Initial Site Screening (ISS)

CON12-15
DOC# 34131

Site Name: TEH- Proposed Kwik Trip #924

Project Manager: Matt Culp Date: 4/3/2018

☐ **3931 - Phase II Assessment Review – Brownfield Funded**
Phase II submitted as part of standard real estate development, pre-purchase agreement, or other due diligence, not a part of a community grant project, or

☐ **3837 - Phase II Assessment – Brownfield Grant Funded**
Phase II submitted as part of an EPA grant funded community-wide or targeted assessment project – see Mel Pins if questions on this determination, or

☒ **3321 - Phase II Assessment Review – CERCLA Pre-Remedial Funded**
Phase II submitted that is not part of a real estate transaction

Location: (Decimal Degree format)

Latitude: 42.4538 Longitude: 93.8169 **County:** Hamilton

USGS Quadrant: Webster City

Site Size: 6.5 **Site Dimension:** ☒ Acres ☐ Square Feet ☐ Feet ☐ Square Miles ☐ Miles

Site Alias Name(s): None

Congressional District: Iowa 4th

Grant Recipient Name: NA

Grant Recipient Address: NA

Grant Recipient Phone: NA **Grant Recipient Email:** NA

Current Owner(s): KWIK TRIP INC., C/O Troy Batzel

Current Owner Address: 1626 OAK STREET P. O. BOX 2107 LA CROSSE WI 54602

If different from current owner:

Responsible Party Name(s): same

Responsible Party Address: same

Site Street Address or Tier, Range, Section & Subsections (if street address is unknown)

401 Fair Meadows Drive, Webster City, Iowa 50595

Directions to site: From Des Moines travel north on Interstate 35 to Highway 20 and turn west. Travel west on Highway 20 to state highway 17 and turn north. Travel north on 17 and turn left on Fair Meadows Drive. The site is on the right.

Summarize the site history (past usages, past ownerships, wastes, known or suspected contamination pathways such as tanks, septic tank/tile field, lagoon, land applications, SW burial, etc.)

The site was undeveloped agricultural land since the 1930s. A road was developed on the east side of the site extending to the north from Fair Meadow Drive during 2015. Drainage ways were apparent between the 1950s and the 1960s, extending from the west to the southeast corner of the site and from the north central to west central border of the site. The adjacent north property was developed residentially beginning in the 1930s through the present. The adjacent east property was undeveloped agricultural land from the1930s through the 1950s. The adjacent south property was undeveloped land from the 1930s through the 1970s. Beginning in the 1980s, the area of the site property was developed commercially. The adjacent west property was undeveloped agricultural land in the 1930s and was developed residentially beginning in the 1950s(see Receptor Map). No identified wetlands were noted, No threatened, endangered and protected species were located on the site. No Cultural resources or structures of historical significance were noted on the site and no recognized Environmental Concerns (RECs) were identified in connection with the site.

Briefly describe the site assessment that was conducted (number of borings, monitoring wells, number of samples, depth of soil samples and monitoring wells, analysis, etc.)

Six soil borings were completed to depths of 20-25 feet for the collection of soil and groundwater samples within the proposed building footprint and car wash (B-1, B-2, and B-3), at the proposed south canopy (B-4), and west canopy (B-5), and at the proposed scale (B-6). The soil boring locations (B-1 through B-6) are presented on Exhibit 3. Soil samples were field screened for volatile organic vapors (VOCs) with a photo-ionization detector (PID). Soil samples from borings B-1 through B-6 were collected at the interval of highest field screening or at the groundwater capillary fringe. Soil samples were collected from 10-11 feet at boring B-1, from 9-10 feet at boring B-2, from 15-16 feet at boring B-3, from 16-17 feet at boring B-4, from 13-14 feet at boring B-5, and from 17-18 feet at boring B-6 (See soil boring logs). Soil borings were converted to temporary monitoring wells. Groundwater samples from each monitoring well were analyzed for VOCs by USEPA Method 8260 and TEH as diesel and motor oil by Iowa Method OA-2.

Summarize the findings and conclusions regarding the contaminants found and their extent and concentrations. Relate those values to known criteria such as statewide standards, MCLs, water quality standards, background levels or other benchmarks used to determine site priority.

Soil Findings:

Total Extractable hydrocarbons (TEH) as diesel in soil were not detected above laboratory reporting limits. VOCs (as xylene) was detected at one boring (B-3). TEH (motor oil) was detected in soil above laboratory reporting limits at several borings but the concentration (13.1kg/kg) does not exceed the applicable SWS of 9,400 mg/kg (see soil results summary on Table 1).

Groundwater Findings:

TEH as diesel and motor oil were not detected in groundwater above laboratory reporting limits. Acetone was detected in only one groundwater sample (boring B-6) at an estimated concentration of 4.6ug/L, which is above the laboratory reporting limit but probably represents lab error (see groundwater summary on Table 2).

Identify on-site or off-site potential and actual targets (e.g., municipal wells, private wells, drinking water intakes). What is known of the neighboring area, i.e., are there residences, businesses, public use areas, etc.? Are there utility lines that could be impacted by site contaminants? Identify any other use/location issues that deserve consideration.

The site is undeveloped (vacant) land and there are no on-site receptors. The site is located in a developing residential and light commercial area (see Exhibit 1 and Receptor Map). A storm sewer man hole was observed along the west portion of the site. No off-site receptors (wells) have been identified in the immediate vicinity. However, two private wells are located off to the southwest of the site. One of the wells is reported to be 100 feet deep. Several underground storage tanks and leaking tanks are also in the general area (see Potential Source and Receptor Map).

Rate the site on a scale of 1 to 4, in decreasing order of severity or priority.

Priority 4, no compounds were detected in groundwater and only low levels of motor oil were detected in soil does not exceed SWS.

Summarize the reasoning, knowledge or any other information used in determining your recommendation regarding the priority assigned to this site.

A risk calculation for exposure to indoor air for waste oil was not conducted by DNR.

Site recommended for:

- [x] No further action CERCLA
- [ ] Additional investigation under state program (activity code 2824)
- [ ] Additional investigation under CERCLA (Extended Site Screening)
- [ ] Transfer to LUST/UST

Form Reviewed: Amie Davidson **Date Reviewed:** 4-3-18

PRE-CERCLIS SCREENING ASSESSMENT CHECKLIST/DECISION FORM

This checklist can assist the site investigator during the Pre-CERCLIS screening. It will be used to determine whether further steps in the site investigation process are required under CERCLA. Use additional sheets, if necessary.

Checklist Preparer:

Name/Title Matt Culp Senior Environmental Specialist Date 4/3/18

Address 502 East 9th Street City/State/Zip Des Moines IA 50319

E-mail matt.culp@dnr.iowa.gov Phone 1-515-725-8337

Site Name: TEH- Proposed Kwik Trip #924

Previous Names (if any): none

Site Location:

Address 401 Fair Meadows Drive City/State/Zip Webster City IA, 50595

Latitude: 42.4538 **Longitude:** 93.8169

Compare the following checklist. If "yes" is marked, please explain below.	**YES**	**NO**
1. Does the site already appear in CERCLIS?	☐	☒
2. Is the release from products that are part of the structure of, and result in exposure within, residential buildings or businesses or community structures?	☐	☒
3. Does the site consist of a release of a naturally occurring substance in its unaltered form, or altered solely through naturally occurring processes or phenomena, from a location where it is naturally found?	☐	☒
4. Is the release into a public or private drinking water supply due to deterioration of the system through ordinary use?	☐	☒
5. Is some other program actively involved with the site (i.e., another Federal, State, or Tribal program)?	☐	☒
6. Are the hazardous substances potentially released at the site regulated under a statutory exclusion (i.e., petroleum, natural gas, natural gas liquids, synthetic gas usable for fuel, normal application of fertilizer, release located in a workplace, naturally occurring, or regulated by the NRC, UMTRCA, or OSHA)?	☐	☒
7. Are the hazardous substances potentially released at the site excluded by policy considerations (e.g., deferral to RCRA Corrective Action)?	☐	☒
8. Is there sufficient documentation that clearly demonstrates that there is no potential for a release that could cause adverse environmental or human health impacts (e.g., comprehensive remedial investigation equivalent data showing no release above ARARs, completed removal action, documentation showing that no hazardous substance release have occurred, EPA approved risk assessment completed)?	☐	☒

Please explain all "yes" answer(s), attach additional sheets if necessary:

Site Determination:

☐ Enter the site into CERCLIS. Further assessment is recommended (Explain below).

☒ The site is not recommended for placement into CERCLIS (Explain below).

☐ Further assessment is recommended under PRE-CERCLA (Explain below).

DECISION/DISCUSSION/RATIONALE:

Soil contamination is below SWS and there is no evidience of groundwater contamination. These conditions present no known risk.

Regional EPA Reviewer: _____ _____

Print Name/Signature — Date

State Agency/Tribe: Amie Davidson Amie Davidson _____

Print Name/Signature — Date

REGION VII
U.S. ENVIRONMENTAL PROTECTION AGENCY

ENFORCEMENT SENSITIVE INFORMATION
FOR INTERNAL USE ONLY

LOCATION FORM

(Required information marked with a * and in red)

*Site Name: TEH- Proposed Kwik Trip #924 *EPA ID:

*Latitude: 42.4538 *Longitude: 93.8169 Measurement Sequence:
Decimal Decree Format (See Comment A)

*Lat/Long Source:
- ☐ Contractor
- ☐ Dun & Bradstreet
- ☐ EPA Region 7
- ☐ Geograph
- ☐ Other Federal Agency
- ☐ Regulated Entity
- ☐ State
- ☐ EPA Headquarters
- ☐ Epic
- ☒ Other
- ☐ Private
- ☐ SNAP
- ☐ Tribe
- ☐ Unknown
- ☐ (Blank)

Designate Lat/Long:
- ☐ Primary
- ☐ NPL Coordinate

*Collection Method:
- ☐ Address Matching -House Number
- ☐ Address Matching - Block Face
- ☐ Address Matching - Street Centerline
- ☐ Census Block - 1990 - Centroid
- ☐ Census Block/Group 1990-Centroid
- ☐ Census Block/Tract - 1990 - Centroid
- ☐ Census - Other
- ☐ GPS Carrier Phase Static Relative Position
- ☐ GPS Carrier Phase Kinematic Relative Position
- ☐ GPS, with Canadian Active Control System
- ☐ Interpolation-Digital Map Source (TIGER)
- ☐ Interpolation-Map
- ☐ Interpolation -MSS
- ☐ Address Matching -Nearest Intersection
- ☐ Address Matching - Primary Name
- ☐ Address Matching - Digitized
- ☐ ZIP+2 Centroid
- ☐ ZIP+4 Centroid
- ☐ ZIP Code - Centroid
- ☐ GPS Code (Pseudo Range) Differential
- ☐ GPS Code (Pseudo Range) Precise Position
- ☐ GPS Code (Pseudo Range) Standard Position (SA-Off)
- ☐ GPS Code (Pseudo Range) Standard Position Service SA-On
- ☐ Interpolation -Photo
- ☒ Interpolation – Satellite
- ☐ Interpolation - SPOT
- ☐ Address Matching - Other
- ☐ Public Land Survey-Footing
- ☐ Public Land Survey-Section
- ☐ Public Land Survey-Quarter Section
- ☐ Public Land Survey-Eighth Section
- ☐ Public Land Survey-Sixteenth Section
- ☐ GPS-Unspecified
- ☐ Classical Surveying Techniques
- ☐ LORAN
- ☐ Unknown
- ☐ Interpolation-TM
- ☐ Interpolation - Other

*Reference Point:
- ☐ Administrative Building
- ☐ Air Monitoring Station
- ☐ Air Release Stack
- ☐ Air Release Vent
- ☐ Atmos. Emissions Trtmnt Unit
- ☐ Boundary Point
- ☐ Building Entrance
- ☒ Facility/Centroid Cent
- ☐ Facility/Station Bldg Entrance
- ☐ Intake Point
- ☐ Lagoon or Settling Pond
- ☐ Liquid Waste Treatment Unit
- ☐ Loading Area Centroid
- ☐ Loading Facility
- ☐ Monitoring Point
- ☐ NE Corner of Land Parcel
- ☐ NW Corner of Land Parcel
- ☐ Other
- ☐ Plant Entrance (Freight)
- ☐ Plant Entrance (General)
- ☐ Plant Entrance (Personnel)
- ☐ Process Unit Area Centroid
- ☐ Process Unit
- ☐ Release Point
- ☐ SE Corner of Land Parcel
- ☐ Solid Waste Storage Area
- ☐ Solid Waste Trtmnt/Disp. Unit
- ☐ Storage Tank
- ☐ SW Corner of Land Parcel
- ☐ Treatment/Storage Plant
- ☐ Unknown
- ☐ Water Monitoring Station
- ☐ Water Release Pipe
- ☐ Well
- ☐ Well Protection Area

*Reference Datum: ☐ NAD27 ☐ NAD83 ☐ Other ☒ Unknown ☐ WGS84

*Accuracy Meters +/-: ☒ *Accuracy Unknown *Collection Date:

Verification Method:
- ☐ Ground Truth Conducted
- ☐ Point In Polygon (County)
- ☐ Point in Polygon (Zip)
- ☐ Point in Polygon (Other)
- ☐ Proximity to Alternative Facility Coordinate
- ☐ Proximity to Polygon Centroid (County)
- ☐ Proximity to Polygon Centroid (Other)
- ☐ Proximity to Polygon Centroid (Zip Code)
- ☐ Verified Relative to Map Features (1:100K/Tiger)
- ☐ Verified Relative to Map Features (1:24K)
- ☐ Verified Relative to Map Features (Other)
- ☐ Verified, Unknown Method
- ☒ Not Verified
- ☐ Blank

*Point/Line/Area: ☐ AREA ☐ LINE ☒ POINT ☐ REGION ☐ ROUTE ☐ BLANK

*Source Map Scale:
- ☐ 1:10,000
- ☐ 1:12,000
- ☐ 1:15,840
- ☐ 1;20,000
- ☐ 1:24,000
- ☐ 1:25,000
- ☐ 1:50,000
- ☐ 1:62,500
- ☐ 1:63,360
- ☐ 1:100,000
- ☐ 1:125,000
- ☐ 1:250,000
- ☐ 1:500,000
- ☐ NONE
- ☒ UNKNOWN

☐ OTHER

COMMENTS:

Signatures:

RPM/OSC: Date:

Branch Chief: Date:

Comment A: A sequential number to indicate the order in which points on a line or area are connected. For an area, the maximum point is connected to the first. Required if the feature is polygonal or linear 3 numeric.

REGION VII U.S. EPA SUPERFUND
NO DISCOVERY DATE

PRE-CERCLIS INITIATION FORM

(Required information marked with a * and in red)
NPL Status = O-Not a Valid Site or Incident

*Site Name: TEH-Proposed Kwik Trip #924 *Identified By: ☐ Removal ☒ Site Assessment ☐ Federal Facilities ☐ States ☐ Other Federal Agency Check if: ☐ FUD Site

*Address: 401 Fair Madeows Drive *County: Hamilton

*City, State, Zip: Webster City IA 50595 State ID (if one exists): Congressional District: Iowa 4th

NPL Status = O-Not a Valid Site or Incident Federal Facility Indicator: ☐ Federal Facility ☒ Not a Federal Facility ☐ Status Undetermined

*Section:

☐ C-(STAR) SPFD Technical Assistance/Re-Use Branch ☐ L-(EFLR) Enfr/Fund Lead RV Branch ☐ F-(FFSE) Federal Facilities/Special Emphasis Branch
☐ M-(MOKS) MO/KS remedial Branch ☒ I-(IANE) IA/NE Remedial Branch ☐ O-(ER&R) Emergency Response & RV Branch

List Site Alias Name(s): none

Directions to Site: From Des Moines travel north on Interstate 35 to Highway 20 and turn west. Travel west on Highway 20 to state highway 17 and turn north. Travel north on 17 and turn left on Fair Meadows Drive. The site is on the right.

Site Description: The site is a vacant lot

*Latitude: 42.4538 *Longitude: 93.8169 USGS Quadrant: Webster City USGS Hydro Unit:

(Decimal Degree Format) (with release of 3.17 see attached required location data form

Lat/Long Accuracy: ☐ Seconds ☒ Degrees ☐ Minutes ☐ Miles ☐ Feet ☐ Kilometers ☐ Meters

*Owner Operator Type:
☐ Federally-Owned ☐ Other ☐ Trustee, Federal
☐ Bank/Loan Company ☐ Former Federally Owned or Operated ☒ Private ☐ Trustee, State
☐ Brownfields/Public ☐ Government Owned/Contractor Operated ☐ Privately Owned/Government Operated ☐ Unknown
☐ County Owned ☐ Mixed Ownership ☐ Property Defaulted Back to Government
☐ District Owned ☐ Municipality ☐ State Owned

*Operational Status: ☐ Active ☒ Inactive ☐ Unknown ☐ Blank Native American Interest: ☐ Yes ☐ No

*Non-NPL Status (Choose one): ☒ Not a Valid Site or Incident ☐ Not a Valid Site or Incident: RCRA Lead ☐ Not a Valid Site or Incident: State Lead ☐ Not a Valid Site or Incident: NRC Lead ☐ Not a Valid Site or Incident: Tribal Lead

*Add Action: OU 00 *PRE-CERCLIS SCREENING: *Planned Complete: *Actual Complete:

*Lead code (choose one) ☐ F-EPA Fund Financed ☐ FF - Federal Facility ☐ S - State, Fund Financed

SCAP Note:

Add below Action (if No Further Action): OU 00 Lead: EP ☐ PRE-CERCLIS ARCHIVE Actual Complete:

SCAP Note: Comments: ☐ Site or ☐ Action:

*Site Type: (Choose all that apply; for every main category chosen, in bold, at least one sub-category must be selected; if more than one main and sub-category is selected indicate which is primary)

Primary Designation: OT

☐ **MP-Manufacturing/Processing/Maintenance** - *Applicable sub-categories:*
- ☐ CA-Chemicals and allied products
- ☐ CG-Coal gasification
- ☐ CP-Coke production
- ☐ EP-Electric power generation and distribution
- ☐ FT-Fabrics/textiles
- ☐ EE-Electronic/electrical equipment
- ☐ LW-Lumber and wood products/pulp and paper
- ☐ WP-Lumber and wood products/ wood preserving/ preserving/ treatment
- ☐ MF-Metal fabrication/finishing/coating and allied industries
- ☐ OR-Oil and gas refining
- ☐ OP-Ordnance production
- ☐ OT-Other-Description (needed):
- ☐ PR-Plastics and rubber products
- ☐ PM-Primary metals/mineral processing
- ☐ RA-Radioactive products
- ☐ TA-Tanneries
- ☐ TS-Trucks/ships/trains/aircraft and related components

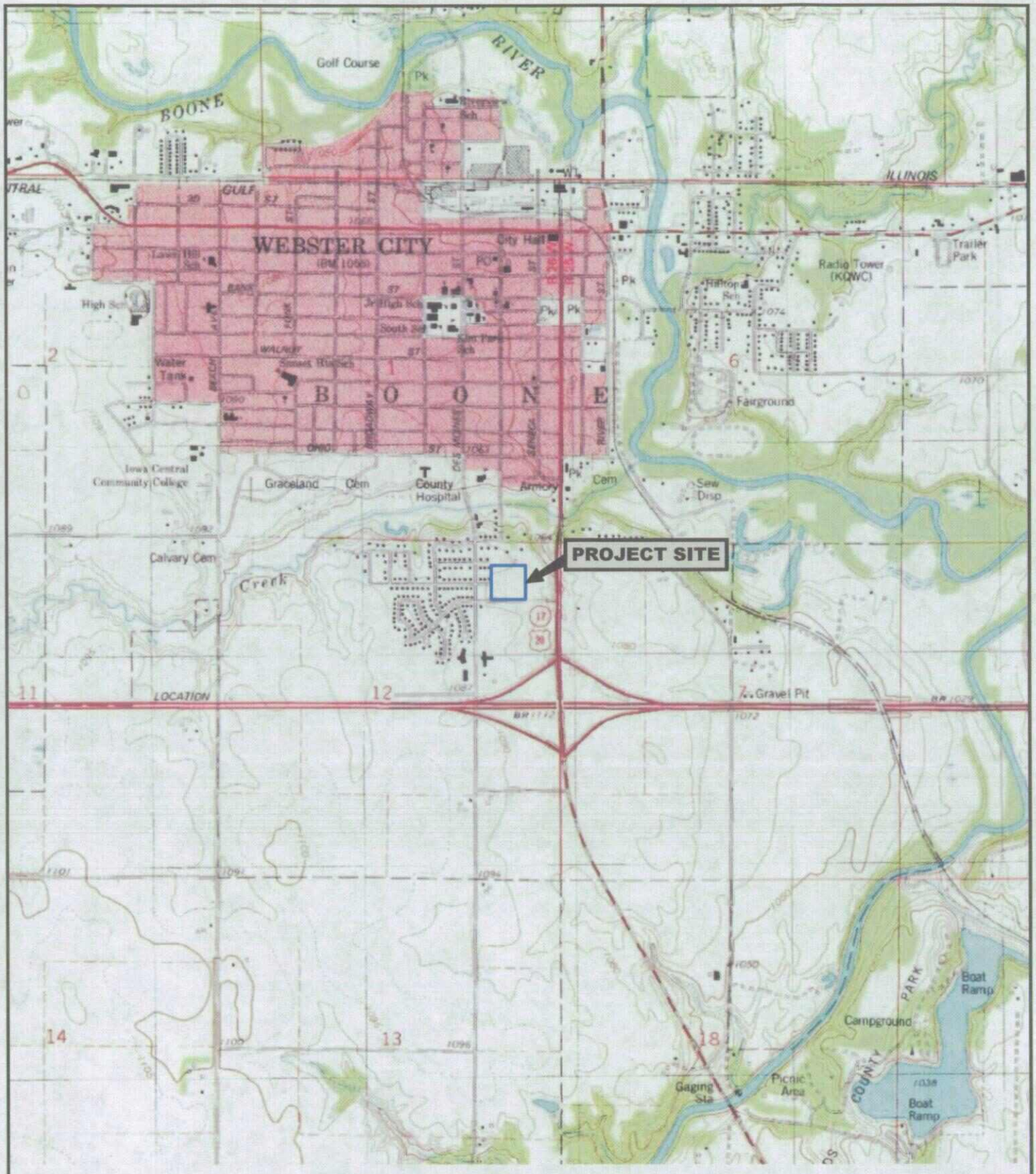
☐ **RE-Recycling** - *Applicable sub-categories*
- ☐ AT-Automobiles/tires
- ☐ BS-Batteries/scrap metals/secondary smelting/precious metal recovery
- ☐ CC-Chemicals/chemical waste (e.g., solvent recovery)
- ☐ DT-Drums/tanks
- ☐ OT-Other-Description (needed):
- ☐ WO-Waste/used

☐ **MI-Mining** - *Applicable sub-categories*
- ☐ CO-Coal
- ☐ ME-Metals
- ☐ NM-Non-metal minerals
- ☐ OG-Oil and Gas
- ☐ OT-Other-Description (needed):

☐ **WM-Waste Management** - *Applicable sub-categories*
- ☐ CL-Co-disposal landfill (municipal and industrial)
- ☐ ID-Illegal disposal/open dump
- ☐ IF-Industrial waste facility (non-generator)
- ☐ MD-Mine tailings disposal
- ☐ OT-Other-Description (needed):
- ☐ ML-Municipal solid waste landfill
- ☐ RW-Radioactive waste treatment, storage, disposal (non-generator)

☒ **OT-Other** - *Applicable sub-categories*
- ☐ AG-Agricultural (e.g., grain elevator)
- ☐ CS-Contaminated sediment site with no identifiable source
- ☐ DC-Dust control
- ☐ OT-Other-Description (needed):
- ☐ GP-Ground water plume site with no identifiable source
- ☐ MO-Military/Other Ordinance
- ☐ PS-Product Storage/distribution
- ☐ RC-Retail/commercial
- ☐ RD-Research, development, and testing facility
- ☒ SE-Spill or other one-time event
- ☐ TP-Transportation (e.g., railroad yards, airport, barge docking, site)
- ☐ TW-Treatment works/septic tanks/other sewage treatment

Signatures:
States: Annie Davidson Date: 4-3-18
RPM/OSC/SAM: Date:



TOPOGRAPHIC IMAGE FROM IOWA GEOGRAPHIC MAP SERVER MAINTAINED BY IOWA STATE UNIVERSITY AND MIT - http://cairo.gis.iastate.edu/map.html

LEGEND

- BOUNDARY OF ASSESSED AREA

NORTH

0 2000

APPROXIMATE DRAWING SCALE

Project No.	08167296A
Date:	12/12/2016
Project Mngr:	JMN
Drawn By:	JAL
File Name:	08167296A-01.dwg
Layout Name:	E1

Terracon
Consulting Engineers and Scientists
600 SW 7TH STREET DES MOINES, IOWA 50309
PH. (515) 244-3184 FAX. (515) 244-5249

TOPOGRAPHIC SITE MAP

PHASE II ENVIRONMENTAL SITE ASSESSMENT
PROPOSED KWIK TRIP #924
401 FAIR MEADOW DRIVE
WEBSTER CITY, IOWA 50595

EXHIBIT

1

LEGEND

- BOUNDARY OF ASSESSED AREA
- APPROXIMATE BORING LOCATION

AERIAL PHOTO FROM IOWA GEOGRAPHIC MAP SERVER MAINTAINED BY IOWA STATE UNIVERSITY AND MIT - http://cairo.gis.iastate.edu/map.html

NORTH

0 100'

APPROXIMATE DRAWING SCALE

Project No.	Date:
08167296A	12/12/2016
Project Mngr:	Drawn By:
JMN	JAL
File Name:	
08167296A-01.dwg	
Layout Name:	
E3	

Terracon
Consulting Engineers and Scientists
600 SW 7TH STREET DES MOINES, IOWA 50309
PH. (515) 244-3184 FAX. (515) 244-5249

BORING LOCATION PLAN

PHASE II ENVIRONMENTAL SITE ASSESSMENT
PROPOSED KWIK TRIP #924
401 FAIR MEADOW DRIVE
WEBSTER CITY, IOWA 50595

EXHIBIT

3

Proposed Kwik Trip #924
Potential Sources and Receptors Map

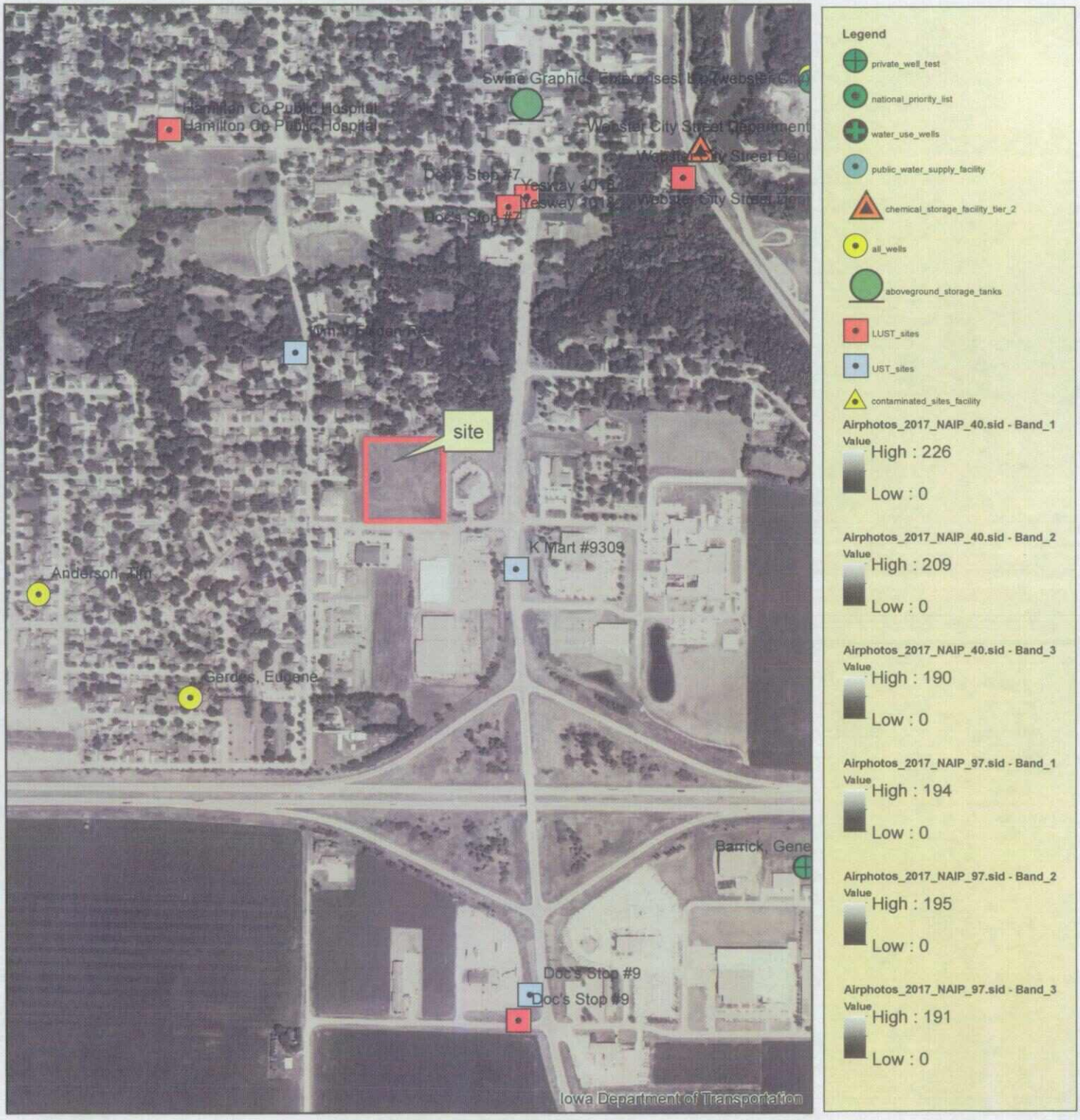


Table 1 - Soil Analytical Results
Proposed Kwik Trip #924
Webster City, Iowa
Terracon Project No. 08167296A

Parameter	Units	Statewide Standards	B-1	B-2	B-3	B-4	B-5	B-6	MB-1
Field Observations									
Depth of Sample	NA	NA	10-11 feet	9-10 feet	15-16 feet	16-17 feet	13-14 feet	17-18 feet	NA
PID - PPM	NA	NA	0.0	0.0	0.0	0.0	0.0	0.0	NA
VOCs - EPA Method 8260									
Bromomethane	ug/kg	110,000	<3.1	<2.9	<3.1	<3.0	<3.0	<2.9	140J
Xylenes	ug/kg	15,000,000	<3.1	<2.9	6.7	<3.0	<3.0	<2.9	<125
TEH - Iowa Method OA-2									
Diesel Fuel	mg/kg	28,000	<6.0	<6.0	<6.1	<6.0	<5.9	<5.9	NA
Motor Oil	mg/kg	9,400	<6.0	6.4J	13.1	8.5J	6.1J	9.3J	NA

Notes
PID - photoionization detector
PPM - parts per million
ug/kg - micrograms per kilogram
mg/kg - milligrams per kilogram
VOCs - Volatile Organic Compounds
EPA - Environmental Protection Agency
TEH - Total Extractable Hydrocarbons
Statwide Standards - Iowa Land Recycling Program Chapter 137
NA - Not Applicable, Statewide Standard not established

Table 2 - Groundwater Analytical Results
Proposed Kwik Trip #924
Webster City, Iowa
Terracon Project No. 08167296A

Parameter	Units	Statewide Standards - PGWS	Statewide Standards - NPGWS	B-1	B-2	B-3	B-4	B-5	B-6	Trip Blank
VOCs - EPA Method 8260										
Acetone	ug/L	6,300	32,000	<1.9	<1.9	<1.9	<1.9	<1.9	4.6J	<1.9
1,2,4-Trimethylbenzene	ug/L	70	350	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	0.13J
TEH - Iowa Method OA-2										
Diesel Fuel	mg/L	2.2	44	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	NA
Motor Oil	mg/L	0.73	15	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	NA

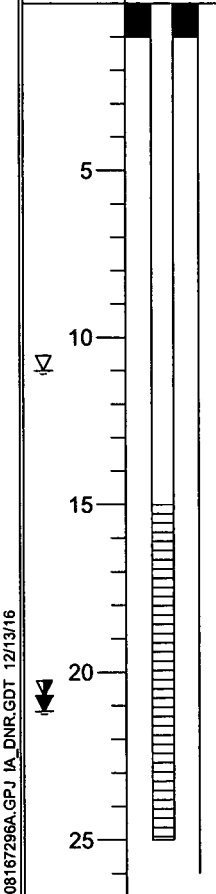
Notes
ug/L - mircograms per liter
mg/L - milligrams per liter
VOCs - Volatile Organic Compounds
EPA - Environmental Protection Agency
TEH - Total Extractable Hydrocarbons
Statewide Standards - Iowa Land Recycling Program Chapter 137
PGWS/NPGWS - Protected Groundwater Source/Non-Protected Groundwater Source
J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit
NA - Not Applicable, Statewide Standard not established

SOIL BORING LOG AND MONITORING WELL CONSTRUCTION DIAGRAM

Boring / Well Number:	Facility Name:	Facility Street Address:
B-1	**Proposed Kwik Trip #924**	**401 Fair Meadow Drive, Webster City, Iowa**

Boring Depth (ft) X Diameter (in): **26.0 x 7.25**	Drilling Method: **Hollow Stem Auger**
Well Contractor Name: **Terracon - Paul Falk** Registration Number: **1207**	Logged by: **Kris Sommer**
Ground Surface Elevation: **105.02**	Top of Casing Elevation: **107.95**

Date: **12/8/2016**	Date: **12/8/2016**	UST Number:	LUST Number:
Start Time: **1:30 pm**	End Time: **2:15 pm**		



Depth (feet)	Well Construction Details	Blow Count if applicable	Sample No.*	Sample Type	PID / FID Reading	Rock Formations, Soil, Color and Classifications, Observations (moisture, odor, etc.) First column for USCS
			1	SS	0.0	CL **Root Zone**
			2	SS	0.0	CL **LEAN CLAY**, Trace Sand Dark Brown
			3	SS	0.0	
			4	SS	0.0	**LEAN CLAY**, Trace
			5	SS	0.0	CL Sand Gray Rust Brown
			6	SS	0.0	
			7	SS	0.0	**LEAN CLAY** Brown
			8	SS	0.0	
			9	SS	0.0	CL **SANDY LEAN CLAY** Brown Rust
			10	SS	0.0	
▽			11*	SS	0.0	CL **SANDY LEAN CLAY**, Trace Gravel Brown
			12	SS	0.0	
			13	SS	0.0	
			14	SS	0.0	
			15	SS	0.0	CL **SANDY LEAN CLAY**, Trace Gravel Brown Gray Rust
			16	SS	0.0	
			17	SS	0.0	CL **SANDY LEAN CLAY**, Trace Gravel Gray
			18	SS	0.0	
			19	SS	0.0	
			20	SS	0.0	
▼			21	SS	0.0	
			22	SS	0.0	
			23	SS	0.0	
			24	SS	0.0	
			25	SS	0.0	
			26	SS	0.0	
						BOTTOM OF BORING

* Sample submitted to lab SS-Split spoon HS-Hollow stem auger DT-Direct push NR-No Recovery

NOTE: USCS and soil classifications are based on observations by the field crew.

Observations	Date:	12/8/2016	12/9/2016	12/10/2016		
Water Level	Level:	▽ 94.02	▼ 83.85	▼ 84.31		
Static Water Level Symbol	Time:	2:15 pm	10:27 am	9:30 am		

SS/HS/DT/USCS/SAMPLE DATUM 08167296A.GPJ IA_DNR.GDT 12/13/16

DNR FORM 542-1392

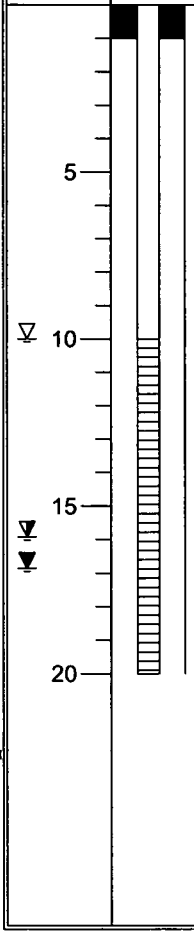
SOIL BORING LOG AND MONITORING WELL CONSTRUCTION DIAGRAM

Boring / Well Number:	Facility Name:	Facility Street Address:
B-2	**Proposed Kwik Trip #924**	**401 Fair Meadow Drive, Webster City, Iowa**

Boring Depth (ft) X Diameter (in): **20.0 x 7.25**	Drilling Method: **Hollow Stem Auger**
Well Contractor Name: **Terracon - Paul Falk** Registration Number: **1207**	Logged by: **Kris Sommer**

Ground Surface Elevation: **105.5**	Top of Casing Elevation: **107.59**

Date: **12/8/2016** Start Time: **12:10 pm**	Date: **12/8/2016** End Time: **12:40 pm**	UST Number:	LUST Number:



Depth (feet)	Well Construction Details	Blow Count if applicable	Sample No.*	Sample Type	PID / FID Reading	Rock Formations, Soil, Color and Classifications, Observations (moisture, odor, etc.) First column for USCS
			1	SS	0.0	CL **Root Zone**
			2	SS	0.0	CL **LEAN CLAY**, Trace Sand Dark Brown
			3	SS	0.0	
			4	SS	0.0	**SANDY LEAN CLAY**, Trace Gravel Brown Gray Rust
			5	SS	0.0	
			6	SS	0.0	
			7	SS	0.0	
			8	SS	0.0	
			9	SS	0.0	
			10*	SS	0.0	
			11	SS	0.0	
			12	SS	0.0	
			13	SS	0.0	
			14	SS	0.0	
			15	SS	0.0	CL **SANDY LEAN CLAY**, Trace Gravel Gray Brown Rust
			16	SS	0.0	
			17	SS	0.0	
			18	SS	0.0	
			19	SS	0.0	CL **SANDY LEAN CLAY**, Trace Gravel Gray
			20	SS	0.0	**BOTTOM OF BORING**

* Sample submitted to lab SS-Split spoon HS-Hollow stem auger DT-Direct push NR-No Recovery
NOTE: USCS and soil classifications are based on observations by the field crew.

Observations	Date:	12/8/2016	12/9/2016	12/10/2016		
Water Level	Level:	▽ 95.50	▼ 88.64	▼ 89.58		
Static Water Level Symbol	Time:	12:40 pm	10:22 am	9:45 am		

SS/HS/DT/USCS/SAMPLE DATUM 08167296A.GPJ IA_DNR.GDT 12/13/16

DNR FORM 542-1392

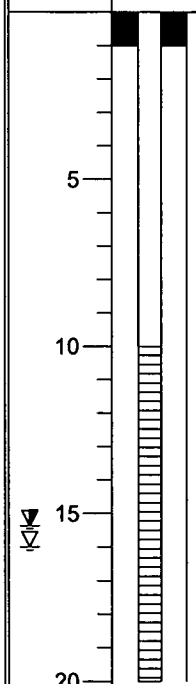
SOIL BORING LOG AND MONITORING WELL CONSTRUCTION DIAGRAM

Boring / Well Number:	Facility Name:	Facility Street Address:
B-3	**Proposed Kwik Trip #924**	**401 Fair Meadow Drive, Webster City, Iowa**

Boring Depth (ft) X Diameter (in): **20.0 x 7.25**	Drilling Method: **Hollow Stem Auger**
Well Contractor Name: **Terracon - Paul Falk** Registration Number: **1207**	Logged by: **Kris Sommer**

Ground Surface Elevation: **105.48**	Top of Casing Elevation: **108**

Date: **12/8/2016** Start Time: **12:45 pm**	Date: **12/8/2016** End Time: **1:15 pm**	UST Number:	LUST Number:

Depth (feet)	Well Construction Details	Blow Count if applicable	Sample No.*	Sample Type	PID / FID Reading	Rock Formations, Soil, Color and Classifications, Observations (moisture, odor, etc.) First column for USCS
			1	SS	0.0	CL **Root Zone**
			2	SS	0.0	CL **LEAN CLAY** Dark Brown
			3	SS	0.0	**SANDY LEAN CLAY**
			4	SS	0.0	CL Brown Rust
			5	SS	0.0	**SANDY LEAN CLAY**, Trace Gravel
5			6	SS	0.0	Brown Gray Rust
			7	SS	0.0	
			8	SS	0.0	
			9	SS	0.0	
			10	SS	0.0	
10			11	SS	0.0	
			12	SS	0.0	
			13	SS	0.0	CL **SANDY LEAN CLAY**, Trace Gravel
			14	SS	0.0	Brown Rust
			15	SS	0.0	
▼ 15			16*	SS	0.0	
▽			17	SS	0.0	CL **SANDY LEAN CLAY**, Trace Gravel
			18	SS	0.0	Brown Gray Rust
			19	SS	0.0	CL **SANDY LEAN CLAY**, Trace Gravel
20			20	SS	0.0	Gray
						BOTTOM OF BORING

* Sample submitted to lab SS-Split spoon HS-Hollow stem auger DT-Direct push NR-No Recovery

NOTE: USCS and soil classifications are based on observations by the field crew.

Observations	Date:	12/8/2016	12/9/2016	12/10/2016		
Water Level	Level:	▽ 89.48	Dry	▽ 90.12		
Static Water Level Symbol	Time:	1:15 pm	10:24 am	10:00 am		

SS/HS/DT/USCS/SAMPLE DATUM 08167296A.GPJ IA_DNR.GDT 12/13/16

DNR FORM 542-1392

SOIL BORING LOG AND MONITORING WELL CONSTRUCTION DIAGRAM

Boring / Well Number:	Facility Name:	Facility Street Address:
B-4	**Proposed Kwik Trip #924**	**401 Fair Meadow Drive, Webster City, Iowa**

Boring Depth (ft) X Diameter (in): **20.0 x 7.25**	Drilling Method: **Hollow Stem Auger**
Well Contractor Name: **Terracon - Paul Falk** Registration Number: **1207**	Logged by: **Kris Sommer**

Ground Surface Elevation: **100.52**	Top of Casing Elevation: **102**

Date: **12/8/2016** Start Time: **9:00 am**	Date: **12/8/2016** End Time: **10:15 am**	UST Number:	LUST Number:

Depth (feet)	Well Construction Details	Blow Count if applicable	Sample No.*	Sample Type	PID / FID Reading	Rock Formations, Soil, Color and Classifications, Observations (moisture, odor, etc.) First column for USCS
			1	SS	0.0	CL **Root Zone**
			2	SS	0.0	**LEAN CLAY**
			3	SS	0.0	Dark Brown
			4	SS	0.0	CL **LEAN CLAY**, Trace
			5	SS	0.0	Sand
5			6	SS	0.0	Brown Gray
			7	SS	0.0	CL **SANDY LEAN CLAY**, Trace Gravel
			8	SS	0.0	Brown Gray
			9	SS	0.0	
			10	SS	0.0	
10			11	SS	0.0	CL **SANDY LEAN CLAY**
			12	SS	0.0	Gray
			13	SS	0.0	
			14	SS	0.0	
			15	SS	0.0	Trace Gravel From
15			16	SS	0.0	About 14 to 17 Feet
▼			17*	SS	0.0	
▽			18	SS	0.0	
			19	SS	0.0	
			20	SS	0.0	
20						**BOTTOM OF BORING**

* Sample submitted to lab SS-Split spoon HS-Hollow stem auger DT-Direct push NR-No Recovery

NOTE: USCS and soil classifications are based on observations by the field crew.

Observations	Date:	12/8/2016	12/9/2016	12/10/2016		
Water Level	Level:	▽ 83.52	Dry	▼ 84.20		
Static Water Level Symbol	Time:	10:15 am	10:18 am	10:15 am		

SS/HS/DT/USCS/SAMPLE DATUM 08167296A.GPJ IA_DNR.GDT 12/13/16

DNR FORM 542-1392

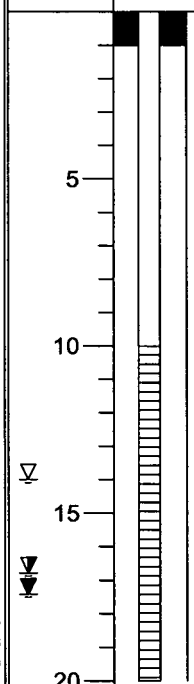
SOIL BORING LOG AND MONITORING WELL CONSTRUCTION DIAGRAM

Boring / Well Number:	Facility Name:	Facility Street Address:
B-5	**Proposed Kwik Trip #924**	**401 Fair Meadow Drive, Webster City, Iowa**

Boring Depth (ft) X Diameter (in): **20.0 x 7.25**	Drilling Method: **Hollow Stem Auger**
Well Contractor Name: **Terracon - Paul Falk** Registration Number: **1207**	Logged by: **Kris Sommer**

Ground Surface Elevation: **102.86**	Top of Casing Elevation: **103.99**

Date: **12/8/2016** Start Time: **10:30 am**	Date: **12/8/2016** End Time: **11:30 am**	UST Number:	LUST Number:



Depth (feet)	Well Construction Details	Blow Count if applicable	Sample No.*	Sample Type	PID / FID Reading	Rock Formations, Soil, Color and Classifications, Observations (moisture, odor, etc.) First column for USCS
			1	SS	0.0	CL **Root Zone**
			2	SS	0.0	CL **LEAN CLAY**, Trace Sand Brown Gray
			3	SS	0.0	
			4	SS	0.0	**SANDY LEAN CLAY**, Trace Gravel Brown Gray Rust
			5	SS	0.0	
			6	SS	0.0	
			7	SS	0.0	
			8	SS	0.0	
			9	SS	0.0	
			10	SS	0.0	
			11	SS	0.0	
			12	SS	0.0	
			13	SS	0.0	CL **SANDY LEAN CLAY**, Trace Gravel Gray
			14*	SS	0.0	
			15	SS	0.0	
			16	SS	0.0	
			17	SS	0.0	
			18	SS	0.0	
			19	SS	0.0	Becoming Saturated Below About 18 Feet
			20	SS	0.0	
						BOTTOM OF BORING

* Sample submitted to lab SS-Split spoon HS-Hollow stem auger DT-Direct push NR-No Recovery
NOTE: USCS and soil classifications are based on observations by the field crew.

Observations	Date:	12/8/2016	12/9/2016	12/10/2016		
Water Level	Level:	▽ 88.86	▼ 85.44	▼ 86.08		
Static Water Level Symbol	Time:	11:30 am	10:15 am	10:30 am		

SS/HS/DT/USCS/SAMPLE DATUM 08167296A.GPJ IA_DNR.GDT 12/13/16

DNR FORM 542-1392

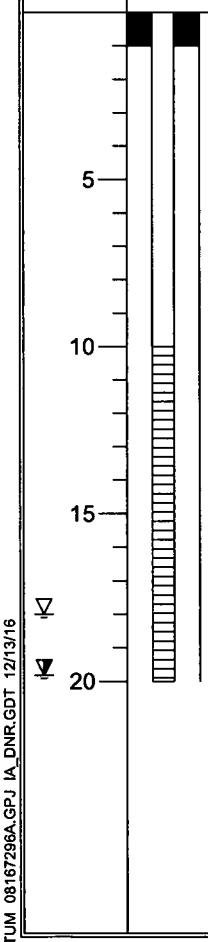
SOIL BORING LOG AND MONITORING WELL CONSTRUCTION DIAGRAM

Boring / Well Number:	Facility Name:	Facility Street Address:
B-6	**Proposed Kwik Trip #924**	**401 Fair Meadow Drive, Webster City, Iowa**

Boring Depth (ft) X Diameter (in): **20.0 x 7.25**	Drilling Method: **Hollow Stem Auger**
Well Contractor Name: **Terracon - Paul Falk** Registration Number: **1207**	Logged by: **Kris Sommer**

Ground Surface Elevation: **103.55**	Top of Casing Elevation: **105.09**

Date: **12/8/2016** Start Time: **11:35 am**	Date: **12/8/2016** End Time: **12:00 pm**	UST Number:	LUST Number:



Depth (feet)	Sample No.*	Sample Type	PID / FID Reading	Rock Formations, Soil, Color and Classifications, Observations (moisture, odor, etc.) First column for USCS
	1	SS	0.0	CL **Root Zone**
	2	SS	0.0	CL **LEAN CLAY**, Trace Sand and Gravel Brown
	3	SS	0.0	CL
	4	SS	0.0	**SANDY LEAN CLAY**, Trace Gravel Brown Gray Rust
	5	SS	0.0	
	6	SS	0.0	
	7	SS	0.0	**LEAN CLAY**, Trace Sand Brown Rust Gray
	8	SS	0.0	
	9	SS	0.0	
	10	SS	0.0	
	11	SS	0.0	CL **SANDY LEAN CLAY**, Trace Gravel Brown Gray
	12	SS	0.0	
	13	SS	0.0	CL **SANDY LEAN CLAY**, Trace Gravel Gray
	14	SS	0.0	
	15	SS	0.0	
	16	SS	0.0	
	17	SS	0.0	
▽	18*	SS	0.0	
	19	SS	0.0	
▼	20	SS	0.0	
				BOTTOM OF BORING

* Sample submitted to lab SS-Split spoon HS-Hollow stem auger DT-Direct push NR-No Recovery

NOTE: USCS and soil classifications are based on observations by the field crew.

Observations	Date:	12/8/2016	12/9/2016	12/10/2016		
Water Level	Level:	▽ 85.55	Dry	▼ 83.73		
Static Water Level Symbol	Time:	12:00 pm	10:13 am	10:45 am		

SS/HS/DT/USCS/SAMPLE DATUM 08167296A.GPJ IA_DNR.GDT 12/13/16

DNR FORM 542-1392