CW³M Company

Environmental Consulting Services

701 W. South Grand Avenue
Springfield, IL 62704

Phone: (217) 522-8001
Fax: (217) 522-8009

0770155096 – Jackson County
Able Investments, LLC
Incident # 20130781
Leaking UST Technical File

January 8, 2016

Ms. Shirlene South, Project Manager
LUST Section, Bureau of Land
Illinois Environmental Protection Agency
1021 North Grand Avenue East
Springfield, Illinois 62794-9276

new coordinates
37.694628
-89.218561

RE: LPC # 0770155096—Jackson County
Carbondale / Abel Investments, LLC
2101 South Illinois Avenue
Incident Number: 2013-0781
LUST Technical Reports—Stage 2 Site Investigation Plan and Budget

RECEIVED
JAN 11 2016
IEPA/BOL

Dear Ms. South:

On behalf of Mr. Sarabraj Singh, owner of the USTs at the above referenced site, we are submitting the attached Stage 2 Site Investigation Plan and Budget. This submittal includes the results of the Stage I Site Investigation activities, as well as, a summary of costs. In addition, based on the Agency's request for further sampling along the product piping, we have attached those results and cost as part of the Stage 1 activities. This information has been submitted in a comparable format to several other sites (Incident numbers 2013-0543, 2014-1192 and 2006-0026) with a similar concern.

CW³M Company works in a similar structure as the Agency. Numerous personnel are involved with various components, i.e. phase review and approval of plans, budgets, and correspondence. In our opinion, this is a highly efficient work plan that limits mistakes, keeps costs down, and ensures quality work. Please note multiple personnel are listed for the completion of certain tasks. Some reviewers have mistakenly interpreted this as an error or duplication; it is not. The method for calculating personnel time in the proposed budget has been approved by the Agency in other incidents, such as, incident numbers 2011-0575, 2012-0695, 2013-0450, and 2012-1125. These hours have been found reasonable and justified as an estimate for the work proposal. These hours should be deemed reasonable as more than one person is required to develop plans and budgets and to check for accuracy of the plan, budget, bore logs, reimbursement claims, and analytical, which is needed to finalize the plan and budget. Different personnel contribute to different components of the tasks. This is no different than the Agency's review process, which includes project managers, unit managers, fiscal reviewers, etc. Multiple personnel touch each letter or plan with

different individual tasks on assignments. Many plans and budgets are even taken to committees.

If you have any questions or require additional information, please contact Mr. Rob Stanley at (618) 997-2238 or me at (217) 522-8001.

Sincerely,

Carol L. Rowe, P.G.
Senior Environmental Geologist

xc: Mr. Sarabraj Singh, *Abel Investments, LLC*
Mr. William T. Sinnott, *CW³M Company, Inc.*

STAGE 2
SITE INVESTIGATION
PLAN AND BUDGET

Abel Investments, LLC

Carbondale, Illinois
LPC # 0770155096— Jackson County
Incident Number 2013-0781

Presented to:
Illinois Environmental Protection Agency
Leaking Underground Storage Tank Section, Bureau of Land
1021 North Grand Avenue East
Springfield, Illinois

Prepared by:
CW³M COMPANY, INC.

701 West South Grand Avenue
Springfield, Illinois
(217) 522-8001

400 West Jackson, Suite C
Marion, Illinois
(618) 997-2238

JANUARY 2016

CONTENTS

APPENDICES ii
TABLES ii
ACRONYMS AND ABBREVIATIONS ii

1. SITE HISTORY/EXECUTIVE SUMMARY 1
   1.1. General 1
   1.2. Site Location 1
   1.3. Tank Removal Activities 2
   1.4. Early Action Summary 3
   1.5. Site Investigation Executive Summary 3
2. SITE CHARACTERIZATION 5
   2.1. Current and projected post-remediation uses 5
   2.2. Physical Setting 5
3. SITE INVESTIGATION RESULTS 6
   3.1. Description of Activities Completed 6
   3.2. Groundwater Flow Direction 6
   3.3. Potable Water Supply Survey 7
   3.4. Site Specific Physical Parameters 7
4. SITE INVESTIGATION PROPOSAL 9
   4.1. Description of Activities Proposed 9
   4.2. Drilling Method 9
   4.3. Soil Sampling Protocol 9
   4.4. Monitor Well Installation and Development Protocol 10
   4.5. Groundwater Sampling Protocol 10
5. SITE MAPS 11
6. SITE INVESTIGATION COMPLETION REPORT 12
7. REFERENCES 13

APPENDICES

APPENDIX A Site Investigation Plan Form
APPENDIX B Site Maps and Illustrations
APPENDIX C Site Investigation Budgets and Certification
APPENDIX D Illinois Office of the State Fire Marshal Eligibility Determination
APPENDIX E Boring Logs and Well Completion Reports
APPENDIX F Analytical Results

TABLES

Table 1-1. Underground Storage Tank Summary.....2
Table 3-1. Water Supply Well Information.....7

ACRONYMS AND ABBREVIATIONS

BETX	Benzene, Ethylbenzene, Toluene and Total Xylenes
CUOs	clean-up objectives
CW³M	CW³M Company, Inc.
IEMA	Illinois Emergency Management Agency
IEPA	Illinois Environmental Protection Agency
Ill. Adm. Code	Illinois Administrative Code
ISGS	Illinois State Geological Survey
ISWS	Illinois State Water Survey
JULIE	Joint Utility Locating Information for Excavators
L	liter
LUST	Leaking Underground Storage Tank
mL	Milliliter
MTBE	methyl tert-butyl ether
MW	Monitoring Well
OSFM	Office of the State Fire Marshal
PID	photoionization detector
PNA	Polynuclear aromatic hydrocarbon
PVC	Polyvinyl Chloride
SB	Soil boring
SWAP	Source Water Assessment Program
SICR	Site Investigation Completion Report
SIP	Site Investigation Plan and Budget

TACO	Tiered Approach to Corrective Action Objectives
USTs	Underground Storage Tank
WCR	Well Completion Report

1. SITE HISTORY/EXECUTIVE SUMMARY

1.1. GENERAL

Mr. Sarabraj Singh, owner of the underground storage tanks (USTs) at the Abel Investments, LLC. site in Carbondale, Illinois reported a release to the Illinois Emergency Management Agency (IEMA) following an environmental assessment. Incident Number 2013-0781 was assigned on July 9, 2013. Mr. Singh then requested that CW³M Company, Inc. (CW³M) proceed with the reporting and early action requirements in accordance with the requirements of 35 Illinois Administrative Code (Ill Adm. Code) § 734. This Stage 2 Site Investigation Plan (SIP) is being prepared in response to Incident Number 2013-0781.

The 20-Day Certification was submitted to the Illinois Environmental Protection Agency (IEPA) on July 19, 2013 (CW³M, 2013a). The 45-Day Report was submitted September 6, 2013 (CW³M, 2013b). The 45-Day Report was rejected by the Agency on December 6, 2013 (IEPA, 2013) due to a deficiency in the number of piping samples. As presented in the 45-Day Report, contamination areas were inaccessible due to construction. Additional sampling was subsequently conducted and was presented in the 45-Day Report Additional Information which was dated February 11, 2014 (CW³M, 2014). The 45-Day Report Additional Information was approved by the Agency on July 10, 2014 (IEPA, 2014).

This Stage 2 SIP and Budget has been prepared in accordance with the requirements of 35 Ill. Adm. Code 734. IEPA-provided, computer-generated forms have been used and are included herein as Appendix A. The proposed budget and certification are included herein as Appendix C.

This report is certified by an Illinois Licensed Professional Engineer. The geological investigation and site investigation was performed under the direction of an Illinois Licensed Professional Geologist and completed in accordance with the Professional Geologist Licensing Act and its Rules for Administration.

1.2. SITE LOCATION

The site, known as Abel Investments, is located at 2101 South Illinois Avenue, Carbondale, Jackson County, Illinois. The site is located in the SW ¼ of the SE ¼ of the NW ¼ of the NE ¼ of Section 33, Township 9 South of the Centralia Baseline and Range 1 West of the Third Principal Meridian.

1.3. TANK REMOVAL ACTIVITIES

Prior to removal of the USTs, Joint Utility Locating Information for Excavators (JULIE) was contacted to locate all buried utilities on the site.

A permit for the removal of the USTs was approved by the Illinois Office of the State Fire Marshal (OSFM) on July 29, 2013 (OSFM, 2013). The OSFM Tank Specialist Louie Hertter and CW³M personnel were at the site to supervise the removal of the USTs on August 8, 2013. The tanks were ventilated and removed under OSFM supervision.

Tank 2: This steel tank was found to be in poor condition with obvious holes. OSFM Tank Specialist Hertter in conjunction with CW³M personnel determined that a leak of the underground tank system contributed to the release.

Tank 3: This steel tank was found to be in poor condition. The tank was rusted and pitted but no obvious holes were seen. OSFM Tank Specialist Hertter in conjunction with CW³M personnel determined that a leak of the underground tank system contributed to the release.

Tank 4: This steel tank was found to be in poor condition. The tank was rusted and pitted but no obvious holes were seen. OSFM Tank Specialist Hertter in conjunction with CW³M personnel determined that a leak of the underground tank system contributed to the release.

Tank information is included in Table 1-1.

Table 1-1. Underground Storage Tank Summary

Tank Number	Tank Volume (gallons)	Tank Contents	Incident Number	Release Information	Current Status
1	8,000	Gasoline	97-0841	Overfills	Temporarily Out of Service
2	4,000	Gasoline	2013-0781	Tank Leak	Removed 8/8/2013
3	6,000	Gasoline	2013-0781	Tank Leak	Removed 8/8/2013
4	3,000	Diesel	2013-0781	Tank Leak	Removed 8/8/2013

1.4. EARLY ACTION SUMMARY

Following IEMA notification of the release, Mr. Singh, requested that CW³M proceed with reporting requirements and early action activities in accordance with 35 Ill Adm. Code 734.

While on site on July 10, 2013, CW³M personnel inspected the USTs and accessible components and obtained a release confirmation samples. The samples had strong visual and olfactory indications of petroleum contamination. The analytical results received from the laboratory revealed elevated levels of the gasoline indicator contaminants known as benzene, ethylbenzene, and total xylenes (BETX), which confirmed a release of petroleum had occurred at the site. While on site, a waste characterization sample for potential disposal of contaminated backfill materials was also collected.

Once the USTs were properly removed, approximately 731.59 tons (487.73 cubic yards) of contaminated backfill was removed from the former tank pit and taken to Southern Illinois Regional Landfill in DeSoto, Illinois. Samples were collected along the excavation walls to assess the remaining contamination levels. Floor samples were obtained beneath each tank. Samples were collected and analyzed for BETX, methyl-tert-butyl-ether (MTBE), and Polynuclear Aromatics (PNAs). The analytical results for those samples were not available at the time in which the 45-Day Report required to be submitted. As a result, they were submitted as part of the 45-Day Report Additional Information (CW³M, 2014). Due to ongoing construction at the time of the UST removal, product piping samples were unable to be obtained. They were collected and submitted as part of the 45-Day Report Additional Information (CW³M, 2014). Drawing 0004B in Appendix B shows the locations of the samples. The Agency requested in a letter dated December 6, 2013 (IEPA, 2013), that these samples be collected prior to approving the 45-Day Report Addendum and initiation of site investigation activities.

1.5. SITE INVESTIGATION EXECUTIVE SUMMARY

Soil analytical results from Stage 1 investigation activities indicate that the clean-up objectives (CUOs) for the site remain undefined to the north, northwest and southeast of the tank pit. This Stage 2 SIP proposes boring locations in an attempt to complete and more narrowly define the on-site soil plume, where possible.

Groundwater analytical results indicate that the groundwater quality has been exceeded for Class I Groundwater Objectives for several of the gasoline indicator contaminants. The groundwater plume remains undefined on-site to the northeast, northwest and southeast of the tank pit. This Stage 2 SIP proposes monitoring well locations in an attempt to complete and more narrowly define the on-site soil plume, where possible.

If it is determined that off-site migration has potentially occurred based on the results from this SIP, then a Stage 3 SIP and budget will be submitted to the Agency for review. If the results of the additional on-site investigation define the extent of the contamination, then a Site Investigation Completion Report (SICR) will be prepared.

2. SITE CHARACTERIZATION

2.1. CURRENT AND PROJECTED POST-REMEDIATION USES

The site is surrounded by both residential and commercial properties. Due to its location, the likely future use of the property is for light commercial purposes. Currently the property is being used as a convenience store.

2.2. PHYSICAL SETTING

The physical setting including environmental, geologic, hydrogeologic, hydrologic, geographic and topographic conditions has been described in the 45-Day Report (CW³M, 2013b). Additionally, this information is supplemented by the boring logs and Well Completion Reports (WCRs) from the Stage 1 investigation included in Appendix E of this report.

3. SITE INVESTIGATION RESULTS

3.1. DESCRIPTION OF ACTIVITIES COMPLETED

In a letter dated December 6, 2013 (IEPA, 2013), the Agency requested that additional product line samples be collected prior to approving the 45-Day Report Addendum and initiation of site investigation activities. As a result, on August 15, 2014, CW³M personnel were on site to complete requested activities. Six soil borings (SB) were advanced as part of the plume delineation activities. Soil samples were collected from each drilling location. The soil samples were analyzed for BETX, MTBE and PNAs. Soil boring logs are included in Appendix E. Analytical results are summarized in Appendix F.

On August 16, 2015, CW³M personnel were on site to complete the Stage 1 investigation activities. Five monitoring wells (MW) and six SB were advanced as part of the plume delineation activities. Soil samples were collected from each drilling location except the monitoring well at the area of greatest concentration of contamination. The soil samples were analyzed for BETX, MTBE and PNAs. Upon delivery to the laboratory, several sample bottles were determined to be short in the amount of methanol preservative. As a result, CW³M personnel returned to the site on July 7, 2015 to advance borings along the side of the original borings to collect new soil samples to replace the previous samples. In the mean time, on June 24, 2015, CW³M personnel were on site to survey and sample monitoring wells, MW-1 through MW-5. Soil boring logs and WCRs are included in Appendix E. Analytical results are summarized and included in Appendix F.

3.2. GROUNDWATER FLOW DIRECTION

Static water elevations were measured for each well. The well locations were surveyed to determine relative surface elevations. The data collected has been used to determine relative groundwater elevations and the groundwater flow direction. Generally, static groundwater elevations do not stabilize on the date of well installation and well development procedures interfere with determination of static elevation. As a result, an additional trip to the site is required to sample and survey the monitoring wells. Based on activities completed to date, it appears that the groundwater flow direction is toward the northwest across the site. The groundwater flow direction will continue to be evaluated as additional monitoring wells are installed during the remainder of the site investigation activities.

3.3. POTABLE WATER SUPPLY SURVEY

A survey of water supply wells for the purpose of identifying and locating all community water supply wells within 2,500 feet of the UST systems and all potable water supply wells within 200 feet of the UST systems has been completed. The Illinois State Water Survey (ISWS), the Illinois State Geological Survey (ISGS) and the IEPA Division of Public Water Supplies were contacted via Source Water Assessment Program (SWAP) online.

The ISGS, ISWS, and IEPA Division of Public Water Supplies were accessed online on July 19, 2013 (EPA.STATE.IL.US, 2013). The response indicated that two wells were located within 2,500 feet of the site and no wells are within the designated set back zone. A Groundwater Ordinance is in effect for the City of Carbondale, which includes the Abel Investments site.

Table 3-1. Water Supply Well Information

Well ID	Type	Depth of Well *(feet)*	Distance From USTs *(feet)*	Setback Zone *(feet)*
0081	ISGS	101	1,284	200
01204	ISGS	<400	2,200	200

3.4. SITE SPECIFIC PHYSICAL PARAMETERS

In accordance with 35 Ill. Adm. Code 734.410, remediation objectives will be determined in accordance with 35 Ill. Adm. Code 742. The site specific physical parameters have not yet been determined, however, the parameters below are proposed to be determined at this time.

Hydraulic Conductivity (K,)
Soil bulk density (ρ_b),
Soil particle density (ρ_s),
Moisture content (w),
Organic carbon content (f_{oc})

In order to determine the hydraulic conductivity, a slug test will be performed during the Stage 2 Site Investigation activities. The test will be performed by lowering a "slug"

constructed of polyvinyl chloride (PVC) into a monitoring well. When the slug is lowered into the well, the groundwater is displaced by the volume of the slug. As the water within the well equilibrates, water depth changes are recorded in relation to the time interval that has passed since the test was initiated.

The hydraulic conductivity calculations are based on the total well depth, screen length and radius, initial water depth and the water depth change over time. The depth-to-water changes over time will be plotted on a semi-logarithmic graph and the curve will be evaluated. The slope of the straight-line portion of the curve, along with the other slug test data, is used to calculate the hydraulic conductivity.

Velocity will then be calculated using the hydraulic conductivity results determined at the site, as well as the hydraulic gradient. The hydraulic gradient will be found by calculating the change in gradient between the most up-gradient well and the most down-gradient well, then dividing this answer by the distance in feet between the two wells. Formula R24, ($U_{gw} = K \bullet i$) of 35 Ill. Adm. Code § 742 Appendix C, Table C.

The other site-specific physical parameters will be determined by conducting a boring near the vicinity of MW-2. Those parameters will be determined via laboratory testing.

4. SITE INVESTIGATION PROPOSAL

4.1. DESCRIPTION OF ACTIVITIES PROPOSED

The location and number of borings are based on the anticipated degree and extent of soil and groundwater contamination. A total of three monitoring wells, each with soil samples are currently being proposed to determine the horizontal and vertical extent of contamination. Three additional soil borings are being proposed to define the soil plume. In addition, one soil sample will be collected for the Tiered Approach to Corrective Action Objective (TACO) parameters. The locations of the proposed monitoring wells are shown on Drawing 0011 and the location of the proposed soil borings is shown on Drawing 0010. Both drawings are located in Appendix B. The proposed location of these borings will be completed as accurately as possible; however, their locations may be adjusted due to actual site and field conditions during the investigation.

4.2. DRILLING METHOD

Five-foot continuous samplers have been and will continue to be used to advance and characterize each boring. This method was selected to minimize the likelihood of gaps in the sample column. Augers were and will continue to be decontaminated with a pressure steam wash between borings to prevent cross-contamination. Soil boring logs have been and will be prepared for all soil borings.

4.3 SOIL SAMPLING PROTOCOL

All samples are collected utilizing proper sampling protocol. Samplers wear new, disposable, latex gloves for each sampling event. Samples are collected at the center of each five-foot sample tube, unless conditions within the soil units warrants otherwise. Each of the samples from the continuous sampler is screened using a photoionization detector (PID). Proper sampling, decontamination and chain-of-custody procedures are employed. The sample containers are filled, labeled and kept cool (to 6 degrees Celsius or below) until shipment to the laboratory for BETX, MTBE and PNAs analysis. Sample descriptions are recorded on the boring log prepared for each boring.

All soil samples will be analyzed by an accredited laboratory using test methods identified under 35 Ill. Adm. Code 186.180. As required by the Leaking Underground Storage Tank (LUST) Section, a Laboratory Certification for Chemical Analysis will accompany each of the appropriate sample results that have been reported.

4.4. MONITOR WELL INSTALLATION AND DEVELOPMENT PROTOCOL

Two-inch diameter wells consist of a 10-foot PVC screen and PVC riser above the well screen. Annular space around the wells is filled with coarse-grained, 20/20, sand. Each well is completed at the surface with a flush-mount manway and a locking protective cover. The manways are slightly elevated and the concrete sloped away from each well to prevent surface water run-in. The elevations of the manways are surveyed to the nearest 0.01 foot.

Monitoring wells are cleared of foreign sediment by standard well development procedures in order to restore the natural hydraulic conductivity of the formation and to reduce the turbidity of the groundwater samples. All wells are developed by surging the bailer back and forth for several minutes and then withdrawing groundwater. The development process continues until clear water flows into each well. The purpose of the surging was to remove the undersize sediment from the well and filter pack. All wells are developed on the day of installation.

4.5. GROUNDWATER SAMPLING PROTOCOL

All samples are collected utilizing proper sampling protocol. Samplers wear clean, disposable latex gloves, which are changed between each sample. The water level in each newly installed well is measured prior to sampling to determine the direction of the flow of groundwater. Prior to sampling, the water above the well screen is extracted from each well utilizing clean, disposable bailers to purge the well of its contents and collect a fresh sample of groundwater as it flows into the well.

Groundwater samples are gently poured into 40 milliliter (mL) glass vials for BETX, MTBE and 1 liter amber jars for PNAs then placed in a cooler with ice for transport. The samples are placed in coolers with ice for delivery to the laboratory. Proper chain-of-custody procedures are followed. Each sample is labeled immediately upon collection and logged onto the chain-of-custody form. The chain-of-custody form is transported with the samples and then relinquished to the laboratory. The data collected is used to determine the groundwater flow direction and whether the applicable groundwater quality standards are exceeded.

5. SITE MAPS

Site maps identifying the UST systems, excavations and sample locations, product and dispenser lines, pumps and pump islands, underground utilities, nearby structures, property boundaries, and the locations of proposed boring and monitoring wells are included in Appendix B. All maps are prepared in accordance with 35 Ill. Adm. Code 734.440.

A map of the site and any surrounding areas that may be adversely affected by the release of petroleum from the UST systems will be provided in the SICR. At a minimum, the map will be to scale, oriented north at the top, and will show the location of the leaking UST systems with any associated piping and all potential natural and/or man-made pathways which are on the site, in right-of-ways attached to the site, or that are in areas that may be adversely affected as a result of the release.

6. SITE INVESTIGATION COMPLETION REPORT

Mr. Sarabraj Signh, representative of the USTs at the Abel Investments, in conjunction with CW³M Company, Inc., will prepare a SICR within 30 days of completion of site investigation activities. A description of sampling activities, geologic information, soil boring logs, WCRs, and analytical results will be included. The SICR will be prepared utilizing all applicable IEPA-prescribed, provided or approved forms.

If on-site plume delineations cannot be finalized from these Stage 2 Site Investigation activities, an amended Stage 2 Site Investigation Plan and Budget will be submitted providing site assessment results with recommendations for additional on-site drilling, if necessary to completely delineate the extent of contamination. Also, if needed, a Stage 3 SIP and budget to evaluate the extent of the plume that has migrated off-site will be prepared once the on-site plume is defined.

7. REFERENCES

CW³M, 2013a. CW³M Company, Inc. *20-Day Certification.* Abel Investments, Carbondale, Illinois, July 19, 2013.

CW³M, 2013b. CW³M Company, Inc., *45-Day Report,* Abel Investments, Carbondale, Illinois, September 6, 2013.

CW³M, 2014. CW³M Company, Inc., *45-Day Report Additional Information,* Abel Investments, Carbondale, Illinois, February 11, 2014.

EPA.STATE.IL.US, 2013. Source Water Assessment Program, *Water Well Survey Map* *www.maps.epa.state.il.us*, accessed July 19, 2013.

IEPA, 2013. Illinois Environmental Protection Agency, *45-Day Report Correspondence,* Abel Investments, Carbondale, Illinois, December 6, 2013.

IEPA, 2014. Illinois Environmental Protection Agency, *45-Day Report Correspondence,* Abel Investments, Carbondale, Illinois, July 10, 2014.

OSFM, 2013. Illinois Office of the State Fire Marshal, *Permit for Removal of Underground Storage Tanks(s),* Abel Investments, Carbondale, Illinois, July 29, 2013.

APPENDIX A

SITE INVESTIGATION PLAN FORM

STAGE 2 SITE INVESTIGATION PLAN AND BUDGET

ABEL INVESTMENTS, LLC CARBONDALE, ILLINOIS

Illinois Environmental Protection Agency

Bureau of Land • 1021 North Grand Avenue East • P.O. Box 19276 • Springfield • Illinois • 62794-9276

Leaking Underground Storage Tank Program
Site Investigation Plan

A. Site Identification

IEMA Incident # (6- or 8-digit): 20130781 IEPA LPC # (10-digit): 0770155096

Site Name: Abel Investments, LLC

Site Address (not a P.O. Box): 2101 South Illinois Avenue

City: Carbondale County: Jackson Zip Code: 62901

B. Site Information

1. Will the owner or operator seek payment from the Underground Storage Tank Fund? ☒ Yes ☐ No

2. If yes, is the budget attached? ☒ Yes ☐ No

C. Site Investigation

Provide the following:

1. Stage of investigation
   a. Stage 2 ☒
   b. Stage 3 ☐

2. Summary of Stage 1 ☒ or 2 ☐ site investigation activities;

3. Characterization of site and surrounding area:
   a. Current and projected post-remediation uses;
   b. Physical setting:
      i. Environmental conditions;
      ii. Geologic, hydrogeologic, and hydrologic conditions; and
      iii. Geographic and topographic conditions;

4. Results of Stage 1 or 2 site investigation:
   a. Map(s) showing locations of all borings and groundwater monitoring wells completed to date and groundwater flow direction;
   b. Map(s) showing locations of all samples collected;
   c. Map(s) showing extents of soil and groundwater contamination that exceeds the most stringent Tier 1 remediation objectives;
   d. Cross-section(s) showing the geology and the horizontal and vertical extents of soil and groundwater contamination that exceeds the most stringent Tier 1 remediation objectives;
   e. Analytical results, chain of custody forms, and laboratory certifications;

f. Table(s) comparing analytical results to the most stringent Tier 1 remediation objectives (include sample depth, date collected, and detection limits);
g. Potable water supply well survey (unless provided in previous plan):
    i. Map(s) to scale showing:
        a) Locations of community water supply wells and other potable wells and the setback zone for each well;
        b) Location and extent of regulated recharge areas and wellhead protection areas;
        c) Extent of groundwater contamination exceeding the most stringent Tier 1 remediation objectives; and
        d) Modeled extent of groundwater contamination exceeding the most stringent Tier 1 remediation objectives (if performed as part of site investigation);
    ii. Table(s) listing the setback zones for each community water supply well and other potable water supply wells;
    iii. A narrative identifying each entity contacted to identify potable water supply wells, the name and title of each person contacted, and any field observations associated with any wells identified; and
    iv. A certification from a Licensed Professional Engineer or Licensed Professional Geologist that the survey was conducted in accordance with the requirements and that documentation submitted includes information obtained as a result of the survey;
h. Soil boring logs and monitoring well construction diagrams;
i. Proposal for determining the following parameters:
    i. Hydraulic conductivity (K);
    ii. Soil bulk density (ρ_b);
    iii. Soil particle density (ρ_s);
    iv. Moisture content (w); and
    v. Organic carbon content (f_{oc}); and
j. Budget forms of actual costs (documenting actual work performed during the previous stage).

5. Stage 2 or 3 sampling plan:
    a. Description of and justification for additional activities proposed as part of the plan;
    b. A map depicting locations of proposed borings and groundwater monitoring wells; and
    c. Depth of borings/wells and construction details of proposed borings and wells; and

6. Site maps meeting the requirements of 35 Ill. Adm. Code 734.440.

Continue onto next page

D. Signatures

All plans, budgets, and reports must be signed by the owner or operator and list the owner's or operator's full name, address, and telephone number.

UST Owner or Operator

Name: ~~Able~~ Abel Investments, LLC.
Contact: Sarabraj Singh
Address: 2043 Colorado Ave. Suite 3
City: Santa Monica
State: CA
Zip Code: 90404
Phone:
Signature:
Date: 12/29/15

Consultant

Company: CWM Company, Inc.
Contact: Carol L. Rowe, P.G.
Address: 701 W. South Grand Avenue
City: Springfield
State: IL
Zip Code: 62704
Phone: 217-522-8001
Signature:
Date: 1/8/2016

I certify under penalty of law that all activities that are the subject of this report were conducted under my supervision or were conducted under the supervision of another Licensed Professional Engineer or Licensed Professional Geologist and reviewed by me; that this report and all attachments were prepared under my supervision; that, to the best of my knowledge and belief, the work described in this report has been completed in accordance with the Environmental Protection Act [415 ILCS 5], 35 Ill. Adm. Code 734, and generally accepted standards and practices of my profession; and that the information presented is accurate and complete. I am aware there are significant penalties for submitting false statements or representations to the Illinois EPA including, but not limited to fines, imprisonment, or both as provided in Sections 44 and 57.17 of the Environmental Protection Act [415 ILCS 5/44 and 57.17].

RECEIVED
JAN 11 2016
IEPA/BOL

Licensed Professional Engineer or Geologist

Name: Vince E. Smith, P.E.
Company: CWM Company, Inc.
Address: 701 W. South Grand Avenue
City: Springfield
State: IL
Zip Code: 62704
Phone: 217-522-8001
Ill. Registration No.: 062-046118
License Expiration Date: 11/30/15
Signature:
Date: 10/6/15

L.P.E. or L.P.G. Seal

APPENDIX B

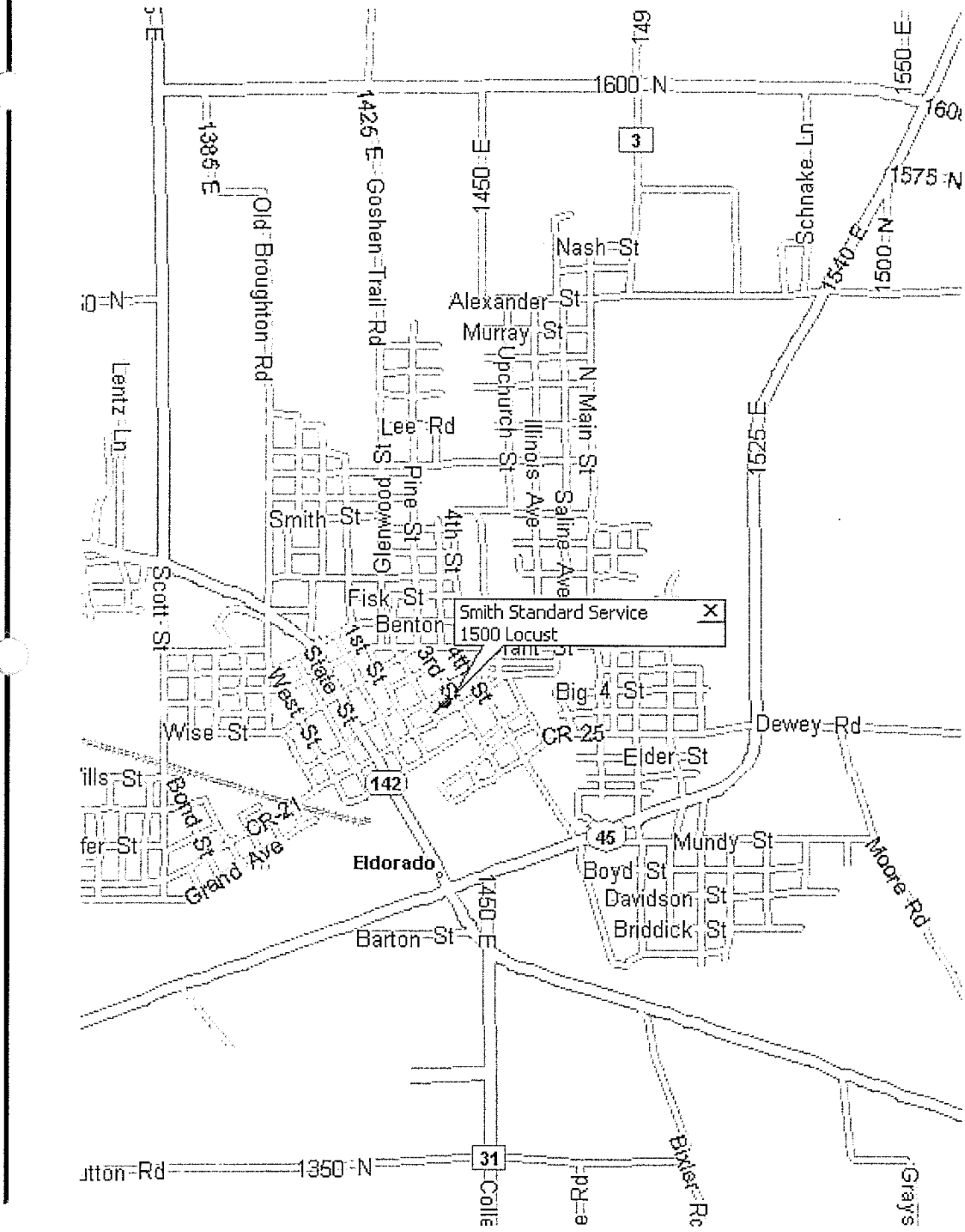
SITE MAPS AND ILLUSTRATIONS

STAGE 2 SITE INVESTIGATION PLAN AND BUDGET

ABEL INVESTMENTS, LLC CARBONDALE, ILLINOIS

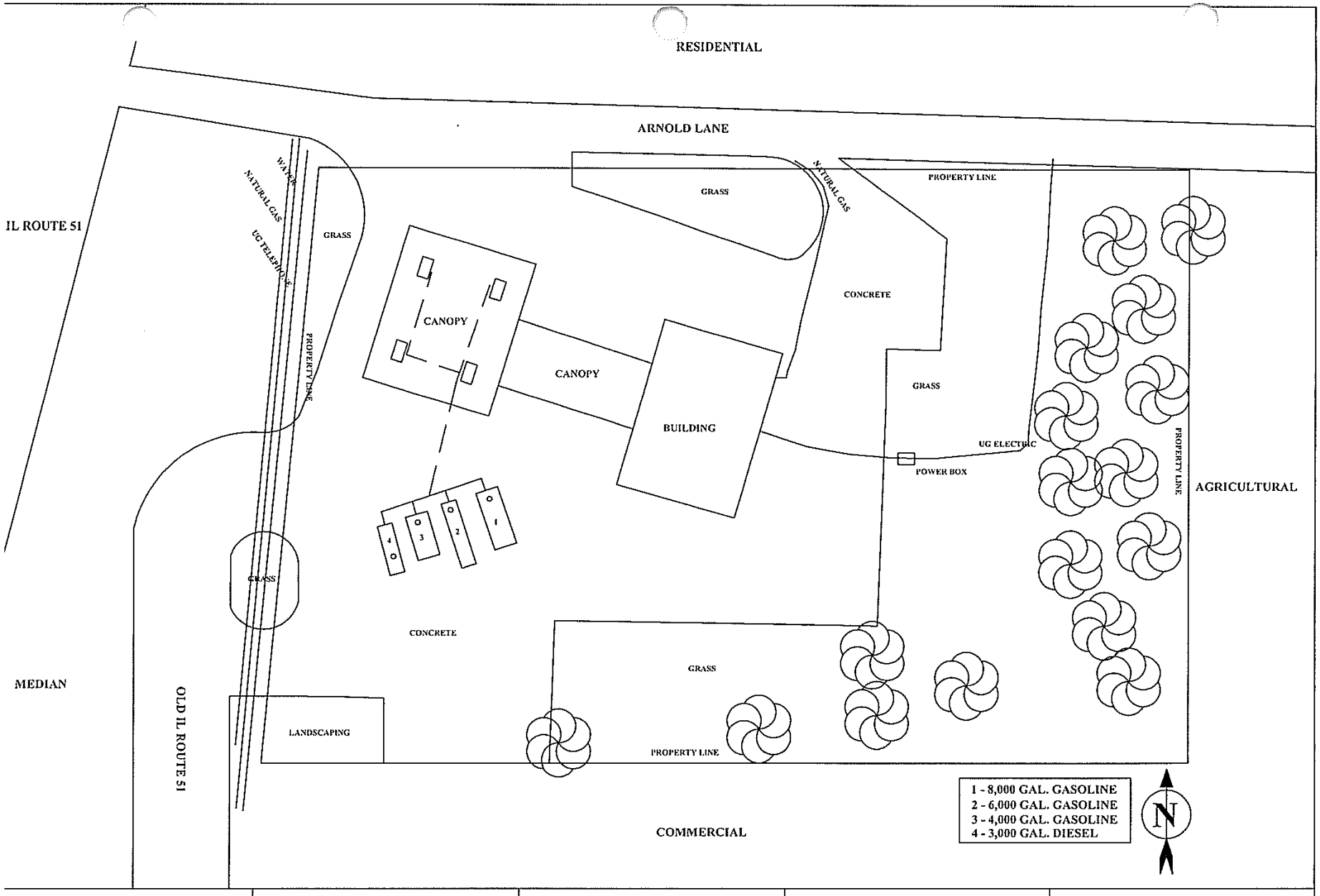
INDEX OF DRAWINGS

Drawing Number	Description	File Name
0001A	Site Location Map	Sitemap.doc
0002	Site Map	site.dwg
0003	Waste Characterization Map	wcmap.dwg
0004A	Early Action Excavation Map	eaexc.dwg
0004B	Early Action Sample Location Map	ealoc.dwg
0005	Soil Boring Location Map	sbloc.dwg
0005A	Soil Contamination Values Map (0-5 feet)	sval0-5.dwg
0005B	Soil Contamination Values Map (5-10 feet)	sval5-10.dwg
0006	Monitoring Well Location Map	mwloc.dwg
0006A	Groundwater Contamination Values Map	gwval.dwg
0007	Cross Section	xsection.dwg
0008	Monitoring Well Elevation Map	mwelev.dwg
0009	Groundwater Elevation Map June 2015	gwelev.dwg
0010	Proposed Soil Boring Location Map	prosb.dwg
0011	Proposed Monitoring Well Location Map	pmwloc.dwg



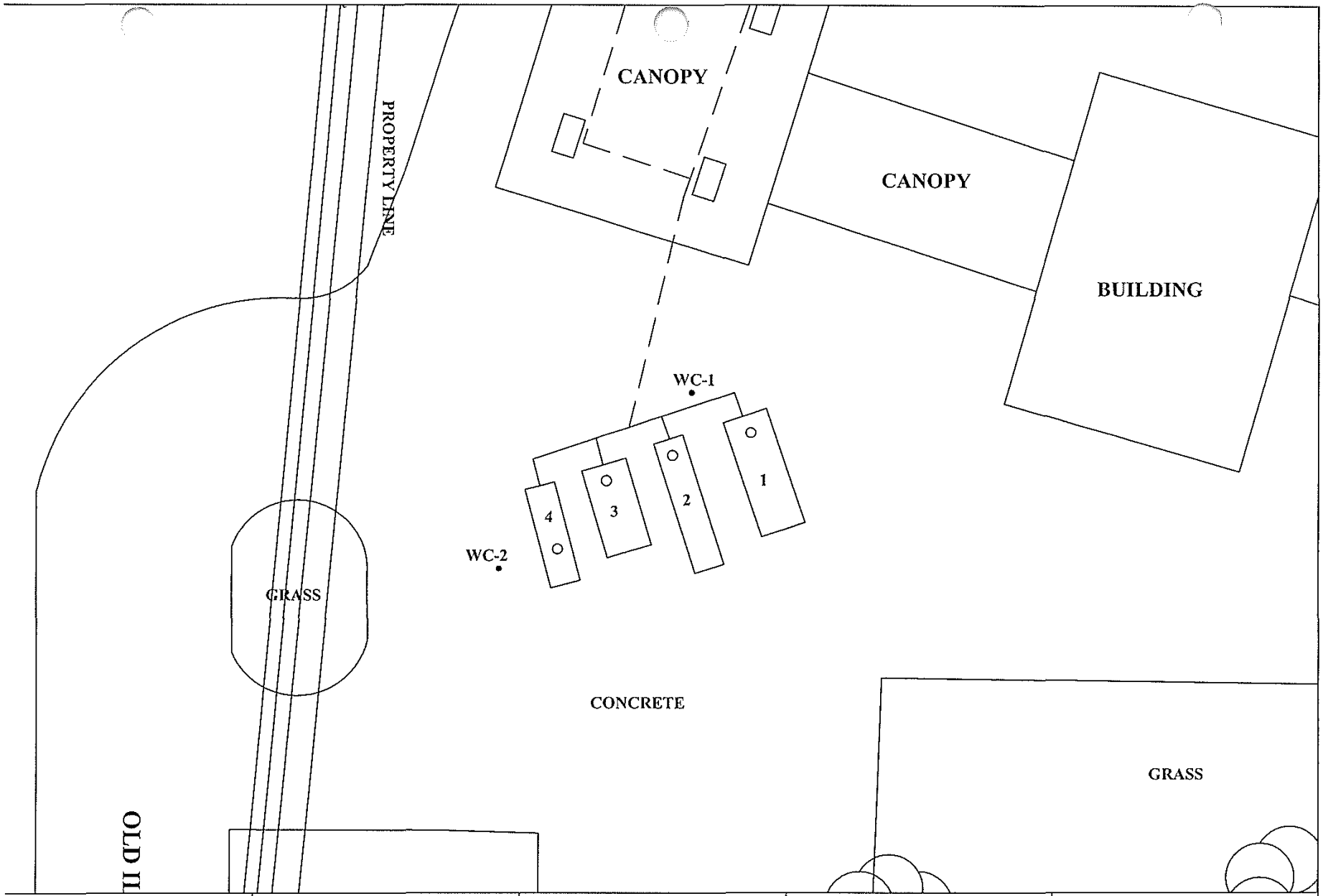
CW³M Company, Inc. 701 W. South Grand Ave. Springfield, IL 62704 (217) 522-8001	**Site Location Map** 1500 Locust Eldorado, Illinois	Drawn By: MDR Reviewed By: Drawing 0001 Sitemap.doc

PCB No. 2016-108 R. 0026

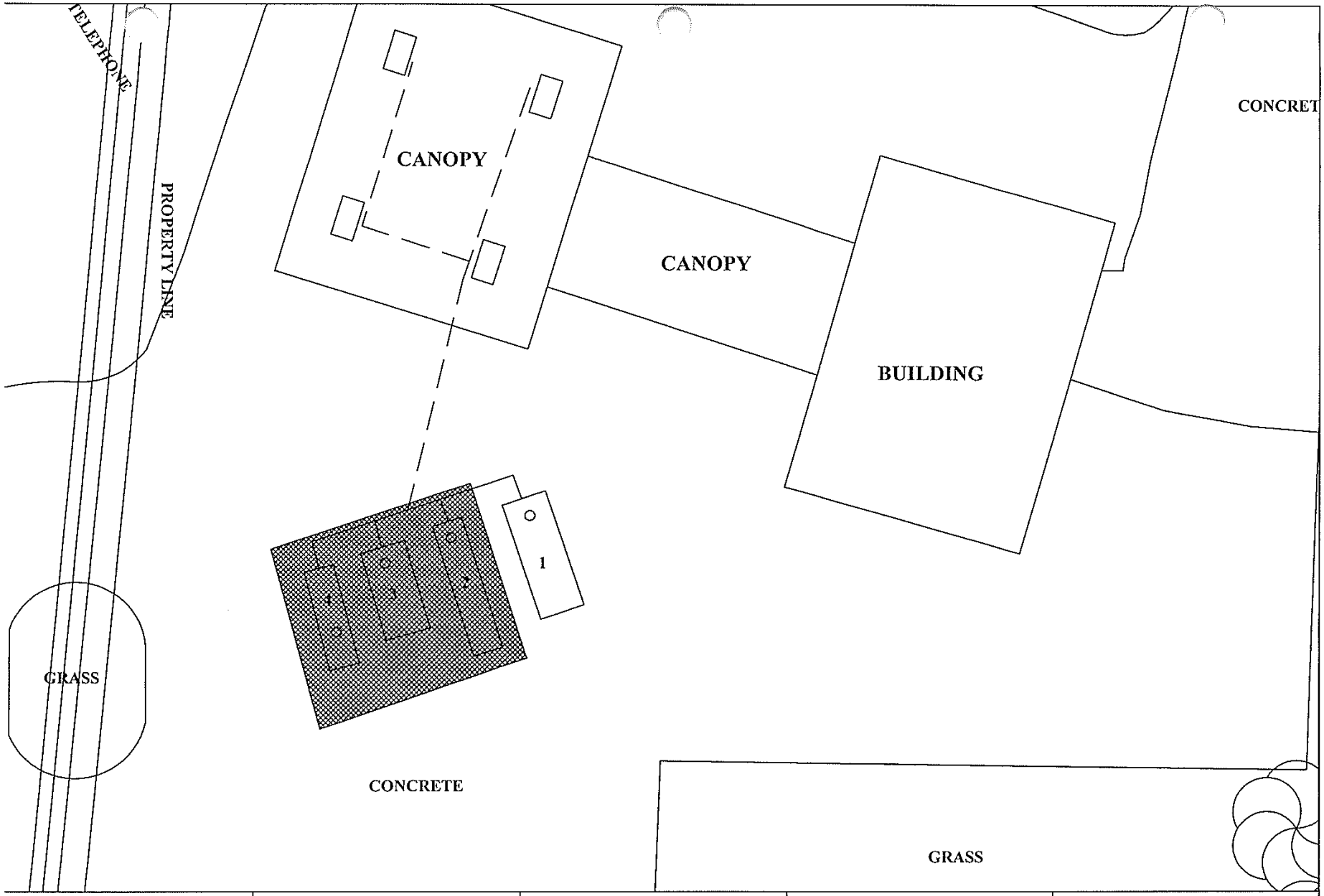


CW[M] COMPANY, INC. 701 W. SOUTH GRAND SPRINGFIELD, IL. 62704 (217) 522-8001	ABLE INVESTMENTS, INC. CARBONDALE, IL INCIDENT #13-0781 JACKSON COUNTY	SITE MAP	SCALE: 1"=40' DATE: 7/19/13 REVISED DATE: DRAWING: 0002	DRAWN BY: BMW REVISED BY: REVIEWED BY: CLR SITE.DWG

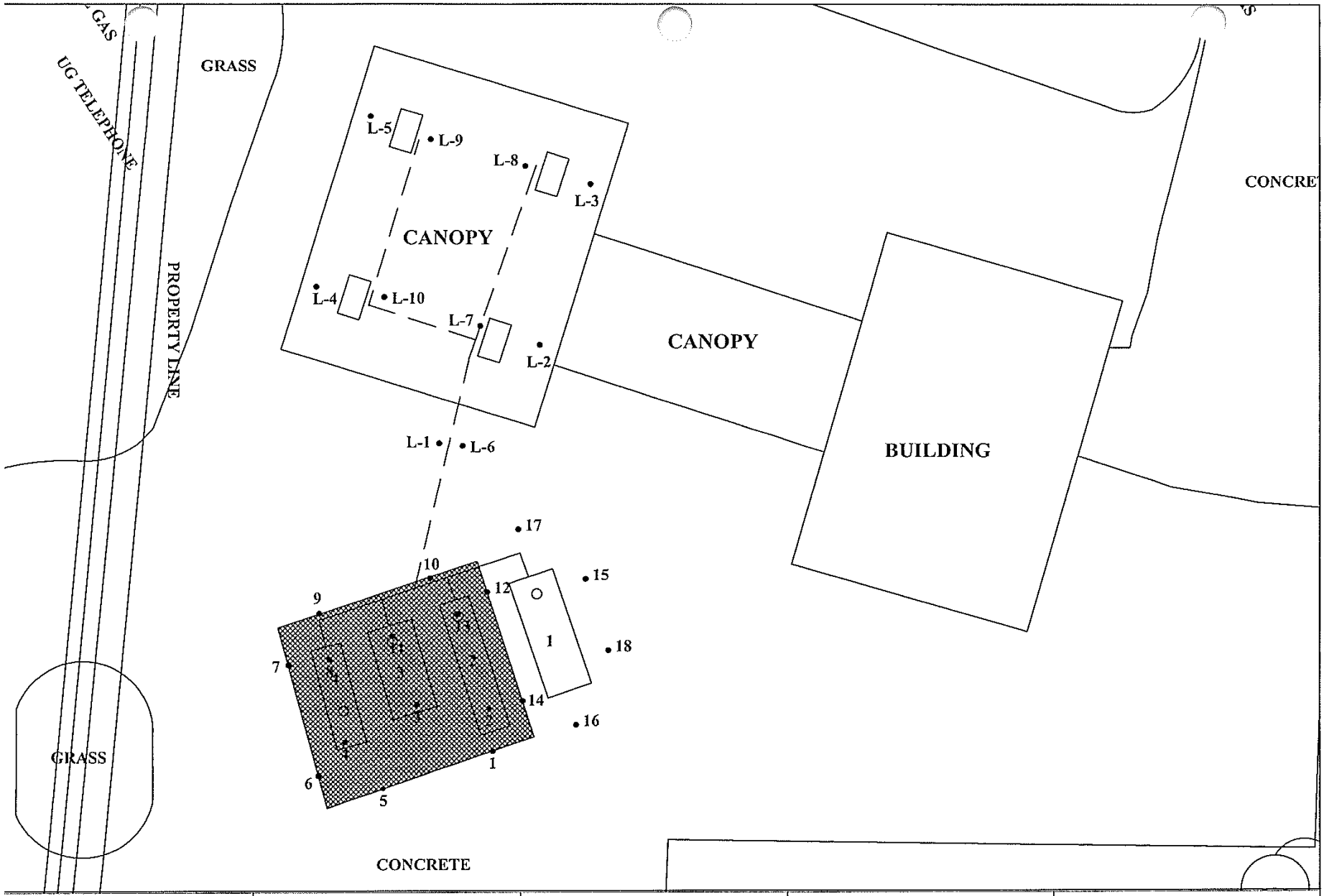
PCB No. 2016-108 R. 0027



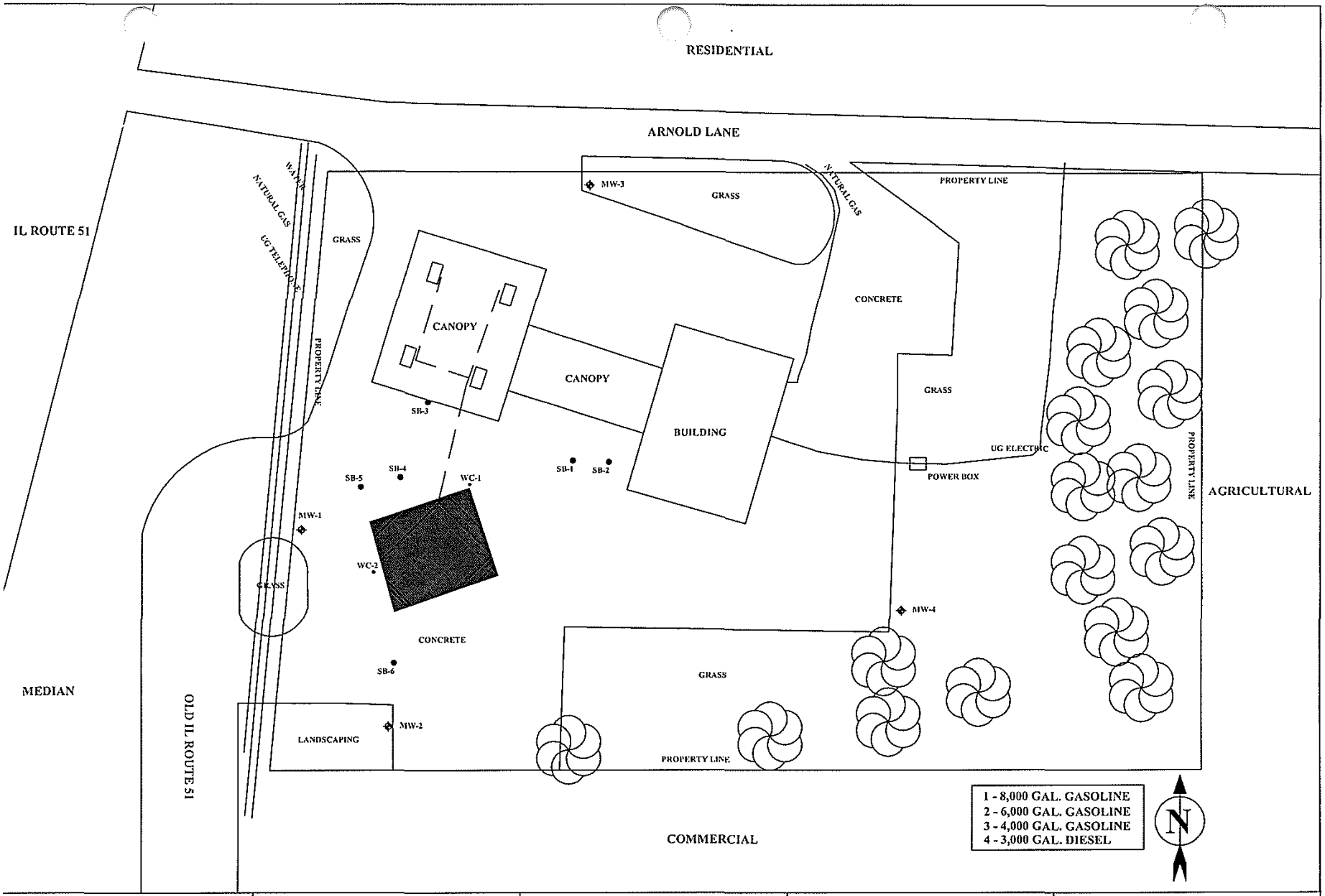
CWM COMPANY, INC. 701 W. SOUTH GRAND SPRINGFIELD, IL. 62704 (217) 522-8001	ABLE INVESTMENTS, INC. CARBONDALE, IL INCIDENT #13-0781 JACKSON COUNTY	WASTE CHARACTERIZATION MAP	SCALE: 1"=50' DATE: 8/20/13 REVISED DATE:10/8/13 DRAWING: 0003	DRAWN BY: BMW REVISED BY: REVIEWED BY: CLR WCMAP.DWG



CWM COMPANY, INC. 701 W. SOUTH GRAND SPRINGFIELD, IL. 62704 (217) 522-8001	ABLE INVESTMENTS, INC. CARBONDALE, IL INCIDENT #13-0781 JACKSON COUNTY	EARLY ACTION EXCAVATION MAP	SCALE: 1"=20' DATE: 8/20/13 REVISED DATE: DRAWING: 0004A	DRAWN BY: BMW REVISED BY: REVIEWED BY: CLR EAEXC.DWG

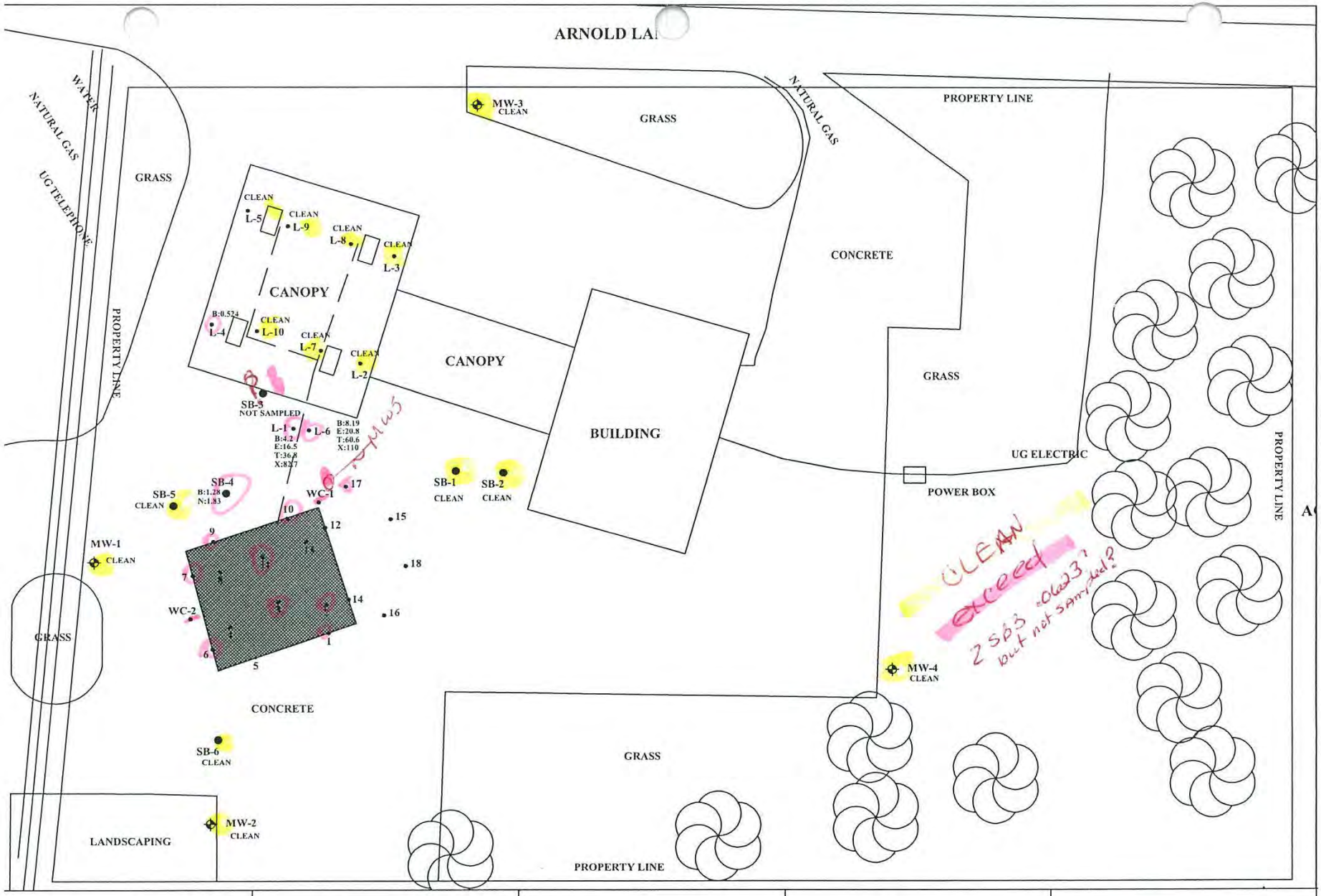


CW M COMPANY, INC. 701 W. SOUTH GRAND SPRINGFIELD, IL. 62704 (217) 522-8001	ABLE INVESTMENTS, INC. CARBONDALE, IL INCIDENT #13-0781 JACKSON COUNTY	EARLY ACTION SAMPLE LOCATION MAP	SCALE: 1"=20' DATE: 8/20/13 REVISED DATE:2/5/14 DRAWING: 0004B	DRAWN BY: BMW REVISED BY: REVIEWED BY: CLR EALOC.DWG



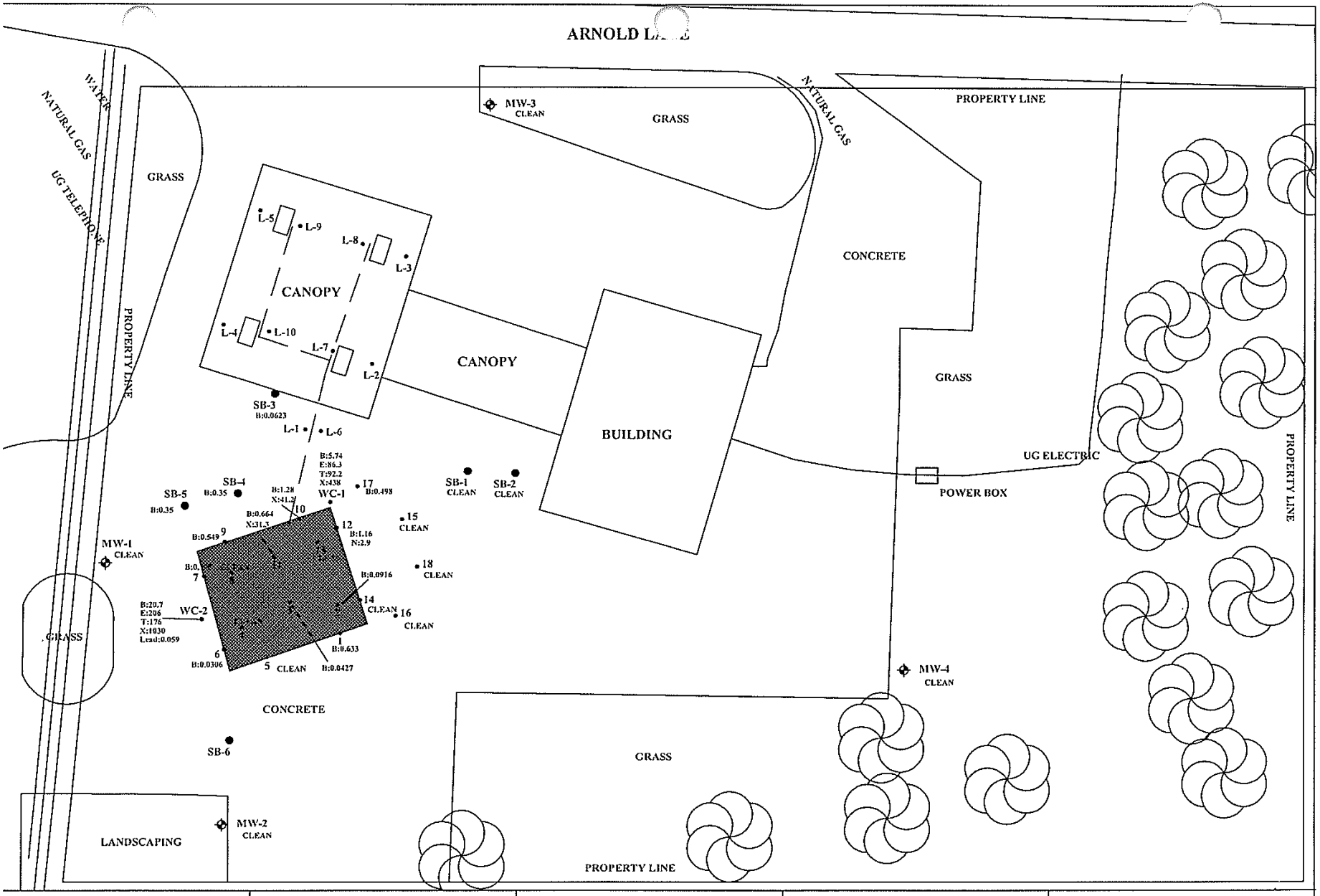
CW[M] COMPANY, INC. 701 W. SOUTH GRAND SPRINGFIELD, IL. 62704 (217) 522-8001	ABLE INVESTMENTS, INC. CARBONDALE, IL INCIDENT #13-0781 JACKSON COUNTY	SOIL BORING LOCATION MAP	SCALE: 1"=40' DATE: 8/20/13 REVISED DATE:2/5/14 DRAWING: 0005	DRAWN BY: BMW REVISED BY: REVIEWED BY: CLR SBLOC.DWG

PCB No. 2016-108 R. 0031



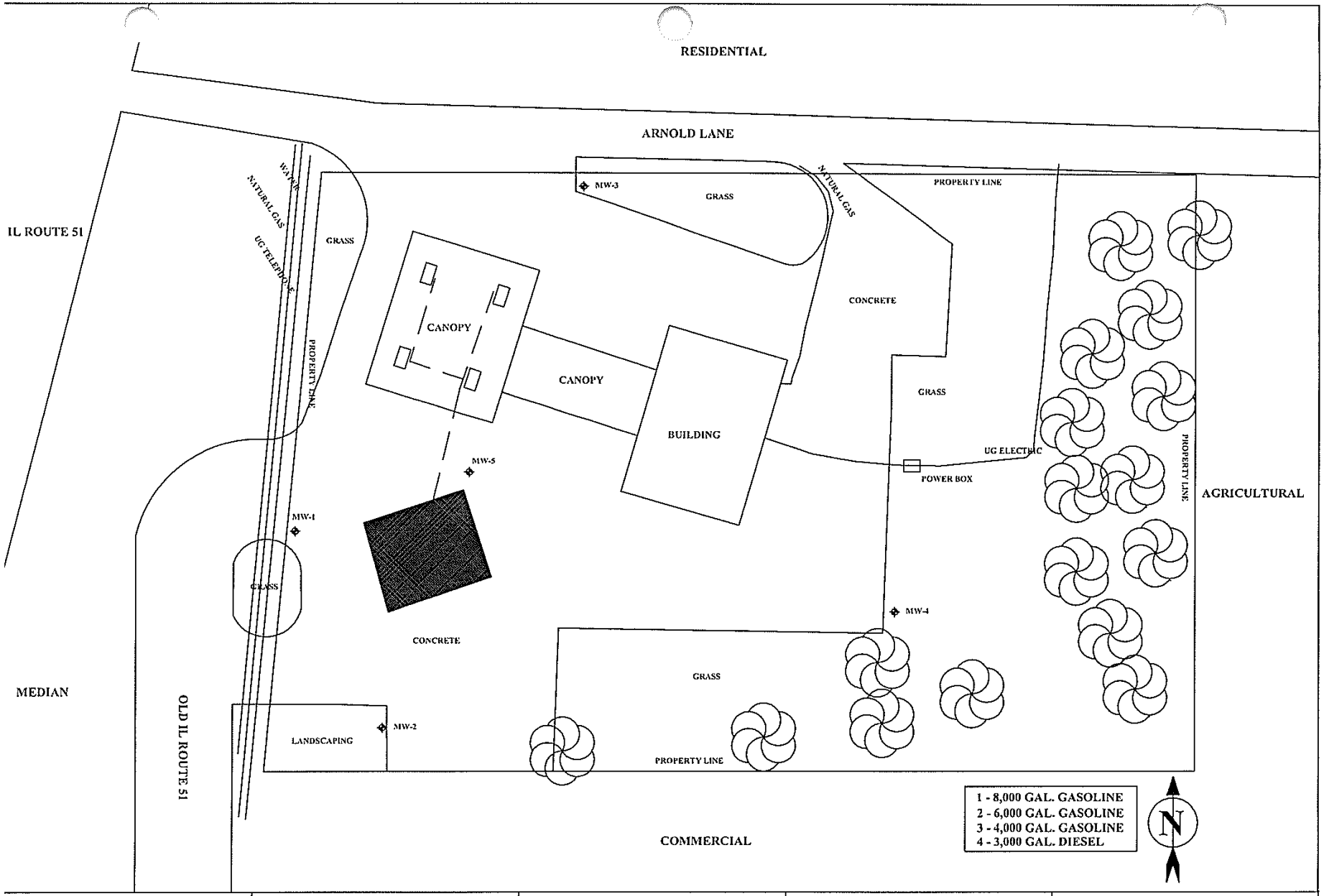
CW M COMPANY, INC. 701 W. SOUTH GRAND SPRINGFIELD, IL. 62704 (217) 522-8001	ABLE INVESTMENTS, INC. CARBONDALE, IL INCIDENT #13-0781 JACKSON COUNTY	SOIL CONTAMINATION VALUES MAP (0 - 5 FEET)	SCALE: 1"=30' DATE: 8/20/13 REVISED DATE:9/2/15 DRAWING: 0005A	DRAWN BY: BMW REVISED BY: RJS REVIEWED BY: CLR SBVAL0-5.DWG

PCB No. 2016-108 R. 0032

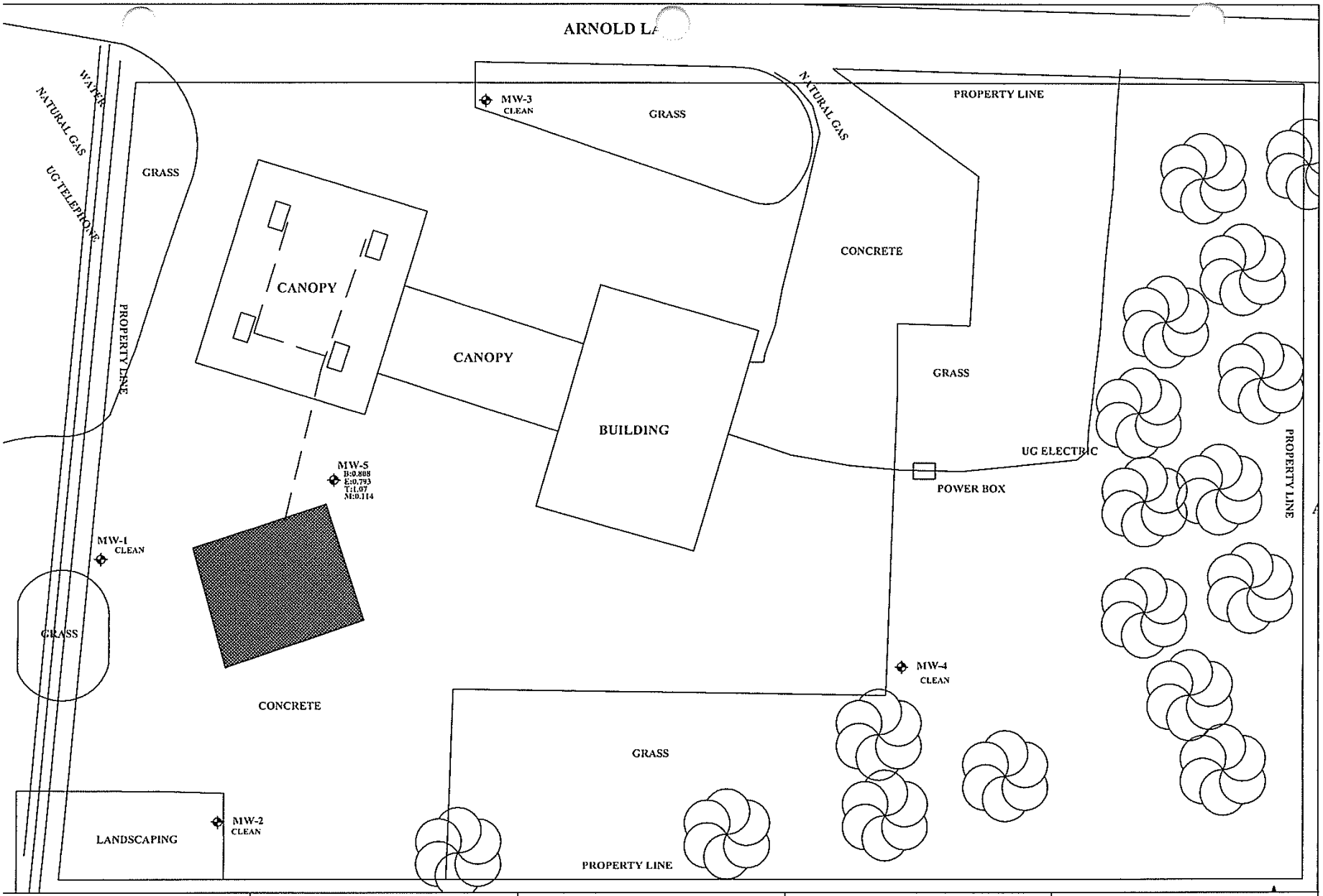


CW M COMPANY, INC. 701 W. SOUTH GRAND SPRINGFIELD, IL. 62704 (217) 522-8001	ABLE INVESTMENTS, INC. CARBONDALE, IL INCIDENT #13-0781 JACKSON COUNTY	SOIL CONTAMINATION VALUES MAP (5 - 10 FEET)	SCALE: 1"=30' DATE: 8/20/13 REVISED DATE:9/2/15 DRAWING: 0005B	DRAWN BY: BMW REVISED BY: RJS REVIEWED BY: CLR SBVAL5-10.DWG

PCB No. 2016-108 R. 0033

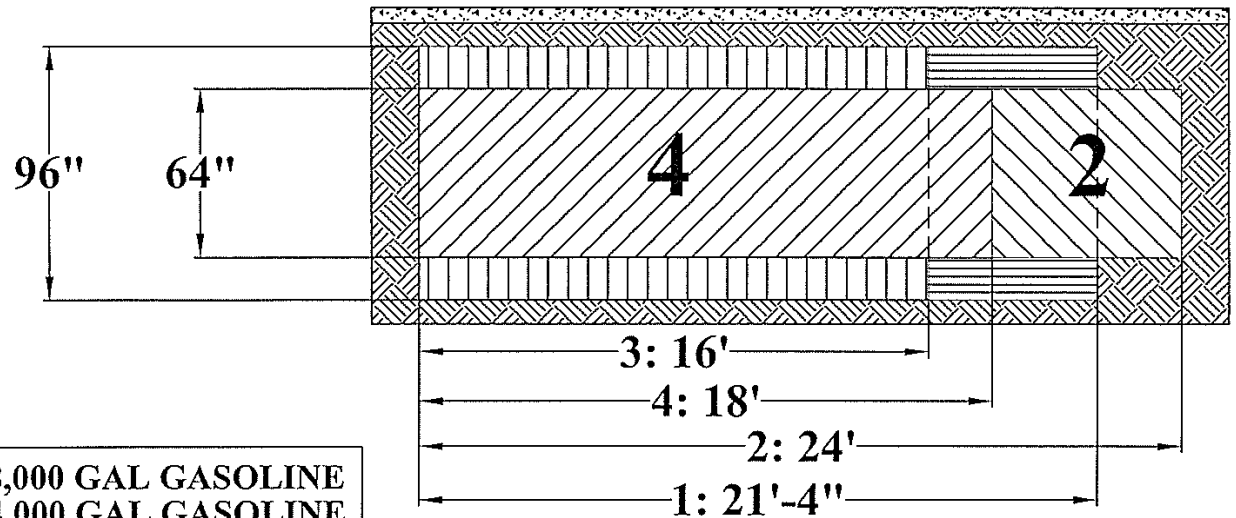


CW M COMPANY, INC. 701 W. SOUTH GRAND SPRINGFIELD, IL. 62704 (217) 522-8001	ABLE INVESTMENTS, INC. CARBONDALE, IL INCIDENT #13-0781 JACKSON COUNTY	MONITORING WELL LOCATION MAP	SCALE: 1"=40' DATE: 8/20/13 REVISED DATE:2/5/14 DRAWING: 0006	DRAWN BY: BMW REVISED BY: REVIEWED BY: CLR MWLOC.DWG



CWM COMPANY, INC. 701 W. SOUTH GRAND SPRINGFIELD, IL. 62704 (217) 522-8001	ABLE INVESTMENTS, INC. CARBONDALE, IL INCIDENT #13-0781 JACKSON COUNTY	GROUNDWATER CONTAMINATION VALUES MAP	SCALE: 1"=30' DATE: 8/20/13 REVISED DATE:9/2/15 DRAWING: 0006A	DRAWN BY: BMW REVISED BY: RJS REVIEWED BY: CLR GWVAL.DWG

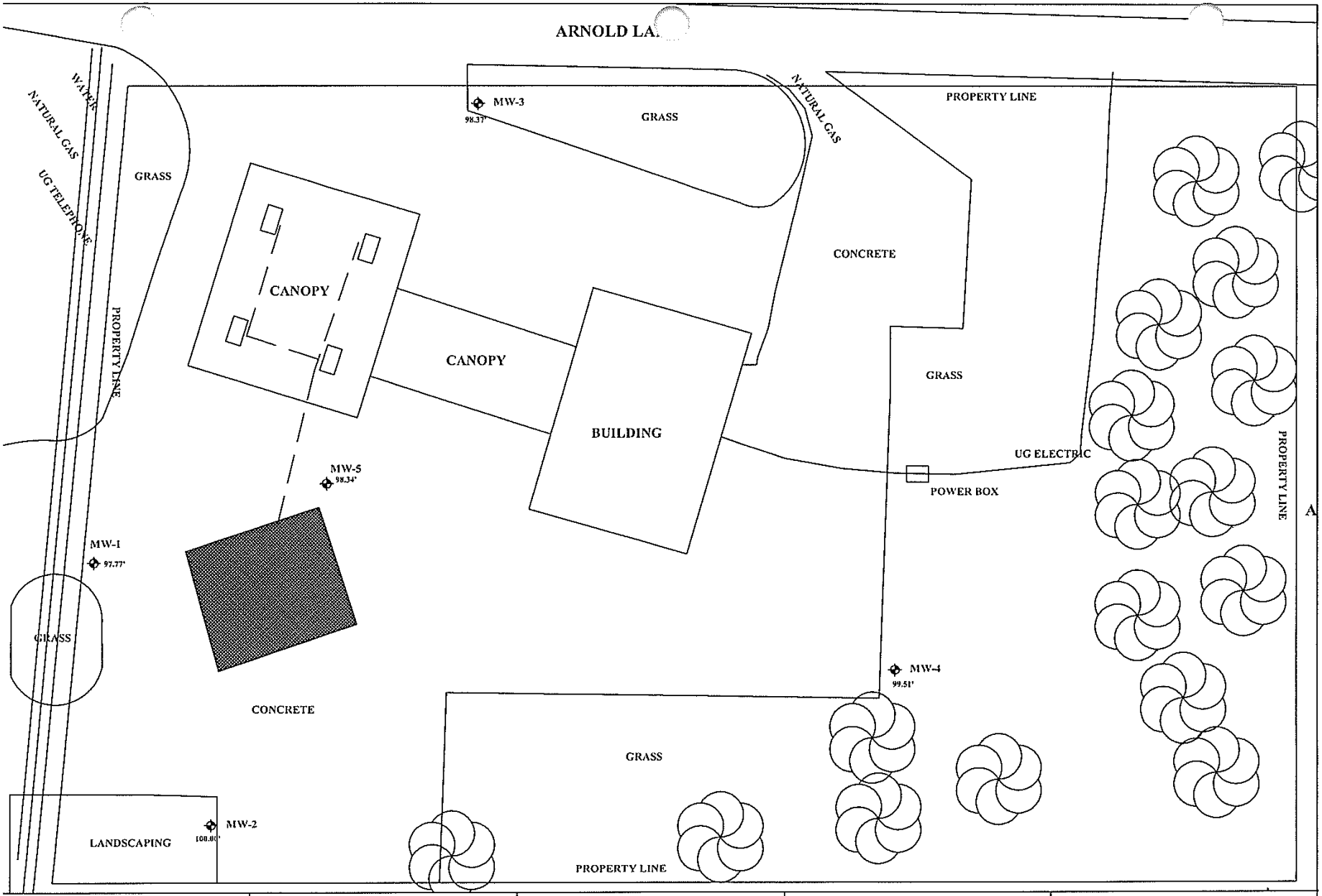
LOOKING EAST



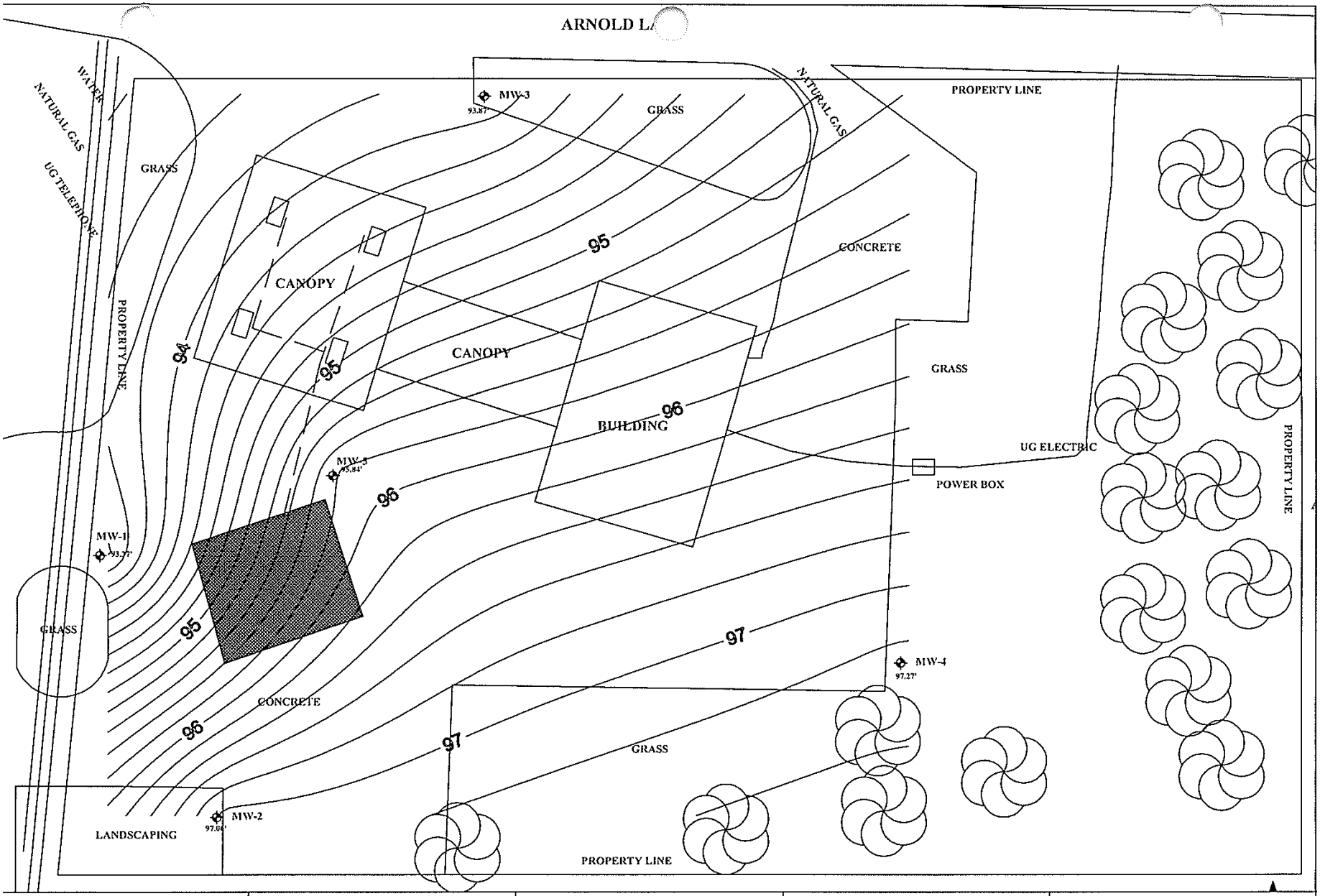
TANK 1: 8,000 GAL GASOLINE
TANK 2: 4,000 GAL GASOLINE
TANK 3: 6,000 GAL GASOLINE
TANK 4: 3,000 GAL DIESEL

LOOKING NORTH

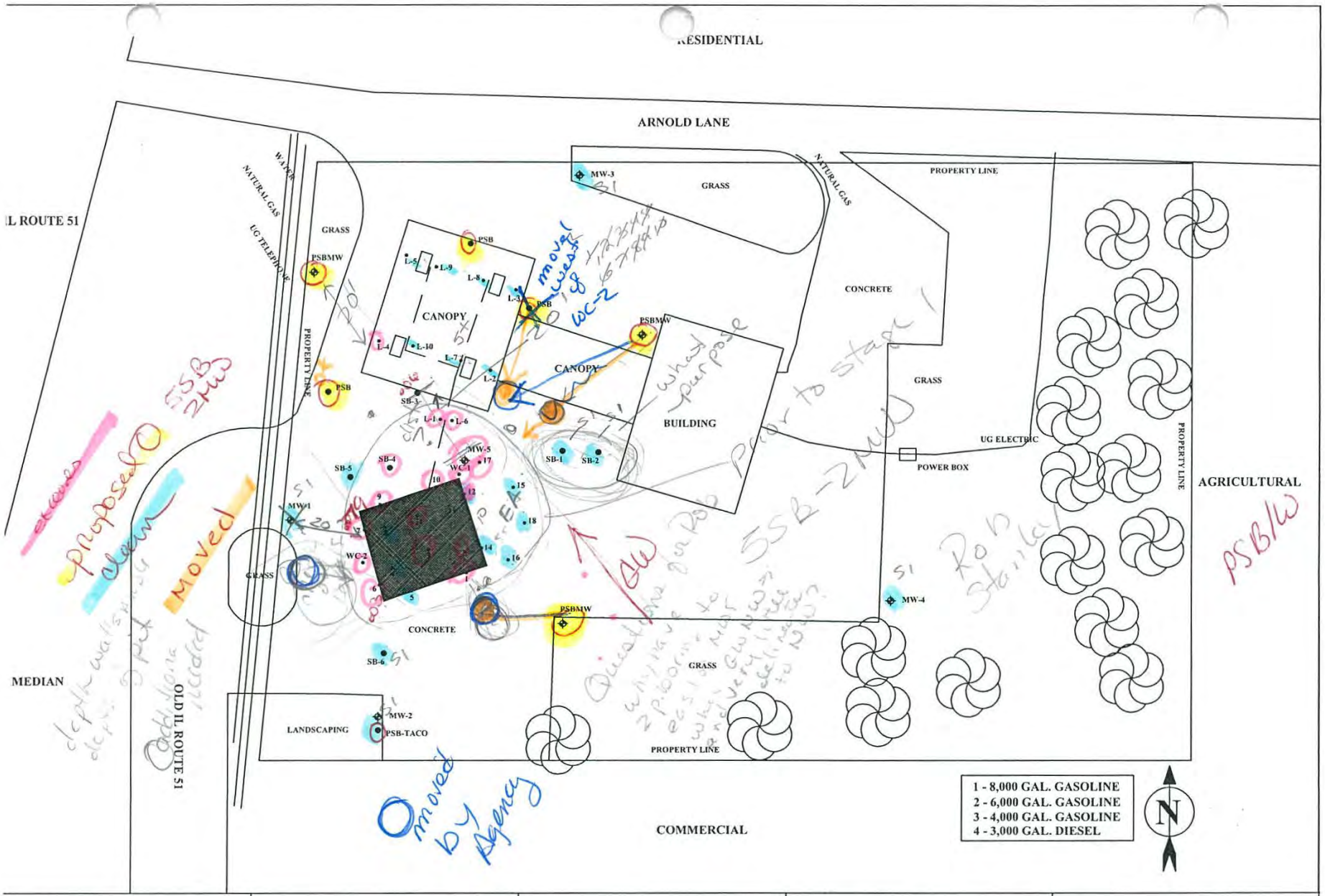
CWM COMPANY, INC. 701 W. SOUTH GRAND SPRINGFIELD, IL. 62704 (217) 522-8001	ABLE INVESTMENTS, INC. CARBONDALE, IL INCIDENT #13-0781 JACKSON COUNTY	CROSS SECTION	SCALE: 1"=5' DATE: 8/20/13 REVISED DATE: DRAWING: 0007	DRAWN BY: BMW REVISED BY: REVIEWED BY: CLR XSECTION.DWG



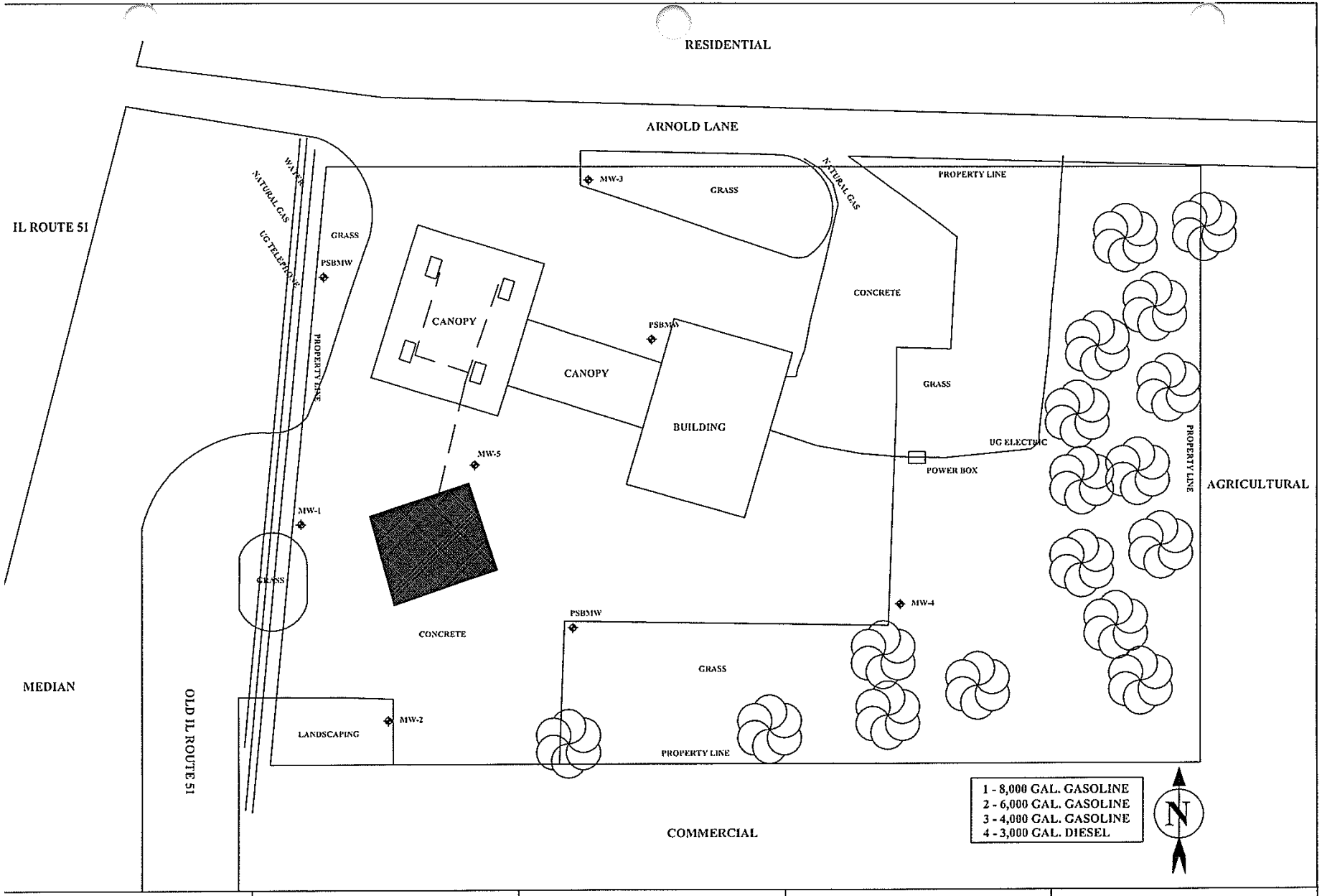
CW M COMPANY, INC. 701 W. SOUTH GRAND SPRINGFIELD, IL. 62704 (217) 522-8001	ABLE INVESTMENTS, INC. CARBONDALE, IL INCIDENT #13-0781 JACKSON COUNTY	MONITORING WELL ELEVATION MAP	SCALE: 1"=30' DATE: 8/20/13 REVISED DATE:9/2/15 DRAWING: 0008	DRAWN BY: BMW REVISED BY: RJS REVIEWED BY: CLR MWELEV.DWG



CW[illegible]M COMPANY, INC. 701 W. SOUTH GRAND SPRINGFIELD, IL. 62704 (217) 522-8001	ABLE INVESTMENTS, INC. CARBONDALE, IL INCIDENT #13-0781 JACKSON COUNTY	GROUNDWATER ELEVATION MAP JUNE 2015	SCALE: 1"=30' DATE: 8/20/13 REVISED DATE:9/2/15 DRAWING: 0009	DRAWN BY: BMW REVISED BY: RJS REVIEWED BY: CLR GWELEV.DWG



CW[illegible]M COMPANY, INC. 701 W. SOUTH GRAND SPRINGFIELD, IL. 62704 (217) 522-8001	ABLE INVESTMENTS, INC. CARBONDALE, IL INCIDENT #13-0781 JACKSON COUNTY	PROPOSED SOIL BORING LOCATION MAP	SCALE: 1"=40' DATE: 8/20/13 REVISED DATE:2/5/14 DRAWING: 0010	DRAWN BY: BMW REVISED BY: RJS REVIEWED BY: CLR PSBLOC.DWG



CWM COMPANY, INC. 701 W. SOUTH GRAND SPRINGFIELD, IL. 62704 (217) 522-8001	ABLE INVESTMENTS, INC. CARBONDALE, IL INCIDENT #13-0781 JACKSON COUNTY	PROPOSED MONITORING WELL LOCATION MAP	SCALE: 1"=40' DATE: 8/20/13 REVISED DATE:2/5/14 DRAWING: 0011	DRAWN BY: BMW REVISED BY: RJS REVIEWED BY: CLR PMWLOC.DWG

APPENDIX C

SITE INVESTIGATION BUDGETS AND CERTIFICATION

STAGE 2 SITE INVESTIGATION PLAN AND BUDGET

ABEL INVESTMENTS, LLC CARBONDALE, ILLINOIS

Owner/Operator and Licensed Professional Engineer/Geologist Budget Certification Form

I hereby certify that I intend to seek payment from the UST Fund for costs incurred while performing corrective action activities for Leaking UST incident 2013-0781. I further certify that the costs set forth in this budget are for necessary activities and are reasonable and accurate to the best of my knowledge and belief. I also certify that the costs included in this budget are not for corrective action in excess of the minimum requirements of 415 ILCS 5/57, no costs are included in this budget that are not described in the corrective action plan, and no costs exceed Subpart H: Maximum Payment Amounts, Appendix D Sample Handling and Analysis amounts, and Appendix E Personnel Titles and Rates of 35 Ill. Adm. Code 732 or 734. I further certify that costs ineligible for payment from the Fund pursuant to 35 Ill. Adm. Code 732.606 or 734.630 are not included in the budget proposal or amendment. Such ineligible costs include but are not limited to:

Costs associated with ineligible tanks.
Costs associated with site restoration (e.g., pump islands, canopies).
Costs associated with utility replacement (e.g., sewers, electrical, telephone, etc.).
Costs incurred prior to IEMA notification.
Costs associated with planned tank pulls.
Legal fees or costs.
Costs incurred prior to July 28, 1989.
Costs associated with installation of new USTs or the repair of existing USTs.

Owner/Operator: ~~Able~~ Abel Investments, LLC.

Authorized Representative: Sarabraj Singh Title: Owner

Signature: [signature] Date: 12-29-15

RECEIVED JAN 11 2016 IEPA/BOL

Subscribed and sworn to before me the 29th day of December 2015

[signature] (Notary Public) Seal: "OFFICIAL SEAL" William T Sinnott Notary Public, State of Illinois My Commission Expires 1/18/2020

In addition, I certify under penalty of law that all activities that are the subject of this plan, budget, or report were conducted under my supervision or were conducted under the supervision of another Licensed Professional Engineer or Licensed Professional Geologist and reviewed by me; that this plan, budget, or report and all attachments were prepared under my supervision; that, to the best of my knowledge and belief, the work described in the plan, budget, or report has been completed in accordance with the Environmental Protection Act [415 ILCS 5], 35 Ill. Adm. Code 732 or 734, and generally accepted standards and practices of my profession; and that the information presented is accurate and complete. I am aware there are significant penalties for submitting false statements or representations to the Illinois EPA, including but not limited to fines, imprisonment, or both as provided in Sections 44 and 57.17 of the Environmental Protection Act [415 ILCS 5/44 and 57.17].

L.P.E./L.P.G.: Vince E. Smith L.P.E./L.P.G. Seal: [seal: Vince E. Smith, Illinois]

L.P.E./L.P.G. Signature: [signature] Date: 10/6/15

Subscribed and sworn to before me the 6th day of October, 2015.

[signature] (Notary Public) Seal: "OFFICIAL SEAL" William T Sinnott Notary Public, State of Illinois My Commission Expires 1/18/2020

The Illinois EPA is authorized to require this information under 415 ILCS 5/1. Disclosure of this information is required. Failure to do so may result in the delay or denial of any budget or payment requested hereunder.

General Information for the Budget and Billing Forms

LPC #: 0770155096 County: Jackson

City: Carbondale Site Name: Abel Investments, LLC

Site Address: 2101 South Illinois Avenue

IEMA Incident No.: 2013-0781

IEMA Notification Date.: Jul 9, 2013

Date this form was prepared: Sep 1, 2015

This form is being submitted as a (check one):

- ☒ Budget Proposal
- ☐ Budget Amendment (Budget amendments must include only the costs over the previous budget.)
- ☐ Billing Package

  Please provide the name(s) and date(s) of report(s) documenting the costs requested:

  Name(s):

  Date(s):

RECEIVED
JAN 11 2016
IEPA/BOL

This package is being submitted for the site activities indicated below :

35 Ill. Adm. Code 734:

- ☐ Early Action
- ☐ Free Product Removal after Early Action
- ☒ Site Investigation Stage 1: ☒ Stage 2: ☒ Stage 3: ☐
- ☐ Corrective Action

35 Ill. Adm. Code 732:

- ☐ Early Action
- ☐ Free Product Removal after Early Action
- ☐ Site Classification
- ☐ Low Priority Corrective Action
- ☐ High Priority Corrective Action

35 Ill. Adm. Code 731:

- ☐ Site Investigation
- ☐ Corrective Action

General Information for the Budget and Billing Forms

The following address will be used as the mailing address for checks and any final determination letters regarding payment from the Fund.

Pay to the order of: CWM Company, Inc.

Send in care of: Sarabraj Singh d.b.a. ~~Able~~ Abel Investments, LLC.

Address: P.O. Box 571

City: Carlinville State: IL Zip: 62626

The payee is the: Owner ☒ Operator ☐ (Check one or both.)

Signature of the owner or operator of the UST(s) (required)

W-9 must be submitted.
Click here to print off a W-9 Form.

Number of petroleum USTs in Illinois presently owned or operated by the owner or operator; any subsidiary, parent or joint stock company of the owner or operator; and any company owned by any parent, subsidiary or joint stock company of the owner or operator:

Fewer than 101: ☒ 101 or more: ☐

Number of USTs at the site: 4 (Number of USTs includes USTs presently at the site and USTs that have been removed.)

Number of incidents reported to IEMA for this site: 2

Incident Numbers assigned to the site due to releases from USTs: 97-0841 2013-0781

Please list all tanks that have ever been located at the site and tanks that are presently located at the site.

Product Stored in UST	Size (gallons)	Did UST have a release?	Incident No.	Type of Release Tank Leak / Overfill / Piping Leak
Gasoline	8,000	Yes ☒ No ☐	97-0841	Overfill
Gasoline	4,000	Yes ☒ No ☐	2013-0781	Tank Leak
Gasoline	6,000	Yes ☒ No ☐	2013-0781	Tank Leak
Diesel Fuel	3,000	Yes ☒ No ☐	2013-0781	Tank Leak
		Yes ☐ No ☒		
		Yes ☐ No ☒		
		Yes ☐ No ☒		
		Yes ☐ No ☒		
		Yes ☐ No ☒		

Add More Rows Undo Last Add

Budget Summary

Choose the applicable regulation: (•) 734 ( ) 732

734	Free Product	Stage 1 Site Investigation	Stage 2 Site Investigation	Stage 3 Site Investigation	Corrective Action
		Actual	Proposed		
Drilling and Monitoring Well Costs Form	$	$ 6,273.93	$ 3,094.75	$	$
Analytical Costs Form	$	$ 9,247.51	$ 4,984.88	$	$
Remediation and Disposal Costs Form	$	$	$	$	$
UST Removal and Abandonment Costs Form	$	$	$	$	$
Paving, Demolition, and Well Abandonment Costs Form	$		$	$	$
Consulting Personnel Costs Form	$	$ 24,238.14	$ 33,728.31	$	$
Consultant's Materials Costs Form	$	$ 1,501.10	$ 1,334.50	$	$
Handling Charges Form	Handling charges will be determined at the time a billing package is submitted to the Illinois EPA. The amount of allowable handling charges will be determined in accordance with the Handling Charges Form.				
Total	$	$ 41,260.68	$ 43,142.44	$	$

STAGE 1
BUDGET SUMMARY

Drilling and Monitoring Well Costs Form

STAGE 1 A1, 2600.68

1. Drilling

Number of Borings to Be Drilled	Type HSA/PUSH/ Injection	Depth (feet) of Each Boring	Total Feet Drilled	Reason for Drilling
6	PUSH	5.00	30.00	Soil Plume Delineation (Piping)

E.A.

☒ Subpart H minimum payment amount applies.

	Total Feet	Rate per Foot ($)	Total Cost ($)
Total Feet via HSA:		27.39	
Total Feet via PUSH:	30.00	21.44	643.20
Total Feet for Injection via PUSH:		17.87	
		Total Drilling Costs:	1,429.23

2. Monitoring / Recovery Wells

Number of Wells	Type of Well HSA / PUSH / 4" or 6" Recovery / 8" Recovery	Diameter of Well (inches)	Depth of Well (feet)	Total Feet of Wells to Be Installed ($)

Well Installation	Total Feet	Rate per Foot ($)	Total Cost ($)
Total Feet via HSA:			
Total Feet via PUSH:			
Total Feet of 4" or 6" Recovery:			
Total Feet of 8" or Greater Recovery:			
		Total Well Costs:	

Total Drilling and Monitoring Well Costs:	$1,429.23

Drilling and Monitoring Well Costs Form

1. Drilling

Number of Borings to Be Drilled	Type HSA/PUSH/ Injection	Depth (feet) of Each Boring	Total Feet Drilled	Reason for Drilling
4	HSA	15.00	60.00	Soil/GW Plume Delineation - Stage 1
1	HSA	15.00	15.00	GW Plume Delineation - Stage 1
~~5~~ 6	PUSH	10.00	50 60.00	Soil Plume Delineation - Stage 1

one was used unless

	Total Feet	Rate per Foot ($)	Total Cost
Total Feet via HSA:	75.00	27.05	$2,028.75
Total Feet via PUSH:	60.00	21.87	$1,312.20
Total Feet for Injection via PUSH:		18.23	
		Total Drilling Costs:	$3,340.95

10% 21.87 = $218.70

- 218.70
312.25

2. Monitoring / Recovery Wells

Number of Wells	Type of Well HSA / PUSH / 4" or 6" Recovery / 8" Recovery	Diameter of Well (inches)	Depth of Well (feet)	Total Feet of Wells to Be Installed
5	HSA	2.00	15.00	75.00

Well Installation	Total Feet	Rate per Foot ($)	Total Cost
Total Feet via HSA:	75.00	20.05	$1,503.75
Total Feet via PUSH:		15.18	
Total Feet of 4" or 6" Recovery:		30.38	
Total Feet of 8" or Greater Recovery:		49.81	
		Total Well Costs:	$1,503.75

Total Drilling and Monitoring Well Costs:	$4,844.70

Analytical Costs Form

Line sample

Laboratory Analysis	Number of Samples		Cost ($) per Analysis		Total per Parameter
Chemical Analysis					
BETX Soil with MTBE EPA 8260	6	X	101.24	=	$607.44
BETX Water with MTBE EPA 8260	5b'	X		=	
COD (Chemical Oxygen Demand)	5b'd	X		=	
Corrosivity	35b'd	X		=	
Flash Point or Ignitability Analysis EPA 1010		X		=	
Fraction Organic Carbon Content (f_{oc}) ASTM-D 2974-00		X		=	
Fat, Oil, & Grease (FOG)		X		=	
LUST Pollutants Soil - analysis must include volatile, base/ neutral, polynuclear aromatics and metals list in Section 732. Appendix B and 734.Appendix B		X		=	
Dissolved Oxygen (DO)		X		=	
Paint Filter (Free Liquids)		X		=	
PCB / Pesticides (combination)		X		=	
PCBs		X		=	
Pesticides		X		=	
pH		X		=	
Phenol		X		=	
Polynuclear Aromatics PNA, or PAH SOIL EPA 8270	6	X	181.04	=	$1,086.24
Polynuclear Aromatics PNA, or PAH WATER EPA 8270		X		=	
Reactivity		X		=	
SVOC - Soil (Semi-Volatile Organic Compounds)		X		=	
SVOC - Water (Semi-Volatile Organic Compounds)		X		=	
TKN (Total Kjeldahl) "nitrogen"		X		=	
TPH (Total Petroleum Hydrocarbons)		X		=	
VOC (Volatile Organic Compounds) - Soil (Non-Aqueous)		X		=	
VOC (Volatile Organic Compounds) - Water		X		=	
		X		=	
		X		=	
		X		=	
		X		=	
		X		=	
Geo-Technical Analysis					
Soil Bulk Density (p_b) ASTM D2937-94		X		=	
Ex-situ Hydraulic Conductivity / Permeability		X		=	
Moisture Content (w) ASTM D2216-92 / D4643-93		X		=	
Porosity		X		=	
Rock Hydraulic Conductivity Ex-situ		X		=	
Sieve / Particle Size Analysis ASTM D422-63 / D1140-54		X		=	
Soil Classification ASTM D2488-90 / D2487-90		X		=	
Soil Particle Density (p_s) ASTM D854-92		X		=	
		X		=	
		X		=	
		X		=	

Analytical Costs Form

Metals Analysis					
Soil preparation fee for Metals TCLP Soil (one fee per soil sample)		X		=	
Soil preparation fee for Metals Total Soil (one fee per soil sample)		X		=	
Water preparation fee for Metals Water (one fee per water sample)		X		=	
Arsenic TCLP Soil		X		=	
Arsenic Total Soil		X		=	
Arsenic Water		X		=	
Barium TCLP Soil		X		=	
Barium Total Soil		X		=	
Barium Water		X		=	
Cadmium TCLP Soil		X		=	
Cadmium Total Soil		X		=	
Cadmium Water		X		=	
Chromium TCLP Soil		X		=	
Chromium Total Soil		X		=	
Chromium Water		X		=	
Cyanide TCLP Soil		X		=	
Cyanide Total Soil		X		=	
Cyanide Water		X		=	
Iron TCLP Soil		X		=	
Iron Total Soil		X		=	
Iron Water		X		=	
Lead TCLP Soil		X		=	
Lead Total Soil		X		=	
Lead Water		X		=	
Mercury TCLP Soil		X		=	
Mercury Total Soil		X		=	
Mercury Water		X		=	
Selenium TCLP Soil		X		=	
Selenium Total Soil		X		=	
Selenium Water		X		=	
Silver TCLP Soil		X		=	
Silver Total Soil		X		=	
Silver Water		X		=	
Metals TCLP Soil (a combination of all metals) RCRA		X		=	
Metals Total Soil (a combination of all metals) RCRA		X		=	
Metals Water (a combination of all metals) RCRA		X		=	
		X		=	
		X		=	
		X		=	
		X		=	
Other					
EnCore® Sampler, purge-and-trap sampler, or equivalent sampling device	6	X	11.91	=	$71.46
Sample Shipping per sampling event[1]	1	X	59.55	=	$59.55

[1]A sampling event, at a minimum, is all samples (soil and groundwater) collected in a calendar day.

Total Analytical Costs: $ 1,824.69

Analytical Costs Form

Laboratory Analysis	Number of Samples		Cost ($) per Analysis		Total per Parameter
Chemical Analysis					
BETX Soil with MTBE EPA 8260	17	X	103.26	=	$1,961.94
BETX Water with MTBE EPA 8260	5	X	98.41	=	$492.05
COD (Chemical Oxygen Demand)		X		=	
Corrosivity		X		=	
Flash Point or Ignitability Analysis EPA 1010		X		=	
Fraction Organic Carbon Content (f_{oc}) ASTM-D 2974-00		X		=	
Fat, Oil, & Grease (FOG)		X		=	
LUST Pollutants Soil - analysis must include volatile, base/ neutral, polynuclear aromatics and metals list in Section 732. Appendix B and 734.Appendix B		X		=	
Dissolved Oxygen (DO)		X		=	
Paint Filter (Free Liquids)		X		=	
PCB / Pesticides (combination)		X		=	
PCBs		X		=	
Pesticides		X		=	
pH		X		=	
Phenol		X		=	
Polynuclear Aromatics PNA, or PAH SOIL EPA 8270	20	X	184.66	=	$3,693.20
Polynuclear Aromatics PNA, or PAH WATER EPA 8270	5	X	184.66	=	$923.30
Reactivity		X		=	
SVOC - Soil (Semi-Volatile Organic Compounds)		X		=	
SVOC - Water (Semi-Volatile Organic Compounds)		X		=	
TKN (Total Kjeldahl) "nitrogen"		X		=	
TPH (Total Petroleum Hydrocarbons)		X		=	
VOC (Volatile Organic Compounds) - Soil (Non-Aqueous)		X		=	
VOC (Volatile Organic Compounds) - Water		X		=	
		X		=	
		X		=	
		X		=	
		X		=	
		X		=	
Geo-Technical Analysis					
Soil Bulk Density (p_b) ASTM D2937-94		X		=	
Ex-situ Hydraulic Conductivity / Permeability		X		=	
Moisture Content (w) ASTM D2216-92 / D4643-93		X		=	
Porosity		X		=	
Rock Hydraulic Conductivity Ex-situ		X		=	
Sieve / Particle Size Analysis ASTM D422-63 / D1140-54		X		=	
Soil Classification ASTM D2488-90 / D2487-90		X		=	
Soil Particle Density (p_s) ASTM D854-92		X		=	
		X		=	
		X		=	
		X		=	

Analytical Costs Form

Metals Analysis					
Soil preparation fee for Metals TCLP Soil (one fee per soil sample)		X		=	
Soil preparation fee for Metals Total Soil (one fee per soil sample)		X		=	
Water preparation fee for Metals Water (one fee per water sample)		X		=	
Arsenic TCLP Soil		X		=	
Arsenic Total Soil		X		=	
Arsenic Water		X		=	
Barium TCLP Soil		X		=	
Barium Total Soil		X		=	
Barium Water		X		=	
Cadmium TCLP Soil		X		=	
Cadmium Total Soil		X		=	
Cadmium Water		X		=	
Chromium TCLP Soil		X		=	
Chromium Total Soil		X		=	
Chromium Water		X		=	
Cyanide TCLP Soil		X		=	
Cyanide Total Soil		X		=	
Cyanide Water		X		=	
Iron TCLP Soil		X		=	
Iron Total Soil		X		=	
Iron Water		X		=	
Lead TCLP Soil		X		=	
Lead Total Soil		X		=	
Lead Water		X		=	
Mercury TCLP Soil		X		=	
Mercury Total Soil		X		=	
Mercury Water		X		=	
Selenium TCLP Soil		X		=	
Selenium Total Soil		X		=	
Selenium Water		X		=	
Silver TCLP Soil		X		=	
Silver Total Soil		X		=	
Silver Water		X		=	
Metals TCLP Soil (a combination of all metals) RCRA		X		=	
Metals Total Soil (a combination of all metals) RCRA		X		=	
Metals Water (a combination of all metals) RCRA		X		=	
		X		=	
		X		=	
		X		=	
		X		=	
Other					
EnCore® Sampler, purge-and-trap sampler, or equivalent sampling device	19	X	12.15	=	$230.85
Sample Shipping per sampling event[1]	2	X	60.74	=	$121.48

[1]A sampling event, at a minimum, is all samples (soil and groundwater) collected in a calendar day.

Total Analytical Costs: $ 7,422.82

Consulting Personnel Costs Form

Employee Name	Personnel Title	Hours	Rate* ($)	Total Cost
Remediation Category	Task			
	Professional Geologist	8.00	109.57	$876.56
Stage 1-Field	On-site Drilling and Sampling of Product Lines			
	Engineer I	8.00	89.32	$714.56
Stage 1-Field	On-site Drilling and Sampling of Product Lines			

*Refer to the applicable Maximum Payment Amounts document.

Total of Consulting Personnel Costs	$1,591.12

Consulting Personnel Costs Form

Employee Name	Personnel Title	Hours	Rate* ($)	Total Cost
Remediation Category	Task			
	Senior Project Manager	16.00	121.49	$1,943.84
Stage 1-Field	Office Prep., Drill Plans, Scheduling, and Documentation, On-site drilling			
	Senior Prof. Engineer	3.00	157.94	$473.82
Stage 1-Field	Project Oversight & Certification			
	Professional Geologist	16.00	111.76	$1,788.16
Stage 1-Field	On-site Drilling and Sampling, Oversight			
	Engineer I	16.00	91.11	$1,457.76
Stage 1-Field	On-site Drilling and Sampling			
	Professional Geologist	10.00	111.76	$1,117.60
Stage 1-Field	On-site Groundwater Sample, Survey			
	Engineer I	10.00	91.11	$911.10
Stage 1-Field	On-site Groundwater Sample, Survey			
	Engineer III	12.00	121.49	$1,457.88
Stage 1-Field	Office Prep., Drill Plans / Analytical Tabulation			
	Senior Draftperson/CAD	8.00	72.88	$583.04
Stage 1-Field	Drafting / Locations / Elevations / Contamination Levels			
	Senior Project Manager	14.00	121.49	$1,700.86
Stage 1-Field	Analytical, BL, MW, WCR and Field Notes review / Agency Correspondences			

Employee Name	Personnel Title	Hours	Rate* ($)	Total Cost
Remediation Category	**Task**			
	Senior Admin. Assistant	2.00	54.67	$109.34
Stage 1-Field	Office Preparation, Scheduling, JULIE			
	Engineer I	16.00	91.11	$1,457.76
Stage 1-Field	Field Notes & Documentation, Log & Review Analytical			
	Technician IV	16.00	72.88	$1,166.08
Stage 1-Field	Construct BLs, MWs, WCRs			
	Project Manager	10.00	109.34	$1,093.40
Stage 1-Field	Office Preparation, Scheduling / Drill / Groundwater Sampling Plans			
	Senior Project Manager	8.00	121.49	$971.92
Stage 1-Pay	Stage I Budget Summary Development			
	Senior Prof. Engineer	3.00	157.94	$473.82
Stage 1-Pay	Stage I Budget Summary Review & Reimbursement Certification			
	Engineer III	18.00	121.49	$2,186.82
Stage 1-Pay	Stage I Budget Calculations / Preparation			
	Senior Project Manager	12.00	121.49	$1,457.88
Stage 1-Pay	Technical oversight/ Compliance/Reimbursement review			

Employee Name	Personnel Title	Hours	Rate* ($)	Total Cost
Remediation Category	Task			
	Senior Prof. Engineer	3.00	157.94	$473.82
Stage 1-Pay	Stage 2 Reimbursement Certification			
	Senior Acct. Technician	24.00	66.81	$1,603.44
Stage 1-Pay	Stage 2 Reimbursement Preparation			
	Senior Admin. Assistant	4.00	54.67	$218.68
Stage 1-Pay	Stage 2 Reimbursement Compliation, Assembly and Distribution			

1st Stage 2 ISP

*Refer to the applicable Maximum Payment Amounts document.

Total of Consulting Personnel Costs	$22,647.02

Consultant's Materials Costs Form

Materials, Equipment, or Field Purchase	Time or Amount Used	Rate ($)	Unit	Total Cost
Remediation Category	Description/Justification			
Mileage	340.00	.58	/mile	$197.20 219.72
	1 round trip form Springfield office Marion 17 miles			148
PID Rental	1.00	129.00	/day	$129.00
	To detect VOC levels in soil samples			
Measuring Wheel	1.00	18.00	/day	$18.00
	Mapping sample locations			
Disposable gloves	1.00	13.00	/box	$13.00
	Disposable latex gloves for soil and groundwater sampling			

Total of Consultant Materials Costs	$357.20

Consultant's Materials Costs Form

Materials, Equipment, or Field Purchase	Time or Amount Used	Rate ($)	Unit	Total Cost
Remediation Category	**Description/Justification**			
PID Rental	1.00	129.00	/day	$129.00
Stage 1-Field	To detect VOC levels in soil samples			
Survey Equipment Rental	1.00	75.00	/day	$75.00
Stage 1-Field	Survey monitoring well elevations for groundwater flow calculations			
Water Level Indicator	2.00	24.00	/day	$48.00
Stage 1-Field	Test for groundwater during drilling activities/Measure static groundwater elevations			
Measuring Wheel	2.00	18.00	/day	$36.00
Stage 1-Field	Mapping sampling locations/Help locate wells / GW Samples			
Mileage	680.00	.58	/mile	$394.40
Stage 1-Field	2 round trips from Springfield office			
Disposable Gloves	1.00	13.00	/box	$13.00
Stage 1-Field	Disposable latex gloves for soil and groundwater sampling			
Bailing Twine	1.00	6.00	/roll	$6.00
Stage 1-Field	String for Bailers			
Bailers	5.00	12.00	/each	$60.00
Stage 1-Field	Disposable bailers for monitoring well development and sampling			
Copies	100.00	.15	/copy	$15.00
Stage 1-Field	Copies of plans, maps and boring logs for field use			

Materials, Equipment, or Field Purchase	Time or Amount Used	Rate ($)	Unit	Total Cost
Remediation Category	**Description/Justification**			
Copies	300.00	.15	/copy	$45.00
Stage 1-Field	IEPA correspondence, analytical reports, field reports			
Postage	2.00	6.00	/each	$12.00
Stage 1-Field	Mailing Stage I Budget forms / completed package			
Copies	300.00	.15	/copy	$45.00
Stage 1-Pay	Copies of Stage I Budget Summary / Drafts / Forms			
Copies	800.00	.15	/copy	$120.00
Stage 1-Pay	Copies Stage 1 Reimbursement / Drafts / Forms			
Postage	2.00	6.00	/each	$12.00
Stage 1-Pay	Mailing Stage 1 Payment Forms / Drafts			
Per Diem	1.50	39.00	/day	$58.50
Stage 1-Field	Meals			
Hotel	1.00	75.00	/night	$75.00
Stage 1-Field	Overnight stay			

Total of Consultant Materials Costs	$1,143.90

STAGE 2

STAGE 2

Drilling and Monitoring Well Costs Form

1. Drilling

Number of Borings to Be Drilled	Type HSA/PUSH/ Injection	Depth (feet) of Each Boring	Total Feet Drilled	Reason for Drilling
3	HSA	15.00	45.00	Soil/GW Plume Delineation - Stage 2
3	PUSH	10.00	30.00	Soil Plume Delineation - Stage 2
1	PUSH	10.00	10.00	TACO Parameters - Stage 2

	Total Feet	Rate per Foot ($)	Total Cost
Total Feet via HSA:	45.00	28.50	$1,282.50
Total Feet via PUSH:	40.00	22.30	$892.00
Total Feet for Injection via PUSH:		18.59	
		Total Drilling Costs:	$2,174.50

2. Monitoring / Recovery Wells

Number of Wells	Type of Well HSA / PUSH / 4" or 6" Recovery / 8" Recovery	Diameter of Well (inches)	Depth of Well (feet)	Total Feet of Wells to Be Installed
3	HSA	2.00	15.00	45.00

Well Installation	Total Feet	Rate per Foot ($)	Total Cost
Total Feet via HSA:	45.00	20.45	$920.25
Total Feet via PUSH:		15.49	
Total Feet of 4" or 6" Recovery:		30.98	
Total Feet of 8" or Greater Recovery:		50.80	
		Total Well Costs:	$920.25

Total Drilling and Monitoring Well Costs:	$3,094.75

Analytical Costs Form

Laboratory Analysis	Number of Samples		Cost ($) per Analysis		Total per Parameter
Chemical Analysis					
BETX Soil with MTBE EPA 8260	12	X	105.33	=	$1,263.96
BETX Water with MTBE EPA 8260	3	X	100.37	=	$301.11
COD (Chemical Oxygen Demand)		X		=	
Corrosivity		X		=	
Flash Point or Ignitability Analysis EPA 1010		X		=	
Fraction Organic Carbon Content (f_{oc}) ASTM-D 2974-00		X		=	
Fat, Oil, & Grease (FOG)		X		=	
LUST Pollutants Soil - analysis must include volatile, base/ neutral, polynuclear aromatics and metals list in Section 732. Appendix B and 734.Appendix B		X		=	
Dissolved Oxygen (DO)		X		=	
Paint Filter (Free Liquids)		X		=	
PCB / Pesticides (combination)		X		=	
PCBs		X		=	
Pesticides		X		=	
pH		X		=	
Phenol		X		=	
Polynuclear Aromatics PNA, or PAH SOIL EPA 8270	12	X	188.36	=	$2,260.32
Polynuclear Aromatics PNA, or PAH WATER EPA 8270	3	X	188.36	=	$565.08
Reactivity		X		=	
SVOC - Soil (Semi-Volatile Organic Compounds)		X		=	
SVOC - Water (Semi-Volatile Organic Compounds)		X		=	
TKN (Total Kjeldahl) "nitrogen"		X		=	
TPH (Total Petroleum Hydrocarbons)		X		=	
VOC (Volatile Organic Compounds) - Soil (Non-Aqueous)		X		=	
VOC (Volatile Organic Compounds) - Water		X		=	
		X		=	
		X		=	
		X		=	
		X		=	
		X		=	
Geo-Technical Analysis					
Soil Bulk Density (p_b) ASTM D2937-94	1	X	27.26	=	$27.26
Ex-situ Hydraulic Conductivity / Permeability		X		=	
Moisture Content (w) ASTM D2216-92 / D4643-93	1	X	14.87	=	$14.87
Porosity		X		=	
Rock Hydraulic Conductivity Ex-situ		X		=	
Sieve / Particle Size Analysis ASTM D422-63 / D1140-54	1	X	179.68	=	$179.68
Soil Classification ASTM D2488-90 / D2487-90		X		=	
Soil Particle Density (p_s) ASTM D854-92	1	X	100.00	=	$100.00
		X		=	
		X		=	
		X		=	

Analytical Costs Form

Metals Analysis					
Soil preparation fee for Metals TCLP Soil (one fee per soil sample)		X		=	
Soil preparation fee for Metals Total Soil (one fee per soil sample)		X		=	
Water preparation fee for Metals Water (one fee per water sample)		X		=	
Arsenic TCLP Soil		X		=	
Arsenic Total Soil		X		=	
Arsenic Water		X		=	
Barium TCLP Soil		X		=	
Barium Total Soil		X		=	
Barium Water		X		=	
Cadmium TCLP Soil		X		=	
Cadmium Total Soil		X		=	
Cadmium Water		X		=	
Chromium TCLP Soil		X		=	
Chromium Total Soil		X		=	
Chromium Water		X		=	
Cyanide TCLP Soil		X		=	
Cyanide Total Soil		X		=	
Cyanide Water		X		=	
Iron TCLP Soil		X		=	
Iron Total Soil		X		=	
Iron Water		X		=	
Lead TCLP Soil		X		=	
Lead Total Soil		X		=	
Lead Water		X		=	
Mercury TCLP Soil		X		=	
Mercury Total Soil		X		=	
Mercury Water		X		=	
Selenium TCLP Soil		X		=	
Selenium Total Soil		X		=	
Selenium Water		X		=	
Silver TCLP Soil		X		=	
Silver Total Soil		X		=	
Silver Water		X		=	
Metals TCLP Soil (a combination of all metals) RCRA		X		=	
Metals Total Soil (a combination of all metals) RCRA		X		=	
Metals Water (a combination of all metals) RCRA		X		=	
		X		=	
		X		=	
		X		=	
		X		=	
Other					
EnCore® Sampler, purge-and-trap sampler, or equivalent sampling device	12	X	12.39	=	$148.68
Sample Shipping per sampling event[1]	2	X	61.96	=	$123.92

[1]A sampling event, at a minimum, is all samples (soil and groundwater) collected in a calendar day.

Total Analytical Costs: $ 4,984.88

Consulting Personnel Costs Form

Employee Name	Personnel Title	Hours	Rate* ($)	Total Cost
Remediation Category	Task			
	Senior Project Manager	6.00	123.91	$743.46
Stage 2-Plan	Stage 2 Plan Development Oversight / Review			
	Senior Prof. Engineer	3.00	161.09	$483.27
Stage 2-Plan	Stage 2 Plan Certification			
	Professional Geologist	36.00	113.99	$4,103.64
Stage 2-Plan	Stage 2 Plan Preparation & Design			
	Engineer III	8.00	92.93	$743.44
Stage 2-Plan	Stage 2 Plan Development / Drill Plan Design			
	Senior Draftperson/CAD	8.00	74.34	$594.72
Stage 2-Plan	Drafting of Maps for Report			
	Senior Admin. Assistant	2.00	55.76	$111.52
Stage 2-Plan	Stage 2 Plan Assembly, Compilation and Distribution			
	Engineer I	6.00	92.93	$557.58
Stage 2-Plan	Complete Boring Logs and WCRs / Log Analytical			

Employee Name	Personnel Title	Hours	Rate* ($)	Total Cost
Remediation Category	Task			
	Senior Project Manager	8.00	123.91	$991.28
Stage 2-Budget	Stage 2 Budget Technical Compliance and Oversight			
	Senior Prof. Engineer	2.00	161.09	$322.18
Stage 2-Budget	Stage 2 Budget Certification			
	Professional Geologist	14.00	113.99	$1,595.86
Stage 2-Budget	Stage 2 Budget Preparation/Calculations			
	Engineer III	8.00	123.91	$991.28
Stage 2-Budget	Stage 2 Budget Development			
	Senior Admin. Assistant	4.00	55.76	$223.04
Stage 2-Budget	Stage 2 Budget Compilation, Assembly and Distribution			

Employee Name	Personnel Title	Hours	Rate* ($)	Total Cost
Remediation Category	Task			
	Senior Project Manager	8.00	123.91	$991.28
Stage 2-Field	Office Preparation, Scheduling, Arrangements for Investigation Activities, On-site Drilling			
	Senior Prof. Engineer	2.00	161.09	$322.18
Stage 2-Field	Project Oversight			
	Professional Geologist	23.00	113.99	$2,621.77
Stage 2-Field	On-site Drilling / Sampling and Monitoring Well Sample / Survey / Perform Slug Test			
	Engineer III	23.00	123.91	$2,849.93
Stage 2-Field	On-site Drilling / Sampling and Monitoring Well Sample / Survey / Perform Slug Test			
	Senior Admin. Assistant	4.00	55.76	$223.04
Stage 2-Field	Office Preparation/JULIE/Scheduling			
	Senior Project Manager	6.00	123.91	$743.46
Stage 2-Field	Review Analytical Results, Borelogs, Well Completion Reports			
	Engineer I	10.00	92.93	$929.30
Stage 2-Field	Record Borelogs, Well Completion Reports and Tabulation of Analytical Results			
	Engineer III	6.00	123.91	$743.46
Stage 2-Field	Field Preparations / Drill Plan / Mobilizations			
	Senior Project Manager	6.00	123.91	$743.46
Stage 2-Field	Site Investigation Documentation / Field Reports / Agency Correspondences			

Employee Name	Personnel Title	Hours	Rate* ($)	Total Cost
Remediation Category	Task			
	Senior Draftperson/CAD	6.00	74.34	$446.04
Stage 2-Field	Site Investigation Field Preparations / Soil Boring & Monitoring Well Locaiton Map / Flow Elevations			
	Senior Project Manager	8.00	123.91	$991.28
Stage 2-Pay	Stage 2 Reimbursement Review			
	Senior Prof. Engineer	4.00	161.09	$644.36
Stage 2-Pay	Stage 2 Reimbursement Certification			
	Senior Acct. Technician	30.00	68.14	$2,044.20
Stage 2-Pay	Stage 2 Reimbursement Preparation			
	Senior Admin. Assistant	3.00	55.76	$167.28
Stage 2-Pay	Stage 2 Reimbursement Compliation, Assembly and Distribution			

Employee Name	Personnel Title	Hours	Rate* ($)	Total Cost
Remediation Category	Task			
	Senior Project Manager	6.00	123.91	$743.46
SICR	SICR Technical Compliance / Oversight			
	Senior Prof. Engineer	4.00	161.09	$644.36
SICR	SICR Certification			
	Professional Geologist	40.00	113.99	$4,559.60
SICR	SICR Development			
	Senior Admin. Assistant	4.00	55.76	$223.04
SICR	SICR Compilation, Assembly and Distribution			
	Senior Draftperson/CAD	12.00	74.34	$892.08
SICR	Drafting / Editing Maps for SICR			
	Engineer III	6.00	123.91	$743.46
SICR	SICR Development / Design			

*Refer to the applicable Maximum Payment Amounts document.

Total of Consulting Personnel Costs	$33,728.31

Consultant's Materials Costs Form

Materials, Equipment, or Field Purchase		Time or Amount Used	Rate ($)	Unit	Total Cost
Remediation Category	**Description/Justification**				
PID Rental		1.00	148.00	/day	$148.00
Stage 2-Field	To detect VOC levels in soil samples				
Survey Equipment Rental		1.00	86.00	/day	$86.00
Stage 2-Field	Survey monitor well elevations for groundwater flow calculations				
Water Level Indicator		2.00	28.00	/day	$56.00
Stage 2-Field	Test for groundwater during drilling activities/Measure static groundwater elevations				
Measuring Wheel		1.00	21.00	/day	$21.00
Stage 2-Field	Mapping sampling locations				
Slug		1.00	36.00	/day	$36.00
Stage 2-Field	Materials used to perform slug test				
Disposable Gloves		1.00	16.00	/box	$16.00
Stage 2-Field	Disposable gloves for soil and groundwater sampling				
Bailers		3.00	16.00	/each	$48.00
Stage 2-Field	Disposable bailers for monitoring well development and sampling				
Bailing Twine		1.00	6.00	/roll	$6.00
Stage 2-Field	String for Bailers				
Mileage		680.00	.65	/each	$442.00
Stage 2-Field	Two round trips from Springfield Office (1-Drilling, 1-Groundwater Sampling)				

RATE NEED JUSTIFICAL ? ? Marion 247 68 $39.44 $416.24

Materials, Equipment, or Field Purchase		Time or Amount Used	Rate ($)	Unit	Total Cost
Remediation Category	Description/Justification				
Copies		100.00	.15	/each	$15.00
Stage 2-Field	Field/Plan/Maps/Borelogs				
Copies		750.00	.15	/each	$112.50
Stage 2-Plan	Copies of plan / drafts / forms				
Postage		2.00	6.00	/each	$12.00
Stage 2-Plan	Plan Distribution				
Copies		250.00	.15	/each	$37.50
Stage 2-Budget	Copies of Budget / drafts / forms				
Postage		2.00	6.00	/each	$12.00
Stage 2-Budget	Budget Distribution / drafts / forms				
Copies		800.00	.15	/each	$120.00
Stage 2-Pay	Copies of Reimbursement Claim / drafts / forms				
Postage		2.00	6.00	/each	$12.00
Stage 2-Pay	Distribution of Reimbursement Claim				
Copies		250.00	.15	/each	$37.50
Stage 2-Field	Site Investigation Documentation / Analytical / Field Reports / Agency Correspondences				
Copies		700.00	.15	/each	$105.00
SICR	Copies of SICR Draft and Attachments				

Materials, Equipment, or Field Purchase		Time or Amount Used	Rate ($)	Unit	Total Cost
Remediation Category	Description/Justification				
Postage		2.00	6.00	/day	$12.00
SICR	SICR Distribution				

Total of Consultant Materials Costs	$1,334.50

APPENDIX D

ILLINOIS OFFICE OF THE STATE FIRE MARSHAL ELIGIBILITY DETERMINATION

STAGE 2 SITE INVESTIGATION PLAN AND BUDGET

ABEL INVESTMENTS, LLC CARBONDALE, ILLINOIS

Office of the Illinois
State Fire Marshal
"Partnering With the Fire Service to Protect Illinois"

CERTIFIED MAIL - RECEIPT REQUESTED #7012 1010 0002 9120 6622

September 13, 2013

Mr. Sarabraj Singh
c/o CW3M Company
P.O. Box 571
Carlinville, IL 62626

In Re: Facility No. 7-023258
IEMA Incident No. 13-0781
Former Banga Petro, Inc.
2101 S. Illinois Avenue
Carbondale, Jackson Co., IL

Dear Applicant:

The Reimbursement Eligibility and Deductible Application received on August 19, 2013 for the above referenced occurrence has been reviewed. The following determinations have been made based upon this review.

It has been determined that you are eligible to seek payment of costs in excess of $5,000. The costs must be in response to the occurrence referenced above and associated with the following tanks:

Eligible Tanks

Tank 2 4,000 gallon Gasoline
Tank 3 6,000 gallon Gasoline
Tank 4 3,000 gallon Diesel Fuel

You must contact the Illinois Environmental Protection Agency to receive a packet of Agency billing forms for submitting your request for payment.

An owner or operator is eligible to access the Underground Storage Tank Fund if the eligibility requirements are satisfied:

1. Neither the owner nor the operator is the United States Government,

2. The tank does not contain fuel which is exempt from the Motor Fuel Tax Law,

3. The costs were incurred as a result of a confirmed release of any of the following substances:

   "Fuel", as defined in Section 1.19 of the Motor Fuel Tax Law

   Aviation fuel

   Heating oil

   Kerosene

Used oil, which has been refined from crude oil used in a motor vehicle, as defined in Section 1.3 of the Motor Fuel Tax Law.

4. The owner or operator registered the tank and paid all fees in accordance with the statutory and regulatory requirements of the Gasoline Storage Act.

5. The owner or operator notified the Illinois Emergency Management Agency of a confirmed release, the costs were incurred after the notification and the costs were a result of a release of a substance listed in this Section. Costs of corrective action or indemnification incurred before providing that notification shall not be eligible for payment.

6. The costs have not already been paid to the owner or operator under a private insurance policy, other written agreement, or court order.

7. The costs were associated with "corrective action".

This constitutes the final decision as it relates to your eligibility and deductibility. We reserve the right to change the deductible determination should additional information that would change the determination become available. An underground storage tank owner or operator may appeal the decision to the Illinois Pollution Control Board (Board), pursuant to Section 57.9 (c) (2). An owner or operator who seeks to appeal the decision shall file a petition for a hearing before the Board within 35 days of the date of mailing of the final decision, (35 Illinois Administrative Code 105.504(b)).

For information regarding the filing of an appeal, please contact:

Clerk
Illinois Pollution Control Board
State of Illinois Center
100 West Randolph, Suite 11-500
Chicago, Illinois 60601
(312) 814-3620

The following tanks are also listed for this site:

Tank 1 8,000 gallon Gasoline

Your application indicates that there has not been a release from these tanks under this incident number. You may be eligible to seek payment of corrective action costs associated with these tanks if it is determined that there has been a release from one or more of these tanks. Once it is determined that there has been a release from one or more of these tanks you may submit a separate application for an eligibility determination to seek corrective action costs associated with this/these tanks.

If you have any questions, please contact our Office at (217) 785-1020 or (217) 785-5878.

Sincerely,

Deanne Lock
Administrative Assistant
Division of Petroleum and Chemical Safety

cc: IEPA
Facility File

APPENDIX E

BORING LOGS AND WELL COMPLETION REPORTS

STAGE 2 SITE INVESTIGATION PLAN AND BUDGET

ABEL INVESTMENTS, LLC CARBONDALE, ILLINOIS

Illinois Environmental Protection Agency

CW M COMPANY, INC.
DRILLING BOREHOLE LOG

LUST INCIDENT #: 13-0781
SITE NAME: Abel Investments
SITE ADDRESS: 2101 South Illinois Avenue
Carbondale, Illinois 62901
DATE/TIME STARTED: 07/10/13 2:00 pm
DATE/TIME FINISHED: 07/10/13 2:15 pm

BOREHOLE NUMBER: WC-1
BORING LOCATION: 45' W of the SW corner of the building
RIG TYPE: Truck mounted drill rig
DRILLING/SAMPLE METHOD: continuous sampling/hollow stem auger
BACKFILL: Grout

DEPTH (FEET)	SOIL AND ROCK DESCRIPTION	USCS CLASS	Sample Recovery	PID (ppm)	Sample Type	SAMPLE NUMBER	REMARKS: (Odor, Color, Moisture, Penetrometer, etc.)
0	Concrete						
1	Gravel subbase						Odor & discoloration throughout
2	Gray silt with minor amounts of clay	ML					
3			80%	865	grab	WC1-2.5	
4							
5							
6							
7							
8			90%	1178	grab	WC1-7.5	
9	Brown mottled gray silty clay w/ fine-grained to medium-grained sand	CL					BETX, MTBE, Paint filter, lead TCLP, PNAs
10							
11							
12							
13							Too wet to PID
14							
15	End of boring - 15'						

Stratification lines are approximate, in-situ transition between soil types may be gradual.

NOTES: Soil sampled at 7.5'

Manway / Surface Elevation:

Groundwater Depth While Drilling: ~10'
Auger Depth: 15'
Driller: CW M

Groundwater Depth After Drilling:
Rotary Depth:
Geologist: RJS / MDR

Illinois Environmental Protection Agency

CW M COMPANY, INC.
DRILLING BOREHOLE LOG

LUST INCIDENT #: 13-0781	BOREHOLE NUMBER: WC-2
SITE NAME: Abel Investments	BORING LOCATION: 84' S & 62' W of SW corner of
SITE ADDRESS: 2101 South Illinois Avenue Carbondale, Illinois 62901	RIG TYPE: Truck mounted drill rig
DATE/TIME STARTED: 07/10/13 2:15 pm	DRILLING/SAMPLE METHOD: continuous sampling/hollow stem auger
DATE/TIME FINISHED: 07/10/13 2:30 pm	BACKFILL: Grout

DEPTH (FEET)	SOIL AND ROCK DESCRIPTION	USCS CLASS	Sample Recovery	PID (ppm)	Sample Type	SAMPLE NUMBER	REMARKS: (Odor, Color, Moisture, Penetrometer, etc.)
0	Grass						
1	Black silt loam topsoil	OM					Odor and discoloration throughout
2	Gray silt with minor amounts of clay	ML	90%	400	grab	WC2-2.5	
3							
4							
5	Brown mottled gray silty clay w/ fine-grained to medium-grained sand	CL					
6							
7							
8			100%	953	grab	WC2-7.5	BETX, MTBE, PNAs, Paint filter, lead TCLP
9							
10							
11							
12							
13							Too wet to PID
14							
15	End of boring - 15'						

Stratification lines are approximate, in-situ transition between soil types may be gradual.

NOTES: Soil sampled at 7.5'

Manway / Surface Elevation:

▼ Groundwater Depth While Drilling: ~ 10'	Auger Depth: 15'	Driller:	CW M
▽ Groundwater Depth After Drilling:	Rotary Depth:	Geologist:	RJS / MDR

Illinois Environmental Protection Agency

CW M COMPANY, INC.
DRILLING BOREHOLE LOG

LUST INCIDENT #: 13-0781	BOREHOLE NUMBER: L-1
SITE NAME: Abel Investments	BORING LOCATION: 18'S of the Center of the SE Pump Island
SITE ADDRESS: 2101 South Illinois Avenue Carbondale, Illinois 62901	RIG TYPE: Truck mounted drill rig
DATE/TIME STARTED: 9/5/13 9:50 am	DRILLING/SAMPLE METHOD: continuous sampling/hollow stem auger
DATE/TIME FINISHED: 9/5/13 10:00 am	BACKFILL: Grout

DEPTH (FEET)	SOIL AND ROCK DESCRIPTION	USCS CLASS	Sample Recovery	PID (ppm)	Sample Type	SAMPLE NUMBER	REMARKS: (Odor, Color, Moisture, Penetrometer, etc.)
0	Concrete						
1	w/ Gravel Subbase						Odor and discoloration throughout
2	Gray silt with minor amounts of clay	ML	95%	1103	grab	L-1 at 2.5'	BETX, MTBE, PNAs
3							
4							
5	End of Boring @ 5'						
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							

Stratification lines are approximate, in-situ transition between soil types may be gradual.

NOTES: Soil Sampled at 2.5' to simulate piping trench appropriate sample depth

Manway / Surface Elevation:

▼	Groundwater Depth While Drilling: N/A	Auger Depth: 5'	Driller:	CW M
▽	Groundwater Depth After Drilling:	Rotary Depth:	Geologist:	RJS

Illinois Environmental Protection Agency

CW M COMPANY, INC.
DRILLING BOREHOLE LOG

LUST INCIDENT #: 13-0781
SITE NAME: Abel Investments
SITE ADDRESS: 2101 South Illinois Avenue
Carbondale, Illinois 62901
DATE/TIME STARTED: 9/5/13 10:00 am
DATE/TIME FINISHED: 9/5/13 10:10 am

BOREHOLE NUMBER: L-2
BORING LOCATION: 8'E of the Center of the SE Pump Island
RIG TYPE: Truck mounted drill rig
DRILLING/SAMPLE METHOD: continuous sampling/hollow stem auger
BACKFILL: Grout

DEPTH (FEET)	SOIL AND ROCK DESCRIPTION	USCS CLASS	Sample Recovery	PID (ppm)	Sample Type	SAMPLE NUMBER	REMARKS: (Odor, Color, Moisture, Penetrometer, etc.)
0	Concrete						
1	w/ Gravel Subbase	ML	90%	25	grab	L-2 at 2.5'	BETX, MTBE, PNAs
2	Gray silt with minor amounts of clay						
3							
4							
5	End of Boring @ 5'						
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							

Stratification lines are approximate, in-situ transition between soil types may be gradual.

NOTES: Soil Sampled at 2.5' to simulate piping trench appropriate sample depth

Manway / Surface Elevation:

Groundwater Depth While Drilling: N/A
Auger Depth: 5' Driller: CW M

Groundwater Depth After Drilling:
Rotary Depth: Geologist: RJS

Illinois Environmental Protection Agency

CW · M COMPANY, INC.
DRILLING BOREHOLE LOG

LUST INCIDENT #: 13-0781	BOREHOLE NUMBER: L-3
SITE NAME: Abel Investments	BORING LOCATION: 8'E of the Center of the NE Pump Island
SITE ADDRESS: 2101 South Illinois Avenue Carbondale, Illinois 62901	RIG TYPE: Truck mounted drill rig
DATE/TIME STARTED: 9/5/13 10:10 am	DRILLING/SAMPLE METHOD: continuous sampling/hollow stem auger
DATE/TIME FINISHED: 9/5/13 10:20 am	BACKFILL: Grout

DEPTH (FEET)	SOIL AND ROCK DESCRIPTION	USCS CLASS	Sample Recovery	PID (ppm)	Sample Type	SAMPLE NUMBER	REMARKS: (Odor, Color, Moisture, Penetrometer, etc.)
0	Concrete						
1	w/ Gravel Subbase						
2	Brown Silty Clay	CL					
3			95%	51	grab	L-3 at 2.5'	BETX, MTBE, PNAs
4	Gray Silt with Minor Amounts of Clay	ML					
5	End of Boring @ 5'						
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							

Stratification lines are approximate, in-situ transition between soil types may be gradual.

NOTES: Soil Sampled at 2.5' to simulate piping trench appropriate sample depth

Manway / Surface Elevation:

▼	Groundwater Depth While Drilling: N/A	Auger Depth: 5'	Driller:	CW M	
▽	Groundwater Depth After Drilling:	Rotary Depth:	Geologist:	RJS	

Illinois Environmental Protection Agency

CW M COMPANY, INC.
DRILLING BOREHOLE LOG

LUST INCIDENT #: 13-0781
SITE NAME: Abel Investments
SITE ADDRESS: 2101 South Illinois Avenue
Carbondale, Illinois 62901
DATE/TIME STARTED: 9/5/13 10:20 am
DATE/TIME FINISHED: 9/5/13 10:30 am

BOREHOLE NUMBER: L-4
BORING LOCATION: 6'W of Center of SW Pump Island
RIG TYPE: Truck mounted drill rig
DRILLING/SAMPLE METHOD: continuous sampling/hollow stem auger
BACKFILL: Grout

DEPTH (FEET)	SOIL AND ROCK DESCRIPTION	USCS CLASS	Sample Recovery	PID (ppm)	Sample Type	SAMPLE NUMBER	REMARKS: (Odor, Color, Moisture, Penetrometer, etc.)
0	Concrete						
1	w/ Gravel Subbase						
2	Brown Silty Clay	CL					
3			95%	263	grab	L-4 at 2.5'	BETX, MTBE, PNAs
4	Gray Silt with Minor Amounts of Clay	ML					
5	End of Boring @ 5'						
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							

Stratification lines are approximate, in-situ transition between soil types may be gradual.

NOTES: Soil Sampled at 2.5' to simulate piping trench appropriate sample depth

Manway / Surface Elevation:

Groundwater Depth While Drilling: N/A
Auger Depth: 5' Driller: CW M

Groundwater Depth After Drilling:
Rotary Depth: Geologist: RJS

Illinois Environmental Protection Agency

CW M COMPANY, INC.
DRILLING BOREHOLE LOG

LUST INCIDENT #: 13-0781	BOREHOLE NUMBER: L-5
SITE NAME: Abel Investments	BORING LOCATION: 6'W of Center of NW Pump Island
SITE ADDRESS: 2101 South Illinois Avenue Carbondale, Illinois 62901	RIG TYPE: Truck mounted drill rig
DATE/TIME STARTED: 9/5/13 10:30 am	DRILLING/SAMPLE METHOD: continuous sampling/hollow stem auger
DATE/TIME FINISHED: 9/5/13 10:40 am	BACKFILL: Grout

DEPTH (FEET)	SOIL AND ROCK DESCRIPTION	USCS CLASS	Sample Recovery	PID (ppm)	Sample Type	SAMPLE NUMBER	REMARKS: (Odor, Color, Moisture, Penetrometer, etc.)
0	Concrete						
1	w/ Gravel Subbase						
2	Brown Silty Clay	CL	95%	38	grab	L-5 at 2.5'	BETX, MTBE, PNAs
3							
4	Gray Silt with Minor Amounts of Clay	ML					
5	End of Boring @ 5'						
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							

Stratification lines are approximate, in-situ transition between soil types may be gradual.

NOTES: Soil Sampled at 2.5' to simulate piping trench appropriate sample depth

Manway / Surface Elevation:

▼ Groundwater Depth While Drilling:	N/A	Auger Depth:	5'	Driller:	CW M
▽ Groundwater Depth After Drilling:		Rotary Depth:		Geologist:	RJS

Illinois Environmental Protection Agency

CW M COMPANY, INC.
DRILLING BOREHOLE LOG

LUST INCIDENT #: 13-0781	BOREHOLE NUMBER: L-6
SITE NAME: Abel Investments	BORING LOCATION: 4'S and 49'W of SW corner of building
SITE ADDRESS: 2101 South Illinois Avenue Carbondale, Illinois 62901	RIG TYPE: Truck mounted drill rig
DATE/TIME STARTED: 1/15/14 11:20 am	DRILLING/SAMPLE METHOD: continuous sampling/hollow stem auger
DATE/TIME FINISHED: 1/5/14 11:35 am	BACKFILL: Grout/Concrete

DEPTH (FEET)	SOIL AND ROCK DESCRIPTION	USCS CLASS	Sample Recovery	PID (ppm)	Sample Type	SAMPLE NUMBER	REMARKS: (Odor, Color, Moisture, Penetrometer, etc.)
0	Concrete						
1	w/ Gravel Subbase						Odor and discoloration throughout
2	Gray silt with minor amounts of clay	ML	80%	1245	Grab	L-6 2.5	BETX,MTBE,PNA
3							
4							
5	End of Boring @ 5'						
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							

Stratification lines are approximate, in-situ transition between soil types may be gradual.

NOTES: Soil Sampled at 2.5' to simulate piping trench appropriate sample depth

Manway / Surface Elevation:

▼	Groundwater Depth While Drilling: N/A	Auger Depth: 5'	Driller:	AEDC
▽	Groundwater Depth After Drilling:	Rotary Depth:	Geologist:	RJS/BMW

Illinois Environmental Protection Agency

CW M COMPANY, INC.
DRILLING BOREHOLE LOG

LUST INCIDENT #: 13-0781
SITE NAME: Abel Investments
SITE ADDRESS: 2101 South Illinois Avenue
Carbondale, Illinois 62901
DATE/TIME STARTED: 1/15/14 11:35
DATE/TIME FINISHED: 1/15/14 11:50

BOREHOLE NUMBER: L-7
BORING LOCATION: 8' West of North end of SE island
RIG TYPE: Truck mounted drill rig
DRILLING/SAMPLE METHOD: continuous sampling/hollow stem auger
BACKFILL: Grout/Concrete

DEPTH (FEET)	SOIL AND ROCK DESCRIPTION	USCS CLASS	Sample Recovery	PID (ppm)	Sample Type	SAMPLE NUMBER	REMARKS: (Odor, Color, Moisture, Penetrometer, etc.)
0	Concrete						
1	w/ Gravel Subbase						
2	Gray mottled Brown silt with minor amounts of clay	ML	80%	37.9	Grab	L-7 2.5	Slight odor and discoloration BETX,MTBE,PNA
3							
4							
5							
6	End of boring 5'						
7							
8							
9							
10							
11							
12							
13							
14							
15							

Stratification lines are approximate, in-situ transition between soil types may be gradual.

NOTES: Soil Sampled at 2.5' to simulate piping trench appropriate sample depth

Manway / Surface Elevation:

▼	Groundwater Depth While Drilling: N/A	Auger Depth: 5'	Driller:	AEDC
▽	Groundwater Depth After Drilling:	Rotary Depth:	Geologist:	RJS/BMW

Illinois Environmental Protection Agency

CW M COMPANY, INC.
DRILLING BOREHOLE LOG

LUST INCIDENT #: 13-0781	BOREHOLE NUMBER: L-8
SITE NAME: Abel Investments	BORING LOCATION: 8'W of N end of NW island
SITE ADDRESS: 2101 South Illinois Avenue Carbondale, Illinois 62901	RIG TYPE: Truck mounted drill rig
DATE/TIME STARTED: 1/15/14 11:50	DRILLING/SAMPLE METHOD: continuous sampling/hollow stem auger
DATE/TIME FINISHED: 1/15/14 12:05	BACKFILL: Grout/Concrete

DEPTH (FEET)	SOIL AND ROCK DESCRIPTION	USCS CLASS	Sample Recovery	PID (ppm)	Sample Type	SAMPLE NUMBER	REMARKS: (Odor, Color, Moisture, Penetrometer, etc.)
0	Concrete						
1	w/ Gravel Subbase						Slight oor and discoloration throughout
2	Gray silty clay fine grained-course grained sand	CL					
3			85%	58	Grab	L-8 2.5'	BETX,MTBE,PNA
4							
5							
6	End of boring 5'						
7							
8							
9							
10							
11							
12							
13							
14							
15							

Stratification lines are approximate, in-situ transition between soil types may be gradual.

NOTES: Soil Sampled at 2.5' to simulate piping trench appropriate sample depth

Manway / Surface Elevation:

▼ Groundwater Depth While Drilling:	N/A	Auger Depth:	5'	Driller:	AEDC
▽ Groundwater Depth After Drilling:		Rotary Depth:		Geologist:	RJS/BMW

Illinois Environmental Protection Agency

CW M COMPANY, INC.
DRILLING BOREHOLE LOG

LUST INCIDENT #: 13-0781	BOREHOLE NUMBER: L-9
SITE NAME: Abel Investments	BORING LOCATION: 7'E of N end of NW island
SITE ADDRESS: 2101 South Illinois Avenue Carbondale, Illinois 62901	RIG TYPE: Truck mounted drill rig
DATE/TIME STARTED: 1/15/14 12:05	DRILLING/SAMPLE METHOD: continuous sampling/hollow stem auger
DATE/TIME FINISHED: 1/15/14 12:20	BACKFILL: Grout/Concrete

DEPTH (FEET)	SOIL AND ROCK DESCRIPTION	USCS CLASS	Sample Recovery	PID (ppm)	Sample Type	SAMPLE NUMBER	REMARKS: (Odor, Color, Moisture, Penetrometer, etc.)
0	Concrete						
1	w/ Gravel Subbase						Slight odor and discoloration throughout
2	Gray silty clay with fine grained-course grained sand						
3		CL	85%	8	Grab	L-9 2.5'	BETX,MTBE,PNA
4							
5							
6	End of Boring 5'						
7							
8							
9							
10							
11							
12							
13							
14							
15							

Stratification lines are approximate, in-situ transition between soil types may be gradual.

NOTES: Soil Sampled at 2.5' to simulate piping trench appropriate sample depth

Manway / Surface Elevation:

▼	Groundwater Depth While Drilling: N/A	Auger Depth: 5'	Driller:	AEDC
▽	Groundwater Depth After Drilling:	Rotary Depth:	Geologist:	RJS/BMW

Illinois Environmental Protection Agency

CW[illegible]M COMPANY, INC.
DRILLING BOREHOLE LOG

LUST INCIDENT #: 13-0781	BOREHOLE NUMBER: L-10
SITE NAME: Abel Investments	BORING LOCATION: 8' E of N end of SW island
SITE ADDRESS: 2101 South Illinois Avenue Carbondale, Illinois 62901	RIG TYPE: Truck mounted drill rig
DATE/TIME STARTED: 1/15/14 12:20	DRILLING/SAMPLE METHOD: continuous sampling/hollow stem auger
DATE/TIME FINISHED: 1/15/14 12:35	BACKFILL: Grout/Concrete

DEPTH (FEET)	SOIL AND ROCK DESCRIPTION	USCS CLASS	Sample Recovery	PID (ppm)	Sample Type	SAMPLE NUMBER	REMARKS: (Odor, Color, Moisture, Penetrometer, etc.)
0	Concrete						
1	w/ Gravel Subbase	CL					No odor or discoloration
2	Gray silty clay with gravel						
3			80%	0	Grab	L-10 2.5'	BETX,MTBE,PNA
4							
5							
6	End of boring 5'						
7							
8							
9							
10							
11							
12							
13							
14							
15							

Stratification lines are approximate, in-situ transition between soil types may be gradual.

NOTES: Soil Sampled at 2.5' to simulate piping trench appropriate sample depth

Manway / Surface Elevation:

▼	Groundwater Depth While Drilling: N/A	Auger Depth: 5'	Driller:	AEDC
▽	Groundwater Depth After Drilling:	Rotary Depth:	Geologist:	RJS/BMW

Illinois Environmental Protection Agency

CW · M COMPANY, INC.
DRILLING BOREHOLE LOG

LUST INCIDENT #: 13-0781	BOREHOLE NUMBER: 15
SITE NAME: Abel Investments	BORING LOCATION: 10'S and 22'W of SW corner of building
SITE ADDRESS: 2101 South Illinois Avenue Carbondale, Illinois 62901	RIG TYPE: Truck mounted drill rig
DATE/TIME STARTED: 1/15/14 10:00	DRILLING/SAMPLE METHOD: continuous sampling/hollow stem auger
DATE/TIME FINISHED: 1/15/14 10:20	BACKFILL: Grout/Concrete

DEPTH (FEET)	SOIL AND ROCK DESCRIPTION	USCS CLASS	Sample Recovery	PID (ppm)	Sample Type	SAMPLE NUMBER	REMARKS: (Odor, Color, No odor or discoloration
0	Concrete						
1	Gravel Subbase						
2	Gray mottled brown silt with minor amounts of clay	ML					
3			90%	0	Grab	15-2.5'	BETX, MTBE, PNA
4							
5							
6							
7							
8	Brown silty clay with fine grained to medium grained sand	CL	85%	0	Grab	15-7.5'	BETX, MTBE, PNA Moist @ 8'
9							
10							
11	End of boring 10'						
12							
13							
14							
15							

Stratification lines are approximate, in-situ transition between soil types may be gradual.

NOTES: Soil Sampled at 2.5' and 7.5' to simulate wall of pit resampling

Manway / Surface Elevation:

▼	Groundwater Depth While Drilling: 10'	Auger Depth: 10'	Driller:	AEDC
▽	Groundwater Depth After Drilling:	Rotary Depth:	Geologist:	RJS/BMW

Illinois Environmental Protection Agency

CW M COMPANY, INC.
DRILLING BOREHOLE LOG

LUST INCIDENT #: 13-0781	BOREHOLE NUMBER: 16
SITE NAME: Abel Investments	BORING LOCATION: 34' S and 28' W of SW corner of building
SITE ADDRESS: 2101 South Illinois Avenue Carbondale, Illinois 62901	RIG TYPE: Truck mounted drill rig
DATE/TIME STARTED: 1/15/14 10:20	DRILLING/SAMPLE METHOD: continuous sampling/hollow stem auger
DATE/TIME FINISHED: 1/15/14 10:40	BACKFILL: Grout/Concrete

DEPTH (FEET)	SOIL AND ROCK DESCRIPTION	USCS CLASS	Sample Recovery	PID (ppm)	Sample Type	SAMPLE NUMBER	REMARKS: (Odor, Color, Moisture, Penetrometer, etc.)
0	Concrete						
1	Gravel Subbase						No odor or discoloration
2	Brown mottled gray silt with minor amounts of clay	ML					
3			85%	0	Grab	16-2.5'	BETX, MTBE, PNA
4							
5							
6							
7							
8	Brown mottled gray silty clay with fine grained to medium-grained sand	CL	85%	0	Grab	16-7.5'	BETX, MTBE, PNA
9							
10							
11	End of boring 10'						
12							
13							
14							
15							

Stratification lines are approximate, in-situ transition between soil types may be gradual.

NOTES: Soil Sampled at 2.5' and 7.5' to simulate wall of pit resampling

Manway / Surface Elevation:

▼	Groundwater Depth While Drilling: 10'	Auger Depth: 10'	Driller:	AEDC
▽	Groundwater Depth After Drilling:	Rotary Depth:	Geologist:	RJS/BMW

Illinois Environmental Protection Agency

CW · M COMPANY, INC.
DRILLING BOREHOLE LOG

LUST INCIDENT #: 13-0781	BOREHOLE NUMBER: 17
SITE NAME: Abel Investments	BORING LOCATION: 14' N and 40' W of SW corner of building
SITE ADDRESS: 2101 South Illinois Avenue Carbondale, Illinois 62901	RIG TYPE: Truck mounted drill rig
DATE/TIME STARTED: 1/15/14 10:40	DRILLING/SAMPLE METHOD: continuous sampling/hollow stem auger
DATE/TIME FINISHED: 1/15/14 11:00	BACKFILL: Grout/Concrete

DEPTH (FEET)	SOIL AND ROCK DESCRIPTION	USCS CLASS	Sample Recovery	PID (ppm)	Sample Type	SAMPLE NUMBER	REMARKS: (Odor, Color, Moisture, Penetrometer, etc.)
0	Concrete						
1	Gravel Subbase						No odor and discoloration
2	Gray mottled brown silt with minor amounts of clay	ML					
3			80%	987	Grab	17-2.5'	BETX, MTBE, PNA
4							
5							Slight odor and discoloration
6							
7							
8	Brown mottled gray silty clay with fine grained to medium-grained sand	CL	90%	45	Grab	17-7.5'	BETX, MTBE, PNA
9							
10							
11	End of boring 10'						
12							
13							
14							
15							

Stratification lines are approximate, in-situ transition between soil types may be gradual.

NOTES: Soil Sampled at 2.5' and 7.5' to simulate wall of pit resampling

Manway / Surface Elevation:

▼	Groundwater Depth While Drilling: 10'	Auger Depth: 10'	Driller:	AEDC
▽	Groundwater Depth After Drilling:	Rotary Depth:	Geologist:	RJS/BMW

Illinois Environmental Protection Agency

CW M COMPANY, INC.
DRILLING BOREHOLE LOG

LUST INCIDENT #: 13-0781
SITE NAME: Abel Investments
SITE ADDRESS: 2101 South Illinois Avenue
Carbondale, Illinois 62901
DATE/TIME STARTED: 1/15/14 11:00
DATE/TIME FINISHED: 1/15/14 11:20

BOREHOLE NUMBER: 18
BORING LOCATION: 23' S and 22' W of SW corner of building
RIG TYPE: Truck mounted drill rig
DRILLING/SAMPLE METHOD: continuous sampling/hollow stem auger
BACKFILL: Grout/Concrete

DEPTH (FEET)	SOIL AND ROCK DESCRIPTION	USCS CLASS	Sample Recovery	PID (ppm)	Sample Type	SAMPLE NUMBER	REMARKS: (Odor, Color, Moisture, Penetrometer, etc.)
0	Concrete						
1	Gravel Subbase	ML					No odor or discoloration
2	Gray mottled brown silt with minor amounts of clay		85%	0	Grab	18-2.5'	BETX, MTBE, PNA
3							
4							
5							
6							
7							
8	Brown mottled gray silty clay with fine grained to medium-grained sand	CL	80%	0	Grab	18-7.5'	BETX, MTBE, PNA
9							
10							
11	End of boring 10'						
12							
13							
14							
15							

Stratification lines are approximate, in-situ transition between soil types may be gradual.

NOTES: Soil Sampled at 2.5' and 7.5' to simulate wall of pit resampling

Manway / Surface Elevation:

▼	Groundwater Depth While Drilling: 10'	Auger Depth: 10'	Driller:	AEDC
▽	Groundwater Depth After Drilling:	Rotary Depth:	Geologist:	RJS/BMW

Illinois Environmental Protection Agency

CW · M COMPANY, INC.
DRILLING BOREHOLE LOG

LUST INCIDENT #: 13-0781	BOREHOLE NUMBER: SB-1
SITE NAME: Abel Investments	BORING LOCATION: 8' N and 28' W of SW corner of building
SITE ADDRESS: 2101 South Illinois Avenue Carbondale, Illinois 62901	RIG TYPE: Truck mounted drill rig
DATE/TIME STARTED: 6/12/15 1:50 am	DRILLING/SAMPLE METHOD: continuous sampling/hollow stem auger
DATE/TIME FINISHED: 6/12/15 12:05 pm	BACKFILL: Grout/Concrete

DEPTH (FEET)	SOIL AND ROCK DESCRIPTION	USCS CLASS	Sample Recovery	PID (ppm)	Sample Type	SAMPLE NUMBER	REMARKS: (Odor, Color, Moisture, Penetrometer, etc.)
0	Concrete						
1	Gravel Subbase						Slight odor & discoloration throughout
2	Gray silt with minor amounts of clay	ML					
3			80%	22	Grab	SB1-2.5'	BETX, MTBE, PNA
4							
5							
6	Brown mottled gray silty clay with fine grained to medium-grained sand	CL					
7							
8			90%	6.2	Grab	SB1-7.5'	BETX, MTBE, PNA
9							
10							
11	End of boring 10'						
12							
13							
14							
15							

Stratification lines are approximate, in-situ transition between soil types may be gradual.

NOTES:

Manway / Surface Elevation:

▼ Groundwater Depth While Drilling:	10'	Auger Depth:	10'	Driller:	AEDC
▽ Groundwater Depth After Drilling:		Rotary Depth:		Geologist:	RJS/MJS

Illinois Environmental Protection Agency

CW[illegible]M COMPANY, INC.
DRILLING BOREHOLE LOG

LUST INCIDENT #: 13-0781
BOREHOLE NUMBER: SB-2
SITE NAME: Abel Investments
BORING LOCATION: 3' N and 11' W of SW corner of building
SITE ADDRESS: 2101 South Illinois Avenue
Carbondale, Illinois 62901
RIG TYPE: Truck mounted drill rig
DATE/TIME STARTED: 6/12/15 12:05 pm
DRILLING/SAMPLE METHOD: continuous sampling/hollow stem auger
DATE/TIME FINISHED: 6/12/15 12:20 pm
BACKFILL: Grout/Concrete

DEPTH (FEET)	SOIL AND ROCK DESCRIPTION	USCS CLASS	Sample Recovery	PID (ppm)	Sample Type	SAMPLE NUMBER	REMARKS: (Odor, Color, Moisture, Penetrometer, etc.)
0	Concrete						
1	Gravel Subbase						No odor or discoloration
2	Gray silt with minor amounts of clay	ML					
3			85%	0	Grab	SB2-2.5'	BETX, MTBE, PNA
4							
5	Brown mottled gray silty clay with fine grained to medium-grained sand	CL					
6							
7							
8			85%	0	Grab	SB2-7.5'	BETX, MTBE, PNA
9							
10							
11	End of boring 10'						
12							
13							
14							
15							

Stratification lines are approximate, in-situ transition between soil types may be gradual.

NOTES:

Manway / Surface Elevation:

▼ Groundwater Depth While Drilling: 10'	Auger Depth: 10'	Driller:	AEDC
▽ Groundwater Depth After Drilling:	Rotary Depth:	Geologist:	RJS/MJS

Illinois Environmental Protection Agency

CW M COMPANY, INC.
DRILLING BOREHOLE LOG

LUST INCIDENT #: 13-0781
SITE NAME: Abel Investments
SITE ADDRESS: 2101 South Illinois Avenue
Carbondale, Illinois 62901
DATE/TIME STARTED: 6/12/15 12:20 pm
DATE/TIME FINISHED: 6/12/15 12:35 pm

BOREHOLE NUMBER: SB-3
BORING LOCATION: 10' N and 80' W of NW corner of building
RIG TYPE: Truck mounted drill rig
DRILLING/SAMPLE METHOD: continuous sampling/hollow stem auger
BACKFILL: Grout/Concrete

DEPTH (FEET)	SOIL AND ROCK DESCRIPTION	USCS CLASS	Sample Recovery	PID (ppm)	Sample Type	SAMPLE NUMBER	REMARKS: (Odor, Color, Moisture, Penetrometer, etc.)
0	Concrete						
1	Gravel Subbase						Odor & discoloration throughout
2	Gray silt with minor amounts of clay	ML					
3			90%	225	Grab	SB3-2.5'	BETX, MTBE, PNA
4							
5	Brown mottled gray silty clay with fine grained to medium-grained sand	CL					
6							
7							
8			95%	151	Grab	SB3-7.5'	BETX, MTBE, PNA
9							
10							
11	End of boring 10'						
12							
13							
14							
15							

Stratification lines are approximate, in-situ transition between soil types may be gradual.

NOTES:

Manway / Surface Elevation:

Groundwater Depth While Drilling: 10'
Auger Depth: 10'
Driller: AEDC

Groundwater Depth After Drilling:
Rotary Depth:
Geologist: RJS/MJS

Illinois Environmental Protection Agency

CW M COMPANY, INC.
DRILLING BOREHOLE LOG

LUST INCIDENT #: 13-0781	BOREHOLE NUMBER: SB-4
SITE NAME: Abel Investments	BORING LOCATION: 4' S and 79' W of SW corner of building
SITE ADDRESS: 2101 South Illinois Avenue Carbondale, Illinois 62901	RIG TYPE: Truck mounted drill rig
DATE/TIME STARTED: 6/12/15 12:35 pm	DRILLING/SAMPLE METHOD: continuous sampling/hollow stem auger
DATE/TIME FINISHED: 6/12/15 12:50 pm	BACKFILL: Grout/Concrete

DEPTH (FEET)	SOIL AND ROCK DESCRIPTION	USCS CLASS	Sample Recovery	PID (ppm)	Sample Type	SAMPLE NUMBER	REMARKS: (Odor, Color, Moisture, Penetrometer, etc.)
0	Concrete						
1	Gravel Subbase						
2	Gray silt with minor amounts of clay	ML					
3			85%	0	Grab	SB4-2.5'	BETX, MTBE, PNA
4							
5	Brown mottled gray silty clay with fine grained to medium-grained sand	CL					Odor & discoloration
6							
7							
8			90%	31.5	Grab	SB4-7.5'	BETX, MTBE, PNA
9							
10							
11	End of boring 10'						
12							
13							
14							
15							

Stratification lines are approximate, in-situ transition between soil types may be gradual.

NOTES:

Manway / Surface Elevation:

▼ Groundwater Depth While Drilling:	10'	Auger Depth:	10'	Driller:	AEDC
▽ Groundwater Depth After Drilling:		Rotary Depth:		Geologist:	RJS/MJS

Illinois Environmental Protection Agency

CW M COMPANY, INC.
DRILLING BOREHOLE LOG

LUST INCIDENT #: 13-0781	BOREHOLE NUMBER: SB-5
SITE NAME: Abel Investments	BORING LOCATION: 4' S and 79' W of SW corner of building
SITE ADDRESS: 2101 South Illinois Avenue Carbondale, Illinois 62901	RIG TYPE: Truck mounted drill rig
DATE/TIME STARTED: 6/12/15 12:50 pm	DRILLING/SAMPLE METHOD: continuous sampling/hollow stem auger
DATE/TIME FINISHED: 6/12/15 1:05 pm	BACKFILL: Grout/Concrete

DEPTH (FEET)	SOIL AND ROCK DESCRIPTION	USCS CLASS	Sample Recovery	PID (ppm)	Sample Type	SAMPLE NUMBER	REMARKS: (Odor, Color, Moisture, Penetrometer, etc.)
0	Concrete						
1	Gravel Subbase						Slight odor & discoloration throughout
2	Gray silt with minor amounts of clay	ML					
3			85%	6	Grab	SB5-2.5'	BETX, MTBE, PNA
4							
5							
6							
7			85%	0	Grab	SB5-7.5'	BETX, MTBE, PNA
8							
9	Brown mottled gray silty clay with fine grained to medium-grained sand	CL					
10							
11	End of boring 10'						
12							
13							
14							
15							

Stratification lines are approximate, in-situ transition between soil types may be gradual.

NOTES:

Manway / Surface Elevation:

▼ Groundwater Depth While Drilling:	10'	Auger Depth:	10'	Driller:	AEDC
▽ Groundwater Depth After Drilling:		Rotary Depth:		Geologist:	RJS/MJS

Illinois Environmental Protection Agency

CW M COMPANY, INC.
DRILLING BOREHOLE LOG

LUST INCIDENT #: 13-0781	BOREHOLE NUMBER: SB-6
SITE NAME: Abel Investments	BORING LOCATION: 66' S and 89' W of SW corner of building
SITE ADDRESS: 2101 South Illinois Avenue Carbondale, Illinois 62901	RIG TYPE: Truck mounted drill rig
DATE/TIME STARTED: 6/12/15 1:05 pm	DRILLING/SAMPLE METHOD: continuous sampling/hollow stem auger
DATE/TIME FINISHED: 6/12/15 1:20 pm	BACKFILL: Grout/Concrete

DEPTH (FEET)	SOIL AND ROCK DESCRIPTION	USCS CLASS	Sample Recovery	PID (ppm)	Sample Type	SAMPLE NUMBER	REMARKS: (Odor, Color, Moisture, Penetrometer, etc.)
0	Concrete						
1	Gravel Subbase						No odor or discoloration throughout
2	Gray mottled brown silt with minor amounts of clay	ML					
3			95%	6	Grab	SB6-2.5'	BETX, MTBE, PNA
4							
5	Brown mottled gray silty clay with fine grained to medium-grained sand	CL					
6							
7							
8			100%	0	Grab	SB6-7.5'	BETX, MTBE, PNA
9							
10							
11	End of boring 10'						
12							
13							
14							
15							

Stratification lines are approximate, in-situ transition between soil types may be gradual.

NOTES:

Manway / Surface Elevation:

▼ Groundwater Depth While Drilling:	10'	Auger Depth:	10'	Driller:	AEDC
▽ Groundwater Depth After Drilling:		Rotary Depth:		Geologist:	RJS/MJS

Illinois Environmental Protection Agency

CW M COMPANY, INC.
DRILLING BOREHOLE LOG

LUST INCIDENT #: 2013-0780	BOREHOLE NUMBER: MW-1
SITE NAME: Abel Investments	BORING LOCATION: 23' S & 109' W of the SW corner of the building
SITE ADDRESS: 2101 South Illinois Avenue Carbondale, Illinois 62901	RIG TYPE: Truck mounted drill rig
DATE/TIME STARTED: 6/12/15 8:45 am	DRILLING/SAMPLE METHOD: continuous sampling/hollow stem auger
DATE/TIME FINISHED: 6/12/15 9:25 am	BACKFILL: Installed Monitoring Well

DEPTH (FEET)	SOIL AND ROCK DESCRIPTION	USCS CLASS	Sample Recovery	PID (ppm)	Sample Type	SAMPLE NUMBER	REMARKS: (Odor, Color, Moisture, Penetrometer, etc.)
0	Concrete						
1	Gravel subbase						No odor or discoloration throughout
2	Gray silt with minor amounts of clay & medium grained sand	ML					
3		ML	100%	0	grab	MW1-2.5'	BETX, MTBE, PNA
4							
5	Gray mottled brown silty clay with fine grained to medium grained sand	CL					
6							
7							
8			100%	0	grab	MW1-7.5'	BETX, MTBE, PNA
9							
10							
11							
12							
13			95%				Too wet to PID
14							
15	End of boring - 15'						

Stratification lines are approximate, in-situ transition between soil types may be gradual.

NOTES:

	Manway / Surface Elevation:	97.77'			
▼	Groundwater Depth While Drilling:	~ 10'	Auger Depth: 15'	Driller:	CW M
▽	Groundwater Depth After Drilling:		Rotary Depth:	Geologist:	RJS / MJS

Illinois Environmental Protection Agency

CW M COMPANY, INC.
DRILLING BOREHOLE LOG

LUST INCIDENT #: 2013-0780
SITE NAME: Abel Investments
SITE ADDRESS: 2101 South Illinois Avenue
Carbondale, Illinois 62901
DATE/TIME STARTED: 6/12/15 9:25 am
DATE/TIME FINISHED: 6/12/15 10:05 am

BOREHOLE NUMBER: MW-2
BORING LOCATION: 110' S & 62' W of SW corner of building
RIG TYPE: Truck mounted drill rig
DRILLING/SAMPLE METHOD: continuous sampling/hollow stem auger
BACKFILL: Installed Monitoring Well

DEPTH (FEET)	SOIL AND ROCK DESCRIPTION	USCS CLASS	Sample Recovery	PID (ppm)	Sample Type	SAMPLE NUMBER	REMARKS: (Odor, Color, Moisture, Penetrometer, etc.)
0	Grass						
1	Black silt loam topsoil	OM					No odor or discoloration throughout
2	Brown mottled gray silt with minor amount of clay	ML					
3			100%	0	grab	MW2-2.5'	BETX, MTBE, PNA
4							
5	Brown mottled gray silty clay with fine grained to medium grained sand	CL					
6							
7							
8			95%	0	grab	MW2-7.5'	BETX, MTBE, PNA
9							
10							
11							
12							
13			100				Too wet to PID
14							
15	End of boring - 15'						

Stratification lines are approximate, in-situ transition between soil types may be gradual.

NOTES:

Manway / Surface Elevation: 100.00'

Groundwater Depth While Drilling: ~10'
Auger Depth: 15'
Driller: CW M

Groundwater Depth After Drilling:
Rotary Depth:
Geologist: RJS / MJS

Illinois Environmental Protection Agency

CW M COMPANY, INC.
DRILLING BOREHOLE LOG

Page 1 of 1

LUST INCIDENT #: 2013-0780
SITE NAME: Abel Investments
SITE ADDRESS: 2101 South Illinois Avenue
Carbondale, Illinois 62901
DATE/TIME STARTED: 6/12/15 10:05 am
DATE/TIME FINISHED: 6/12/15 10:45 am

BOREHOLE NUMBER: MW-3
BORING LOCATION: 36' N & 51' W of SW corner of building
RIG TYPE: Truck mounted drill rig
DRILLING/SAMPLE METHOD: continuous sampling/hollow stem auger
BACKFILL: Installed Monitoring Well

DEPTH (FEET)	SOIL AND ROCK DESCRIPTION	USCS CLASS	Sample Recovery	PID (ppm)	Sample Type	SAMPLE NUMBER	REMARKS: (Odor, Color, Moisture, Penetrometer, etc.)
0	Grass						
1	Black silt loam topsoil	OM					No odor or discoloration throughout
2	Brown silty clay	CL					
3	Brown mottled gray silt with minor amounts of clay	ML	100%	0	grab	MW3-2.5'	BETX, MTBE, PNA
4							
5							
6	Brown mottled gray silty clay with fine grained to medium grained sand	CL					
7							
8			100%	0	grab	MW3-7.5'	BETX, MTBE. PNA
9							
10							
11							
12			100				Too wet to PID
13							
14							
15	End of boring - 15'						

Stratification lines are approximate, in-situ transition between soil types may be gradual.

NOTES:

Manway / Surface Elevation: 98.37'

Groundwater Depth While Drilling: ~10'
Auger Depth: 15'
Driller: CW M

Groundwater Depth After Drilling:
Rotary Depth:
Geologist: RJS / MJS

Illinois Environmental Protection Agency

CW M COMPANY, INC.
DRILLING BOREHOLE LOG

LUST INCIDENT #: 2013-0780
SITE NAME: Abel Investments
SITE ADDRESS: 2101 South Illinois Avenue
Carbondale, Illinois 62901
DATE/TIME STARTED: 6/12/15 10:45 am
DATE/TIME FINISHED: 6/12/15 11:20 am

BOREHOLE NUMBER: MW-4
BORING LOCATION: 7' S & 49' E of SE corner of building
RIG TYPE: Truck mounted drill rig
DRILLING/SAMPLE METHOD: continuous sampling/hollow stem auger
BACKFILL: Installed Monitoring Well

DEPTH (FEET)	SOIL AND ROCK DESCRIPTION	USCS CLASS	Sample Recovery	PID (ppm)	Sample Type	SAMPLE NUMBER	REMARKS: (Odor, Color, Moisture, Penetrometer, etc.)
0	Grass						
1	Black silt loam topsoil	OM					No odor or discoloration throughout
2	Brown silty clay	CL					
3			95%	0	grab	MW4-2.5'	BETX, MTBE, PNA
4	Gray silt with minor amount of clay	ML					
5							
6							
7							
8			100%	0	grab	MW4-7.5'	BETX, MTBE, PNA
9	Brown mottled gray silty clay with fine grained to medium grained sand	CL					
10							
11							
12							
13			100%				Too wet to PID
14							
15	End of boring - 15'						

Stratification lines are approximate, in-situ transition between soil types may be gradual.

NOTES:

Manway / Surface Elevation: 99.51

Groundwater Depth While Drilling: ~10'
Auger Depth: 15'
Driller: CW M

Groundwater Depth After Drilling:
Rotary Depth:
Geologist: RJS / MJS

Illinois Environmental Protection Agency

CW M COMPANY, INC.
DRILLING BOREHOLE LOG

Page 1 of 1

LUST INCIDENT #: 2013-0780
SITE NAME: Abel Investments
SITE ADDRESS: 2101 South Illinois Avenue
Carbondale, Illinois 62901
DATE/TIME STARTED: 6/12/15 11:20 am
DATE/TIME FINISHED: 6/12/15 11:50 am

BOREHOLE NUMBER: MW-5
BORING LOCATION: 1' N & 46' W of SW corner of building
RIG TYPE: Truck mounted drill rig
DRILLING/SAMPLE METHOD: continuous sampling/hollow stem auger
BACKFILL: Installed Monitoring Well

DEPTH (FEET)	SOIL AND ROCK DESCRIPTION	USCS CLASS	Sample Recovery	PID (ppm)	Sample Type	SAMPLE NUMBER	REMARKS: (Odor, Color, Moisture, Penetrometer, etc.)
0	Concrete						
1	Gravel subbase						Slight odor & discoloration
2	Gray silt with minor amounts of clay	ML					
3			90%	92.5	grab	MW5-2.5'	
4		ML					
5							
6							
7							
8	Brown mottled gray silty clay with fine grained to medium grained sand	CL	95%	30	grab	MW5-7.5'	
9							
10							
11							
12							
13			95%				Too wet to PID
14							
15	End of boring - 15'						

Stratification lines are approximate, in-situ transition between soil types may be gradual.

NOTES: Soil sample field screened only / MW drilled at location of highest soil contamination area of early action.

Manway / Surface Elevation: 98.34

Groundwater Depth While Drilling: ~10'
Auger Depth: 15'
Driller: CW M

Groundwater Depth After Drilling:
Rotary Depth:
Geologist: RJS / MJS

Illinois Environmental Protection Agency — LUST Well Completion Report

Incident No.	2013-0781	Well No.	MW-1
Site Name	Abel Investments - Carbondale	Date Drilled	6/12/2015
Drilling Contractor	AEDC	Date Completed	6/12/2015
Driller	AEDC	Geologist	RJS/MJS
Drilling Method	Hollow Stem Auger	Drilling Fluids	N/A

Annular Space Details

Type of Surface Seal	Concrete
Type of Annular Sealant	Bentonite
Type of Bentonite	High-Yield
Type of Sand Pack	Coarse 20-20

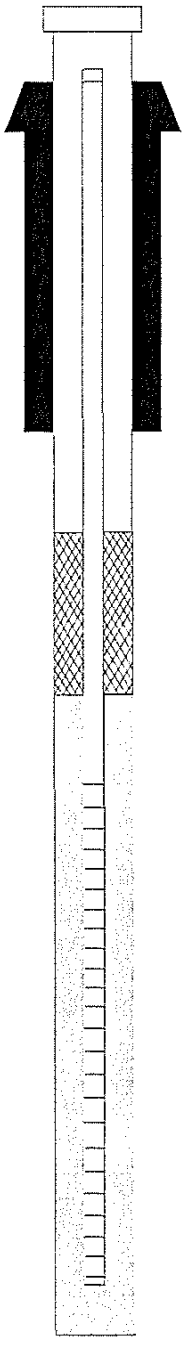
Well Construction Materials

	Stainless Steel Type	PVC Specify Type	Other Specify Type
Riser Coupling Joint			
Riser Pipe Above w.t.		Sched.-40	
Riser Pipe Below w.t.			
Screen		Sched.-40	
Coupling Joint Screen to Riser		Sched.-40	
Protective Casing			Steel

Measurements

Riser Pipe Length	4.25 ft.
Screen Length	10.0 ft.
Screen Slot Size	10-slot
Protective Casing Length	N/A
Depth to Water	10 ft. while drilling
Depth to Water	93.37 ft. static
Free Product Thickness	N/A
Gallons removed (develop)	N/A
Gallons removed (purge)	N/A
Other	

Completed by: RJS



97.77 ft.	Top of Protective Casing
97.52 ft.	Top of riser pipe
97.77 ft.	Ground surface
97.27 ft.	Top of Annular Sealant
N/A	Casing Stickup
97.27 ft.	Top of Seal
3.00 ft.	Total Seal interval
94.27 ft.	Top of Sand
93.27 ft.	Top of Screen
10.0 ft.	Total Screen Interval
83.27 ft.	Bottom of Screen
82.77 ft.	Bottom of Borehole

Illinois Environmental Protection Agency — LUST Well Completion Report

Incident No.	2013-0781	Well No.	MW-2
Site Name	Abel Investments - Carbondale	Date Drilled	6/12/2015
Drilling Contractor	AEDC	Date Completed	6/12/2015
Driller	AEDC	Geologist	RJS/MJS
Drilling Method	Hollow Stem Auger	Drilling Fluids	N/A

Annular Space Details

Type of Surface Seal	Concrete
Type of Annular Sealant	Bentonite
Type of Bentonite	High-Yield
Type of Sand Pack	Coarse 20-20

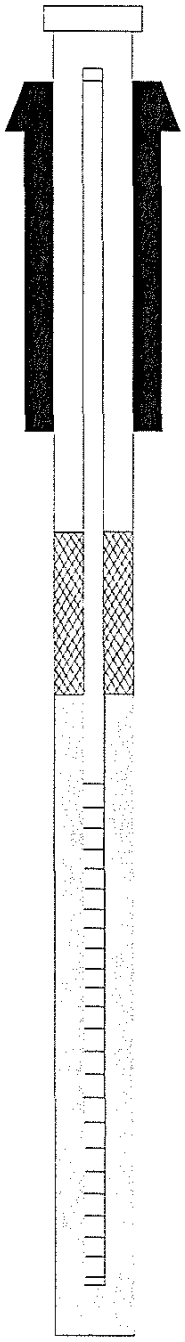
Well Construction Materials

	Stainless Steel Type	PVC Specify Type	Other Specify Type
Riser Coupling Joint			
Riser Pipe Above w.t.		Sched.-40	
Riser Pipe Below w.t.			
Screen		Sched.-40	
Coupling Joint Screen to Riser		Sched.-40	
Protective Casing			Steel

Measurements

Riser Pipe Length	4.25 ft.
Screen Length	10.0 ft.
Screen Slot Size	10-slot
Protective Casing Length	N/A
Depth to Water	10 ft. while drilling
Depth to Water	97.06 ft. static
Free Product Thickness	N/A
Gallons removed (develop)	N/A
Gallons removed (purge)	N/A
Other	

Completed by: RJS



100.00 ft.	Top of Protective Casing
99.75 ft.	Top of riser pipe
100.00 ft.	Ground surface
99.50 ft.	Top of Annular Sealant
N/A	Casing Stickup
99.50 ft.	Top of Seal
3.00 ft.	Total Seal interval
96.50 ft.	Top of Sand
95.50 ft.	Top of Screen
10.0 ft.	Total Screen Interval
85.50 ft.	Bottom of Screen
85.00 ft.	Bottom of Borehole

Illinois Environmental Protection Agency — LUST Well Completion Report

Incident No.	2013-0781	Well No.	MW-3
Site Name	Abel Investments - Carbondale	Date Drilled	6/12/2015
Drilling Contractor	AEDC	Date Completed	6/12/2015
Driller	AEDC	Geologist	RJS/MJS
Drilling Method	Hollow Stem Auger	Drilling Fluids	N/A

Annular Space Details

Type of Surface Seal	Concrete
Type of Annular Sealant	Bentonite
Type of Bentonite	High-Yield
Type of Sand Pack	Coarse 20-20

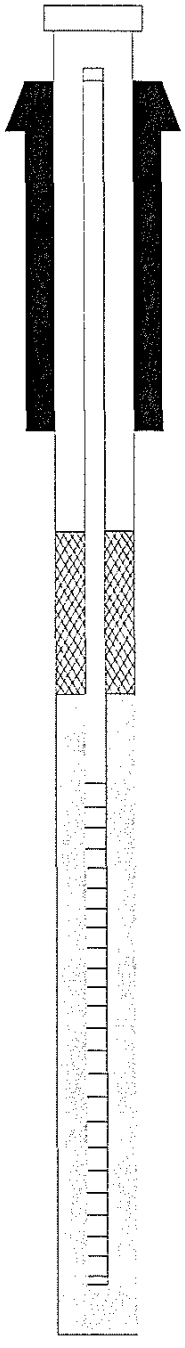
Well Construction Materials

	Stainless Steel Type	PVC Specify Type	Other Specify Type
Riser Coupling Joint			
Riser Pipe Above w.t.		Sched.-40	
Riser Pipe Below w.t.			
Screen		Sched.-40	
Coupling Joint Screen to Riser		Sched.-40	
Protective Casing			Steel

Measurements

Riser Pipe Length	4.25 ft.
Screen Length	10.0 ft.
Screen Slot Size	10-slot
Protective Casing Length	N/A
Depth to Water	10 ft. while drilling
Depth to Water	98.37 ft. static
Free Product Thickness	N/A
Gallons removed (develop)	N/A
Gallons removed (purge)	N/A
Other	

Completed by: RJS



98.37 ft.	Top of Protective Casing
98.12 ft.	Top of riser pipe
98.37 ft.	Ground surface
97.87 ft.	Top of Annular Sealant
N/A	Casing Stickup
97.87 ft.	Top of Seal
3.00 ft.	Total Seal interval
94.87 ft.	Top of Sand
93.87 ft.	Top of Screen
10.0 ft.	Total Screen Interval
83.87 ft.	Bottom of Screen
83.37 ft.	Bottom of Borehole

Illinois Environmental Protection Agency — LUST Well Completion Report

Incident No.	2013-0781	Well No.	MW-4
Site Name	Abel Investments - Carbondale	Date Drilled	6/12/2015
Drilling Contractor	AEDC	Date Completed	6/12/2015
Driller	AEDC	Geologist	RJS/MJS
Drilling Method	Hollow Stem Auger	Drilling Fluids	N/A

Annular Space Details

Type of Surface Seal	Concrete
Type of Annular Sealant	Bentonite
Type of Bentonite	High-Yield
Type of Sand Pack	Coarse 20-20

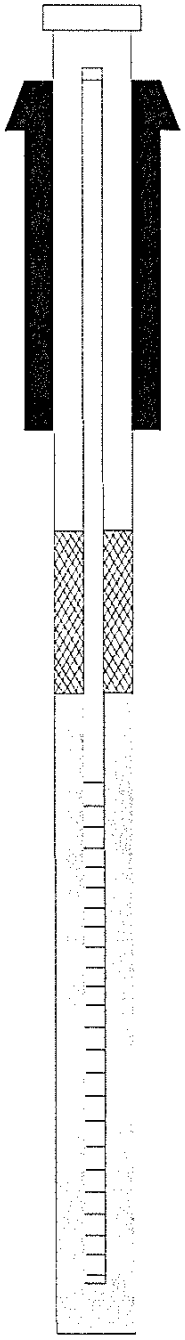
Well Construction Materials

	Stainless Steel Type	PVC Specify Type	Other Specify Type
Riser Coupling Joint			
Riser Pipe Above w.t.		Sched.-40	
Riser Pipe Below w.t.			
Screen		Sched.-40	
Coupling Joint Screen to Riser		Sched.-40	
Protective Casing			Steel

Measurements

Riser Pipe Length	4.25 ft.
Screen Length	10.0 ft.
Screen Slot Size	10-slot
Protective Casing Length	N/A
Depth to Water	10 ft. while drilling
Depth to Water	97.27 ft. static
Free Product Thickness	N/A
Gallons removed (develop)	N/A
Gallons removed (purge)	N/A
Other	

Completed by: RJS



99.51 ft.	Top of Protective Casing
99.26 ft.	Top of riser pipe
99.51 ft.	Ground surface
99.01 ft.	Top of Annular Sealant
N/A	Casing Stickup
99.01 ft.	Top of Seal
3.00 ft.	Total Seal interval
96.01 ft.	Top of Sand
95.01 ft.	Top of Screen
10.0 ft.	Total Screen Interval
85.01 ft.	Bottom of Screen
84.51 ft.	Bottom of Borehole

Illinois Environmental Protection Agency — LUST Well Completion Report

Incident No.	2013-0781	Well No.	MW-5
Site Name	Abel Investments - Carbondale	Date Drilled	6/12/2015
Drilling Contractor	AEDC	Date Completed	6/12/2015
Driller	AEDC	Geologist	RJS/MJS
Drilling Method	Hollow Stem Auger	Drilling Fluids	N/A

Annular Space Details

Type of Surface Seal	Concrete
Type of Annular Sealant	Bentonite
Type of Bentonite	High-Yield
Type of Sand Pack	Coarse 20-20

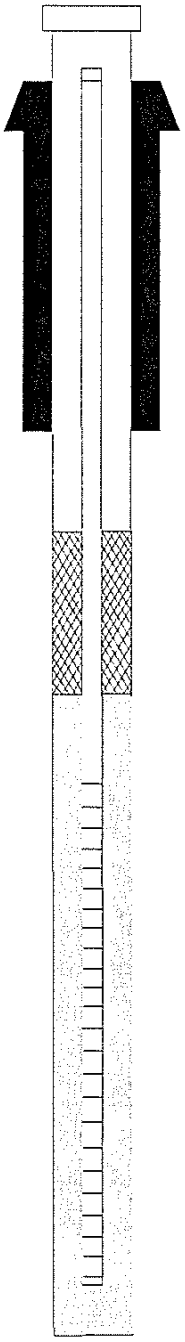
Well Construction Materials

	Stainless Steel Type	PVC Specify Type	Other Specify Type
Riser Coupling Joint			
Riser Pipe Above w.t.		Sched.-40	
Riser Pipe Below w.t.			
Screen		Sched.-40	
Coupling Joint Screen to Riser		Sched.-40	
Protective Casing			Steel

Measurements

Riser Pipe Length	4.25 ft.
Screen Length	10.0 ft.
Screen Slot Size	10-slot
Protective Casing Length	N/A
Depth to Water	10 ft. while drilling
Depth to Water	95.84 ft. static
Free Product Thickness	N/A
Gallons removed (develop)	N/A
Gallons removed (purge)	N/A
Other	

Completed by: RJS



98.34 ft.	Top of Protective Casing
98.09 ft.	Top of riser pipe
98.34 ft.	Ground surface
97.84 ft.	Top of Annular Sealant
N/A	Casing Stickup
97.84 ft.	Top of Seal
3.00 ft.	Total Seal interval
94.84 ft.	Top of Sand
93.84 ft.	Top of Screen
10.0 ft.	Total Screen Interval
83.84 ft.	Bottom of Screen
83.34 ft.	Bottom of Borehole

APPENDIX F

ANALYTICAL RESULTS

STAGE 2 SITE INVESTIGATION PLAN AND BUDGET

ABEL INVESTMENTS, LLC CARBONDALE, ILLINOIS

Abel Investments / Carbondale / Banga Petro
Site Assessment Data

Waste Characterization

	Location	WC-1	WC-2				
	Date	7/10/2013	7/10/2013				
	Depth	7.5'	7.5'				
Parameter	Tier I CUO						
Benzene	0.03	5.74	20.7				
Ethylbenzene	13.0	86.3000	206.0000				
Toluene	12.0	92.2	176.				
Total Xylenes	5.6	438.	1030.				
MTBE	0.32	ND	ND				
Acenaphthene	570	ND	ND				
Acenaphthylene	30	ND	ND				
Anthracene	12,000	ND	ND				
Benzo(a)anthracene	0.9	ND	ND				
Benzo(a)pyrene	0.09	ND	ND				
Benzo(b)flouranthene	0.9	ND	ND				
Benzo(g,h,i)perylene	160	ND	ND				
Benzo(k)flouranthene	9	ND	ND				
Chrysene	88	ND	ND				
Dibenzo(a,h)anthracene	0.09	ND	ND				
Flouranthene	3,100	ND	ND				
Fluorene	560	ND	ND				
Indeno(1,2,3-c,d)pyrene	0.9	ND	ND				
Napthalene	1.8	ND	ND				
Phenanthrene	280	ND	ND				
Pyrene	2,300	ND	ND				
Lead	0.0075	ND	0.059				

Numbers not bold indicate actual quantities, but are below the TACO Tier 1 Most Stringent Soil Clean-up Objective.
BOLD & SHADING -- Exceeds the TACO Tier 1 Most Stringent Soil Clean-up Objective.
ND -- Not Detected

Abel Investments / Carbondale
Site Assessment Data

Early Action Soil

	Location	1	2	3	4	5	6	7	8
	Date	8/14/2013	8/14/2013	8/14/2013	8/14/2013	8/14/2013	8/14/2013	8/14/2013	8/14/2013
	Depth								
Parameter	Tier I CUO								
Benzene	**0.03**	**0.633**	**0.0916**	**0.0427**	0.0208	ND	**0.0306**	**0.795**	ND
Ethylbenzene	**13.0**	0.1310	0.5530	0.249	0.1680	ND	0.0575	1.99	0.0603
Toluene	**12.0**	0.172	0.792	0.325	0.243	ND	ND	0.0639	0.069
Total Xylenes	**5.6**	0.719	3.36	1.3	1.01	ND	0.119	0.239	0.363
MTBE	**0.32**	ND	ND	ND	ND	ND	ND	0.154	0.091
Acenaphthene	**570**	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	**30**	ND	ND	ND	ND	ND	ND	ND	ND
Anthracene	**12,000**	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)anthracene	**0.9**	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)pyrene	**0.09**	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(b)flouranthene	**0.9**	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(g,h,i)perylene	**160**	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(k)flouranthene	**9**	ND	ND	ND	ND	ND	ND	ND	ND
Chrysene	**88**	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	**0.09**	ND	ND	ND	ND	ND	ND	ND	ND
Flouranthene	**3,100**	ND	ND	ND	ND	ND	ND	ND	ND
Fluorene	**560**	0.111	ND	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-c,d)pyrene	**0.9**	ND	ND	ND	ND	ND	ND	ND	ND
Napthalene	**1.8**	0.156	ND	ND	ND	ND	0.081	0.735	ND
Phenanthrene	**280**	0.196	ND	ND	ND	ND	ND	ND	ND
Pyrene	**2,300**	ND	ND	ND	ND	ND	ND	ND	ND

Numbers not bold indicate actual quantities, but are below the TACO Tier 1 Most Stringent Soil Clean-up Objective.
BOLD & SHADING -- Exceeds the TACO Tier 1 Most Stringent Soil Clean-up Objective.
ND -- Not Detected

Abel Investments / Carbondale
Site Assessment Data

Early Action Soil

	Location	9	10	11	12	13	14	15
	Date	8/14/2013	8/14/2013	8/14/2013	8/14/2013	8/14/2013	8/14/2013	1/15/2014
	Depth							2.5'
Parameter	Tier I CUO							
Benzene	**0.03**	**0.549**	**1.28**	**0.664**	**1.16**	ND	ND	0.021
Ethylbenzene	**13.0**	1.6800	8.9200	7.46	1.58	ND	ND	ND
Toluene	**12.0**	0.286	4.54	7.53	0.104	ND	ND	0.104
Total Xylenes	**5.6**	2.2	**41.2**	**31.3**	0.592	ND	ND	0.125
MTBE	**0.32**	0.214	0.107	ND	0.126	ND	ND	ND
Acenaphthene	**570**	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	**30**	ND	ND	ND	ND	ND	ND	ND
Anthracene	**12,000**	ND	ND	ND	ND	ND	ND	ND
Benzo(a)anthracene	**0.9**	ND	ND	ND	ND	ND	ND	ND
Benzo(a)pyrene	**0.09**	ND	ND	ND	ND	ND	ND	ND
Benzo(b)flouranthene	**0.9**	ND	ND	ND	ND	ND	ND	ND
Benzo(g,h,i)perylene	**160**	ND	ND	ND	ND	ND	ND	ND
Benzo(k)flouranthene	**9**	ND	ND	ND	ND	ND	ND	ND
Chrysene	**88**	ND	ND	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	**0.09**	ND	ND	ND	ND	ND	ND	ND
Flouranthene	**3,100**	ND	ND	ND	ND	ND	ND	ND
Fluorene	**560**	ND	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-c,d)pyrene	**0.9**	ND	ND	ND	ND	ND	ND	ND
Napthalene	**1.8**	0.675	0.989	0.166	**2.9**	ND	ND	ND
Phenanthrene	**280**	ND	ND	ND	ND	ND	0.058	ND
Pyrene	**2,300**	ND	ND	ND	ND	ND	ND	ND

Numbers not bold indicate actual quantities, but are below the TACO Tier 1 Most Stringent Soil Clean-up Objective.
BOLD & SHADING -- Exceeds the TACO Tier 1 Most Stringent Soil Clean-up Objective.
ND -- Not Detected

Abel Investments / Carbondale
Site Assessment Data

Early Action Soil

	Location	15	16	16	17	17	18	18
	Date	1/15/2014	1/15/2014	1/15/2014	1/15/2014	1/15/2014	1/15/2014	1/15/2014
	Depth	7.5'	2.5'	7.5'	2.5'	7.5'	2.5'	7.5'
Parameter	Tier I CUO							
Benzene	**0.03**	ND	ND	ND	**0.498**	ND	ND	ND
Ethylbenzene	**13.0**	ND	ND	ND	0.175	ND	ND	ND
Toluene	**12.0**	ND	ND	ND	0.0526	ND	ND	ND
Total Xylenes	**5.6**	ND	ND	ND	ND	ND	ND	ND
MTBE	**0.32**	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	**570**	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	**30**	ND	ND	ND	ND	ND	ND	ND
Anthracene	**12,000**	ND	ND	ND	ND	ND	ND	ND
Benzo(a)anthracene	**0.9**	ND	ND	ND	ND	ND	ND	ND
Benzo(a)pyrene	**0.09**	ND	ND	ND	ND	ND	ND	ND
Benzo(b)flouranthene	**0.9**	ND	ND	ND	ND	ND	ND	ND
Benzo(g,h,i)perylene	**160**	ND	ND	ND	ND	ND	ND	ND
Benzo(k)flouranthene	**9**	ND	ND	ND	ND	ND	ND	ND
Chrysene	**88**	ND	ND	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	**0.09**	ND	ND	ND	ND	ND	ND	ND
Flouranthene	**3,100**	ND	ND	ND	ND	ND	ND	ND
Fluorene	**560**	ND	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-c,d)pyrene	**0.9**	ND	ND	ND	ND	ND	ND	ND
Napthalene	**1.8**	ND	ND	ND	0.291	ND	ND	ND
Phenanthrene	**280**	ND	ND	ND	ND	ND	ND	ND
Pyrene	**2,300**	ND	ND	ND	ND	ND	ND	ND

Numbers not bold indicate actual quantities, but are below the TACO Tier 1 Most Stringent Soil Clean-up Objective.
BOLD & SHADING -- Exceeds the TACO Tier 1 Most Stringent Soil Clean-up Objective.
ND -- Not Detected

Abel Investments / Carbondale
Site Assessment Data

EA Soil Product Piping

	Location	L-1	L-2	L-3	L-4	L-5	L-6	L-7	L-8	L-9	L-10
	Date	9/5/2013	9/5/2013	9/5/2013	9/5/2013	9/5/2013	1/15/2014	1/15/2014	1/15/2014	1/15/2014	1/15/2014
	Depth						2.5'	2.5'	2.5'	2.5'	2.5'
Parameter	Tier I CUO										
Benzene	**0.03**	**4.2**	ND	ND	**0.524**	ND	**8.19**	0.0299	0.0264	ND	0.0214
Ethylbenzene	**13.0**	**16.5**	ND	ND	2.48	ND	**20.8**	ND	ND	ND	ND
MTBE	**0.32**	0.179	ND	ND	ND	ND	0.07	ND	ND	ND	ND
Total Xylenes	**5.6**	**82.7**	ND	ND	0.405	ND	**110.**	0.312	ND	ND	0.583
Toluene	**12.0**	**36.8**	ND	ND	0.162	ND	**60.6**	0.0571	ND	ND	ND
Acenaphthene	**570**	ND	ND	ND	ND	ND	ND	ND	0.308	ND	ND
Acenaphthylene	**30**	ND	ND	ND	ND	ND	ND	ND	0.165	ND	ND
Anthracene	**12,000**	ND	ND	ND	ND	ND	ND	ND	0.103	ND	ND
Benzo(a)anthracene	**0.9**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)pyrene	**0.09**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(b)flouranthene	**0.9**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(g,h,i)perylene	**160**	ND	ND	ND	ND	ND	ND	0.048	ND	ND	ND
Benzo(k)flouranthene	**9**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chrysene	**88**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	**0.09**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Flouranthene	**3,100**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorene	**560**	ND	ND	ND	ND	ND	ND	ND	0.737	ND	ND
Indeno(1,2,3-c,d)pyrene	**0.9**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Napthalene	**1.8**	1.09	ND	ND	1.33	ND	1.57	ND	0.083	ND	ND
Phenanthrene	**280**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pyrene	**2,300**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Numbers not bold indicate actual quantities, but are below the TACO Tier 1 Most Stringent Soil Clean-up Objective.
BOLD & SHADING -- Exceeds the TACO Tier 1 Most Stringent Soil Clean-up Objective.
ND -- Not Detected

Abel Investments / Carbondale
Site Assessment Data

Stage 1 Soil

	Location	MW-1	MW-1	MW-2	MW-2	MW-3	MW-3	MW-4	MW-4	SB-1	SB-1
	Date	6/12/15*	6/12/15*	6/12/15*	6/12/15*	6/12/2015	6/12/2015	6/12/2015	6/12/2015	6/12/15*	6/12/15*
	Depth	2.5'	7.5'	2.5'	7.5'	2.5'	7.5'	2.5'	7.5'	2.5'	7.5'
Parameter	Tier I CUO										
Benzene	**0.03**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	**13.0**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MTBE	**0.32**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Xylenes	**5.6**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	**12.0**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	**570**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	**30**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Anthracene	**12,000**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)anthracene	**0.9**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)pyrene	**0.09**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(b)flouranthene	**0.9**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(g,h,i)perylene	**160**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(k)flouranthene	**9**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chrysene	**88**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	**0.09**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Flouranthene	**3,100**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorene	**560**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-c,d)pyrene	**0.9**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Napthalene	**1.8**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	**280**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pyrene	**2,300**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Numbers not bold indicate actual quantities, but are below the TACO Tier 1 Most Stringent Soil Clean-up Objective.
BOLD & SHADING -- Exceeds the TACO Tier 1 Most Stringent Soil Clean-up Objective.
ND -- Not Detected
*BETXM jars were damaged; new samples collected on 7/1/15

Abel Investments / Carbondale
Site Assessment Data

Stage 1 Soil

	Location	SB-2	SB-2	SB-3	SB-3	SB-4	SB-4	SB-5	SB-5	SB-6	SB-6
	Date	6/12/15*	6/12/15*	6/12/2015	6/12/2015	6/12/2015	6/12/2015	6/12/2015	6/12/2015	6/12/2015	6/12/2015
	Depth	2.5'	7.5'	2.5'	7.5'	2.5'	7.5'	2.5'	7.5'	2.5'	7.5'
Parameter	Tier I CUO										
Benzene	**0.03**	ND	ND	**	**0.0623**	**1.28**	**0.035**	0.0277	ND	ND	ND
Ethylbenzene	**13.0**	ND	ND	**	ND	10.7	ND	0.0989	ND	ND	ND
MTBE	**0.32**	ND	ND	**	0.055	0.115	ND	0.092	0.066	ND	ND
Total Xylenes	**5.6**	ND	ND	**	ND	2.21	ND	ND	ND	ND	ND
Toluene	**12.0**	ND	ND	**	ND	0.127	ND	ND	ND	ND	ND
Acenaphthene	**570**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	**30**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Anthracene	**12,000**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)anthracene	**0.9**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)pyrene	**0.09**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(b)flouranthene	**0.9**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(g,h,i)perylene	**160**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(k)flouranthene	**9**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chrysene	**88**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	**0.09**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Flouranthene	**3,100**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorene	**560**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-c,d)pyrene	**0.9**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Napthalene	**1.8**	ND	ND	ND	ND	**1.83**	ND	0.456	ND	ND	ND
Phenanthrene	**280**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pyrene	**2,300**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Numbers not bold indicate actual quantities, but are below the TACO Tier 1 Most Stringent Soil Clean-up Objective.
BOLD & SHADING -- Exceeds the TACO Tier 1 Most Stringent Soil Clean-up Objective.
ND -- Not Detected
*BETXM jars were damaged; new samples collected on 7/1/15
**Not sampled due to miscomunication from lab.

Abel Investmen Carbondale
Site Assessment Data

Stage 1 Groundwater

	Location	MW-1	MW-2	MW-3	MW-4	MW-5
	Date	6/23/2015	6/23/2015	6/23/2015	6/23/2015	6/23/2015
Parameter	Class I CUO					
Benzene	**0.005**	<0.002	<0.002	<0.002	<0.002	**0.808**
Ethylbenzene	**0.7**	<0.002	<0.002	<0.002	<0.002	**0.793**
MTBE	**0.07**	0.009	<0.002	<0.002	<0.002	**0.114**
Total Xylenes	**10.0**	<0.005	<0.005	0.003	<0.005	3.54
Toluene	**1.0**	<0.002	<0.002	0.002	<0.002	**1.07**
Acenaphthene	**0.42**	<0.010	<0.010	<0.010	<0.010	<0.010
Acenaphtylene	**0.010**	<0.010	<0.010	<0.010	<0.010	<0.010
Anthracene	**2.1**	<0.0066	<0.0066	<0.0066	<0.0066	<0.0066
Benzo(a)anthracene	**0.00013**	<0.00013	<0.00013	<0.00013	<0.00013	<0.00013
Benzo(a)pyrene	**0.0002**	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Benzo(b)fluoranthene	**0.00018**	<0.00018	<0.00018	<0.00018	<0.00018	<0.00018
Benzo(g,h,i)perylene	**0.00076**	<0.00076	<0.00076	<0.00076	<0.00076	<0.00076
Benzo(k)fluoranthene	**0.00017**	<0.00017	<0.00017	<0.00017	<0.00017	<0.00017
Chrysene	**0.0015**	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015
Dibenz(a,h)anthracene	**0.0003**	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Fluoranthene	**0.28**	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021
Fluorene	**0.28**	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021
Indeno(1,2,3-cd)pyrene	**0.00043**	<0.00043	<0.00043	<0.00043	<0.00043	<0.00043
Naphthalene	**0.14**	<0.010	<0.010	<0.010	<0.010	<0.010
Phenanthrene	**0.0064**	<0.0064	<0.0064	<0.0064	<0.0064	<0.0064
Pyrene	**0.21**	<0.0027	<0.0027	<0.0027	<0.0027	<0.0027

BOLD & SHADING -- Exceeds the TACO Tier 1 Most Stringent Soil Clean-up Objective.

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 • (217) 782-2829
BRUCE RAUNER, GOVERNOR LISA BONNETT, DIRECTOR

217/524-3300

CERTIFIED MAIL

7014 2120 0002 3288 0615

MAY 10 2016

Abel Investments, LLC
Attn: Sarabraj Singh
20226 Hemmingway Street
Canoga Park, California 91306

Re: LPC #0770155096 -- Jackson County
Carbondale/ Abel Investments, LLC
2101 South Illinois Avenue
Leaking UST Incident No. 20130781
Leaking UST Technical File

Dear Sir:

The Illinois Environmental Protection Agency (Illinois EPA) has reviewed the Site Investigation Stage 2 Plan (plan) submitted for the above-referenced incident. This plan, dated January 8, 2016, was received by the Illinois EPA on January 11, 2016. Citations in this letter are from the Environmental Protection Act (415 ILCS 5) (Act) and Title 35 of the Illinois Administrative Code (35 Ill. Adm. Code).

The Illinois EPA requires modification of the plan; therefore, the plan is conditionally approved with the Illinois EPA's modifications. The Illinois EPA has determined that the following modifications are necessary to demonstrate compliance with Title XVI of the Act (Sections 57.7(a)(5) and 57.7(c) of the Act and 35 Ill. Adm. Code 734.505(b) and 734.510(a)):

The Illinois EPA has modified the plan by revising the locations of two of the proposed soil borings and/or monitoring wells based on previous investigatory results. Based on observation of the Proposed Soil Boring Location Map located in the plan, the following revisions are necessary:

- Due to the results of sample location L-3 located under the canopy adjacent to a pump island, boring PSB proposed adjacent to L-3 should be relocated approximately 20 feet west of sample location WC-2 or the property boundary, whichever is less in order to investigate contamination that may have migrated west of sample location WC-2 at the tank pit.
- Proposed boring location PSBMW located in the grass southeast of the tank pit should be relocated approximately 20 feet west of the proposed location in order to investigate contamination that may have migrated south of sample location 1 at the tank pit.

In addition, the actual costs budget for Stage 1 is modified pursuant to Sections 57.7(a)(2) and 57.7(c) of the Act and 35 Ill. Adm. Code 734.505(b) and 734.510(b). Based on the modifications listed in Section 2 of Attachment A, the amounts listed in Section 1 of Attachment A are approved. Be aware that the amount of payment from the Fund may be limited by Sections 57.8(d), 57.8(e), and 57.8(g) of the Act, as well as 35 Ill. Adm. Code 734.630 and 734.655.

In addition, the proposed budget for Stage 2 is modified pursuant to Sections 57.7(a)(2) and 57.7(c) of the Act and 35 Ill. Adm. Code 734.505(b) and 734.510(b). The modifications are listed in Section 2 of Attachment A. Costs must be incurred in accordance with the approved plan. The maximum amounts

that can be paid from the Fund must be determined in accordance with Subpart H, Appendix D, and Appendix E of 35 Ill. Adm. Code 734 (35 Ill. Adm. Code 734.310(b)). Please be advised that costs associated with materials, activities, and services must be reasonable, must be consistent with the associated technical plan, must be incurred in the performance of corrective action activities, must not be used for corrective action activities in excess of those necessary to meet the minimum requirements of the Act and regulations, and must not exceed the maximum payment amounts set forth in Subpart H, Appendix D, and Appendix E of Part 734 (Section 57.7(c) of the Act and 35 Ill. Adm. Code 734.510(b)).

Pursuant to Sections 57.7(a)(5) and 57.12(c) and (d) of the Act and 35 Ill. Adm. Code 734.100 and 734.125, the Illinois EPA requires submittal of a Stage 3 Site Investigation Plan or Site Investigation Completion Report within 30 days after completing the site investigation to:

Illinois Environmental Protection Agency
Bureau of Land - #24
Leaking Underground Storage Tank Section
1021 North Grand Avenue East
Post Office Box 19276
Springfield, IL 62794-9276

Please note that the Illinois EPA does not require the submission of a budget if the owner or operator does not intend to seek payment from the Underground Storage Tank Fund.

Please submit all correspondence in duplicate and include the Re: block shown at the beginning of this letter.

An underground storage tank system owner or operator may appeal this decision to the Illinois Pollution Control Board. Appeal rights are attached.

If you have any questions or need further assistance, please contact Shirlene south at 217/558-0347.

Sincerely,

Michael T. Lowder
Unit Manager
Leaking Underground Storage Tank Section
Division of Remediation Management
Bureau of Land

MTL:sls:jab\

Attachment: Attachment A
Appeal Rights

c: CWM
BOL File

Attachment A

Re: LPC #0770155096 -- Jackson County
Carbondale/ Abel Investments
2101 South Illinois Avenue
Leaking UST Incident No.20130781
Leaking UST Technical File

SECTION 1

STAGE 1 Actual Costs

As a result of the Illinois EPA's modifications in Section 2 of this Attachment A the following amounts are approved:

$6,055.23	Drilling and Monitoring Well Costs
$8,671.67	Analytical Costs
$0.00	Remediation and Disposal Costs
$0.00	UST Removal and Abandonment Costs
$0.00	Paving, Demolition, and Well Abandonment Costs
$21,796.02	Consulting Personnel Costs
$1,249.10	Consultant's Materials Costs

Handling charges will be determined at the time a billing package is reviewed by the Illinois EPA. The amount of allowable handling charges will be determined in accordance with Section 57.1(a) of the Environmental Protection Act (Act) and 35 Illinois Administrative Code (35 Ill. Adm. Code) 734.635.

STAGE 2 Proposed Budget

Costs must be incurred in accordance with the approved plan and must be determined in accordance with 35 Ill. Adm. Code 734.Subpart H, Appendix D, and Appendix E.

Handling charges will be determined at the time a billing package is reviewed by the Illinois EPA. The amount of allowable handling charges will be determined in accordance with Section 57.1(a) of the Environmental Protection Act (Act) and 35 Illinois Administrative Code (35 Ill. Adm. Code) 734.635.

SECTION 2

STAGE 1 Modifications

1. $218.70 for costs for drilling, which exceed the minimum requirements necessary to comply with the Act. Costs associated with site investigation and corrective action activities and associated materials or services exceeding the minimum requirements necessary to comply with the Act are not eligible for payment from the Fund pursuant to Section 57.7(c)(3) of the Act and 35 Ill. Adm. Code 734.630(o).

   The Illinois EPA finds the placement of SB-2 to exceed the minimum requirements and to have been unnecessary in delineating the extent of contamination.

   In addition, for site investigation or corrective action costs for SB-2 that are not reasonable as submitted. Such costs are ineligible for payment from the Fund pursuant to Section 57.7(c)(3) of the Act and 35 Ill. Adm. Code 734.630(dd).

2. $575.84 for costs for analysis, which exceed the minimum requirements necessary to comply with the Act. Costs associated with site investigation and corrective action activities and associated materials or services exceeding the minimum requirements necessary to comply with the Act are not eligible for payment from the Fund pursuant to Section 57.7(c)(3) of the Act and 35 Ill. Adm. Code 734.630(o).

   The Illinois EPA finds the analysis costs in relation to SB-2 to exceed the minimum requirements and to have been unnecessary in delineating the extent of contamination.

   In addition, costs for site investigation or corrective action costs for analysis of SB-2 that are not reasonable as submitted. Such costs are ineligible for payment from the Fund pursuant to Section 57.7(c)(3) of the Act and 35 Ill. Adm. Code 734.630(dd).

3. $984.24 for costs for Engineer III, which exceed the minimum requirements necessary to comply with the Act. Costs associated with site investigation and corrective action activities and associated materials or services exceeding the minimum requirements necessary to comply with the Act are not eligible for payment from the Fund pursuant to Section 57.7(c)(3) of the Act and 35 Ill. Adm. Code 734.630(o).

   The Illinois EPA has determined that the following personnel costs are unreasonable and lack supporting documentation. Therefore, reduction of the hourly rate from $121.49 for an Engineer III to $66.81 rate for a Senior Account Technician as submitted for the Stage 1 Budget Calculations/Preparation

   In addition, costs for site investigation or corrective action costs for the Stage 1 Budget Calculations/Preparation that are not reasonable as submitted. Such costs are ineligible for payment from the Fund pursuant to Section 57.7(c)(3) of the Act and 35 Ill. Adm. Code 734.630(dd).

Pursuant to Section 734.850, personnel costs must be based upon the work being performed, regardless of the title of the person performing the work.

4. $1,457.88 for costs for technical oversight/ compliance/ reimbursement review, which exceed the minimum requirements necessary to comply with the Act. Costs associated with site investigation and corrective action activities and associated materials or services exceeding the minimum requirements necessary to comply with the Act are not eligible for payment from the Fund pursuant to Section 57.7(c)(3) of the Act and 35 Ill. Adm. Code 734.630(o).

   In addition, for costs for technical oversight/ compliance/ reimbursement review, which lack supporting documentation. Such costs are ineligible for payment from the Fund pursuant to 35 Ill. Adm. Code 734.630(cc). Since there is no supporting documentation of costs, the Illinois EPA cannot determine that costs will not be used for activities in excess of those necessary to meet the minimum requirements of Title XVI of the Act. Therefore, such costs are not approved pursuant to Section 57.7(c)(3) of the Act because they may be used for site investigation or corrective action activities in excess of those required to meet the minimum requirements of Title XVI of the Act.

   In addition, for site investigation or corrective action costs for technical oversight/ compliance/ reimbursement review that are not reasonable as submitted. Such costs are ineligible for payment from the Fund pursuant to Section 57.7(c)(3) of the Act and 35 Ill. Adm. Code 734.630(dd).

   Per phone conversation between the Illinois EPA and Rob Stanley of CWM Company, Inc. on April 29, 2016, it was explained that Carol Rowe of CWM or in some instances another person, reviewed ongoing work on a project to see if it was staying on track. The Illinois EPA would assume that these are the duties of the project manager assigned to the site.

5. $54.00 for indirect corrective action costs for personnel, materials, service, or equipment charged as direct costs. Such costs are ineligible for payment from the Fund pursuant to 35 Ill. Adm. Code 734.630(v). In addition, such costs are not approved pursuant to Section 57.7(c)(3) of the Act because they are not reasonable

   The Illinois EPA considers a measuring wheel to be an indirect cost of doing business.

STAGE 2 Modifications

1. $991.28 for costs for technical oversight/ compliance, which exceed the minimum requirements necessary to comply with the Act. Costs associated with site investigation and corrective action activities and associated materials or services exceeding the minimum requirements necessary to comply with the Act are not eligible for payment from the Fund pursuant to Section 57.7(c)(3) of the Act and 35 Ill. Adm. Code 734.630(o).

In addition, for costs for technical oversight/ compliance, which lack supporting documentation. Such costs are ineligible for payment from the Fund pursuant to 35 Ill. Adm. Code 734.630(cc). Since there is no supporting documentation of costs, the Illinois EPA cannot determine that costs will not be used for activities in excess of those necessary to meet the minimum requirements of Title XVI of the Act. Therefore, such costs are not approved pursuant to Section 57.7(c)(3) of the Act because they may be used for site investigation or corrective action activities in excess of those required to meet the minimum requirements of Title XVI of the Act.

Per phone conversation between the Illinois EPA and Rob Stanley of CWM Company, Inc. on April 29, 2016, it was explained that Carol Rowe of CWM or in some instances another person, reviewed ongoing work on a project to see if it was staying on track. The Illinois EPA would assume that these are the duties of the project manager assigned to the site.

2. $660.52 for costs for Professional Geologist, which exceed the minimum requirements necessary to comply with the Act. Costs associated with site investigation and corrective action activities and associated materials or services exceeding the minimum requirements necessary to comply with the Act are not eligible for payment from the Fund pursuant to Section 57.7(c)(3) of the Act and 35 Ill. Adm. Code 734.630(o).

   The Illinois EPA has determined that the following personnel costs are unreasonable and lack supporting documentation. Therefore reduction of the hourly rate from $113.99 for a Professional Geologist to $66.81 rate for a Senior Account Technician as submitted for the Stage 2 Budget Preparations/Calculations

   In addition, costs for site investigation or corrective action costs for the Stage 2 Budget Calculations/Preparation are not reasonable as submitted. Such costs are ineligible for payment from the Fund pursuant to Section 57.7(c)(3) of the Act and 35 Ill. Adm. Code 734.630(dd).

   Pursuant to Section 734.850, personnel costs must be based upon the work being performed, regardless of the title of the person performing the work.

3. $456.80 for costs for Engineer III, which exceed the minimum requirements necessary to comply with the Act. Costs associated with site investigation and corrective action activities and associated materials or services exceeding the minimum requirements necessary to comply with the Act are not eligible for payment from the Fund pursuant to Section 57.7(c)(3) of the Act and 35 Ill. Adm. Code 734.630(o).

   The Illinois EPA has determined that the following personnel costs are unreasonable and lack supporting documentation. Therefore reduction of the hourly rate from $123.91 for an Engineer III to $66.81 rate for a Senior Account Technician as submitted for the Stage 2 Budget Development.

In addition, costs for site investigation or corrective action costs for the Stage 2 Budget Development are not reasonable as submitted. Such costs are ineligible for payment from the Fund pursuant to Section 57.7(c)(3) of the Act and 35 Ill. Adm. Code 734.630(dd).

4. $797.93 for costs for travel time, which exceed the minimum requirements necessary to comply with the Act. Costs associated with site investigation and corrective action activities and associated materials or services exceeding the minimum requirements necessary to comply with the Act are not eligible for payment from the Fund pursuant to Section 57.7(c)(3) of the Act and 35 Ill. Adm. Code 734.630(o).

   The costs appear to exceed the minimum requirements since there is an office located in the vicinity of the site.

   In addition, for costs for travel time, which lack supporting documentation. Such costs are ineligible for payment from the Fund pursuant to 35 Ill. Adm. Code 734.630(cc). Since there is no supporting documentation of costs, the Illinois EPA cannot determine that costs will not be used for activities in excess of those necessary to meet the minimum requirements of Title XVI of the Act. Therefore, such costs are not approved pursuant to Section 57.7(c)(3) of the Act because they may be used for site investigation or corrective action activities in excess of those required to meet the minimum requirements of Title XVI of the Act.

   In addition, for site investigation or corrective action costs for travel time that are not reasonable as submitted. Such costs are ineligible for payment from the Fund pursuant to Section 57.7(c)(3) of the Act and 35 Ill. Adm. Code 734.630(dd).

5. $743.46 for costs for SICR technical compliance/oversight, which exceed the minimum requirements necessary to comply with the Act. Costs associated with site investigation and corrective action activities and associated materials or services exceeding the minimum requirements necessary to comply with the Act are not eligible for payment from the Fund pursuant to Section 57.7(c)(3) of the Act and 35 Ill. Adm. Code 734.630(o).

   In addition, for costs for technical compliance/oversight, which lack supporting documentation. Such costs are ineligible for payment from the Fund pursuant to 35 Ill. Adm. Code 734.630(cc). Since there is no supporting documentation of costs, the Illinois EPA cannot determine that costs will not be used for activities in excess of those necessary to meet the minimum requirements of Title XVI of the Act. Therefore, such costs are not approved pursuant to Section 57.7(c)(3) of the Act because they may be used for site investigation or corrective action activities in excess of those required to meet the minimum requirements of Title XVI of the Act.

   Per phone conversation between the Illinois EPA and Rob Stanley of CWM Company, Inc. on April 29, 2016, it was explained that Carol Rowe of CWM or in some instances another person, reviewed ongoing work on a project to see if it was staying on track. The

Illinois EPA would assume that these are the duties of the project manager assigned to the site.

6. $19 for costs for PID Rental, which lack supporting documentation. Such costs are ineligible for payment from the Fund pursuant to 35 Ill. Adm. Code 734.630(cc). Since there is no supporting documentation of costs, the Illinois EPA cannot determine that costs will not be used for activities in excess of those necessary to meet the minimum requirements of Title XVI of the Act. Therefore, such costs are not approved pursuant to Section 57.7(c)(3) of the Act because they may be used for site investigation or corrective action activities in excess of those required to meet the minimum requirements of Title XVI of the Act.

   The Stage 1 cost for a PID was listed as $129.00; therefore, the rate has been reduced from $148.00 to $129.00 as requested in the previous budget.

7. $21.00 for indirect corrective action costs for personnel, materials, service, or equipment charged as direct costs. Such costs are ineligible for payment from the Fund pursuant to 35 Ill. Adm. Code 734.630(v). In addition, such costs are not approved pursuant to Section 57.7(c)(3) of the Act because they are not reasonable

   The Illinois EPA considers a measuring wheel to be an indirect cost of doing business.

sls:jab\

Appeal Rights

An underground storage tank owner or operator may appeal this final decision to the Illinois Pollution Control Board pursuant to Sections 40 and 57.7(c)(4) of the Act by filing a petition for a hearing within 35 days after the date of issuance of the final decision. However, the 35-day period may be extended for a period of time not to exceed 90 days by written notice from the owner or operator and the Illinois EPA within the initial 35-day appeal period. If the owner or operator wishes to receive a 90-day extension, a written request that includes a statement of the date the final decision was received, along with a copy of this decision, must be sent to the Illinois EPA as soon as possible.

For information regarding the filing of an appeal, please contact:

John Therriault, Assistant Clerk
Illinois Pollution Control Board
James R. Thompson Center
100 West Randolph, Suite 11-500
Chicago, IL 60601
312/814-3620

For information regarding the filing of an extension, please contact:

Illinois Environmental Protection Agency
Division of Legal Counsel
1021 North Grand Avenue East
Post Office Box 19276
Springfield, IL 62794-9276
217/782-5544

*h*LEAKING UST TECHNICAL REVIEW NOTES

Re-reviewed: 4/20/16

Reviewed by: Shirlene South
Reviewed: 12-3-13
IEMA Date:7-9/13
Leaking UST Incident No. 20130781
LUST Technical File look at **#970841**

File Heading: LPC 0770155096Co. Jackson
Carbondale/ Able Investments
2101 South Illinois Avenue,62901
Gasoline
Under : 734

PRP: Able Investments
Attn: Sarabraj Singh
20236 Hemmingway st. ~~2043 Colorado Ave, Ste 3~~
Canoga Park/LA, CA 91306 ~~Santa Monica, ca 90404~~

Consultant: CW3M
Attn: ~~Carol Rowe~~ Rob Stanley
701 W. South Grand Ave/marion
Springfield, Il 60174
217-522-8001

Document(s) Reviewed: 45 Day Report-3/1/13
Reviewed 12-3-13

General Site Information:

Site subject to: Title 734

IEMA date(s) Date 7-9-13	Reimbursement (Y/N/unknown): REQ/INELIG
UST System removed (Y/N): ¼ tank remains	OSFM Fac. ID #: «OSFM_ID»
Encountered Groundwater (Y/N): Y	SWAP mapping and evaluation completion date: 12-3-13
Free Product (Y/N): N	Site placement correct in SWAP (Y/N): Y
Current/Past Land Use: STATION Land use station	MTBE > 40 ppb (unk):12-3-13
EJ_AREA: YES/low income	**VI:**

Size & Product of Tanks:	Release	Cause	Removed	Eligibility
Tank 1 10,000G	N		N	
Tank 2 10,000G	Y	Holes	Y	
Tank 3 10,000G	Y	Holes	Y	
Tank 4 10,000G	Y	holes	y	

GW ordinance in affect.

Review Notes:

45 day received 9-6-13, with an addendum received 10-13.
During an environmental assessment it was discovered that a possible release form the ust's had occurred. Tanks were emptied of their contents.
There is ongoing construction and reconfiguration of the facility.
Piping samples were not done at the time of E.A. due to re installation of piping from tank 1 which was temporarily taken out of service. Other 3 tanks removed.
Removed 731.59 tons(487.73yd3 of native soil

Wc-1 and wc-2 gw @ ~ 10'
Floor samples taken at 10' at gw coming into excavation
Discoloration and odors noted at 3' -10' at gw table
E.A. sample at tank appear to have been taken in accordance to the reg's
But the piping sample are not every 20' and are not on both sides of the piping as required and fail to meet the e.a. requirements of 734.200(2)(a).
In fact the samples near the pumps appear to be on the opposite side of the pumps away from the piping.

Also this site is in a low income area / EJ , the form is completed and waiting for CAP

L.P.E. Certification: Vince E. Smith
IEPA Recommendation/Comments:
Deny due to fact that 734.200(2)(a) was not fulfilled

Response Due:
1/4/14,,
SLS:sls\

2-16-14-SPOKE TO Carol Rowe and asking to go back out and roll costs in to Stage 1 costs for the additional drilling and send in an addendum.

Document Reviewed: 45 day addendum 7-8-14

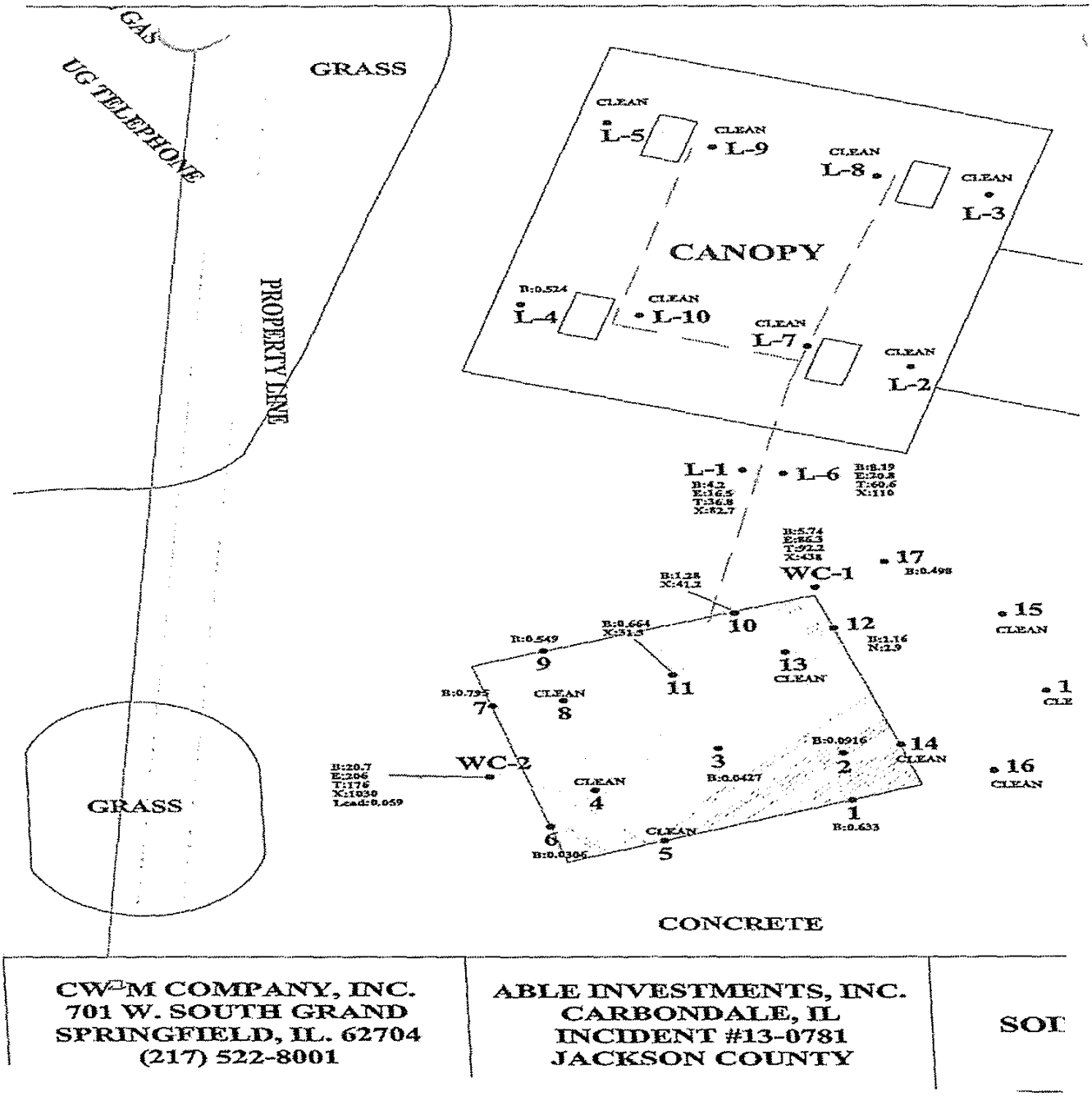
Review Notes:

Note that there is coc's found at piping lines and one sample came back exceeding tier 1 at the pump island. There are two WC samples (total) taken at the east and west sides of the tank pit, both exceeded.

G	Ind/com			Class		WC-1	WC-2	1	2	6	7	9	10	11	L1	L4		
	ing	inh	cw	I	II													
	12	0.8	-	0.03	0.17	5.74	20.7	.633	.0916	.0306	.795	.549	**1.28**	**.664**	4.2	.524		<
	16,000	650	42	12	29	92.2	176	<	<	<	<	<	<	<	36.8	<		<
	7,800	400	58	13	19	86.3	206	<	<	<	<	<	<	<	16.6	<		<
	16,000	320	5.6	150	150	*438*	*1030*	<	<	<	<	<	<	<	*82.7*	<		<
b	780	8,800	140	0.32	0.32	-	.059	<	<	<	<	<	<	<	<	<		<

There are samples to the east-south/ east of the tank that are clean.
Refer to diagram below:

-



CW M COMPANY, INC. 701 W. SOUTH GRAND SPRINGFIELD, IL. 62704 (217) 522-8001	ABLE INVESTMENTS, INC. CARBONDALE, IL INCIDENT #13-0781 JACKSON COUNTY	SOI

L.P.E. Certification: Vince E. Smith
IEPA Recommendation/Comments:
Approve. Finally fulfilled 45 day and early action requirements' and can now move to stage 1
Response Due:
-/-/-
SLS:sls\

~~734 Budget~~	~~Proposed~~	~~/ Modified / Final~~	
~~Drilling and Monitoring Costs~~	~~$~~	~~$.00~~	~~$.00~~
~~Analytical costs~~	~~$~~	~~$.00~~	~~$.00~~
~~Remediation and Disposal Costs~~	~~$~~	~~$.00~~	~~$.00~~
~~Ust Removal and Abandonment Costs~~	~~$0.00~~	~~$.00~~	~~$.00~~
~~Paving, Demo, and Well Abandonment~~	~~$0.00~~	~~$.00~~	~~$.00~~
~~Consulting Personnel Costs Form~~	~~$~~	~~$.00~~	~~$.00~~
~~Consulting Materials Costs Form~~	~~$~~	~~$.00~~	~~$.00~~
~~Total Budget~~	~~$~~	~~$.00~~	~~$.00~~

Documents Reviewed: Stage 2 Plan and budget with stage 1 results and actual costs
Dated: 1/8/16
Received: 1/11/16
Reveiwed:4/20/16

Review Notes:
Not reimbursable- it is noted in the report that several soil samples collected on Aug 16, 2015 were not properly prepared and were not accepted by the lab and had to re-collected on July 7, 2015 and advance new boring

Collected on 6/12/15 –MW-1(2), MW-2(2), SB-1(2)SB-2(2) need to look at both costs for travel, boring and analytical for these samples that had to be resampled.

GW flow is northwest
Closest ISGS well is 1,284 ft from ust's proposed;
Do slug test to determine hy. Cond
Other site specific parameters near mw-2 will be conducted.
Three additional boring for delineation of soil plume and one boring for TACO

il Sample	Depth(ft)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylene	MTBE (mg/kg)
1 E.A.-8/14-13		**0.633**	-	-	-	-
2		**0.0916**	-	-	-	-
3		**0.0427**	-	-	-	-
6		**0.0306**	-	-	-	-
7		**0.795**	-	-	-	-
8		**ND**	-	-	-	-
9		**0.549**	-	-	-	-
10		**1.28**	-	-	**41.2**	-
11		**0.664**	-	-	**31.3**	-
12		**1.16**	-	-	-	-
L-1		**4.2**	36.8	16.5	82.7	-
L-4		**0.524**	-	-	-	-
L-6		**8.19**	**60.6**	**20.8**	**110**	-
tier 1 Remediation Objectives						
Soil Class I gw		0.03	12.0	13.0	150.0	0.32
Soil Class II gw		0.17	29.0	19.0	150.0	0.32
R Ingest		12.00	16,000.00	7,800.0	16,000.0	780.0
R Inhal		0.80	650.00	400	320.0	8,800.00
I/C Ingest		100.00	410,000.0	200,000.0	410,000.0	20,000.00
I/C Inhal		1.6	650.0	400.0	320.0	8,800.00
Con Ingest		2,300.00	410,000.0	20,000.0	41,000.0	2,000.0
Con. Inhal		2.20	42.0	58.0	5.6	140.00

4-21-16 – called and left a message for Rob Stanley to ask about the placement of boring during Stage 1 appear to be clustered and areas that needed to be delineated were not !

The IEPA has moved three of the proposed b/m to more closely delineate , not 80 feet but forty feet from contamination.

Questioning the following: for samples and dates and time spent

7/10/13 : wc-1 and wc-2 totaling 2 samples	
9/5/14: L1 thru L-5 totaling 5 samples	
1/5/14: L6 thru L10 , and 15, 16, 17, and 18 totaling 9 samples	
6/12/15: SB-1 thru SB-6, with samples taken at two depths 2.5' and 7.5' MW-1 thru MW-5(MW5 , no soil)	time 9-1:20=4.5 hours
7/1/15: SB-1 and SB2, with samples taken at two depths 2.5' and 7.5' MW-1 at 7.5' and MW-2 at 2.5 and 7.5'	time 8-9=1 hour
6/23/15: MW-1, MW-2, MW-3, MW-4, MW-5	time 12-1=1 hour
	Total 7.5 hours

but for stage 1 they have a total of 52 hours for two people
samples sb-1 and sb-2 were collected twice along with MW-1 thru MW-5
then MW-1 and MW-2 were collected a third time and it is only stage 1.
Was one of the round trips needed for resampling of the samples?

Also 15, 16, and 17 appear to be EA samples and were clean yet why were SB-1 and SB-2 place to the NE of MW-5 when GW is said to be NW'ly and very little delineation done to the NW of the ust pit
And two places where there should be delineation were left open to the west and south of the UST pit with no investigation?

Called 4-22-16 to speak to R. Stanley and Vince stated he was in the field and I could reach him Monday at the Marion office, I asked if he worked out of that office and he replied yes. In that case why are they requesting mileage from Springfield office at 340 miles roundtrip when Marion is on 17 miles from Carbondale and again in Stage to for 680 miles?

4-26-15- spoke to Rob and SB-1 and SB-2 along with MW-1 and MW-2 were resampled. He also cleared up the confusion about the dates on page 6 of the report it should read June instead of August on the first line of the paragraph.

Spoke to Rob again on 4-29? And discussed the need for 23 hours and the fact they are asking for Geo pay for accounting tasks and why they need technical overview by Carol Rowe. This requires justification when there is a project manager assigned to the site who oversees this type of work.

Stage 1 results

Soil Sample	Depth(ft)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylene	MTBE (mg/kg)
SB-3	**7.5**	**0.623**	**ND**	-	-	-
SB-4	**2.5**	**1.28**	-	-	-	-
SB-4	**7.5**	**0.035**	**ND**	**ND**	**ND**	**ND**
MW-5		**0.808**	**1.07**	**0.793**	-	**0.144**
Tier 1 Remediation Objectives						
Soil Class I gw		0.03	12.0	13.0	150.0	0.32
Soil Class II gw		0.17	29.0	19.0	150.0	0.32
R Ingest		12.00	16,000.00	7,800.0	16,000.0	780.0
R Inhal		0.80	650.00	400	320.0	8,800.00
I/C Ingest		100.00	410,000.0	200,000.0	410,000.0	20,000.00
I/C Inhal		1.6	650.0	400.0	320.0	8,800.00
Con Ingest		2,300.00	410,000.0	20,000.0	41,000.0	2,000.0
Con. Inhal		2.20	42.0	58.0	5.6	140.00

None of the mw- thru mw-4 exceed SRO's, no sol was taken at MW-5, but 17 next to it has no exceedences
NAP FOUND IN sb-4 AT 2.5 FT 1.85 AND 1.8 IS THE OBJ.

Clarification of the reasons for sb-1 and Sb-2 placement, when 15 and 18 showed no signs of exceedences ask which samples were redone/ dates

L.P.E. Certification: Vince E. Smith
IEPA Recommendation/Comments:
Response Due: 5/10/16
Completed: -/-/-
:sls\

5/2/16- Rob S. Called and explained that tech oversight was carol Rowe reviewing and keeping up to date with the overall site and keeping an eye on how things were going.(loosely worded). He explained that the 23 hours was the two days for drilling and collecting samples (gw) and travel? One is in Springfield and one is in Carbondale??

Inc # 20130781

Stage 1 Actual Costs

0770155096/ Abel Investments	DATE	April 26, 2016
Jackson Co/ Carbondale		
2101 S. Illinois Avenue	REVIEWER	sls
Inc #2013-0781		
LEAKING UST TECH FILE		

	REQUESTED	DEDUCTED	APPROVED
Drilling and Monitoring Well Cost	$6,273.93	$218.70	$6,055.23
ANALYTICAL	$9,247.51	$575.84	$8,671.67
Remediation and Disposal	$0.00	$0.00	$0.00
ust removal and abandonment	$0.00	$0.00	$0.00
paving, Demolition and Well abandonment	$0.00	$0.00	$0.00
Consutant Cost	$24,238.14	$2,442.12	$21,796.02
CONSULTANT'S MATERIALS	$1,501.10	$252.00	$1,249.10
TOTAL	$41,260.68	$3,488.66	$37,772.02

look at actual costs for pages 2100 for stage 2 and 7000 for SICR

DEDUCTIONS - EXPLANATION			
(AMOUNT DEDUCTED) - REASON	**Drilling**	deducted	
SB-2 and associated cost	10' x 21.87 =$218.70	$218.70	exceeds-17/ unreasonable -31
SB-1 delineated , SB-2 was not necessary			
analytical			
BTEX SB-2 analysis(2.5, 7.45')	103.26x2=$206.52	206.52	
related to SB-2 exceeds req.'s			
PNA SB-2 analysis (2.5, 7.45')	2 x 184.66=$369.32	369.32	
	total sub=	$575.84	
Personnel costs			
eng III/si1 budget calc/prep	18*66.81=1202.58	$984.24	reduced from $121.49p/h
tech oversight / complinace/	12*121.49=$	$1,457.88	breakdown and justify 30-31
reimbursemet review			
	total	2,517.12	
material costs			
measuring wheel	3*18.00=	$54.00	indirect

Incident # 20130781

Stage 2 proposed

0894695096/Fox River Foods	DATE
Montgomery/ Kane County	
1355 Baseline Rd	REVIEWER
Inc #20120985	
LEAKING UST TECH FILE	

	REQUESTED	DEDUCTED	APPROVED
Drilling and Monitoring Well Cost	$3,094.75	$0.00	$3,094.75
ANALYTICAL	$4,984.88	$0.00	$4,984.88
Remediation and Disposal	$0.00	$0.00	$0.00
ust removal and abandonment	$0.00	$0.00	$0.00
paving, Demolition and Well abandonment	$0.00	$0.00	$0.00
Consutant Cost	$33,728.31	$3,649.99	$30,078.32
CONSULTANT'S MATERIALS	$1,334.50	$40.00	$1,294.50
TOTAL	$43,142.44	$3,689.99	$39,452.45

DEDUCTIONS - EXPLANATION
(AMOUNT DEDUCTED) - REASON deducted

Personnel			
SR PM-tech complinace/ oversight	8*123.91=	$991.28	17-30
PG-st2 budgeprep/calc	14*66.81=$935.34	$660.52	reduced from $113.99 p/hour
Eng III-St2 Budget Development	8*66.81=$534.48	$456.80	reduced from $123.91p/h
PG-on -site drillin /sampling	16*113.99=$1,823.84	$797.93	1 person driving from springfield
SR PM-SICR complina /oversight	6*123.91	$743.46	17-30
total		$3,649.99	
Material costs			
pid rental	1*148.00	$19.00	at cost of stage 1 PID $129.00
measuring wheel	1*21.00	$21.00	indirect-23
total		$40.00	

From: South, Shirlene
To: Jarvis, Melanie; Lowder, Mike
Cc: Dunn, Greg
Subject: RE: Abel Investments
Date: Tuesday, June 14, 2016 10:28:55 AM

Hi Melanie,

You should have received and electronic copy of the last report submitted. Also I sent a separate email containing the letter, attachment A, review notes and budgets sheet I used for stage 1 and 2.

Shirlene South

From: Jarvis, Melanie
Sent: Tuesday, June 14, 2016 9:41 AM
To: Lowder, Mike
Cc: South, Shirlene; Dunn, Greg
Subject: RE: Abel Investments

20130781 Sorry missed the one at the end

From: Lowder, Mike
Sent: Tuesday, June 14, 2016 9:29 AM
To: Jarvis, Melanie; South, Shirlene; Dunn, Greg
Subject: RE: Abel Investments

Melanie, I'm sure Shirlene knows which site it is but our database shows 20150784 as the incident for Abel in Carbondale. The one you provided is missing a number so I don't know if the one I referenced is the site in question or if it is another. The one I referenced looks like we approved their 45 Day/Stage 1 2/8/16 so no sure what the appeal would be regarding. Can we get a little more detail? Thanks!

From: Jarvis, Melanie
Sent: Tuesday, June 14, 2016 9:16 AM
To: South, Shirlene; Lowder, Mike; Dunn, Greg
Subject: Abel Investments

I need the record to be compiled in the above case, Incident Number 2013078. Melanie

Melanie A. Jarvis
Assistant Counsel
Illinois Environmental Protection Agency
217/782-5544