had established the following four (4) soil stockpiles in the front of the facility.

1. Suspected Contaminated Soil Stockpile: A designated clean stockpile was initially established for soils excavated during expansion construction. Suspected contaminated soils were placed on this stockpile when the initial spill was encountered (spill number 0650719). The suspected contaminated soils were removed and placed in a separate designated contaminated soil stockpile. This initial stockpile was subsequently designated as a "suspected contaminated soil stockpile."

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² Spill Technology and Remediation Series Memo #1, prepared by NYSDEC, dated August 1992.

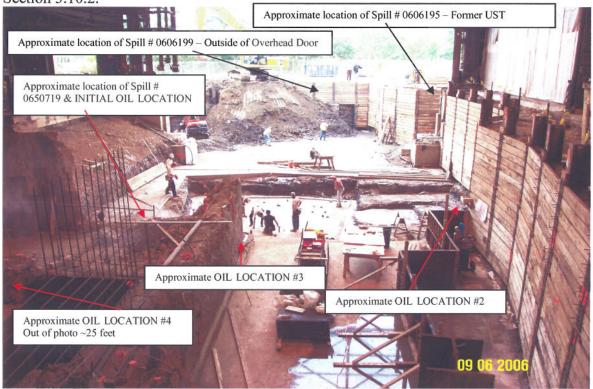
- 2. Clean Soil Stockpile: Soils not expected or anticipated to contain contamination based on field screening are placed in this stockpile.
- 3. Oily Contaminated Soil Stockpile: Soils and brick debris that exhibit signs of contamination based on visual/olfactory observations and field screening were placed in the oily contaminated soil stockpile.
- 4. Diesel Contaminated Soil Stockpile: Soils encountered during excavation and removal of the suspected diesel UST were segregated and placed in this stockpile.



3.00 SPILL CLOSURE

This section describes field activities associated with each of the three spill numbers that were opened in connection with the excavation activities at the Site. Each spill number is discussed in its own section (see Figure 2 for Spill locations). However, it should be noted that the three spill numbers (0650719, 0606195 and 0606199) have been consolidated into one spill number (0650719). The remaining two spill numbers were closed by NYSDEC on August 30, 2006.

Appendix A contains photographs of the excavation and spill areas. The following photograph identifies the three spill number locations and the oil locations discussed in Section 3.10.2.



Excavation area looking west from the interior of the building.



3.10 NYSDEC SPILL NUMBER 0650719

3.10.1 Background



Spill number 0650719 was assigned on July 28, 2006 when an oily product was observed within the interior excavation at a depth of approximately 17 feet bgs along an interior foundation wall (see Figure 2 for approximate location of Spill number 0650719, also identified as INITIAL OIL LOCATION). Chemical analysis of the oil product sample "Excavation Oil Layer" and a groundwater sample "Rototforge Excavation" collected from this area identified the oil as a lubricating oil containing PCBs at a concentration of 7.04 ppm. The groundwater sample contained PCBs at a concentration of 8.5 parts per billion (ppb). The oil product that accumulated in the INITIAL OIL LOCATION over time was pumped into a 55-gallon drum for storage prior to disposal. An oil sample, identified as Oil from Spill 1, was collected from the drum and tested for PCBs. Analysis indicated that the oil contained PCBs at a concentration of 6.6 ppm.

Table 3 contains a summary of the oil product analytical testing results. Copies of the laboratory analytical reports can be found in Appendix B, which has been divided into four sub-appendices, one for each of the four laboratories used during the course of the project. Due to the time constraints of the construction, different laboratories were used based on availability and turn around time for the chemical analysis.

3.10.2 Analytical Samples and Results

An apparent oil product (sheen on groundwater) was also encountered at three other locations within the interior excavation (see Figure 2 for the locations of the four oil areas and inserted photograph on Page 4).

- OIL LOCATION #2 Located along the north interior excavation wall, approximately 40 feet north of the INITIAL OIL LOCATION. Two product samples "Shale/Oil" and "Area Along North Wall" were collected from this area at an approximate depth of 17 feet bgs. Analysis included fingerprinting and PCBs. The fingerprint analysis of "Shale/Oil" identified the oil product as lubricating oil containing PCBs at a concentration of 3.76 ppm. The fingerprint analysis of "Area Along North Wall" identified the oil as #6 fuel oil (see Table 3). PCB analysis was not done on the oil sample "Area Along North Wall" but rather on the groundwater sample collected which has the same sample name. PCBs were not detected in the groundwater sample from this location (see Table 5).
- OIL LOCATION #3 Located north of the interior foundation wall, approximately 20 feet northeast of the INITIAL OIL LOCATION. Product sample "Basement North Side Sublevel" was collected from this area at a depth of approximately 17 feet bgs. Analysis included PCBs which were detected at a concentration of 4.29 ppm (see Table 3).
- OIL LOCATION #4 Located beneath the subbasement floor, approximately 40 feet southeast of the INITIAL OIL LOCATION. Product sample "Elevation"

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Subbasement Center 1 ½ Core Hole" was collected from oil that had accumulated in a core hole done in the intermediate floor of the former 2000-ton press foundation. An old hydraulic line, which was encased within the concrete slab, was hit while drilling the core in the subbasement floor. Analysis included PCBs which were detected at a concentration of 2.7 ppm (see Table 3). Additionally, a second oil sample (Sub Floor 2000 T Intermediate Floor Oil) was collected from an oily product that had accumulated after the floor in this area was removed. Stained soils and approximately 30 gallons of product were removed. The oil product was tested for PCBs and fingerprinting. The analysis indicated a PCB concentration of 3.9 ppm (see Table 3) and the oil was identified as an aliphatic hydrocarbon based oil. Impacted soil encountered were removed and a sample collected (Sub Floor 2000 T Intermediate Floor) of the soil remaining, which is discussed below.

In addition to the oil product samples collected, soil and groundwater samples were also collected from various locations (See Figure 3) and submitted for chemical analysis.

Soils were excavated from this area down to bedrock as part of the planned construction and handled in accordance with the SSMP. Clean soils were placed in the clean soil stockpile and apparent contaminated soils were placed in the oily contaminated soil stockpile.

The following soil confirmation samples were collected for chemical analysis regarding this spill number (see Figure 3 for locations and Table 4 for analytical results).

- #7-8/6'-7' Collected from between soldier pile 7 and 8 along the northern interior excavation wall at a depth of approximately 6 to 7 feet bgs. Analysis included VOC STARS, SVOC STARS and PCBs. The compounds analyzed for were not detected above method detection limits in the sample tested.
- #9-10/6'-7' Collected from between soldier pile 9 and 10 along the northern interior excavation wall at a depth of approximately 6 to 7 feet bgs. Analysis included VOC STARS, SVOC STARS and PCBs. The compounds analyzed for were not detected above method detection limits in the sample tested.
- North Wall Collected from along the northern interior excavation wall a depth of approximately 6 to 7 feet bgs. This sample was tested for PCBs, which were not detected above method detection limits.
- Sub Floor 2000 T Intermediate Floor Collected from the soil remaining after impacted soil encountered beneath a 16-inch thick concrete floor in the vicinity of OIL LOCATION #4 was removed. The impacted soil and oil product (approximately 30 gallons) encountered were also removed. The soil sample was tested for VOC STARS, SVOC STARS and PCBs. The compounds analyzed for were not detected above method detection limits in the sample tested.

The following groundwater samples were collected for chemical analysis regarding Spill number 0650719 (see Figure 3 for locations and Table 5 for analytical results).

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- Rotoforge Excavation This groundwater sample was collected from the area where the oil product was originally encountered (INITIAL OIL LOCATION) at a depth of approximately 17 feet bgs. Analysis included TCL VOCs, TPH/fingerprinting, PCBs and inorganics. The analytical results for the TCL VOCs and the metals analysis were below method detection limits. PCBs were detected at a concentration of 8.5 parts per billion (ppb), TPH were detected at a concentration of 290,000 ppm and the fingerprint analysis identified lubricating oil in the groundwater.
- Area Along North Wall A groundwater sample was collected from along the northern interior excavation wall approximately 17 feet bgs (OIL LOCATION #2). Analysis included PCBs (groundwater sample). PCBs were not detected above method detection limits.
- Excavation Water A groundwater sample was collected from along the northern interior excavation wall at a depth of approximately 17 feet bgs. Analysis was for PCBs which were detected at an estimated concentration of 0.91 ppb.
- Center Exc 4 Feet Deep A groundwater sample was collected approximately 30 feet northwest of the INITIAL OIL LOCATION. The sample was collected at a depth of approximately 21 feet bgs in an area where an additional 4-feet of shale bedrock was removed below the 17-foot depth previously excavated. Analysis included VOC STARS, SVOC STARS and PCBs. Ten VOCs were detected above method detection limits (See Table 4), of which six compounds; benzene, toluene, ethylbenzene, m,p-xylene, o-xylene and 1,2,4-trimethylbenzene were detected at concentrations above their respective NYSDEC Class GA criteria³. One SVOC, bis(2-Ethylhexyl)phthalate, was detected above method detection limits but its concentration does not exceed its Class GA criteria. PCBs were not detected above method detection limits in this sample.
- Excavation Floor A groundwater sample was collected approximately 25 feet north of the INITIAL OIL LOCATION. The sample was collected at a depth of approximately 17 feet bgs. The sample was tested for PCBs, which were not detected above method detection limits in this sample.
- Basement North Side Sublevel A groundwater sample was collected from this
 area at a depth of approximately 17 feet bgs, in conjunction with an oil product
 sample at the same location. The sample was tested for PCBs which were
 detected at a concentration of 3.03 ppb.

3.10.3 Assessment of Spill Number 0650719

Soil was excavated down to bedrock within the existing building in the Rotoforge Area in the vicinity of the INITIAL OIL LOCATION and OIL LOCATION #3. An additional

³ NYSDEC Division of Water, Technical and Operational Guidance Series (TOGS 1.1.1), dated October 1993, revised June 1998, January 1999 errata sheet and April 2000 addendum.



excavation was done to an approximate depth of 4-feet below the top of bedrock and a groundwater sample was collected. Based on the results of this and the other groundwater samples collected during the interior work, minor (residual) concentrations of VOCs, SVOCs and PCBs were detected in groundwater. However, construction equipment was operated within the excavation area and a retaining wall (wood lagging) was placed within the bottom of the excavation prior to the groundwater sampling. It is unclear if these activities may have resulted in the residual level of VOC and SVOC contamination identified. Oily product encountered at OIL LOCATION #2 and OIL LOCATION #4 appeared to be present in limited quantities. The oil product at OIL LOCATION #2 seeped from the northern wall of the excavation from August 28 to August 31, 2006 at which time the oil product flow was no longer observed (See Appendix A for photographic documentation of the oil product). Oily product (approximately 30 gallons) encountered beneath the floor of the subbasement area (OIL LOCATION #4) was removed along with the impacted soils encountered. The oily product was no longer observed in this area after the initial removal.

Samples of the oily products that were collected/tested indicated that these liquids, sampled within the central and northern portions of the interior excavation, contained PCBs in trace quantities. Oil product was not observed to be free flowing within the limits of the excavation but rather it accumulated over time. The area of the excavation was formerly occupied by another forge press that was operated by machinery that had a lubricating oil reservoir.

It is GZA's opinion that the petroleum impact observed is likely due to the long industrial history at the Site and surrounding area. SMC had its contractor remove and segregate the impacted materials encountered. Additional soils were excavated down to bedrock as part of the Rotoforge press foundation installation and the area has been covered with a reinforced concrete mat.

The low level detections of VOCs and SVOCs in the groundwater are considered residual and may have been the result of on-going construction activities within the excavation area. The surrounding area, which is industrial to the north, east and west and residential to the south are supplied by public water. GZA believes that SMC successfully remediated the contamination identified under Spill No. 0650719 and that no further work is necessary.

3.20 NYSDEC SPILL NUMBER 0606195

3.20.1 Background

Spill number 0606195 was assigned on August 29, 2006 when a previously closed in-place 500-gallon diesel UST was encountered during an exterior excavation, just north of the western overhead door (see Figure 2). The UST was removed from the excavation and staged with impacted soil encountered in that area.

Holes were observed in the bottom of the UST. The UST appeared to have been closed in place as evidenced by the concrete observed within it when Pinto attempted to cut a hole in its side to remove the contents and clean out the tank.

3.20.2 Analytical Samples and Results



The following soil confirmation samples were collected for chemical analysis regarding this spill number (see Figure 4 for locations and Table 4 for analytical results).

- Exc Wall 11-12/15-16 Collected from the excavation done inside the existing building, east of the former UST location at a depth of approximately 15 to 16 feet bgs. The sample was analyzed for VOC STARS, SVOC STARS and PCBs. The compounds analyzed for were not detected above method detection limits in the sample tested.
- Fuel Oil Tank NW Wall Collected from the portion of the excavation done
 outside of the existing building, northwest of the former UST at a depth of about 5feet bgs. The sample was analyzed for VOC STARS and SVOC STARS
 parameters. The compounds analyzed for were not detected above method
 detection limits in the sample tested.
- Fuel Oil Tank W Wall Collected from the exterior portion of the excavation, west
 of the former UST at a depth of about 5-feet bgs. The sample was analyzed for
 VOC STARS and SVOC STARS parameters. Two VOCs (toluene and m,pxylene) were detected above method detection limits in this sample; however, the
 concentrations of the detected compounds (see Table 3) did not exceed their
 respective TAGM 4046 RSCOs.
- Tank Ex Bottom 4 Feet Above Rock Collected from the exterior portion of the excavation, beneath the former UST at a depth of approximately 13 feet bgs. The sample was analyzed for VOC STARS and SVOC STARS parameters. The compounds analyzed for were not detected above method detection limits in the sample tested. Due to construction requirements, soil beneath this sampling location was also removed down to bedrock and was staged with the other impacted soil encountered around the UST as a precautionary measure.
- Outside Building North of Overhead Door Collected from the exterior portion of
 the excavation, east of the former UST at a depth of about 2 feet bgs. This sample
 was tested for PCBs, which were not detected above method detection limits. Due
 to construction requirements, soil in the area of this sampling location was removed
 and staged with the other impacted soil encountered around the UST as a
 precautionary measure.

3.20.3 Assessment of Spill Number 0606195

Based on the results of the soil samples collected (no VOCs were detected at concentrations exceeding the TAGM 4046 RSCOs and no SVOCs or PCBs were detected above method detection limits), it is GZA's opinion that no further remedial work is required for this area.

3.30 NYSDEC SPILL NUMBER 0606199

3.30.1 Background



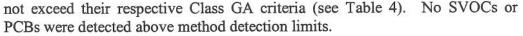
Spill number 0606199 was assigned on August 29, 2006 when approximately 3 gallons of oil/water mixture was encountered while excavating outside of the existing building, west of the overhead door on the western side of the facility (see Figure 2). This location is approximately 20 feet south of the former UST location discussed above. Impacted soil encountered in this location was segregated and added to the oily contaminated soil stockpile. Due to construction requirements, the soil in this area was removed down to bedrock, approximately 17 feet bgs. Soil samples were collected during activities related to the nearby (north) diesel UST (see Section 3.20NYSDEC Spill Number 0606195). Following excavation of the soils from this area down to the top of bedrock, groundwater samples were collected as discussed below.

3.30.2 Analytical Samples and Results

To evaluate the impact of the 3 gallons of oil/water mixture that was encountered, three groundwater samples were collected. Groundwater at the Site was encountered near the overburden soil and bedrock interface, approximately 17 feet bgs, at low flow quantities. Groundwater was observed to pool in some areas within the excavation at the top of bedrock and was collected from three locations within the spill area vicinity.

To sample, the contractor would dewater the excavation in these three areas at the end of the day and allow the groundwater to recharge overnight. The samples were then collected in the morning prior to the start of construction activities. The following groundwater confirmation samples were collected for chemical analysis regarding this spill number (see Figure 5 for locations).

- Center Exc 4 Feet Deep Collected at the top of bedrock (approximately 21 feet bgs) from a location approximately 40 feet east of the area where the 3 gallons of oil/water mixture was encountered. See Section 3.10.2. The sample was tested for VOC STARS, SVOC STARS and PCBs. Ten VOCs were detected above method detection limits (See Table 4), of which six compounds; benzene, toluene, ethylbenzene, m,p-xylene, o-xylene and 1,2,4-trimethylbenzene were detected at concentrations above their respective NYSDEC Class GA criteria. One SVOC, bis(2-Ethylhexyl)phthalate, was detected above method detection limits but its concentration does not exceed its Class GA criteria. PCBs were not detected above method detection limits in this sample.
- Ex Adj South Overhead Door Footer Collected at the top of bedrock (approximately 17-feet bgs) about 10-feet south of the area where the 3 gallons of oil/water mixture was encountered. The sample was tested for VOC STARS, SVOC STARS and PCBs. Four (4) VOCs were detected above method detection limits in this sample; however the detected concentrations did



• SW Corner of Ex 17 Feet - Collected at the top of bedrock (about 17-feet bgs) approximately 40 feet southwest of the area where the 3 gallons of oil/water mixture was encountered. The sample was tested for VOC STARS, SVOC STARS and PCBs. One VOC (naphthalene) was detected above method detection limits in this sample; however the detected concentrations did not exceed its respective NYSDEC Class GA criteria (see Table 4).

As noted earlier, construction activities (construction of the wood lagging retaining wall) were on-going during our sampling efforts.

3.30.3 Conclusions for Spill Number 0606199

A limited number of VOCs and SVOCs were detected above method detection limits in the three groundwater samples collected. Six (6) VOCs exceeded their respective Class GA criteria in sample, Center Exc 4 Feet Deep. The concentration at which these compounds were detected is considered low (highest at 36 ppb) with a total VOC concentration of about 110 ppb. It is GZA's opinion that no further remedial effort is necessary based on the following.

- The limited VOC and SVOC contamination was identified at residual concentrations.
- The contaminated soil and source was removed, as was an additional large quantity of soil.
- Construction activities and equipment were on-going/present within the excavation during the sampling events.
- The Site and surrounding area has a history of industrial use.
- Industrial use at the Site is expected to continue.
- The surrounding area, which consists of industrial use (west, east and north) and residential use (south) is supplied by public water.

4.00 OFF-SITE DISPOSAL OF CONTAMINATED MATERIALS

The contaminated soils, oil product and groundwater encountered during the construction excavation activities were removed from the excavation and/or staged/stored on-Site. Contaminated soils were placed in designated contaminated soil stockpiles. Each stockpile was placed on a plastic sheeting base. The impacted soil piles were also surrounded by soil containment berms and covered with plastic sheeting. The two stockpiles constructed in this manner consisted of one for the oily contaminated soils and the second for diesel contaminated soils. Impacted soil generated during the excavation activities were sampled and disposed of at the Chautauqua County Landfill. Oil product was disposed of at CWM Chemical Services facility. Water and groundwater removed from the excavation were discharged to the sanitary sewer following approval by the City of Dunkirk, Publicly Owned Treatment Works (POTW).

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The suspect contaminated soil stockpile will be used in the construction of an on-Site beautification berm along the southern portion of the SMC property and as backfill for another remedial project to take place at a future date. NYSDEC issued a letter dated November 14, 2006 approving the use of this soil in the beautification berm and as backfill (see Appendix C for the NYSDEC approval letter and Appendix B-4 for the suspected contaminated soil stockpile analytical sampling results).



The quantities and disposal methodologies of the various media generated is discussed below.

Oil Product Quantities

Approximately 120-gallons of oil product were removed, drummed and disposed of at CWM Chemical Services facility in Model City, New York. The disposal occurred on October 10, 2006. Appendix D contains the disposal documentation for the oil product.

Impacted Soil Quantities

Approximately 785 tons of soil were removed, stockpiled and disposed of at the Chautauqua County Landfill, in Jamestown, New York. Appendix E contains the disposal documentation for the impacted soil.

Impacted Water Quantities

During the course of the construction excavation activities, there were two unanticipated discharges of water into the excavation area.

- 1. The first occurred on August 3, 2006 when a roof drain was broken and released approximately 20,000-gallons of storm water into the former 2000-ton press foundation area. A water sample was collected on August 4, 2006 and found to contain 17.5 ppb PCBs (see unnamed sample dated August 4, 2006 and 2000T Press Foundation samples in Appendix B-2 for results). The water was pumped from the foundation area to the City of Dunkirk Publicly Owned Treatment Works (POTW) with its approval via the sanitary sewer. Appendix F contains the City of Dunkirk POTW approval correspondence.
- 2. The second occurred on August 24, 2006 due to a water main leak, and approximately 5,000-gallons of water entered into the former 2000-ton press foundation area. SMC contacted the City of Dunkirk POTW and was given approval to discharge the water to the sanitary sewer. No sampling was required by the City of Dunkirk POTW given the data available from the earlier storm water event. Appendix F contains the City of Dunkirk POTW correspondence.

Impacted Groundwater Quantities



During the course of the construction activities, groundwater accumulating within the excavation was removed, stored in an on-Site Baker tank, sampled (see Baker Tank Water sample results contained in Appendix B-4) and discharged during two separate events to the City of Dunkirk POTW via the sanitary sewer. Analytical testing of the groundwater collected on September 7, 2006 from within the Baker tank detected trace concentrations of barium (0.24 mg/L), chromium (0.0046 mg/L) and oil and grease (5.1 mg/L). No PCBs were detected above method detection limits.

A total of 29,032-gallons of groundwater were discharged.

- The first discharge event occurred between September 14th and 15th, 2006 and 12,631-gallons of groundwater was discharged. Appendix F contains the City of Dunkirk POTW approval correspondence.
- The second discharge event occurred between October 10th and 11th, 2006 and 16,401-gallons of groundwater were discharged. SMC was given verbal approval from the City of Dunkirk POTW on October 9th for this discharge.

UST and Tank Contents

The approximate 500-gallon diesel UST that was encountered was emptied of its contents, which were sent to the Chautauqua County Landfill on October 6, 2006, cleaned on-Site, cut-up as scrap metal and added to the SMC scrap steel stockpile for subsequent recycling.

5.00 CONCLUSIONS

It is GZA's opinion that SMC has successfully remediated the petroleum based contamination encountered during its expansion construction. Low levels of petroleum related compounds were detected in some of the soil and groundwater samples collected following remediation. These concentrations are considered residual and will likely decrease with time. Also, the surrounding area is supplied by public water. SMC has removed the source material and impacted soil. Therefore, we do not believe that further remedial work is required and request the closure of Spill number 0650719.

TABLES

Table 1: Summary of Soil Analysis Soils Site Management Plan Special Metals Corp. Dunkirk, New York

		CAS	Units	Recommended Soil Cleanup Objective1	Eastern USA Background	B-1, S-6, 10-12'	B-3, S-1, 0-2*	PC-2, S-1, 1-3*	B5-A, S-5, 11-13 Ft 0608-0608-4-005 06/07/2008	B-6 S-2, 2-4° seas-soft29-801 selss/2006
EPA 8260	VOLATILE ORGANICS	71-43-2	mg/kg	0.06		ND	0,082	ND	ND	· ND
EPA 8270	Benzene BASE-NEUTRAL SVOCS	£ 2 "" \$ 300 minutes	(ppm)							
EPA 8082	POLYCHLORINATED BIPHI	ENYLS	***************************************					No. and	* #*	ND
	Aroclor 1268	11100-14-4	mg/kg (ppm)			NO	ND	ND	ND	
	Aroclor 1262	37324-23-5	mg/kg (ppm)			ND	ND	ND	ND	ND
	Arector 1260	11095-82-5	mg/kg			ND	ND:	ND	ND	ND
	Aroclar 1254	11097-69-1	(ppm) mg/kg			ND	ND	ND	ND	ND
			(ppm) mg/kg			ND	ND	ND	ND	ND
	Araclar 1248	12672-29-6	(ppm) mg/kg			ND	:ND	ND	ND	ND
	Aroclor 1242/1016	53469-21-9	(ppm) mg/kg			ND	ND:	ND	ND	ND
	Aroclor 1232	11141-16-5	(ppm)					ND	ND	ND
	Areclor 1221	11104-28-2	mg/kg (ppm)	***************************************		ND	ND.	196J	V	
EPA 6010B	RCRA METALS	*								*
W 17 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Sliver	7440-22-4	mg/kg (ppm)							utet.
	Arsenic	7440-38-2	mg/kg (ppm)	7.5 or SB	3 to 12	1.86	3.48	7.07	7:32	1.94
	Barlum	7440-39-3	mg/kg	300 or SB	15 to 600	67	89.1	64.3	106	84.8
	Cadmium	7440-43-9	(ppm) mg/kg	1 or SB	0.1 to 1	ND	ND	ND	ND	ND
		7440-47-3	(ppm) mg/kg	10 or SB	1.5 to 40	14.6	13.8	31.3	14.5	13.7
EPA	Chromium		(ppm) mg/kg	0.1	0,001 to 0.2	ND	0.0399	ND	ND	0.0393
7471A		7439-97-6	(ppm) mg/kg		4 to 61 (Rural)		18.7	18.6	12.8	12.6
	Lead	7439-92-1	(ppm) mg/kg	SB		ND'	ND	ND	ND	ND
	Selenium	7782-49-2	(ppm)	2 or SB	0:1 to 3.9	1417	1 x2%			······································

Recommended soil cleanup objective obtained from Technical and Administrative Guidance Memorandum #4046
 Determination of Soil Cleanup Objectives and Cleanup Levels; NYSDEC, Division of Environmental Remediation.
 Site Background
 Not Detected

Analytical Testing Program Summary Special Metals Corporation Dunkirk, New York

Sample Identification	Afilliated Spill Number	Date Collected	Depth/ Interval (ft bgs)	VOCs EPA Method 8260 TCL	VOCs EPA Method 8260 STARS	SVOCs EPA Method 8270 STARS	PCBs EPA Method 8082	Oil & Grease EPA Method 1664A	Fingerprint EPA Method 310.13	TCLP Metals EPA Method 6010/7470
oil Samples				1	X	X	X			
#7-8/6'-7'	0650719	8/16/2006	6 to 7		X	X	X			
#9-10/6'-7'	0650719	8/16/2006	6 to 7		X	X	X			
Excavation Wall 11-12/15-16	0606195	8/22/2006	15 to 16		28		X			
North Wall	0650719	8/24/2006	6 to 7				X			
Outside Building North of Overhead Door	0606195	8/28/2006	2		X	X	X			
Fuel Oil Tank W Wall	0606195	8/30/2006	5		X	X	X			
Fuel Oil Tank NW Wall	0606195	8/30/2006	5		X	X				
Tank Excavation Bottom 4 ft above Rock	0606195	9/1/2006	13		$\frac{\lambda}{X}$	X	X			
Sub Floor 2000T Intermediate Floor	0650719	9/12/2006	12		^	71				
oundwater Samples					T		X		X	X
Rotoforge Excavation	0650719	7/28/2006	~17	X			X			
Excavation Water	0650719	8/21/2006	~17				X	X		
Basement North Side Sub-Level	0650719	8/28/2006	~17				X			
Excavation Floor	0650719	8/29/2006	~17				X			
Area Along North Wall	0650719	8/29/2006	~17		- v	X	X			
Center 4 ft deep Excavation	0650719 & 0606199	8/31/2006	~21		X	$\frac{X}{X}$	X			
Ex Adj. South Overhead Door Footer	0606199	9/5/2006	~17		X	X	X			
SW Corner of Ex 17 ft	0606199	9/7/2006	~17		X	<u> </u>				
il/Product Samples	Proceedings					T	X			
Excavation Oil Layer	0650719	8/15/2006	~17				X	:	X	
Shale/Oil	0650719	8/21/2006	~17				$\frac{X}{X}$			
Oil from Spill 1 (drum sample)	0650719	8/24/2006	NA				X			
Elevation Subbasement Center 1 1/2 Core Hole	0650719	8/25/2006	12				X			
Basement North Side Sub-Level	0650719	8/28/2006	~17				21	A	X	
Area Along North Wall	0650719	8/29/2006	~17				X		X	
Oil (from Sub Floor 2000T Intermediate Floor)	0650719	9/13/2006	12							

Notes:

- 1. NA = not applicable.
- 2. ft bgs = feet below ground surface
- 3. VOCs = Volatile Organic Compounds
- 4. SVOCs = Semi-Volatile Organic Compounds
- 5. PCB = Polychlorinated biphenyls
- 6. TCL = total compound list; TCLP = total characteristic leachate procedure.
- 7. STARS = Spills Technology and Remedial Series, STARS Memo #1, Petroleum Contaminated Soil Guidance Policy, NYSDEC, dated August 1992.

 8. TPH = Total Petroleum Hydrocarbons

Summary of Oil Product Sample Analytical Results Special Metals Corporation Dunkirk, New York

Sample Location	Excavatio	on Oil Layer	Shale	e / Oil	Oil from Spill 1		Elevation Sub Basement Center 1 1/2 Core Hole		Basement North Side Sub-Level		Area Along North Wall		Sub Floor 2000T Intermediate Floor 9/13/2006	
Sample Date	8/15	5/2006	8/21	/2006	8/24/2006		8/25/	/2006	8/28/2006 O		** 8/29. 	8/29/2006 Q		Q Q
PCB (mg/kg)		Q		Q		<u> </u>							2.0	1
Aroclor-1242					6.6		2.7		4.29	Vol. 1 to Constitution of Cons	NT NT		3.9	
Aroclor-1248	7.04		3.76								N1		3.9	
Total PCBs	7.04		3.76		6.6		- 2.7		4.29				3.7	
Fingerprinting Result		NT	Lubrio	ating Oil		NT		ντ	N	T	#6 F	uel Oil		Hydrocarbon sed Oil

Notes:

- 1. Only compounds detected in one or more of the oil product samples are presented in this table.
- 2. Blank indicates compound was not detected.
- 3. NT indicates compound was not tested.
- 4. Analytical testing completed by various laboratories.
- 5. Q = laboratory qualifier.
- 6. mg/L = parts per million.

Summary of Soil Sample Analytical Results Special Metals Corporation Dunkirk, New York

BLANK INDICATES COMPOUND	WAS NOT DETECTE			Excavation Wall	1 X7 11	Outside Building North of Overhead Door	1 Fuel Oil Tank W Wall	Fuel Oil Tank NW Wal	Tank Excavation Bottom	Sub Floor 2000T Intermediate Floor
Sample Location Sample Date	TAGM #4046	#7-8/6'-'7 8/16/2006	#9-10/6'-7' 8/16/2006 6 to 7	11-12/15-16 8/22/2006 15 to 16	North Wall 8/24/2006	8/28/2006 2	8/30/2006 5	8/30/2006 5	9/1/2006 13 feet	9/12/2006 12
Sample Depth (ft bgs)	RSCO ⁹	6 to 7	6 to /	13 W TQ	Γ Q	Q	Q	Q	1 9 1	\
Volatile Organics (ug/kg)				1		NT TN	NT	NT	NT	NT
Trichlorofluoromethane	NV	TTNT	NT	· NT	NT		NT	NT	NT	NT
Acetone	200	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methylene Chloride	100	NT	NT	NT	NT	NT NT	16.2			
Toluene	1,500				NT NT	NT	17.4			
m,p-Xylene	1,200				N1	111				
Semi-Volatile Organics (ug/kg)		NIE.	NT	NT	NT	NT	NT	NT	NT	NT
Biphenyl	NV	NT		NT	NT	NT	NT	NT	NT	NT
2-Methylphenol	100 or MDL	NT	NT		NT	NT	NT	NT	NT	NT
4-Methylphenol	900	NT	NT	NT	NT	NT	NT	NT	NT	NT
2,4-Dimethylphenol	NV	NT	NT	NT		NT				
Phenanthrene	50000				NT	NT				
Fluoanthene	50000				NT					·
Pyrene	50000				NT	NT				
Benzo(a)anthracene	224 or MDL				NT	NT				
Chrysene	400				NT	NT				
bis(2-Ethylhexyl)phthalate	50000				NT	NT				
Benzo(b)fluoranthene	1100				NT	NT				
Benzo(k)fluoranthene	1100				NT	NT		1		
PCB (ug/kg)				in the state of th	,		- 	<u> </u>	NT	
Aroclor-1242	NV								11/1	
Total PCBs	10,000									

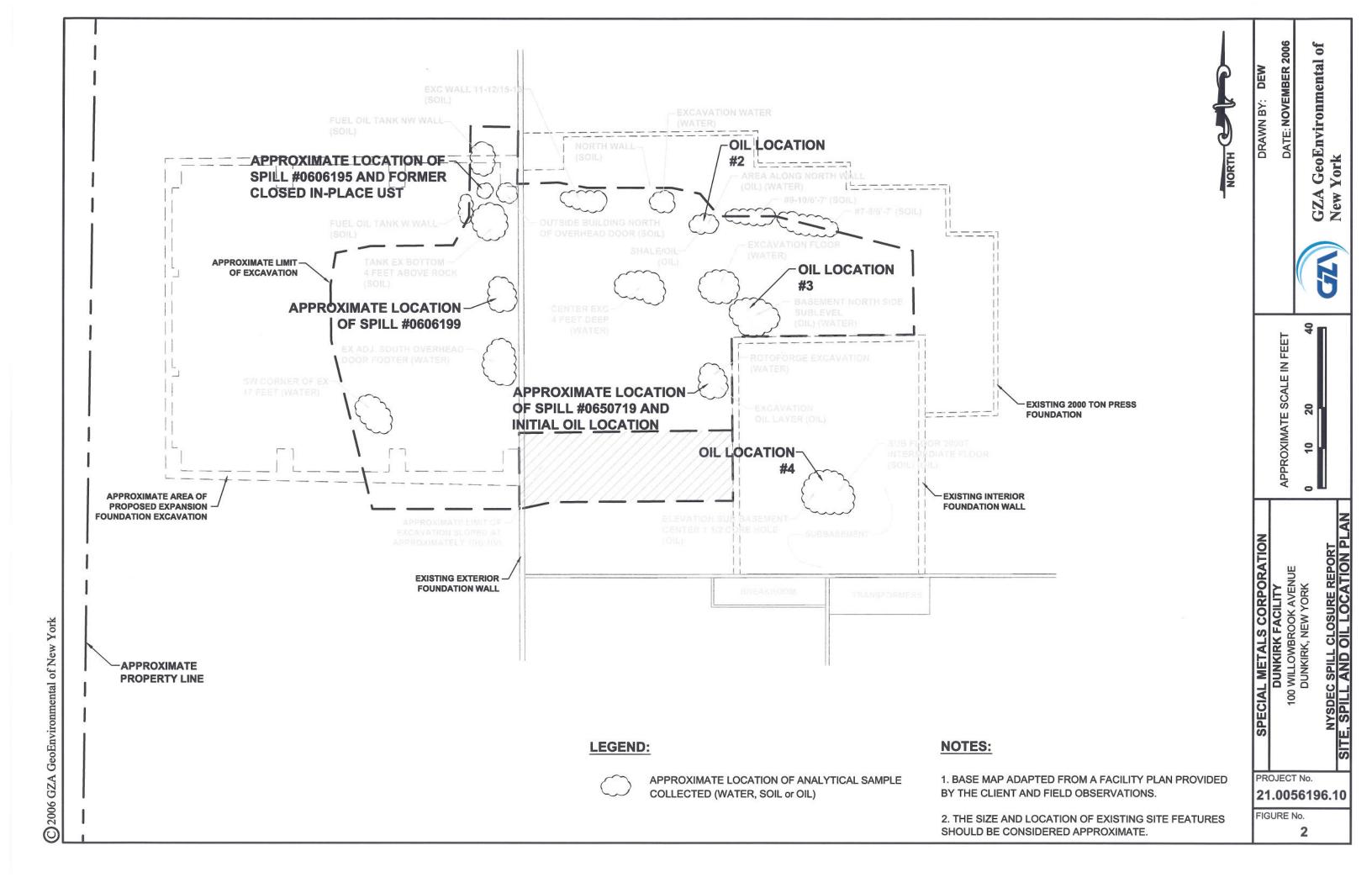
- 1. Only compounds detected in one or more soil samples are presented in this table.
- 2. Blank indicates compound was not detected.
- 3. NT indicates compound was not tested.
- 4. Analytical testing completed by various laboratories.
- . Q = laboratory qualifier.
- 6. ug/kg = parts per billion, mg/kg = parts per million.
- 7. TAGM # 4046 RSCO are Recommended Soil Cleanup Criteria from NYSDEC Technical and Administrative Guidance Memorandum No. HWR-94-4046.
- . NV = no value; MDL = method detection limit.
- 9. Concentrations that are bold exceed RSCO.

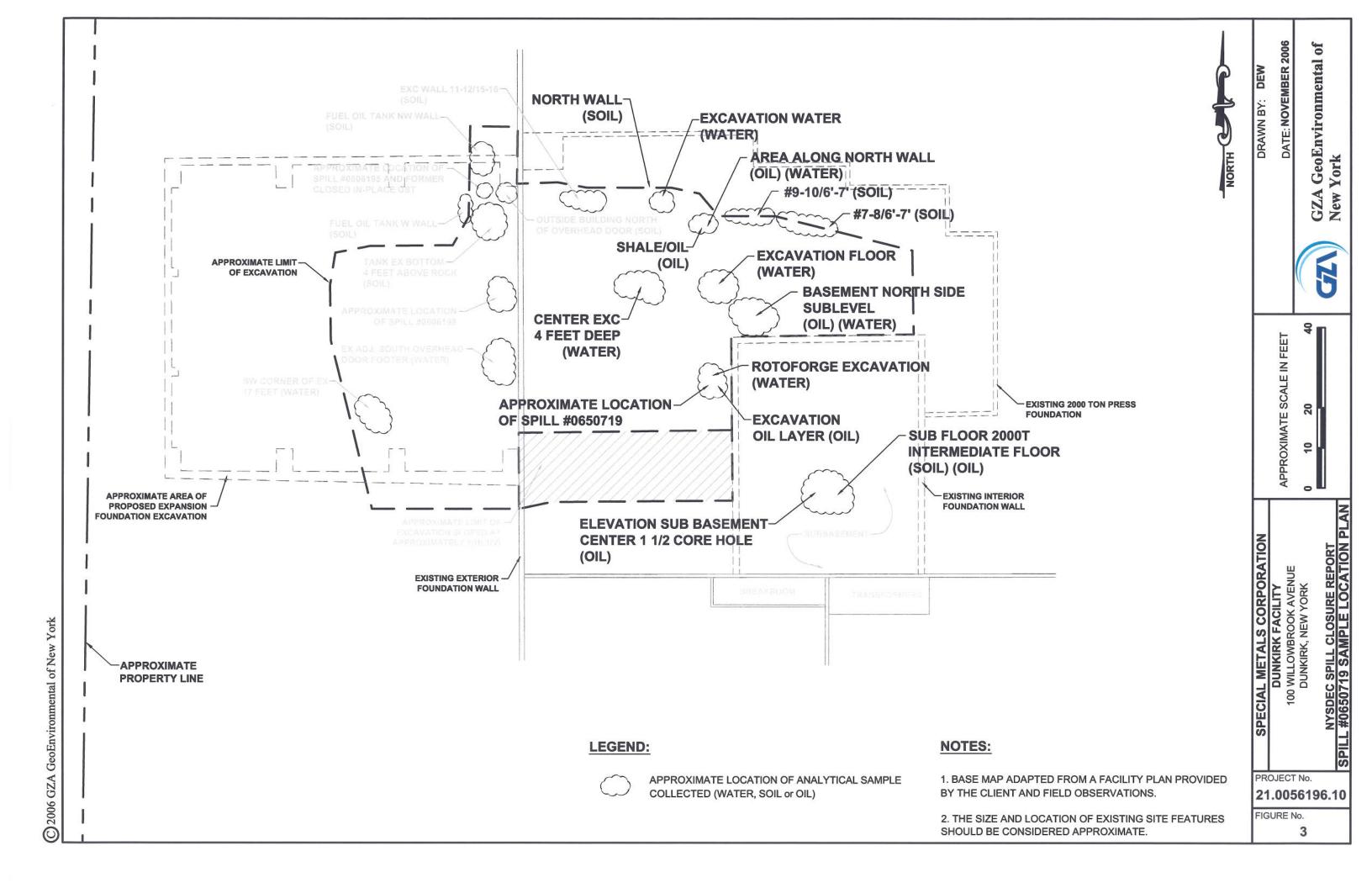
Summary of Groundwater Sample Analytical Results Special Metals Corporation Dunkirk, New York

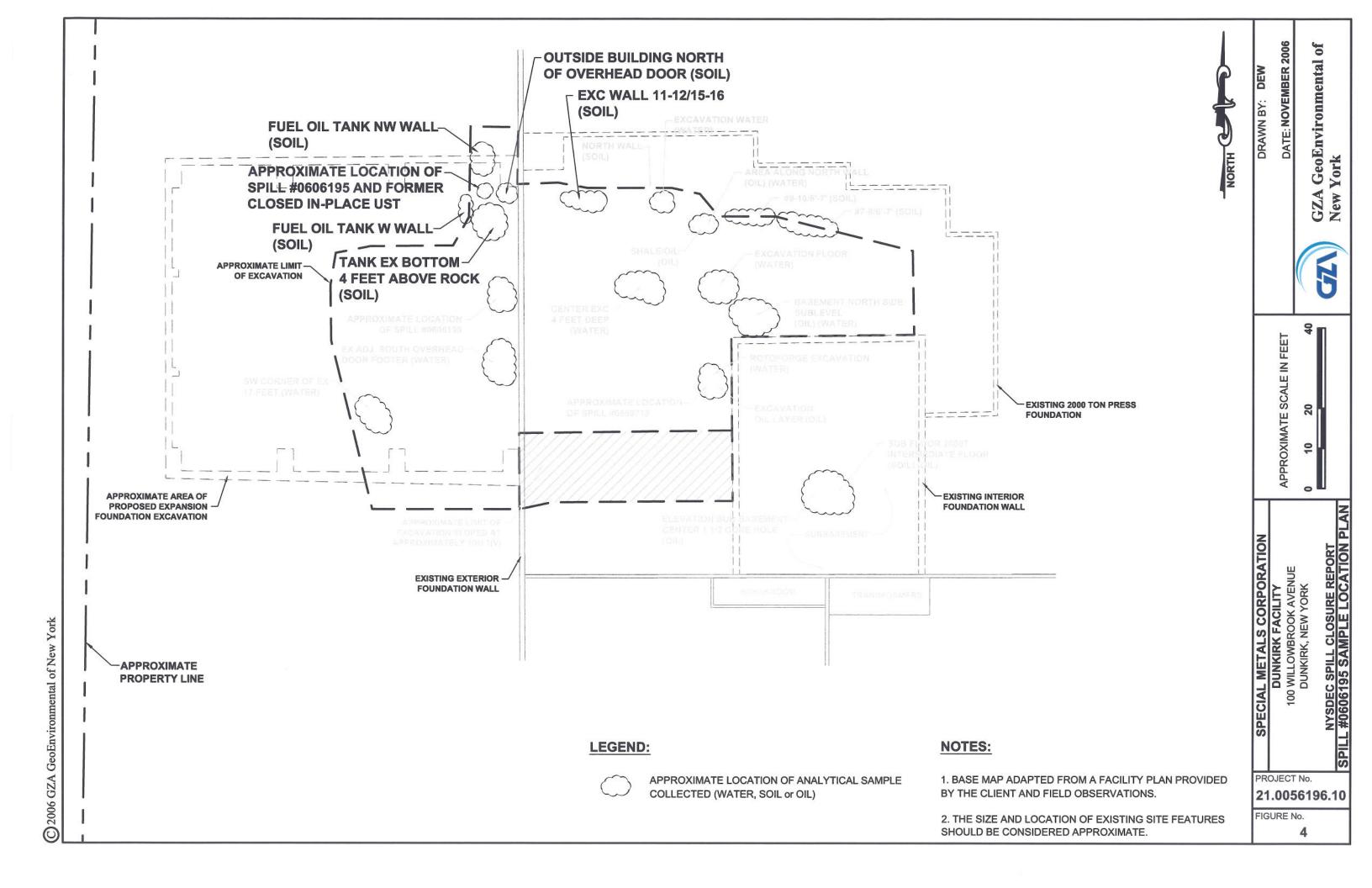
Sample Location Sample Date	Class GA Criteria	Rotoforge Excavation 7/28/2006	Excavation Water 8/21/2006	Basement North Side Sub-Level 8/28/2006	Excavation Floor 8/29/2006 Q	Area Along North Wall 8/29/2006	Center 4 ft Deep Excavation 8/31/2006	Excavation Adjacent to South OH Door Footer 9/5/2006 Q	SW Corner of Ex 17 ft 9/7/2006
		Į Q	1 2				-		
/olatile Organics (ug/L)	1		NT	NT	NT	NT	8		
Senzene	5		NT	NT	NT	NT	30	0.8 J	
oluene	5		NT	NT	NT	NT	6		
thylbenzene	5		NT	NT	NT	NT	36		
n,p-Xylene			NT	NT	NT	NT	13	0.5 J	
-Xylene	5		NT	. NT	NT	NT	1 1		
sopropylbenzene	5		NT	NT	NT	NT	1		
-Propylbenzene	5		NT	NT	NT	NT	2	2	
,3,5-Trimethylbenzene	5		NT	NT	NT	NT	12	2	1
,2,4-Trimethylbenzene	5		NT	NT	NT	NT	0.6 J		1
Naphthalene	10		101	111					
emi-Volatile Organics (ug/L)						T NE		T	
is(2-Ethylhexyl)phthalate	5	NT	NT	NT	NT	NT	2 3		
									1 1
PCB (ug/L)		0.5		3.03					
Aroclor-1242		8.5	0.91 J	3.03					
Aroclor-1248		0.5	0.91	3.03					
Total PCBs	0.09**	8.5	0.91	5,05					
otal Petroleum Hydrocarbon (mg	NV	290,000 Lubricating Oil	NT	NT	NT	NT	NT	NT	NT
norganics (ug/L)		5				NT I	NT	NT I	NT
			NT	NT	NT	NT	1 1 1		

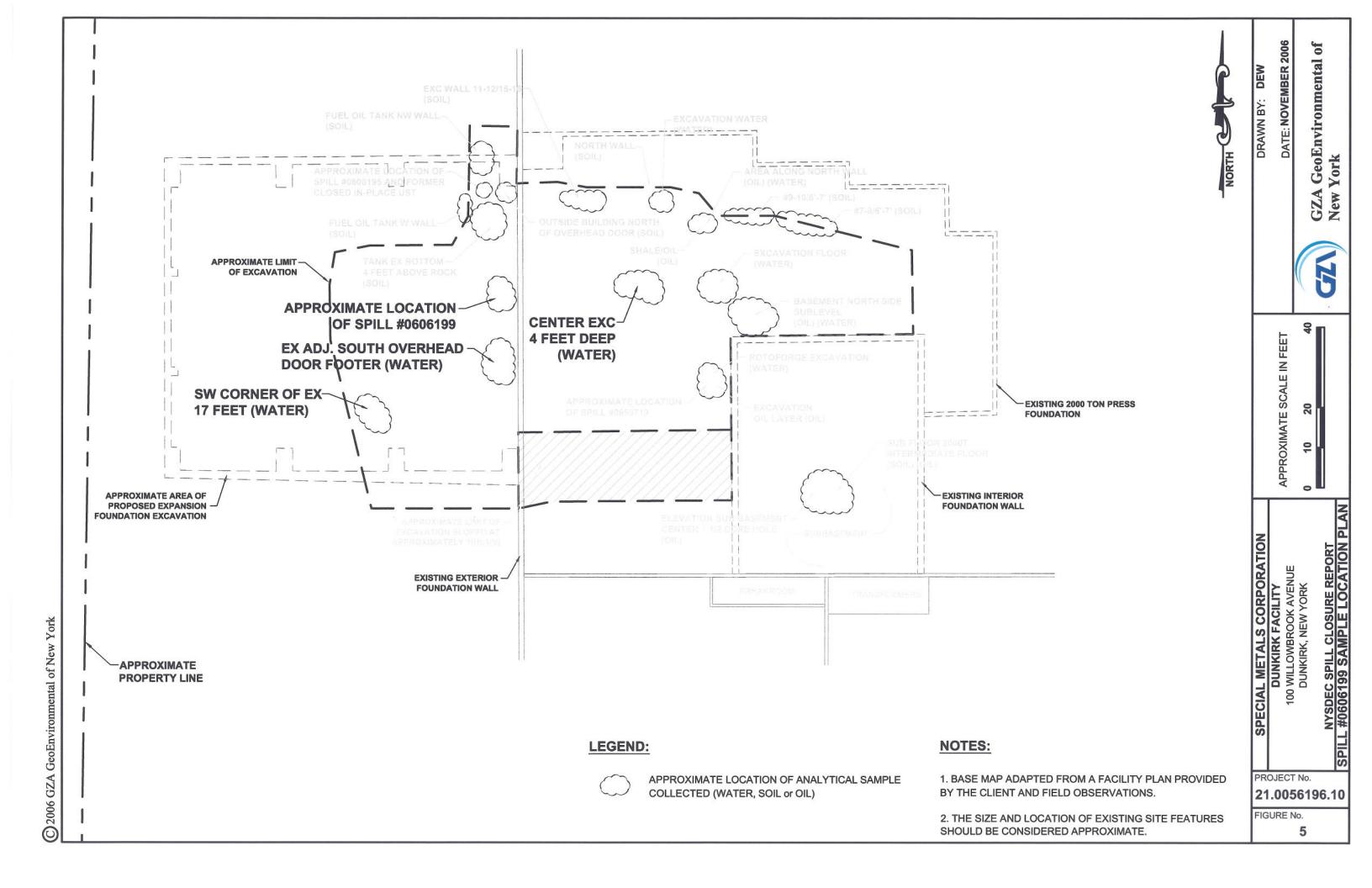
- . Only compounds detected in one or more of the groundwater samples are presented in this table.
- . Blank indicates compound was not detected.
- . NT indicates compound was not tested.
- . Analytical completed by various laboratories.
- ** indicated standards applies to the sum of these substances.
- . Q = laboratory qualifier.
- ug/L = parts per billion
- 8. NYSDEC Class GA Groundwater Criteria as promulgated in 6 NYCRR 703; Table 1 in Technical and Operational Guidance Series (1.1.1): Ambient Water Quality
- Standards and Guidance Values and Groundwater Effluent Limitations, dated October 1993; revised June 1998; errata dated January 1999; addendum dated April 2000.
- 9. Concentrations that are bold exceed Class GA criteria.
- 10. J = estimated concentration.

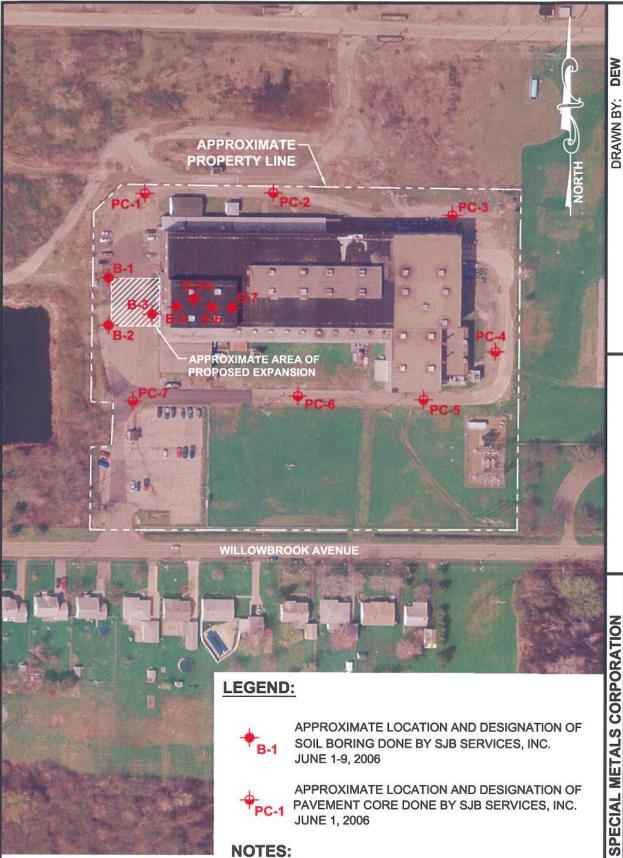
FIGURES











(C) 2006 GZA GeoEnvironmental of New York

DATE: NOVEMBER 2006

GZA GeoEnvironmental of

New York

300

150 75

APPROXIMATE SCALE IN FEET

NYSDEC SPILL CLOSURE REPORT

SPECIAL METALS CORPORATION

00 WILLOWBROOK AVENUE **DUNKIRK, NEW YORK DUNKIRK FACILITY**

PROJECT No. 21.0056196.10

FIGURE No.

6

1. BASE MAP ADAPTED FROM A 2004 AERIAL PHOTOGRAPH DOWNLOADED FROM http://www.nysgis.state.ny.us/gateway/ mg/interactive_main.html, AND FIELD OBSERVATIONS.

2. THE SIZE AND LOCATION OF EXISTING SITE FEATURES SHOULD BE CONSIDERED APPROXIMATE.

APPENDIX A PHOTOGRAPHS

NYSDEC Spill # 0650719 Closure Report Photographs

Special Metals Corporation 100 Willowbrook Avenue Dunkirk, New York

File No. 21.0056196.10



Oil product - Spill # 0650719 – INITIAL OIL LOCATION, near west wall of Subbasement, looking north.



Excavation overview from interior of building looking west.



UST location, Spill # 0606195, along exterior of building, looking east



UST removed from location and placed on plastic sheeting, looking north.



Oil product observed, OIL LOCATION #2, looking southwest.

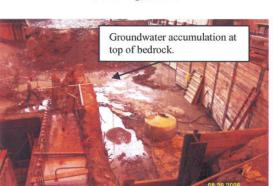


Location of Spills # 0606195 and 0606199, outside of overhead door, looking southeast.

Special Metals Corporation 100 Willowbrook Avenue Dunkirk, New York



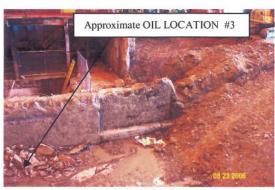
Approximate location of OIL LOCATION #4, oil encountered during the removal of floor in subbasement area, looking south.



Groundwater accumulation within excavation area, looking west.



Oily contaminated soil stockpile placement on plastic sheeting and within soil berms, looking northwest.



Location of OIL LOCATION #3, looking south.



Water from water main leak, looking west.



Suspected contaminated soil pile and clean soil pile, looking southwest.