July 1, 2004

Mr. Bob Peterson
Village of Elk Rapids
P.O. Box 398
Elk Rapids, MI 49629

Re: Section 7a Compliance Analysis (Due Care Plan) Addendum and Response Activity Report for the Former Chippewa Oil Property, Elk Rapids, Michigan

Dear Mr. Peterson:

Gosling Czubak Engineering Sciences, Inc. (GCES) has completed an Addendum to the March 2004 Section 7a Compliance Analysis (CA) for the property located at 401 Bridge Street in Elk Rapids, Michigan. The Section 7a CA Addendum contains results of the response activities and fulfills the requirements of the Natural Resources and Environmental Protection Act (NREPA), Part 201, Section 20107a ("Due Care"), as amended. Attached, please find six copies of the CA Addendum.

As the owner of the property, the Village of Elk Rapids must maintain a copy of the Section 7a CA and the attached Section 7a CA Addendum to document that due care needs have been met. The Section 7a CA Addendum does not have to be submitted to the Michigan Department of Environmental Quality (MDEQ), but must be available for the MDEQ to review upon request within 8 months of becoming the owner of the property.

Your confidence in Gosling Czubak is appreciated. If you have any questions or comments, please contact Kevin Ringwelski at (231) 933-5129, or Adam Biteman at (231) 933-5128.

Sincerely,

Gosling Czubak Engineering Sciences, Inc.

_____	_____
Adam R. Biteman	Kevin D. Ringwelski, P.G.
Project Geologist	Director of Environmental Services

Attachments: 1) Section 7a Compliance Analysis Addendum

SECTION 7A COMPLIANCE ANALYSIS ADDENDUM AND RESPONSE ACTIVITY REPORT
FORMER CHIPPEWA OIL PROPERTY
401 BRIDGE STREET
ELK RAPIDS, MICHIGAN

JULY 2004

Prepared for:

The Village of Elk Rapids
P.O. Box 398
Elk Rapids, Michigan 49629-0398

Prepared by:
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**SECTION 7A COMPLIANCE ANALYSIS ADDENDUM
AND RESPONSE ACTIVITY REPORT
FORMER CHIPPEWA OIL PROPERTY
401 BRIDGE STREET
ELK RAPIDS, MICHIGAN**

The following Section 7a Compliance Analysis (CA) Addendum and Response Activity Report was prepared on behalf of the Village of Elk Rapids by Gosling Czubak Engineering Sciences, Inc. (GCES), for the facility known as the Former Chippewa Oil Property, located at 401 Bridge Street, Elk Rapids, Michigan. GCES prepared a CA for the property in March 2004. As proposed in the CA, the Village of Elk Rapids redeveloped the property for parking area use, which involved the demolition of all structures associated with the bulk fueling facility and the removal of approximately 100 cubic yards of contaminated soil. A Site Location Map is included in Attachment 1.

The CA and CA Addendum has been prepared in support of compliance with Section 20107a ("Due Care") of Part 201 of the Natural Resources and Environmental Protection Act (NREPA), Public Act 451 of 1994, as amended.

1.0 DETAILED CHARACTERISTICS OF PROPERTY USE

1.1 Current and Proposed Use of the Property

The Former Chippewa Oil Company bulk fuel site is located at 401 Bridge Street within the Village of Elk Rapids, Antrim County, Michigan. The property is located on approximately 0.6 acres, and has the parcel tax identification number 00-05-43-021-082-00. The legal description is as follows:

> Parcel of land located in the Village of Elk Rapids, Antrim County, Michigan, Section 21 T29N R9W, more particularly described as COMMENCING at a point on the east line of Bridge Street 1,027.65 feet south and 33 feet east from iron stake at intersection of center lines of River and Bridge Streets:
>
> Thence east at a 90 degree angle to Bridge Street 170 feet, south parallel to Bridge Street 150 feet, west 170 feet to east line of Bridge Street, thence north 150 feet along east line of Bridge Street to POINT OF BEGINNING.

Former property uses were discussed in the March 2004 CA. During May 2004, the Village of Elk Rapids redeveloped the property for use as a parking area by removing former bulk fuel facility structures and vegetation. Locations of former bulk fuel facility structures are depicted the Site Diagram, Attachment 2. The gravel-surface parking area is intended for boat trailers and vehicles associated with the nearby municipal marina. The current layout is depicted in Attachment 3, Site As Built Diagram.

Photographs of property, taken before, during and after redevelopment activities are included in Attachment 4.

1.2 Existing Infrastructure and Conditions of Infrastructure

The existing utilities on or near the subject property include municipal water, sanitary sewer, natural gas and electricity. The municipal water and natural gas lines are located below the west side of Bridge Street. The sanitary sewer main is located within the right-of way along the east side of Bridge Street. Electrical service is overhead. Existing infrastructure features are illustrated on the Site Diagram in Attachment 2.

1.3 Demolition and Construction Activities

Demolition of the former Chippewa oil bulk fuel facility and parking area construction activities were performed by Northern A-1 Services, Inc. (Northern A-1) during the week of May 24, 2004 through May 28, 2004. A summary of demolition and construction activities completed by Northern A-1 is presented in Northern A-1's Final Project Report included in Attachment 5. Redevelopment of the property included the demolition of all structures associated with the bulk fueling facility, specifically the four above ground storage tanks (ASTs) and associated piping, the loading rack, concrete loading pad, underground storage tank (UST), and all fencing. Prior to demolition, the ASTs and UST were emptied and disposed off-site by Northern A-1.

1.3.1 Soil Removal

Following demolition of the bulk fuel facility, approximately 100 cubic yards of contaminated soil was removed from the former loading rack area of the facility and disposed at the CES/Waters Landfill in Frederic, Michigan. Waste Manifests are included in Attachment 6. The location of the approximately 25 feet by 28 feet by 4 feet deep excavation is shown on the Site Diagram in Attachment 2. Groundwater was encountered at approximately 3 feet below ground surface (bgs), which prevented the removal of deeper soils.

Six sidewall soil samples were collected from locations judged to be most impacted (based on photoionization detector screening) at the extent of the excavation, just above the water table, at a depth of three feet. Due to the presence of groundwater throughout the bottom of the excavation, one groundwater sample was collected in lieu of soil samples from the floor. The six soil samples and one groundwater sample were submitted to Grand Traverse Analytical, L.L.C. for unleaded gasoline indicator parameters. Results of soil and groundwater samples collected from the excavation limits are discussed in Section 2.1.

2.0 HAZARDOUS SUBSTANCE INFORMATION

2.1 Known Contamination

As documented in the March 2004 CA, site investigation work was performed at the subject property. Hazardous substances were identified during the investigation at concentrations exceeding the generic residential cleanup criteria (GRCC) under Part 201.

The results of the site investigation indicated that the site is impacted by gasoline indicator parameters. Laboratory results identified benzene in soil borings HA-3 and HA-5 at concentrations exceeding relevant Part 201 GRCC for soil. Exceedences of GRCC for ethylbenzene were identified in borings HA-2, HA-3, and HA-5. Exceedences of xylenes, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene were identified in HA-2, HA-3, HA-4, and HA-5.

The results of sidewall soil samples collected at the limits of soil removal activities indicated gasoline indicator parameter were not detected above laboratory method detection limits (MDLs), with the exception of East Sidewall – S. At the East Sidewall-S location, certain gasoline indicator parameters were detected above laboratory MDLs, but concentrations did not exceed Part 201 GRCC.

Laboratory results for ground water identified benzene, ethylbenzene, xylenes, and 1,2,4-trimethylbenzene in monitor well MW-2 at concentrations exceeding relevant Part 201 GRCC.

Laboratory results for the ground water samples collected from the floor of the excavation also indicated benzene, xylenes, 1,3,5-trimethylbenzene and 1,2,4-trimethylbenzene concentrations exceeding relevant Part 201 GRCC.

The sample locations where hazardous substances were detected, as defined through the site investigation, are depicted on the attached Site Diagram, Attachment 2. The concentrations of these substances and their comparison to the applicable cleanup criteria appear on the Laboratory Analytical Tables for Soil and Ground Water found in Attachment 7 and 8, respectively.

2.2 Abandoned or Discarded Containers

As discussed in the March 2004 CA, GCES identified three 15,000-gallon ASTs; one containing fuel oil, one containing unleaded gasoline, and one containing diesel fuel. In addition, one 10,000-gallon AST containing premium unleaded gasoline, one 500-gallon UST containing fuel products from the trench drain, three 55-gallon drums containing oil products, two 5-gallon buckets containing fuel products, nine 275-gallon ASTs, and six 300 to 1,000-gallon ASTs were identified on the site. The three 55-gallon drums containing oil products, nine 275-gallon ASTs, and six 300 to 1,000-gallon ASTs were

removed from the site by the previous owner prior to the Village's purchase of the property. The containers were considered known abandoned containers and were listed on the Notice Regarding Underground Storage Tanks and Discarded or Abandoned Containers (Form EQP 4476), provided in the CA. The four, 10,000 to 15,000-gallon ASTs and one, 500-gallon UST were removed during May 2004 response activities. A Storage Tank Unit Change of Information form submitted to the MDEQ on June 30, 2004 is included in Attachment 9.

2.3 Hazardous Substance Concentrations, Fate, and Transport

Soil and ground water have been impacted by hazardous substances in certain areas on the subject property. Soils encountered during site investigation and soil removal activities generally consisted of brown sandy soil with trace fine gravel from ground surface to a depth of four feet below ground surface. Foundry fill material was present in this layer at select borings. Below this sandy soil, a black, mucky organic layer is present in borings at four to five feet. A gray silty sand layer is present beneath the organic material. Ground water was encountered at approximately three feet to five feet below grade.

Hazardous substances exceeding GRCC under Part 201 were detected in soil at depths ranging from approximately three to five feet. Hazardous substances exceeding GRCC were detected in ground water, approximately three to seven feet below grade.

The most likely method of hazardous substance transport mechanisms appear to be: 1) soil leaching to ground water at three to five feet below ground surface with subsequent horizontal transport; and 2) volatilization. During investigation activities, ground water was calculated to flow to the northwest.

2.4 Exposure Pathways

The analysis of potential exposure pathways is based on the existing conditions and proposed site development activities that will occur on the subject property. The following exposure pathways have been evaluated: ground water ingestion, ground water contact, ground water-surface water interface, ground water volatilization to indoor air inhalation, flammability and explosivity, drinking water protection, soil direct contact, ground water surface-water interface protection criteria, soil volatilization to indoor air inhalation, and particulate soil inhalation. The intended land use of the subject property falls under the Residential and Commercial I subcategory use pursuant to the Michigan Department of Environmental Quality (MDEQ) criteria as published in Rule R299.5746, Part 201, P.A. 451 of 1994 as amended.

2.5 Ground Water Exposure

The following subsections describe the potential ground water exposure pathways and evaluate hazardous substances in light of the applicable criteria. Hazardous substance

concentrations have been compared to Part 201 Residential and Commercial I criteria. An analytical table for ground water is located in Attachment 8.

2.5.1 Drinking Water Protection

The subject property and surrounding area are provided with potable water exclusively from a municipal system. Therefore, ground water ingestion is not an exposure pathway.

2.5.2 Ground Water Contact

Ground water was encountered on the subject property at approximately three to five feet below grade during site investigations and excavation activities. Hazardous substances were not detected on the subject property above ground water direct contact criteria. Therefore, unacceptable ground water direct contact hazards are not anticipated. Refer to the analytical table for ground water in Attachment 8.

2.5.3 Ground Water Surface Water Interface (GSI)

Ground water was encountered on the subject property at approximately three to five feet below grade during site investigations and excavation activities. Contaminants were detected above GSI criteria at MW-2, which is depicted on the Site Diagram in Attachment 2. However, the GSI exposure pathway is not considered relevant at the subject property because the nearest surface water located hydraulically downgradient is approximately 1,500 feet northwest of the property.

2.5.4 Flammability and Explosivity

Ground water was encountered on the subject property at approximately three to five feet below grade during site investigations and excavation activities. Hazardous substances were not detected on the subject property above ground water flammability and explosivity screening levels. Therefore, unacceptable flammability and explosivity hazards are not anticipated. Refer to the analytical table for ground water in Attachment 8.

2.6 Air Exposure

The following subsections describe the potential air exposure pathways and evaluate known hazardous substances to the applicable soil and ground water criteria.

2.6.1 Indoor Air – Soil Volatilization to Indoor Air Inhalation

Laboratory analytical results for only one soil sample (HA-5 -5') had concentrations of hazardous substances exceeding the soil volatilization to indoor air inhalation criteria. However, since no buildings or structures are proposed to be developed on the subject property the exceedance does not create an unsafe exposure. In addition, soil in this

area was removed to a depth of four feet. Groundwater was encountered at three feet. Sample locations are depicted on the Site Diagram in Attachment 2 and the soil analytical results are located in Attachment 7.

2.6.2 Ambient Air – Infinite Source Volatile Soil Inhalation

None of the concentrations of hazardous substances detected on the subject property exceeded the criteria for this pathway. Therefore, this pathway does not present a risk.

2.6.3 Ambient Air – Finite Source Volatile Soil Inhalation

None of the concentrations of hazardous substances detected on the subject property exceeded the criteria for this pathway. Therefore, this pathway does not present a risk.

2.6.4 Ambient Air – Particle Soil Inhalation

None of the concentrations of hazardous substances detected on the subject property exceeded the criteria for this pathway. Therefore, this pathway does not present a risk.

2.6.5 Indoor Air – Ground Water Volatilization to Indoor Air

None of the concentrations of hazardous substances detected on the subject property exceeded the criteria for this pathway. Therefore, this pathway does not present a risk.

2.7 Direct Contact Exposure to Soil

This section describes the potential direct contact exposure pathway and evaluates hazardous substances in light of the current site use.

Xylenes were detected above its criterion at HA-5 at five feet below grade. Approximately 100 cubic yards of soil were removed in this area to a depth four feet. Clean, compacted sand and gravel was used as fill material within the excavated area. Verification of soil remediation sampling at the extent of the excavation indicated unsaturated soils that exceeded direct contact criteria were removed. Therefore, this pathway does not present a risk.

Additional subsurface construction is not planned for this area. However, should future construction activities be proposed in this area, protective equipment will be required for all workers. Sample locations are depicted on the Site Diagram in Attachment 2 and the soil analytical results are located in Attachment 7.

3.0 PLAN FOR RESPONSE ACTIVITY (PRA)

The following sections outline the proposed response activities necessary to satisfy the Village of Elk Rapid's "Due Care" requirements during ownership and operation of the subject property.

3.1 Proposed Response Activities, Procedures, Notifications

The response activities proposed in the March 2004 CA, including the removal of discarded or abandoned containers and soil removal, were completed in May 2004 and were discussed above. No future response activities are planned.

3.2.1 Disclosure

Each contractor, owner, and operator of the subject property will be provided with a copy of the March 2004 CA and this CA Addendum.

3.2 Informal Property Restrictions

To ensure the integrity of the response activities, the following informal restrictions will be implemented for the subject property. The following item outlines the informal restrictions and how it will be applied.

1. **Construction of buildings and underground utilities is restricted in the vicinity of HA-5.** The highest concentrations of hazardous substances on the subject property were identified at HA-5 (five feet) and present risks from soil direct contact or soil volatilization to indoor air (if a building is constructed, not planned). If subsurface construction is required in the vicinity of HA-5, all construction workers will be required to wear PPE. The appropriate level of protection, using US EPA designation levels, is Level D, which includes the wearing of coveralls, rubber gloves, boots or shoes that are chemical resistant, safety glasses, and hard hats.

3.3 PRA Implementation

The Village of Elk Rapids will be the primary administrators of the CA for the subject property and will implement the guidelines dictating responsibilities during property use. This CA Addendum and the March 2004 CA will be used as a set of rules to maintain compliance with Part 201.

3.4 Operation and Maintenance

The proposed development and CA have been designed to minimize the operation and maintenance required to maintain compliance with the PRA. Operation and maintenance will consist of maintenance of gravel surfaces and following guidelines established in the CA for any future development on the subject property.

4.0 EVALUATION AND DEMONSTRATION OF COMPLIANCE WITH 7a OBLIGATIONS

The following sections provide documentation that the proposed usage of the subject property will comply with Section 7a obligations.

4.1 Exacerbation

The development of the property will not exacerbate existing contamination. No hazardous material use or storage is planned on the property. Additional subsurface work at the subject property is not planned.

4.2 Due Care

As indicated in the PRA section of this CA, mechanisms have been developed to prevent and minimize exposure to hazardous substances on the subject property.

Based on the site investigation conducted to date, it has been determined that the migration of contamination beyond the subject property boundaries above the current GRCC levels has occurred. The Village of Elk Rapids will complete a Notice of Migration of Contamination (Form EQP 4482), if required, and submit it to affected parties, to satisfy Rule 1017 of the Part 201 Rules.

4.3 Reasonable Precautions

Potential third parties at the subject property will primarily consist of individuals utilizing the gravel parking area, and possibly, utility workers. Based on the proposed development activities and the intended use of the subject property, individuals utilizing the parking area are not considered at risk due to the short-term duration of visits and protective barriers (gravel surfaces) preventing direct contact with hazardous substances.

As previously stated, all contractors will be notified of the potential risks and will be advised of appropriate safety precautions prior to working on the property.