Cardno ATC

328 LaPorte Road
Waterloo, Iowa 50702

Phone +1 319-233-0441
Fax +1 319-233-3269

www.cardno.com

October 24, 2016

Mr. Colton Jones, EIT
Crop Production Services, Inc.
3005 Rocky Mountain Avenue
Loveland, Colorado 80538

Subject: Private Water Well Sampling Results– Crop Production Services Facility Nichols, Iowa

Dear Mr. Jones:

Cardno and ATC Group Services are pleased to present the results from private well sampling during the third quarter of 2016 for the Crop Production Services, Inc. (CPS) facility located in Nichols, Iowa (Site).

1.0 Site Background

The Site is located on the west edge of Nichols, Iowa, along the south side of Highway 22. Surrounding properties are used for residential purposes to the east and agricultural land is present south and west of the Site. The Site is the former location of a CPS agrichemical facility. Site features include a vacant parcel encompassing approximately 7 acres on which a grove of trees was planted as part of the phytoremediation phase of the project. Communication from the Iowa DNR indicates on-site assessment of soil and groundwater is complete and the remaining issue is potential of off-site impact to the shallow private wells. As part of determining whether site closure is appropriate the Iowa DNR has requested additional sampling of private water wells near the site to verify nitrate levels.

2.0 Water Well Sampling

ATC Group Services mobilized an environmental professional to Nichols on September 28, 2016 to collected water samples from the eight private sand point wells included on the Work Plan. Upon arrival at each private well location the lines were flushed by running the wells for a short duration to ensure fresh water from the aquifer was being obtained for analysis. The samples were containerized in laboratory provided bottles and shipped on ice via overnight courier to ALS Environmental in Holland, Michigan. The samples were analyzed in accordance to EPA method E353.2 for Nitrate-Nitrite.

The three quarterly private well sampling events for 2016 for nitrates is as follows:

Well Location	Q1 2016 Sample Results (mg/L)	Q2 2016 Sample Results (mg/L)	Q3 2016 Sample Results (mg/L)	Regulatory Limit (mg/L)
Fire Station	0.29	0.048	0.11	10
209 High Street	5.9	5.9	4.7	10
207 High Street	8.2	7.9	9.0	10
127 Adams Street	2.3	3.3	2.1	10
125 Adams Street	2.9	2.6	2.6	10
212 High Street	1.1	1.0	0.027	10
203 High Street	**11**	**13**	11	10
302 High Street	1.1	0.9	0.98	10

3.0 Discussion of Analytical Results

The third quarter sampling results indicated one residential property (203 High Street) with nitrate concentration over the drinking water standard of 10 mg/L. Currently CPS provides drinking water to this residence as part of the initial corrective actions taken years ago.

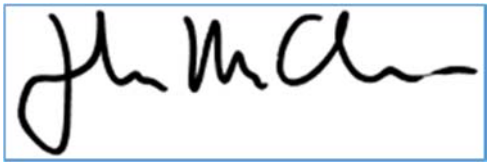
Comparison of the three quarterly sampling events of 2016 indicate minor fluctuations at the eight sample locations. The private well at 207 High Street indicated a slight increase when compared to the 1st and 2nd quarterly events, with all three samples being less than the regulatory limit. The well at 203 High Street was slightly lower since the 2nd quarter event although results still exceed the regulatory limit. The private wells at the Fire Station, 125 Adams Street and 302 High Street exhibit consistent results during the three sample events. The remaining three private wells indicated slight decreases from the first to third quarter sampling events. At this time the limited data does not support any long term trends related to seasonal variations.

Based on analytical results below the drinking water standard from the other seven private wells and their physical location between the CPS facility and the 203 High Street residence, Cardno recommends the following:

- Continued quarterly sampling of the eight private wells included on the Work Plan
- Continue providing an alternate drinking water supply to the residents at 203 High Street

Please contact either John or Gaylen if there are any questions or comments regarding this report.

Sincerely,
CARDNO



Gaylen Hiesterman, CGP
Branch Manager
for ATC Group Services
Direct Line +1 319 233-0441
Email: gaylen.hiesterman@atcassociates.com

John McCorkle
Senior Project Manager
for Cardno
Office +1 206 575-6427
Email: john.mccorkle@cardno.com

Enc: Laboratory Reports

Cc: Matt Culp, Iowa DNR

05-Oct-2016

Gaylen Hiesterman
ATC Group Services LLC
328 LaPorte Rd.
Waterloo, IA 50702

Re: **Nichols, IA Z090000487** Work Order: **16091717**

Dear Gaylen,

ALS Environmental received 8 samples on 29-Sep-2016 09:30 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 15.

If you have any questions regarding this report, please feel free to contact me.

Sincerely,

Joseph Ribar

Electronically approved by: Joseph Ribar

Joseph Ribar
Project Manager

Certificate No: IA: 403

ALS Group USA, Corp

Date: 05-Oct-16

Client: ATC Group Services LLC
Project: Nichols, IA Z090000487
Work Order: **16091717**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
16091717-01	Fire Station	Water		9/28/2016 12:15	9/29/2016 09:30	☐
16091717-02	209 High Street	Water		9/28/2016 11:32	9/29/2016 09:30	☐
16091717-03	207 High Street	Water		9/28/2016 11:27	9/29/2016 09:30	☐
16091717-04	127 Adams Street	Water		9/28/2016 11:42	9/29/2016 09:30	☐
16091717-05	125 Adams Street	Water		9/28/2016 11:50	9/29/2016 09:30	☐
16091717-06	212 High Street	Water		9/28/2016 11:20	9/29/2016 09:30	☐
16091717-07	203 High Street	Water		9/28/2016 12:23	9/29/2016 09:30	☐
16091717-08	302 High Street	Water		9/28/2016 11:15	9/29/2016 09:30	☐

Client: ATC Group Services LLC
Project: Nichols, IA Z090000487
Work Order: 16091717

Case Narrative

Samples for the above noted Work Order were received on 09/29/2016. The attached "Sample Receipt Checklist" documents the status of custody seals, container integrity, preservation, and temperature compliance.

Samples were analyzed according to the analytical methodology previously transmitted in the "Work Order Acknowledgement". Methodologies are also documented in the "Analytical Result" section for each sample. Quality control results are listed in the "QC Report" section. Sample association for the reported quality control is located at the end of each batch summary. If applicable, results are appropriately qualified in the Analytical Result and QC Report sections. The "Qualifiers" section documents the various qualifiers, units, and acronyms utilized in reporting.

With the following exceptions, all sample analyses achieved analytical criteria.

Wet Chemistry:
No other deviations or anomalies were noted.

ALS Group USA, Corp

Date: *05-Oct-16*

Client: ATC Group Services LLC
Project: Nichols, IA Z090000487
Work Order: 16091717
Sample ID: Fire Station
Lab ID: 16091717-01
Collection Date: 9/28/2016 12:15 PM
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
NITROGEN, NITRATE-NITRITE			**E353.2 R2.0**			Analyst: **JJG**
Nitrogen, Nitrate-Nitrite	**0.11**		**0.020**	**mg/L**	1	10/3/2016 10:48 AM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *05-Oct-16*

Client:	ATC Group Services LLC		
Project:	Nichols, IA Z090000487	**Work Order:**	16091717
Sample ID:	209 High Street	**Lab ID:**	16091717-02
Collection Date:	9/28/2016 11:32 AM	**Matrix:**	WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
NITROGEN, NITRATE-NITRITE			**E353.2 R2.0**			Analyst: **JJG**
Nitrogen, Nitrate-Nitrite	**4.7**		**0.020**	**mg/L**	1	10/3/2016 10:48 AM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *05-Oct-16*

Client:	ATC Group Services LLC		
Project:	Nichols, IA Z090000487	**Work Order:**	16091717
Sample ID:	207 High Street	**Lab ID:**	16091717-03
Collection Date:	9/28/2016 11:27 AM	**Matrix:**	WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
NITROGEN, NITRATE-NITRITE			**E353.2 R2.0**			Analyst: **JJG**
Nitrogen, Nitrate-Nitrite	**9.0**		**0.020**	**mg/L**	1	10/3/2016 10:48 AM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *05-Oct-16*

Client: ATC Group Services LLC
Project: Nichols, IA Z090000487
Work Order: 16091717
Sample ID: 127 Adams Street
Lab ID: 16091717-04
Collection Date: 9/28/2016 11:42 AM
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
NITROGEN, NITRATE-NITRITE			**E353.2 R2.0**			Analyst: **JJG**
Nitrogen, Nitrate-Nitrite	**2.1**		**0.020**	**mg/L**	1	10/3/2016 10:48 AM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *05-Oct-16*

Client: ATC Group Services LLC
Project: Nichols, IA Z090000487
Work Order: 16091717
Sample ID: 125 Adams Street
Lab ID: 16091717-05
Collection Date: 9/28/2016 11:50 AM
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
NITROGEN, NITRATE-NITRITE			**E353.2 R2.0**			Analyst: **JJG**
Nitrogen, Nitrate-Nitrite	**2.6**		**0.020**	**mg/L**	1	10/3/2016 10:48 AM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *05-Oct-16*

Client:	ATC Group Services LLC		
Project:	Nichols, IA Z090000487	**Work Order:**	16091717
Sample ID:	212 High Street	**Lab ID:**	16091717-06
Collection Date:	9/28/2016 11:20 AM	**Matrix:**	WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
NITROGEN, NITRATE-NITRITE			**E353.2 R2.0**			Analyst: **JJG**
Nitrogen, Nitrate-Nitrite	**0.027**		**0.020**	**mg/L**	1	10/3/2016 10:48 AM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *05-Oct-16*

Client: ATC Group Services LLC
Project: Nichols, IA Z090000487
Work Order: 16091717
Sample ID: 203 High Street
Lab ID: 16091717-07
Collection Date: 9/28/2016 12:23 PM
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
NITROGEN, NITRATE-NITRITE			**E353.2 R2.0**			Analyst: **JJG**
Nitrogen, Nitrate-Nitrite	**11**		**0.040**	**mg/L**	2	10/3/2016 10:48 AM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *05-Oct-16*

Client:	ATC Group Services LLC		
Project:	Nichols, IA Z090000487	**Work Order:**	16091717
Sample ID:	302 High Street	**Lab ID:**	16091717-08
Collection Date:	9/28/2016 11:15 AM	**Matrix:**	WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
NITROGEN, NITRATE-NITRITE			**E353.2 R2.0**			Analyst: **JJG**
Nitrogen, Nitrate-Nitrite	**0.98**		**0.020**	**mg/L**	1	10/3/2016 10:48 AM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 05-Oct-16

Client: ATC Group Services LLC
Project: Nichols, IA Z090000487
WorkOrder: **16091717**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

Acronym	Description
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

Units Reported	Description
mg/L	Milligrams per Liter

ALS Group USA, Corp

Date: 05-Oct-16

Client: ATC Group Services LLC

Work Order: 16091717

Project: Nichols, IA Z090000487

QC BATCH REPORT

Batch ID: **R197196** Instrument ID **LACHAT2** Method: **E353.2 R2.0**

MBLK Sample ID: **MBLK-R197196** Units: **mg/L** Analysis Date: **10/3/2016 10:48 AM**

Client ID: Run ID: **LACHAT2_161003D** SeqNo: **4062346** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrogen, Nitrate-Nitrite	U	0.020								

LCS Sample ID: **LCS-R197196** Units: **mg/L** Analysis Date: **10/3/2016 10:48 AM**

Client ID: Run ID: **LACHAT2_161003D** SeqNo: **4062347** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrogen, Nitrate-Nitrite	5.092	0.020	5	0	102	80-120	0			

MS Sample ID: **16091717-01A MS** Units: **mg/L** Analysis Date: **10/3/2016 10:48 AM**

Client ID: **Fire Station** Run ID: **LACHAT2_161003D** SeqNo: **4062349** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrogen, Nitrate-Nitrite	4.297	0.020	5	0.1132	83.7	75-125	0			

MS Sample ID: **16091774-14C MS** Units: **mg/L** Analysis Date: **10/3/2016 10:48 AM**

Client ID: Run ID: **LACHAT2_161003D** SeqNo: **4062366** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrogen, Nitrate-Nitrite	5.236	0.020	5	0.3011	98.7	75-125	0			

MSD Sample ID: **16091717-01A MSD** Units: **mg/L** Analysis Date: **10/3/2016 10:48 AM**

Client ID: **Fire Station** Run ID: **LACHAT2_161003D** SeqNo: **4062350** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrogen, Nitrate-Nitrite	4.241	0.020	5	0.1132	82.6	75-125	4.297	1.31	20	

MSD Sample ID: **16091774-14C MSD** Units: **mg/L** Analysis Date: **10/3/2016 10:48 AM**

Client ID: Run ID: **LACHAT2_161003D** SeqNo: **4062367** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrogen, Nitrate-Nitrite	5.253	0.020	5	0.3011	99	75-125	5.236	0.324	20	

The following samples were analyzed in this batch:

16091717-01A	16091717-02A	16091717-03A
16091717-04A	16091717-05A	16091717-06A
16091717-07A	16091717-08A	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Crop Production Services

Chain of Custody Form

Page _____ of _____

ALS Environmental
3352 128th Avenue
Holland, Michigan 49424
(Tel) 616.399.6070
(Fax) 616.399.6185
www.alsglobal.com

ALS Program Manager: Joe Ribar | ALS Work Order #: 1609171?

Project Information

Project Name	Nichols, IA		
Project Number	Z090000487		
Company Name	ATC Group Services LLC		
Send Report To	Gaylen Hiesterman	Site Name	CPS Nichols, Iowa
Address	328 LaPorte Road	Site Address	
City/State/Zip	Waterloo, IA 50702	City/State/Zip	
Phone	(319) 233-3269	Phone	(402) 778-4801
Fax			
e-Mail Address	gaylen.hiesterman@atcassociates.com		

Parameter/Method Request for Analysis

No.	Sample ID	Date	Time	Matrix	Pres. Key Numbers	# Bottles	A: Nitrate+Nitrite [EPA 352.3]	B	C	D	E	F	Comments
1	Fire Station	9-28-16	12:15 pm	Water	3	1	X						
2	209 High Street	9-28-16	11:32 am	Water	3	1	X						
3	207 High Street	9-28-16	11:27 am	Water	3	1	X						
4	127 Adams Street	9-28-16	11:42 am	Water	3	1	X						
5	125 Adams Street	9-28-16	11:50 am	Water	3	1	X						
6	212 High Street	9-28-16	11:20 am	Water	3	1	X						
7	203 High Street	9-28-16	12:23 pm	Water	3	1	X						
8	302 High Street	9-28-16	11:15 am	Water	3	1	X						

Sampler(s): Please Print & Sign: Cole Phillips

Shipment Method: FedEx

Required Turnaround Time: (Check Box) ☑ Standard - 10Wk Days ☐ 7 Wk Days ☐ 5 Wk Days ☐ 3 Wk Days ☐ 2 Wk Days ☐ 24 Hour

Results Due Date:

	Date:	Time:		Date:	Time:
Relinquished by: Cole Phillips	9-28-16	1:35 pm	Received by:		
Relinquished by:			Received by:		
Relinquished by:			Received by (Laboratory):	9/29/16	0930
Logged by (Laboratory): OFS	9/29/16	1300	Checked by (Laboratory):		

EDD Requested ☑ Yes ☐ No

Notes

ALS Cooler ID	Cooler Temp
	3.2°C

QC Package: (Check Box Below)
☐ Level II: Standard QC ☐ Level III: Raw Data
☐ TRRP LRC ☐ TRRP Level IV
☑ Level IV: SW846 Methods/CLP like
☐ Other: _____

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-NaOH/ZnAcetate

Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS.

ALS Group USA, Corp

Sample Receipt Checklist

Client Name: **ATC - WATERLOO,IA** Date/Time Received: **29-Sep-16 09:30**

Work Order: **16091717** Received by: **DS**

Checklist completed by Diane Shaw (eSignature) 29-Sep-16 (Date) Reviewed by: Joseph Ribar (eSignature) 29-Sep-16 (Date)

Matrices: Water

Carrier name: FedEx

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Sample(s) received on ice?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	3.2/3.2 c	SR2	
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	9/29/2016 12:55:56 PM		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☑	N/A ☐
pH adjusted by:	-		

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction: