January 7, 2016

CON 12-15
Doc #31536

UNITED FARMERS MERCANTILE COOPERATIVE
UFMC
"UNITED TO SERVE YOU BETTER"

Cal Lundberg

Iowa DNR, Contaminated Sites Section

502 East 9th Street

Des Moines, IA 50319-0034

Cal:

I have been work with Ryan Young out of the Atlantic office on a liquid nitrogen spill at our Villisca, Iowa site. We have the cleanup and containment completed. We were required to complete a work plan to do some further testing of site contamination. We retained Terracon Consultants to develop the work plan and do the testing for us. I have enclosed the work plan for your review.

The following is my contact information for your feedback or questions:

Don Davis, C.F.O.

United Farmers Mercantile Cooperative

203 West Oak

Red Oak, IA 51566

Office phone: 712-623-5453

Mobile phone: 712-520-5055

Email: dond@ufmcoop.com

Let me know if you need anything else.

Regards,

Don Davis

Encl: 1

Cc: Ryan Young, Kevin Rugaard

2.2 Field Services

Terracon proposes the following services relating to the above discussion.

- After receipt of work plan approval from UFMC and the DNR, Terracon will contact Iowa One Call for public utility clearances of the proposed borings.

- Terracon will coordinate with a UFMC representative for private utility clearances. If private utilities cannot be cleared by UFMC a private utility locator may be contracted.

- Drilling and sampling equipment will be cleaned before use in the field. Sampling equipment used to sample more than one location will be cleaned between sample locations.

- Terracon will advance six borings at the locations shown on the attached Exhibit 1. Boring locations were selected based on the spill flow path and the estimated groundwater flow direction to the south-southwest. The estimated groundwater flow direction is based upon local topography. Up to three additional borings may be added at Terracon's discretion based upon site conditions including depth to groundwater, soil type, and indicators of apparent chemical impact as noted during field activities.

- It is anticipated that groundwater will be encountered within 25 feet of the ground surface. The borings will be advanced using a direct-push technology (DPT) Geoprobe® rig to an estimated depth of 30 feet below ground surface (bgs) or 5 feet below the apparent groundwater table, unless refusal occurs. If the actual depth to groundwater is significantly deeper than the anticipated depth to groundwater, then a reduced number of borings may be advanced, or only select borings may be advanced deep enough to encounter groundwater.

- Soil samples will be collected from the borings at continuous intervals for logging, with three discrete intervals at each boring selected for laboratory analysis of nitrate/nitrite-nitrogen and ammonia-nitrogen. Discrete intervals for soil samples to be submitted include; surface to near surface, approximately three feet above the apparent groundwater table, and the approximate midpoint of the unsaturated zone. However, sample depths may be adjusted if visual or olfactory indicators suggest an interval of greater impact, in which case a sample will be submitted from that interval.

- A temporary well (PVC screen, riser pipe, gravel pack and surface seal) will be installed in the boring to allow for the collection of a groundwater sample. If groundwater is readily available, the temporary wells will be developed by removing groundwater until fluids appear relatively free of fine-grained sediment or the well is bailed dry once.

- Each temporary well will be surveyed for elevation in reference to a fixed benchmark to assist in determining an inferred groundwater flow direction.

Terracon

January 7, 2016

United Farmers Mercantile Coop
203 West Oak Street
Red Oak, IA 51566

Attn: Mr. Don Davis

Re: Site Assessment Work Plan
United Farmers Mercantile Coop - UAN
Northeast corner of East 8th St and S 3rd Ave, Villisca, Iowa
Spill Number HSI #073015-RPY-1430
Terracon Project No. 05157678

Dear Mr. Davis:

Terracon Consultants, Inc. (Terracon) appreciates the opportunity to submit this work plan to conduct a site assessment at the above-referenced site. The following sections provide our understanding of the project, safety, scope of services, and schedule.

1.0 PROJECT INFORMATION

Terracon understands that between approximately July 19 and July 29, 2015 an estimated 150 tons of urea ammonium nitrate (UAN) fertilizer were released from an above ground storage tank at the above mentioned site. United Farmers Merchantile Coop (UFMC) reported the spill to the Iowa Department of Natural Resources (DNR) on July 30, 2015. Following initial cleanup efforts including over excavation and storm drain flushing the DNR issued a letter requested a Site Assessment Work Plan. The following is a work plan to assess surface soils, subsurface soils, and groundwater at the site in response to the DNR's October 16, 2015, request for site assessment.

2.0 SCOPE OF SERVICES

2.1 Commitment to Safety

Terracon has a 100% commitment to the safety of all its employees. As such, and in accordance with our *Incident and Injury Free®* safety culture, Terracon will develop a safety plan to be used by our personnel during field services. Prior to commencement of on-site activities, Terracon will hold a meeting to review health and safety needs for this specific project. At this time, we anticipate conducting fieldwork in a USEPA Level D work uniform consisting of hard hats, safety glasses, protective gloves, reflective vest, and steel-toed boots. If conditions are encountered that present an increased risk for personal exposure, it may become necessary to upgrade this level of protection.

- Terracon will re-mobilize to the site following a stabilization period to measure the depth to groundwater and to collect a groundwater sample from each well using a disposable bailer and twine. Samples will be placed in laboratory-supplied containers with the appropriate preservative (as required).

- One groundwater sample from each boring will be placed in a cooler containing ice during field work and sample shipment periods. The samples and completed chain-of-custody forms will be transmitted using an overnight courier to a laboratory for analysis of nitrate/nitrite-nitrogen and ammonia-nitrogen. Duplicate and blank samples will not be collected for laboratory analysis, unless specifically required.

- Following sample collection, the temporary well pipe will be removed, and the borings will be backfilled with hydrated bentonite chips to the ground surface.

- Excess soil and groundwater removed from boreholes will be collected and land applied.

- The boring locations will be measured from site features for location purposes and by using a global positioning system (GPS) unit.

- Terracon will prepare a site assessment report that describes the field procedures and contains a boring location and groundwater flow diagram, boring logs, and analytical results. Laboratory analytical results will be compared to applicable regulatory levels.

2.4 Schedule

Based on our current drilling field schedule and using standard laboratory turnaround times, we anticipate submittal of a site assessment report within 45 working days of receipt of both UFMC and IDNR approval of the work plan.

We appreciate the opportunity to provide this work plan and look forward to working with you on this project. If you have any questions or comments regarding this work plan, please contact Rob Farris or Mike Reif.

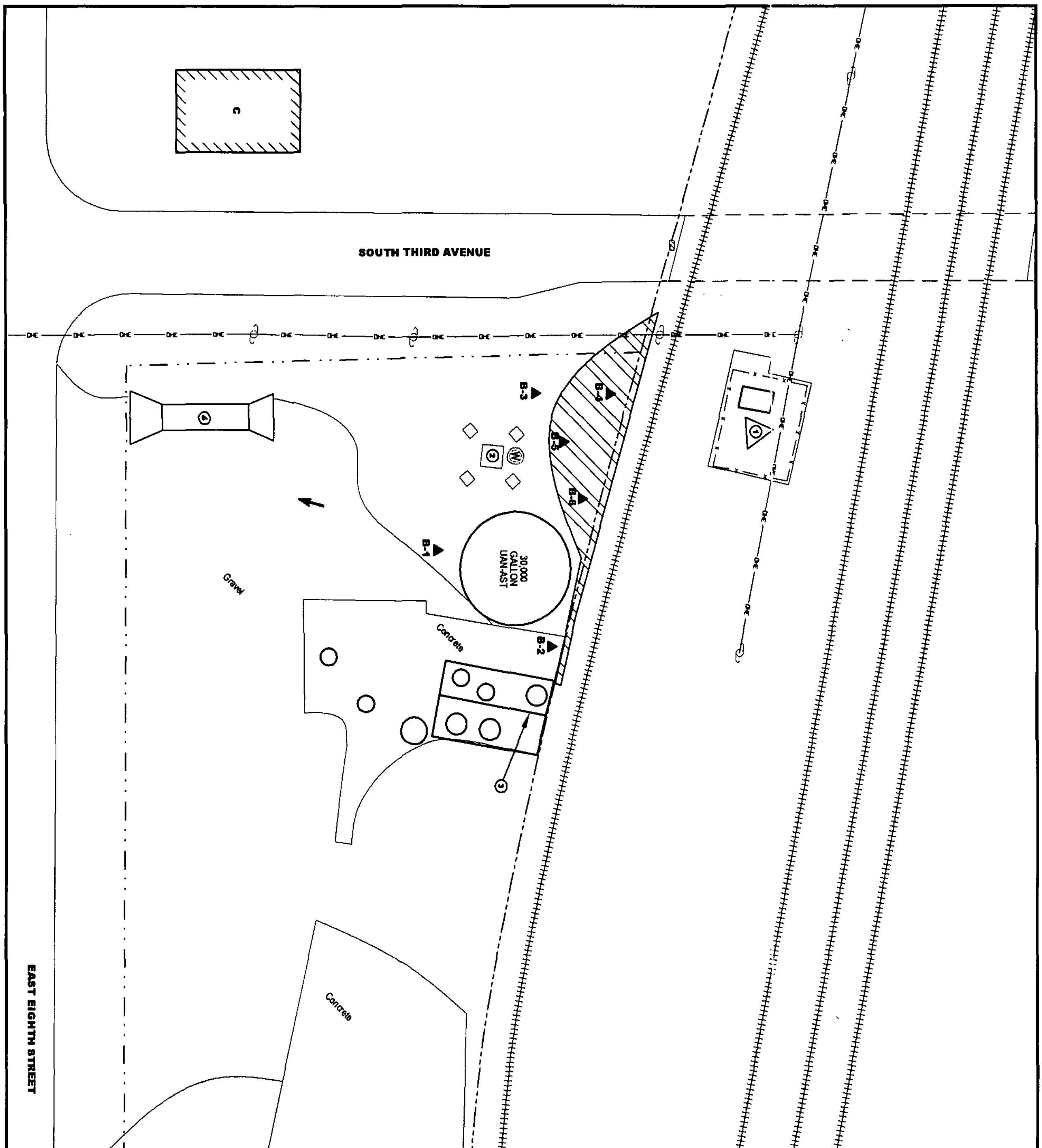
Sincerely,
Terracon Consultants, Inc.

Robert Farris, E.I.
Environmental Engineer

Michael Reif, P.E.*
Environmental Engineer
* Licensed in Nebraska

RWF/MBR: rwf/kmt

Distribution: Addressee (pdf via e-mail, 1 stapled)
Attachment: Exhibit 1 - Site Diagram



NOTES:
1) SITE FEATURES WERE DIGITIZED FROM AN AERIAL PHOTOGRAPH DATED 2014 OBTAINED FROM GOOGLE EARTH PRO. LOCATIONS SHOULD BE CONSIDERED APPROXIMATE.
2) UTILITY LOCATIONS AS SHOWN SHOULD NOT BE USED FOR CONSTRUCTION PURPOSES.

GENERAL LEGEND

- BUILDING
- BNSF RAILROAD TRACKS
- CITY R.O.W.
- CHAINLINK FENCE
- BNSF R.O.W.
- OVERHEAD ELECTRIC
- APPROXIMATE LIMITS OF EXCAVATION
- EXISTING WATER WELL (TO BE PLUGGED)
- STORM SEWER INLET
- UTILITY POLE
- PROPOSED BORING LOCATIONS
- INFERRED GROUNDWATER FLOW DIRECTION
- C COMMERCIAL BUILDING
- 1 CELL TOWER
- 2 FORMER WATER TOWER
- 3 CONCRETE SECONDARY CONTAINMENT AREA
- 4 SCALE

0 10 20 40
SCALE IN FEET

REV.	DATE	BY	DESCRIPTION

Terracon
Consulting Engineers and Scientists

15080 A CIRCLE OMAHA, NE 68144
PH. (402) 330-2202 FAX. (402) 330-7606

SITE MAP

United Farmers Merchantile Coop - UAN
East 8th St and S 3rd Ave
VILLISCA IOWA

DESIGNED BY:	RWF
DRAWN BY:	PAI
APPVD. BY:	-
SCALE:	AS SHOWN
DATE:	1/4/16
JOB NO.	05157678
ACAD NO.:	05157678C01
EXHIBIT:	1

N:\Projects\2015\05157678\PROJECT DOCUMENTS (Reports-Letters-Drafts To Clients)\Diagrams-Drawings-Figures\05157678C01.dwg
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