

## **Attorney General's Report**

## **Claim Payment Approval**

**IOWA UNDERGROUND STORAGE TANK PROGRAM  
 FIRST BOARD REPORT  
 JUNE 30, 2014  
 MADSEN OIL CO.  
 4133 MAIN STREET  
 ELKHORN  
 SITE REGISTRATION NUMBER: 8604918  
 LUST NUMBER: 7LTC68**

RISK CLASSIFICATION:

**HIGH**

**LOW**

**UNDETERMINED**

PRESENT CLAIM RESERVE:

\$ 135,000.00

ELIGIBILITY: The contamination was discovered on this property in 1989 during a site investigation. The release was reported to the DNR and a timely claim was filed. This is an eligible retroactive claim.

COST INCURRED TO DATE:

1. Site clean-up report/site investigation	\$ 28,449.66
2. Tank upgrade	12,195.12
3. Tank pull (old)	11,490.20
3. RBCA Tier II report	6,950.00
4. Site monitoring reports	<u>20,950.75</u>
TOTAL COST TO DATE	\$ 80,035.73

PROJECTED COSTS:

❖ Site Monitoring Report

❖ Over-excavation

TOTAL PROJECTED COSTS:

\$ 45,000.00 to 70,000.00+

TOTAL AUTHORITY RECOMMENDED:

\$140,000.00

COMMENTS:

The facility is an active station with 3 USTs in use. The site is classified as high risk for the vapor pathways, and low risk for the potential vapor pathways. An excavation of the historic tank pit area is proposed as vapor sampling continues to exceed the target levels. The excavation may result in the reclassification of the site to no action required following post-excavation monitoring. Affected population likely less than 20.

Site Timeline

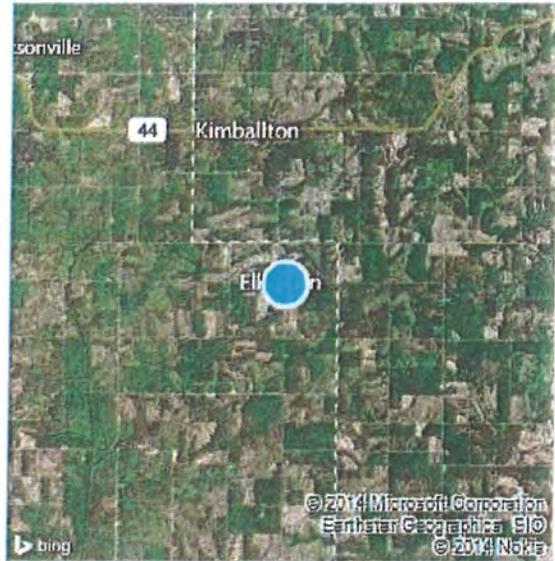
- 1989 - Contamination is discovered from two separate line leaks during the completion of a site investigation. An assessment report confirming the release was sent to the DNR on September 1, 1989.
- 1993 - An SCR is submitted and accepted as high risk. CADR due in 60 days.
- 1994 - A CADR is submitted. DNR response in 1996 delays review until the RBCA rules are in place.
- 1994 - 1999 – No activity.
- 2000 - RBCA Tier 2 submitted and accepted as low risk for the potential vapor pathways.
- 2001 - 2009 – Low risk monitoring.
- 2010 - Site is reclassified to high risk for the on-site sewer.
- 2010 – 2014 – Attempts to reclassify the site with vapor sampling are unsuccessful. A small excavation is recommended.



4133 Main St, Elk Horn, IA 51531

Madsen Oil

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**IOWA UNDERGROUND STORAGE TANK PROGRAM  
 FIRST BOARD REPORT  
 JUNE 30, 2014  
 HY-VEE, INC.  
 1109 NORTH DODGE STREET  
 IOWA CITY  
 SITE REGISTRATION NUMBER: 8605390  
 LUST NUMBER: 9LTQ18**

RISK CLASSIFICATION:

HIGH       LOW       UNDETERMINED

PRESENT CLAIM RESERVE:                      \$ 125,000.00

ELIGIBILITY: The contamination was discovered on this property during a Phase II investigation in May 2012 and was reported to the IDNR. A former gas station existed on this property prior to January 1, 1974. As a result, this is considered to be a pre-regulation Innocent landowner claim and is eligible for reimbursement without a copayment.

COST INCURRED TO DATE:

1. RBCA Tier II report	26,270.55
TOTAL COST TO DATE	\$ 26,270.55

PROJECTED COSTS:

- ❖ Site Monitoring Report
- ❖ Over-excavation
  
- ❖ Water line replacement

TOTAL PROJECTED COSTS:                      \$ 85,000.00 to 150,000.00+

TOTAL AUTHORITY RECOMMENDED: \$150,000.00

COMMENTS: The site is classified as high risk for non-drinking water wells, water mains, and sewers. The site is low risk for the potential vapor pathways. The consultant is recommending a small excavation and a water line replacement. The excavation will likely reduce the concentrations below the target levels potentially allowing the site to be reclassified to no action required following post-excavation monitoring. Affected population likely less than 20.

Site Timeline

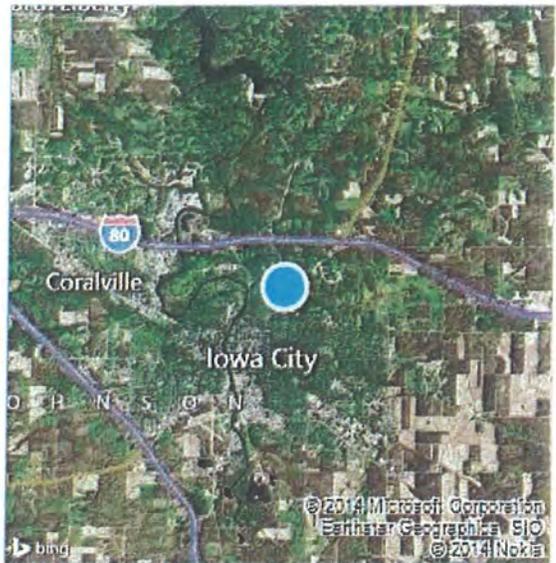
- 2012 - Phase I and Phase II investigations completed. Contamination was identified on a corner of the property where a former gas station existed until the 1960's.
- 2013 - The claim by Robert's Dairy is accepted as a pre-regulation ILO claim.
- 2013 - The claim is transferred to Hy-Vee, Inc., following purchase of the property.
- 2014 - Tier 2 submitted. In a letter dated May 12, 2014, the DNR accepted the high risk classification, but noted several deficiencies. The deficiencies will not affect the recommended corrective action.



1109 N Dodge St, Iowa City, IA 52245

Former station located at northeast corner of Prairie Du Chien Rd & Dodge St.

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**IOWA UNDERGROUND STORAGE TANK PROGRAM  
 THIRD BOARD REPORT  
 JULY 2, 2014  
 FATBUTT ENTERPRISES, LLC.  
 412 1<sup>ST</sup> AVENUE EAST  
 INDEPENDENCE  
 SITE REGISTRATION NUMBER: 8605542  
 LUST NUMBER: 7LTV83**

RISK CLASSIFICATION:

HIGH       LOW       UNDETERMINED

PRESENT CLAIM RESERVE:      \$ 325,000.00

PREVIOUS BOARD APPROVAL:      \$ 295,000.00  
 Number and Date of each previous Board Report: 1st: March 21, 2005; 2<sup>nd</sup>: July 3, 2012

PREVIOUS COSTS INCURRED:      \$ 298,938.01

COSTS INCURRED SINCE LAST BOARD APPROVAL:

1. Site monitoring reports      6,970.00

TOTAL COSTS INCURRED TO DATE:      \$ 305,908.01

PROJECTED COSTS:

<input checked="" type="checkbox"/> Site Monitoring Reports (SMR)	<input type="checkbox"/> Free Product Recovery (FPR)
<input type="checkbox"/> Corrective Action Design Report (CADR)	<input type="checkbox"/> Implementation of CADR

TOTAL PROJECTED COSTS:      \$ 25,000.00 to 50,000.00 +

ADDITIONAL AUTHORITY RECOMMENDED:     

TOTAL AUTHORITY:\*      \$ 350,000.00

COMMENTS: This is a closed UST site. Contamination is present in non-granular bedrock and the public water supply (PWS) wells are located within 1,000 feet of the site. A dual-phase extraction (DPE) system was operated from 2005 thru 2010. The contaminant levels, while low, still exceed the target level for the groundwater ingestion pathway. A Tier 3 report recommending reclassification to NAR was submitted in 2012, but not accepted. Continued monitoring is required. Additional corrective action is also a possibility.

\*Previous approval + additional recommended

Site Timeline

- 1990 - Claim filed by Jenson Oil Company after contamination discovered during tank pull.
- 1993 – SCR is submitted recommending a high risk classification. DNR issues ‘not accepted’ letter requiring a revised SCR within 90 days.
- 1994 – 1999 – No activity.
- 1998 – Benefits are transferred to Paul Greif.
- 2000 – Tier 2 is submitted a high risk. DNR issues ‘not accepted’ letter.
- 2001 – Revised Tier 2 is submitted. DNR issues ‘not accepted’ letter.
- 2001 – 2<sup>nd</sup> revised Tier 2 is submitted and accepted as high risk. CADR due in 120 days.
- 2003 – All USTs are removed and site ceases to operate as a gas station.
- 2005 – First corrective action teleconference is held on January 11, 2005. Agreed to additional testing for use in the design of a remediation system.
- 2005 – Second corrective action teleconference is held on March 11, 2005. A CADR will be submitted proposing a groundwater treatment system.
- 2005 – Third corrective action teleconference is held on May 26, 2005 to discuss the CADR and proposed system.
- 2005 – The remediation system becomes operational in the fall of 2005.
- 2006 – Benefits are transferred to Fatbutt Enterprises, Inc.
- 2010 – The remediation system is shut down after it is decided it is no longer having a significant impact on the contaminant concentrations.
- 2010 – The fourth corrective action teleconference is held. The consultant recommends a Tier 3 approach to show that there is not a significant risk to the city wells.
- 2012 – A Tier 3 report submitted recommending reclassification to no action required. DNR issues ‘not accepted’ letter.
- July 2014 – DNR review of 2012 & 2013 SMRs noted site remains high risk as there are “multiple PWS wells within 1,000 feet and waste oil concentrations in groundwater remain above Tier 1 levels, but not significantly”. Further monitoring required.

**IOWA UNDERGROUND STORAGE TANK PROGRAM  
 FIRST BOARD REPORT  
 JUNE 30, 2014  
 GREENE COUNTY  
 901 WEST WALL STREET  
 JEFFERSON  
 SITE REGISTRATION NUMBER: 8604400  
 LUST NUMBER: 7LTQ80**

RISK CLASSIFICATION:

HIGH            LOW            UNDETERMINED     

PRESENT CLAIM RESERVE:                      \$ 350,000.00

ELIGIBILITY: The contamination was discovered at this county shop property during an insurance investigation in August of 1990. The release was reported to the DNR and a timely claim was filed. This is an eligible remedial claim.

COST INCURRED TO DATE:

1. Initial site investigation and Site clean-up report	19,349.41
2. RBCA Tier II report	12,600.00
3. Site monitoring reports	30,627.94
5. Free product recovery	11,497.23
6. Corrective action teleconference	1,000.00
TOTAL COST TO DATE	\$ 75,074.58

PROJECTED COSTS:

- |   |  |
|---|--|
| <ul style="list-style-type: none"> <li>❖ Site Monitoring Report</li> <li>❖ Water line relocation</li> </ul> | <ul style="list-style-type: none"> <li>❖ Free product recovery by hand bailing</li> <li>❖ DPE system implementation</li> </ul> |
|---|--|

TOTAL PROJECTED COSTS:                      \$ 275,000.00 to 325,000.00+

TOTAL AUTHORITY RECOMMENDED:                      \$400,000.00

COMMENTS:

The site is classified high risk for the water line pathway for both a main and service line receptor. The site is also low risk for the potential vapor pathways and soil gas sampling has been unsuccessful. Free product is also present at the site. It is recommended that the water main be relocated, and that a dual phase extraction system be installed to remove the free product and lower the contaminant concentrations sufficiently to allow the site to be reclassified to no action required.

Site Timeline

- 1990 - Claim filed by Greene County following the discovery of contamination.
- 1992 - Initial Site Assessment Report is completed and indicates site will be high risk. The DNR reviews and requires the Site Cleanup Report be submitted within 120 days.
- 1992 – 1999 – No activity.
- 2000 –RBCA Tier 2 is submitted and accepted as low risk for the potential vapor pathways.
- 2001 – A site monitoring report is submitted recommending reclassification to high risk due to increases in the groundwater concentrations. DNR concurs and requires CADR.
- 2002 – A CADR is submitted. DNR issues a ‘not accepted’ letter.
- 2003 – Three revised CADRs are submitted, all rejected.
- 2004 – The site is reclassified to low risk after soil gas sampling.
- 2004 – 2008 – Annual low risk monitoring is completed.
- 2009 – 2011 – No activity.
- 2012 – Change in consultant. Site is reclassified to high risk due to the new water line rules.
- 2013 – 1<sup>st</sup> corrective action meeting held on September 24, 2013. Additional investigation necessary to further assess risk and determine if corrective action is necessary.
- 2013 – 2014 – Significant additional contamination, including free product, is identified during plume delineation to evaluate the risk to the water main. Corrective action is deemed necessary.

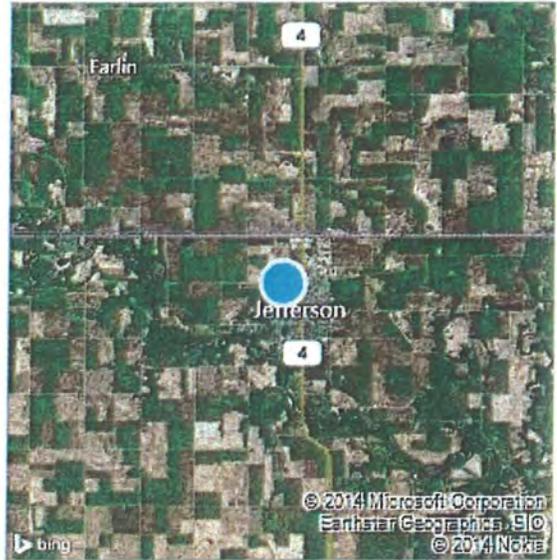
 bing Maps

901 W Wall St, Jefferson, IA 50129

Greene County Shop



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**IOWA UNDERGROUND STORAGE TANK PROGRAM  
 SECOND BOARD REPORT  
 MAY 13, 2014  
 APPANOOSE COUNTY  
 22913 HWY 2  
 CENTERVILLE  
 SITE REGISTRATION NUMBER: 8605169  
 LUST NUMBER: 8LTR80**

RISK CLASSIFICATION:

HIGH

LOW

UNDETERMINED

PRESENT CLAIM RESERVE: \$ 500,000.00

PREVIOUS BOARD APPROVAL: \$ 375,000.00

Number and Date of each previous Board Report: 1st: April 25, 2006

PREVIOUS COSTS INCURRED: \$ 68,047.82

COSTS INCURRED SINCE LAST BOARD APPROVAL:

1. Site monitoring reports	23,418.52
2. Free product recovery	12,976.00
3. Post-RBCA evaluation	800.00
4. Over-excavation	<u>208,661.73</u>
<b>TOTAL COSTS INCURRED TO DATE:</b>	<b>\$ <u>313,904.07</u></b>

PROJECTED COSTS:

❖ Site Monitoring Report

❖ Remediation

TOTAL PROJECTED COSTS: \$ 55,000.00 to 100,000.00 +

ADDITIONAL AUTHORITY RECOMMENDED:

\$ 40,000.00

TOTAL AUTHORITY:\*

\$ 415,000.00

COMMENTS: The site is high risk for one non-drinking water well and for water lines, and low risk for the potential vapor pathways. The site is a former gas station, now vacant property owned by the county. All structures were removed from the property and a large excavation was completed in 2008. The remaining contamination is in the right-of-way and beneath State Hwy 2. Additional excavation is not feasible. The consultant is recommending replacement of the water line and the owner has agreed to placement of an environmental covenant on the site. The DNR is in agreement with the proposed technology.

\*Previous approval + additional recommended

Site Timeline

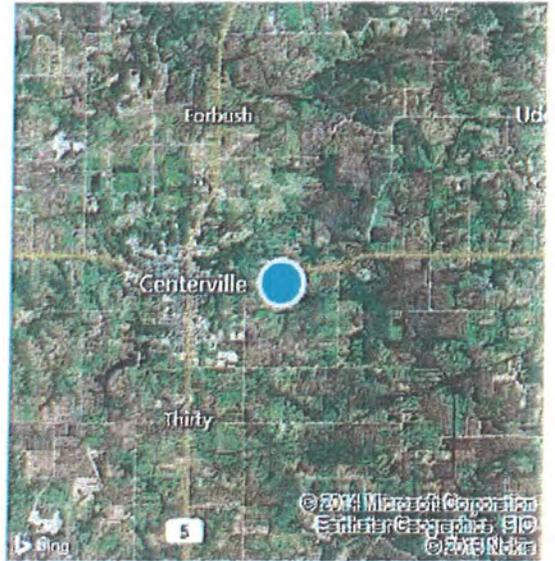
- 1990 - Claim filed by Joseph Oil Company after contamination discovered during an insurance site check.
- 1992 – Free product discovered during investigation and hand bailing begins.
- 1993 – SCR is submitted recommending a high risk classification. DNR issues ‘not accepted’ letter.
- 1993 – 2003 – No activity.
- 2004 - Appanoose County takes the property for back taxes. Free product recovery resumes.
- 2005 – RBCA Tier 2 is submitted and accepted as high risk. Corrective action teleconference scheduled.
- 2005 – 1<sup>st</sup> teleconference held. More plume delineation is needed.
- 2005 – 2<sup>nd</sup> teleconference held. The county will demolish the on-site buildings and the consultant will submit a budget for a large excavation.
- 2006 – First board report is presented to cover the costs for the excavation.
- 2007 – Budget for the over-excavation is received and approved.
- 2008 – A large (3,208 cy) excavation is completed.
- 2013 – 3<sup>rd</sup> teleconference is held to discuss the post-excavation monitoring results and to discuss options for reaching NAR. Corrective action in the right-of-way of Hwy 2 is needed.
- 2013 – 4<sup>th</sup> teleconference held on August 27th. Presence of utilities including fiber optic lines, and IDOT shoring requirements, make excavation in ROW unfeasible. Chemical injection agreed upon.
- 2014 – 5<sup>th</sup> teleconference held to reconsider options to address risk. Stakeholders agreed to pursue water line replacement and placement of an environmental covenant on the site.



22913 IA-2, Centerville, IA 52544

SE corner of 230th & Hwy 2 (vacant land)

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### Site Timeline

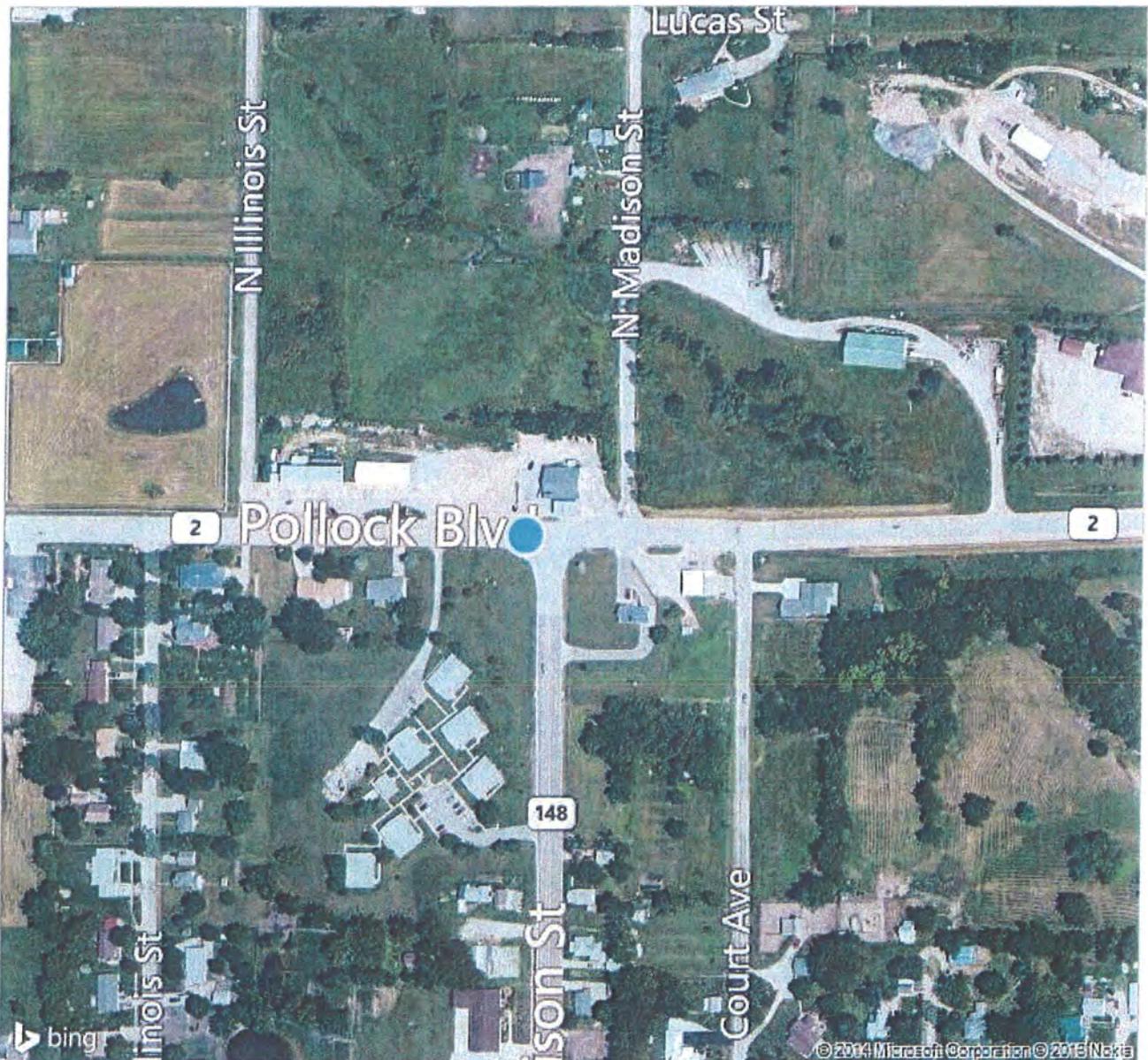
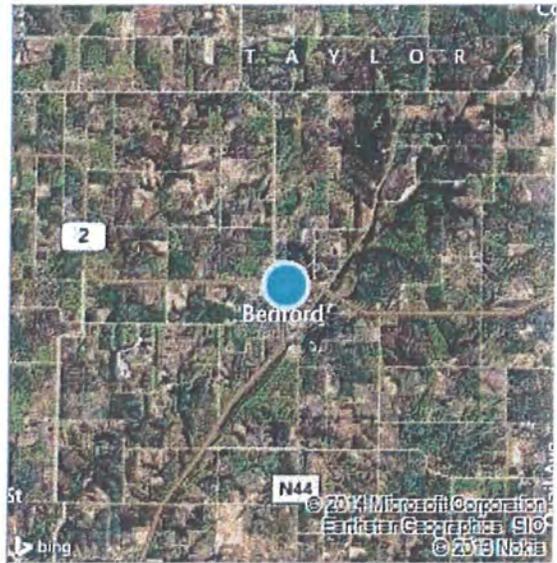
- 1990 – Claim filed by Easter Enterprises after contamination discovered during an insurance site check.
- 1994 – SCR submitted and accepted by DNR on June 20, 1994. CADR required in 90 days.
- 1995 – CADR received but not reviewed as RBCA rules are implemented.
- 1998 – Tier 2 submitted and accepted as high risk. CADR required in 90 days.
- 2001 – CADR submitted in June of 2000 and accepted September 14, 2001 proposing replacement of plastic water lines, a Tier 3 approach for the ingestion pathways, and a pilot test to determine if a dual phase extraction system could effectively reduce the contamination to the target levels.
- 2003 – 420 feet of 6” PVC water main is replaced with ductile iron with nitrile gaskets. Some PVC water line still exists within the modeled plume, but well outside of the actual plume.
- 2004 – Two of the three high risk non-drinking water wells are plugged. The third well owner will not plug the well and will not allow access for the completion of a Tier 3 evaluation to assess the risk.
- 2005 – First teleconference August 2005. Seneca to submit a revised CADR for the implementation of an SVE system to address the vapor pathways.
- 2005 – Second teleconference is held on October 19, 2005 to discuss the CADR and system design.
- 2006 thru 2009 – SVE System becomes operation in May of 2006 thru February of 2009. System shut down after disappointing results due to the very tight native soils.
- 2010 – Third teleconference is held on May 25, 2010 to discuss options moving forward. Main issue is dealing with the vapor pathways. Compared OE versus chemical injection (Biox).
- 2010 – Biox injections are completed in October and November.
- 2011 thru 2013 – Post-remediation monitoring indicates that Biox was unsuccessful.
- 2014 - Fourth corrective action teleconference is held on May 13, 2014. Agreed to water line replacement and a Tier 3 approach.



603 Pollock Blvd, Bedford, IA 50833

My Notes

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Site Timeline

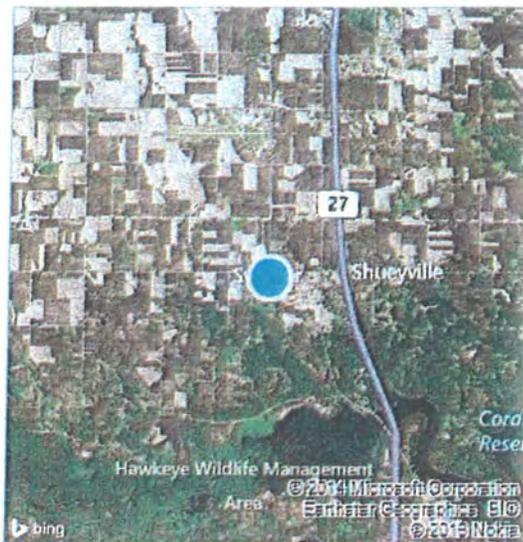
- Until 1993 – D&G Oil Company operated the site as a gas station and auto repair shop.
- 1993 – Iowa County acquired the property for back-taxes and transferred ownership to the City of Swisher.
- 1993 thru 1994 – 5 registered and 7 unregistered USTs were removed from the site.
- 1995 – SCR recommending a high risk classification is not accepted.
- 1998 – The RBCA Tier 2 is submitted and accepted as high risk. CADR due in 120 days.
- 1998 – 2005 – High risk monitoring is completed.
- 2005 – Free product is discovered at the site near the former UST area.
- 2005 – First corrective action teleconference is held on February 3, 2005. Agreed on the installation of an SVE/AS remediation system.
- 2005 – Second corrective action teleconference is held on April 5, 2005 to discuss the system design.
- 2005 – The SVE/AS system becomes operational in May of 2005.
- 2012 – The SVE/AS system broke down at the end of 2011. All agreed on looking at other options as the remediation system, while beneficial, did not achieve the desired reduction in concentrations.
- 2012 – A chemical injection technology (RegenOx PetroCleanze) is used along with vacuum truck events to try to remove remaining contamination. Results are not satisfactory due to the tight soils.

bing Maps

127 Rose Ave SW, Swisher, IA 52338

City of Swisher - Park at NW corner of Rose Avenue & 2nd Street SW

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 Bird's eye view maps can't be printed, so another map view has been substituted.

**IOWA UNDERGROUND STORAGE TANK PROGRAM  
 FIRST BOARD REPORT  
 JULY 2, 2014  
 CERRO GORDO COUNTY  
 609 WASHINGTON STREET  
 ROCKWELL  
 SITE REGISTRATION NUMBER: 8602189  
 LUST NUMBER: 7LTB79**

RISK CLASSIFICATION:

HIGH                       LOW                       UNDETERMINED

PRESENT CLAIM RESERVE:                      \$ 100,000.00

ELIGIBILITY: Contamination was discovered in 1988 during tank removal activities. A claim form was submitted in 1992 and funding was denied as the filing deadline was missed. The claim was reopened under the Innocent Landowner Program in 1996 which made claims denied for late filing eligible. This is an eligible innocent landowner claim.

COST INCURRED TO DATE:

1. Site clean-up report/initial site investigation	\$ 31,286.66
2. Tank pull (old)	1,610.00
3. RBCA Tier II report	6,406.75
4. Site monitoring reports	28,052.70
5. Over-excavation	10,693.00
6. Corrective action evaluation/teleconference	<u>1,000.00</u>
TOTAL COST TO DATE	\$ 79,049.11

PROJECTED COSTS:

❖ Site Monitoring Report	❖ Over-excavation
<u>TOTAL PROJECTED COSTS:</u>	<u>\$ 25,000.00 to 75,000.00+</u>

TOTAL AUTHORITY RECOMMENDED:

\$150,000.00

COMMENTS:

The Cerro Gordo County maintenance garage is classified as low risk for the groundwater to protected groundwater source and potential confined space pathways. Soil gas sampling has failed. Attempts have been made to show that the actual contaminant plume remains on-site however those have been unsuccessful. The consultant is now proposing an additional round of soil and groundwater sampling to further asses the plume and determine if an EC is possible, and if not will complete an excavation of the contamination area in excess of the target levels. Further low risk monitoring may also be required.

The current requirement by the DNR is annual sampling of 4 wells at a cost of just under \$2,000 per year. It will take many more years of monitoring without an institutional control to reclassify the site to no action required.

Site Timeline

- 1988 - Contamination is discovered in sniffer wells installed in the tank pit during routine inspection of the USTs. The suspected release is reported to the DNR.
- 1990 - All USTs are removed from the site.
- 1992 - A claim form is submitted after the deadline for retroactive claims. Funding is denied.
- 1992-1996 - No activity.
- 1996 - The claim is reopened under the ILO program.
- 1996 - An SCR is submitted and accepted as high risk. CADR due in 120 days.
- 1999 - Tier 2 is submitted and accepted as high risk. CADR due in 120 days.
- 2000 - 2003 - High risk monitoring completed.
- 2004 - First corrective action teleconference is held on October 13, 2004. Agreed to complete a small excavation.
- 2005 - The excavation is completed in January. Site reclassification to low risk is accepted in September.
- 2006 – present - Low risk monitoring and attempts to show that the plume remains on-site so that an environmental covenant (EC) can be used to reclassify the site. Reports have not been officially reviewed since 2005. In a 2013 email the DNR states that they do not feel enough evidence has been provided to show that the plume is, and will remain, on site so that the EC can be used for site reclassification. An excavation is another option for reclassifying the site.

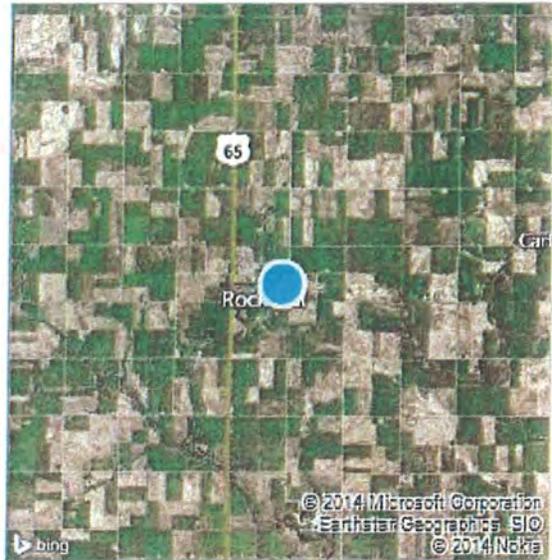


609 E Washington St, Rockwell, IA 50469

Cerro Gordo County Shop



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**IOWA UNDERGROUND STORAGE TANK PROGRAM  
 SECOND BOARD REPORT  
 JUNE 30, 2014  
 CITY OF OTTUMWA  
 1010 GATEWAY DRIVE  
 OTTUMWA  
 SITE REGISTRATION NUMBER: 8609993  
 LUST NUMBER: 7LTP34**

RISK CLASSIFICATION:

HIGH

LOW

UNDETERMINED

PRESENT CLAIM RESERVE: \$ 150,000.00

PREVIOUS BOARD APPROVAL: \$ 200,000.00  
 Number and Date of each previous Board Report: 1<sup>st</sup>: December 28, 2000

PREVIOUS COSTS INCURRED: \$ 80,975.00

COSTS INCURRED SINCE LAST BOARD APPROVAL:

1. Site monitoring reports	53,784.00
2. CADR	1,500.00
3. Removal of sewer receptor	3,362.75
3. Tier 3 work plan	<u>500.00</u>

TOTAL COSTS INCURRED TO DATE: \$ 140,121.75

PROJECTED COSTS:

❖ Site Monitoring Report

❖ Completion of over-excavation

TOTAL PROJECTED COSTS: \$ 325,000.00 to 400,000.00 +

ADDITIONAL AUTHORITY RECOMMENDED: \$ 375,000.00

TOTAL AUTHORITY:\* \$ 575,000.00

COMMENTS: The site is classified as low risk for the potential vapor pathways. The City of Ottumwa public works garage is highly contaminated in the area of the former USTs. However, there are no actual vapor receptors in the area of contamination. The consultant is recommending the completion of a large excavation to remove most of the contamination. Some contamination will likely remain in proximity to the site building, and as a result low risk monitoring may continue after the excavation.

The current DNR requirement is annual monitoring of six monitoring wells at a cost of approximately \$2,000 per year. Unless rules change, monitoring may be necessary for an extended time frame.

\*Previous approval + additional recommended

#### Site Timeline

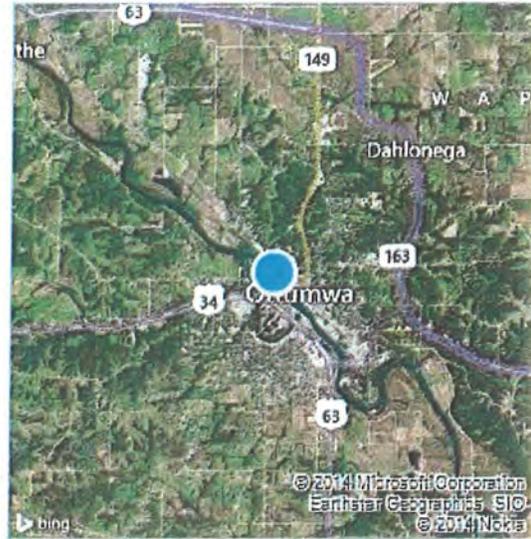
- 1990 - Claim filed by the City of Ottumwa after contamination is discovered during an insurance site check.
- 1992 - USTs are removed from the site.
- 1994 - SCR is submitted and accepted as low risk. Annual low risk monitoring is required.
- 1995 - 1999 – Annual low risk monitoring is completed.
- 2000 - Tier 2 is submitted and accepted as high risk. CADR required.
- 2002 - A CADR is submitted and accepted recommending the removal of a high risk sewer receptor.
- 2004 - Following sewer replacement, the site is accepted as low risk for the potential vapor pathways
- 2005 – 2010 – Annual low risk monitoring continues.
- 2011 – A Tier 3 work plan is submitted proposing using the actual rather than modeled contaminant plumes combined with an environmental covenant to reclassify the site to no action required. The Tier 3 work plan review by DNR requests additional work before they will accept the proposal.
- 2012 – 2013 - Low risk monitoring and attempts to pass vapor sampling are completed. Soil gas continues to exceed the target levels.
- 2014 – Additional plume delineation is completed to justify the use of the actual plume combined with an environmental covenant to reclassify the site, or complete an excavation to remove most of the contamination. The city appears to prefer contaminant removal.



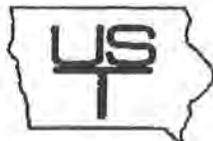
1010 Gateway Dr, Ottumwa, IA 52501

City of Ottumwa

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Bird's eye view maps can't be printed, so another map view has been substituted.



# IOWA UNDERGROUND STORAGE TANK FUND

Douglas M. Beech, *Chairperson*

Dale Cira, *Administrator*

*Board Members:* Michael L. Fitzgerald    Joseph D. Barry    Jeff. W. Robinson    Karen E. Andeweg    Chuck Gipp  
   Timothy L. Gartin    Dawn M. Carlson    Patricia J. Beck    N. Kurt Mumm

## MEMORANDUM

TO: UST Board  
FROM: James Gastineau  
DATE: July 1, 2014  
SUBJECT: State Lead Project CRPCA 9808-19 – Bevington  
Change Order Request

This state lead project was awarded to Apex Environmental in August 1998 to address contamination at one site in Bevington, Iowa. The project has included assessment, corrective action and free product recovery activities. Current activities are part of a Tier 3 approach aimed at verifying that the contaminant plumes are stable and unlikely to affect nearby receptors so as to attain a no action required classification.

Free product recovery is still ongoing. The free product plume encompasses a large area, including the area under Highway 92 and extends south to the property across the street. The affected property is also the location of the primary receptors, including two non-drinking water wells and one building with a basement. The owner of the property has been unresponsive to requests seeking access to allow samples to be collected from the wells or to complete more aggressive free product recovery event(s).

In an effort to continue the Tier 3 monitoring and free product recovery activities, the following change order is presented for consideration:

Free Product Recovery (\$6,000 annually)	\$18,000.00
Vacuum Recovery Events	\$30,000.00
Tier 3 monitoring / reporting (\$14,000 annually)	\$42,000.00
<b>TOTAL</b>	<b>\$90,000.00</b>
Original Contract (11/2/1998)	\$52,277.75
Current Board Authority (01/23/2009)	\$725,000.00
Current Change Order	\$90,000.00
Total Revised Authority	<b>\$815,000.00</b>

NOTE: total cost incurred for work at this site is \$864,769.89.

DC:jrg

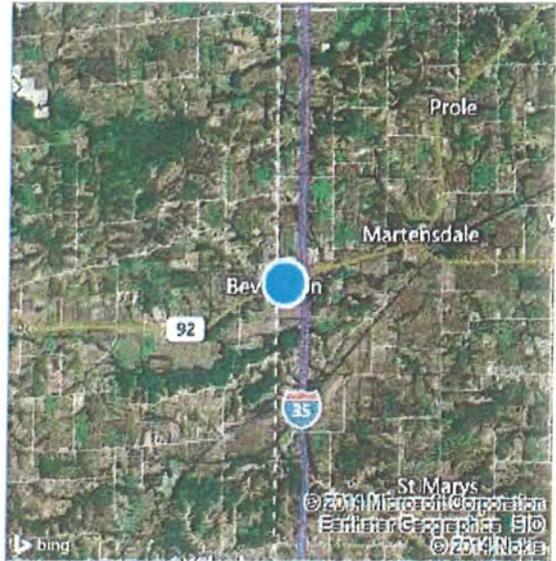
c: Sandi Porter



### Bevington, IA

Former UST site on north side of Hwy 92, west of 10th Avenue

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# IOWA UNDERGROUND STORAGE TANK FUND

Douglas M. Beech, *Chairperson*

Dale Cira, *Administrator*

*Board Members:* Michael L. Fitzgerald Joseph D. Barry Jeff. W. Robinson Karen E. Andeweg Chuck Gipp  
Timothy L. Gartin Dawn M. Carlson Patricia J. Beck N. Kurt Mumm

## MEMORANDUM

TO: UST Board  
FROM: James Gastineau  
DATE: July 7, 2014  
SUBJECT: State Lead Project CRPCA 0309-33A – Bentley  
Change Order Request

This state lead project was originally awarded to Barker Lemar Engineering Consultants (BLEC) in 2003 to address contamination at one LUST site in the unincorporated community of Bentley (Pottawattamie County). During the initial contracting period, the site was classified high risk due to proximity to multiple drinking water wells. Due to site conditions, remedial options were limited. In 2007, a patented in-well air stripping technology was implemented. In 2009, the Board, through a sole-source contract entered into a new agreement with BLEC to continue remediation efforts.

Following several years of operation, it was determined remedial goals are not being attained thus the remediation system has been shut down. In an effort to provide a safe source of drinking water to those in the contaminant plume, the contractor completed additional tests and working with the DNR, has crafted a design for a new water well to replace the one private well located within the plume. Following the installation, the Department will require monitoring to assess stability of the plume.

In an effort to complete the proposed well replacement activities, additional funding is required. The following change order is presented for consideration:

Installation of double-cased well, water line, and pump	\$48,000.00
Project Management, reporting, and monitoring	\$6,000.00
Reserve (well closure)	\$16,000.00
<b>TOTAL</b>	<b>\$70,000.00</b>
Contract (12/21/2009)	\$140,137.64
Current Board Authority	\$170,137.64
Current Change Order Request	\$70,000.00
Total Board Authority	\$240,137.64
Costs Incurred to date (2003 – 2014):	\$504,084.61

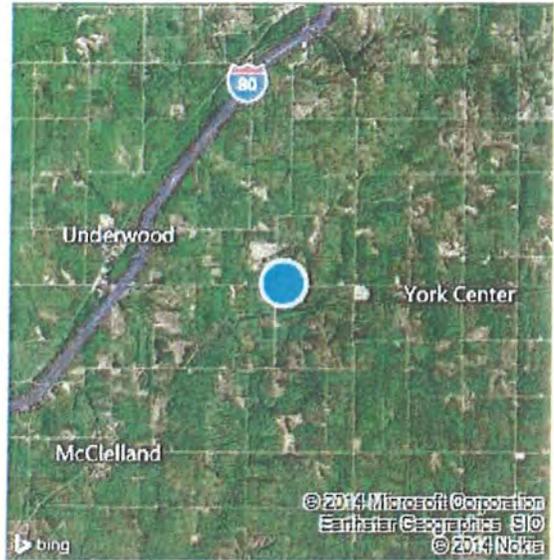
c: Sandi Porter



### Bentley, IA

Former Service Station  
SW corner of Bentley Ln & G30

On the go? Use [m.bing.com](http://m.bing.com) to find maps, directions, businesses, and more





# IOWA UNDERGROUND STORAGE TANK FUND

Douglas M. Beech, *Chairperson*

Dale Cira, *Administrator*

**Board Members:**

Michael L. Fitzgerald  
Timothy L. Gartin

Joseph D. Barry  
Dawn M. Carlson

Jeff. W. Robinson  
Patricia J. Beck

Karen E. Andeweg  
N. Kurt Mumm

Chuck Gipp  
N. Kurt Mumm

## MEMORANDUM

TO: UST Board  
FROM: James Gastineau  
DATE: July 7, 2014  
SUBJECT: State Lead Project CRPCA 0005-22 – Dubuque  
Change Order Request

This state lead project was contracted to Barker Lemar Engineering Consultants in October 2000 to address contamination at four LUST sites formerly located along Highway 20 in Dubuque, Iowa. A combined RBCA evaluation was completed and the sites were assigned a low risk classification due to a protected groundwater source and potential vapor receptors. Low risk monitoring was completed between 2002 and 2010.

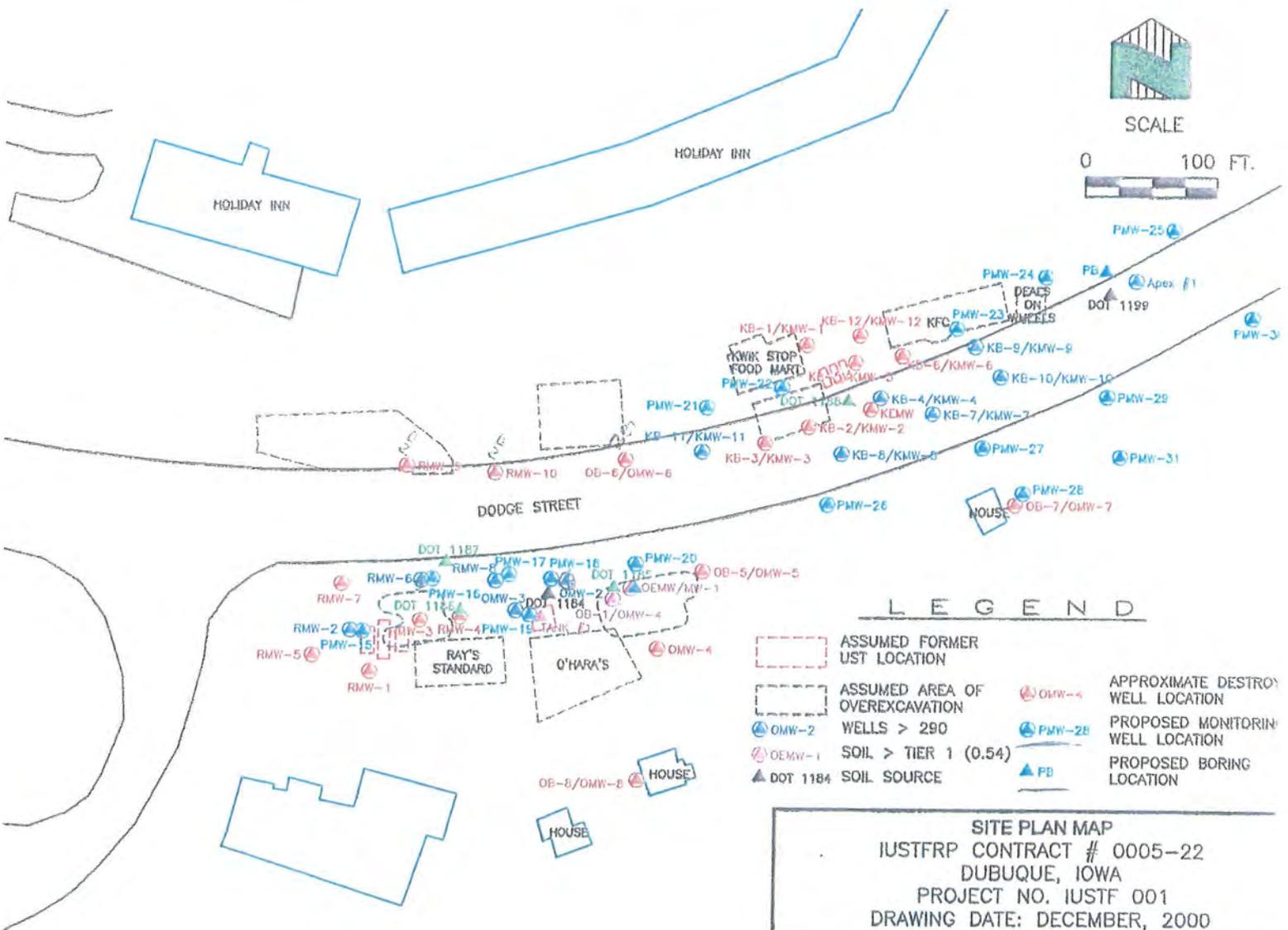
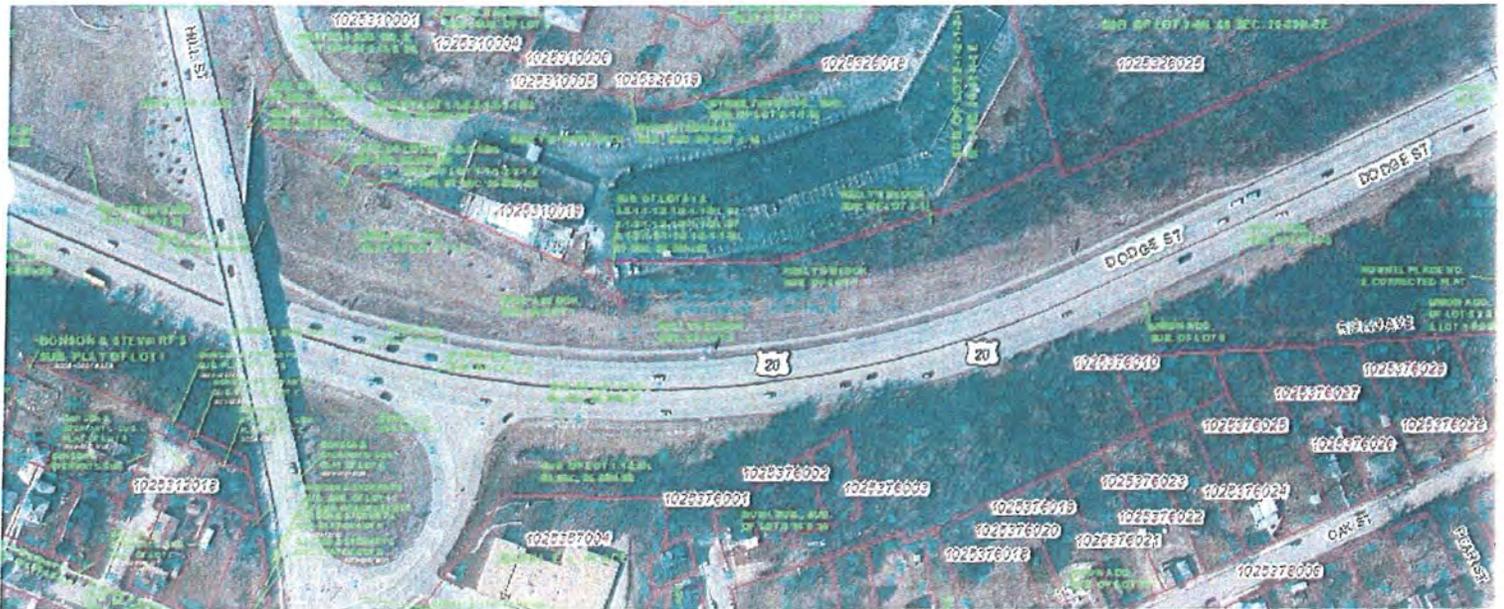
The City of Dubuque has a publically owned water system available however an ordinance restricting the placement of private wells within the projected contaminant plumes does not yet exist. The groundwater professional has been working with the City of Dubuque trying to establish such an ordinance however it is questioned if or when the ordinance would be completed. It is also unknown if the County will agree to sign the necessary documents to support enforcement of the ordinance.

In an effort to continue monitoring of the low risk pathways, the following change order is being presented for consideration:

Groundwater sampling, analyses, reporting	\$12,000.00
Reserve (well closure)	\$8,000.00
<b>TOTAL</b>	<b>\$20,000.00</b>
Original Contract (10/27/2000)	\$48,790.00
Current Board Authority	\$99,830.00
Current Change Order	\$20,000.00
Total Revised Authority	\$119,830.00

DC: jrg

c: Sandi Porter



**LEGEND**

- ASSUMED FORMER UST LOCATION
- ASSUMED AREA OF OVEREXCAVATION
- OMW-2 WELLS > 290
- OEMW-1 SOIL > TIER 1 (0.54)
- ▲ DOT 1184 SOIL SOURCE
- OMW-4 APPROXIMATE DESTROY WELL LOCATION
- PMW-28 PROPOSED MONITORING WELL LOCATION
- ▲ PB PROPOSED BORING LOCATION

**SITE PLAN MAP**  
 IUSTFRP CONTRACT # 0005-22  
 DUBUQUE, IOWA  
 PROJECT NO. IUSTF 001  
 DRAWING DATE: DECEMBER, 2000

<b>Barker, Lemar &amp; Associates, Inc.</b> 1300 Cummins Road - Suite 201 Des Moines, Iowa 50315 Phone: (515) 256-8814 Fax: (515) 256-0182	<b>APPEND</b> <span style="font-size: 2em; font-weight: bold;">2</span>
--	--

**Contracts Entered Into  
Since May 22, 2014 Board Meeting**



# IOWA UNDERGROUND STORAGE TANK FUND

---

Douglas M. Beech, *Chairperson*

Dale Cira, *Administrator*

*Board Members:* Michael L. Fitzgerald    Joseph D. Barry    Jeff. W. Robinson    Karen E. Andeweg    Chuck Gipp  
   Timothy L. Gartin    Dawn M. Carlson    Patricia J. Beck    N. Kurt Mumm

## MEMORANDUM

---

TO:            UST Board Members  
FROM:        Dale Cira  
DATE:        July 2, 2014  
SUBJECT:    Contracts Entered Into Since May 22, 2014 Board Meeting

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The Board has entered into one agreement since the May 22, 2014 meeting. This is:

- 1) Second amendment to the 28E agreement between the Board and the Iowa DNR for assessment and corrective action at LUST sites for which a "No Further Action Certificate has been issued.

## **Other Issues as Presented**

## **Correspondence and Attachments**

# L.U.S.T. LINE



A Report On Federal & State Programs To Control Leaking Underground Storage Tanks

## The Missouri Fund's \$1.3 Million Sting

by Carol Eighmey

The receptionist greeted the consultant, showed him to the conference room at the state tank fund office, and offered him coffee, which he politely declined.

Expecting to be joined by other technical experts, he perused his file in preparation for the scheduled discussion about a gnarly cleanup that had been vexing them all.

Meanwhile, behind closed doors, an FBI agent dialed her cell phone to give the "go ahead" to counterparts in another state, who immediately executed a search warrant at the consultant's home office. Simultaneously, an investigator for the county prosecuting attorney—recently retired from a career with the U.S. Treasury Department—contacted multiple financial institutions and instructed them to freeze the consultant's bank accounts according to court orders he had provided them earlier in the day.

Then the FBI agent and former Treasury agent walked into the conference room and closed the door.

### Two Months Earlier...

A staff member had been reviewing a cost estimate for site characterization they'd received from a consultant who was well known to both the regulatory agency and the tank fund staff. He had a good reputation—he knew what the two state agencies required, wrote good reports, and was willing to waive any charges his clients incurred that were not reimbursed by the state tank fund.

On that spring day, however, the fund staff member was troubled by the unduly high drilling costs in the proposal, and—rather than call the consultant—he contacted the driller, with whom he had become acquainted while "in the field" observing other projects. As soon as the staff member brought up the subject of "unduly high drilling costs," the driller exploded into a diatribe about how the Missouri fund wouldn't pay as much as his home state's tank fund and he was already starving on the rates Missouri was reimbursing...

It quickly became obvious to the staff member that the two were talking (and shouting) about different cost figures.



### Inside

- 3 The Consultant Who Played Foul
- 4 What's Up with Lead Scavengers
- 7 Will the West Virginia Chemical Spill Help Wake Us Up?
- 15 Forecasting Petroleum Cleanup Program Trends
- 17 NEIWPCC Expands Training
- 18 Repurposing Penalties to Improve UST Operations
- 20 Choices: The Good, the Difficult
- 21 Field Notes
- 21 USEPA Sets Cleaner Fuel Standards
- 22 2013: The 20th Anniversary of NWGLDE

■ continued on page 2

## ■ Missouri Fund Sting from page 1

The staff member immediately notified his supervisor, who took over the conversation with the driller. What the two soon realized came as a shock to both of them.

The consultant—who, in the words of the driller, had been “a good friend for 20 years”—had clearly been lying to the driller about how much the Missouri tank fund would pay for drilling. They realized that, for years, he had been reimbursing “his friend” at a ridiculously low rate. He then provided his client and the fund with a fake invoice for the drilling work. The fraudulent invoice format was nearly identical to the driller’s real invoice but for substantially higher amounts of money.

Mutually horrified at their discovery, the driller and tank fund supervisor began exchanging documents from multiple files. What emerged was a picture of significant fraud—initially estimated at \$500,000.

That same day, the supervisor notified the tank fund’s executive

director, who contacted legal counsel, who contacted the governor’s office. A meeting with the governor’s staff ensued, followed by a meeting with the Attorney General’s Office, which, due to the circumstances of the case, promptly referred the matter to the local prosecuting attorney’s office.

Fortuitously, the retired Treasury Department agent with many years’ experience investigating “white collar crime” worked in that office. He immediately engaged investigators from the Highway Patrol, FBI, and IRS. A mere 16 days after the fraud was discovered, a plan was finalized for handling the matter as a joint state/federal case.

### The Plot Thickens

In preparation for the “sting operation,” state fund staff spent countless hours scouring files, copying documents, and creating a spreadsheet to document the crime. They provided copies of checks, enabling the county investigator to locate the consultant’s bank accounts in preparation for freezing his assets. The Highway Patrol and FBI interviewed the driller and fund staff and took possession of the numerous documents they had assembled.

In less than two months, law enforcement officials were ready to confront the consultant. The fund staff set up “the meeting” at their office, then sat quietly at their desks while an unpleasant conversation took place down the hall.

The search warrant netted 30 boxes of records and two computers. The FBI agent, an accountant with excellent skills for this case, not only reconstructed the fraudulent billings for drilling, but discovered other aspects of the fraud, including charges for two trips to collect groundwater samples when the purging and sampling had, in fact, been done all on one day, lab discounts “whited out” on invoices, and charges for operation and maintenance of a remedial system for several months after a pump failed.

Ultimately, the fraud perpetrated on the state tank fund tallied \$1.3 million, including interest and costs to gather evidence for prosecution. The case was handled by the United States Attorney’s Office and involved negotiations with the consultant and his attorney over several months. All the

while, the county maintained control of sufficient funds in the consultant’s bank accounts to cover the fraud.

In the end, a plea agreement was negotiated and the consultant made full restitution to the state tank fund. On June 3, 2014, the consultant was sentenced to 30 months in federal prison, followed by a year of probation, and a \$50,000 fine.

### Learning from Life’s Problems and Failures

One learns far more from life’s problems and failures than life’s successes. To wit:

- Most people are honest; a few are not.
- Crooks are good at conning people.
- Hindsight is always 20/20. (A newly instituted practice of verifying a randomly selected subset of subcontractor invoices might have prevented this fraud or detected it sooner.)
- Size matters. Don’t waste \$1,000 in time on \$100 in questionable charges, but...
- When it’s big, move fast and engage the best experts available.
- Document everything.
- Keep your attorney and management fully informed.

We thought we had procedures in place to prevent a fraud of this magnitude. Missouri’s tank fund has long required all costs to be pre-approved. Staff spends about half their time onsite, observing and documenting activities so they can more knowledgeably review invoices. Supporting documents are required for reimbursement, including such items as subcontractors’ invoices, waste manifests, chain of custody forms. Licensed professionals must attest in writing to the validity of their bills.

We were doing a lot of things right. Yet in spite of these protections, this consultant found a vulnerability and exploited it. Beware: It can happen to anyone. ■

*Carol Eighmey is Executive Director of Missouri’s Petroleum Storage Tank Insurance Fund. She can be reached at [pestif@sprintmail.com](mailto:pestif@sprintmail.com).*



### L.U.S.T.Line

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NEIWPCC was established by an Act of Congress in 1947 and remains the oldest agency in the Northeast United States concerned with coordination of the multimedia environmental activities of the states of Connecticut, Maine, Massachusetts, New Hampshire, New York, Rhode Island, and Vermont.

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# Cleanup Corner

A Neat Little Column by Gary Lynn

Gary Lynn is the MtBE Remediation Bureau Manager for the State of New Hampshire Department of Environmental Services (NHDES). He can be reached at Gary.Lynn@des.nh.gov



## Forecasting Petroleum Cleanup Program Trends

"Partly cloudy with a chance of showers" or "Where in the world did that snowstorm come from?"

Petroleum cleanup programs have a long track record of successes and accomplishments. To continue to be successful, however, it is important to predict and react to change and new trends. As I examine my cleanup program barometer, I observe some rumbling on the horizon and an accurate forecast could help us stay dry if a storm front is rolling in.

Analysis of key trends that could impact our programs logically starts with the following questions:

- Will funding to address UST compliance and petroleum releases remain stable or continue to decrease?
- Will the rate that new releases are discovered continue to decline?
- Will the number of contaminated sites in the "backlog" continue to decline?

There are obviously many more trends to think about, but these three questions cover fundamental issues such as the demand for program services and the resources that will be available to meet these demands.

### Program Funding

For states that operate a financial assurance fund, the biggest single source of program funding is a combination of motor fuel taxes/fees and annual fees on tanks. Information is available on potential trends impacting these key sources of revenue. For example, within the bowels of the Department of Energy there is a forecasting and information collection group called the Energy Information Administration (EIA). EIA publishes the *Annual Energy Outlook* ([www.eia.gov/forecasts/aeo](http://www.eia.gov/forecasts/aeo)). In this document, the EIA analyzes trends and projects future consumption and production of energy.

As can be seen from the 2013 EIA Annual Energy Outlook Report (Figure 1 on page 16), gasoline consumption in the U.S. peaked in 2006 and will decline steadily through 2040. Diesel consumption will increase slightly because the market share for cars equipped with high-efficiency diesel motors is increasing. The increased diesel sales do not compensate for the overall decrease in gasoline consumption.

EIA made these projections based on data from the National Highway Transportation Safety Administration estimates on the

impact of more stringent Corporate Average Fuel Efficiency Standards (CAFE). Motor fuel consumption is directly related to car fuel efficiency and miles driven. Both trends will favor reduced motor fuel consumption because the more stringent CAFE standard will drive higher fleet-car efficiencies, and shifts in demographics/driving habits have already reduced the total miles driven in the U.S. (Figure 2 on page 16). (*Business Insider*, "US Vehicle Miles Driven Have Sunk to a New Post-Crises Low," February 25, 2013, Doug Short). Note: the total vehicle miles driven on all roads in the U.S. peaked in November 2007 and has declined 2.47 percent from that peak.

### Declining Revenues

Financial assurance funds typically are funded by imposing a tax of a penny or two per gallon on motor fuels. When motor fuel consumption drops, revenues drop. The double whammy of higher fuel efficiency and fewer miles driven translates into declining revenues for the foreseeable future. (See Figures 1 and 2 on page 16.)

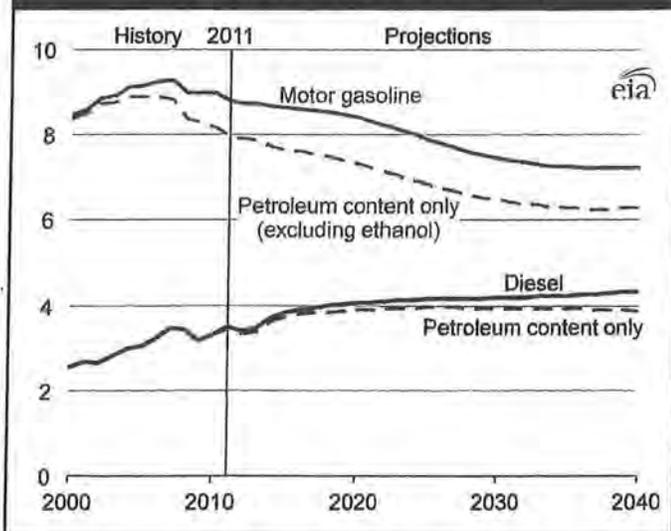
Tank fees are also a source of revenue that has declined over time. There are currently 581,000 federally

regulated USTs. Since 1984, more than 1.7 million USTs have been closed (USEPA UST Program Facts, May 2013). That is a lot of owners no longer paying tank fees. A significant national trend is toward the installation of multicompartmented tanks. One tank takes the place of two or three tanks—one fee paid instead of two or three.

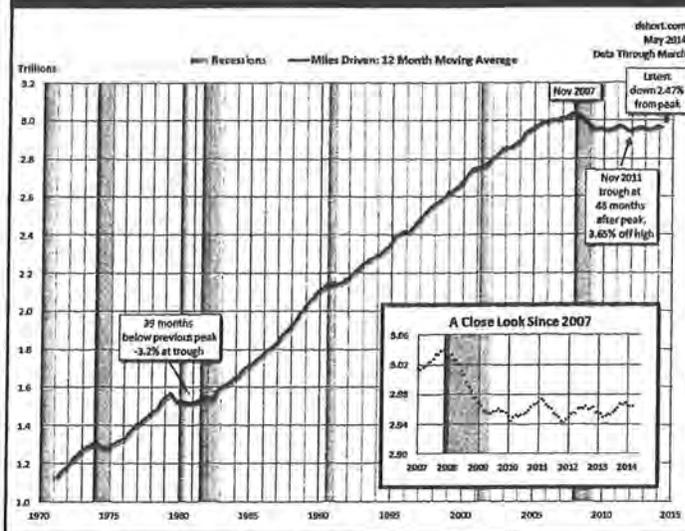
The final pieces in the funding equation are federal program grants and general program funding. No complicated analysis is required. These two sources of funding have been significantly reduced and there is no sign that the trend will reverse. In fact, federal grants could be cut more deeply in the future. For example, more than 90 percent of the funding (from \$29 million to \$2 million) was cut in FY12 from federal childhood lead poisoning prevention programs (National Center for Healthy Housing, "State of Local Childhood Lead Poisoning Prevention Programs: The Impact of Federal Public Health Funding Cuts," July 2013). Basically, all sources of revenues—from grants to taxes to fees—are either currently declining or likely to decline in the future.

■ continued on page 16

**FIGURE 1. U.S. Motor Gasoline and Diesel Fuel Consumption, 2000-2040 (million barrels per day)**



**FIGURE 2. Estimated Vehicle Miles Driven on All Roads**



**Forecasting Petroleum Cleanup**  
*from page 15*

Funding is the first question discussed in this article because funding availability influences both the speed at which sites are removed from the backlog and the ability of prevention programs to successfully reduce new releases. There is nothing more fundamental to program success than the resources available to address releases and compliance.

**New Release Rate**

The impact of lower program revenue can be mitigated if lower revenue is coupled with lower program demand. So the next question is quite logical: Will the rate of new releases increase over the current extremely low release detection rate? To figure out likely trends on new release detection, I examined the last three years worth of new releases in New Hampshire to determine how new releases are typically identified. My findings mirror findings by the states of California, Florida, and New York. (See Marcel Moreau’s interesting discussion in *LUSTLine Bulletin #72* “Why Are Releases Rarely Discovered at the Time They Occur?” for more details.)

In New Hampshire’s case, 42 percent of the leaks were discovered during tank and piping upgrade/closure projects, 37 percent were discovered during brownfields or property sale due diligence inves-

tigations, 13 percent were discovered during utility and construction projects, and two other leaks were discovered when a water supply became impacted and when a tank suddenly ended up empty.

Individual states will vary somewhat from our statistics but the overall conclusion will remain similar, that the rate that releases are detected is dominated by the number of tank and piping upgrades conducted and the number of ongoing construction projects/property sales. Property sales and construction projects are dominated by the state of the economy. The U.S. is emerging from one of the most severe recessions in its history and real estate has been particularly impacted. Clearly, as the economy improves, more properties will turn over and more construction projects will start. Hence, one of the key drivers for detecting new releases will likely tick up.

What about the other driver—tank/piping upgrades? The LUST site backlog reached its peak in the 1990s. The 1998 tank upgrade deadline was a major factor that created this backlog surge. Nowadays, many tank systems that were installed around the time the UST rules were put into place in the 1980s or during the lead up to the 1998 deadline are approaching the end of their useful life.

Furthermore, deadlines for replacing single-walled tanks and/or piping are approaching in

Massachusetts (8/7/2017), New Hampshire (12/22/2015), Rhode Island (12/22/2017), and Vermont (1/1/2016). Other states have restrictions on the length of time that older tanks can be kept in temporary closure or have legislative study committees on the problem of aging USTs. For example, in 2013 Arizona’s Governor signed SB 1080 which requires that the state’s Underground Storage Tank Committee develop recommendations for the Governor and Legislature. This committee is considering recommending incentives for the replacement of older, single-walled tanks.

Arizona’s Office of the Auditor General recently highlighted the problem of older tanks in its September 2013 Performance Audit Report (Report No. 13-06). This report notes that “many USTs may be approaching the end of their expected 30-year lifespan, after which the risk of leaks increases.” The report indicates that 13 percent of Arizona USTs are older than 30 years of age and 56 percent of the USTs are older than 20 years. This UST age distribution is certainly not unique to Arizona and a similar age distribution would be expected nationally, based on the timing of the effective date of the original UST regulations and various upgrade deadlines.

If new release rates are driven, as New Hampshire data suggest by tank upgrade work and economy-related real estate sales trends, then

the forecast for future release rates is obvious. Based on the hopefully improving economy and a projected future uptick in older tank upgrades, it is likely that new release detections will increase significantly in a number of states and nationally, further steep declines in the number of new releases discovered each year are unlikely to continue.

Finally, there is the potential for increased leak rates resulting from changes in gasoline and diesel formulations. Recent research conducted by John Wilson and others indicate that the addition of ethanol to gasoline may result in increased corrosion and questions have been posed about ultra low sulfur diesel and corrosion. The full implications of existing and planned changes in gasoline formulations (e.g., E 15) will become clearer over time and are a variable likely to create a perturbation in the existing leak-rate trend.

### Backlog

Backlog is highly dependent on new release-detection rates and resources available to cleanup releases. As discussed, revenue trends are not favorable and the clean up rate has already leveled off and is likely to decline unless key states significantly loosen cleanup standards. The new release rate is likely to increase as an improved economy and tank-upgrade work kick in. If these trends pan out as these data suggest, the backlog of sites requiring cleanup is likely to increase.

### What's the Plan?

In my view, it's time to make plans to prepare for any stormy weather that comes our way by taking the following steps:

#### Prepare for declining future cleanup revenues by:

- preventing releases via upgrading tank systems
- cleaning up sites in the near term when more robust budgets are available
- improving program efficiencies.

#### Make a case for future increases in fees by:

- explaining to key decision makers the long-term revenue trends

- documenting the economic and environmental value of our programs
- demonstrating program efficiencies to blunt inevitable questions about cost cutting.

Being prepared for these trends will not prevent an upcoming bout of stormy weather but thinking ahead and wearing a raincoat will make it more comfortable when going through it. ■

## NEIWPCC Expands Training to State Funds and FR

by Jaclyn Harrison

The New England Interstate Water Pollution Control Commission (NEIWPCC) has been working with USEPA's Office of Underground Storage Tanks (OUST) for over 25 years to enhance information sharing among state, territorial, and tribal UST, LUST, and Financial Responsibility programs. Funded through a cooperative agreement with USEPA OUST, NEIWPCC has been actively developing training opportunities since 2010. NEIWPCC is also pleased to report that UST programs have found training offerings to be very useful. Since June 2013, almost 500 people have attended five different NEIWPCC training events

NEIWPCC is excited to expand its training efforts into the world of State Funds and Financial Responsibility. On October 22–23, 2013, some 35 individuals from UST programs across the country met in Nashville, Tennessee, for a two-day workshop on "Fraud, Abuse, & Misuse of UST Funds." Karen Stachowski, Tennessee Department of Environmental Conservation, and Kim Sellards, California State Water Resources Control Board, led the training and were joined by numerous speakers from both states. Topics on the agenda included: building a "red flag" list; creating an environment to detect and prevent fraud, abuse, and misuse; case development; and tailoring your agency's approach. Contact Jaclyn Harrison at [jharrison@neiwpc.org](mailto:jharrison@neiwpc.org) if you are interested in seeing this training repeated in the future.

A "Responsible Party (RP) Search Fundamentals" webinar was held on March 4, 2014 and over 150 people joined the live event. Nina Kondos, retired, Arizona Department of Environmental Quality, opened the webinar with an introduction to conducting RP searches and listing the various search resources available. Ruth Porter, West Virginia Department of Environmental Protection, went into more detail with case studies, discussing some of the interesting techniques they use in her office to contact RPs. NEIWPCC would like to continue offering webinars in this topic area. To share your training needs and ideas, contact Jaclyn Harrison at [jharrison@neiwpc.org](mailto:jharrison@neiwpc.org).

Other classroom and webinar trainings offered since June 2013 include a "Corrosion Challenges Posed by Biofuels" webinar on June 20, 2013 with almost 250 people in attendance; "Region 7 Inspector Training" in Kansas City, Missouri, on October 9–10, 2013, with 25 in attendance; and "Region 10 Inspector Training" in Portland, Oregon, November 19–21, 2013, with 35 in attendance.

This will be a busy training year for NEIWPCC, so be on the lookout for more training offerings that enhance inspector efficiency, corrective action, and financial responsibility. In addition, NEIWPCC would like to continue offering training in responsible party searches and any topic that will be of use to state and Tribal UST programs. If you would like the opportunity to provide feedback and guidance on training needs, share your training needs and ideas, or if you are interested in seeing any of the previous training offerings repeated, contact Jaclyn Harrison, NEIWPCC's tanks program manager, at 978-349-2515 at [jharrison@neiwpc.org](mailto:jharrison@neiwpc.org). For an upcoming training schedule, please visit <http://www.neiwpc.org/ust/schedule.asp>. ■

## James Gastineau

---

**From:** Vander Bloemen, Tammy [DNR] <Tammy.Vander\_Bloemen@dnr.iowa.gov>  
**Sent:** Tuesday, July 08, 2014 11:33 AM  
**To:** bbcus@Lcom.net; Todd Felderman; MDiehl@senecaco.com; Reinders, Steven  
**Cc:** White, Jeff [DNR]; James Gastineau  
**Subject:** Former West Branch Oil 8606630 / 7LTJ48

All,

Thank you for attending the teleconference today. The activity schedule follows:

Additional board authority will be requested at the August 28<sup>th</sup> meeting.

**For the Northern Plume**

Seneca will get an estimate for doing trap and treat and submit a budget next week

Within 60 days they will have approval from EPA

The injection will be completed 30 days after EPA approval (by November 1, 2014)

**For the Southern Plume**

Seneca will submit a revised budget for a fourth soil sampling and installing the soil gas well.

Seneca will collect four additional soil samples to define the southern plume for excavation.

A soil gas well will be installed at GP9 the current benzene soil source.

By September 15, 2014 Seneca will submit the soil gas/ soil sample report with recommendation.

**Tammy Vander Bloemen** Undergroud Storage Tank Section



Iowa Department of Natural Resources  
P 515-281-8957 | [tammy.vander\\_bloemen@dnr.iowa.gov](mailto:tammy.vander_bloemen@dnr.iowa.gov)  
502 East 9th St | Des Moines, IA 50319

[WWW.IOWADNR.GOV](http://WWW.IOWADNR.GOV)



*Leading Iowans in Caring for Our Natural Resources.*

## James Gastineau

---

**From:** White, Jeff [DNR] <Jeff.White@dnr.iowa.gov>  
**Sent:** Wednesday, July 02, 2014 2:55 PM  
**To:** James Gastineau  
**Subject:** FW: Rapid Lube Bettendorf 198600808 / 9LTB51

**From:** Vander Bloemen, Tammy [DNR]  
**Sent:** Wednesday, July 02, 2014 2:40 PM  
**To:** Todd Felderman; [MDiehl@senecaco.com](mailto:MDiehl@senecaco.com); [hgoettsch@mediacommb.net](mailto:hgoettsch@mediacommb.net); Reinders, Steven  
**Cc:** White, Jeff [DNR]  
**Subject:** Rapid Lube Bettendorf 198600808 / 9LTB51

All,

Thank you for attending the teleconference today on the referenced site. The following resulted from the teleconference:

Seneca will submit an activity schedule by July 16, 2014.

It will contain information for the soil borings on the northern portion of the property to define the excavation area around monitoring wells MW2R and MW9.

Excavation dates.

Type of surfactant to be injected while the high vacuum extraction events are occurring on the southern portion of the property.

Schedule of high vacuum extraction / surfactant injection events.

Milestone for determine if this option should continue or others need to be explored.

Cunningham Lindsey will provide a budget decision by July 23, 2014.

A Site Monitoring Report is due by October 30, 2014.

Seneca will work with the active business on the site to minimize disruption to the business.

Permission from EPA to use the surfactant is required before injections begin.

Please contact me if you have any questions or concerns.

**Tammy Vander Bloemen** Underground Storage Tank Section



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## Notes of Second Corrective Action Conference Iowa Department of Natural Resources (DNR)

**Held:** July 1, 2014 at 1:30 in room 5E of the Wallace building  
**Site:** Casey's Store #2550, Osceola  
**LUST No.** 7LTH46  
**Status:** Third conference; no further conferences are scheduled.  
**Synopsis:** The certified groundwater professional (CGP) will conduct soil vapor sampling to evaluate the low risk soil vapor to potential confined space plume and submit a letter report with recommendations by 8/29/14. If vapor sampling passes, the CGP will initiate replacing three segments of water main. If soil gas sampling fails or cannot be completed, we could hold another conference or evaluate other options.

### Participating

**RP:** Jill Reams-Widder of Casey's General Stores (by phone)  
**Funding:** Steve Reinders of Cunningham Lindsey (by phone)  
**CGP:** Darren Fife of Barker Lemar Engineering (in person)  
**DNR:** Shelly Nellesen, Project Manager, & Jeff White, Facilitator (in person)

### Funding Report by Steve Reinders of Cunningham Lindsey (CL)

- \$499,625 spent to date.
- Copay has been met and pre-approved costs should be covered to \$1,000,000.

### Deficiencies by Shelly Nellesen, DNR Project Manager

- Deficiencies in the latest site monitoring report (SMR) are outlined in a recent DNR letter.
- The deficiencies should be addressed in the next submittal.

### Background and Recommendations by Darren Fife, CGP

- The site is an active station.
- The 2006 Tier 2 found the site high risk for a sanitary sewer.
- The 2012 corrective action conference plan was for additional sampling, Tier 3 for submerged soil plume, and evaluation of water line replacement.
- We conducted a large over-excavation (OE) in 2013 which resulted in reclassification of the high risk sanitary sewer. However, four soil samples were greater than the site specific target level (SSTL) and one monitoring well in the backfill is pretty hot.
- The site is high risk for soil leaching and groundwater to two water lines and low risk for soil vapor to enclosed space and soil leaching to groundwater.
- Recommendations: Conduct water line replacement to reclassify to low risk.

### Discussion

CL: The OE was not dug deep enough to get all the contamination. It stopped at 8' but left a lot of contamination. It should have continued as long as there were high PIDs. The groundwater is still very hot. I should ask for other bids for the rest of the work.

CGP: It's difficult to tell how far and how deep to dig. The PIDs in the boring logs seemed to indicate 8' would be deep enough. We cleared the sewer main with the OE. A larger OE might not get it all. I still recommend water line replacement.

CL: We need to address the low risk soil gas issues before we move ahead with the water line replacement.

RP: What would the water line replacement cost?

CGP: Between \$40,000 and \$60,000 to replace about 180 ft. of 10" ductile iron main and 100 ft. of 4" ductile iron main (80 ft. to the west of Warren Ave and about 20 ft. to the east). The city is okay with the replacement. I have a couple of possible contractors.

CGP: The new soil maximum is at S2 at 7' deep. We have had a lot of rain so I don't know if it is above the water table.

RP: I will need a map of the proposed water line replacement.

DNR: What if we can't get a soil gas sample with a high water table or if the soil gas fails?

Could an environmental covenant prohibiting enclosed spaces clear the low risk pathway?

CGP: The soil gas plume extends to the adjacent property; that makes a covenant difficult.

CL: If we wanted to do an environmental covenant, could additional soil gas delineation be conducted to define the soil gas plume?

DNR: Yes, that likely would be an option.

Provide the map of the proposed water line replacement by 7/8/14.

If soil gas sampling fails or cannot be conducted, we could hold another conference or discuss other options.

#### **Selected Corrective Actions and Schedule**

- DNR sends out conference notes within a week.
- CGP submits a map of proposed water main replacement and a budget by 7/8/14.
- DNR and CL evaluate the map and CL evaluates the budget by 7/15/14.
- CGP submits a letter report by 8/29/14 with results of the soil gas sampling and recommendations for the next steps.
- If soil gas sampling passes, water line replacement could be conducted in 2014.
- If soil gas sampling fails, we could hold another conference or discuss other corrective action options.

Everyone agreed to this approach and schedule.

Jeffrey H. White  
Conference Facilitator

Note: These notes are generalizations of ideas and comments made by participants in the meeting. They were not recorded verbatim or transcribed. If you have any questions or suggestions, please contact Shelly Nellesen at the UST Section of the DNR.

## Notes of Second Corrective Action Conference

Iowa Department of Natural Resources (DNR)

**Held:** Friday, June 13, 2014 at 9:30 AM in room 4E of the Wallace building  
**Site:** Former Air Force Station, Waverly, Iowa  
**LUST No.** 9LTM48  
**Status:** Second corrective action conference; no further meetings are scheduled  
**Synopsis:** The leaking underground storage tank (LUST) site is high risk for groundwater contamination to a nearby drinking water well. In situ chemical oxidation was conducted in 2012 but the groundwater contamination is still greater than the site specific target level (SSTL) of 7 ppb benzene. A Tier 3 approach using aquifer separation was discussed. The responsible party (RP) and the certified groundwater professional (CGP) will discuss the possible Tier 3 approach and get back to the DNR by 7/7/14 with a decision.

### Participating

**RP:** Hector Santiago with US Army Corps of Engineers (by phone)  
**Consultant:** John Olson with Bay West (by phone)  
**DNR:** Kate Meyer, Project Manager, & Jeff White, Conference Facilitator (in person)

### DNR Comments on Problems with Tier 2 Report

- In the latest report you recalculated the hydraulic conductivity value (K) based upon the injection rates of the injection event. This resulted in a change in the site specific target level (SSTL) from 7 to 10 ppb benzene. Please use the previous K value and revise the SSTL accordingly.
- Screened intervals in some monitoring wells were submerged during some groundwater sampling events. Our policy is not to use the sample results from these wells in the risk evaluation. Please include the analytical in the tabulated Tier 2 or site monitoring report (SMR) tabulations, but mark it as "ignore" so the data are not used in calculations.

### Discussion

**DNR:** The site is unlikely to reach the SSTL of 7 or 10 ppb benzene soon. Do you wish to evaluate the receptor in Tier 3?

**Bay West:** Yes, we will likely use Tier 3 to evaluate the deep drinking water well.

**DNR:** The DNR website has Tier 3 guidance for deep drinking water well evaluation. That includes study of stratigraphy and well construction details (you have already did this), examination of well integrity and generally sampling the water well and at least one monitoring well for tritium, nitrates, and common ions. Tritium analyses can be tricky and expensive. You could call Steve Reinders of Cunningham Lindsey at 515-276-8046 and talk with him about labs that can analyze tritium to a sufficiently low concentration, not very expensive, and have a reasonable turn-around time.

**Bay West:** One alternative to Tier 3 would be to continue monitoring and wait for benzene to degrade to less than the SSTL and to have a decreasing trend. We would have to work out something about sampling with submerged well screens or re-install monitoring wells.

**DNR:** We will send you the LUST # of sites where a good Tier 3 was completed for aquifer separation. You can call DNR Records and ask them to scan the Tier 3 Report and email it to you.

**RP:** We have an understanding of the options. We will discuss and get back to you by 7/7/14.

**Selected Corrective Action and Schedule:**

- DNR sends out conference notes by 6/20/14.
- Bay West and Army Corps of Engineers will discuss the Tier 3 option and get back to DNR with a decision on the course of action by 7/7/14.

Everyone agreed to this approach and schedule.

Jeff White, Conference Facilitator

Note: These notes are generalizations of ideas and comments made by participants in the meeting. They were not recorded verbatim or transcribed. If you have any questions or suggestions, please contact Kate Meyer at the UST Section of the DNR.

## Notes of Fifth Corrective Action Conference Iowa Department of Natural Resources (DNR)

**Held:** Tuesday, June 17, 2014 at 9:30 in room 5E of the Wallace building  
**Site:** Former Max's Service, Centerville, Iowa  
**LUST No.** 8LTR80  
**Status:** This was the fifth conference; no further meetings are scheduled.  
**Synopsis:** A large over-excavation (OE) was conducted in 2008, but soil and groundwater contamination persists in highway right-of-way (ROW) and possibly beneath the highway. The site is high risk for a non-drinking water well (NDWW) and polyvinyl chloride (PVC) water line mains, and low risk for soil and groundwater vapor to potential enclosed space receptor types. The certified groundwater professional (CGP) will address high risk water lines with water line replacement and low risk vapor pathways with an environmental covenant (EC) prohibiting the installation of enclosed spaces.

### Participating

**Site Owner:** Linda Demry, Appanoose County Auditor; Dean Kaster, Jodie McDanel, and Neil Smith, County Supervisors (all by phone)  
**Funding:** James Gastineau of Aon Risk Services (by phone)  
**CGP:** Chandra Shekar of Shekar Engineering (in person)  
**DNR:** Lee Osborn, Project Manager, & Jeff White, Conference Facilitator (in person)

### Funding Report by James Gastineau of Aon Risk Services (Aon)

- \$313,904 spent to date.
- This is a county tax deed site; pre-approved work is 100% covered to \$1,000,000.
- The site has funding authority from the Underground Storage Tank (UST) Fund Board to \$375,000.

### Deficiencies by Lee Osborn, DNR Project Manager

- In the most recently received Site Monitoring Report (SMR) the current risk and chemical risk in the Groundwater Monitoring Plan Summary Table were not consistent. Software version 3.0 was used, and it was determined contaminant concentrations are less than site specific target levels for the NDWW which should be classified no further action, as correctly indicated by the current risk of the receptor.

### Background and Recommendations by Chandra Shekar, CGP

- We held a couple of corrective action conferences in 2005 and conducted a large soil OE in 2008. The OE stopped at Department of Transportation (DOT) ROW where there are fiber optic cables, leaving soil and groundwater contamination in the ROW.
- The site is high risk for a NDWW and high risk water mains and low risk for potential basements and sanitary sewers.
- In our last conference we agreed on conducting in situ-chemical oxidation in the DOT ROW, but the UST Fund rejected this option.
- The County Engineer said the City of Centerville may annex the site, so it could be redeveloped.
- Recommendations: Replacement of at-risk PVC water mains with iron pipe and petroleum resistant gaskets or bioremediation of the soil and groundwater contamination using Trap and Treat technology. An EC prohibiting enclosed spaces could clear the low risk vapor pathways.

### Discussion

CGP: Rural Water Association owns the high risk water mains and gave me a rough estimate of \$60/foot. I recommend replacing the PVC pipe with iron pipe and petroleum resistant gaskets for a distance of 500 feet. This is based on replacing the water line within 200 feet of the actual plumes.

DNR: 500 feet is acceptable.

Aon: Will version 3.0 of the software be used to determine distances?

DNR: Yes.

Aon: When will the City annex the property?

County: Any talk of annexation is purely speculation.

An EC is a limitation on the property use?

Aon: Yes, an agreement not to install sewers or basements in an indicated portion of the property.

DNR: In addition to an EC, we will need sufficient documentation from the DOT indicating there are no plans to build enclosed spaces in the area of contamination in the DOT ROW.

Aon: Would an EC limiting enclosed spaces within 50' of the ROW be acceptable?

DNR: Yes.

We won't need a copy of the proposed budget, but we will need an activity schedule at the time of the budget submittal. After the water line replacement we will need a water line replacement report identifying materials, location of pipe replacement, backfill, etc. A SMR is needed this year, too. A draft EC should be submitted to Aaron Brees, DNR Attorney.

### Selected Corrective Actions and Schedule

- DNR sends out conference notes within a week.
- CGP provides a budget by 7/18/14 for
  - Groundwater sampling
  - SMR submittal
  - Proposed water line replacement
  - Activity schedule
  - A draft EC
- CGP provides a SMR by 8/30/14 with
  - Groundwater sampling results
  - Brief water line replacement activities

Everyone agreed to this approach and schedule.

Jeff White, Conference Facilitator

Note: These notes are generalizations of ideas and comments made by participants in the meeting. They were not recorded verbatim or transcribed. If you have any questions or suggestions, please contact Lee Osborn at the UST Section of the DNR.

## Notes of Second Corrective Action Conference Iowa Department of Natural Resources (DNR)

**Held:** Thursday, June 12, 2014 at 9:30 in room 4W of the Wallace Building  
**Site:** Former North Shore Amoco, Clear Lake, Iowa  
**LUST No.** 8LTA80  
**Status:** Second conference; no further meetings are scheduled.  
**Synopsis:** The site is high risk for groundwater contamination to a state-owned lake. Two over-excavations have been conducted; gasoline chemicals of concern are less than the site specific target levels (SSTLs). TEH-diesel has increased in two monitoring wells. The certified groundwater professional (CGP) will evaluate the risk in Tier 3: re-install one monitoring well; install a new monitoring well; sample groundwater quarterly for a year; and submit a Tier 3 Report evaluating the risk.

### Participating

**RP:** did not participate  
**Funding:** Tom Norris of PMMIC (by phone)  
**DNR:** Jeff White, Project Manager, & Tammy Vander Bloemen, Facilitator (in person)  
**Owner:** Scott Flory, City Administrator, and Joe Weigel, Public Works Director (by phone)

### Funding Report by Tom Norris of PMMIC

- About \$200,000 spent to date.
- Copay has been met and there are no issues.

**Deficiencies** by Jeff White, DNR Project Manager: We did not receive Attachment A in the Post Tier 2 Worksheet consisting of graphs of monitoring well concentrations over time.

### Background and Recommendations by Leah Calvert, certified groundwater professional

- Tier 2s were submitted in 2000 and 2004.
- Tier 3 Work Plans were submitted in 2004 and 2008 but were rejected.
- Free product was found in 2002 and free product recovery initiated.
- Over-excavations were conducted in 2004 and 2006.
- The site monitoring report (SMR) submitted in March 2014 showed the site has met SSTLs for BTEX (benzene, toluene, ethyl-benzene, xylenes) as in gasoline but is still high risk for TEH-diesel for the concentration in MW101 at 16,100 ppb.
- Recommendation: In Tier 3, show groundwater plume stability exists and the plume is not moving toward the state owned lake (Clear Lake). We will need to replace MW104, install a new monitoring well between MW101 and the lake, sample quarterly for a year, and provide data and graphs showing plume stability.

### Discussion

**DNR:** There is a very low SSTL because of the nearby state owned lake. The Tier 3 will have to show that the groundwater plume is not moving toward the lake. You will likely want to use several lines of evidence: graphs of groundwater concentrations (BTEX and TEH); maps of extents of groundwater plumes at different years (TEH and some BTEX); groundwater flow direction maps, if the flow directions are variable; and any studies or articles discussing the flow directions near the lake.

The DNR agrees with replacing MW104, since it increased the last time it was sampled. You may want to install an additional monitoring well between MW101 and the lake, but I can leave that up to you.

**PMMIC:** We agree.

DNR: We concur with sampling quarterly for a year and providing a site monitoring report (SMR) after the second and fourth sampling events. The first SMR can just contain the sampling results, but the second SMR should contain all the Tier 3 data. We recommend you include multiple maps of the groundwater contamination plume(s) for several years; graphs of concentrations of monitoring wells over the years for TEH-diesel as well as benzene and perhaps other BTEX. Provide graphed data on all the wells and show their decline and any anomalies.

City: The former station is a pretty plaza now. We really don't want to tear it up. If you are going to install a monitoring well in the street, you need to know that we are doing a paving project after Labor Day. It would be best if the replacement is not within that area.

DNR: Groundwater concentrations are not very high on the site. If the plume is not moving toward the lake, Tier 3 sampling and reporting should be sufficient.

CGP: I'll check with the city regarding the repaving and a schedule for replacing MW104. I'll email the schedule with the proposed budget by 6/20/14.

DNR: Your Post Tier 2 Worksheet and these notes can be used as a Tier 3 Work Plan. You could also provide groundwater flow maps to show plume flow direction(s) over the years.

#### **Selected Corrective Actions and Schedule**

- DNR sends out conference notes by 6/17/14.
- CGP submits a budget and schedule for sampling and T3 SMR submittal by 6/20/14.
- PMMIC evaluates the budget by 6/27/14.
- CGP provides an SMR after the next two sampling events.
- CGP provides a Tier 3 SMR after the next two quarterly sampling events. The DNR would prefer to see the final Tier 3 SMR prior to 9/1/15. Hopefully the SMR can propose reclassification to no action required.

Everyone agreed to this approach and schedule.

Jeff White, DNR Project Manager

Note: These notes are generalizations of ideas and comments made by participants in the meeting. They were not recorded verbatim or transcribed. If you have any questions or suggestions, please contact Jeff White at the UST Section of the DNR.

## Notes of fourth Corrective Action Conference

Iowa Department of Natural Resources (DNR)

**Held:** Thursday, May 29, 2014 in room 5W of the Wallace building  
**Site:** Former IOCO/Kwik Stop in Dubuque, Iowa  
**LUST No.** 7LTO52  
**Status:** This was the fourth corrective action conference; no further conferences are scheduled.  
**Synopsis:** This site is high risk for soil and groundwater vapor and soil leaching to protected groundwater source. The water table has been too high to evaluate vapor receptors with soil gas sampling. An undefined diving groundwater plume with high BTEX concentrations is flowing from the site to the northwest, under a residential area. We discussed treating the source and diving plume with injection of chemical oxidants and/or activated carbon slurry. The certified groundwater professional (CGP) will submit a site monitoring report (SMR) by 6/13/14 and a corrective action design report (CADR) by 7/27/14. DNR will review by 8/11/14 which should allow it to be considered for increased spending authority at the August Fund Board meeting.

### Participating

**RP:** Did not participate  
**Funding:** Steve Reinders of Cunningham Lindsey (by phone)  
**CGP:** Mark Diehl and of Seneca Environmental (by phone)  
**DNR:** Ruth Hummel, Project Manager, & Jeff White, Conference Facilitator (in person)

### Funding Report by Steve Reinders of Cunningham Lindsey

- No invoices have been submitted after the last conferences: \$508,236 has been spent to date.
- We have Fund Board authority to spend \$600,000. Additional funding authority will be necessary before more corrective action.
- I am suspicious of a groundwater concentration increase in 2012 after the product piping replacement and problems with the leak detection.

### Discussion

**CGP:** I asked about the new concrete and the site operator said the piping was replaced in 2012 because dispensers were pumping slowly.

**DNR:** The 2011 compliance inspection performed by PMMIC did indicate there was a problem with the tank leak detection and our records show the leak detection system was subsequently replaced. Groundwater concentrations here have shown a history of significant fluctuations; therefore, it is difficult to say with certainty whether increases in some wells around 2012 were due to a new release. The concentrations in piping closure samples were below Tier 1 levels.

**CL:** We won't require anything more at this time.

**CGP:** The source of the contamination appears to be at the southeast corner of the site. The water table has been too shallow to allow soil gas sampling there. We will continue to check it. For corrective action, we recommend chemical injection in the source area.

**DNR:** For this site to reach closure, the contamination must be addressed both at the source and near the northwest corner of the site where a "diving" groundwater plume appears to be moving from the site toward the north or northwest. We have suggested using injected activated carbon with bioremediation in the area of the apparent diving plume. You don't have to use the same technologies in both the source and the area of the apparent diving plume.

**CGP:** We used BOS 200<sup>lm</sup> containing activated carbon and sulfate for bioremediation at a site in Indianola (7LTN05) in 2012 and last year at (7LTU42) in Monticello.

DNR: At this point we need to see the corrective action plan in a formal CADR with all the required sections because use of chemical injection would require approvals from both DNR and EPA Region VII. As we discussed before, you don't necessarily need to use the same technology across the site. In fact we would like to see an evaluation and comparison of at least two options for remedial technologies to be used at the site in the CADR.

CL: If we need more Fund Board spending authority, the next meeting is 7/15/14. The following meeting will likely be August 21. We can use the numbers provided in the CADR to request an increase in spending authority but it would be best if we had DNR acceptance of the CADR before going to the Board.

DNR: We have not had an SMR submittal on this site since February 2013. We need to have an SMR for this site soon regardless of whether it includes all of the proposed soil gas sampling.

CGP: We will get an SMR submitted within the next two weeks.

### **Selected Actions and Schedule**

- By 6/6/14, DNR sends out conference notes.
- By 6/6/14, CGP provides a budget and proposed scope of work for a CADR.
- By 6/13/14, CL evaluates the budget.
- By 6/13/14, CGP provides a signed site monitoring report (SMR).
- By 7/27/14, CGP provides a CADR for DNR review.
- By 8/11/14, DNR reviews the CADR.
- The UST Fund Board likely will meet on 8/21/14 to evaluate the increase for spending authority.

Everyone agreed to this approach and schedule.

Jeff White, Facilitator

*Note: These notes are generalizations of ideas and comments made by participants in the meeting. They were not recorded verbatim or transcribed. If you have any questions or suggestions, please contact Ruth Hummel at the UST Section of the DNR.*

## Notes of First Corrective Action Conference Iowa Department of Natural Resources (DNR)

**Held:** Tuesday, May 20, 2014 in room 5E of the Wallace building  
**Site:** Former Kum and Go #515 in Oelwein, Iowa  
**LUST No.** 7LTI10  
**Status:** This was the first corrective action conference; no other meetings are currently scheduled.

### Participating

**RP:** Did not participate  
**Funding:** Steve Reinders of Cunningham Lindsey (by phone)  
**CGP:** Mark Diehl and Leslie Nagel of Seneca Environmental (by phone)  
**DNR:** Ruth Hummel, Project Manager, & Jeff White, Conference Facilitator (in person)

### Funding Report by Steve Reinders of Cunningham Lindsey

- \$247,127 spent to date.
- We currently have Fund Board authority to spend \$300,000.

### Summary of Discussion:

This non-granular site is high risk for soil vapor to enclosed space and soil leaching to groundwater to a protected groundwater source. Because this is a non-granular bedrock site, soil concentrations must be reduced to below Tier 1 levels for soil leaching to groundwater ingestion. Currently available data indicates site-specific target levels (SSTLs) for both soil and groundwater are still exceeded in the onsite source area. Free product is periodically observed in monitoring wells onsite and in offsite monitoring wells located over 200 feet from the source area. The free product may have reached the offsite areas by way of preferential pathways (fractures) within the bedrock. The appearance and amount of free product observed in monitoring wells varies with the static water level; greater free product levels are typically observed when the static water level drops.

A soil vapor extraction (SVE) system has been operated in the onsite source area for several years but has not been very successful in treating the groundwater contamination or reaching the deeper free product zones within the bedrock. The CGP prepared a Corrective Action Design Report (CADR) recommending installation of a multi-phase extraction (MPE) system. In the CADR, one (1) MPE well was proposed for the area of the current groundwater source and eight (8) MPE wells were proposed for areas mostly down gradient of the groundwater source where free product is observed. All parties essentially agreed with the proposed changeover to MPE technology as proposed in the CADR.

Although DNR review of the CADR indicated agreement with use of MPE technology, several concerns were noted the DNR review letter for the CADR dated May 1, 2014. These concerns included:

1. Is there still significant onsite soil contamination remaining after SVE system operation?
2. Will a single MPE well near the source area likely be sufficient to reduce contamination in the source area to below site specific target levels (SSTLs)?
3. Is there enough information available on the distribution and recoverability of free product located within the bedrock to be confident the proposed MPE system will be able to remove free product to point where free product recovery termination criteria found in Chapter 135 are met?

These and other concerns were discussed at the corrective action meeting. As a result of the discussion it was decided some additional site investigation would be conducted before final MPE system design and installation. The added assessment will include borings installed between the current soil source/tank pit and MW3A and sampling groundwater at new monitoring wells MW25, MW26, MW27, and MW28. The planned MPE system will be expanded or adjusted, if necessary.

In addition, because offsite distribution of free product is not well defined within the non-granular bedrock system, several options were discussed to obtain data which may be used to optimize the MPE system to recover free product from the bedrock. The CGP will investigate costs and feasibility for bedrock coring and coring may be conducted, if practicable, during the installation of several MPE wells. The CGP will also research and/or contact persons with expertise regarding the nature and typical fracture patterns in the bedrock in this area. All newly installed MPE recovery wells will be tested for recovery effectiveness before they are connected to the MPE system.

The final design and layout of the MPE system may be affected by property access. The CGP will verify access to offsite properties as well as obtain information on discharge and power options which may affect the budgeted costs for system installation and operation.

#### **Selected Actions and Schedule**

- DNR sends out conference notes by May 27, 2014
- CGP prepares a proposal to conduct assessment activities and collect additional information to be used for system design by May 27, 2014.
- By July 7, 2014, the CGP provides a letter report with groundwater and onsite sampling results as well as recommendations for modifications to the proposed MPE system design. The CGP will also provide a budget for system installation, operation & maintenance, monitoring and reporting.
- The budget information provided in July will be used to prepare a board report for the UST Fund Board Meeting scheduled for July 15, 2014.

Everyone agreed to this approach and schedule.

*Note: These notes are generalizations of ideas and comments made by participants in the meeting. They were not recorded verbatim or transcribed. If you have any questions or suggestions, please contact Ruth Hummel at the UST Section of the DNR.*