

Site Name: Cargill Meat Solutions, K Avenue Property, Ottumwa

Pre-Remedial Initial Site Screening (ISS)

Project Manager: John Woodland

Date: September 29, 2011

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

The properties are located along K Avenue in Ottumwa, Iowa. Parcel #1 is located at 2 K Avenue, which is located on the south side of the street. The Parcel #2 is located on the north side of the street, to the north, and east of 2 K Avenue. Parcel #1 was once use as a truck washing facility and a livestock building. Parcel #2 was once used for storage of coal, fuel oil and salvaged material. The properties are located north of Cargill Meat Solutions. The size of the properties is unknown, but each property appears to be approximately 4 to 6 acres.

There are four recognized environmental conditions (RECs) associated with the site:

- The unknown contents of 55-gallon drums and the potential for hazardous materials to be located in a debris pile on Parcel #2.
- The unknown origin of fill material located on Parcel #2.
- Historical coal and fuel oil storage on Parcel #2.
- The apparent uncontrolled nature of salvaged material historically stored on Parcel #1.

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.)

The first group of field activities was conducted on May 18, 2011. Four soil borings, EB-1, EB-2, EB-3 and EB-4 were conducted on the site to depths of 18, 17, 18 and 14-feet below ground surface (bgs), respectively. Boring EB-1 was advanced near the debris pile on Parcel #2. Boring EB-2 was advanced near the apparent location of the historical fuel oil tanks on Parcel #2. Boring EB-3 was advanced along the south side of the historical fuel oil tanks location, approximately 40 feet east of the western edge of Parcel #2. Boring EB-4/geotechnical boring B-1 was advanced to the north of the northwest corner of the livestock building on Parcel #1.

A photo-ionization detector (PID) was used for field screening of soil samples for the presence of volatile organic compounds (VOCs). EB-1 was collected 10 to 12 feet bgs, EB-2 was collected 11 to 13 feet bgs, and EB-3 and EB-4 were collected 8 to 10 feet bgs.

After soil samples were collected, the borings were converted to temporary monitoring wells and groundwater samples were collected from each well. Groundwater was encountered at 10 to 12 feet bgs.

These soil and groundwater samples were submitted for laboratory analysis of volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), total extractable hydrocarbons

(TEH), and Resource Conservation and Recovery Act (RCRA) metals. The groundwater samples submitted for RCRA metals analysis were field filtered.

The second group of field activities was conducted on August 9 and 10, 2011. Seven additional borings, B-1 through B-7 were advanced to further evaluate soil impacts identified in the Limited Site Investigation (LSI) from the first group of field activities. A photo-ionization detector (PID) was used for field screening of soil samples for the presence of VOCs. Soil borings were completed to a depth of 8 to 16 feet.

Upon completion of soil sample collection, four of the soil borings were converted to wells (B-4/MW-1, B-5/MW-2, B-7/MW-3, and B-3/MW-4) to further evaluate groundwater conditions onsite. Groundwater was also collected from an existing monitoring well, EMW-1.

The second set of soil and groundwater samples was also submitted for laboratory analysis of VOCs, SVOCs, TEHs, and RCRA metals. The groundwater samples submitted for RCRA metals analysis were field filtered.

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.

Chemical analysis of soil sample EB-2 collected on May 18, 2011 identified TEH as diesel at a concentration of 14,000 mg/Kg, which is above Iowa Tier 1 Look-up Table; Soil Leaching to Groundwater value of 3,800 mg/Kg. TEH as gasoline and waste oil in soil sample EB-2 were detected in high concentrations, but there are no statewide standards for these contaminants in soil. Those concentrations were 3,420 mg/Kg for TEH as gasoline and 23,000 mg/Kg for TEH as motor oil. Other contaminants detected in soil samples are below statewide standards.

Chemical analysis of groundwater samples collected on May 18, 2011 identified TEH as diesel at a concentration of 89.0 mg/L in groundwater sample EB-2 and 16.8 mg/L in groundwater sample EB-3 collected on May 18, 2011. The Iowa Tier 1 Look-up Table; Groundwater Ingestion Actual value is 1.2 mg/L for TEH as diesel.

From these same samples collected, TEH as motor oil was detected at a concentration of 1.8 mg/L in EB-2 and 0.675 mg/L in groundwater sample EB-3. The Iowa Tier 1 Look-up Table; Groundwater Ingestion Actual value is 0.4 mg/L for TEH as motor oil.

TEH as gasoline in soil samples EB-2 and EB-3 was detected in high concentrations, but there is no statewide standard for TEH as gasoline in groundwater. Detected VOCs are below the IDNR Statewide Standards for a Protected Groundwater Source.

2-Methylnaphthalene was detected in groundwater samples EB-2 at a concentration of 0.0597 mg/L and in EB-3 at a concentration of 0.0963 mg/L. These concentrations are above the IDNR Statewide Standards for a Protected Groundwater Source of 0.028 mg/L. Arsenic was detected in groundwater sample EB-2 at a concentration of 0.0377 mg/L, which is above the IDNR Statewide Standards for a Protected Groundwater Source of 0.01 mg/L.

There were no exceedances of statewide standards for VOCs, SVOCs, TEHs, or RCRA metals in soil or groundwater samples collected on August 9 and 10, 2011.

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.

There are no wells located on the Parcel #1. There are two plugged wells located on the Parcel #2. Within a ¼ mile radius beyond the sites, there are sixteen commercial wells between 1100 and 2655 feet deep, one private well that is 90 feet deep (located 800 feet east of Parcel #2), and two plugged wells. There are no shallow wells located near the sites. The closest wells are over 1000 feet deep and several wells are over 2000 feet deep.

Within a ½ mile radius (beyond ¼ mile radius), there are seven plugged wells, one commercial well that is 50 feet deep, and two private wells that are 100 and 115 feet deep.

The Des Moines River is located approximately 1400-feet to the southwest of the property. Bedrock at the site is generally 20 feet bgs.

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

3

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

Chemical analysis of soil sample EB-2 collected at 11 to 13 feet bgs on May 18, 2011 identified TEH as diesel at a concentration above the Iowa Tier 1 Look-up Table; Soil Leaching to Groundwater value and the Soil to Waterline value (10,500 mg/Kg). No other contaminants detected in soil samples exceed statewide standards. Soil sample EB-2 was collected within the water table.

Chemical analysis of groundwater samples EB-2 and EB-3 collected on May 18, 2011 identified TEH as diesel and TEH as waste oil at concentrations above the Tier 1 value, Groundwater Ingestion, actual.

Detected VOCs in groundwater are below the IDNR Statewide Standards for a Protected Groundwater Source. A SVOC, 2-Methylnaphthalene was detected in groundwater samples EB-2 and EB-3 collected on May 18, 2011 at concentrations above the IDNR Statewide Standard for a Protected Groundwater Source, but below the IDNR Statewide Standard for a Non-Protected Groundwater Source.

Arsenic was detected in groundwater sample EB-2 collected on May 18, 2011 at a concentration above the IDNR Statewide Standard for a Protected Groundwater Source, but below the IDNR Statewide Standard for a Non-Protected Groundwater Source.

Analytical results of soils samples appear to indicate that impacted soils are located in the general vicinity of the former aboveground storage tanks located on Parcel #2.

Lateral movement of petroleum hydrocarbon contaminants, i.e. 2-Methylnaphthalene will likely follow groundwater flow direction. Based on the relatively low concentrations of petroleum hydrocarbons detected in groundwater sample B-7/MW-3 and the lack of detectable

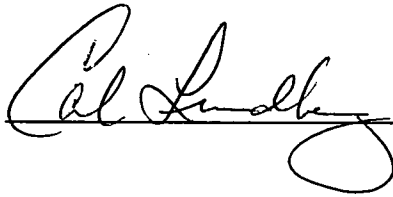
concentrations in other wells onsite, the contamination appears to be localized in the vicinity of EB-2 and EB-3, located near the former aboveground storage tanks on Parcel #2.

Drinking water wells do not appear to be at risk from the groundwater contaminants.

Site recommended for:

- No further action
- Additional investigation under state program (activity code 2824)
- Additional investigation under CERCLA (Extended Site Screening)
- Additional investigation by responsible party
- Transfer to LUST/UST

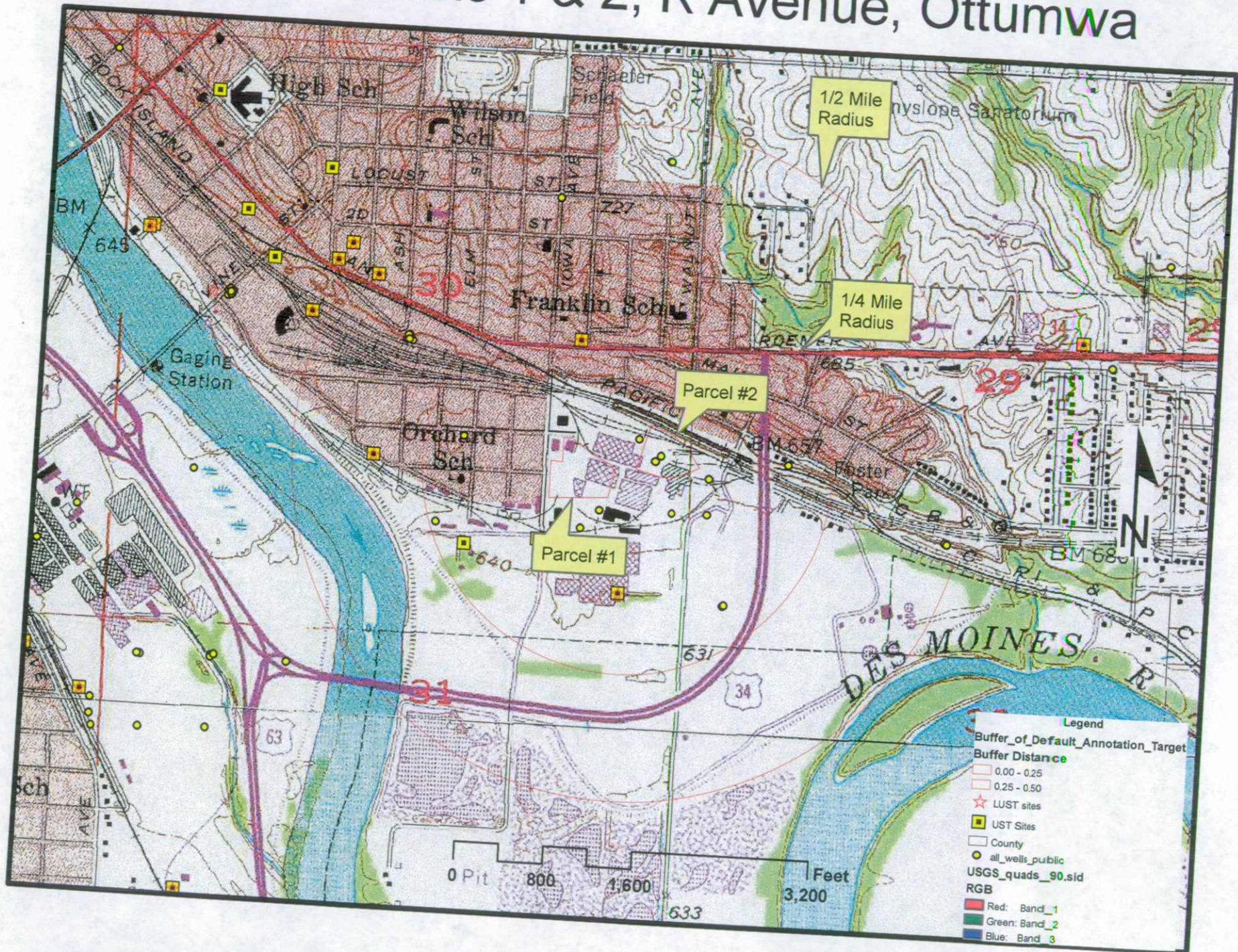
Form Reviewed:

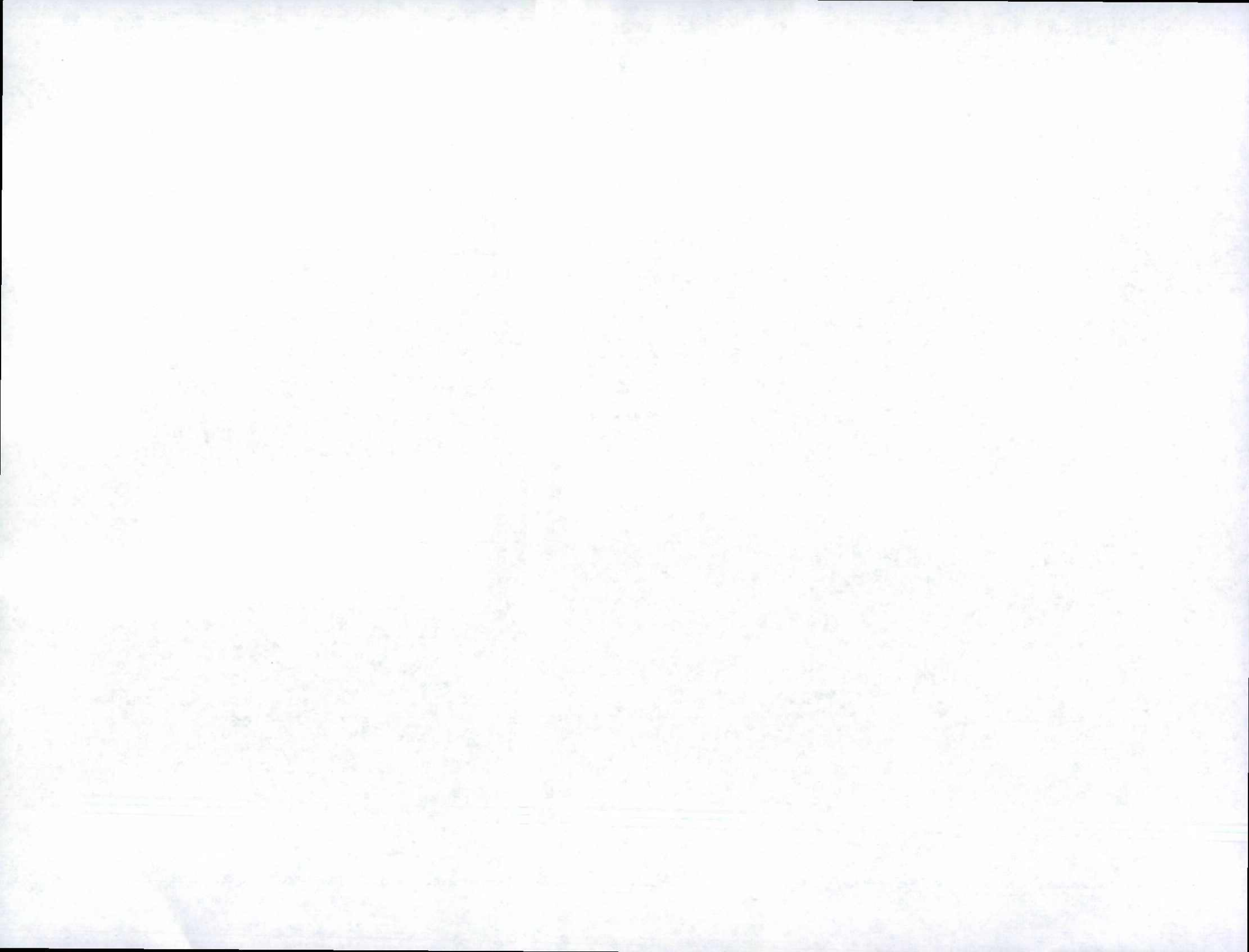


Date Reviewed:

9/28/11

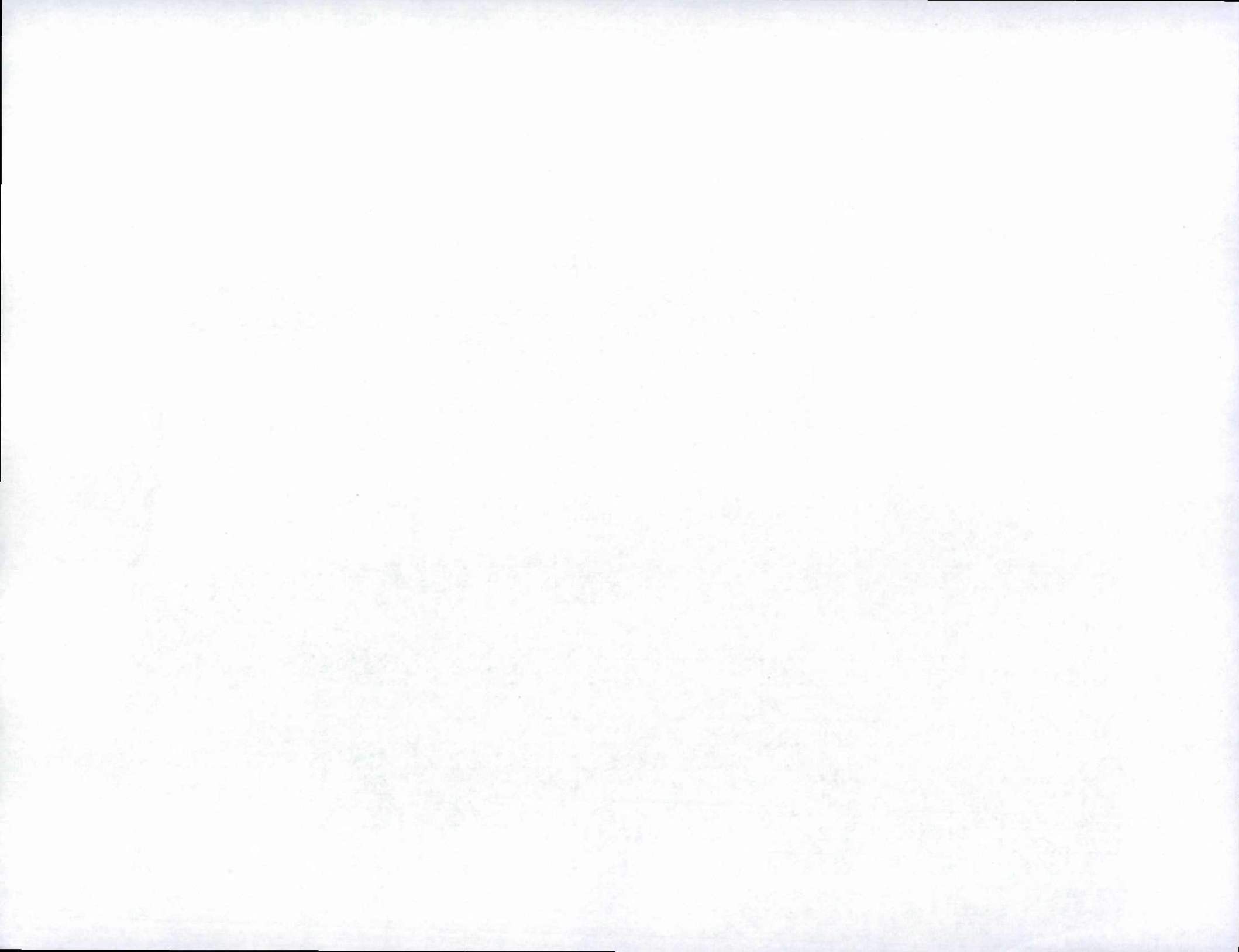
Cargill Parcels 1 & 2, K Avenue, Ottumwa

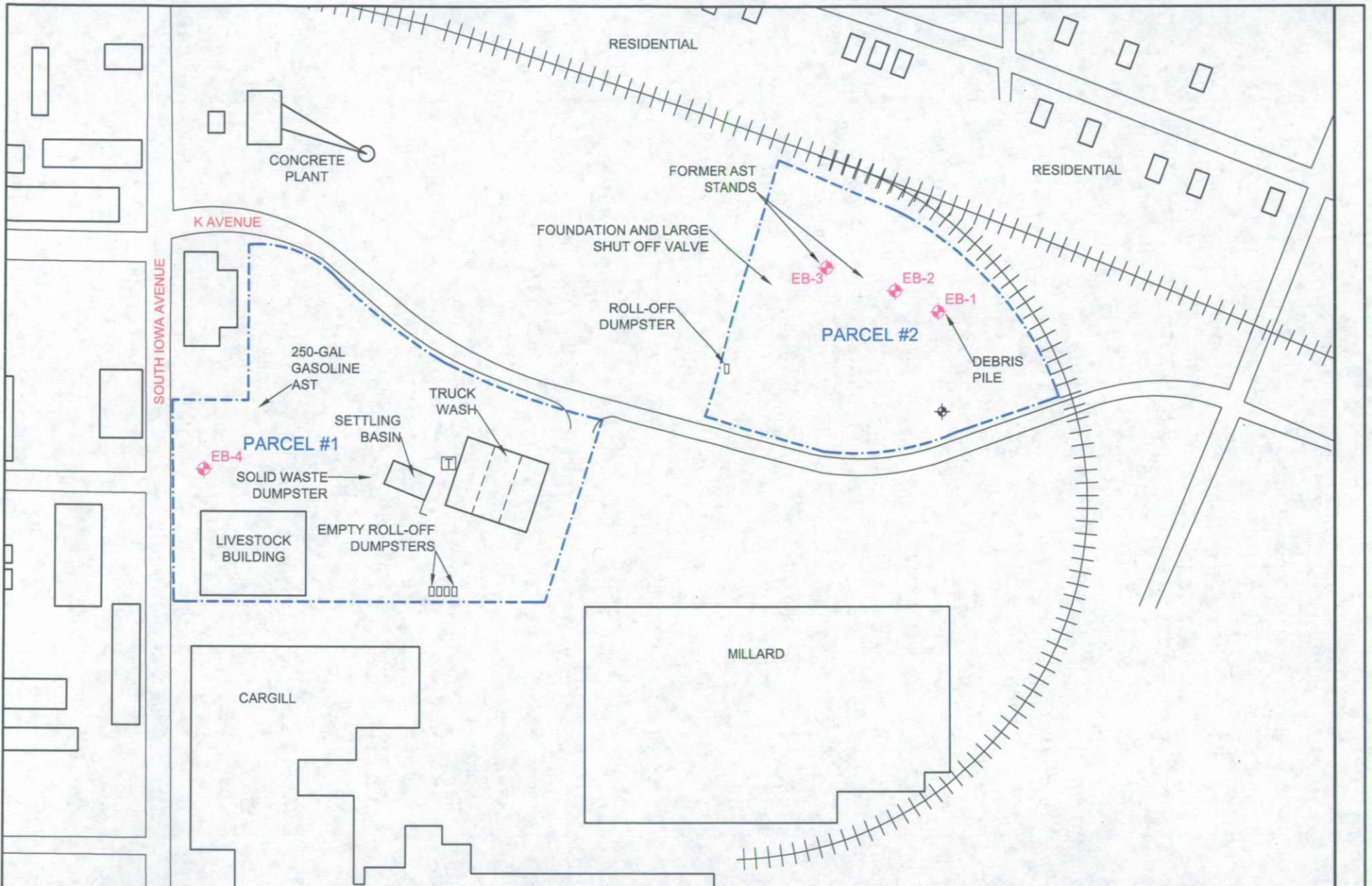




Cargill Parcels 1 & 2, K Avenue, Ottumwa







LEGEND

- - - - - APPROXIMATE SITE BOUNDARY
- ⊕ - EXISTING MONITORING WELL
- T - PAD-MOUNTED TRANSFORMER
- EB-1 ⊕ - APPROXIMATE BORING LOCATION

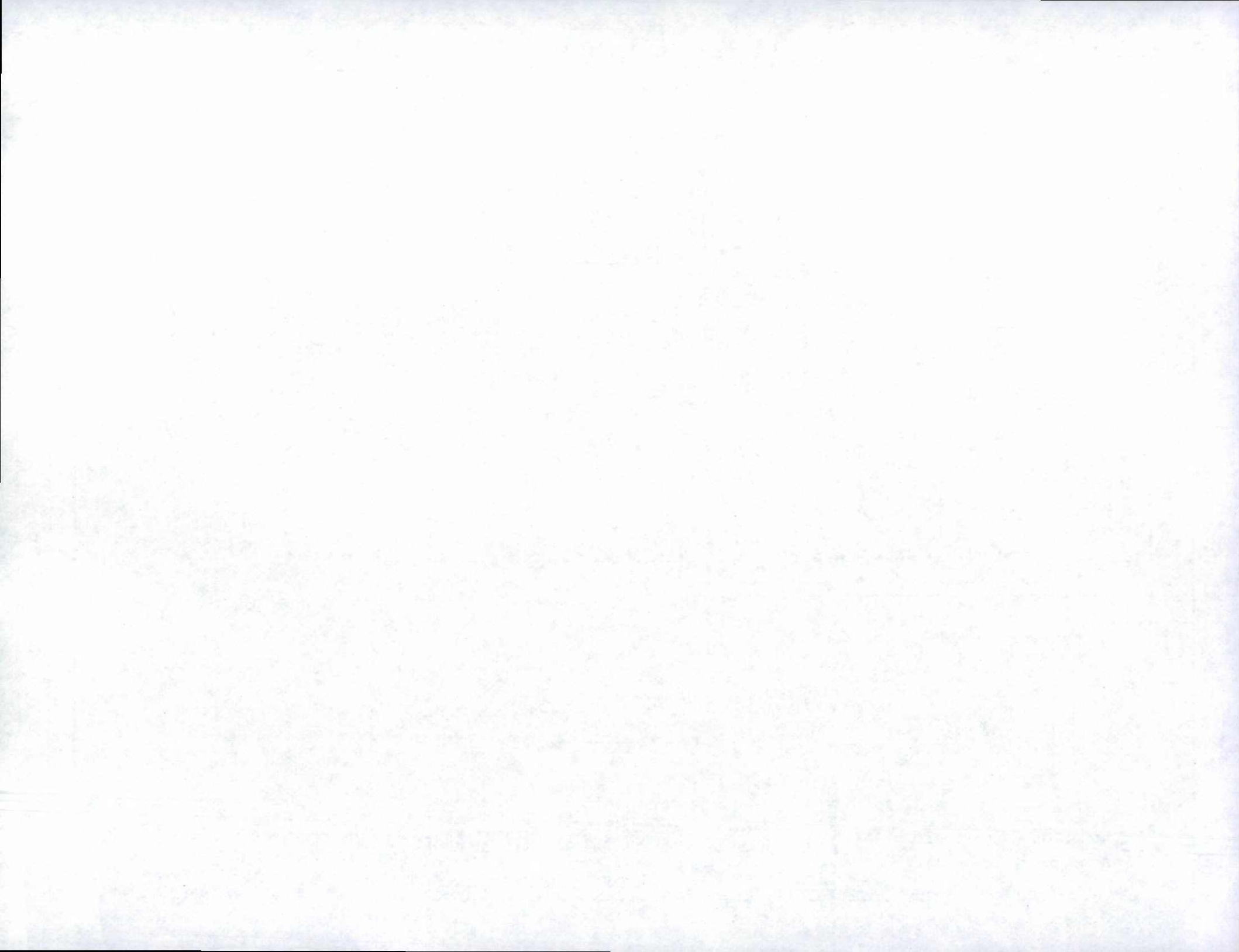


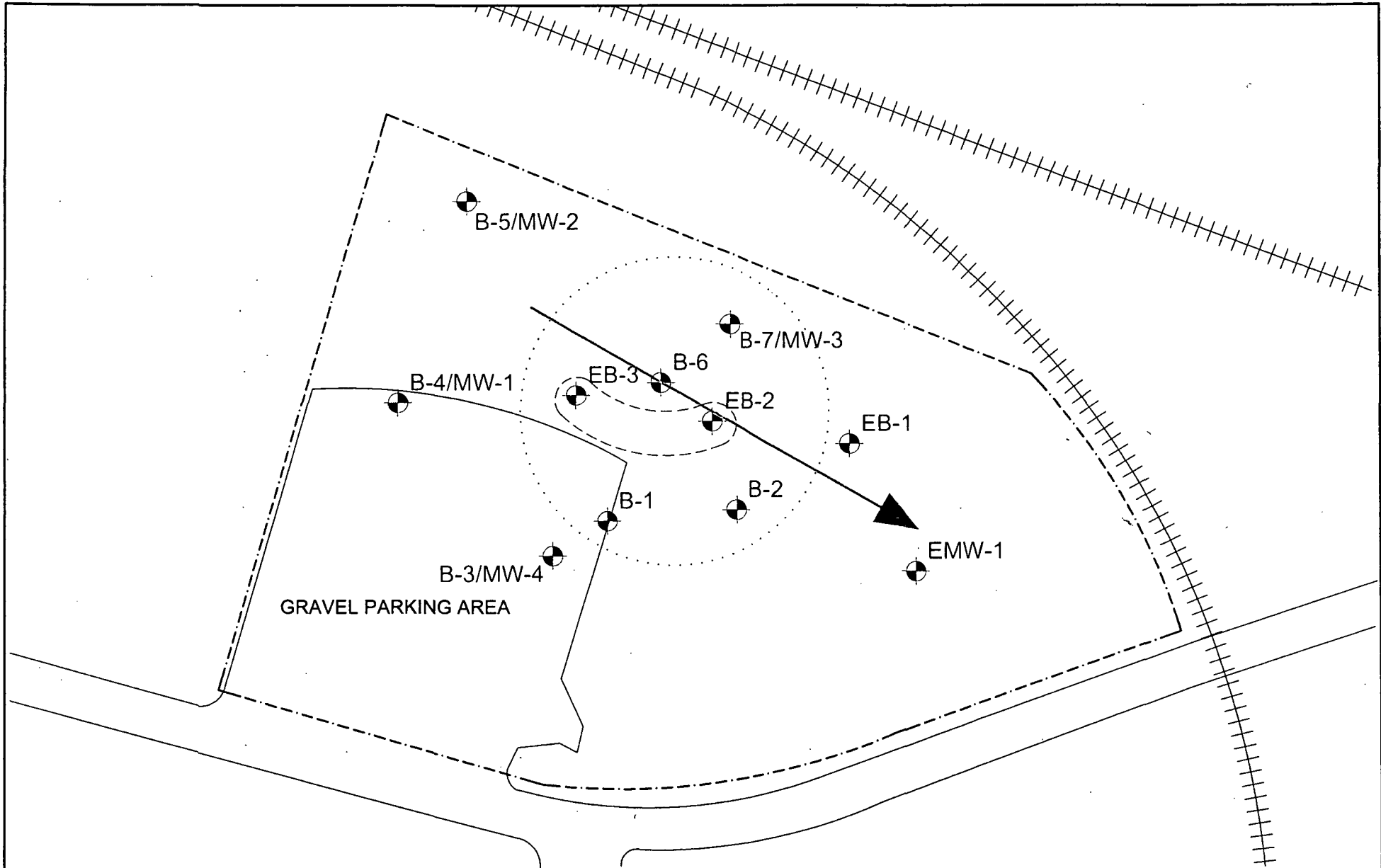
Project No. 06117710 Date: MAY 2011
 Project Mgr: DMG Drawn By: RJC
 File Name: 06117710.Figures.dwg
 Layout Name: Fig 2

Terracon
 Consulting Engineers and Scientists
 2640 12TH STREET SW CEDAR RAPIDS, IOWA 52404
 PH. (319) 366-8321 FAX. (319) 366-0032

BORING LOCATION DIAGRAM
 LIMITED SITE INVESTIGATION
 PARKS LIVESTOCK AND VACANT K AVENUE PARCEL
 2 K AVENUE AND VACANT K AVENUE PARCEL
 OTTUMWA, WAPELLO COUNTY, IOWA

FIG. No.
2





LEGEND

- - - - - APPROXIMATE SITE BOUNDARY
- - - - - APPROXIMATE SOURCE AREA
- APPROXIMATE AREA OF IMPACT
- PRESUMED GROUNDWATER FLOW DIRECTION
- EB-1 [Symbol] APPROXIMATE BORING LOCATION

NORTH

0 75'

APPROXIMATE DRAWING SCALE

Project No.	Date:
06117083.Task A	AUG 2011
Project Mgr:	Drawn By:
DMG	RJC
File Name:	
06117083.Figures.dwg	
Layout Name:	
Delineation Fig 4	

Terracon
Consulting Engineers and Scientists

2640 12TH STREET SW CEDAR RAPIDS, IOWA 52404
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GROUNDWATER FLOW AND APPROXIMATE IMPACTS

SITE DELINEATION
CARGILL MEAT SOLUTIONS
VACANT K AVENUE PARCEL
OTTUMWA, WAPELLO COUNTY, IOWA

FIG. No.

4

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

Chemical analysis of soil and groundwater samples identified TEH as diesel at concentrations above statewide standards. TEH as waste oil was also detected in groundwater at concentrations above statewide standards.

- 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:
 Chemical analysis of a soil sample identified TEH as diesel at a concentration above statewide standards. No other contaminants detected in soil samples exceed statewide standards. Chemical analysis of groundwater samples identified TEH as diesel and TEH as waste oil at concentrations above statewide standards.

Detected VOCs in groundwater are below the IDNR Statewide Standards for a Protected Groundwater Source. A SVOC, 2-Methylnaphthalene was detected in groundwater samples at concentrations above statewide standards.

Arsenic was detected in groundwater sample EB-2 collected on May 18, 2011 at a concentration above the IDNR Statewide Standard for a Protected Groundwater Source, but below the IDNR Statewide Standard for a Non-Protected Groundwater Source.

Analytical results of soils samples appear to indicate that impacted soils are located in the general vicinity of the former aboveground storage tanks located on Parcel #2.

Lateral movement of petroleum hydrocarbon contaminants, i.e. 2-Methylnaphthalene will likely follow groundwater flow direction. Based on the relatively low concentrations of petroleum hydrocarbons detected in groundwater sample B-7/MW-3 and the lack of detectable concentrations in other wells onsite, the contamination appears to be localized in the vicinity of EB-2 and EB-3, located near the former aboveground storage tanks on Parcel #2.

Regional EPA Reviewer:

 Print Name/Signature Date

State Agency/Tribe:

CA LUNDBERG Cal Lundberg 9/28/11
 Print Name/Signature Date



REGION VII
U.S. ENVIRONMENTAL PROTECTION AGENCY

ENFORCEMENT SENSITIVE INFORMATION
FOR INTERNAL USE ONLY

LOCATION FORM - (Required information highlighted in red)

SITE NAME: Cargill Meat Solutions, Ottumwa

EPA ID: _____

Latitude: 41.006568 Longitude: -92.392090
(Decimal Degree format)

Measurement Sequence: _____
(See Comment A)

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

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

- Reference Point: Administrative Building Air Monitoring Station Air Release Stack Air Release Vent
 Atmos. Emissions Trtmt 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 SE Corner of Land Parcel
 Solid Waste Storage Area Solid Waste Trtmt/Disp. Unit Storage Tank SW Corner of Land Parcel Unknown
 Water Monitoring Station Water Release Pipe Well Well Protection Area Release Point Treatment/Storage Plant

Reference Datum: NAD27 NAD83 Other Unknown WGS84

Accuracy Meters +/-: _____ Accuracy Unknown Collection Date: 05/25/11

- Verification Method: Ground Truth Conducted Point In Polygon (County) Blank
 Point in Polygon (Zip) Proximity to Alternative Facility Coordinate) Not Verified
 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
 Proximity to Polygon Centroid (County) Point in Polygon (Other)

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: ____/____/____

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

NPL Status = **O-NOT A VALID SITE OR INCIDENT**

Site Name: Cargill Meat Solutions, Ottumwa

Identified By:

- Removal Site Assessment Federal Facilities States
 Other Federal Agency Check if: FUD Site

Address: 2 K Avenue

County Name: Wapello

City, State, Zip: Ottumwa, Iowa 52501

State ID (if one exists): _____

Congressional District: 2

NPL Status: = : 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): _____

Directions to Site: Travel on IA-163 E. Continue onto US-63 S. Turn right onto Eddyville Rd. Continue onto 2nd St W. Turn right onto W Main St. Turn right onto S Iowa Ave. Take the 3rd left onto K Ave.

Site Description: The properties were once used as a truck washing facility, a livestock building, and for storage of coal, fuel oil and salvaged material.

USGS Quadrant: _____ USGS Hydro Unit: _____

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):

Latitude: 41.006568 Longitude: -92.392090
(Decimal Degree format) (with release of 3.17 see attached required location data form)

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

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

- 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: NRC Lead
 Not a Valid Site or Incident: RCRA Lead Not a Valid Site or Incident: State 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: _____

Signatures: _____

States: Cal Date: 9/28/11 RPM/OSC/SAM: _____ Date: ____/____/____

- Primary Designation: _____
- 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-Ordinance production
 PR-Plastics and rubber products
 PM-Primary metals/mineral processing
 RA-Radioactive products
 TA-Tanneries OT-Other-Description(needed): _____
 TS-Trucks/ships/trains/aircraft and related components
- 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-Desc.(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-Desc (needed): Truck parking area
 GP-Ground water plume site with no identifiable source
 MO-Military/Other Ordinance
 PS-Product Storage/distribution
 RD-Research, development, and testing facility
 RC-Retail/commercial
 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
- RE-Recycling - Applicable sub-categories**
 AT-Automobiles/tires DT-Drums/tanks WO-Waste/used
 BS-Batteries/scrap metals/secondary smelting/precious metal recovery
 CC-Chemicals/chemical waste (e.g., solvent recovery)
 OT-Other-Description(needed): _____