3800-FM-WSFR0102 12/2001

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WATER STANDARDS AND FACILITY REGULATION

Land Application of Biosolids 30-Day Notice Inspection Report

Facility Name: Confer Farm — Date Inspected: Feb 26, 2018

Municipality: East Penn Twp. — County: Carbon Co.

Permittee: Synagro — Permit Number: Many

Land Applier: Synagro — Weather: Sunny

Pictures Taken ☐ Yes ☒ No — DEP USE ONLY

CLIENT #	SITE #	PF #	SF #	INSP ID#	ENF ID#

Conditions	Yes	No	NA	ND	Citations
			NA – Not applicable	ND – Not Determined	
30-Day notice of First Application received	☒	☐	☐	☐	271.913(g)(1)
Contractual Consent of Landowner completed	☒	☐	☐	☐	271.913(e)
Adjacent landowners notified and signs posted	☐	☒	☐	☐	271.913(g)(1)
Occupant of land provided with a user instruction sheet	☒	☐	☐	☐	271.913(f)
Landowner provided with information necessary to comply with requirements	☒	☐	☐	☐	271.913(m)
Manure generated at the site does NOT satisfy the nutrient needs of the farm	☒	☐	☐	☐	271.913(g)
Farm conservation plan or erosion sedimentation control plan implemented	☒	☐	☐	☐	271.915(c)(4)
BMPs implemented	☒	☐	☐	☐	
Crop rotation being followed	☒	☐	☐	☐	
No visible signs of erosion	☐	☒	☐	☐	Fields F5 + F6 F14A see notes
Cumulative pollutant loading rates not exceeded	☒	☐	☐	☐	271.913(2)(i)-(iii)
Soil pHs greater than or equal to 6.0	☐	☒	☐	☐	271.915(e)
Storage design in compliance with Ch. 285 of the Municipal Waste Regulations	☒	☐	☐	☐	271.915(l)
Areas indicated on the map meet the following site requirements					
DEP biosolids training completed by generator / land applier	☒	☐	☐	☐	271.915(j)
Slope less than or equal to 25%	☒	☐	☐	☐	271.915(d)(1)
11 inches from seasonal high water table	☒	☐	☐	☐	271.915(c)(7)
3.3 feet from regional water table	☒	☐	☐	☐	271.915(c)(7)
33 feet from an intermittent stream	☒	☐	☐	☐	271.915(c)(1)
100 feet from a perennial stream	☒	☐	☐	☐	271.915(c)(1)
100 feet from an exceptional value wetland	☒	☐	☐	☐	271.915(c)(6)
100 feet from the edge of a sink hole	☒	☐	☐	☐	271.915(c)(2)
300 feet from a water source	☒	☐	☐	☐	271.915(c)(5)
300 feet from an occupied dwelling	☒	☐	☐	☐	271.915(c)(3)

Comments

- Adjacent landowners notified, Synagro has not yet posted their sign. (30 day sign needs to be posted).
- Farm conservation plan is not implemented for Field F5 + F6 F14A Gully erosion noted. Prior to spreading fields F5 + F6 F14A plan needs to be updated. The follow fields pH was below 6. H6, H3, H4, H10, H11, F5, F11, F12, F13, F15, F17, F19.

The following fields are removed. F7B west, H19 & 17 because houses & well Isolation distance.

Synagro needs to update the application map 1"400' + make corrections from field review.

Inspector: Timothy Cowen — Person Interviewed: Kevin Smith

Signature: [signature] — Date: 2/26/2018 — Signature: [signature] — Date: 2/26/2018

This inspection report is notice of the findings of an inspection conducted by a representative of the Department. This report is formal notification of any violations observed during the inspection. Additional notification of violations may be issued concerning either violations noted herein, or other violations identified as a result of review of laboratory analyses or Department records.

This report does not constitute an order or other appealable action of the Department. Nothing contained herein shall be deemed to grant or imply immunity from legal action for any violation noted herein.

Signature by the person interviewed does not necessarily imply concurrence with the findings on this report, but does acknowledge that the person was shown the report or that a copy was left with the person.

☐ White - Regional Office ☐ Yellow - Municipality ☐ Pink - Operator ☐ Goldenrod - Inspector

Craven, Timothy

From: Kevin Smeltz <ksmeltz@SYNAGRO.com>
Sent: Tuesday, February 27, 2018 8:49 PM
To: Craven, Timothy
Subject: Cunfer 30 day sign
Attachments: 30 day sign.jpg

Tim,

Attached is the requested image of the 30-day notice sign placed at the Cunfer farm today.

Thanks,

Kevin Smeltz

Your Partner for a cleaner, greener world

Kevin Smeltz
Technical Services Manager
1600 Dooley Road Whiteford, MD 21160
O: 1-410-452-8000 | M: 1-410-688-6506
ksmeltz@SYNAGRO.com | www.synagro.com
Facebook | Twitter | Linkedin

SYNAGRO

APPLICATION FOR THE
AGRICULTURAL UTILIZATION OF BIOSOLIDS ON

CUNFER FARM
CB-4

Transforming natural waste challenges into sustainable, planet-friendly solutions

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

April 23, 2018

UPS TRACKING # 1Z 181 134 03 7220 1572

William Schwab

Lehighton, PA 18235

Re: Right-To-Know Request Number: 2018-0108 (NE)

Dear Mr. Schwab:

On February 14, 2018, the Open Records Officer of the Department of Environmental Protection (Department) received your request pursuant to the Pennsylvania Right-to-Know Law, 65 P.S. §§ 67.101-67.3104 (RTKL).

On March 26, 2018, your RTKL request was granted by the Department's Northeast Regional Office but prepayment was required prior to record production.

On April 16, 2018, your payment was received by the Department's Northeast Regional Office. Your records are enclosed.

Sincerely,

Michael D. Bedrin

Michael D. Bedrin
Regional Director
Northeast Regional Office

Enclosure

cc: Lauren Williams, Esq. (copies mailed to Lauren Williams per email dated 4/20/18)

CERTIFICATION

I, Joan C. Wanat, Clerical Supervisor, Records Management Unit, Northeast Regional Office, Department of Environmental Protection, Commonwealth of Pennsylvania, by virtue of the powers and duties vested in me by Patrick McDonnell, Secretary, Department of Environmental Protection, DO HEREBY CERTIFY that the following file pertaining to Cunfer Farm CB-4, East Penn Township, Carbon County, consisting of 427 pages each individually stamped and initialed are true and correct photocopies made from the originals in the Northeast Regional Office, Records Management Unit.

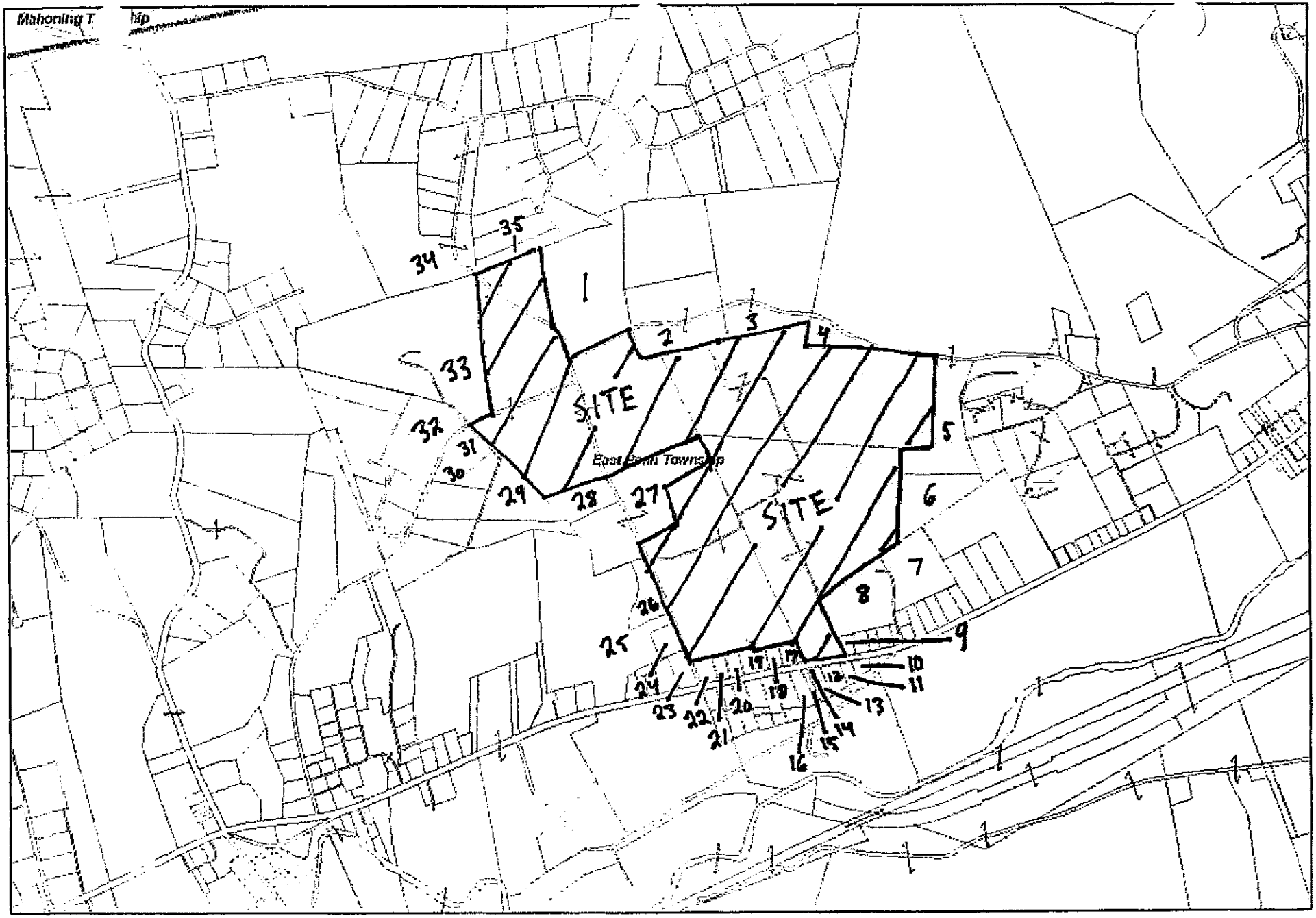
The originals are the official record of the Department.

Joan C. Wanat

Joan C. Wanat
Clerical Supervisor
Records Management Unit
Northeast Regional Office

April 23, 2018
Date

#	name	address_1	address_2
1	Karin Bristow	770 Smithlane Rd	Lehighton, PA 18235
2	Richard Gabovitz	426 Lincoln Ave	Walnutport, PA 18088
3	Rita Shupp	80 Pine St	Palmerton, PA 18071
4	Albert Wilk Jr	748 Pinewood Rd	Lehighton, PA 18235
5&6	Nancy Wilk	748 Pinewood Rd	Lehighton, PA 18235
7	Brad Kuehn	124 Fisher Ln	Lehighton, PA 18235
8&10	Franklin Fisher	159 Fisher Ln	Lehighton, PA 18235
9	Arnold Loch	1115 E Lizard Creek Rd	Lehighton, PA 18235
11	William Graul III	1106 E Lizard Creek Rd	Lehighton, PA 18235
12	Candy Everett	1092 E Lizard Creek Rd	Lehighton, PA 18235
13&14	Kurt Paukovits	1056 E Lizard Creek Rd	Lehighton, PA 18235
15&16	Pearlanna Mann	1016 E Lizard Creek Rd	Lehighton, PA 18235
17&18	Kermit Miller	987 E Lizard Creek Rd	Lehighton, PA 18235
19	Carol Friedman	935 E Lizard Creek Rd	Lehighton, PA 18235
20	George Kraftician	913 E Lizard Creek Rd	Lehighton, PA 18235
21	Warren Berger	885 E Lizard Creek Rd	Lehighton, PA 18235
22	Richard Achey Jr	865 E Lizard Creek Rd	Lehighton, PA 18235
23	Todd Schleicher	833 E Lizard Creek Rd	Lehighton, PA 18235
24	Edward Weiss	Weiss, Edward J & Louise Revocable Trust 101 Smithlane Rd	Lehighton, PA 18235
25&26	Leslie Schleicher	669 E Lizard Creek Rd	Lehighton, PA 18235
27&28	Christopher Cowen	344 Smithlane Rd	Lehighton, PA 18235
29	Daniel Frey	111 Lilac Ln	Lehighton, PA 18235
30&31	Kenneth Dotter	34 Lilac Ln	Lehighton, PA 18235
32	David Leiby Jr	659 Friendship Rd	Lehighton, PA 18235
33	Ted Snyder	805 Friendship Rd	Lehighton, PA 18235
34	Thomas Dailey	34 North 17th St	Easton, PA 18042
35	Dennis Cunfer	236 Smithlane Rd	Lehighton, PA 18235



THIS MAP WAS PREPARED FOR THE ASSESSMENT OF REAL PROPERTY FOUND WITHIN THIS JURISDICTION. USERS OF THIS MAP ARE HEREBY NOTIFIED THAT THE AFOREMENTIONED PUBLIC PRIMARY INFORMATION SOURCES SHOULD BE CONSULTED FOR VERIFICATION OF THE INFORMATION CONTAINED ON THIS MAP. THE COUNTY AND THE MAPPING COMPANIES ASSUME NO LEGAL RESPONSIBILITY FOR THE INFORMATION CONTAINED ON THIS MAP.

Attachment L1
Facility Information

Facility	Facility Location	Municipality	County	Current Permit Number
City of York WWTF	York, PA	City of York	York	PAG-08-3501
Lehigh County Sewage Authority	Allentown, PA	Upper Macungie Twp.	Lehigh	WMGR099
Pennridge Wastewater Treatment Authority	Sellersville, PA	West Rockhill Twp.	Bucks	PAG-07-0003
Valley Forge Sewer Authority	Phoenixville, PA	Schuylkill Twp.	Chester	PAG-07-0005
Upper Gwynedd-Towamencin MA	Lansdale, PA	Towamencin Twp.	Montgomery	PAG-08-0008
East Pennsboro Twp. WWTP	Camp Hill, PA	East Pennsboro Twp.	Cumberland	PAG-08-3515
Phoenixville Borough WWTP	Phoenixville, PA	Phoenixville Borough	Chester	PAG-08-0003
City of Allentown WWTP	Allentown, PA	City of Allentown	Lehigh	PAG-08-2203
County of Berks Welfare Tract STP	Leesport, PA	Bern Twp.	Berks	PAG-08-3522
Dover Twp. WWTP	Dover, PA	Dover Twp.	York	PAG-08-3525
Bonneauville Borough Municipal Authority	Gettysburg, PA	Bonneauville Borough	Adams	PAG-08-3547
Manheim Borough Authority WWTP	Manheim, PA	Penn Township	Lancaster	PAG-08-3551
Penn Township WWTP	Hanover, PA	Penn Township	York	PAG-08-3508
Telford Sewer Authority	Telford, PA	Franconia Township	Montgomery	PAG-08-0006
Derry Township Municipal Authority	Hershey, PA	Derry Township	Dauphin	PAG-08-3518
Little Patuxent Water Reclamation Plant	Laurel, MD	Howard County	Howard	PAG-08-9905
Ballenger Creek WWTP	Frederick, MD	Frederick County	Frederick	PAG-08-9903
Frederick City WWTP	Frederick, MD	City of Frederick	Frederick	PAG-08-9904
Gettysburg Municipal Authority	Gettysburg, PA	Gettysburg Boro	Adams	PAG-08-3540
Lititz Borough Sewer Authority	Lititz, PA	Warwick Township	Lancaster	PAG-08-3535
Mahanoy City Sewer Authority	Mahanoy City, PA	Mahanoy Township	Schuylkill	PAG-08-2211
Borough of Sinking Springs WWTP	Sinking Springs, PA	Lower Heidelber Twp.	Berks	PAG-08-3567
Abington Township WWTP	Roslyn, PA	Abington Township	Montgomery	PAG-08-0002
Synagro	Mobile unit			PABIG-9903
Ephrata Borough WWTP-Plant 1	Ephrata, PA	Ephrata	Lancaster	PAG-08-3565
Ephrata Borough WWTP-Plant 2	Ephrata, PA	Ephrata	Lancaster	PAG-07-3508
Philadelphia Water Department	Philadelphia	Philadelphia	Philadelphia	PAG-08-0004
Lancaster Area Sewer Authority	Lancaster, PA	Lancaster	Lancaster	PAG-08-3556
Hanover Wastewater Treatment Facility	McSherrystown, PA	Conewago Twp.	Adams	PAG-08-3596
Warminster Municipal Authority	Warminster, PA	Warminster	Bucks	PAG-08-0016
Lower Allen Township Authority	New Cumberland , PA	Lower Allen Twp.	York	PAG-08-3510
New Oxford Municipal Authority	New Oxford, PA	Oxford Twp.	Adams	PAG-08-3500
New Freedom Borough WWTP	Railroad, PA	Railroad Borough	York	PAG-08-3573
Harrisburg AWTF	Harrisburg, PA	Swatara Township	Dauphin	PAG-08-3597
Sod Run WWTP	Perryman MD	Harford County	Harford	PAG-08-9909
Wilmington DE WWTP	Wilmington DE	Wilmington		PAG-08-9901
Easton Area JSA	Easton, PA	Easton	Northampton	PAG-08-2219
Souderton WWTP	Souderton, PA	Souderton Borough	Montgomery	PAG-08-0021
Lower Perkiomen Valley Regional Sewer Auth	Oaks, PA	Oaks	Montgomery	PAG-08-0011
City of Lancaster WWTP	Lancaster PA	Lancaster	Lancaster	PAG-08-3505
Pottstown Borough Authority	Pottstown, PA	Pottstown Borough	Berks	PAG-08-0005
Exeter Township WWTP	Birdsboro, Pa	Exeter Township	Berks	PAG-08-3510
Hampden Township WWTP	Mechanicsburg, Pa	Hampden Township	Cumberland	PAG-08-3568
Northern Lancaster County Authority	Denver, PA	Brecknock Township	Lancaster	PAG-08-3511
Schuylkill Valley SA	Cumbola, PA	Blythe Township	Schuylkill	PAG-08-2223
Coatsville STP	Coatsville PA	Coatsville Borough	Chester	PAG-08-0018
Valley Forge Sewer Authority	Phoenixville, PA	Schuylkill Twp.	Chester	PAG-08-0023
Green Lane-Marlborough JSA	Green Lane, PA	Green Lane	Montgomery	PAG-08-0022
Womelsdorf Sewer Authority	Womelsdorf, PA	Heidleburg Twp	Berks	PAG-08-3514
City of Bethlehem WWTP	Bethlehem, PA	City of Bethlehem	Northampton	PAG-08-2224
Annville Twp Authority	Annville, PA	Annville Twp	Lebanon	PAG-08-3504
Downingtown RWPCC	Downingtown, PA	Downingtown	Chester	PAG-08-0007

Attachment A

Permittee's Name	Address	Pathogen Option	Vector Option	Liquid or cake
City of York WWTF	1701 Black Bridge Road, York, PA 17402	3	1	C
Lehigh County Sewage Authority	7676 Industrial Boulevard, Allentown, PA 18106	3	1	C
Pennridge Wastewater Treatment Authority	180 Maple Avenue, PO Box 31, Sellersville, PA 18960	3	8	C
Valley Forge Sewer Authority	333 Pawling Road, Phoenixville, PA 19460	5	6	C
Upper Gwynedd-Towamencin MA	2225 Kriebel Road, Lansdale, PA 19446	5	6	C
East Pennsboro Twp. WWTP	21 East Dulles Drive, Camp Hill, PA 17011	3	1	C & L
Phoenixville Borough WWTP	140 Church Street, Phoenixville, PA 19460	3	1	C
City of Allentown WWTP	112 Union Street, Allentown, PA 18102	3	1	C
County of Berks Welfare Tract STP	1088 Berks Road, Leesport, PA 19533	5	6	C
Dover Twp. WWTP	851 Griffius Road, York, PA 17404	1	3 & 4	C
Bonneauville Borough Municipal Authority	86 West Hanover Street, Gettysburg, PA 17325	1	1	L
Manheim Borough Authority WWTP	PO Box 834, Manheim, PA 17545	6	6	C
Penn Township WWTP	20 Wayne Avenue, Hanover, PA 17331	6	6	C
Telford Sewer Authority	PO Box 209, Telford, PA 18969	5	10	C
Derry Township Municipal Authority	670 Clearwater Drive Hershey, PA 17033	3	1	C
Little Patuxent Water Reclamation Plant	8900 Greenwood Place Savage, Maryland 20763	5	6	C
Ballenger Creek WWTP	7400 Marcie's Choice Lane Frederick, MD 21704	6	6	C
Frederick City WWTP	111 Airport Road East Frederick, MD 21701	3	1	C
Lititz Borough Sewer Authority	50 Lititz Run Road, Lititz, PA 17543	1	1	L
Gettysburg Municipal Authority	PO Box 3307, 601 E. Middle St. Gettysburg, PA 17325	1	5	L
Mahanoy City Sewer Authority	130 East Centre Street, Mahanoy City, PA 17948	2	10	C
Borough of Sinking Springs WWTP	2305 Reedy Road, Sinking Springs, PA 19608	2	10	C
Abington Wastewater Treatment Plan	1000 Fritzwatertown Road, Roslyn, PA 19001	3	1	C
Synagro Mid Atlantic	1605 Dooley Road, Whitford, MD 21160	5	6	C
Ephrata Boro WWTP 1	124 South State Street, Ephrata, PA 17522	1	10	C
Ephrata Boro WWTP 2	124 South State Street, Ephrata, PA 17522	1	5	C
Philadelphia Water Department	7800 Penrose Ferry Road	3	1	C
Lancaster Area Sewer and Water Authority	130 Centerville Road Lancaster, PA 17603	5	6	C
Hanover Wastewater Treatment Facility	44 Frederick Street Hanover, PA 17331	3	2	C
Warminster Municipal Authority	415 Gibson Avenue, P.O. Box 2279, Warminster, PA 18974	1	1	C
Lower Allen Township Authority	120 Limekiln Road, New Cumberland, PA 17070-2428	2	5	L
New Oxford Municipal Authority	409 Water Works Road, New Oxford, PA 17350	5	6	C
New Freedom Borough WWTP	49 East High Street, New Freedom, PA 17349	5	6	C
Harrisburg AWTF	1662 South Cameron Street, Harrisburg, PA 17104	3	1	C
Sod Run WWTP	1212 Chelsea Rd Perryman MD 21130	3		C
Wilmington DE WWTP	East 12th Street and Hay St Wilmington DE 19809	3		C
Easton Area JSA	50-A South Delaware Dr. Easton, PA 18042	3	1	C
Souderton WWTP	174 Cowpath Rd Souderton, PA 18964	1	4	C
Lower Perkiomen Valley Regional Sewer Auth	101 Station Ave Oaks, PA 19456	5	6	C
Montgomery County Sewer Authority	6 River Bend Road, PO Box 813, Oaks, PA 19456			C
Pottstown Borough Authority	City Hall, 241 King Street Pottstown, PA 19464	3		C
Exeter Township WWTP	400 Hancover Street, Birdsboro, PA 19508	1	1	C
Hampden Township WWTP	230 South Sporting Hill Road, Mechanicsburg, Pa 17050	5	6	C
Northern Lancaster County Authority	983 Beam Road, Denver, PA 17517	2	10	C
Schuylkill Valley SA	318 Ridge Road, Cumbola, PA 17930	1	10	C
Coatsville STP	Gibbons Avenue, Coatsville, PA 17320	5	6	C
Valley Forge Sewer Authority	333 Pawling Road, Phoenixville, PA 19460	5	6	C
Green Lane-Marlboro JSA	Gravel Road at Sumneytown Pike P.O. Box , Green Lane, PA 18054	1	10	C
Womelsdorf Sewer Authority	101 W High St Womelsdorf, PA 17567	1	10	C
City of Bethlehem WWTP	144 Shimersville Road Bethlehem, PA 18015	3	1	C
Annville Twp Authority	36 N. Lancaster Street Annville, PA	1	4	L
Downingtown RWPCC	550 Brandywine Avenue, Downingtown, PA 19335	5	6	C

CERTIFICATION

Based upon site inspection by me or under my supervision, I certify that the proposed site meets the eligibility for soil analyses and nitrogen amounts as well as other general requirements and management practices required in the general permit issued for the land application of biosolids for beneficial use and the applicable biosolids regulations at Title 25 Pa. Code, Chapter 271. I verify that statements made in this form are true and correct to the best of my knowledge, information and belief. I understand that false statements are subject to penalties of 18 Pa. C.S.A., Section 4904 relating to unsworn falsification to authorities.

NAME AND OFFICIAL TITLE (Use Corporate or Professional Seal As Appropriate):

Name: Kevin Smeltz **Title:** Technical Services Specialist

Signature: Kevin Smeltz

Telephone: (410) 688-6506 **Date Signed:** 1-15-2018

Is an Erosion and Sedimentation (E&S) or a Farm Conservation Plan developed for this land application area as specified in §271.915 (c) (4)? ☒ Yes ☐ No

If YES, attach a copy of the plan and implementation schedule. If NO, biosolids may not be applied at this site.

Is incorporation used? ☒ Yes ☐ No If YES, indicate how soon incorporation is performed after land application 6 hours

To the best of your knowledge, was biosolids ever applied to this site? ☐ Yes ☒ No

If YES, was DEP contacted to obtain cumulative pollutant loading data? ☐ Yes ☐ No

Complete the following information related to the proposed application areas:

(a) For agricultural utilization, does the slope exceed 25%? ☐ Yes ☒ No
(b) For land reclamation, does the slope exceed 35%? ☐ Yes ☐ No
(c) Is any area within 100 ft. of a perennial stream? ☐ Yes ☒ No
(d) Is any area within 33 ft. of an intermittent stream? ☐ Yes ☒ No
(e) Is any area within 300 ft. of an occupied dwelling? ☐ Yes ☒ No
(f) Is any area within 100 ft. of an exceptional value wetland? ☐ Yes ☒ No
(g) Is any area within 11 in. of the seasonal high water table? ☐ Yes ☒ No
(h) Is any area within 3.3 ft. of the regional groundwater table? ☐ Yes ☒ No
(i) Have signs been posted at the property line? ☒ Yes ☐ No
(j) Has occupant of the land received user instruction sheet? ☒ Yes ☐ No
(k) Any other restrictions? _____

Indicate the watershed(s) and stream classification(s), in accordance with DEP's Chapter 93 regulations.

Application Area	Stream Name	Chapter 93 Classification	EV Designation?	
all fields	Lizard Creek	TF	Yes ☐	No ☒
all fields	Tributary to Lehigh River	CWF	Yes ☐	No ☒
		TSF	Yes ☐	No ☐

NOTE: LAND APPLICATION OF BIOSOLIDS IN THE WATERSHED(S) DESIGNATED AS "EXCEPTIONAL VALUE" IN CHAPTER 93 IS **NOT** ELIGIBLE UNDER THE GENERAL PERMIT. AN INDIVIDUAL SITE PERMIT IS REQUIRED.

ADDITIONAL ATTACHMENTS

Attach a Natural Resources Conservation Service map of the site or a site map of a scale not smaller than 1 inch equals 400 feet. Boundaries of the site and intended application areas should be clearly delineated and the acreage for each field indicated:

Attach a list of adjacent landowner(s) to the site that are required to be notified under §271.913 (g).

Provide soil chemical analytical results for the following parameters in each field at the site: arsenic, cadmium, copper, lead, mercury, molybdenum, nickel, selenium, zinc, polychlorinated biphenols (PCBs) and pH.

Attach a separate sheet showing an example of how agronomic rates for this site will be calculated.

Attach the completed Pennsylvania Natural Diversity Inventory Form.

3800-FM-WSFR0343 8/2005

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WATER STANDARDS AND FACILITY REGULATION

NOTIFICATION OF FIRST LAND APPLICATION
(30-Day Notice)

PERMITTEE INFORMATION

Name of Permittee: See Attachment A
Facility Location: See Attachment A
Municipality: See Attachment I.1 County: See Attachment I.1
Current General Permit Number: See Attachment I.1 Issued Date: See Attachment I.1
Pathogen reduction alternative used: See Attachment A
Vector attraction reduction option used: See Attachment A
Method of application (liquid or cake): See Attachment A
Name of land applier: Synagro
Has this applier completed DEP required biosolids training? ☒ Yes ☐ No

SITE INFORMATION

Site Name: Cunfer Farm
Name of Landowner: Dennis Cunfer, Wanda Crostley
Location of Site: 351 Cunfer Lane, Lehighton, PA 18235
Municipality: East Penn Twp County: Carbon

Locate the site on a USGS 7.5-minute series topographic map and provide the following information:

Latitude: 40 -47 -37.54 _____ inches North _____ inches West
Longitude: 75 - 41 -43.77 USGS Quadrangle Name: Lehighton

Method used to obtain Latitude and Longitude (i.e., GPS, manual): Google Earth
Indicate location reference point: Center
Indicate horizontal reference data code and description (if applicable): N/A
Indicate level of accuracy achieved: 50'

A copy of the Contractual Consent of Landowner is attached: ☒ Yes ☐ No
Will biosolids or residential septage be stored at the site? ☒ Yes ☐ No
If YES, attach a map locating the proposed storage areas and a detailed description of the design, construction and operation of the storage area(s) with this form.
Have all adjacent landowners to the site been notified that biosolids or residential septage will be applied to the site? ☒ Yes ☐ No
If NO, land application cannot commence until 30 days after adjacent landowners have been notified.
Is this site utilized for agricultural purposes? ☒ Yes ☐ No
If YES, complete items (a), (b) and (c) as applicable. If NO, attach an explanation of intended activity.
(a) Is animal manure generated at this farm? ☒ Yes ☐ No
(b) If the answer to (a) is YES, does manure produced by animals satisfy all nutrients needed for expected crops? ☐ Yes ☒ No
(c) If the answer to (b) is YES, is a Manure Management Plan implemented for this site as specified in §271.915(g)? ☒ Yes ☐ No
Note: If the required Manure Management Plan has not been implemented, biosolids may not be applied at this farm.

SYNAGRO

To Whom It May Concern:

I hereby consent to allow biosolids to be spread on the Crostley Farm on land that is within 300 feet of my dwelling and/or well. I understand that such waiver is allowed by the Department of Environmental Protection in Regulation 271.915 which states that biosolids application may not be conducted "within 300 feet from an occupied dwelling or water source unless the current owner has provided a written waiver consenting to activities closer than 300 feet."

Address:

* 365 CUNFER LANE
* LEHIGHTON PA 18235

* WANDA CROSTLEY
(Name Printed)

* Wanda Crostley
(Signature)

* 11/2/18
(Date)

DEP
NORTHEAST REGION
CERTIFIED A TRUE AND
CORRECT COPY

Synagro Central, LLC, 1605 Dooley Rd., P.O. Box B, Whiteford, MD 21160
Phone (410) 452-8000 • Fax (410) 452-8070 • Toll Free (800) 401-1616

SYNAGRO

To Whom It May Concern:

I hereby consent to allow biosolids to be spread on the Cunfer Farm on land that is within 300 feet of my dwelling and / or well. I understand that such a waiver is allowed by the Department of Environmental Protection in Regulation 271.915 which states that biosolids application may not be conducted "within 300 feet from an occupied dwelling or water source unless the current owner has provided a written waiver consenting to activities closer than 300 feet.

DENNIS CUNFER

Landowner name

Dennis Cunfer

Landowner signature

8/24/17

Date

236 Smith Lane Rd
Lehrighton, PA

351 / 356 Cunfer Lane
Lehrighton, PA

936 Friendship Rd
Lehrighton, PA

DEP
NORTHEAST REGION
CERTIFIED A TRUE AND
CORRECT COPY

Synagro Central, LLC, 1605 Dooley Rd., P.O. Box B, Whiteford, MD 21160
Phone (410) 452-8000 • Fax (410) 452-8070 • Toll Free (800) 401-1618

management activities and for up to ten (10) years after final closure, as such term is defined by the Act, of a processing facility or up to _____ year(s) after beneficial use activities have ceased for the purposes of inspection, monitoring, and maintenance and for conducting pollution abatement activities deemed necessary by the Department to carry out the purposes or requirements of the Act. (I) (We) do hereby grant in addition to the Commonwealth, for the aforesaid period of time, a right of entry across any lands adjoining or contiguous to the Premises owned by (us) (me) in order to have access to the Premises.

It is specifically agreed and understood that this Consent gives the Commonwealth the right to enter, inspect, monitor, and conduct maintenance or abatement on the Premises to the extent deemed necessary by the Department as a matter within the police power, but does not obligate the Commonwealth to do so, and does not constitute any ownership interest by the Commonwealth in the aforesaid Premises.

In witness whereof and intending to legally bind (myself) (ourselves), (my) (our) heirs, legal representatives, successors, (I) (we) have hereunto set (my) (our) hand(s) and seal this 24 day of August, 20 17.

x WANDA CROSTLEY
(Print Name of Landowner)

If the Landowner is an Individual:

WITNESS:

(Signature of Witness) — x Wanda Crostley (Signature of Landowner)

James Grove (Printed or Typed Name of Witness) — x WANDA CROSTLEY (Printed or Typed Name of Landowner)

_____ (Signature of Witness) — _____ (Signature of Landowner)

_____ (Printed or Typed Name of Witness) — _____ (Printed or Typed Name of Landowner)

If the Landowner is a Corporation:

ATTEST:

By: _____ (Signature of Secretary or Treasurer) — _____ (Signature of President or V.P.)

_____ (Printed or Typed Name) — _____ (Printed or Typed Name)

_____ (Title) — _____ (Title)

Affix Corporate Seal:

DEP
NORTHEAST REGION
CERTIFIED A TRUE AND
CORRECT COPY

2540-FM-BWM0217 Rev. 5/2006

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WASTE MANAGEMENT

CLEAN WATER PROGRAM
COUNTY:
MUNIC.:

Date Prepared/Revised
JAN 2 3 2018
DEP USE ONLY
Date Received

FACILITY NAME:
PERMIT #
FILE TYPE:

FORM E-GP
CONTRACTUAL CONSENT OF LANDOWNER FOR A GENERAL PERMIT

This form must be fully and accurately completed. All required information must be typed or legibly printed in the spaces provided. If additional space is necessary, identify each attached sheet as Form E-GP, reference the item number and identify the date prepared. The "date prepared/revised" on any attached sheets needs to match the "date prepared/revised" on this page.

General References: XX
SECTION A. SITE IDENTIFIER
Applicant/permittee
Site Name
Facility ID (as issued by DEP)

Instructions: This form should be completed by **each** landowner owning a parcel of land within the permit area. If an applicant is applying for a mobile processing permit or land application of waste, completion of Part A of this form is not required.

(I) (We), the undersigned, are the landowner(s) ("Landowner") of a fee title interest at 665 Cunfer Lane, Lehighton, PA 18235 on 123.3 acres of land located in,
(location of premises)

East Penn Twp (Name and Type of Municipality) Carbon (Name of County)

Pennsylvania, and shown by crosshatched lines on the map attached hereto ("Premises") which is signed in the original by the Landowner upon which WMGR099
(Solid Waste Management Permit Applicant)
(hereinafter "Applicant") proposes to engage in waste processing and/or beneficial use activities.

Part A: This consent shall be deemed to be a recordable document. Prior to the initiation of solid waste management activities under the permit, this Consent shall be recorded by _____
(Landowner or Applicant)
and entered into the deed book (d.b.v.) index at the office of the recorder of deeds in the county(ies) in which the Premises are located.

Part B: (I) (We), the undersigned DO HEREBY ACKNOWLEDGE THAT THE APPLICANT AND HIS/HER AGENTS AND REPRESENTATIVES HAVE THE RIGHT TO ENTER UPON AND USE THE LAND FOR THE PURPOSES OF CONDUCTING WASTE MANAGEMENT ACTIVITIES for which application for permit, including this Consent, is made to the Department of Environmental Protection ("Department") under the Act of July 7, 1980 (P.L. 280, No. 97), as amended, known as the Solid Waste management Act (35 P.S. §§6018.101 et seq.) and the regulations promulgated pursuant thereto ("Act"). The right the Landowner grants is Not the subject of pending civil litigation. (I) (We), the undersigned,
(is or is not)
shall also allow the Applicant access to the Premises to carry out pollution prevention or pollution abatement activities as required by the Act or deemed necessary by the Department to carry out any purpose of the Act.

THE LANDOWNER agrees TO ALLOW THE ABOVE-NAMED APPLICANT TO TRANSFER OR
(agrees or does not agree)
ASSIGN, BY WRITTEN AGREEMENT, THIS CONTRACTUAL CONSENT TO ANOTHER SOLID WASTE MANAGEMENT FACILITY APPLICANT.

Nothing in this Consent shall preclude or limit the Landowner's authority to terminate the right or privilege of the Applicant to conduct waste management activities on the aforesaid Premises. In the event of such termination, the Landowner shall allow the Applicant ample time to bring to closure all waste management activities.

Part C: (I) (We), the undersigned, do hereby irrevocably grant to the Commonwealth of Pennsylvania or any of its authorized agents, or employees, and to the Applicant the right to enter upon the Premises for the duration of solid waste

3800-FM-WSFR0342 9/2005

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WATER STANDARDS AND FACILITY REGULATION

CONTRACTUAL CONSENT OF LANDOWNER

(I)(We), the undersigned, hereinafter sometimes referred to as "Landowner," being the owner(s) of Confer Farm (Site Name), which consists of 123.3 acres of land located in East Penn Twp (Township, Borough, City), and Carbon County, as described in the deed(s) recorded in the Recorder of Deeds Office Book(s), Page(s) 1144-772 and shown by crosshatched lines on the map attached hereto which is signed in the original by the landowner, upon which Attachment A. (Name of Permittee), holder of Permit # Attachment 1.I, proposes to engage in land application of biosolids* or residential septage for which a 30-Day Notice of First Land Application (as applicable) will be made to the Department of Environmental Protection (DEP) and of which this consent will be made a part, ***DO HEREBY GRANT THE PERMITTEE(S) OR AGENT(S) FOR THE PERMITTEE(S) THE RIGHT TO ENTER UPON AND USE THE LAND FOR THE PURPOSES OF CONDUCTING THE LAND APPLICATION OF BIOSOLIDS OR RESIDENTIAL SEPTAGE FOR BENEFICIAL USE.*** Furthermore, (I) (we), the undersigned, grant to the permittee(s) or the agent(s) for the permittee(s) and to the Commonwealth of Pennsylvania or any of its authorized agents or employees, the right to enter upon the aforesaid land before the initiation of the land application activities or operations and for the duration of the land application activities or operations, for the purposes of inspection, monitoring and maintenance and for the purpose of conducting such pollution abatement or pollution prevention activities as required by the Solid Waste Management Act (35 P.S. §§6018.101-6018.1003), or deemed necessary by DEP to carry out any purpose of the Solid Waste Management Act, the regulations promulgated thereunder and the terms of the permit. In addition, (I) (we) do hereby grant to the Commonwealth, for the aforesaid period of time, a right of entry across any adjoining or contiguous lands owned by (me) (us) in order to have access to the land described herein. It is specifically agreed and understood that this contractual consent gives the Commonwealth the right to enter and inspect the premises, and abate or prevent pollution but does not obligate the Commonwealth to do so, does not constitute any ownership interest by the Commonwealth in the aforesaid land, and does not affect or limit any rights available to the Commonwealth under applicable law.

The Landowner shall have the right to terminate this consent for its convenience, provided it shall notify the Permittee and DEP in writing of such termination.

The Landowner shall notify the Permittee and DEP in writing within 30 days of any sale of the above-referenced property.

In witness whereof and intending to legally bind (myself) (ourselves), (I) (we) have hereunto set (my) (our) hand(s) and seal this 24 day of August, 2017.

LANDOWNER INDIVIDUAL

x WANDA CROSTLEY
(Print Name)

x Wanda Crostley
(Signature)

LANDOWNER CORPORATION

By: _____
(Print Name and Title)

_____
(Signature)

ATTEST:

x _____
(Print Name and Title)

x Kevin Smeltz Tech. Services Specialist
(Signature)

*Sewage sludge as defined by Title 25 Pa. Code §271.1 that meets Title 25 Pa. Code Chapter 271, Subchapter J requirements for land application.

DEP
NORTHEAST REGION
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CORRECT COPY

management activities and for up to ten (10) years after final closure, as such term is defined by the Act, of a processing facility or up to _____ year(s) after beneficial use activities have ceased for the purposes of inspection, monitoring, and maintenance and for conducting pollution abatement activities deemed necessary by the Department to carry out the purposes or requirements of the Act. (I) (We) do hereby grant in addition to the Commonwealth, for the aforesaid period of time, a right of entry across any lands adjoining or contiguous to the Premises owned by (us) (me) in order to have access to the Premises.

It is specifically agreed and understood that this Consent gives the Commonwealth the right to enter, inspect, monitor, and conduct maintenance or abatement on the Premises to the extent deemed necessary by the Department as a matter within the police power, but does not obligate the Commonwealth to do so, and does not constitute any ownership interest by the Commonwealth in the aforesaid Premises.

In witness whereof and intending to legally bind (myself) (ourselves), (my) (our) heirs, legal representatives, successors, (I) (we) have hereunto set (my) (our) hand(s) and seal this 24 day of August, 20 17.

DENNIS CUNFER
(Print Name of Landowner)

If the Landowner is an Individual:

WITNESS:

Kevin Smeltz
(Signature of Witness)

Dennis Cunfer
(Signature of Landowner)

Kevin Smeltz
(Printed or Typed Name of Witness)

DENNIS CUNFER
(Printed or Typed Name of Landowner)

_____
(Signature of Witness)

_____
(Signature of Landowner)

_____
(Printed or Typed Name of Witness)

_____
(Printed or Typed Name of Landowner)

If the Landowner is a Corporation:

ATTEST:

By: _____
(Signature of Secretary or Treasurer)

_____
(Signature of President or V.P.)

_____
(Printed or Typed Name)

_____
(Printed or Typed Name)

_____
(Title)

_____
(Title)

Affix Corporate Seal:

DEP
NORTHEAST REGION
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CORRECT COPY

2540-FM-BWM0217 Rev. 5/2006

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WASTE MANAGEMENT

Date Prepared/Revised
DEP USE ONLY
Date Received

FORM E-GP
CONTRACTUAL CONSENT OF LANDOWNER FOR A GENERAL PERMIT

This form must be fully and accurately completed. All required information must be typed or legibly printed in the spaces provided. If additional space is necessary, identify each attached sheet as Form E-GP, reference the item number and identify the date prepared. The "date prepared/revised" on any attached sheets needs to match the "date prepared/revised" on this page.

General References: XX
SECTION A. SITE IDENTIFIER
Applicant/permittee
Site Name
Facility ID (as issued by DEP)

Instructions: This form should be completed by **each** landowner owning a parcel of land within the permit area. If an applicant is applying for a mobile processing permit or land application of waste, completion of Part A of this form is not required.

(I) (We), the undersigned, are the landowner(s) ("Landowner") of a fee title interest at 366 Confer Lane, Lehighton, PA 18235 (location of premises) on 123.3 acres of land located in, East Penn Twp (Name and Type of Municipality) Carbon (Name of County) Pennsylvania, and shown by crosshatched lines on the map attached hereto ("Premises") which is signed in the original by the Landowner upon which WMGR 899 (Solid Waste Management Permit Applicant) (hereinafter "Applicant") proposes to engage in waste processing and/or beneficial use activities.

Part A: This consent shall be deemed to be a recordable document. Prior to the initiation of solid waste management activities under the permit, this Consent shall be recorded by _____ (Landowner or Applicant) and entered into the deed book (d.b.v.) index at the office of the recorder of deeds in the county(ies) in which the Premises are located.

Part B: (I) (We), the undersigned DO HEREBY ACKNOWLEDGE THAT THE APPLICANT AND HIS/HER AGENTS AND REPRESENTATIVES HAVE THE RIGHT TO ENTER UPON AND USE THE LAND FOR THE PURPOSES OF CONDUCTING WASTE MANAGEMENT ACTIVITIES for which application for permit, including this Consent, is made to the Department of Environmental Protection ("Department") under the Act of July 7, 1980 (P.L. 280, No. 97), as amended, known as the Solid Waste management Act (35 P.S. §§6018.101 et seq.) and the regulations promulgated pursuant thereto ("Act"). The right the Landowner grants is not (is or is not) the subject of pending civil litigation. (I) (We), the undersigned, shall also allow the Applicant access to the Premises to carry out pollution prevention or pollution abatement activities as required by the Act or deemed necessary by the Department to carry out any purpose of the Act.

THE LANDOWNER agrees (agrees or does not agree) TO ALLOW THE ABOVE-NAMED APPLICANT TO TRANSFER OR ASSIGN, BY WRITTEN AGREEMENT, THIS CONTRACTUAL CONSENT TO ANOTHER SOLID WASTE MANAGEMENT FACILITY APPLICANT.

Nothing in this Consent shall preclude or limit the Landowner's authority to terminate the right or privilege of the Applicant to conduct waste management activities on the aforesaid Premises. In the event of such termination, the Landowner shall allow the Applicant ample time to bring to closure all waste management activities.

Part C: (I) (We), the undersigned, do hereby irrevocably grant to the Commonwealth of Pennsylvania or any of its authorized agents, or employees, and to the Applicant the right to enter upon the Premises for the duration of solid waste

3800-FM-WSFR0342 9/2005

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WATER STANDARDS AND FACILITY REGULATION

CONTRACTUAL CONSENT OF LANDOWNER

(I)(We), the undersigned, hereinafter sometimes referred to as "Landowner," being the owner(s) of Cunfer farm (Site Name), which consists of 123.3 acres of land located in East Penn Twp (Township, Borough, City), and Carbon County, as described in the deed(s) recorded in the Recorder of Deeds Office Book(s), Page(s) 447-966; 1144-776; 812-820 and shown by crosshatched lines on the map attached hereto which is signed in the original by the landowner, upon which Attachment A. (Name of Permittee), holder of Permit # Attachment 1.I., proposes to engage in land application of biosolids* or residential septage for which a 30-Day Notice of First Land Application (as applicable) will be made to the Department of Environmental Protection (DEP) and of which this consent will be made a part, ***DO HEREBY GRANT THE PERMITTEE(S) OR AGENT(S) FOR THE PERMITTEE(S) THE RIGHT TO ENTER UPON AND USE THE LAND FOR THE PURPOSES OF CONDUCTING THE LAND APPLICATION OF BIOSOLIDS OR RESIDENTIAL SEPTAGE FOR BENEFICIAL USE.*** Furthermore, (I) (we), the undersigned, grant to the permittee(s) or the agent(s) for the permittee(s) and to the Commonwealth of Pennsylvania or any of its authorized agents or employees, the right to enter upon the aforesaid land before the initiation of the land application activities or operations and for the duration of the land application activities or operations, for the purposes of inspection, monitoring and maintenance and for the purpose of conducting such pollution abatement or pollution prevention activities as required by the Solid Waste Management Act (35 P.S. §§6018.101-6018.1003), or deemed necessary by DEP to carry out any purpose of the Solid Waste Management Act, the regulations promulgated thereunder and the terms of the permit. In addition, (I) (we) do hereby grant to the Commonwealth, for the aforesaid period of time, a right of entry across any adjoining or contiguous lands owned by (me) (us) in order to have access to the land described herein. It is specifically agreed and understood that this contractual consent gives the Commonwealth the right to enter and inspect the premises, and abate or prevent pollution but does not obligate the Commonwealth to do so, does not constitute any ownership interest by the Commonwealth in the aforesaid land, and does not affect or limit any rights available to the Commonwealth under applicable law.

The Landowner shall have the right to terminate this consent for its convenience, provided it shall notify the Permittee and DEP in writing of such termination.

The Landowner shall notify the Permittee and DEP in writing within 30 days of any sale of the above-referenced property.

In witness whereof and intending to legally bind (myself) (ourselves), (I) (we) have hereunto set (my) (our) hand(s) and seal this 24 day of August, 2017.

LANDOWNER INDIVIDUAL

DENNIS CUNFER
(Print Name)

Dennis Cunfer
(Signature)

LANDOWNER CORPORATION

By: _____
(Print Name and Title)

_____
(Signature)

ATTEST:

* Kevin Smeltz Tech Services Specialist.
(Print Name and Title)

* Kevin Smeltz
(Signature)

*Sewage sludge as defined by Title 25 Pa. Code §271.1 that meets Title 25 Pa. Code Chapter 271, Subchapter J requirements for land application.

DEP
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CORRECT COPY

1600 Dooley Rd., P.O. Box B
Whiteford, MD 21160
www.synagro.com

SYNAGRO

JANUARY 17, 2018

Karin Bristow
770 Smithlane Rd.
Lehighton, PA 18235

Dear Sir or Madam,

Synagro, a biosolids and residuals management company will be providing biosolids land application services to the Cunfer Farm, owned by Dennis Cunfer and Wanda Crostley and operated by Dennis Cunfer and Justin Cunfer. The farm is located in East Penn Township, Carbon County. This activity is regulated by the Pennsylvania Department of Environmental Protection, and requires notification of all landowners adjacent to farms recycling biosolids.

Biosolids are treated and stabilized wastewater treatment residuals, which are land applied as a fertilizer. The material is applied to crops based on nutrient needs. Houses, wells and streams are required to be buffered from non-exceptional quality biosolids land application activities. These site buffer zones will be measured and marked with visible flags in the field prior to any land application on the farm. Exceptional quality biosolids may be spread in these buffer zones. Public access within application areas will be restricted for thirty days following application. All operations comply with state and federal regulations and sound farm management practices.

Synagro intends to supply the farm with materials from one or more of the following sources:

Lehigh County SA (WMGR-099)
Ephrata Borough WWTP (PAG 08-3565 / 07-3508)
Allentown WWTP (PAG-08-2203)
Berks Welfare Tract STP (PAG-08-3522)
Upper Gwynedd MA (PAG-08-0008)
Phoenixville WWTP (PAG-08-0003)
Dover WWTP (PAG-08-3825)
Abington WWTP (PAG-08-0002)
Lititz Borough SA (PAG-08-3535)
Bonneauville MA (PAG-08-3547)
Manheim WWTP (PAG-08-3551)
Derry Township MA (PAG-08-3518)
Gettysburg MA (PAG-08-3540)
Ballenger Creek WWTP (PAG -08-9903)
Lancaster Area SA (PAG-08-3556)
Sinking Springs WWTP (PAG-08-3567)
Lower Allen Township (PAG-08-3510)
New Freedom Borough WWTP (PAG-08-3573)
Lancaster WWTP (PAG-08-3605)
Easton Area JSA (PAG-08-2219)
Exeter Township WWTP (PAG-08-3610)
Northern Lancaster Co. Authority (PAG-08-3611)
Coatesville STP (PAG-08-0016)
Valley Forge SA (PAG-08-0023)
Bethlehem WWTP (PAG-08-2224)
Downingtown RWPCC (PAG-08-0007)
Mahanoy City SA (PAG 08-2211)
Penn Township WWTP (PAG-08-3506)
Pennridge WTA (PAG-07-0003)
Valley Forge SA (PAG-07-0005)
East Pennsboro WWTP (PAG-08-3515)
York WWTF (PAG-08-3501)
Philadelphia Water Department (PAG-08-0004)
Frederick City WWTP (PAG-08-9904)
Wilmington DE WWTP (PAG-08-9601)
Pottstown Burough Authority (PAG-08-0005)
Telford SA (PAG-08-0006)
Sod Run WWTP (PAG-08-9909)
Little Patuxent WRP (PAG-08-9905)
Synagro Mid-Atlantic (PABIG-9903)
Hanover WWTF (PAG-08-3596)
Warminster MA (PAG-08-0018)
New Oxford MA (PAG-08-3600)
Harrisburg AWTF (PAG-08-3597)
Souderton WWTP (PAG-08-0021)
Lower Perkiomen Valley RSA (PAG-08-0011)
Hampden Township WWTP (PAG-08-3568)
Schuylkill Valley SA (PAG-08-2223)
Green Lane-Marlborough JSA (PAG-08-0022)
Womelsdorf SA (PAG-08-3614)
Annville Twp Authority (PAG-08-3504)

All of these materials have been approved for land application, on farms in Pennsylvania. All sources being land applied do not exceed PA Title 25 Chapter 271.914 (b) (3) Table 3 Pollutant Concentrations for Exceptional Quality Biosolids. If you have any questions regarding this project, please call me at (610) 368-5497. You may also contact Timothy Craven of the Pennsylvania Department of Environmental Protection at (570) 830-8032.

Sincerely,

Peter B. Price
Technical Services Manager

DEP
NORTHEAST REGION
CERTIFIED A TRUE AND
CORRECT COPY

1600 Dooley Rd., P.O. Box B
Whiteford, MD 21160
www.synagro.com

SYNAGRO

CLEAN WATER PROGRAM
COUNTY:
MUNIC.:

JANUARY 17, 2018

JAN 29 2018

Carbon County Conservation District
5664 Interchange Rd
Lehighton, PA 18235

FACILITY NAME:
PERMIT#
FILE TYPE:

Dear Carbon County Conservation District,

Synagro, a biosolids and residuals management company will be providing biosolids land application services to the Cunfer Farm, owned by Dennis Cunfer, and Wanda Crostley and operated by Dennis Cunfer and Justin Cunfer. The farm is located in East Penn Township, Carbon County. This activity is regulated by the Pennsylvania Department of Environmental Protection, and requires notification of all landowners adjacent to farms recycling biosolids.
Biosolids are treated and stabilized wastewater treatment residuals, which are land applied as a fertilizer. The material is applied to crops based on nutrient needs. Houses, wells and streams are required to be buffered from non-exceptional quality biosolids land application activities. These site buffer zones will be measured and marked with visible flags in the field prior to any land application on the farm. Exceptional quality biosolids may be spread in these buffer zones. All operations comply with state and federal regulations and sound farm management practices.

Synagro intends to supply the farm with materials from one or more of the following sources:

Lehigh County SA (WMGR-099)
Ephrata Borough WWTP (PAG 08-3565 / 07-3508)
Allentown WWTP (PAG-08-2203)
Berks Welfare Tract STP (PAG-08-3522)
Upper Gwynedd MA (PAG-08-0008)
Phoenixville WWTP (PAG-08-0003)
Dover WWTP (PAG-08-3825)
Abington WWTP (PAG-08-0002)
Lititz Borough SA (PAG-08-3535)
Bonneauville MA (PAG-08-3547)
Manheim WWTP (PAG-08-3551)
Derry Township MA (PAG-08-3518)
Gettysburg MA (PAG-08-3540)
Ballenger Creek WWTP (PAG -08-9903)
Lancaster Area SA (PAG-08-3556)
Sinking Springs WWTP (PAG-08-3567)
Lower Allen Township (PAG-08-3510)
New Freedom Borough WWTP (PAG-08-3573)
Lancaster WWTP (PAG-08-3605)
Easton Area JSA (PAG-08-2219)
Exeter Township WWTP (PAG-08-3610)
Northern Lancaster Co. Authority (PAG-08-3611)
Coatesville STP (PAG-08-0016)
Valley Forge SA (PAG-08-0023)
Bethlehem WWTP (PAG-08-2224)
Downingtown RWPCC (PAG-08-0007)
Mahanoy City SA (PAG 08-2211)
Penn Township WWTP (PAG-08-3506)
Pennridge WTA (PAG-07-0003)
Valley Forge SA (PAG-07-0005)
East Pennsboro WWTP (PAG-08-3515)
York WWTF (PAG-08-3501)
Philadelphia Water Department (PAG-08-0004)
Frederick City WWTP (PAG-08-9904)
Wilmington DE WWTP (PAG-08-9601)
Pottstown Burough Authority (PAG-08-0005)
Telford SA (PAG-08-0006)
Sod Run WWTP (PAG-08-9909)
Little Patuxent WRP (PAG-08-9905)
Synagro Mid-Atlantic (PABIG-9903)
Hanover WWTF (PAG-08-3596)
Warminster MA (PAG-08-0018)
New Oxford MA (PAG-08-3600)
Harrisburg AWTF (PAG-08-3597)
Souderton WWTP (PAG-08-0021)
Lower Perkiomen Valley RSA (PAG-08-0011)
Hampden Township WWTP (PAG-08-3568)
Schuylkill Valley SA (PAG-08-2223)
Green Lane-Marlborough JSA (PAG-08-0022)
Womelsdorf SA (PAG-08-3614)
Annville Twp Authority (PAG-08-3504)

All of these materials have been approved for land application, on farms in Pennsylvania. All sources being land applied do not exceed PA Title 25 Chapter 271.914 (b) (3) Table 3 Pollutant Concentrations for Exceptional Quality Biosolids.

If you have any questions regarding this project, please call me at (610) 368-5497. You may also contact Timothy Craven of the Pennsylvania Department of Environmental Protection at (570) 830-8032.

Sincerely,

Peter Price
Technical Services Manager

DEP
NORTHEAST REGION
CERTIFIED A TRUE AND
CORRECT COPY

1600 Dooley Rd., P.O. Box B
Whiteford, MD 21160
www.synagro.com

SYNAGRO

JANUARY 19, 2018

CLEAN WATER PROGRAM
COUNTY:
MUNIC.:

JAN 29 2018

FACILITY NAME:
PERMIT#
FILE TYPE:

Board of Supervisors

East Penn Township
167 Municipal Road
Lehighton, PA 18235

Dear Supervisors,

Synagro, a biosolids and residuals management company will be providing biosolids land application services to the Cunfer Farm, owned by Dennis Cunfer and Wanda Crostley and operated by Dennis Cunfer and Justin Cunfer, located in your township. This activity is regulated by the Pennsylvania Department of Environmental Protection, and requires notification of all landowners adjacent to farms recycling biosolids.

Biosolids are treated and stabilized wastewater treatment residuals, which are land applied as a fertilizer. The material is applied to crops based on nutrient needs. Houses, wells and streams are required to be buffered from non-exceptional quality biosolids land application activities. These site buffer zones will be measured and marked with visible flags in the field prior to any land application on the farm. Exceptional quality biosolids may be spread in these buffer zones. All operations comply with state and federal regulations and sound farm management practices.

Synagro intends to supply the farm with materials from one or more of the following sources:

Lehigh County SA (WMGR-099)
Ephrata Borough WWTP (PAG 08-3565 / 07-3508)
Allentown WWTP (PAG-08-2203)
Berks Welfare Tract STP (PAG-08-3522)
Upper Gwynedd MA (PAG-08-0008)
Phoenixville WWTP (PAG-08-0003)
Dover WWTP (PAG-08-3825)
Abington WWTP (PAG-08-0002)
Lititz Borough SA (PAG-08-3535)
Bonneauville MA (PAG-08-3547)
Manheim WWTP (PAG-08-3551)
Derry Township MA (PAG-08-3518)
Gettysburg MA (PAG-08-3540)
Ballenger Creek WWTP (PAG -08-9903)
Lancaster Area SA (PAG-08-3556)
Sinking Springs WWTP (PAG-08-3567)
Lower Allen Township (PAG-08-3510)
New Freedom Borough WWTP (PAG-08-3573)
Lancaster WWTP (PAG-08-3605)
Easton Area JSA (PAG-08-2219)
Exeter Township WWTP (PAG-08-3610)
Northern Lancaster Co. Authority (PAG-08-3611)
Coatesville STP (PAG-08-0016)
Valley Forge SA (PAG-08-0023)
Bethlehem WWTP (PAG-08-2224)
Downingtown RWPCC (PAG-08-0007)
Mahanoy City SA (PAG 08-2211)
Penn Township WWTP (PAG-08-3506)
Pennridge WTA (PAG-07-0003)
Valley Forge SA (PAG-07-0005)
East Pennsboro WWTP (PAG-08-3515)
York WWTF (PAG-08-3501)
Philadelphia Water Department (PAG-08-0004)
Frederick City WWTP (PAG-08-9904)
Wilmington DE WWTP (PAG-08-9601)
Pottstown Burough Authority (PAG-08-0005)
Telford SA (PAG-08-0006)
Sod Run WWTP (PAG-08-9909)
Little Patuxent WRP (PAG-08-9905)
Synagro Mid-Atlantic (PABIG-9903)
Hanover WWTF (PAG-08-3596)
Warminster MA (PAG-08-0018)
New Oxford MA (PAG-08-3600)
Harrisburg AWTF (PAG-08-3597)
Souderton WWTP (PAG-08-0021)
Lower Perkiomen Valley RSA (PAG-08-0011)
Hampden Township WWTP (PAG-08-3568)
Schuylkill Valley SA (PAG-08-2223)
Green Lane-Marlborough JSA (PAG-08-0022)
Womelsdorf SA (PAG-08-3614)
Annville Twp Authority (PAG-08-3504)

All of these materials have been approved for land application, on farms in Pennsylvania. All sources being land applied do not exceed PA Title 25 Chapter 271.914 (b) (3) Table 3 Pollutant Concentrations for Exceptional Quality Biosolids.

If you have any questions regarding this project, please call me at (610) 368-5497. You may also contact Timothy Craven of the Pennsylvania Department of Environmental Protection at (570) 830-8032.

Sincerely,

Peter Price
Technical Services Manager

DEP
NORTHEAST REGION
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1600 Dooley Rd., P.O. Box B
Whiteford, MD 21160
www.synagro.com

SYNAGRO

CLEAN WATER PROGRAM
COUNTY:_____
MUNIC.:_____

JANUARY 17, 2018

JAN 29 2018

Mr. Timothy Craven
PA DEP Water Management Program
2 Public Square
Wilkes-Barre, PA 18711-0790

FACILITY NAME:_____
PERMIT#_____
FILE TYPE:_____

Dear Mr. Craven,

Synagro, a biosolids and residuals management company will be providing biosolids land application services to the Cunfer Farm owned by Dennis Cunfer and Wanda Crostley and operated by Dennis Cunfer and Justin Cunfer. The farm is located in East Penn Township, Carbon County. This letter is the required 30-day notification to update the sources used on this farm under the following permits: PADEP PAG-08 and PAG-07 General Permits for Biosolids Land Application. Enclosed is the notification package for this farm.

Synagro intends to supply the farm with materials from one or more of the following sources:

Lehigh County SA (WMGR-099)
Ephrata Borough WWTP (PAG 08-3565 / 07-3508)
Allentown WWTP (PAG-08-2203)
Berks Welfare Tract STP (PAG-08-3522)
Upper Gwynedd MA (PAG-08-0008)
Phoenixville WWTP (PAG-08-0003)
Dover WWTP (PAG-08-3825)
Abington WWTP (PAG-08-0002)
Lititz Borough SA (PAG-08-3535)
Bonneauville MA (PAG-08-3547)
Manheim WWTP (PAG-08-3551)
Derry Township MA (PAG-08-3518)
Gettysburg MA (PAG-08-3540)
Ballenger Creek WWTP (PAG -08-9903)
Lancaster Area SA (PAG-08-3556)
Sinking Springs WWTP (PAG-08-3567)
Lower Allen Township (PAG-08-3510)
New Freedom Borough WWTP (PAG-08-3573)
Lancaster WWTP (PAG-08-3605)
Easton Area JSA (PAG-08-2219)
Exeter Township WWTP (PAG-08-3610)
Northern Lancaster Co. Authority (PAG-08-3611)
Coatesville STP (PAG-08-0016)
Valley Forge SA (PAG-08-0023)
Bethlehem WWTP (PAG-08-2224)
Downingtown RWPCC (PAG-08-0007)
Mahanoy City SA (PAG 08-2211)
Penn Township WWTP (PAG-08-3506)
Pennridge WTA (PAG-07-0003)
Valley Forge SA (PAG-07-0005)
East Pennsboro WWTP (PAG-08-3515)
York WWTF (PAG-08-3501)
Philadelphia Water Department (PAG-08-0004)
Frederick City WWTP (PAG-08-9904)
Wilmington DE WWTP (PAG-08-9601)
Pottstown Burough Authority (PAG-08-0005)
Telford SA (PAG-08-0006)
Sod Run WWTP (PAG-08-9909)
Little Patuxent WRP (PAG-08-9905)
Synagro Mid-Atlantic (PABIG-9903)
Hanover WWTF (PAG-08-3596)
Warminster MA (PAG-08-0018)
New Oxford MA (PAG-08-3600)
Harrisburg AWTF (PAG-08-3597)
Souderton WWTP (PAG-08-0021)
Lower Perkiomen Valley RSA (PAG-08-0011)
Hampden Township WWTP (PAG-08-3568)
Schuylkill Valley SA (PAG-08-2223)
Green Lane-Marlborough JSA (PAG-08-0022)
Womelsdorf SA (PAG-08-3614)
Annville Twp Authority (PAG-08-3504)

All of these materials have been approved for land application, on farms in Pennsylvania. All sources being land applied do not exceed PA Title 25 Chapter 271.914 (b) (3) Table 3 Pollutant Concentrations for Exceptional Quality Biosolids.

If you have any questions or comments regarding this project, please call me at (610) 368-5497.

Sincerely,

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Peter Price
Technical Services Manager

APPLICATION FOR THE
AGRICULTURAL UTILIZATION OF BIOSOLIDS ON

CUNFER FARM
CB-4

CARBON COUNTY, PENNSYLVANIA
EAST PENN TOWNSHIP

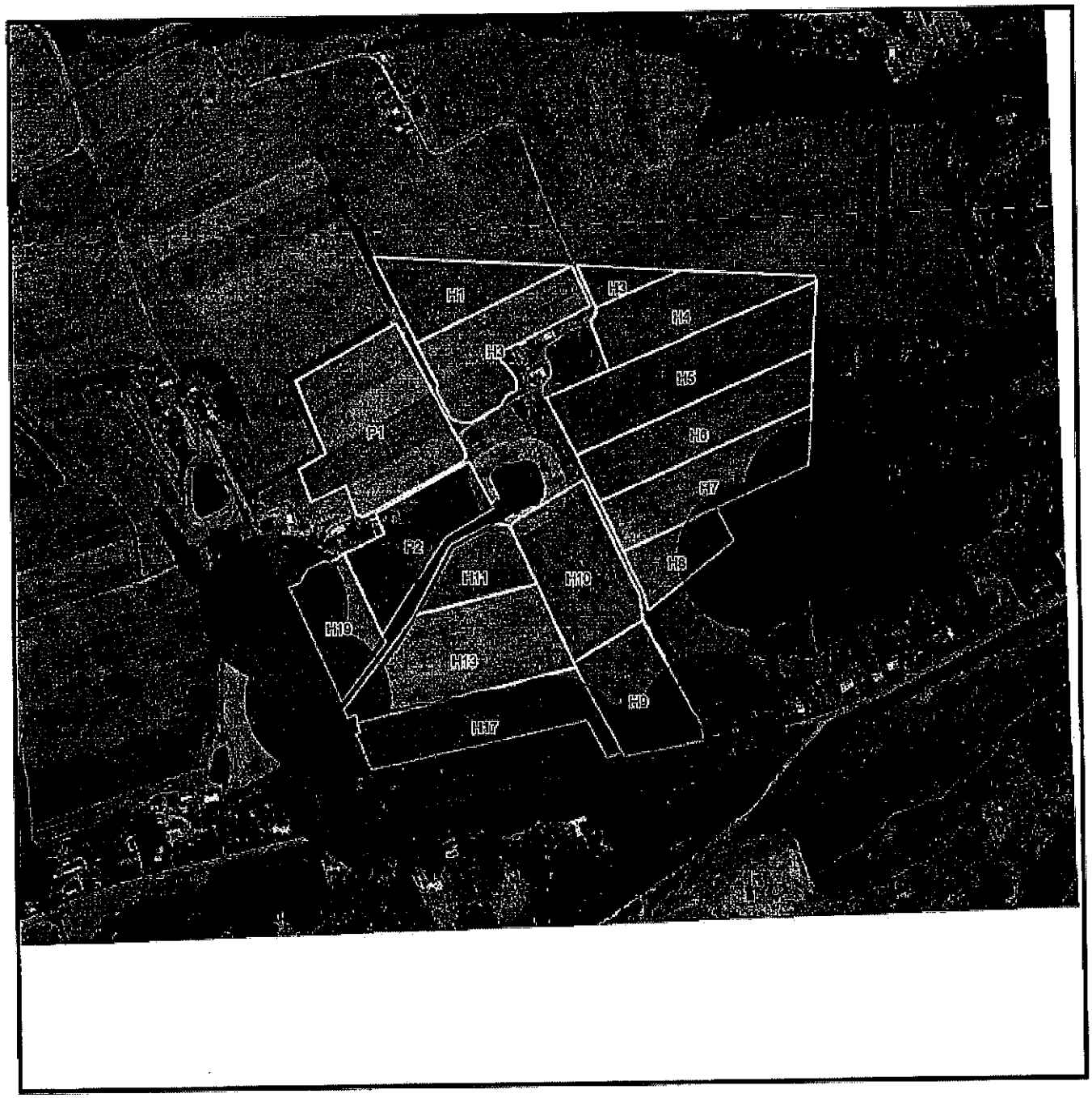
Submitted By: KEVIN SMELTZ

Synagro
PO Box B
1600 Dooley Road
Whiteford, MD 21160

Field Acreages

Field	Label	Description	Acres	Suitable Acres
H1	H1		3.32	3.32
H10	H10		5.3	4.89
H11	H11		2.39	2.19
H13	H13		6.75	5.99
H17	H17		5.1	0.22
H19	H19		2.96	0.8
H3	H3		4.45	4.45
H3B	H3		0.86	0.86
H4	H4		4.26	4.26
H5	H5		6.98	6.98
H6	H6		5	5
H7	H7		4.76	3.43
H8	H8		2.13	1.18
H9	H9		3.98	1.88
P1	P1		7.9	7.9
P2	P2		4.02	3.72
		Totals	**70.16**	**57.07**

Cunfer East



* 592.0 feet per inch

0 296 592 888 1184 feet

Legend

- field / CMU
- farm boundary
- homestead
- forest
- water
- stream
- sinkhole area
- sinkhole
- manure stacking
- vegetative buffer
- 100' manure setback
- 150' manure setback
- AHUA
- well
- road

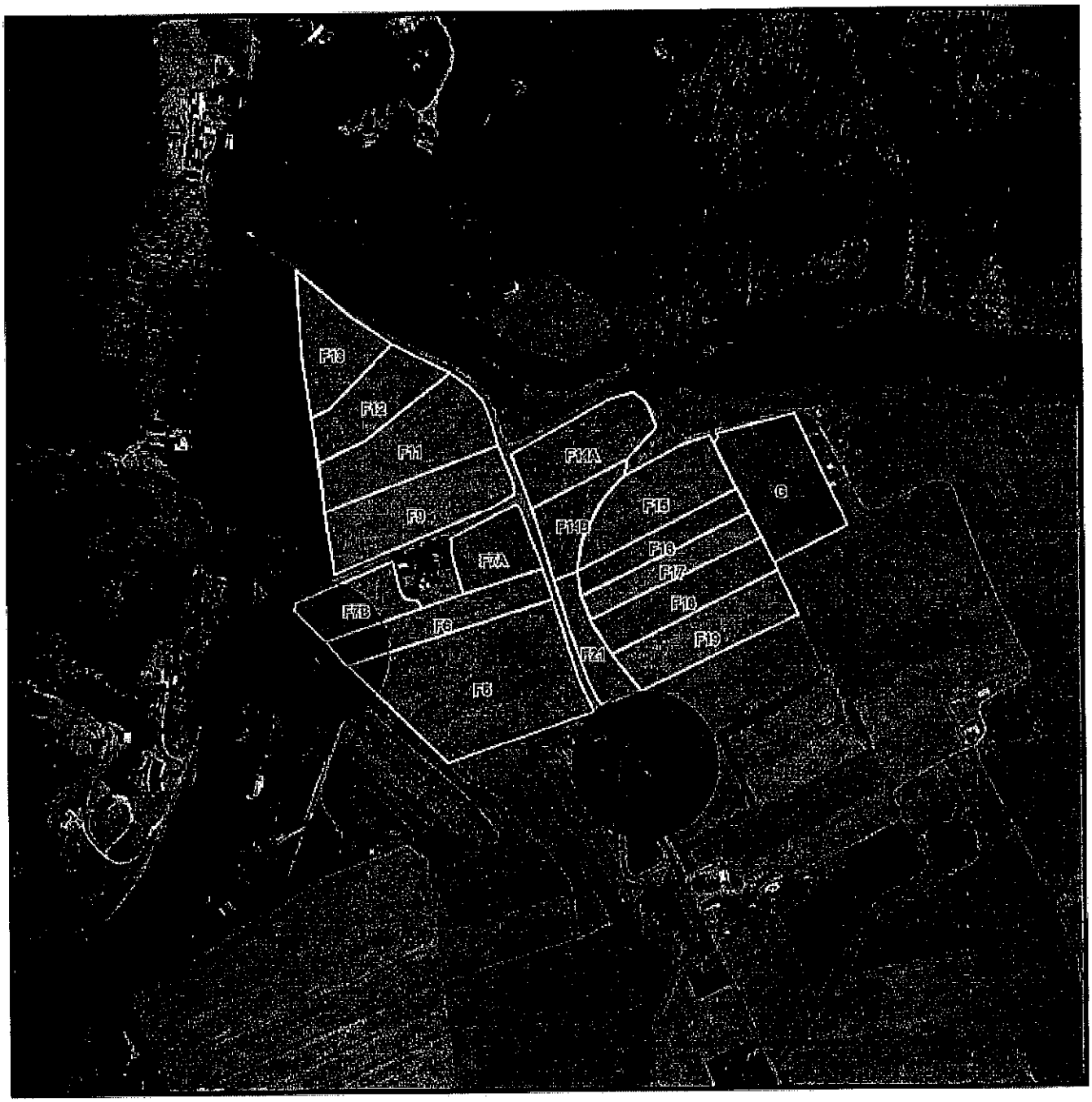
N

Created by the Penn State Geospatial Technology Program, Land Analysis Lab. http://www.paonestop.org Created on: 01/18/18

Field Acreages

Field	Label	Description	Acres	Suitable Acres
F11	F11		4.45	4.45
F12	F12		2.73	2.73
F13	F13		2.68	2.68
F14A	F14A		3.29	3.29
F14B	F14B		1.8	1.8
F15	F15		3.7	3.7
F16	F16		1.84	1.84
F17	F17		1.98	1.98
F18	F18		2.86	2.86
F19	F19		3.37	3.37
F21	F21		1.52	1.51
F5	F5		8.77	8.45
F6	F6		2.77	2.14
F7A	F7A		1.99	1.99
F7B	F7B		2.02	0.86
F9	F9		4.37	4.37
G	G		4.41	4.41
		Totals	**54.55**	**52.43**

Cunfer West



* 592.0 feet per inch

0 296 592 888 1184 feet

Legend

- field / CMU
- farm boundary
- homestead
- forest
- water
- stream
- sinkhole area
- sinkhole
- manure stacking
- vegetative buffer
- 100' manure setback
- 150' manure setback
- AHUA
- well
- road

N

Created by the Penn State Geospatial Technology Program, Land Analysis Lab. http://www.paonestop.org Created on: 01/16/18

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(814) 946-4306
NELAP: PA 07-062, VA 460212

89 Kristi Road
Pennsdale, PA 17756
(570) 494-6380
PaDEP: PA 41-04684

State Certifications: MD 275, WV 364

FAIRWAY LABORATORIES
www.fairwaylaboratories.com

Waypoint Analytical
7621 Whitepine Rd.
Richmond VA, 23237
Project Manager: Brandi Watson

Project: PCB's
Project Number: [none]
Collector: CLIENT
Number of Containers: 38

Reported:
12/21/17 09:24

Client Sample ID: 57494

Date/Time Sampled: 12/04/17 00:00

Laboratory Sample ID: 7L05038-38 (Solid/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Analytical Method	* Analyst	Note
Polychlorinated Biphenyls by EPA Extraction Method 3541								
PCB-1016	<0.008		0.008	mg/kg dry	12/15/17 23:11	EPA 8082	cdb	D
PCB-1221	<0.008		0.008	mg/kg dry	12/15/17 23:11	EPA 8082	cdb	
PCB-1232	<0.008		0.008	mg/kg dry	12/15/17 23:11	EPA 8082	cdb	
PCB-1242	<0.008		0.008	mg/kg dry	12/15/17 23:11	EPA 8082	cdb	
PCB-1248	<0.008		0.008	mg/kg dry	12/15/17 23:11	EPA 8082	cdb	
PCB-1254	<0.008		0.008	mg/kg dry	12/15/17 23:11	EPA 8082	cdb	
PCB-1260	<0.008		0.008	mg/kg dry	12/15/17 23:11	EPA 8082	cdb	D
Surrogate: Tetrachloro-meta-xylene		*115 %*	*11-140*		*12/15/17 23:11*	*EPA 8082*	cdb	
Surrogate: Decachlorobiphenyl		*111 %*	*24.4-140*		*12/15/17 23:11*	*EPA 8082*	cdb	

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Waypoint Analytical
7621 Whitepine Rd.
Richmond VA, 23237
Project Manager: Brandi Watson

Project: PCB's
Project Number: [none]
Collector: CLIENT
Number of Containers: 38

Reported:
12/21/17 09:24

Client Sample ID: 57493

Date/Time Sampled: 12/04/17 00:00

Laboratory Sample ID: 7L05038-37 (Solid/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Analytical Method	* Analyst	Note
Polychlorinated Biphenyls by EPA Extraction Method 3541								
PCB-1016	<0.008		0.008	mg/kg dry	12/15/17 22:39	EPA 8082	cdb	D
PCB-1221	<0.008		0.008	mg/kg dry	12/15/17 22:39	EPA 8082	cdb	
PCB-1232	<0.008		0.008	mg/kg dry	12/15/17 22:39	EPA 8082	cdb	
PCB-1242	<0.008		0.008	mg/kg dry	12/15/17 22:39	EPA 8082	cdb	
PCB-1248	<0.008		0.008	mg/kg dry	12/15/17 22:39	EPA 8082	cdb	
PCB-1254	<0.008		0.008	mg/kg dry	12/15/17 22:39	EPA 8082	cdb	
PCB-1260	<0.008		0.008	mg/kg dry	12/15/17 22:39	EPA 8082	cdb	D
Surrogate: Tetrachloro-meta-xylene		*105 %*	*11-140*		*12/15/17 22:39*	*EPA 8082*	cdb	
Surrogate: Decachlorobiphenyl		*105 %*	*24.4-140*		*12/15/17 22:39*	*EPA 8082*	cdb	

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FAIRWAY LABORATORIES

State Certifications: MD 275, WV 364

www.fairwaylaboratories.com

Waypoint Analytical
7621 Whitepine Rd.
Richmond VA, 23237
Project Manager: Brandi Watson

Project: PCB's
Project Number: [none]
Collector: CLIENT
Number of Containers: 38

Reported:
12/21/17 09:24

Client Sample ID: 57492

Date/Time Sampled: 12/04/17 00:00

Laboratory Sample ID: 7L05038-36 (Solid/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Analytical Method	* Analyst	Note
Polychlorinated Biphenyls by EPA Extraction Method 3541								
PCB-1016	<0.008		0.008	mg/kg dry	12/15/17 21:35	EPA 8082	cdb	
PCB-1221	<0.008		0.008	mg/kg dry	12/15/17 21:35	EPA 8082	cdb	
PCB-1232	<0.008		0.008	mg/kg dry	12/15/17 21:35	EPA 8082	cdb	
PCB-1242	<0.008		0.008	mg/kg dry	12/15/17 21:35	EPA 8082	cdb	
PCB-1248	<0.008		0.008	mg/kg dry	12/15/17 21:35	EPA 8082	cdb	
PCB-1254	<0.008		0.008	mg/kg dry	12/15/17 21:35	EPA 8082	cdb	
PCB-1260	<0.008		0.008	mg/kg dry	12/15/17 21:35	EPA 8082	cdb	
Surrogate: Tetrachloro-meta-xylene		*116 %*	*11-140*		*12/15/17 21:35*	*EPA 8082*	cdb	
Surrogate: Decachlorobiphenyl		*114 %*	*24.4-140*		*12/15/17 21:35*	*EPA 8082*	cdb	

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www.fairwaylaboratories.com

Waypoint Analytical
7621 Whitepine Rd.
Richmond VA, 23237
Project Manager: Brandi Watson

Project: PCB's
Project Number: [none]
Collector: CLIENT
Number of Containers: 38

Reported:
12/21/17 09:24

Client Sample ID: 57491

Date/Time Sampled: 12/04/17 00:00

Laboratory Sample ID: 7L05038-35 (Solid/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Analytical Method	* Analyst	Note
Polychlorinated Biphenyls by EPA Extraction Method 3541								
PCB-1016	<0.008		0.008	mg/kg dry	12/15/17 21:03	EPA 8082	cdb	
PCB-1221	<0.008		0.008	mg/kg dry	12/15/17 21:03	EPA 8082	cdb	
PCB-1232	<0.008		0.008	mg/kg dry	12/15/17 21:03	EPA 8082	cdb	
PCB-1242	<0.008		0.008	mg/kg dry	12/15/17 21:03	EPA 8082	cdb	
PCB-1248	<0.008		0.008	mg/kg dry	12/15/17 21:03	EPA 8082	cdb	
PCB-1254	<0.008		0.008	mg/kg dry	12/15/17 21:03	EPA 8082	cdb	
PCB-1260	<0.008		0.008	mg/kg dry	12/15/17 21:03	EPA 8082	cdb	
Surrogate: Tetrachloro-meta-xylene		*114 %*	*11-140*		*12/15/17 21:03*	*EPA 8082*	cdb	
Surrogate: Decachlorobiphenyl		*111 %*	*24.4-140*		*12/15/17 21:03*	*EPA 8082*	cdb	

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Waypoint Analytical		Project:	PCB's	
7621 Whitepine Rd.		Project Number:	[none]	Reported:
Richmond VA, 23237		Collector:	CLIENT	12/21/17 09:24
Project Manager:	Brandi Watson	Number of Containers:	38	

Client Sample ID: 57490 **Date/Time Sampled:** 12/04/17 00:00

Laboratory Sample ID: **7L05038-34 (Solid/Grab)**

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Analytical Method	* Analyst	Note
Polychlorinated Biphenyls by EPA Extraction Method 3541								
PCB-1016	<0.008		0.008	mg/kg dry	12/15/17 20:31	EPA 8082	cdb	
PCB-1221	<0.008		0.008	mg/kg dry	12/15/17 20:31	EPA 8082	cdb	
PCB-1232	<0.008		0.008	mg/kg dry	12/15/17 20:31	EPA 8082	cdb	
PCB-1242	<0.008		0.008	mg/kg dry	12/15/17 20:31	EPA 8082	cdb	
PCB-1248	<0.008		0.008	mg/kg dry	12/15/17 20:31	EPA 8082	cdb	
PCB-1254	<0.008		0.008	mg/kg dry	12/15/17 20:31	EPA 8082	cdb	
PCB-1260	<0.008		0.008	mg/kg dry	12/15/17 20:31	EPA 8082	cdb	
Surrogate: Tetrachloro-meta-xylene		*106 %*	*11-140*		*12/15/17 20:31*	*EPA 8082*	cdb	
Surrogate: Decachlorobiphenyl		*103 %*	*24.4-140*		*12/15/17 20:31*	*EPA 8082*	cdb	

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Waypoint Analytical
7621 Whitepine Rd.
Richmond VA, 23237
Project Manager: Brandi Watson

Project: PCB's
Project Number: [none]
Collector: CLIENT
Number of Containers: 38

Reported:
12/21/17 09:24

Client Sample ID: 57489

Date/Time Sampled: 12/04/17 00:00

Laboratory Sample ID: 7L05038-33 (Solid/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Analytical Method	* Analyst	Note
Polychlorinated Biphenyls by EPA Extraction Method 3541								
PCB-1016	<0.009		0.009	mg/kg dry	12/15/17 19:59	EPA 8082	cdb	
PCB-1221	<0.009		0.009	mg/kg dry	12/15/17 19:59	EPA 8082	cdb	
PCB-1232	<0.009		0.009	mg/kg dry	12/15/17 19:59	EPA 8082	cdb	
PCB-1242	<0.009		0.009	mg/kg dry	12/15/17 19:59	EPA 8082	cdb	
PCB-1248	<0.009		0.009	mg/kg dry	12/15/17 19:59	EPA 8082	cdb	
PCB-1254	<0.009		0.009	mg/kg dry	12/15/17 19:59	EPA 8082	cdb	
PCB-1260	0.009		0.009	mg/kg dry	12/15/17 19:59	EPA 8082	cdb	
Surrogate: Tetrachloro-meta-xylene		*105 %*	*11-140*		*12/15/17 19:59*	*EPA 8082*	cdb	
Surrogate: Decachlorobiphenyl		*100 %*	*24.4-140*		*12/15/17 19:59*	*EPA 8082*	cdb	

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PaDEP: PA 41-04684

FAIRWAY LABORATORIES

State Certifications: MD 275, WV 364

www.fairwaylaboratories.com

Waypoint Analytical		Project:	PCB's
7621 Whitepine Rd.		Project Number:	[none]
Richmond VA, 23237		Collector:	CLIENT
Project Manager:	Brandi Watson	Number of Containers:	38

Reported: 12/21/17 09:24

Client Sample ID: 57488 **Date/Time Sampled:** 12/04/17 00:00

Laboratory Sample ID: 7L05038-32 (Solid/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Analytical Method	* Analyst	Note
Polychlorinated Biphenyls by EPA Extraction Method 3541								
PCB-1016	<0.008		0.008	mg/kg dry	12/15/17 19:27	EPA 8082	cdb	
PCB-1221	<0.008		0.008	mg/kg dry	12/15/17 19:27	EPA 8082	cdb	
PCB-1232	<0.008		0.008	mg/kg dry	12/15/17 19:27	EPA 8082	cdb	
PCB-1242	<0.008		0.008	mg/kg dry	12/15/17 19:27	EPA 8082	cdb	
PCB-1248	<0.008		0.008	mg/kg dry	12/15/17 19:27	EPA 8082	cdb	
PCB-1254	<0.008		0.008	mg/kg dry	12/15/17 19:27	EPA 8082	cdb	
PCB-1260	0.009		0.008	mg/kg dry	12/15/17 19:27	EPA 8082	cdb	
Surrogate: Tetrachloro-meta-xylene		*112 %*	*11-140*		*12/15/17 19:27*	*EPA 8082*	cdb	
Surrogate: Decachlorobiphenyl		*106 %*	*24.4-140*		*12/15/17 19:27*	*EPA 8082*	cdb	

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Waypoint Analytical
7621 Whitepine Rd.
Richmond VA, 23237
Project Manager: Brandi Watson

Project: PCB's
Project Number: [none]
Collector: CLIENT
Number of Containers: 38

Reported:
12/21/17 09:24

Client Sample ID: 57487

Date/Time Sampled: 12/04/17 00:00

Laboratory Sample ID: 7L05038-31 (Solid/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Analytical Method	* Analyst	Note
Polychlorinated Biphenyls by EPA Extraction Method 3541								
PCB-1016	<0.008		0.008	mg/kg dry	12/15/17 18:55	EPA 8082	cdb	
PCB-1221	<0.008		0.008	mg/kg dry	12/15/17 18:55	EPA 8082	cdb	
PCB-1232	<0.008		0.008	mg/kg dry	12/15/17 18:55	EPA 8082	cdb	
PCB-1242	<0.008		0.008	mg/kg dry	12/15/17 18:55	EPA 8082	cdb	
PCB-1248	<0.008		0.008	mg/kg dry	12/15/17 18:55	EPA 8082	cdb	
PCB-1254	<0.008		0.008	mg/kg dry	12/15/17 18:55	EPA 8082	cdb	
PCB-1260	0.011		0.008	mg/kg dry	12/15/17 18:55	EPA 8082	cdb	
Surrogate: Tetrachloro-meta-xylene		*110 %*	*11-140*		*12/15/17 18:55*	*EPA 8082*	cdb	
Surrogate: Decachlorobiphenyl		*107 %*	*24.4-140*		*12/15/17 18:55*	*EPA 8082*	cdb	

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State Certifications: MD 275, WV 364

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Waypoint Analytical
7621 Whitepine Rd.
Richmond VA, 23237
Project Manager: Brandi Watson

Project: PCB's
Project Number: [none]
Collector: CLIENT
Number of Containers: 38

Reported: 12/21/17 09:24

Client Sample ID: 57486

Date/Time Sampled: 12/04/17 00:00

Laboratory Sample ID: 7L05038-30 (Solid/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Analytical Method	* Analyst	Note
Polychlorinated Biphenyls by EPA Extraction Method 3541								
PCB-1016	<0.008		0.008	mg/kg dry	12/15/17 18:23	EPA 8082	cdb	
PCB-1221	<0.008		0.008	mg/kg dry	12/15/17 18:23	EPA 8082	cdb	
PCB-1232	<0.008		0.008	mg/kg dry	12/15/17 18:23	EPA 8082	cdb	
PCB-1242	<0.008		0.008	mg/kg dry	12/15/17 18:23	EPA 8082	cdb	
PCB-1248	<0.008		0.008	mg/kg dry	12/15/17 18:23	EPA 8082	cdb	
PCB-1254	<0.008		0.008	mg/kg dry	12/15/17 18:23	EPA 8082	cdb	
PCB-1260	0.010		0.008	mg/kg dry	12/15/17 18:23	EPA 8082	cdb	
Surrogate: Tetrachloro-meta-xylene		*103 %*	*11-140*		*12/15/17 18:23*	*EPA 8082*	cdb	
Surrogate: Decachlorobiphenyl		*98.6 %*	*24.4-140*		*12/15/17 18:23*	*EPA 8082*	cdb	

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Waypoint Analytical
7621 Whitepine Rd.
Richmond VA, 23237
Project Manager: Brandi Watson

Project: PCB's
Project Number: [none]
Collector: CLIENT
Number of Containers: 38

Reported: 12/21/17 09:24

Client Sample ID: 57485

Date/Time Sampled: 12/04/17 00:00

Laboratory Sample ID: 7L05038-29 (Solid/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Analytical Method	* Analyst	Note
Polychlorinated Biphenyls by EPA Extraction Method 3541								
PCB-1016	<0.008		0.008	mg/kg dry	12/15/17 17:51	EPA 8082	cdb	
PCB-1221	<0.008		0.008	mg/kg dry	12/15/17 17:51	EPA 8082	cdb	
PCB-1232	<0.008		0.008	mg/kg dry	12/15/17 17:51	EPA 8082	cdb	
PCB-1242	<0.008		0.008	mg/kg dry	12/15/17 17:51	EPA 8082	cdb	
PCB-1248	<0.008		0.008	mg/kg dry	12/15/17 17:51	EPA 8082	cdb	
PCB-1254	<0.008		0.008	mg/kg dry	12/15/17 17:51	EPA 8082	cdb	
PCB-1260	<0.008		0.008	mg/kg dry	12/15/17 17:51	EPA 8082	cdb	
Surrogate: Tetrachloro-meta-xylene		*96.8 %*	*11-140*		*12/15/17 17:51*	*EPA 8082*	cdb	
Surrogate: Decachlorobiphenyl		*90.8 %*	*24.4-140*		*12/15/17 17:51*	*EPA 8082*	cdb	

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Waypoint Analytical
7621 Whitepine Rd.
Richmond VA, 23237
Project Manager: Brandi Watson

Project: PCB's
Project Number: [none]
Collector: CLIENT
Number of Containers: 38

Reported:
12/21/17 09:24

Client Sample ID: 57484

Date/Time Sampled: 12/04/17 00:00

Laboratory Sample ID: 7L05038-28 (Solid/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Analytical Method	* Analyst	Note
Polychlorinated Biphenyls by EPA Extraction Method 3541								
PCB-1016	<0.008		0.008	mg/kg dry	12/15/17 17:19	EPA 8082	cdb	
PCB-1221	<0.008		0.008	mg/kg dry	12/15/17 17:19	EPA 8082	cdb	
PCB-1232	<0.008		0.008	mg/kg dry	12/15/17 17:19	EPA 8082	cdb	
PCB-1242	<0.008		0.008	mg/kg dry	12/15/17 17:19	EPA 8082	cdb	
PCB-1248	<0.008		0.008	mg/kg dry	12/15/17 17:19	EPA 8082	cdb	
PCB-1254	<0.008		0.008	mg/kg dry	12/15/17 17:19	EPA 8082	cdb	
PCB-1260	<0.008		0.008	mg/kg dry	12/15/17 17:19	EPA 8082	cdb	
Surrogate: Tetrachloro-meta-xylene		*92.1 %*	*11-140*		*12/15/17 17:19*	*EPA 8082*	cdb	
Surrogate: Decachlorobiphenyl		*86.1 %*	*24.4-140*		*12/15/17 17:19*	*EPA 8082*	cdb	

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Waypoint Analytical
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Richmond VA, 23237
Project Manager: Brandi Watson

Project: PCB's
Project Number: [none]
Collector: CLIENT
Number of Containers: 38

Reported:
12/21/17 09:24

Client Sample ID: 57483

Date/Time Sampled: 12/04/17 00:00

Laboratory Sample ID: 7L05038-27 (Solid/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Analytical Method	* Analyst	Note
Polychlorinated Biphenyls by EPA Extraction Method 3541								
PCB-1016	<0.008		0.008	mg/kg dry	12/15/17 16:47	EPA 8082	cdb	
PCB-1221	<0.008		0.008	mg/kg dry	12/15/17 16:47	EPA 8082	cdb	
PCB-1232	<0.008		0.008	mg/kg dry	12/15/17 16:47	EPA 8082	cdb	
PCB-1242	<0.008		0.008	mg/kg dry	12/15/17 16:47	EPA 8082	cdb	
PCB-1248	<0.008		0.008	mg/kg dry	12/15/17 16:47	EPA 8082	cdb	
PCB-1254	<0.008		0.008	mg/kg dry	12/15/17 16:47	EPA 8082	cdb	
PCB-1260	<0.008		0.008	mg/kg dry	12/15/17 16:47	EPA 8082	cdb	
Surrogate: Tetrachloro-meta-xylene	*105 %*		*11-140*		*12/15/17 16:47*	*EPA 8082*	cdb	
Surrogate: Decachlorobiphenyl	*99.6 %*		*24.4-140*		*12/15/17 16:47*	*EPA 8082*	cdb	

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Project Manager: Brandi Watson

Project: PCB's
Project Number: [none]
Collector: CLIENT
Number of Containers: 38

Reported:
12/21/17 09:24

Client Sample ID: 57482

Date/Time Sampled: 12/04/17 00:00

Laboratory Sample ID: 7L05038-26 (Solid/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Analytical Method	* Analyst	Note
Polychlorinated Biphenyls by EPA Extraction Method 3541								
PCB-1016	<0.008		0.008	mg/kg dry	12/15/17 16:15	EPA 8082	cdb	
PCB-1221	<0.008		0.008	mg/kg dry	12/15/17 16:15	EPA 8082	cdb	
PCB-1232	<0.008		0.008	mg/kg dry	12/15/17 16:15	EPA 8082	cdb	
PCB-1242	<0.008		0.008	mg/kg dry	12/15/17 16:15	EPA 8082	cdb	
PCB-1248	<0.008		0.008	mg/kg dry	12/15/17 16:15	EPA 8082	cdb	
PCB-1254	<0.008		0.008	mg/kg dry	12/15/17 16:15	EPA 8082	cdb	
PCB-1260	<0.008		0.008	mg/kg dry	12/15/17 16:15	EPA 8082	cdb	
Surrogate: Tetrachloro-meta-xylene	*95.9 %*		*11-140*		*12/15/17 16:15*	*EPA 8082*	cdb	
Surrogate: Decachlorobiphenyl	*101 %*		*24.4-140*		*12/15/17 16:15*	*EPA 8082*	cdb	

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Richmond VA, 23237
Project Manager: Brandi Watson

Project: PCB's
Project Number: [none]
Collector: CLIENT
Number of Containers: 38

Reported:
12/21/17 09:24

Client Sample ID: 57481

Date/Time Sampled: 12/04/17 00:00

Laboratory Sample ID: 7L05038-25 (Solid/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Analytical Method	* Analyst	Note
Polychlorinated Biphenyls by EPA Extraction Method 3541								
PCB-1016	<0.008		0.008	mg/kg dry	12/15/17 15:43	EPA 8082	cdb	
PCB-1221	<0.008		0.008	mg/kg dry	12/15/17 15:43	EPA 8082	cdb	
PCB-1232	<0.008		0.008	mg/kg dry	12/15/17 15:43	EPA 8082	cdb	
PCB-1242	<0.008		0.008	mg/kg dry	12/15/17 15:43	EPA 8082	cdb	
PCB-1248	<0.008		0.008	mg/kg dry	12/15/17 15:43	EPA 8082	cdb	
PCB-1254	<0.008		0.008	mg/kg dry	12/15/17 15:43	EPA 8082	cdb	
PCB-1260	<0.008		0.008	mg/kg dry	12/15/17 15:43	EPA 8082	cdb	
Surrogate: Tetrachloro-meta-xylene	*97.6 %*		*11-140*		*12/15/17 15:43*	*EPA 8082*	cdb	
Surrogate: Decachlorobiphenyl	*97.4 %*		*24.4-140*		*12/15/17 15:43*	*EPA 8082*	cdb	

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Waypoint Analytical		Project:	PCB's
7621 Whitepine Rd.		Project Number:	[none]
Richmond VA, 23237		Collector:	CLIENT
Project Manager:	Brandi Watson	Number of Containers:	38

Reported: 12/21/17 09:24

Client Sample ID: 57480 **Date/Time Sampled:** 12/04/17 00:00

Laboratory Sample ID: 7L05038-24 (Solid/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Analytical Method	* Analyst	Note
Polychlorinated Biphenyls by EPA Extraction Method 3541								
PCB-1016	<0.008		0.008	mg/kg dry	12/15/17 15:11	EPA 8082	cdb	
PCB-1221	<0.008		0.008	mg/kg dry	12/15/17 15:11	EPA 8082	cdb	
PCB-1232	<0.008		0.008	mg/kg dry	12/15/17 15:11	EPA 8082	cdb	
PCB-1242	<0.008		0.008	mg/kg dry	12/15/17 15:11	EPA 8082	cdb	
PCB-1248	<0.008		0.008	mg/kg dry	12/15/17 15:11	EPA 8082	cdb	
PCB-1254	<0.008		0.008	mg/kg dry	12/15/17 15:11	EPA 8082	cdb	
PCB-1260	<0.008		0.008	mg/kg dry	12/15/17 15:11	EPA 8082	cdb	
Surrogate: Tetrachloro-meta-xylene		*94.0 %*	*11-140*		*12/15/17 15:11*	*EPA 8082*	cdb	
Surrogate: Decachlorobiphenyl		*91.2 %*	*24.4-140*		*12/15/17 15:11*	*EPA 8082*	cdb	

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Waypoint Analytical		Project:	PCB's
7621 Whitepine Rd.		Project Number:	[none]
Richmond VA, 23237		Collector:	CLIENT
Project Manager:	Brandi Watson	Number of Containers:	38

Reported: 12/21/17 09:24

Client Sample ID: 57479 **Date/Time Sampled:** 12/04/17 00:00

Laboratory Sample ID: 7L05038-23 (Solid/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Analytical Method	* Analyst	Note
Polychlorinated Biphenyls by EPA Extraction Method 3541								
PCB-1016	<0.008		0.008	mg/kg dry	12/15/17 14:39	EPA 8082	cdb	
PCB-1221	<0.008		0.008	mg/kg dry	12/15/17 14:39	EPA 8082	cdb	
PCB-1232	<0.008		0.008	mg/kg dry	12/15/17 14:39	EPA 8082	cdb	
PCB-1242	<0.008		0.008	mg/kg dry	12/15/17 14:39	EPA 8082	cdb	
PCB-1248	<0.008		0.008	mg/kg dry	12/15/17 14:39	EPA 8082	cdb	
PCB-1254	<0.008		0.008	mg/kg dry	12/15/17 14:39	EPA 8082	cdb	
PCB-1260	<0.008		0.008	mg/kg dry	12/15/17 14:39	EPA 8082	cdb	
Surrogate: Tetrachloro-meta-xylene		*91.7 %*	*11-140*		*12/15/17 14:39*	*EPA 8082*	cdb	
Surrogate: Decachlorobiphenyl		*89.0 %*	*24.4-140*		*12/15/17 14:39*	*EPA 8082*	cdb	

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Waypoint Analytical
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Richmond VA, 23237
Project Manager: Brandi Watson

Project: PCB's
Project Number: [none]
Collector: CLIENT
Number of Containers: 38

Reported:
12/21/17 09:24

Client Sample ID: 57478

Date/Time Sampled: 12/04/17 00:00

Laboratory Sample ID: 7L05038-22 (Solid/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Analytical Method	* Analyst	Note
Polychlorinated Biphenyls by EPA Extraction Method 3541								
PCB-1016	<0.008		0.008	mg/kg dry	12/15/17 13:03	EPA 8082	cdb	
PCB-1221	<0.008		0.008	mg/kg dry	12/15/17 13:03	EPA 8082	cdb	
PCB-1232	<0.008		0.008	mg/kg dry	12/15/17 13:03	EPA 8082	cdb	
PCB-1242	<0.008		0.008	mg/kg dry	12/15/17 13:03	EPA 8082	cdb	
PCB-1248	<0.008		0.008	mg/kg dry	12/15/17 13:03	EPA 8082	cdb	
PCB-1254	<0.008		0.008	mg/kg dry	12/15/17 13:03	EPA 8082	cdb	
PCB-1260	<0.008		0.008	mg/kg dry	12/15/17 13:03	EPA 8082	cdb	
Surrogate: Tetrachloro-meta-xylene	*101 %*		*11-140*		*12/15/17 13:03*	*EPA 8082*	cdb	
Surrogate: Decachlorobiphenyl	*92.5 %*		*24.4-140*		*12/15/17 13:03*	*EPA 8082*	cdb	

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Waypoint Analytical
7621 Whitepine Rd.
Richmond VA, 23237
Project Manager: Brandi Watson

Project: PCB's
Project Number: [none]
Collector: CLIENT
Number of Containers: 38

Reported:
12/21/17 09:24

Client Sample ID: 57477

Date/Time Sampled: 12/04/17 00:00

Laboratory Sample ID: 7L05038-21 (Solid/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Analytical Method	* Analyst	Note
Polychlorinated Biphenyls by EPA Extraction Method 3541								
PCB-1016	<0.008		0.008	mg/kg dry	12/12/17 17:52	EPA 8082	cdb	
PCB-1221	<0.008		0.008	mg/kg dry	12/12/17 17:52	EPA 8082	cdb	
PCB-1232	<0.008		0.008	mg/kg dry	12/12/17 17:52	EPA 8082	cdb	
PCB-1242	<0.008		0.008	mg/kg dry	12/12/17 17:52	EPA 8082	cdb	
PCB-1248	<0.008		0.008	mg/kg dry	12/12/17 17:52	EPA 8082	cdb	
PCB-1254	<0.008		0.008	mg/kg dry	12/12/17 17:52	EPA 8082	cdb	
PCB-1260	0.009		0.008	mg/kg dry	12/12/17 17:52	EPA 8082	cdb	
Surrogate: Tetrachloro-meta-xylene		*109 %*	*11-140*		*12/12/17 17:52*	*EPA 8082*	cdb	
Surrogate: Decachlorobiphenyl		*99.3 %*	*24.4-140*		*12/12/17 17:52*	*EPA 8082*	cdb	

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Waypoint Analytical
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Richmond VA, 23237
Project Manager: Brandi Watson

Project: PCB's
Project Number: [none]
Collector: CLIENT
Number of Containers: 38

Reported:
12/21/17 09:24

Client Sample ID: 57476

Date/Time Sampled: 12/04/17 00:00

Laboratory Sample ID: 7L05038-20 (Solid/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Analytical Method	* Analyst	Note
Polychlorinated Biphenyls by EPA Extraction Method 3541								
PCB-1016	<0.008		0.008	mg/kg dry	12/12/17 17:20	EPA 8082	cdb	
PCB-1221	<0.008		0.008	mg/kg dry	12/12/17 17:20	EPA 8082	cdb	
PCB-1232	<0.008		0.008	mg/kg dry	12/12/17 17:20	EPA 8082	cdb	
PCB-1242	<0.008		0.008	mg/kg dry	12/12/17 17:20	EPA 8082	cdb	
PCB-1248	<0.008		0.008	mg/kg dry	12/12/17 17:20	EPA 8082	cdb	
PCB-1254	<0.008		0.008	mg/kg dry	12/12/17 17:20	EPA 8082	cdb	
PCB-1260	<0.008		0.008	mg/kg dry	12/12/17 17:20	EPA 8082	cdb	
Surrogate: Tetrachloro-meta-xylene		*108 %*	*11-140*		*12/12/17 17:20*	*EPA 8082*	cdb	
Surrogate: Decachlorobiphenyl		*98.8 %*	*24.4-140*		*12/12/17 17:20*	*EPA 8082*	cdb	

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State Certifications: MD 275, WV 364

Waypoint Analytical
7621 Whitepine Rd.
Richmond VA, 23237
Project Manager: Brandi Watson

Project: PCB's
Project Number: [none]
Collector: CLIENT
Number of Containers: 38

Reported:
12/21/17 09:24

Client Sample ID: 57475

Date/Time Sampled: 12/04/17 00:00

Laboratory Sample ID: 7L05038-19 (Solid/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Analytical Method	* Analyst	Note
Polychlorinated Biphenyls by EPA Extraction Method 3541								
PCB-1016	<0.007		0.007	mg/kg dry	12/12/17 16:48	EPA 8082	cdb	
PCB-1221	<0.007		0.007	mg/kg dry	12/12/17 16:48	EPA 8082	cdb	
PCB-1232	<0.007		0.007	mg/kg dry	12/12/17 16:48	EPA 8082	cdb	
PCB-1242	<0.007		0.007	mg/kg dry	12/12/17 16:48	EPA 8082	cdb	
PCB-1248	<0.007		0.007	mg/kg dry	12/12/17 16:48	EPA 8082	cdb	
PCB-1254	<0.007		0.007	mg/kg dry	12/12/17 16:48	EPA 8082	cdb	
PCB-1260	0.011		0.007	mg/kg dry	12/12/17 16:48	EPA 8082	cdb	
Surrogate: Tetrachloro-meta-xylene		*106 %*	*11-140*		*12/12/17 16:48*	*EPA 8082*	cdb	
Surrogate: Decachlorobiphenyl		*101 %*	*24.4-140*		*12/12/17 16:48*	*EPA 8082*	cdb	

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Waypoint Analytical		Project:	PCB's
7621 Whitepine Rd.		Project Number:	[none]
Richmond VA, 23237		Collector:	CLIENT
Project Manager:	Brandi Watson	Number of Containers:	38

Reported: 12/21/17 09:24

Client Sample ID: 57474

Date/Time Sampled: 12/04/17 00:00

Laboratory Sample ID: 7L05038-18 (Solid/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Analytical Method	* Analyst	Note
Polychlorinated Biphenyls by EPA Extraction Method 3541								
PCB-1016	<0.008		0.008	mg/kg dry	12/12/17 16:15	EPA 8082	cdb	
PCB-1221	<0.008		0.008	mg/kg dry	12/12/17 16:15	EPA 8082	cdb	
PCB-1232	<0.008		0.008	mg/kg dry	12/12/17 16:15	EPA 8082	cdb	
PCB-1242	<0.008		0.008	mg/kg dry	12/12/17 16:15	EPA 8082	cdb	
PCB-1248	<0.008		0.008	mg/kg dry	12/12/17 16:15	EPA 8082	cdb	
PCB-1254	<0.008		0.008	mg/kg dry	12/12/17 16:15	EPA 8082	cdb	
PCB-1260	0.012		0.008	mg/kg dry	12/12/17 16:15	EPA 8082	cdb	
Surrogate: Tetrachloro-meta-xylene		*92.1 %*	*11-140*		*12/12/17 16:15*	*EPA 8082*	cdb	
Surrogate: Decachlorobiphenyl		*90.4 %*	*24.4-140*		*12/12/17 16:15*	*EPA 8082*	cdb	

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Waypoint Analytical
7621 Whitepine Rd.
Richmond VA, 23237
Project Manager: Brandi Watson

Project: PCB's
Project Number: [none]
Collector: CLIENT
Number of Containers: 38

Reported:
12/21/17 09:24

Client Sample ID: 57473

Date/Time Sampled: 12/04/17 00:00

Laboratory Sample ID: 7L05038-17 (Solid/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Analytical Method	* Analyst	Note
Polychlorinated Biphenyls by EPA Extraction Method 3541								
PCB-1016	<0.008		0.008	mg/kg dry	12/12/17 14:40	EPA 8082	cdb	
PCB-1221	<0.008		0.008	mg/kg dry	12/12/17 14:40	EPA 8082	cdb	
PCB-1232	<0.008		0.008	mg/kg dry	12/12/17 14:40	EPA 8082	cdb	
PCB-1242	<0.008		0.008	mg/kg dry	12/12/17 14:40	EPA 8082	cdb	
PCB-1248	<0.008		0.008	mg/kg dry	12/12/17 14:40	EPA 8082	cdb	
PCB-1254	<0.008		0.008	mg/kg dry	12/12/17 14:40	EPA 8082	cdb	
PCB-1260	0.011		0.008	mg/kg dry	12/12/17 14:40	EPA 8082	cdb	
Surrogate: Tetrachloro-meta-xylene		*107 %*	*11-140*		*12/12/17 14:40*	*EPA 8082*	cdb	
Surrogate: Decachlorobiphenyl		*108 %*	*24.4-140*		*12/12/17 14:40*	*EPA 8082*	cdb	

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Richmond VA, 23237
Project Manager: Brandi Watson

Project: PCB's
Project Number: [none]
Collector: CLIENT
Number of Containers: 38

Reported:
12/21/17 09:24

Client Sample ID: 57472

Date/Time Sampled: 12/04/17 00:00

Laboratory Sample ID: 7L05038-16 (Solid/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Analytical Method	* Analyst	Note
Polychlorinated Biphenyls by EPA Extraction Method 3541								
PCB-1016	<0.008		0.008	mg/kg dry	12/12/17 14:08	EPA 8082	cdb	
PCB-1221	<0.008		0.008	mg/kg dry	12/12/17 14:08	EPA 8082	cdb	
PCB-1232	<0.008		0.008	mg/kg dry	12/12/17 14:08	EPA 8082	cdb	
PCB-1242	<0.008		0.008	mg/kg dry	12/12/17 14:08	EPA 8082	cdb	
PCB-1248	<0.008		0.008	mg/kg dry	12/12/17 14:08	EPA 8082	cdb	
PCB-1254	<0.008		0.008	mg/kg dry	12/12/17 14:08	EPA 8082	cdb	
PCB-1260	<0.008		0.008	mg/kg dry	12/12/17 14:08	EPA 8082	cdb	
Surrogate: Tetrachloro-meta-xylene		*108 %*	*11-140*		*12/12/17 14:08*	*EPA 8082*	cdb	
Surrogate: Decachlorobiphenyl		*102 %*	*24.4-140*		*12/12/17 14:08*	*EPA 8082*	cdb	

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Richmond VA, 23237
Project Manager: Brandi Watson

Project: PCB's
Project Number: [none]
Collector: CLIENT
Number of Containers: 38

Reported:
12/21/17 09:24

Client Sample ID: 57471

Date/Time Sampled: 12/04/17 00:00

Laboratory Sample ID: 7L05038-15 (Solid/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Analytical Method	* Analyst	Note
Polychlorinated Biphenyls by EPA Extraction Method 3541								
PCB-1016	<0.008		0.008	mg/kg dry	12/12/17 13:36	EPA 8082	cdb	
PCB-1221	<0.008		0.008	mg/kg dry	12/12/17 13:36	EPA 8082	cdb	
PCB-1232	<0.008		0.008	mg/kg dry	12/12/17 13:36	EPA 8082	cdb	
PCB-1242	<0.008		0.008	mg/kg dry	12/12/17 13:36	EPA 8082	cdb	
PCB-1248	<0.008		0.008	mg/kg dry	12/12/17 13:36	EPA 8082	cdb	
PCB-1254	<0.008		0.008	mg/kg dry	12/12/17 13:36	EPA 8082	cdb	
PCB-1260	<0.008		0.008	mg/kg dry	12/12/17 13:36	EPA 8082	cdb	
Surrogate: Tetrachloro-meta-xylene		*108 %*	*11-140*		*12/12/17 13:36*	*EPA 8082*	cdb	
Surrogate: Decachlorobiphenyl		*108 %*	*24.4-140*		*12/12/17 13:36*	*EPA 8082*	cdb	

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Project Manager: Brandi Watson

Project: PCB's
Project Number: [none]
Collector: CLIENT
Number of Containers: 38

Reported:
12/21/17 09:24

Client Sample ID: 57470

Date/Time Sampled: 12/04/17 00:00

Laboratory Sample ID: 7L05038-14 (Solid/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Analytical Method	* Analyst	Note
Polychlorinated Biphenyls by EPA Extraction Method 3541								
PCB-1016	<0.008		0.008	mg/kg dry	12/12/17 13:04	EPA 8082	cdb	
PCB-1221	<0.008		0.008	mg/kg dry	12/12/17 13:04	EPA 8082	cdb	
PCB-1232	<0.008		0.008	mg/kg dry	12/12/17 13:04	EPA 8082	cdb	
PCB-1242	<0.008		0.008	mg/kg dry	12/12/17 13:04	EPA 8082	cdb	
PCB-1248	<0.008		0.008	mg/kg dry	12/12/17 13:04	EPA 8082	cdb	
PCB-1254	<0.008		0.008	mg/kg dry	12/12/17 13:04	EPA 8082	cdb	
PCB-1260	<0.008		0.008	mg/kg dry	12/12/17 13:04	EPA 8082	cdb	
Surrogate: Tetrachloro-meta-xylene	*103 %*		*11-140*		*12/12/17 13:04*	*EPA 8082*	cdb	
Surrogate: Decachlorobiphenyl	*93.3 %*		*24.4-140*		*12/12/17 13:04*	*EPA 8082*	cdb	

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Richmond VA, 23237
Project Manager: Brandi Watson

Project: PCB's
Project Number: [none]
Collector: CLIENT
Number of Containers: 38

Reported:
12/21/17 09:24

Client Sample ID: 57469

Date/Time Sampled: 12/04/17 00:00

Laboratory Sample ID: 7L05038-13 (Solid/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Analytical Method	* Analyst	Note
Polychlorinated Biphenyls by EPA Extraction Method 3541								
PCB-1016	<0.008		0.008	mg/kg dry	12/12/17 12:31	EPA 8082	cdb	
PCB-1221	<0.008		0.008	mg/kg dry	12/12/17 12:31	EPA 8082	cdb	
PCB-1232	<0.008		0.008	mg/kg dry	12/12/17 12:31	EPA 8082	cdb	
PCB-1242	<0.008		0.008	mg/kg dry	12/12/17 12:31	EPA 8082	cdb	
PCB-1248	<0.008		0.008	mg/kg dry	12/12/17 12:31	EPA 8082	cdb	
PCB-1254	<0.008		0.008	mg/kg dry	12/12/17 12:31	EPA 8082	cdb	
PCB-1260	<0.008		0.008	mg/kg dry	12/12/17 12:31	EPA 8082	cdb	
Surrogate: Tetrachloro-meta-xylene		*106 %*	*11-140*		*12/12/17 12:31*	*EPA 8082*	cdb	
Surrogate: Decachlorobiphenyl		*100 %*	*24.4-140*		*12/12/17 12:31*	*EPA 8082*	cdb	

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Waypoint Analytical	Project:	PCB's	
7621 Whitepine Rd.	Project Number:	[none]	**Reported:**
Richmond VA, 23237	Collector:	CLIENT	12/21/17 09:24
Project Manager: Brandi Watson	Number of Containers:	38	

Client Sample ID: 57468 **Date/Time Sampled:** 12/04/17 00:00

Laboratory Sample ID: 7L05038-12 (Solid/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Analytical Method	* Analyst	Note
Polychlorinated Biphenyls by EPA Extraction Method 3541								
PCB-1016	<0.008		0.008	mg/kg dry	12/12/17 11:59	EPA 8082	cdb	
PCB-1221	<0.008		0.008	mg/kg dry	12/12/17 11:59	EPA 8082	cdb	
PCB-1232	<0.008		0.008	mg/kg dry	12/12/17 11:59	EPA 8082	cdb	
PCB-1242	<0.008		0.008	mg/kg dry	12/12/17 11:59	EPA 8082	cdb	
PCB-1248	<0.008		0.008	mg/kg dry	12/12/17 11:59	EPA 8082	cdb	
PCB-1254	<0.008		0.008	mg/kg dry	12/12/17 11:59	EPA 8082	cdb	
PCB-1260	<0.008		0.008	mg/kg dry	12/12/17 11:59	EPA 8082	cdb	
Surrogate: Tetrachloro-meta-xylene		*107 %*	*11-140*		*12/12/17 11:59*	*EPA 8082*	cdb	
Surrogate: Decachlorobiphenyl		*104 %*	*24.4-140*		*12/12/17 11:59*	*EPA 8082*	cdb	

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Waypoint Analytical
7621 Whitepine Rd.
Richmond VA, 23237
Project Manager: Brandi Watson

Project: PCB's
Project Number: [none]
Collector: CLIENT
Number of Containers: 38

Reported:
12/21/17 09:24

Client Sample ID: 57467

Date/Time Sampled: 12/04/17 00:00

Laboratory Sample ID: 7L05038-11 (Solid/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Analytical Method	* Analyst	Note
Polychlorinated Biphenyls by EPA Extraction Method 3541								
PCB-1016	<0.008		0.008	mg/kg dry	12/12/17 11:27	EPA 8082	cdb	
PCB-1221	<0.008		0.008	mg/kg dry	12/12/17 11:27	EPA 8082	cdb	
PCB-1232	<0.008		0.008	mg/kg dry	12/12/17 11:27	EPA 8082	cdb	
PCB-1242	<0.008		0.008	mg/kg dry	12/12/17 11:27	EPA 8082	cdb	
PCB-1248	<0.008		0.008	mg/kg dry	12/12/17 11:27	EPA 8082	cdb	
PCB-1254	<0.008		0.008	mg/kg dry	12/12/17 11:27	EPA 8082	cdb	
PCB-1260	<0.008		0.008	mg/kg dry	12/12/17 11:27	EPA 8082	cdb	
Surrogate: Tetrachloro-meta-xylene	*87.3 %*		*11-140*		*12/12/17 11:27*	*EPA 8082*	cdb	
Surrogate: Decachlorobipheryl	*105 %*		*24.4-140*		*12/12/17 11:27*	*EPA 8082*	cdb	

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Waypoint Analytical
7621 Whitepine Rd.
Richmond VA, 23237
Project Manager: Brandi Watson

Project: PCB's
Project Number: [none]
Collector: CLIENT
Number of Containers: 38

Reported: 12/21/17 09:24

Client Sample ID: 57466

Date/Time Sampled: 12/04/17 00:00

Laboratory Sample ID: 7L05038-10 (Solid/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Analytical Method	* Analyst	Note
Polychlorinated Biphenyls by EPA Extraction Method 3541								
PCB-1016	<0.008		0.008	mg/kg dry	12/12/17 05:24	EPA 8082	cdb	
PCB-1221	<0.008		0.008	mg/kg dry	12/12/17 05:24	EPA 8082	cdb	
PCB-1232	<0.008		0.008	mg/kg dry	12/12/17 05:24	EPA 8082	cdb	
PCB-1242	<0.008		0.008	mg/kg dry	12/12/17 05:24	EPA 8082	cdb	
PCB-1248	<0.008		0.008	mg/kg dry	12/12/17 05:24	EPA 8082	cdb	
PCB-1254	<0.008		0.008	mg/kg dry	12/12/17 05:24	EPA 8082	cdb	
PCB-1260	<0.008		0.008	mg/kg dry	12/12/17 05:24	EPA 8082	cdb	
Surrogate: Tetrachloro-meta-xylene		*103 %*	*11-140*		*12/12/17 05:24*	*EPA 8082*	cdb	
Surrogate: Decachlorobiphenyl		*102 %*	*24.4-140*		*12/12/17 05:24*	*EPA 8082*	cdb	

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Waypoint Analytical		Project:	PCB's
7621 Whitepine Rd.		Project Number:	[none]
Richmond VA, 23237		Collector:	CLIENT
Project Manager:	Brandi Watson	Number of Containers:	38

Reported: 12/21/17 09:24

Client Sample ID: 57465

Date/Time Sampled: 12/04/17 00:00

Laboratory Sample ID: 7L05038-09 (Solid/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Analytical Method	* Analyst	Note
Polychlorinated Biphenyls by EPA Extraction Method 3541								
PCB-1016	<0.008		0.008	mg/kg dry	12/12/17 04:20	EPA 8082	cdb	
PCB-1221	<0.008		0.008	mg/kg dry	12/12/17 04:20	EPA 8082	cdb	
PCB-1232	<0.008		0.008	mg/kg dry	12/12/17 04:20	EPA 8082	cdb	
PCB-1242	<0.008		0.008	mg/kg dry	12/12/17 04:20	EPA 8082	cdb	
PCB-1248	<0.008		0.008	mg/kg dry	12/12/17 04:20	EPA 8082	cdb	
PCB-1254	<0.008		0.008	mg/kg dry	12/12/17 04:20	EPA 8082	cdb	
PCB-1260	<0.008		0.008	mg/kg dry	12/12/17 04:20	EPA 8082	cdb	
Surrogate: Tetrachloro-meta-xylene		*82.6 %*	*11-140*		*12/12/17 04:20*	*EPA 8082*	cdb	
Surrogate: Decachlorobiphenyl		*102 %*	*24.4-140*		*12/12/17 04:20*	*EPA 8082*	cdb	

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(570) 494-6380
PaDEP: PA 41-04684

State Certifications: MD 275, WV 364

FAIRWAY LABORATORIES
www.fairwaylaboratories.com

Waypoint Analytical		Project:	PCB's
7621 Whitepine Rd.		Project Number:	[none]
Richmond VA, 23237		Collector:	CLIENT
Project Manager:	Brandi Watson	Number of Containers:	38

Reported: 12/21/17 09:24

Client Sample ID: 57464 **Date/Time Sampled:** 12/04/17 00:00

Laboratory Sample ID: 7L05038-08 (Solid/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Analytical Method	* Analyst	Note
Polychlorinated Biphenyls by EPA Extraction Method 3541								
PCB-1016	<0.008		0.008	mg/kg dry	12/12/17 03:48	EPA 8082	cdb	
PCB-1221	<0.008		0.008	mg/kg dry	12/12/17 03:48	EPA 8082	cdb	
PCB-1232	<0.008		0.008	mg/kg dry	12/12/17 03:48	EPA 8082	cdb	
PCB-1242	<0.008		0.008	mg/kg dry	12/12/17 03:48	EPA 8082	cdb	
PCB-1248	<0.008		0.008	mg/kg dry	12/12/17 03:48	EPA 8082	cdb	
PCB-1254	<0.008		0.008	mg/kg dry	12/12/17 03:48	EPA 8082	cdb	
PCB-1260	0.009		0.008	mg/kg dry	12/12/17 03:48	EPA 8082	cdb	
Surrogate: Tetrachloro-meta-xylene		*112 %*	*11-140*		*12/12/17 03:48*	*EPA 8082*	cdb	
Surrogate: Decachlorobiphenyl		*110 %*	*24.4-140*		*12/12/17 03:48*	*EPA 8082*	cdb	

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Waypoint Analytical
7621 Whitepine Rd.
Richmond VA, 23237
Project Manager: Brandi Watson

Project: PCB's
Project Number: [none]
Collector: CLIENT
Number of Containers: 38

Reported:
12/21/17 09:24

Client Sample ID: 57463

Date/Time Sampled: 12/04/17 00:00

Laboratory Sample ID: 7L05038-07 (Solid/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Analytical Method	* Analyst	Note
Polychlorinated Biphenyls by EPA Extraction Method 3541								
PCB-1016	<0.009		0.009	mg/kg dry	12/12/17 03:15	EPA 8082	cdb	
PCB-1221	<0.009		0.009	mg/kg dry	12/12/17 03:15	EPA 8082	cdb	
PCB-1232	<0.009		0.009	mg/kg dry	12/12/17 03:15	EPA 8082	cdb	
PCB-1242	<0.009		0.009	mg/kg dry	12/12/17 03:15	EPA 8082	cdb	
PCB-1248	<0.009		0.009	mg/kg dry	12/12/17 03:15	EPA 8082	cdb	
PCB-1254	<0.009		0.009	mg/kg dry	12/12/17 03:15	EPA 8082	cdb	
PCB-1260	0.010		0.009	mg/kg dry	12/12/17 03:15	EPA 8082	cdb	
Surrogate: Tetrachloro-meta-xylene		*87.4 %*	*11-140*		*12/12/17 03:15*	*EPA 8082*	cdb	
Surrogate: Decachlorobiphenyl		*84.5 %*	*24.4-140*		*12/12/17 03:15*	*EPA 8082*	cdb	

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Waypoint Analytical
7621 Whitepine Rd.
Richmond VA, 23237
Project Manager: Brandi Watson

Project: PCB's
Project Number: [none]
Collector: CLIENT
Number of Containers: 38

Reported: 12/21/17 09:24

Client Sample ID: 57462

Date/Time Sampled: 12/04/17 00:00

Laboratory Sample ID: 7L05038-06 (Solid/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Analytical Method	* Analyst	Note
Polychlorinated Biphenyls by EPA Extraction Method 3541								
PCB-1016	<0.009		0.009	mg/kg dry	12/12/17 02:43	EPA 8082	cdb	
PCB-1221	<0.009		0.009	mg/kg dry	12/12/17 02:43	EPA 8082	cdb	
PCB-1232	<0.009		0.009	mg/kg dry	12/12/17 02:43	EPA 8082	cdb	
PCB-1242	<0.009		0.009	mg/kg dry	12/12/17 02:43	EPA 8082	cdb	
PCB-1248	<0.009		0.009	mg/kg dry	12/12/17 02:43	EPA 8082	cdb	
PCB-1254	<0.009		0.009	mg/kg dry	12/12/17 02:43	EPA 8082	cdb	
PCB-1260	<0.009		0.009	mg/kg dry	12/12/17 02:43	EPA 8082	cdb	
Surrogate: Tetrachloro-meta-xylene		*79.6 %*	*11-140*		*12/12/17 02:43*	*EPA 8082*	cdb	
Surrogate: Decachlorobiphenyl		*77.4 %*	*24.4-140*		*12/12/17 02:43*	*EPA 8082*	cdb	

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Waypoint Analytical		Project:	PCB's
7621 Whitepine Rd.		Project Number:	[none]
Richmond VA, 23237		Collector:	CLIENT
Project Manager:	Brandi Watson	Number of Containers:	38

Reported: 12/21/17 09:24

Client Sample ID: 57461 **Date/Time Sampled:** 12/04/17 00:00

Laboratory Sample ID: 7L05038-05 (Solid/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Analytical Method	* Analyst	Note
Polychlorinated Biphenyls by EPA Extraction Method 3541								
PCB-1016	<0.008		0.008	mg/kg dry	12/12/17 02:11	EPA 8082	cdb	
PCB-1221	<0.008		0.008	mg/kg dry	12/12/17 02:11	EPA 8082	cdb	
PCB-1232	<0.008		0.008	mg/kg dry	12/12/17 02:11	EPA 8082	cdb	
PCB-1242	<0.008		0.008	mg/kg dry	12/12/17 02:11	EPA 8082	cdb	
PCB-1248	<0.008		0.008	mg/kg dry	12/12/17 02:11	EPA 8082	cdb	
PCB-1254	<0.008		0.008	mg/kg dry	12/12/17 02:11	EPA 8082	cdb	
PCB-1260	0.010		0.008	mg/kg dry	12/12/17 02:11	EPA 8082	cdb	
Surrogate: Tetrachloro-meta-xylene		*85.0 %*	*11-140*		*12/12/17 02:11*	*EPA 8082*	cdb	
Surrogate: Decachlorobiphenyl		*82.6 %*	*24.4-140*		*12/12/17 02:11*	*EPA 8082*	cdb	

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Waypoint Analytical	Project:	PCB's	
7621 Whitepine Rd.	Project Number:	[none]	**Reported:**
Richmond VA, 23237	Collector:	CLIENT	12/21/17 09:24
Project Manager: Brandi Watson	Number of Containers:	38	

Client Sample ID: 57460 **Date/Time Sampled:** 12/04/17 00:00

Laboratory Sample ID: 7L05038-04 (Solid/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Analytical Method	* Analyst	Note
Polychlorinated Biphenyls by EPA Extraction Method 3541								
PCB-1016	<0.008		0.008	mg/kg dry	12/12/17 01:39	EPA 8082	cdb	
PCB-1221	<0.008		0.008	mg/kg dry	12/12/17 01:39	EPA 8082	cdb	
PCB-1232	<0.008		0.008	mg/kg dry	12/12/17 01:39	EPA 8082	cdb	
PCB-1242	<0.008		0.008	mg/kg dry	12/12/17 01:39	EPA 8082	cdb	
PCB-1248	<0.008		0.008	mg/kg dry	12/12/17 01:39	EPA 8082	cdb	
PCB-1254	<0.008		0.008	mg/kg dry	12/12/17 01:39	EPA 8082	cdb	
PCB-1260	<0.008		0.008	mg/kg dry	12/12/17 01:39	EPA 8082	cdb	
Surrogate: Tetrachloro-meta-xylene		*44.2 %*	*11-140*		*12/12/17 01:39*	*EPA 8082*	cdb	
Surrogate: Decachlorobiphenyl		*74.6 %*	*24.4-140*		*12/12/17 01:39*	*EPA 8082*	cdb	

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Richmond VA, 23237
Project Manager: Brandi Watson

Project: PCB's
Project Number: [none]
Collector: CLIENT
Number of Containers: 38

Reported: 12/21/17 09:24

Client Sample ID: 57459

Date/Time Sampled: 12/04/17 00:00

Laboratory Sample ID: 7L05038-03 (Solid/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Analytical Method	* Analyst	Note
Polychlorinated Biphenyls by EPA Extraction Method 3541								
PCB-1016	<0.008		0.008	mg/kg dry	12/12/17 01:07	EPA 8082	cdb	
PCB-1221	<0.008		0.008	mg/kg dry	12/12/17 01:07	EPA 8082	cdb	
PCB-1232	<0.008		0.008	mg/kg dry	12/12/17 01:07	EPA 8082	cdb	
PCB-1242	<0.008		0.008	mg/kg dry	12/12/17 01:07	EPA 8082	cdb	
PCB-1248	<0.008		0.008	mg/kg dry	12/12/17 01:07	EPA 8082	cdb	
PCB-1254	<0.008		0.008	mg/kg dry	12/12/17 01:07	EPA 8082	cdb	
PCB-1260	<0.008		0.008	mg/kg dry	12/12/17 01:07	EPA 8082	cdb	
Surrogate: Tetrachloro-meta-xylene		*54.7 %*	*11-140*		*12/12/17 01:07*	*EPA 8082*	cdb	
Surrogate: Decachlorobiphenyl		*77.9 %*	*24.4-140*		*12/12/17 01:07*	*EPA 8082*	cdb	

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Richmond VA, 23237
Project Manager: Brandi Watson

Project: PCB's
Project Number: [none]
Collector: CLIENT
Number of Containers: 38

Reported:
12/21/17 09:24

Client Sample ID: 57458

Date/Time Sampled: 12/04/17 00:00

Laboratory Sample ID: 7L05038-02 (Solid/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Analytical Method	* Analyst	Note
Polychlorinated Biphenyls by EPA Extraction Method 3541								
PCB-1016	<0.008		0.008	mg/kg dry	12/11/17 23:30	EPA 8082	cdb	
PCB-1221	<0.008		0.008	mg/kg dry	12/11/17 23:30	EPA 8082	cdb	
PCB-1232	<0.008		0.008	mg/kg dry	12/11/17 23:30	EPA 8082	cdb	
PCB-1242	<0.008		0.008	mg/kg dry	12/11/17 23:30	EPA 8082	cdb	
PCB-1248	<0.008		0.008	mg/kg dry	12/11/17 23:30	EPA 8082	cdb	
PCB-1254	<0.008		0.008	mg/kg dry	12/11/17 23:30	EPA 8082	cdb	
PCB-1260	<0.008		0.008	mg/kg dry	12/11/17 23:30	EPA 8082	cdb	
Surrogate: Tetrachloro-meta-xylene		*68.2 %*	*11-140*		*12/11/17 23:30*	*EPA 8082*	cdb	
Surrogate: Decachlorobiphenyl		*74.1 %*	*24.4-140*		*12/11/17 23:30*	*EPA 8082*	cdb	

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Waypoint Analytical
7621 Whitepine Rd.
Richmond VA, 23237
Project Manager: Brandi Watson

Project: PCB's
Project Number: [none]
Collector: CLIENT
Number of Containers: 38

Reported:
12/21/17 09:24

Client Sample ID: 57457

Date/Time Sampled: 12/04/17 00:00

Laboratory Sample ID: 7L05038-01 (Solid/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Analytical Method	* Analyst	Note
Polychlorinated Biphenyls by EPA Extraction Method 3541								
PCB-1016	<0.008		0.008	mg/kg dry	12/07/17 09:57	EPA 8082	cdb	
PCB-1221	<0.008		0.008	mg/kg dry	12/07/17 09:57	EPA 8082	cdb	
PCB-1232	<0.008		0.008	mg/kg dry	12/07/17 09:57	EPA 8082	cdb	
PCB-1242	<0.008		0.008	mg/kg dry	12/07/17 09:57	EPA 8082	cdb	
PCB-1248	<0.008		0.008	mg/kg dry	12/07/17 09:57	EPA 8082	cdb	
PCB-1254	<0.008		0.008	mg/kg dry	12/07/17 09:57	EPA 8082	cdb	
PCB-1260	<0.008		0.008	mg/kg dry	12/07/17 09:57	EPA 8082	cdb	
Surrogate: Tetrachloro-meta-xylene		*128 %*	*11-140*		*12/07/17 09:57*	*EPA 8082*	cdb	
Surrogate: Decachlorobiphenyl		*127 %*	*24.4-140*		*12/07/17 09:57*	*EPA 8082*	cdb	

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Waypoint Analytical
7621 Whitepine Rd.
Richmond VA, 23237
Project Manager: Brandi Watson

Project: PCB's
Project Number: [none]
Collector: CLIENT
Number of Containers: 38

Reported:
12/21/17 09:24

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Sample Type	Date Sampled	Date Received
57493	7L05038-37	Solid	Grab	12/04/17 00:00	12/05/17 09:30
57494	7L05038-38	Solid	Grab	12/04/17 00:00	12/05/17 09:30

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Richmond VA, 23237
Project Manager: Brandi Watson

Project: PCB's
Project Number: [none]
Collector: CLIENT
Number of Containers: 38

Reported:
12/21/17 09:24

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Sample Type	Date Sampled	Date Received
57475	7L05038-19	Solid	Grab	12/04/17 00:00	12/05/17 09:30
57476	7L05038-20	Solid	Grab	12/04/17 00:00	12/05/17 09:30
57477	7L05038-21	Solid	Grab	12/04/17 00:00	12/05/17 09:30
57478	7L05038-22	Solid	Grab	12/04/17 00:00	12/05/17 09:30
57479	7L05038-23	Solid	Grab	12/04/17 00:00	12/05/17 09:30
57480	7L05038-24	Solid	Grab	12/04/17 00:00	12/05/17 09:30
57481	7L05038-25	Solid	Grab	12/04/17 00:00	12/05/17 09:30
57482	7L05038-26	Solid	Grab	12/04/17 00:00	12/05/17 09:30
57483	7L05038-27	Solid	Grab	12/04/17 00:00	12/05/17 09:30
57484	7L05038-28	Solid	Grab	12/04/17 00:00	12/05/17 09:30
57485	7L05038-29	Solid	Grab	12/04/17 00:00	12/05/17 09:30
57486	7L05038-30	Solid	Grab	12/04/17 00:00	12/05/17 09:30
57487	7L05038-31	Solid	Grab	12/04/17 00:00	12/05/17 09:30
57488	7L05038-32	Solid	Grab	12/04/17 00:00	12/05/17 09:30
57489	7L05038-33	Solid	Grab	12/04/17 00:00	12/05/17 09:30
57490	7L05038-34	Solid	Grab	12/04/17 00:00	12/05/17 09:30
57491	7L05038-35	Solid	Grab	12/04/17 00:00	12/05/17 09:30
57492	7L05038-36	Solid	Grab	12/04/17 00:00	12/05/17 09:30

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Richmond VA, 23237
Project Manager: Brandi Watson

Project: PCB's
Project Number: [none]
Collector: CLIENT
Number of Containers: 38

Reported:
12/21/17 09:24

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Sample Type	Date Sampled	Date Received
57457	7L05038-01	Solid	Grab	12/04/17 00:00	12/05/17 09:30
57458	7L05038-02	Solid	Grab	12/04/17 00:00	12/05/17 09:30
57459	7L05038-03	Solid	Grab	12/04/17 00:00	12/05/17 09:30
57460	7L05038-04	Solid	Grab	12/04/17 00:00	12/05/17 09:30
57461	7L05038-05	Solid	Grab	12/04/17 00:00	12/05/17 09:30
57462	7L05038-06	Solid	Grab	12/04/17 00:00	12/05/17 09:30
57463	7L05038-07	Solid	Grab	12/04/17 00:00	12/05/17 09:30
57464	7L05038-08	Solid	Grab	12/04/17 00:00	12/05/17 09:30
57465	7L05038-09	Solid	Grab	12/04/17 00:00	12/05/17 09:30
57466	7L05038-10	Solid	Grab	12/04/17 00:00	12/05/17 09:30
57467	7L05038-11	Solid	Grab	12/04/17 00:00	12/05/17 09:30
57468	7L05038-12	Solid	Grab	12/04/17 00:00	12/05/17 09:30
57469	7L05038-13	Solid	Grab	12/04/17 00:00	12/05/17 09:30
57470	7L05038-14	Solid	Grab	12/04/17 00:00	12/05/17 09:30
57471	7L05038-15	Solid	Grab	12/04/17 00:00	12/05/17 09:30
57472	7L05038-16	Solid	Grab	12/04/17 00:00	12/05/17 09:30
57473	7L05038-17	Solid	Grab	12/04/17 00:00	12/05/17 09:30
57474	7L05038-18	Solid	Grab	12/04/17 00:00	12/05/17 09:30

Fairway Laboratories, Inc.

Reviewed and Submitted by:

Michael P. Tyler
Laboratory Director

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17-333-0220 **Page:** 76 of 76

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Project : Cunfer/CB-4

Submitted By : Kevin Smeltz
Purchase Order :
Report Date : 12/13/2017
Date Received : 11/29/2017

REPORT OF ANALYSIS

Date Sampled :

Lab Number: 57423
Sample Id : F21

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst

Method Reference:

USEPA, SW-846, Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods, 3rd Ed. Current Revision
USEPA, SW-846, Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods, 3rd Ed. Current Revision

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17-333-0220 **Page:** 75 of 76

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Submitted By : Kevin Smeltz
Purchase Order :
Report Date : 12/13/2017
Date Received : 11/29/2017

Date Sampled :

REPORT OF ANALYSIS

Lab Number: 57423
Sample Id : F21

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst
Total Copper , mg/Kg	14.0	0.50	AG TOTAL METALS	12/04/2017 17:00	BW
Total Zinc , mg/Kg	286	1.00	AG TOTAL METALS	12/04/2017 17:00	BW
Total Cadmium , mg/Kg	3.17	0.20	AG TOTAL METALS	12/04/2017 17:00	BW
Total Chromium , mg/Kg	10.8	0.50	AG TOTAL METALS	12/04/2017 17:00	BW
Total Nickel , mg/Kg	8.05	0.50	AG TOTAL METALS	12/04/2017 17:00	BW
Total Lead , mg/Kg	29.6	0.60	AG TOTAL METALS	12/04/2017 17:00	BW
Total Arsenic , mg/Kg	8.46	1.00	AG TOTAL METALS	12/04/2017 17:00	BW
Total Mercury , mg/Kg	<0.400	0.400	SW-7471B	12/13/2017 13:04	MOS
Total Selenium , mg/Kg	<1.00	1.00	AG TOTAL METALS	12/04/2017 17:00	BW
Total Molybdenum , mg/Kg	<0.50	0.50	AG TOTAL METALS	12/04/2017 17:00	BW

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17-333-0220 **Page:** 74 of 76

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Report Date : 12/13/2017
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REPORT OF ANALYSIS

Date Sampled :

Lab Number: 57422
Sample Id : F20

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst

Method Reference:

USEPA, SW-846, Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods, 3rd Ed. Current Revision
USEPA, SW-846, Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods, 3rd Ed. Current Revision .

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Report Date : 12/13/2017
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REPORT OF ANALYSIS

Date Sampled :

Lab Number: 57422
Sample Id : F20

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst
Total Copper , mg/Kg	12.5	0.50	AG TOTAL METALS	12/04/2017 17:00	BW
Total Zinc , mg/Kg	164	1.00	AG TOTAL METALS	12/04/2017 17:00	BW
Total Cadmium , mg/Kg	1.80	0.20	AG TOTAL METALS	12/04/2017 17:00	BW
Total Chromium , mg/Kg	14.1	0.50	AG TOTAL METALS	12/04/2017 17:00	BW
Total Nickel , mg/Kg	11.1	0.50	AG TOTAL METALS	12/04/2017 17:00	BW
Total Lead , mg/Kg	18.0	0.60	AG TOTAL METALS	12/04/2017 17:00	BW
Total Arsenic , mg/Kg	6.46	1.00	AG TOTAL METALS	12/04/2017 17:00	BW
Total Mercury , mg/Kg	<0.400	0.400	SW-7471B	12/13/2017 13:02	MOS
Total Selenium , mg/Kg	<1.00	1.00	AG TOTAL METALS	12/04/2017 17:00	BW
Total Molybdenum , mg/Kg	<0.50	0.50	AG TOTAL METALS	12/04/2017 17:00	BW

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17-333-0220 **Page:** 72 of 76

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REPORT OF ANALYSIS

Lab Number: 57421
Sample Id : F19

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst

Method Reference:

USEPA, SW-846, Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods, 3rd Ed. Current Revision
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REPORT OF ANALYSIS

Date Sampled :

Lab Number: 57421
Sample Id : F19

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst
Total Copper , mg/Kg	10.3	0.50	AG TOTAL METALS	12/04/2017 17:00	BW
Total Zinc , mg/Kg	115	1.00	AG TOTAL METALS	12/04/2017 17:00	BW
Total Cadmium , mg/Kg	1.25	0.20	AG TOTAL METALS	12/04/2017 17:00	BW
Total Chromium , mg/Kg	10.3	0.50	AG TOTAL METALS	12/04/2017 17:00	BW
Total Nickel , mg/Kg	5.70	0.50	AG TOTAL METALS	12/04/2017 17:00	BW
Total Lead , mg/Kg	14.7	0.60	AG TOTAL METALS	12/04/2017 17:00	BW
Total Arsenic , mg/Kg	4.71	1.00	AG TOTAL METALS	12/04/2017 17:00	BW
Total Mercury , mg/Kg	<0.400	0.400	SW-7471B	12/13/2017 12:59	MOS
Total Selenium , mg/Kg	<1.00	1.00	AG TOTAL METALS	12/04/2017 17:00	BW
Total Molybdenum , mg/Kg	<0.50	0.50	AG TOTAL METALS	12/04/2017 17:00	BW

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Report Date : 12/13/2017
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REPORT OF ANALYSIS

Date Sampled :

Lab Number: 57420
Sample Id : F18

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst

Method Reference:

USEPA, SW-846, Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods, 3rd Ed. Current Revision
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REPORT OF ANALYSIS

Lab Number: 57420
Sample Id : F18

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst
Total Copper , mg/Kg	9.20	0.33	AG TOTAL METALS	12/04/2017 17:00	BW
Total Zinc , mg/Kg	161	0.66	AG TOTAL METALS	12/04/2017 17:00	BW
Total Cadmium , mg/Kg	1.74	0.13	AG TOTAL METALS	12/04/2017 17:00	BW
Total Chromium , mg/Kg	8.43	0.33	AG TOTAL METALS	12/04/2017 17:00	BW
Total Nickel , mg/Kg	3.74	0.33	AG TOTAL METALS	12/04/2017 17:00	BW
Total Lead , mg/Kg	18.0	0.40	AG TOTAL METALS	12/04/2017 17:00	BW
Total Arsenic , mg/Kg	5.17	0.66	AG TOTAL METALS	12/04/2017 17:00	BW
Total Mercury , mg/Kg	<0.400	0.400	SW-7471B	12/13/2017 12:57	MOS
Total Selenium , mg/Kg	<0.66	0.66	AG TOTAL METALS	12/04/2017 17:00	BW
Total Molybdenum , mg/Kg	<0.33	0.33	AG TOTAL METALS	12/04/2017 17:00	BW

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REPORT OF ANALYSIS

Date Sampled :

Lab Number: 57419
Sample Id : F17

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst

Method Reference:

USEPA, SW-846, Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods, 3rd Ed. Current Revision
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REPORT OF ANALYSIS

Date Sampled :

Lab Number: 57419
Sample Id : F17

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst
Total Copper , mg/Kg	12.6	0.33	AG TOTAL METALS	12/04/2017 17:00	BW
Total Zinc , mg/Kg	156	0.66	AG TOTAL METALS	12/04/2017 17:00	BW
Total Cadmium , mg/Kg	1.79	0.13	AG TOTAL METALS	12/04/2017 17:00	BW
Total Chromium , mg/Kg	9.77	0.33	AG TOTAL METALS	12/04/2017 17:00	BW
Total Nickel , mg/Kg	4.25	0.33	AG TOTAL METALS	12/04/2017 17:00	BW
Total Lead , mg/Kg	21.8	0.40	AG TOTAL METALS	12/04/2017 17:00	BW
Total Arsenic , mg/Kg	5.98	0.66	AG TOTAL METALS	12/04/2017 17:00	BW
Total Mercury , mg/Kg	<0.400	0.400	SW-7471B	12/13/2017 12:55	MOS
Total Selenium , mg/Kg	<0.66	0.66	AG TOTAL METALS	12/04/2017 17:00	BW
Total Molybdenum , mg/Kg	<0.33	0.33	AG TOTAL METALS	12/04/2017 17:00	BW

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Submitted By : Kevin Smeltz
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Report Date : 12/13/2017
Date Received : 11/29/2017

REPORT OF ANALYSIS

Date Sampled :

Lab Number: 57418
Sample Id : F16

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst

Method Reference:

USEPA, SW-846, Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods, 3rd Ed. Current Revision
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REPORT OF ANALYSIS

Date Sampled :

Lab Number: 57418
Sample Id : F16

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst
Total Copper , mg/Kg	10.3	0.33	AG TOTAL METALS	12/04/2017 17:00	BW
Total Zinc , mg/Kg	187	0.66	AG TOTAL METALS	12/04/2017 17:00	BW
Total Cadmium , mg/Kg	1.93	0.13	AG TOTAL METALS	12/04/2017 17:00	BW
Total Chromium , mg/Kg	9.17	0.33	AG TOTAL METALS	12/04/2017 17:00	BW
Total Nickel , mg/Kg	4.86	0.33	AG TOTAL METALS	12/04/2017 17:00	BW
Total Lead , mg/Kg	21.8	0.40	AG TOTAL METALS	12/04/2017 17:00	BW
Total Arsenic , mg/Kg	5.60	0.66	AG TOTAL METALS	12/04/2017 17:00	BW
Total Mercury , mg/Kg	<0.400	0.400	SW-7471B	12/13/2017 12:52	MOS
Total Selenium , mg/Kg	<0.66	0.66	AG TOTAL METALS	12/04/2017 17:00	BW
Total Molybdenum , mg/Kg	<0.33	0.33	AG TOTAL METALS	12/04/2017 17:00	BW

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Report Date : 12/13/2017
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REPORT OF ANALYSIS

Date Sampled :

Lab Number: 57417
Sample Id : F15

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst

Method Reference:

USEPA, SW-846, Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods, 3rd Ed. Current Revision
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Date Sampled :

REPORT OF ANALYSIS

Lab Number: 57417
Sample Id : F15

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst
Total Copper , mg/Kg	12.0	0.50	AG TOTAL METALS	12/04/2017 17:00	BW
Total Zinc , mg/Kg	207	1.00	AG TOTAL METALS	12/04/2017 17:00	BW
Total Cadmium , mg/Kg	2.32	0.20	AG TOTAL METALS	12/04/2017 17:00	BW
Total Chromium , mg/Kg	11.1	0.50	AG TOTAL METALS	12/04/2017 17:00	BW
Total Nickel , mg/Kg	4.24	0.50	AG TOTAL METALS	12/04/2017 17:00	BW
Total Lead , mg/Kg	28.4	0.60	AG TOTAL METALS	12/04/2017 17:00	BW
Total Arsenic , mg/Kg	7.72	1.00	AG TOTAL METALS	12/04/2017 17:00	BW
Total Mercury , mg/Kg	<0.400	0.400	SW-7471B	12/13/2017 12:50	MOS
Total Selenium , mg/Kg	<1.00	1.00	AG TOTAL METALS	12/04/2017 17:00	BW
Total Molybdenum , mg/Kg	<0.50	0.50	AG TOTAL METALS	12/04/2017 17:00	BW

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Report Date : 12/13/2017
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REPORT OF ANALYSIS

Date Sampled :

Lab Number: 57416
Sample Id : F14B

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst

Method Reference:

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REPORT OF ANALYSIS

Date Sampled :

Lab Number: 57416
Sample Id : F14B

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst
Total Copper , mg/Kg	12.4	0.50	AG TOTAL METALS	12/04/2017 17:00	BW
Total Zinc , mg/Kg	188	1.00	AG TOTAL METALS	12/04/2017 17:00	BW
Total Cadmium , mg/Kg	2.12	0.20	AG TOTAL METALS	12/04/2017 17:00	BW
Total Chromium , mg/Kg	8.82	0.50	AG TOTAL METALS	12/04/2017 17:00	BW
Total Nickel , mg/Kg	3.16	0.50	AG TOTAL METALS	12/04/2017 17:00	BW
Total Lead , mg/Kg	24.1	0.60	AG TOTAL METALS	12/04/2017 17:00	BW
Total Arsenic , mg/Kg	6.02	1.00	AG TOTAL METALS	12/04/2017 17:00	BW
Total Mercury , mg/Kg	<0.400	0.400	SW-7471B	12/13/2017 12:48	MOS
Total Selenium , mg/Kg	<1.00	1.00	AG TOTAL METALS	12/04/2017 17:00	BW
Total Molybdenum , mg/Kg	<0.50	0.50	AG TOTAL METALS	12/04/2017 17:00	BW

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Date Sampled :

Lab Number: 57415
Sample Id : F14A

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst

Method Reference:

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REPORT OF ANALYSIS

Lab Number: 57415
Sample Id : F14A

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst
Total Copper , mg/Kg	18.0	0.33	AG TOTAL METALS	12/04/2017 17:00	BW
Total Zinc , mg/Kg	270	0.66	AG TOTAL METALS	12/04/2017 17:00	BW
Total Cadmium , mg/Kg	3.21	0.13	AG TOTAL METALS	12/04/2017 17:00	BW
Total Chromium , mg/Kg	12.9	0.33	AG TOTAL METALS	12/04/2017 17:00	BW
Total Nickel , mg/Kg	5.29	0.33	AG TOTAL METALS	12/04/2017 17:00	BW
Total Lead , mg/Kg	35.0	0.40	AG TOTAL METALS	12/04/2017 17:00	BW
Total Arsenic , mg/Kg	8.65	0.66	AG TOTAL METALS	12/04/2017 17:00	BW
Total Mercury , mg/Kg	<0.400	0.400	SW-7471B	12/13/2017 12:45	MOS
Total Selenium , mg/Kg	<0.66	0.66	AG TOTAL METALS	12/04/2017 17:00	BW
Total Molybdenum , mg/Kg	<0.33	0.33	AG TOTAL METALS	12/04/2017 17:00	BW

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17-333-0220 **Page:** 58 of 76

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Report Date : 12/13/2017
Date Received : 11/29/2017

REPORT OF ANALYSIS

Date Sampled :

Lab Number: 57414
Sample Id : F13

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst

Method Reference:

USEPA, SW-846, Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods, 3rd Ed. Current Revision
USEPA, SW-846, Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods, 3rd Ed. Current Revision

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17-333-0220 **Page:** 57 of 76

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Submitted By : Kevin Smeltz
Purchase Order :
Report Date : 12/13/2017
Date Received : 11/29/2017

Date Sampled :

REPORT OF ANALYSIS

Lab Number: 57414
Sample Id : F13

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst
Total Copper , mg/Kg	15.7	0.33	AG TOTAL METALS	12/04/2017 17:00	BW
Total Zinc , mg/Kg	215	0.66	AG TOTAL METALS	12/04/2017 17:00	BW
Total Cadmium , mg/Kg	2.17	0.13	AG TOTAL METALS	12/04/2017 17:00	BW
Total Chromium , mg/Kg	14.0	0.33	AG TOTAL METALS	12/04/2017 17:00	BW
Total Nickel , mg/Kg	9.22	0.33	AG TOTAL METALS	12/04/2017 17:00	BW
Total Lead , mg/Kg	27.2	0.40	AG TOTAL METALS	12/04/2017 17:00	BW
Total Arsenic , mg/Kg	6.56	0.66	AG TOTAL METALS	12/04/2017 17:00	BW
Total Mercury , mg/Kg	<0.400	0.400	SW-7471B	12/13/2017 12:43	MOS
Total Selenium , mg/Kg	<0.66	0.66	AG TOTAL METALS	12/04/2017 17:00	BW
Total Molybdenum , mg/Kg	<0.33	0.33	AG TOTAL METALS	12/04/2017 17:00	BW

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Purchase Order :
Report Date : 12/13/2017
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REPORT OF ANALYSIS

Date Sampled :

Lab Number: 57413
Sample Id : F12

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst

Method Reference:

USEPA, SW-846, Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods, 3rd Ed. Current Revision
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Report Date : 12/13/2017
Date Received : 11/29/2017

REPORT OF ANALYSIS

Date Sampled :

Lab Number: 57413
Sample Id : F12

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst
Total Copper , mg/Kg	11.6	0.50	AG TOTAL METALS	12/04/2017 17:00	BW
Total Zinc , mg/Kg	199	1.00	AG TOTAL METALS	12/04/2017 17:00	BW
Total Cadmium , mg/Kg	2.03	0.20	AG TOTAL METALS	12/04/2017 17:00	BW
Total Chromium , mg/Kg	10.6	0.50	AG TOTAL METALS	12/04/2017 17:00	BW
Total Nickel , mg/Kg	7.53	0.50	AG TOTAL METALS	12/04/2017 17:00	BW
Total Lead , mg/Kg	22.9	0.60	AG TOTAL METALS	12/04/2017 17:00	BW
Total Arsenic , mg/Kg	6.88	1.00	AG TOTAL METALS	12/04/2017 17:00	BW
Total Mercury , mg/Kg	<0.400	0.400	SW-7471B	12/13/2017 12:36	MOS
Total Selenium , mg/Kg	<1.00	1.00	AG TOTAL METALS	12/04/2017 17:00	BW
Total Molybdenum , mg/Kg	<0.50	0.50	AG TOTAL METALS	12/04/2017 17:00	BW

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REPORT OF ANALYSIS

Date Sampled :

Lab Number: 57412
Sample Id : F11

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst

Method Reference:

USEPA, SW-846, Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods, 3rd Ed. Current Revision
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REPORT OF ANALYSIS

Date Sampled :

Lab Number: 57412
Sample Id : F11

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst
Total Copper , mg/Kg	12.3	0.50	AG TOTAL METALS	12/04/2017 17:00	BW
Total Zinc , mg/Kg	191	1.00	AG TOTAL METALS	12/04/2017 17:00	BW
Total Cadmium , mg/Kg	1.96	0.20	AG TOTAL METALS	12/04/2017 17:00	BW
Total Chromium , mg/Kg	11.0	0.50	AG TOTAL METALS	12/04/2017 17:00	BW
Total Nickel , mg/Kg	8.25	0.50	AG TOTAL METALS	12/04/2017 17:00	BW
Total Lead , mg/Kg	41.0	0.60	AG TOTAL METALS	12/04/2017 17:00	BW
Total Arsenic , mg/Kg	7.72	1.00	AG TOTAL METALS	12/04/2017 17:00	BW
Total Mercury , mg/Kg	<0.400	0.400	SW-7471B	12/13/2017 12:33	MOS
Total Selenium , mg/Kg	<1.00	1.00	AG TOTAL METALS	12/04/2017 17:00	BW
Total Molybdenum , mg/Kg	<0.50	0.50	AG TOTAL METALS	12/04/2017 17:00	BW

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REPORT OF ANALYSIS

Date Sampled :

Lab Number: 57411
Sample Id : F10

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst

Method Reference:

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Report Date : 12/13/2017
Date Received : 11/29/2017

REPORT OF ANALYSIS

Date Sampled :

Lab Number: 57411
Sample Id : F10

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst
Total Copper , mg/Kg	13.1	0.50	AG TOTAL METALS	12/04/2017 17:00	BW
Total Zinc , mg/Kg	236	1.00	AG TOTAL METALS	12/04/2017 17:00	BW
Total Cadmium , mg/Kg	2.44	0.20	AG TOTAL METALS	12/04/2017 17:00	BW
Total Chromium , mg/Kg	12.7	0.50	AG TOTAL METALS	12/04/2017 17:00	BW
Total Nickel , mg/Kg	9.42	0.50	AG TOTAL METALS	12/04/2017 17:00	BW
Total Lead , mg/Kg	28.9	0.60	AG TOTAL METALS	12/04/2017 17:00	BW
Total Arsenic , mg/Kg	8.47	1.00	AG TOTAL METALS	12/04/2017 17:00	BW
Total Mercury , mg/Kg	<0.400	0.400	SW-7471B	12/13/2017 12:31	MOS
Total Selenium , mg/Kg	<1.00	1.00	AG TOTAL METALS	12/04/2017 17:00	BW
Total Molybdenum , mg/Kg	<0.50	0.50	AG TOTAL METALS	12/04/2017 17:00	BW

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Submitted By : Kevin Smeltz
Purchase Order :
Report Date : 12/13/2017
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REPORT OF ANALYSIS

Date Sampled :

Lab Number: 57410
Sample Id : F9

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst

Method Reference:

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Date Sampled :

REPORT OF ANALYSIS

Lab Number: 57410
Sample Id : F9

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst
Total Copper , mg/Kg	15.5	0.50	AG TOTAL METALS	12/04/2017 17:00	BW
Total Zinc , mg/Kg	226	1.00	AG TOTAL METALS	12/04/2017 17:00	BW
Total Cadmium , mg/Kg	2.22	0.20	AG TOTAL METALS	12/04/2017 17:00	BW
Total Chromium , mg/Kg	10.9	0.50	AG TOTAL METALS	12/04/2017 17:00	BW
Total Nickel , mg/Kg	8.53	0.50	AG TOTAL METALS	12/04/2017 17:00	BW
Total Lead , mg/Kg	27.6	0.60	AG TOTAL METALS	12/04/2017 17:00	BW
Total Arsenic , mg/Kg	7.39	1.00	AG TOTAL METALS	12/04/2017 17:00	BW
Total Mercury , mg/Kg	<0.400	0.400	SW-7471B	12/13/2017 12:29	MOS
Total Selenium , mg/Kg	<1.00	1.00	AG TOTAL METALS	12/04/2017 17:00	BW
Total Molybdenum , mg/Kg	<0.50	0.50	AG TOTAL METALS	12/04/2017 17:00	BW

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Purchase Order :
Report Date : 12/13/2017
Date Received : 11/29/2017

REPORT OF ANALYSIS

Date Sampled :

Lab Number: 57409
Sample Id : F8

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst

Method Reference:

USEPA, SW-846, Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods, 3rd Ed. Current Revision
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Submitted By : Kevin Smeltz
Purchase Order :
Report Date : 12/13/2017
Date Received : 11/29/2017

REPORT OF ANALYSIS

Date Sampled :

Lab Number: 57409
Sample Id : F8

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst
Total Copper , mg/Kg	19.2	0.50	AG TOTAL METALS	12/04/2017 17:00	BW
Total Zinc , mg/Kg	206	1.00	AG TOTAL METALS	12/04/2017 17:00	BW
Total Cadmium , mg/Kg	2.08	0.20	AG TOTAL METALS	12/04/2017 17:00	BW
Total Chromium , mg/Kg	12.4	0.50	AG TOTAL METALS	12/04/2017 17:00	BW
Total Nickel , mg/Kg	8.20	0.50	AG TOTAL METALS	12/04/2017 17:00	BW
Total Lead , mg/Kg	30.0	0.60	AG TOTAL METALS	12/04/2017 17:00	BW
Total Arsenic , mg/Kg	9.50	1.00	AG TOTAL METALS	12/04/2017 17:00	BW
Total Mercury , mg/Kg	<0.400	0.400	SW-7471B	12/06/2017 16:53	MOS
Total Selenium , mg/Kg	<1.00	1.00	AG TOTAL METALS	12/04/2017 17:00	BW
Total Molybdenum , mg/Kg	<0.50	0.50	AG TOTAL METALS	12/04/2017 17:00	BW

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Submitted By : Kevin Smeltz
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Report Date : 12/13/2017
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REPORT OF ANALYSIS

Date Sampled :

Lab Number: 57408
Sample Id : F7A

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst

Method Reference:

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Report Date : 12/13/2017
Date Received : 11/29/2017

Date Sampled :

REPORT OF ANALYSIS

Lab Number: 57408
Sample Id : F7A

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst
Total Copper , mg/Kg	19.0	0.50	AG TOTAL METALS	12/04/2017 17:00	BW
Total Zinc , mg/Kg	221	1.00	AG TOTAL METALS	12/04/2017 17:00	BW
Total Cadmium , mg/Kg	2.09	0.20	AG TOTAL METALS	12/04/2017 17:00	BW
Total Chromium , mg/Kg	12.1	0.50	AG TOTAL METALS	12/04/2017 17:00	BW
Total Nickel , mg/Kg	7.58	0.50	AG TOTAL METALS	12/04/2017 17:00	BW
Total Lead , mg/Kg	31.4	0.60	AG TOTAL METALS	12/04/2017 17:00	BW
Total Arsenic , mg/Kg	7.14	1.00	AG TOTAL METALS	12/04/2017 17:00	BW
Total Mercury , mg/Kg	<0.400	0.400	SW-7471B	12/06/2017 16:50	MOS
Total Selenium , mg/Kg	<1.00	1.00	AG TOTAL METALS	12/04/2017 17:00	BW
Total Molybdenum , mg/Kg	<0.50	0.50	AG TOTAL METALS	12/04/2017 17:00	BW

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Report Date : 12/13/2017
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REPORT OF ANALYSIS

Date Sampled :

Lab Number: 57407
Sample Id : F7

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst

Method Reference:

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Date Sampled :

REPORT OF ANALYSIS

Lab Number: 57407
Sample Id : F7

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst
Total Copper , mg/Kg	12.5	0.33	AG TOTAL METALS	12/04/2017 17:00	BW
Total Zinc , mg/Kg	163	0.66	AG TOTAL METALS	12/04/2017 17:00	BW
Total Cadmium , mg/Kg	1.84	0.13	AG TOTAL METALS	12/04/2017 17:00	BW
Total Chromium , mg/Kg	12.2	0.33	AG TOTAL METALS	12/04/2017 17:00	BW
Total Nickel , mg/Kg	5.94	0.33	AG TOTAL METALS	12/04/2017 17:00	BW
Total Lead , mg/Kg	24.8	0.40	AG TOTAL METALS	12/04/2017 17:00	BW
Total Arsenic , mg/Kg	6.68	0.66	AG TOTAL METALS	12/04/2017 17:00	BW
Total Mercury , mg/Kg	<0.400	0.400	SW-7471B	12/06/2017 16:48	MOS
Total Selenium , mg/Kg	<0.66	0.66	AG TOTAL METALS	12/04/2017 17:00	BW
Total Molybdenum , mg/Kg	<0.33	0.33	AG TOTAL METALS	12/04/2017 17:00	BW

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17-333-0220 **Page:** 42 of 76

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Report Date : 12/13/2017
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REPORT OF ANALYSIS

Date Sampled :

Lab Number: 57406
Sample Id : F6

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst

Method Reference:

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Date Sampled :

REPORT OF ANALYSIS

Lab Number: 57406
Sample Id : F6

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst
Total Copper , mg/Kg	14.3	0.50	AG TOTAL METALS	12/04/2017 17:00	BW
Total Zinc , mg/Kg	162	1.00	AG TOTAL METALS	12/04/2017 17:00	BW
Total Cadmium , mg/Kg	1.80	0.20	AG TOTAL METALS	12/04/2017 17:00	BW
Total Chromium , mg/Kg	71.3	0.50	AG TOTAL METALS	12/04/2017 17:00	BW
Total Nickel , mg/Kg	294	0.50	AG TOTAL METALS	12/04/2017 17:00	BW
Total Lead , mg/Kg	23.3	0.60	AG TOTAL METALS	12/04/2017 17:00	BW
Total Arsenic , mg/Kg	7.13	1.00	AG TOTAL METALS	12/04/2017 17:00	BW
Total Mercury , mg/Kg	<0.400	0.400	SW-7471B	12/06/2017 16:45	MOS
Total Selenium , mg/Kg	<1.00	1.00	AG TOTAL METALS	12/04/2017 17:00	BW
Total Molybdenum , mg/Kg	50.1	0.50	AG TOTAL METALS	12/04/2017 17:00	BW

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17-333-0220 **Page:** 40 of 76

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Report Date : 12/13/2017
Date Received : 11/29/2017

REPORT OF ANALYSIS

Date Sampled :

Lab Number: 57405
Sample Id : F5

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst

Method Reference:

USEPA, SW-846, Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods, 3rd Ed. Current Revision
USEPA, SW-846, Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods, 3rd Ed. Current Revision

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17-333-0220 **Page:** 39 of 76

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Submitted By : Kevin Smeltz
Purchase Order :
Report Date : 12/13/2017
Date Received : 11/29/2017

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REPORT OF ANALYSIS

Lab Number: 57405
Sample Id : F5

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst
Total Copper , mg/Kg	14.8	0.50	AG TOTAL METALS	12/04/2017 17:00	BW
Total Zinc , mg/Kg	207	1.00	AG TOTAL METALS	12/04/2017 17:00	BW
Total Cadmium , mg/Kg	2.37	0.20	AG TOTAL METALS	12/04/2017 17:00	BW
Total Chromium , mg/Kg	41.7	0.50	AG TOTAL METALS	12/04/2017 17:00	BW
Total Nickel , mg/Kg	151	0.50	AG TOTAL METALS	12/04/2017 17:00	BW
Total Lead , mg/Kg	28.4	0.60	AG TOTAL METALS	12/04/2017 17:00	BW
Total Arsenic , mg/Kg	7.56	1.00	AG TOTAL METALS	12/04/2017 17:00	BW
Total Mercury , mg/Kg	<0.400	0.400	SW-7471B	12/06/2017 16:43	MOS
Total Selenium , mg/Kg	<1.00	1.00	AG TOTAL METALS	12/04/2017 17:00	BW
Total Molybdenum , mg/Kg	24.3	0.50	AG TOTAL METALS	12/04/2017 17:00	BW

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Date Sampled :

Lab Number: 57404
Sample Id : F4

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst

Method Reference:

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Purchase Order :
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Date Received : 11/29/2017

Date Sampled :

REPORT OF ANALYSIS

Lab Number: 57404
Sample Id : F4

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst
Total Copper , mg/Kg	14.5	0.50	AG TOTAL METALS	12/04/2017 17:00	BW
Total Zinc , mg/Kg	177	1.00	AG TOTAL METALS	12/04/2017 17:00	BW
Total Cadmium , mg/Kg	1.69	0.20	AG TOTAL METALS	12/04/2017 17:00	BW
Total Chromium , mg/Kg	18.3	0.50	AG TOTAL METALS	12/04/2017 17:00	BW
Total Nickel , mg/Kg	33.1	0.50	AG TOTAL METALS	12/04/2017 17:00	BW
Total Lead , mg/Kg	21.1	0.60	AG TOTAL METALS	12/04/2017 17:00	BW
Total Arsenic , mg/Kg	6.46	1.00	AG TOTAL METALS	12/04/2017 17:00	BW
Total Mercury , mg/Kg	<0.400	0.400	SW-7471B	12/06/2017 16:36	MOS
Total Selenium , mg/Kg	<1.00	1.00	AG TOTAL METALS	12/04/2017 17:00	BW
Total Molybdenum , mg/Kg	4.94	0.50	AG TOTAL METALS	12/04/2017 17:00	BW

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Date Sampled :

Lab Number: 57403
Sample Id : F3

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst

Method Reference:

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Date Sampled :

Lab Number: 57403
Sample Id : F3

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst
Total Copper , mg/Kg	11.0	0.33	AG TOTAL METALS	12/04/2017 17:00	BW
Total Zinc , mg/Kg	177	0.66	AG TOTAL METALS	12/04/2017 17:00	BW
Total Cadmium , mg/Kg	1.97	0.13	AG TOTAL METALS	12/04/2017 17:00	BW
Total Chromium , mg/Kg	14.8	0.33	AG TOTAL METALS	12/04/2017 17:00	BW
Total Nickel , mg/Kg	12.2	0.33	AG TOTAL METALS	12/04/2017 17:00	BW
Total Lead , mg/Kg	25.2	0.40	AG TOTAL METALS	12/04/2017 17:00	BW
Total Arsenic , mg/Kg	6.34	0.66	AG TOTAL METALS	12/04/2017 17:00	BW
Total Mercury , mg/Kg	<0.400	0.400	SW-7471B	12/06/2017 16:34	MOS
Total Selenium , mg/Kg	<0.66	0.66	AG TOTAL METALS	12/04/2017 17:00	BW
Total Molybdenum , mg/Kg	0.97	0.33	AG TOTAL METALS	12/04/2017 17:00	BW

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Date Sampled :

Lab Number: 57402
Sample Id : F2

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst

Method Reference:

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Lab Number: 57402
Sample Id : F2

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst
Total Copper , mg/Kg	12.8	0.50	AG TOTAL METALS	12/04/2017 17:00	BW
Total Zinc , mg/Kg	177	1.00	AG TOTAL METALS	12/04/2017 17:00	BW
Total Cadmium , mg/Kg	2.15	0.20	AG TOTAL METALS	12/04/2017 17:00	BW
Total Chromium , mg/Kg	11.7	0.50	AG TOTAL METALS	12/04/2017 17:00	BW
Total Nickel , mg/Kg	10.9	0.50	AG TOTAL METALS	12/04/2017 17:00	BW
Total Lead , mg/Kg	29.6	0.60	AG TOTAL METALS	12/04/2017 17:00	BW
Total Arsenic , mg/Kg	7.56	1.00	AG TOTAL METALS	12/04/2017 17:00	BW
Total Mercury , mg/Kg	<0.400	0.400	SW-7471B	12/06/2017 16:31	MOS
Total Selenium , mg/Kg	<1.00	1.00	AG TOTAL METALS	12/04/2017 17:00	BW
Total Molybdenum , mg/Kg	0.75	0.50	AG TOTAL METALS	12/04/2017 17:00	BW

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REPORT OF ANALYSIS

Lab Number: 57401
Sample Id : F1

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst

Method Reference:

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Lab Number: 57401
Sample Id : F1

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst
Total Copper , mg/Kg	12.5	0.33	AG TOTAL METALS	12/04/2017 17:00	BW
Total Zinc , mg/Kg	187	0.66	AG TOTAL METALS	12/04/2017 17:00	BW
Total Cadmium , mg/Kg	1.90	0.13	AG TOTAL METALS	12/04/2017 17:00	BW
Total Chromium , mg/Kg	14.5	0.33	AG TOTAL METALS	12/04/2017 17:00	BW
Total Nickel , mg/Kg	10.8	0.33	AG TOTAL METALS	12/04/2017 17:00	BW
Total Lead , mg/Kg	24.5	0.40	AG TOTAL METALS	12/04/2017 17:00	BW
Total Arsenic , mg/Kg	7.53	0.66	AG TOTAL METALS	12/04/2017 17:00	BW
Total Mercury , mg/Kg	<0.400	0.400	SW-7471B	12/06/2017 16:29	MOS
Total Selenium , mg/Kg	<0.66	0.66	AG TOTAL METALS	12/04/2017 17:00	BW
Total Molybdenum , mg/Kg	<0.33	0.33	AG TOTAL METALS	12/04/2017 17:00	BW

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Date Sampled :

Lab Number: 57400
Sample Id : GABBY'S

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst

Method Reference:

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Date Sampled :

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Lab Number: 57400
Sample Id : GABBY'S

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst
Total Copper , mg/Kg	16.1	0.50	AG TOTAL METALS	12/04/2017 17:00	BW
Total Zinc , mg/Kg	208	1.00	AG TOTAL METALS	12/04/2017 17:00	BW
Total Cadmium , mg/Kg	2.05	0.20	AG TOTAL METALS	12/04/2017 17:00	BW
Total Chromium , mg/Kg	12.4	0.50	AG TOTAL METALS	12/04/2017 17:00	BW
Total Nickel , mg/Kg	6.78	0.50	AG TOTAL METALS	12/04/2017 17:00	BW
Total Lead , mg/Kg	38.1	0.60	AG TOTAL METALS	12/04/2017 17:00	BW
Total Arsenic , mg/Kg	6.69	1.00	AG TOTAL METALS	12/04/2017 17:00	BW
Total Mercury , mg/Kg	<0.400	0.400	SW-7471B	12/06/2017 16:27	MOS
Total Selenium , mg/Kg	<1.00	1.00	AG TOTAL METALS	12/04/2017 17:00	BW
Total Molybdenum , mg/Kg	<0.50	0.50	AG TOTAL METALS	12/04/2017 17:00	BW

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Lab Number: 57399
Sample Id : PADDOCKS

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst

Method Reference:

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Date Sampled :

REPORT OF ANALYSIS

Lab Number: 57399
Sample Id : PADDOCKS

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst
Total Copper , mg/Kg	27.0	0.50	AG TOTAL METALS	12/04/2017 17:00	BW
Total Zinc , mg/Kg	382	1.00	AG TOTAL METALS	12/04/2017 17:00	BW
Total Cadmium , mg/Kg	3.73	0.20	AG TOTAL METALS	12/04/2017 17:00	BW
Total Chromium , mg/Kg	15.0	0.50	AG TOTAL METALS	12/04/2017 17:00	BW
Total Nickel , mg/Kg	14.3	0.50	AG TOTAL METALS	12/04/2017 17:00	BW
Total Lead , mg/Kg	42.3	0.60	AG TOTAL METALS	12/04/2017 17:00	BW
Total Arsenic , mg/Kg	9.73	1.00	AG TOTAL METALS	12/04/2017 17:00	BW
Total Mercury , mg/Kg	<0.400	0.400	SW-7471B	12/06/2017 16:24	MOS
Total Selenium , mg/Kg	<1.00	1.00	AG TOTAL METALS	12/04/2017 17:00	BW
Total Molybdenum , mg/Kg	<0.50	0.50	AG TOTAL METALS	12/04/2017 17:00	BW

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Date Sampled :

Lab Number: 57398
Sample Id : PASTURE

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst

Method Reference:

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Lab Number: 57398
Sample Id : PASTURE

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst
Total Copper , mg/Kg	18.7	0.50	AG TOTAL METALS	12/04/2017 17:00	BW
Total Zinc , mg/Kg	291	1.00	AG TOTAL METALS	12/04/2017 17:00	BW
Total Cadmium , mg/Kg	3.62	0.20	AG TOTAL METALS	12/04/2017 17:00	BW
Total Chromium , mg/Kg	15.9	0.50	AG TOTAL METALS	12/04/2017 17:00	BW
Total Nickel , mg/Kg	15.0	0.50	AG TOTAL METALS	12/04/2017 17:00	BW
Total Lead , mg/Kg	42.9	0.60	AG TOTAL METALS	12/04/2017 17:00	BW
Total Arsenic , mg/Kg	8.47	1.00	AG TOTAL METALS	12/04/2017 17:00	BW
Total Mercury , mg/Kg	<0.400	0.400	SW-7471B	12/06/2017 16:22	MOS
Total Selenium , mg/Kg	<1.00	1.00	AG TOTAL METALS	12/04/2017 17:00	BW
Total Molybdenum , mg/Kg	0.60	0.50	AG TOTAL METALS	12/04/2017 17:00	BW

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Date Sampled :

Lab Number: 57397
Sample Id : H19

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst

Method Reference:

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Date Sampled :

Lab Number: 57397
Sample Id : H19

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst
Total Copper , mg/Kg	15.1	0.50	AG TOTAL METALS	12/04/2017 17:00	BW
Total Zinc , mg/Kg	209	1.00	AG TOTAL METALS	12/04/2017 17:00	BW
Total Cadmium , mg/Kg	2.16	0.20	AG TOTAL METALS	12/04/2017 17:00	BW
Total Chromium , mg/Kg	13.8	0.50	AG TOTAL METALS	12/04/2017 17:00	BW
Total Nickel , mg/Kg	12.1	0.50	AG TOTAL METALS	12/04/2017 17:00	BW
Total Lead , mg/Kg	33.6	0.60	AG TOTAL METALS	12/04/2017 17:00	BW
Total Arsenic , mg/Kg	7.84	1.00	AG TOTAL METALS	12/04/2017 17:00	BW
Total Mercury , mg/Kg	<0.400	0.400	SW-7471B	12/06/2017 16:19	MOS
Total Selenium , mg/Kg	<1.00	1.00	AG TOTAL METALS	12/04/2017 17:00	BW
Total Molybdenum , mg/Kg	<0.50	0.50	AG TOTAL METALS	12/04/2017 17:00	BW

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Date Sampled :

Lab Number: 57396
Sample Id : H17&18

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst

Method Reference:

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Send To: Synagro Central LLC
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Project : Cunfer/CB-4

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www.waypointanalytical.com

Submitted By : Kevin Smeltz
Purchase Order :
Report Date : 12/13/2017
Date Received : 11/29/2017

Date Sampled :

REPORT OF ANALYSIS

Lab Number: 57396
Sample Id : H17&18

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst
Total Copper , mg/Kg	15.7	0.50	AG TOTAL METALS	12/04/2017 17:00	BW
Total Zinc , mg/Kg	354	1.00	AG TOTAL METALS	12/04/2017 17:00	BW
Total Cadmium , mg/Kg	3.60	0.20	AG TOTAL METALS	12/04/2017 17:00	BW
Total Chromium , mg/Kg	15.9	0.50	AG TOTAL METALS	12/04/2017 17:00	BW
Total Nickel , mg/Kg	7.36	0.50	AG TOTAL METALS	12/04/2017 17:00	BW
Total Lead , mg/Kg	37.4	0.60	AG TOTAL METALS	12/04/2017 17:00	BW
Total Arsenic , mg/Kg	10.4	1.00	AG TOTAL METALS	12/04/2017 17:00	BW
Total Mercury , mg/Kg	<0.400	0.400	SW-7471B	12/06/2017 16:17	MOS
Total Selenium , mg/Kg	<1.00	1.00	AG TOTAL METALS	12/04/2017 17:00	BW
Total Molybdenum , mg/Kg	1.52	0.50	AG TOTAL METALS	12/04/2017 17:00	BW

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17-333-0220 **Page:** 20 of 76

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Submitted By : Kevin Smeltz
Purchase Order :
Report Date : 12/13/2017
Date Received : 11/29/2017

REPORT OF ANALYSIS

Date Sampled :

Lab Number: 57395
Sample Id : H13-16

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst

Method Reference:

USEPA, SW-846, Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods, 3rd Ed. Current Revision
USEPA, SW-846, Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods, 3rd Ed. Current Revision

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Submitted By : Kevin Smeltz
Purchase Order :
Report Date : 12/13/2017
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Date Sampled :

REPORT OF ANALYSIS

Lab Number: 57395
Sample Id : H13-16

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst
Total Copper , mg/Kg	16.7	0.33	AG TOTAL METALS	12/04/2017 17:00	BW
Total Zinc , mg/Kg	405	0.66	AG TOTAL METALS	12/04/2017 17:00	BW
Total Cadmium , mg/Kg	5.17	0.13	AG TOTAL METALS	12/04/2017 17:00	BW
Total Chromium , mg/Kg	13.3	0.33	AG TOTAL METALS	12/04/2017 17:00	BW
Total Nickel , mg/Kg	8.76	0.33	AG TOTAL METALS	12/04/2017 17:00	BW
Total Lead , mg/Kg	47.7	0.40	AG TOTAL METALS	12/04/2017 17:00	BW
Total Arsenic , mg/Kg	8.40	0.66	AG TOTAL METALS	12/04/2017 17:00	BW
Total Mercury , mg/Kg	<0.400	0.400	SW-7471B	12/06/2017 16:15	MOS
Total Selenium , mg/Kg	<0.66	0.66	AG TOTAL METALS	12/04/2017 17:00	BW
Total Molybdenum , mg/Kg	0.72	0.33	AG TOTAL METALS	12/04/2017 17:00	BW

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Report Date : 12/13/2017
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REPORT OF ANALYSIS

Date Sampled :

Lab Number: 57394
Sample Id : H11&12

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst

Method Reference:

USEPA, SW-846, Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods, 3rd Ed. Current Revision
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Date Sampled :

REPORT OF ANALYSIS

Lab Number: 57394
Sample Id : H11&12

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst
Total Copper , mg/Kg	17.6	0.50	AG TOTAL METALS	12/04/2017 17:00	BW
Total Zinc , mg/Kg	406	1.00	AG TOTAL METALS	12/04/2017 17:00	BW
Total Cadmium , mg/Kg	4.54	0.20	AG TOTAL METALS	12/04/2017 17:00	BW
Total Chromium , mg/Kg	15.3	0.50	AG TOTAL METALS	12/04/2017 17:00	BW
Total Nickel , mg/Kg	7.10	0.50	AG TOTAL METALS	12/04/2017 17:00	BW
Total Lead , mg/Kg	47.4	0.60	AG TOTAL METALS	12/04/2017 17:00	BW
Total Arsenic , mg/Kg	9.13	1.00	AG TOTAL METALS	12/04/2017 17:00	BW
Total Mercury , mg/Kg	<0.400	0.400	SW-7471B	12/06/2017 16:08	MOS
Total Selenium , mg/Kg	<1.00	1.00	AG TOTAL METALS	12/04/2017 17:00	BW
Total Molybdenum , mg/Kg	<0.50	0.50	AG TOTAL METALS	12/04/2017 17:00	BW

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REPORT OF ANALYSIS

Date Sampled :

Lab Number: 57393
Sample Id : H9&10

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst

Method Reference:

USEPA, SW-846, Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods, 3rd Ed. Current Revision
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REPORT OF ANALYSIS

Lab Number: 57393
Sample Id : H9&10

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst
Total Copper , mg/Kg	19.6	0.50	AG TOTAL METALS	12/04/2017 17:00	BW
Total Zinc , mg/Kg	215	1.00	AG TOTAL METALS	12/04/2017 17:00	BW
Total Cadmium , mg/Kg	2.31	0.20	AG TOTAL METALS	12/04/2017 17:00	BW
Total Chromium , mg/Kg	9.21	0.50	AG TOTAL METALS	12/04/2017 17:00	BW
Total Nickel , mg/Kg	3.78	0.50	AG TOTAL METALS	12/04/2017 17:00	BW
Total Lead , mg/Kg	23.7	0.60	AG TOTAL METALS	12/04/2017 17:00	BW
Total Arsenic , mg/Kg	6.80	1.00	AG TOTAL METALS	12/04/2017 17:00	BW
Total Mercury , mg/Kg	<0.400	0.400	SW-7471B	12/06/2017 16:05	MOS
Total Selenium , mg/Kg	<1.00	1.00	AG TOTAL METALS	12/04/2017 17:00	BW
Total Molybdenum , mg/Kg	0.55	0.50	AG TOTAL METALS	12/04/2017 17:00	BW

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REPORT OF ANALYSIS

Date Sampled :

Lab Number: 57392
Sample Id : H8

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst

Method Reference:

USEPA, SW-846, Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods, 3rd Ed. Current Revision
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Date Sampled :

REPORT OF ANALYSIS

Lab Number: 57392
Sample Id : H8

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst
Total Copper , mg/Kg	18.6	0.50	AG TOTAL METALS	12/04/2017 17:00	BW
Total Zinc , mg/Kg	244	1.00	AG TOTAL METALS	12/04/2017 17:00	BW
Total Cadmium , mg/Kg	2.64	0.20	AG TOTAL METALS	12/04/2017 17:00	BW
Total Chromium , mg/Kg	9.46	0.50	AG TOTAL METALS	12/04/2017 17:00	BW
Total Nickel , mg/Kg	4.32	0.50	AG TOTAL METALS	12/04/2017 17:00	BW
Total Lead , mg/Kg	27.0	0.60	AG TOTAL METALS	12/04/2017 17:00	BW
Total Arsenic , mg/Kg	7.28	1.00	AG TOTAL METALS	12/04/2017 17:00	BW
Total Mercury , mg/Kg	<0.400	0.400	SW-7471B	12/06/2017 16:03	MOS
Total Selenium , mg/Kg	<1.00	1.00	AG TOTAL METALS	12/04/2017 17:00	BW
Total Molybdenum , mg/Kg	<0.50	0.50	AG TOTAL METALS	12/04/2017 17:00	BW

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Submitted By : Kevin Smeltz
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Report Date : 12/13/2017
Date Received : 11/29/2017

REPORT OF ANALYSIS

Date Sampled :

Lab Number: 57391
Sample Id : H7

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst

Method Reference:

USEPA, SW-846, Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods, 3rd Ed. Current Revision
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Report Date : 12/13/2017
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REPORT OF ANALYSIS

Date Sampled :

Lab Number: 57391
Sample Id : H7

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst
Total Copper , mg/Kg	22.9	0.50	AG TOTAL METALS	12/04/2017 17:00	BW
Total Zinc , mg/Kg	236	1.00	AG TOTAL METALS	12/04/2017 17:00	BW
Total Cadmium , mg/Kg	2.66	0.20	AG TOTAL METALS	12/04/2017 17:00	BW
Total Chromium , mg/Kg	10.3	0.50	AG TOTAL METALS	12/04/2017 17:00	BW
Total Nickel , mg/Kg	3.38	0.50	AG TOTAL METALS	12/04/2017 17:00	BW
Total Lead , mg/Kg	25.8	0.60	AG TOTAL METALS	12/04/2017 17:00	BW
Total Arsenic , mg/Kg	7.36	1.00	AG TOTAL METALS	12/04/2017 17:00	BW
Total Mercury , mg/Kg	<0.400	0.400	SW-7471B	12/06/2017 16:01	MOS
Total Selenium , mg/Kg	<1.00	1.00	AG TOTAL METALS	12/04/2017 17:00	BW
Total Molybdenum , mg/Kg	0.65	0.50	AG TOTAL METALS	12/04/2017 17:00	BW

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Submitted By : Kevin Smeltz
Purchase Order :
Report Date : 12/13/2017
Date Received : 11/29/2017

REPORT OF ANALYSIS

Date Sampled :

Lab Number: 57390
Sample Id : H6

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst

Method Reference:

USEPA, SW-846, Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods, 3rd Ed. Current Revision
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Submitted By : Kevin Smeltz
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REPORT OF ANALYSIS

Date Sampled :

Lab Number: 57390
Sample Id : H6

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst
Total Copper , mg/Kg	18.3	0.33	AG TOTAL METALS	12/04/2017 17:00	BW
Total Zinc , mg/Kg	319	0.66	AG TOTAL METALS	12/04/2017 17:00	BW
Total Cadmium , mg/Kg	3.27	0.13	AG TOTAL METALS	12/04/2017 17:00	BW
Total Chromium , mg/Kg	14.5	0.33	AG TOTAL METALS	12/04/2017 17:00	BW
Total Nickel , mg/Kg	3.93	0.33	AG TOTAL METALS	12/04/2017 17:00	BW
Total Lead , mg/Kg	30.8	0.40	AG TOTAL METALS	12/04/2017 17:00	BW
Total Arsenic , mg/Kg	6.80	0.66	AG TOTAL METALS	12/04/2017 17:00	BW
Total Mercury , mg/Kg	<0.400	0.400	SW-7471B	12/06/2017 15:51	MOS
Total Selenium , mg/Kg	<0.66	0.66	AG TOTAL METALS	12/04/2017 17:00	BW
Total Molybdenum , mg/Kg	0.36	0.33	AG TOTAL METALS	12/04/2017 17:00	BW

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Submitted By : Kevin Smeltz
Purchase Order :
Report Date : 12/13/2017
Date Received : 11/29/2017

REPORT OF ANALYSIS

Date Sampled :

Lab Number: 57389
Sample Id : H5

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst

Method Reference:

USEPA, SW-846, Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods, 3rd Ed. Current Revision
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REPORT OF ANALYSIS

Date Sampled :

Lab Number: 57389
Sample Id : H5

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst
Total Copper , mg/Kg	18.4	0.33	AG TOTAL METALS	12/04/2017 17:00	BW
Total Zinc , mg/Kg	272	0.66	AG TOTAL METALS	12/04/2017 17:00	BW
Total Cadmium , mg/Kg	2.66	0.13	AG TOTAL METALS	12/04/2017 17:00	BW
Total Chromium , mg/Kg	13.0	0.33	AG TOTAL METALS	12/04/2017 17:00	BW
Total Nickel , mg/Kg	5.48	0.33	AG TOTAL METALS	12/04/2017 17:00	BW
Total Lead , mg/Kg	27.3	0.40	AG TOTAL METALS	12/04/2017 17:00	BW
Total Arsenic , mg/Kg	6.64	0.66	AG TOTAL METALS	12/04/2017 17:00	BW
Total Mercury , mg/Kg	<0.400	0.400	SW-7471B	12/06/2017 15:44	MOS
Total Selenium , mg/Kg	<0.66	0.66	AG TOTAL METALS	12/04/2017 17:00	BW
Total Molybdenum , mg/Kg	<0.33	0.33	AG TOTAL METALS	12/04/2017 17:00	BW

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Report Number
17-333-0220 **Page:** 6 of 76

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Purchase Order :
Report Date : 12/13/2017
Date Received : 11/29/2017

REPORT OF ANALYSIS

Date Sampled :

Lab Number: 57388
Sample Id : H4

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst

Method Reference:

USEPA, SW-846, Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods, 3rd Ed. Current Revision
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Report Number
17-333-0220 **Page:** 5 of 76

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REPORT OF ANALYSIS

Lab Number: 57388
Sample Id : H4

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst
Total Copper , mg/Kg	19.4	0.50	AG TOTAL METALS	12/04/2017 17:00	BW
Total Zinc , mg/Kg	231	1.00	AG TOTAL METALS	12/04/2017 17:00	BW
Total Cadmium , mg/Kg	2.39	0.20	AG TOTAL METALS	12/04/2017 17:00	BW
Total Chromium , mg/Kg	13.0	0.50	AG TOTAL METALS	12/04/2017 17:00	BW
Total Nickel , mg/Kg	4.20	0.50	AG TOTAL METALS	12/04/2017 17:00	BW
Total Lead , mg/Kg	24.4	0.60	AG TOTAL METALS	12/04/2017 17:00	BW
Total Arsenic , mg/Kg	6.58	1.00	AG TOTAL METALS	12/04/2017 17:00	BW
Total Mercury , mg/Kg	<0.400	0.400	SW-7471B	12/06/2017 15:42	MOS
Total Selenium , mg/Kg	<1.00	1.00	AG TOTAL METALS	12/04/2017 17:00	BW
Total Molybdenum , mg/Kg	<0.50	0.50	AG TOTAL METALS	12/04/2017 17:00	BW

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Report Number
17-333-0220 **Page:** 4 of 76

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Submitted By : Kevin Smeltz
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Date Received : 11/29/2017

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REPORT OF ANALYSIS

Lab Number: 57387
Sample Id : H3

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst

Method Reference:

USEPA, SW-846, Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods, 3rd Ed. Current Revision
USEPA, SW-846, Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods, 3rd Ed. Current Revision

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Report Number
17-333-0220 Page: 3 of 76

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REPORT OF ANALYSIS

Date Sampled :

Lab Number: 57387
Sample Id : H3

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst
Total Copper , mg/Kg	35.0	0.33	AG TOTAL METALS	12/04/2017 17:00	BW
Total Zinc , mg/Kg	276	0.66	AG TOTAL METALS	12/04/2017 17:00	BW
Total Cadmium , mg/Kg	2.92	0.13	AG TOTAL METALS	12/04/2017 17:00	BW
Total Chromium , mg/Kg	13.3	0.33	AG TOTAL METALS	12/04/2017 17:00	BW
Total Nickel , mg/Kg	13.2	0.33	AG TOTAL METALS	12/04/2017 17:00	BW
Total Lead , mg/Kg	38.9	0.40	AG TOTAL METALS	12/04/2017 17:00	BW
Total Arsenic , mg/Kg	8.74	0.66	AG TOTAL METALS	12/04/2017 17:00	BW
Total Mercury , mg/Kg	<0.400	0.400	SW-7471B	12/06/2017 15:39	MOS
Total Selenium , mg/Kg	<0.66	0.66	AG TOTAL METALS	12/04/2017 17:00	BW
Total Molybdenum , mg/Kg	<0.33	0.33	AG TOTAL METALS	12/04/2017 17:00	BW

Pauric McGroary

Pauric McGroary

Report Number
17-333-0220 **Page:** 2 of 76

Account Number
52154

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Whiteford , MD 21160

Project : Cunfer/CB-4

7621 Whitepine Road, Richmond, VA 23237
Main 804-743-9401 ° Fax 804-271-6446
www.waypointanalytical.com

Submitted By : Kevin Smeltz
Purchase Order :
Report Date : 12/13/2017
Date Received : 11/29/2017

Date Sampled :

REPORT OF ANALYSIS

Lab Number: 57386
Sample Id : H1&2

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst

Method Reference:

USEPA, SW-846, Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods, 3rd Ed. Current Revision
USEPA, SW-846, Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods, 3rd Ed. Current Revision

Comments:

Pauric McGroary

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Report Number
17-333-0220 **Page:** 1 of 76

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Submitted By : Kevin Smeltz
Purchase Order :
Report Date : 12/13/2017
Date Received : 11/29/2017

Date Sampled :

REPORT OF ANALYSIS

Lab Number: 57386
Sample Id : H1&2

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst
Total Copper , mg/Kg	37.6	0.50	AG TOTAL METALS	12/04/2017 17:00	BW
Total Zinc , mg/Kg	332	1.00	AG TOTAL METALS	12/04/2017 17:00	BW
Total Cadmium , mg/Kg	3.20	0.20	AG TOTAL METALS	12/04/2017 17:00	BW
Total Chromium , mg/Kg	13.0	0.50	AG TOTAL METALS	12/04/2017 17:00	BW
Total Nickel , mg/Kg	11.3	0.50	AG TOTAL METALS	12/04/2017 17:00	BW
Total Lead , mg/Kg	37.5	0.60	AG TOTAL METALS	12/04/2017 17:00	BW
Total Arsenic , mg/Kg	9.04	1.00	AG TOTAL METALS	12/04/2017 17:00	BW
Total Mercury , mg/Kg	<0.400	0.400	SW-7471B	12/06/2017 15:37	MOS
Total Selenium , mg/Kg	<1.00	1.00	AG TOTAL METALS	12/04/2017 17:00	BW
Total Molybdenum , mg/Kg	<0.50	0.50	AG TOTAL METALS	12/04/2017 17:00	BW

Pauric McGroary

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Grower: Cunfer

Farm ID/Name: CB-4

SOIL ANALYSIS REPORT

Analytical Method(s): Mehlich 3 SMP Buffer pH Loss On Ignition Water pH

Date Received: 11/29/2017 **Date Of Analysis:** 11/30/2017 **Date Of Report:** 11/30/2017

Sample ID / Field ID	Lab Number	OM % Rate	W/V Soil Class	ENR lbs/A	Phosphorus M3 ppm Rate	Phosphorus ppm Rate	Phosphorus ppm Rate	Potassium K ppm Rate	Magnesium Mg ppm Rate	Calcium Ca ppm Rate	Sodium Na ppm Rate	pH Soil pH	pH Buffer Index	Acidity H meq/100g	C.E.C meq/100g
F19	06349	3.0 M		103	19 L MD = 23			62 L MD = 38	88 M MD = 70	633 M MD = 53	25 L	6.1	6.86	0.7	4.9
F20	06350	3.5 M		113	42 M MD = 48			97 M MD = 61	138 H MD = 108	561 M MD = 44	24 VL	5.9	6.84	0.9	5.2
F21	06351	3.7 M		115	35 M MD = 40			116 M MD = 73	122 H MD = 95	642 M MD = 54	22 VL	5.4	6.75	1.8	6.4

Sample ID / Field ID	Percent Base Saturation K %	Mg %	Ca %	Na %	H %	Nitrate NO_3N ppm Rate	Sulfur S ppm Rate	Zinc Zn ppm Rate	Manganese Mn ppm Rate	Iron Fe ppm Rate	Copper Cu ppm Rate	Boron B ppm Rate	Soluble Salts SS ms/cm Rate		
F19	3.2	15.0	64.6	2.3	14.3		7 VL	30.9 VH	21 H	81 VH	1.2 M	0.3 VL			
F20	4.8	22.1	53.9	2.0	17.3		6 VL	27.9 VH	25 H	123 VH	1.2 M	0.3 VL			
F21	4.6	15.9	50.2	1.5	28.1		9 VL	48.6 VH	25 H	90 VH	2.2 H	0.4 L			

Values on this report represent the plant available nutrients in the soil. Rating after each value: VL (Very Low), L (Low), M (Medium), H (High), VH (Very High). ENR - Estimated Nitrogen Release. C.E.C. - Cation Exchange Capacity.

Explanation of symbols: % (percent), ppm (parts per million), lbs/A (pounds per acre), ms/cm (milli-mhos per centimeter), meq/100g (milli-equivalent per 100 grams). Conversions: ppm x 2 = lbs/A, Soluble Salts ms/cm x 640 = ppm.

This report applies to sample(s) tested. Samples are retained a maximum of thirty days after testing.

Analysis prepared by: Waypoint Analytical Virginia, Inc.

by: Pauric McGroary

Pauric McGroary

Report Number: 17-333-0691
Account Number: 52154

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Whiteford MD 21160

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Grower: Cunfer

Farm ID/Name: CB-4

SOIL ANALYSIS REPORT

Analytical Method(s): Mehlich 3 SMP Buffer pH Loss On Ignition Water pH

Date Received: 11/29/2017 **Date Of Analysis:** 11/30/2017 **Date Of Report:** 11/30/2017

Sample ID / Field ID	Lab Number	OM % Rate	W/V Soil Class	ENR lbs/A	Phosphorus M3 ppm Rate	Phosphorus ppm Rate	Phosphorus ppm Rate	Potassium K ppm Rate	Magnesium Mg ppm Rate	Calcium Ca ppm Rate	Sodium Na ppm Rate	pH Soil pH	pH Buffer Index	Acidity H meq/100g	C.E.C meq/100g
F14B	06344	3.1 M		104	15 L MD = 19			36 VL MD = 21	80 M MD = 64	955 H MD = 94	22 VL	6.9		0.1	5.7
F15	06345	3.8 M		119	28 L MD = 33			113 VH MD = 71	83 M MD = 66	507 M MD = 37	29 L	5.5	6.80	1.3	4.9
F16	06346	3.7 M		115	20 L MD = 24			62 L MD = 38	154 H MD = 120	914 H MD = 89	27 VL	6.7		0.3	6.4
F17	06347	4.1 M		124	73 H MD = 82			80 L MD = 50	96 M MD = 76	729 M MD = 65	23 VL	5.8	6.82	1.1	5.9
F18	06348	3.4 M		109	13 VL MD = 17			56 L MD = 34	135 H MD = 105	918 H MD = 89	28 VL	6.9		0.1	6.1

Sample ID / Field ID	Percent Base Saturation K %	Mg %	Ca %	Na %	H %	Nitrate NO_3-N ppm Rate	Sulfur S ppm Rate	Zinc Zn ppm Rate	Manganese Mn ppm Rate	Iron Fe ppm Rate	Copper Cu ppm Rate	Boron B ppm Rate	Soluble Salts SS ms/cm Rate		
F14B	1.6	11.7	83.6	1.7	1.8		3 VL	32.4 VH	26 H	119 VH	2.7 H	0.4 L			
F15	5.9	14.1	51.7	2.6	26.5		9 VL	77.3 VH	37 H	109 VH	2.4 H	0.3 VL			
F16	2.5	20.1	71.4	1.8	4.7		11 L	55.6 VH	39 H	97 VH	3.0 H	0.5 L			
F17	3.5	13.6	61.8	1.7	18.6		3 VL	58.2 VH	35 H	128 VH	2.6 H	0.4 L			
F18	2.4	18.4	75.2	2.0	1.6		8 VL	37.0 VH	27 H	85 VH	1.3 M	0.4 L			

Values on this report represent the plant available nutrients in the soil. Rating after each value: VL (Very Low), L (Low), M (Medium), H (High), VH (Very High). ENR - Estimated Nitrogen Release. C.E.C. - Cation Exchange Capacity.

Explanation of symbols: % (percent), ppm (parts per million), lbs/A (pounds per acre), ms/cm (milli-mhos per centimeter), meq/100g (milli-equivalent per 100 grams). Conversions: ppm x 2 = lbs/A, Soluble Salts ms/cm x 640 = ppm.

This report applies to sample(s) tested. Samples are retained a maximum of thirty days after testing.

Analysis prepared by: Waypoint Analytical Virginia, Inc.

by: Pauric McGroary

Pauric McGroary

Report Number: 17-333-0691
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Grower: Cunfer

Farm ID/Name: CB-4

SOIL ANALYSIS REPORT

Analytical Method(s): Mehlich 3 SMP Buffer pH Loss On Ignition Water pH

Date Received: 11/29/2017 **Date Of Analysis:** 11/30/2017 **Date Of Report:** 11/30/2017

Sample ID / Field ID	Lab Number	OM % Rate	W/V Soil Class	ENR lbs/A	Phosphorus M3 ppm Rate	Phosphorus ppm Rate	Phosphorus ppm Rate	Potassium K ppm Rate	Magnesium Mg ppm Rate	Calcium Ca ppm Rate	Sodium Na ppm Rate	pH Soil pH	pH Buffer Index	Acidity H meq/100g	C.E.C meq/100g
F10	06338	4.4 M		130	32 M MD = 37			50 VL MD = 31	141 H MD = 110	767 M MD = 70	31 L	6.6		0.3	5.6
F11	06339	3.8 M		121	48 M MD = 55			118 VH MD = 75	66 H MD = 53	345 L MD = 17	30 L	5.5	6.84	0.9	3.6
F12	06340	4.1 M		125	61 H MD = 69			56 L MD = 34	110 H MD = 86	576 M MD = 46	25 L	5.8	6.83	1.0	5.0
F13	06341	3.7 M		117	68 H MD = 76			46 L MD = 28	128 H MD = 100	564 M MD = 44	22 VL	5.9	6.85	0.8	4.9
F14A	06342	3.5 M		110	27 L MD = 32			72 L MD = 45	154 H MD = 120	1066 H MD = 106	28 VL	6.9		0.1	7.0

Sample ID / Field ID	Percent Base Saturation K %	Mg %	Ca %	Na %	H %	Nitrate NO_3N ppm Rate	Sulfur S ppm Rate	Zinc Zn ppm Rate	Manganese Mn ppm Rate	Iron Fe ppm Rate	Copper Cu ppm Rate	Boron B ppm Rate	Soluble Salts SS ms/cm Rate
F10	2.3	21.0	68.5	2.4	5.4		8 VL	51.4 VH	21 H	98 VH	3.1 VH	0.4 L	
F11	8.4	15.3	47.9	3.6	25.0		8 VL	35.4 VH	14 M	94 VH	1.7 H	0.2 VL	
F12	2.9	18.3	57.6	2.2	20.0		15 L	43.4 VH	20 M	135 VH	1.6 H	0.4 L	
F13	2.4	21.8	57.6	2.0	16.3		7 VL	59.6 VH	15 M	124 VH	5.3 VH	0.4 L	
F14A	2.6	18.3	76.1	1.7	1.4		5 VL	62.3 VH	28 H	108 VH	3.7 VH	0.6 M	

Values on this report represent the plant available nutrients in the soil. Rating after each value: VL (Very Low), L (Low), M (Medium), H (High), VH (Very High). ENR - Estimated Nitrogen Release. C.E.C. - Cation Exchange Capacity.

Explanation of symbols: % (percent), ppm (parts per million), lbs/A (pounds per acre), ms/cm (milli-mhos per centimeter), meq/100g (milli-equivalent per 100 grams). Conversions: ppm x 2 = lbs/A, Soluble Salts ms/cm x 640 = ppm.

This report applies to sample(s) tested. Samples are retained a maximum of thirty days after testing.

Analysis prepared by: Waypoint Analytical Virginia, Inc.

by: Pauric McGroary

Pauric McGroary

Report Number: 17-333-0691
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Grower: Cunfer

Farm ID/Name: CB-4

SOIL ANALYSIS REPORT

Analytical Method(s): Mehlich 3 SMP Buffer pH Loss On Ignition Water pH

Date Received: 11/29/2017 **Date Of Analysis:** 11/30/2017 **Date Of Report:** 11/30/2017

Sample ID / Field ID	Lab Number	OM	W/V	ENR	Phosphorus			Potassium	Magnesium	Calcium	Sodium	pH		Acidity	C.E.C
		% Rate	Soil Class	lbs/A	M3 ppm Rate	ppm Rate	ppm Rate	K ppm Rate	Mg ppm Rate	Ca ppm Rate	Na ppm Rate	Soil pH	Buffer Index	H meq/100g	meq/100g
F6	06333	3.2 M		107	19 L MD = 23			43 L MD = 26	136 H MD = 106	601 M MD = 49	22 VL	6.3		0.5	4.8
F7	06334	3.1 M		105	16 L MD = 20			29 VL MD = 17	81 M MD = 49	746 H MD = 67	25 L	6.3		0.5	4.9
F7A	06335	5.4 H		148	78 H MD = 67			184 VH MD = 117	147 H MD = 114	820 M MD = 77	24 VL	6.2		0.8	6.7
F8	06336	4.3 M		122	52 H MD = 59			51 VL MD = 31	100 L MD = 79	1741 VH MD = 193	21 VL	7.5		0.0	9.8
F9	06337	4.6 M		131	47 M MD = 54			45 VL MD = 27	63 L MD = 51	1333 VH MD = 141	33 VL	6.8		0.2	7.6

Sample ID / Field ID	Percent Base Saturation					Nitrate	Sulfur	Zinc	Manganese	Iron	Copper	Boron	Soluble Salts		
	K %	Mg %	Ca %	Na %	H %	NO_3 N ppm Rate	S ppm Rate	Zn ppm Rate	Mn ppm Rate	Fe ppm Rate	Cu ppm Rate	B ppm Rate	SS ms/cm Rate		
F6	2.3	23.6	62.6	2.0	10.4		5 VL	36.8 VH	31 H	74 VH	1.6 H	0.3 VL			
F7	1.5	10.4	76.1	2.2	10.2		2 VL	28.7 VH	20 M	94 VH	1.3 M	0.3 VL			
F7A	7.0	18.3	61.2	1.6	11.9		9 VL	51.3 VH	47 H	119 VH	3.3 VH	0.4 L			
F8	1.3	8.5	88.8	0.9	0.0		3 VL	27.0 VH	34 H	99 VH	3.3 VH	0.4 L			
F9	1.5	6.9	87.7	1.9	2.6		7 VL	41.9 VH	33 H	109 VH	2.8 H	0.4 L			

Values on this report represent the plant available nutrients in the soil. Rating after each value: VL (Very Low), L (Low), M (Medium), H (High). VH (Very High). ENR - Estimated Nitrogen Release. C.E.C. - Cation Exchange Capacity.

Explanation of symbols: % (percent), ppm (parts per million), lbs/A (pounds per acre), ms/cm (milli-mhos per centimeter), meq/100g (milli-equivalent per 100 grams). Conversions: ppm x 2 = lbs/A, Soluble Salts ms/cm x 640 = ppm.

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by: Pauric McGroary

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SOIL ANALYSIS REPORT

Analytical Method(s): Mehlich 3 SMP Buffer pH Loss On Ignition Water pH

Date Received: 11/29/2017 **Date Of Analysis:** 11/30/2017 **Date Of Report:** 11/30/2017

Sample ID / Field ID	Lab Number	OM % Rate	W/V Soil Class	ENR lbs/A	Phosphorus M3 ppm Rate	Phosphorus ppm Rate	Phosphorus ppm Rate	Potassium K ppm Rate	Magnesium Mg ppm Rate	Calcium Ca ppm Rate	Sodium Na ppm Rate	pH Soil pH	pH Buffer Index	Acidity H meq/100g	C.E.C meq/100g
F1	06327	4.1 M		122	30 L MD = 35			58 L MD = 36	63 L MD = 51	1297 VH MD = 137	25 VL	7.4		0.0	7.3
F2	06328	3.8 M		117	64 H MD = 72			143 H MD = 91	58 L MD = 47	758 M MD = 69	27 VL	5.6	6.79	1.4	6.2
F3	06329	3.5 M		114	36 M MD = 42			49 L MD = 30	49 M MD = 40	530 M MD = 40	23 L	5.9	6.86	0.7	4.0
F4	06330	2.8 M		99	12 VL MD = 16			33 VL MD = 20	56 L MD = 45	891 VH MD = 86	21 VL	7.0		0.0	5.1
F5	06331	3.1 M		102	19 L MD = 23			40 VL MD = 24	69 M MD = 70	1148 VH MD = 118	24 VL	7.3		0.0	6.7

Sample ID / Field ID	Percent Base Saturation K %	Mg %	Ca %	Na %	H %	Nitrate NO_3 N ppm Rate	Sulfur S ppm Rate	Zinc Zn ppm Rate	Manganese Mn ppm Rate	Iron Fe ppm Rate	Copper Cu ppm Rate	Boron B ppm Rate	Soluble Salts SS ms/cm Rate
F1	2.0	7.2	88.8	1.5	0.0		2 VL	29.5 VH	26 H	79 VH	2.2 H	0.4 L	
F2	5.9	7.8	61.1	1.9	22.6		11 L	57.3 VH	41 H	102 VH	2.0 H	0.3 VL	
F3	3.1	10.2	66.3	2.5	17.5		9 VL	59.1 VH	30 H	86 VH	2.0 H	0.3 VL	
F4	1.7	9.2	87.4	1.8	0.0		7 VL	31.5 VH	39 H	95 VH	2.5 H	0.4 L	
F5	1.5	11.1	85.7	1.6	0.0		2 VL	36.3 VH	45 H	74 VH	2.0 H	0.4 L	

Values on this report represent the plant available nutrients in the soil. Rating after each value: VL (Very Low), L (Low), M (Medium), H (High), VH (Very High). ENR - Estimated Nitrogen Release. C.E.C. - Cation Exchange Capacity.

Explanation of symbols: % (percent), ppm (parts per million), lbs/A (pounds per acre), ms/cm (milli-mhos per centimeter), meq/100g (milli-equivalent per 100 grams). Conversions: ppm x 2 = lbs/A, Soluble Salts ms/cm x 640 = ppm.

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by: Pauric McGroary

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Grower: Cunfer

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SOIL ANALYSIS REPORT

Analytical Method(s): Mehlich 3 SMP Buffer pH Loss On Ignition Water pH

Date Received: 11/29/2017 **Date Of Analysis:** 11/30/2017 **Date Of Report:** 11/30/2017

Sample ID / Field ID	Lab Number	OM % / Rate	W/V Soil Class	ENR lbs/A	Phosphorus M3 ppm Rate	Phosphorus ppm Rate	Phosphorus ppm Rate	Potassium K ppm Rate	Magnesium Mg ppm Rate	Calcium Ca ppm Rate	Sodium Na ppm Rate	pH Soil pH	pH Buffer Index	Acidity H meq/100g	C.E.C meq/100g
H17&18	06322	4.0 M		122	40 M MD = 46			174 VH MD = 111	78 M MD = 62	663 M MD = 57	26 VL	5.6	6.79	1.4	5.9
H19	06323	3.7 M		118	51 H MD = 58			123 VH MD = 78	77 M MD = 61	488 M MD = 35	25 L	5.7	6.84	0.9	4.4
Pasture	06324	4.4 M		132	12 VL MD = 16			90 M MD = 56	83 H MD = 66	470 M MD = 33	24 L	6.0	6.87	0.6	4.0
Paddocks	06325	4.7 M		136	69 H MD = 77			110 M MD = 69	124 H MD = 97	651 M MD = 55	27 L	6.1	6.86	0.7	5.4
Gabby's	06326	4.6 M		130	67 H MD = 75			115 M MD = 73	75 L MD = 60	1347 H MD = 143	26 VL	6.7		0.4	8.2

Sample ID / Field ID	Percent Base Saturation K %	Mg %	Ca %	Na %	H %	Nitrate NO_3N ppm Rate	Sulfur S ppm Rate	Zinc Zn ppm Rate	Manganese Mn ppm Rate	Iron Fe ppm Rate	Copper Cu ppm Rate	Boron B ppm Rate	Soluble Salts SS ms/cm Rate		
H17&18	7.6	11.0	56.2	1.9	23.7		11 L	119.3 VH	49 H	99 VH	2.2 H	0.3 VL			
H19	7.2	14.6	55.5	2.5	20.5		8 VL	53.8 VH	44 H	116 VH	3.2 VH	0.3 VL			
Pasture	5.8	17.3	58.8	2.6	15.0		7 VL	49.2 VH	120 VH	149 VH	4.6 VH	0.4 L			
Paddocks	5.2	19.1	60.3	2.2	13.0		12 L	80.9 VH	45 H	107 VH	7.1 VH	0.4 L			
Gabby's	3.6	7.6	82.1	1.4	4.9		10 L	52.3 VH	23 H	115 VH	2.8 H	0.5 L			

Values on this report represent the plant available nutrients in the soil. Rating after each value: VL (Very Low), L (Low), M (Medium), H (High), VH (Very High). ENR - Estimated Nitrogen Release. C.E.C. - Cation Exchange Capacity.

Explanation of symbols: % (percent), ppm (parts per million), lbs/A (pounds per acre), ms/cm (milli-mhos per centimeter), meq/100g (milli-equivalent per 100 grams). Conversions: ppm x 2 = lbs/A, Soluble Salts ms/cm x 640 = ppm.

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Grower: Cunfer

Farm ID/Name: CB-4

SOIL ANALYSIS REPORT

Analytical Method(s): Mehlich 3 SMP Buffer pH Loss On Ignition Water pH

Date Received: 11/29/2017 **Date Of Analysis:** 11/30/2017 **Date Of Report:** 11/30/2017

Sample ID / Field ID	Lab Number	OM % / Rate	W/V Soil Class	ENR lbs/A	Phosphorus M3 ppm / Rate	Phosphorus ppm / Rate	Phosphorus ppm / Rate	Potassium K ppm / Rate	Magnesium Mg ppm / Rate	Calcium Ca ppm / Rate	Sodium Na ppm / Rate	pH Soil pH	pH Buffer Index	Acidity H meq/100g	C.E.C meq/100g
H7	06316	3.1 M		104	15 L MD = 19			48 VL MD = 29	127 H MD = 99	746 M MD = 67	29 L	6.5		0.4	5.4
H8	06317	2.5 L		93	28 L MD = 33			130 VH MD = 82	56 L MD = 45	583 M MD = 47	22 VL	5.8	6.84	0.9	4.7
H9&10	06318	4.1 M		125	46 M MD = 52			133 VH MD = 84	54 L MD = 44	449 L MD = 30	25 L	5.2	6.77	1.6	4.7
H11&12	06319	4.5 M		132	22 L MD = 26			57 L MD = 35	67 M MD = 54	677 M MD = 59	22 VL	5.6	6.80	1.3	5.5
H13&16	06320	4.0 M		121	22 L MD = 26			65 L MD = 40	103 M MD = 81	905 H MD = 87	20 VL	6.3		0.7	6.3

Sample ID / Field ID	Percent Base Saturation K %	Mg %	Ca %	Na %	H %	Nitrate NO_3N ppm / Rate	Sulfur S ppm / Rate	Zinc Zn ppm / Rate	Manganese Mn ppm / Rate	Iron Fe ppm / Rate	Copper Cu ppm / Rate	Boron B ppm / Rate	Soluble Salts SS ms/cm / Rate		
H7	2.3	19.6	69.1	2.3	7.4		11 L	64.9 VH	21 H	83 VH	7.3 VH	0.4 L			
H8	7.1	9.9	62.0	2.0	19.1		10 L	85.1 VH	27 H	116 VH	4.7 VH	0.3 VL			
H9&10	7.3	9.6	47.8	2.3	34.0		5 VL	77.6 VH	23 H	103 VH	5.6 VH	0.3 VL			
H11&12	2.7	10.2	61.5	1.7	23.6		8 VL	128.8 VH	46 H	103 VH	3.5 VH	0.4 L			
H13&16	2.6	13.6	71.8	1.4	11.1		8 VL	86.9 VH	68 VH	101 VH	3.1 VH	0.4 L			

Values on this report represent the plant available nutrients in the soil. Rating after each value: VL (Very Low), L (Low), M (Medium), H (High), VH (Very High). ENR - Estimated Nitrogen Release. C.E.C. - Cation Exchange Capacity.

Explanation of symbols: % (percent), ppm (parts per million), lbs/A (pounds per acre), ms/cm (milli-mhos per centimeter), meq/100g (milli-equivalent per 100 grams). Conversions: ppm x 2 = lbs/A, Soluble Salts ms/cm x 640 = ppm.

This report applies to sample(s) tested. Samples are retained a maximum of thirty days after testing.

Analysis prepared by: Waypoint Analytical Virginia, Inc.

by: Pauric McGroary

Pauric McGroary

Report Number: 17-333-0691
Account Number: 52154

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Waypoint ANALYTICAL
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Grower: Cunfer

Farm ID/Name: CB-4

SOIL ANALYSIS REPORT

Analytical Method(s): Mehlich 3 SMP Buffer pH Loss On Ignition Water pH

Date Received: 11/29/2017 **Date Of Analysis:** 11/30/2017 **Date Of Report:** 11/30/2017

Sample ID / Field ID	Lab Number	OM % Rate	W/V Soil Class	ENR lbs/A	Phosphorus M3 ppm Rate	Phosphorus ppm Rate	Phosphorus ppm Rate	Potassium K ppm Rate	Magnesium Mg ppm Rate	Calcium Ca ppm Rate	Sodium Na ppm Rate	pH Soil pH	pH Buffer Index	Acidity H meq/100g	C.E.C meq/100g
H1&2	06311	4.5 M		128	39 M MD = 45			117 M MD = 74	127 M MD = 99	1281 H MD = 135	28 VL	6.5		0.6	8.5
H3	06312	4.3 M		128	31 M MD = 36			88 L MD = 55	72 M MD = 58	577 M MD = 46	28 L	5.3	6.76	1.7	5.5
H4	06313	3.5 M		111	13 VL MD = 17			42 VL MD = 25	70 L MD = 56	979 H MD = 97	22 VL	6.5		0.5	6.2
H5	06314	4.2 M		125	26 L MD = 31			63 L MD = 39	85 M MD = 67	712 M MD = 63	25 VL	5.5	6.77	1.6	6.1
H6	06315	3.9 M		118	8 VL MD = 11			42 VL MD = 25	111 M MD = 87	1113 H MD = 114	25 VL	6.5		0.5	7.2

Sample ID / Field ID	Percent Base Saturation K %	Mg %	Ca %	Na %	H %	Nitrate NO_3N ppm Rate	Sulfur S ppm Rate	Zinc Zn ppm Rate	Manganese Mn ppm Rate	Iron Fe ppm Rate	Copper Cu ppm Rate	Boron B ppm Rate	Soluble Salts SS ms/cm Rate		
H1&2	3.5	12.5	75.4	1.4	7.1		5 VL	82.9 VH	44 H	119 VH	9.6 VH	0.5 L			
H3	4.1	10.9	52.5	2.2	30.9		12 L	83.1 VH	33 H	104 VH	10.6 VH	0.3 VL			
H4	1.7	9.4	79.0	1.5	8.1		3 VL	70.0 VH	54 VH	90 VH	6.7 VH	0.4 L			
H5	2.6	11.6	58.4	1.8	26.2		11 L	86.5 VH	45 H	104 VH	4.9 VH	0.4 L			
H6	1.5	12.8	77.3	1.5	6.9		7 VL	83.3 VH	66 VH	89 VH	4.8 VH	0.5 L			

Values on this report represent the plant available nutrients in the soil. Rating after each value: VL (Very Low), L (Low), M (Medium), H (High), VH (Very High). ENR - Estimated Nitrogen Release. C.E.C. - Cation Exchange Capacity.

Explanation of symbols: % (percent), ppm (parts per million), lbs/A (pounds per acre), ms/cm (milli-mhos per centimeter), meq/100g (milli-equivalent per 100 grams). Conversions: ppm x 2 = lbs/A, Soluble Salts ms/cm x 640 = ppm.

This report applies to sample(s) tested. Samples are retained a maximum of thirty days after testing.

Analysis prepared by: Waypoint Analytical Virginia, Inc.

by: Pauric McGroary

Pauric McGroary

Farm: Cunfer

Field	Acres	Crop	Rate (lbs of N/ac)	Field Capacity (lbs of N)
P1	8	Corn	180	1440
		Soybeans	160	1280
		Wheat/Barley	80	640
		Oats/Rye	88	704
		Orchardgrass	200	1600
		Alfalfa	250	2000
P2	3.7	Corn	180	666
		Soybeans	160	592
		Wheat/Barley	80	296
		Oats/Rye	88	325
		Orchardgrass	200	740
		Alfalfa	250	925

Farm: Cunfer

Field	Acres	Crop	Rate (lbs of N/ac)	Field Capacity (lbs of N)
H13	6	Corn	180	1080
		Soybeans	160	960
		Wheat/Barley	80	480
		Oats/Rye	88	528
		Orchardgrass	200	1200
		Alfalfa	250	1500
H17	0.2	Corn	180	36
		Soybeans	160	32
		Wheat/Barley	80	16
		Oats/Rye	88	17
		Orchardgrass	200	40
		Alfalfa	250	50
H19	0.8	Corn	180	144
		Soybeans	160	128
		Wheat/Barley	80	64
		Oats/Rye	88	70
		Orchardgrass	200	160
		Alfalfa	250	200

Farm: Cunfer

Field	Acres	Crop	Rate (lbs of N/ac)	Field Capacity (lbs of N)
H9	1.9	Corn	180	342
		Soybeans	160	304
		Wheat/Barley	80	152
		Oats/Rye	88	167
		Orchardgrass	200	380
		Alfalfa	250	475
H10	4.9	Corn	180	882
		Soybeans	160	784
		Wheat/Barley	80	392
		Oats/Rye	88	431
		Orchardgrass	200	980
		Alfalfa	250	1225
H11	2.2	Corn	180	396
		Soybeans	160	352
		Wheat/Barley	80	176
		Oats/Rye	88	193
		Orchardgrass	200	440
		Alfalfa	250	550

Farm: Cunfer

Field	Acres	Crop	Rate (lbs of N/ac)	Field Capacity (lbs of N)
H6	5	Corn	180	900
		Soybeans	160	800
		Wheat/Barley	80	400
		Oats/Rye	88	440
		Orchardgrass	200	1000
		Alfalfa	250	1250
H7	3.4	Corn	180	612
		Soybeans	160	544
		Wheat/Barley	80	272
		Oats/Rye	88	299
		Orchardgrass	200	680
		Alfalfa	250	850
H8	1.2	Corn	180	216
		Soybeans	160	192
		Wheat/Barley	80	96
		Oats/Rye	88	105
		Orchardgrass	200	240
		Alfalfa	250	300

Farm: Cunfer

Field	Acres	Crop	Rate (lbs of N/ac)	Field Capacity (lbs of N)
H3	5.3	Corn	180	954
		Soybeans	160	848
		Wheat/Barley	80	424
		Oats/Rye	88	466
		Orchardgrass	200	1060
		Alfalfa	250	1325
H4	4.3	Corn	180	774
		Soybeans	160	688
		Wheat/Barley	80	344
		Oats/Rye	88	378
		Orchardgrass	200	860
		Alfalfa	250	1075
H5	7	Corn	180	1260
		Soybeans	160	1120
		Wheat/Barley	80	560
		Oats/Rye	88	616
		Orchardgrass	200	1400
		Alfalfa	250	1750

Farm: Cunfer

Field	Acres	Crop	Rate (lbs of N/ac)	Field Capacity (lbs of N)
F21	1.5	Corn	180	270
		Soybeans	160	240
		Wheat/Barley	80	120
		Oats/Rye	88	132
		Orchardgrass	200	300
		Alfalfa	250	375
G	4.4	Corn	180	792
		Soybeans	160	704
		Wheat/Barley	80	352
		Oats/Rye	88	387
		Orchardgrass	200	880
		Alfalfa	250	1100
H1	3.3	Corn	180	594
		Soybeans	160	528
		Wheat/Barley	80	264
		Oats/Rye	88	290
		Orchardgrass	200	660
		Alfalfa	250	825

Farm: Cunfer

Field	Acres	Crop	Rate (lbs of N/ac)	Field Capacity (lbs of N)
F17	2	Corn	180	360
		Soybeans	160	320
		Wheat/Barley	80	160
		Oats/Rye	88	176
		Orchardgrass	200	400
		Alfalfa	250	500
F18	2.9	Corn	180	522
		Soybeans	160	464
		Wheat/Barley	80	232
		Oats/Rye	88	255
		Orchardgrass	200	580
		Alfalfa	250	725
F19	3.4	Corn	180	612
		Soybeans	160	544
		Wheat/Barley	80	272
		Oats/Rye	88	299
		Orchardgrass	200	680
		Alfalfa	250	850

Farm: Cunfer

Field	Acres	Crop	Rate (lbs of N/ac)	Field Capacity (lbs of N)
F14B	1.8	Corn	180	324
		Soybeans	160	288
		Wheat/Barley	80	144
		Oats/Rye	88	158
		Orchardgrass	200	360
		Alfalfa	250	450
F15	3.8	Corn	180	684
		Soybeans	160	608
		Wheat/Barley	80	304
		Oats/Rye	88	334
		Orchardgrass	200	760
		Alfalfa	250	950
F16	1.8	Corn	180	324
		Soybeans	160	288
		Wheat/Barley	80	144
		Oats/Rye	88	158
		Orchardgrass	200	360
		Alfalfa	250	450

Farm: Cunfer

Field	Acres	Crop	Rate (lbs of N/ac)	Field Capacity (lbs of N)
F12	2.7	Corn	180	486
		Soybeans	160	432
		Wheat/Barley	80	216
		Oats/Rye	88	237
		Orchardgrass	200	540
		Alfalfa	250	675
F13	2.7	Corn	180	486
		Soybeans	160	432
		Wheat/Barley	80	216
		Oats/Rye	88	237
		Orchardgrass	200	540
		Alfalfa	250	675
F14A	3.3	Corn	180	594
		Soybeans	160	528
		Wheat/Barley	80	264
		Oats/Rye	88	290
		Orchardgrass	200	660
		Alfalfa	250	825

Farm: Cunfer

Field	Acres	Crop	Rate (lbs of N/ac)	Field Capacity (lbs of N)
F7B	0.9	Corn	180	162
		Soybeans	160	144
		Wheat/Barley	80	72
		Oats/Rye	88	79
		Orchardgrass	200	180
		Alfalfa	250	225
F9	4.4	Corn	180	792
		Soybeans	160	704
		Wheat/Barley	80	352
		Oats/Rye	88	387
		Orchardgrass	200	880
		Alfalfa	250	1100
F11	4.4	Corn	180	792
		Soybeans	160	704
		Wheat/Barley	80	352
		Oats/Rye	88	387
		Orchardgrass	200	880
		Alfalfa	250	1100

Farm: Cunfer

Field	Acres	Crop	Rate (lbs of N/ac)	Field Capacity (lbs of N)
F5	8.4	Corn	180	1512
		Soybeans	160	1344
		Wheat/Barley	80	672
		Oats/Rye	88	739
		Orchardgrass	200	1680
		Alfalfa	250	2100
F6	2.1	Corn	180	378
		Soybeans	160	336
		Wheat/Barley	80	168
		Oats/Rye	88	184
		Orchardgrass	200	420
		Alfalfa	250	525
F7A	2	Corn	180	360
		Soybeans	160	320
		Wheat/Barley	80	160
		Oats/Rye	88	176
		Orchardgrass	200	400
		Alfalfa	250	500

SUMMARY OF NUTRIENT MANAGEMENT RECOMMENDATIONS
FARM: Cunfer

DATE: 1st 2018

FIELD	ACRES	CROP	YIELD GOAL T or Bu/A	NUTRIENT/SOIL TEST RECOMMENDATIONS N	P2O5	K2O	ADDITIONAL/ RESIDUAL N CARRY OVER	RESIDUAL N LBS/A (PAN)	CROP REQUIREMENTS LBS/ACRE N	P2O5	K2O
H17	0.2	CORN	180	180			STARTER N		180		
		SOYBEANS	50	160			2004 RMS		160		
		WHEAT/BARLEY	80	80			RESIDUAL N		80		
		OATS/RYE	80	88					88		
		ORCHARDGRASS	4	200			MANURE		200		
		ALFALFA	5	250			LEGUME		250		
H19	0.8	CORN	180	180			STARTER N		180		
		SOYBEANS	50	160			2004 RMS		160		
		WHEAT/BARLEY	80	80			RESIDUAL N		80		
		OATS/RYE	80	88					88		
		ORCHARDGRASS	4	200			MANURE		200		
		ALFALFA	5	250			LEGUME		250		
P1	8.0	CORN	180	180			STARTER N		180		
		SOYBEANS	50	160			2005 RMS		160		
		WHEAT/BARLEY	80	80			RESIDUAL N		80		
		OATS/RYE	80	88					88		
		ORCHARDGRASS	4	200			MANURE		200		
		ALFALFA	5	250			LEGUME		250		
P2	3.7	CORN	180	180			STARTER N		180		
		SOYBEANS	50	160			2005 RMS		160		
		WHEAT/BARLEY	80	80			RESIDUAL N		80		
		OATS/RYE	80	88					88		
		ORCHARDGRASS	4	200			MANURE		200		
		ALFALFA	5	250			LEGUME		250		

SUMMARY OF NUTRIENT MANAGEMENT RECOMMENDATIONS
FARM: Cunfer

DATE: 1st 2018

FIELD	ACRES	CROP	YIELD GOAL	NUTRIENT/SOIL TEST RECOMMENDATIONS			ADDITIONAL/ RESIDUAL N	RESIDUAL N LBS/A	CROP REQUIREMENTS LBS/ACRE		
			T or Bu/A	N	P2O5	K2O	CARRY OVER	(PAN)	N	P2O5	K2O
H4	4.3	CORN	180	180			STARTER N		180		
		SOYBEANS	50	160			2005 RMS		160		
		WHEAT/BARLEY	80	80			RESIDUAL N		80		
		OATS/RYE	80	88					88		
		ORCHARDGRASS	4	200			MANURE		200		
		ALFALFA	5	250			LEGUME		250		
H5	7.0	CORN	180	180			STARTER N		180		
		SOYBEANS	50	160			2004 RMS		160		
		WHEAT/BARLEY	80	80			RESIDUAL N		80		
		OATS/RYE	80	88					88		
		ORCHARDGRASS	4	200			MANURE		200		
		ALFALFA	5	250			LEGUME		250		
H6	5.0	CORN	180	180			STARTER N		180		
		SOYBEANS	50	160			2005 RMS		160		
		WHEAT/BARLEY	80	80			RESIDUAL N		80		
		OATS/RYE	80	88					88		
		ORCHARDGRASS	4	200			MANURE		200		
		ALFALFA	5	250			LEGUME		250		
H7	3.4	CORN	180	180			STARTER N		180		
		SOYBEANS	50	160			2004 RMS		160		
		RAPE	80	80			RESIDUAL N		80		
		OATS/RYE	80	88					88		
		ORCHARDGRASS	4	200			MANURE		200		
		ALFALFA	5	250			LEGUME		250		

SUMMARY OF NUTRIENT MANAGEMENT RECOMMENDATIONS
FARM: Cunfer

DATE: 1st 2018

FIELD	ACRES	CROP	YIELD GOAL	NUTRIENT/SOIL TEST RECOMMENDATIONS			ADDITIONAL/ RESIDUAL N	RESIDUAL N LBS/A	CROP REQUIREMENTS LBS/ACRE		
			T or Bu/A	N	P2O5	K2O	CARRY OVER	(PAN)	N	P2O5	K2O
H8	1.2	CORN	180	180			STARTER N		180		
		SOYBEANS	50	160			2004 RMS		160		
		WHEAT/BARLEY	80	80			RESIDUAL N		80		
		OATS/RYE	80	88					88		
		ORCHARDGRASS	4	200			MANURE		200		
		ALFALFA	5	250			LEGUME		250		
H9	1.9	CORN	180	180			STARTER N		180		
		SOYBEANS	50	160			2004 RMS		160		
		WHEAT/BARLEY	80	80			RESIDUAL N		80		
		OATS/RYE	80	88					88		
		ORCHARDGRASS	4	200			MANURE		200		
		ALFALFA	5	250			LEGUME		250		
H10	4.9	CORN	180	180			STARTER N		180		
		SOYBEANS	50	160			2005 RMS		160		
		WHEAT/BARLEY	80	80			RESIDUAL N		80		
		OATS/RYE	80	88					88		
		ORCHARDGRASS	4	200			MANURE		200		
		ALFALFA	5	250			LEGUME		250		
H11	2.2	CORN	180	180			STARTER N		180		
		SOYBEANS	50	160			2005 RMS		160		
		WHEAT/BARLEY	80	80			RESIDUAL N		80		
		OATS/RYE	80	88					88		
		ORCHARDGRASS	4	200			MANURE		200		
		ALFALFA	5	250			LEGUME		250		
H13	6.0	CORN	180	180			STARTER N		180		
		SOYBEANS	50	160			2004 RMS		160		
		WHEAT/BARLEY	80	80			RESIDUAL N		80		
		OATS/RYE	80	88					88		
		ORCHARDGRASS	4	200			MANURE		200		
		ALFALFA	5	250			LEGUME		250		

SUMMARY OF NUTRIENT MANAGEMENT RECOMMENDATIONS
FARM: Cunfer

DATE: 1st 2018

FIELD	ACRES	CROP	YIELD GOAL T or Bu/A	NUTRIENT/SOIL TEST RECOMMENDATIONS N	P205	K2O	ADDITIONAL/ RESIDUAL N CARRY OVER	RESIDUAL N LBS/A (PAN)	CROP REQUIREMENTS LBS/ACRE N	P2O5	K2O
F14B	1.8	CORN	180	180			STARTER N		180		
		SOYBEANS	50	160			2005 RMS		160		
		WHEAT/BARLEY	80	80			RESIDUAL N		80		
		OATS/RYE	80	88					88		
		ORCHARDGRASS	4	200			MANURE		200		
		ALFALFA	5	250			LEGUME		250		
F15	3.8	CORN	180	180			STARTER N		180		
		SOYBEANS	50	160			2005 RMS		160		
		WHEAT/BARLEY	80	80			RESIDUAL N		80		
		OATS/RYE	80	88					88		
		ORCHARDGRASS	4	200			MANURE		200		
		ALFALFA	5	250			LEGUME		250		
F16	1.8	CORN	180	180			STARTER N		180		
		SOYBEANS	50	160			2005 RMS		160		
		WHEAT/BARLEY	80	80			RESIDUAL N		80		
		OATS/RYE	80	88					88		
		ORCHARDGRASS	4	200			MANURE		200		
		ALFALFA	5	250			LEGUME		250		
F17	2.0	CORN	180	180			STARTER N		180		
		SOYBEANS	50	160			2005 RMS		160		
		WHEAT/BARLEY	80	80			RESIDUAL N		80		
		OATS/RYE	80	88					88		
		ORCHARDGRASS	4	200			MANURE		200		
		ALFALFA	5	250			LEGUME		250		
F18	2.9	CORN	180	180			STARTER N		180		
		SOYBEANS	50	160			2005 RMS		160		
		WHEAT/BARLEY	80	80			RESIDUAL N		80		
		OATS/RYE	80	88					88		
		ORCHARDGRASS	4	200			MANURE		200		
		ALFALFA	5	250			LEGUME		250		

SUMMARY OF NUTRIENT MANAGEMENT RECOMMENDATIONS
FARM: Cunfer

DATE: 1st 2018

FIELD	ACRES	CROP	YIELD GOAL T or Bu/A	NUTRIENT/SOIL TEST RECOMMENDATIONS N	P205	K2O	ADDITIONAL/ RESIDUAL N CARRY OVER	RESIDUAL N LBS/A (PAN)	CROP REQUIREMENTS LBS/ACRE N	P2O5	K2O
F19	3.4	CORN	180	180			STARTER N		180		
		SOYBEANS	50	160			2005 RMS		160		
		WHEAT/BARLEY	80	80			RESIDUAL N		80		
		OATS/RYE	80	88					88		
		ORCHARDGRASS	4	200			MANURE		200		
		ALFALFA	5	250			LEGUME		250		
F21	1.5	CORN	180	180			STARTER N		180		
		SOYBEANS	50	160			2005 RMS		160		
		WHEAT/BARLEY	80	80			RESIDUAL N		80		
		OATS/RYE	80	88					88		
		ORCHARDGRASS	4	200			MANURE		200		
		ALFALFA	5	250			LEGUME		250		
G	4.4	CORN	180	180			STARTER N		180		
		SOYBEANS	50	160			2005 RMS		160		
		WHEAT/BARLEY	80	80			RESIDUAL N		80		
		OATS/RYE	80	88					88		
		ORCHARDGRASS	4	200			MANURE		200		
		ALFALFA	5	250			LEGUME		250		
H1	3.3	CORN	180	180			STARTER N		180		
		SOYBEANS	50	160			2005 RMS		160		
		WHEAT/BARLEY	80	80			RESIDUAL N		80		
		OATS/RYE	80	88					88		
		ORCHARDGRASS	4	200			MANURE		200		
		ALFALFA	5	250			LEGUME		250		
H3	5.3	CORN	180	180			STARTER N		180		
		SOYBEANS	50	160			2004 RMS		160		
		WHEAT/BARLEY	80	80			RESIDUAL N		80		
		OATS/RYE	80	88					88		
		ORCHARDGRASS	4	200			MANURE		200		
		ALFALFA	5	250			LEGUME		250		

SUMMARY OF NUTRIENT MANAGEMENT RECOMMENDATIONS

FARM: Cunfer

DATE: 1st 2018

FIELD	ACRES	CROP	YIELD GOAL T or Bu/A	NUTRIENT/SOIL TEST RECOMMENDATIONS N	P2O5	K2O	ADDITIONAL/ RESIDUAL N CARRY OVER	RESIDUAL N LBS/A (PAN)	CROP REQUIREMENTS LBS/ACRE N	P2O5	K2O
F5	8.4	CORN	180	180			STARTER N		180		
		SOYBEANS	50	160			2016 RMS		160		
		WHEAT/BARLEY	80	80			RESIDUAL N		80		
		OATS/RYE	80	88					88		
		ORCHARDGRASS	4	200			MANURE		200		
		ALFALFA	5	250			LEGUME		250		
F6	2.1	CORN	180	180			STARTER N		180		
		SOYBEANS	50	160			2005 RMS		160		
		WHEAT/BARLEY	80	80			RESIDUAL N		80		
		OATS/RYE	80	88					88		
		ORCHARDGRASS	4	200			MANURE		200		
		ALFALFA	5	250			LEGUME		250		
F7A	2.0	CORN	180	180			STARTER N		180		
		SOYBEANS	50	160			2005 RMS		160		
		WHEAT/BARLEY	80	80			RESIDUAL N		80		
		OATS/RYE	80	88					88		
		ORCHARDGRASS	4	200			MANURE		200		
		ALFALFA	5	250			LEGUME		250		
F7B	0.9	CORN	180	180			STARTER N		180		
		SOYBEANS	50	160			2005 RMS		160		
		WHEAT/BARLEY	80	80			RESIDUAL N		80		
		OATS/RYE	80	88					88		
		ORCHARDGRASS	4	200			MANURE		200		
		ALFALFA	5	250			LEGUME		250		

SUMMARY OF NUTRIENT MANAGEMENT RECOMMENDATIONS

FARM: Cunfer

DATE: 1st 2018

FIELD	ACRES	CROP	YIELD GOAL T or Bu/A	NUTRIENT/SOIL TEST RECOMMENDATIONS N	P2O5	K2O	ADDITIONAL/ RESIDUAL N CARRY OVER	RESIDUAL N LBS/A (PAN)	CROP REQUIREMENTS LBS/ACRE N	P2O5	K2O
F9	4.4	CORN	180	180			STARTER N		180		
		SOYBEANS	50	160			2005 RMS		160		
		WHEAT/BARLEY	80	80			RESIDUAL N		80		
		OATS/RYE	80	88					88		
		ORCHARDGRASS	4	200			MANURE		200		
		ALFALFA	5	250			LEGUME		250		
F11	4.4	CORN	180	180			STARTER N		180		
		SOYBEANS	50	160			2005 RMS		160		
		WHEAT/BARLEY	80	80			RESIDUAL N		80		
		OATS/RYE	80	88					88		
		ORCHARDGRASS	4	200			MANURE		200		
		ALFALFA	5	250			LEGUME		250		
F12	2.7	CORN	180	180			STARTER N		180		
		SOYBEANS	50	160			2005 RMS		160		
		WHEAT/BARLEY	80	80			RESIDUAL N		80		
		OATS/RYE	80	88					88		
		ORCHARDGRASS	4	200			MANURE		200		
		ALFALFA	5	250			LEGUME		250		
F13	2.7	CORN	180	180			STARTER N		180		
		SOYBEANS	50	160			2005 RMS		160		
		WHEAT/BARLEY	80	80			RESIDUAL N		80		
		OATS/RYE	80	88					88		
		ORCHARDGRASS	4	200			MANURE		200		
		ALFALFA	5	250			LEGUME		250		
F14A	3.3	CORN	180	180			STARTER N		180		
		SOYBEANS	50	160			2005 RMS		160		
		WHEAT/BARLEY	80	80			RESIDUAL N		80		
		OATS/RYE	80	88					88		
		ORCHARDGRASS	4	200			MANURE		200		
		ALFALFA	5	250			LEGUME		250		

PHILADELPHIA CAKE	27.29	5.2
PHILADELPHIA PELLET	92.92	30.3
PHOENIXVILLE	23.13	3.6
SOD RUN	17.63	4.6
TOWAMENCIN MUNICIPAL AUTHORITY	27.83	8.3
VFSA	29.89	8.1
YORK	18.25	6.2

SYNAGRO MEMO

Date: Wednesday, December 27, 2017

Project: All Pennsylvania

To: Lauren Miller, Pete Price, Rick Hushon, Bill Cotter, Amy Welker, Ken Reed, Kevin Smeltz, Jennifer Amonica, Jeff Faust and Michelle Thomas

From: Cerese Tripp

SUBJECT: Reporting Averages 1st Quarter 2018

Attached are the new averages per plant to be used during **1st Quarter 2018.** All percent solids values include a .5% buffer. If you have any questions please let me know.

Project	Percent Solid	PAN Lbs/Wet Ton Surface Application Value
ABINGTON	22.63	6.5
ALLENTOWN	20.17	5.1
BALLENGER CREEK	28.80	6.5
BETHLEHEM	21.77	7.9
BONNEAUVILLE LIQUID	2.01	0.8 0.0033 Lbs/Gallon
CICJSA	18.40	3.3
EAST PENNSBORO	21.43	6.3
FREDERICK CITY	20.20	4.5
HAMPDEN TOWNSHIP	25.25	7.2
JOHNSTOWN	51.40	6.7
LANCASTER CITY	24.92	6.8
LEHIGH COUNTY	16.70	4.0
LITTLE PATUXENT CLASS A	41.12	7.0
LITTLE PATUXENT CLASS B	41.15	6.0
LOWER PERKIOMEN	27.18	6.9
MON VALLEY	25.80	4.2
NEW FREEDOM	25.75	5.1
NEW OXFORD	19.10	5.4
PENN TOWNSHIP	41.43	5.3
PENNRIDGE WWTP	24.66	5.0

5. ADDITIONAL INFORMATION

The PNDI environmental review website is a preliminary screening tool. There are often delays in updating species status classifications. Because the proposed status represents the best available information regarding the conservation status of the species, state jurisdictional agency staff give the proposed statuses at least the same consideration as the current legal status. If surveys or further information reveal that a threatened and endangered and/or special concern species and resources exist in your project area, contact the appropriate jurisdictional agency/agencies immediately to identify and resolve any impacts.

For a list of species known to occur in the county where your project is located, please see the species lists by county found on the PA Natural Heritage Program (PNHP) home page (www.naturalheritage.state.pa.us). Also note that the PNDI Environmental Review Tool only contains information about species occurrences that have actually been reported to the PNHP.

6. AGENCY CONTACT INFORMATION

PA Department of Conservation and Natural Resources
Bureau of Forestry, Ecological Services Section
400 Market Street, PO Box 8552
Harrisburg, PA 17105-8552
Email: RA-HeritageReview@pa.gov

U.S. Fish and Wildlife Service
Pennsylvania Field Office
Endangered Species Section
110 Radnor Rd; Suite 101
State College, PA 16801
NO Faxes Please

PA Fish and Boat Commission
Division of Environmental Services
595 E. Rolling Ridge Dr., Bellefonte, PA 16823
Email: RA-FBPACENOTIFY@pa.gov

PA Game Commission
Bureau of Wildlife Habitat Management
Division of Environmental Planning and Habitat Protection
2001 Elmerton Avenue, Harrisburg, PA 17110-9797
Email: RA-PGC_PNDI@pa.gov
NO Faxes Please

7. PROJECT CONTACT INFORMATION

Name: Kevin Smeltz
Company/Business Name: Synagro
Address: 1600 Dooley Rd.
City, State, Zip: Whitehall, MD 21161
Phone: (410) 688-6506 Fax: ( )
Email: Ksmeltz@synagro.com

8. CERTIFICATION

I certify that ALL of the project information contained in this receipt (including project location, project size/configuration, project type, answers to questions) is true, accurate and complete. In addition, if the project type, location, size or configuration changes, or if the answers to any questions that were asked during this online review change, I agree to re-do the online environmental review.

Kevin Smeltz
applicant/project proponent signature

1-15-2018
date

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3. AGENCY COMMENTS

Regardless of whether a DEP permit is necessary for this proposed project, any potential impacts to threatened and endangered species and/or special concern species and resources must be resolved with the appropriate jurisdictional agency. In some cases, a permit or authorization from the jurisdictional agency may be needed if adverse impacts to these species and habitats cannot be avoided.

These agency determinations and responses are **valid for two years** (from the date of the review), and are based on the project information that was provided, including the exact project location; the project type, description, and features; and any responses to questions that were generated during this search. If any of the following change: 1) project location, 2) project size or configuration, 3) project type, or 4) responses to the questions that were asked during the online review, the results of this review are not valid, and the review must be searched again via the PNDI Environmental Review Tool and resubmitted to the jurisdictional agencies. The PNDI tool is a primary screening tool, and a desktop review may reveal more or fewer impacts than what is listed on this PNDI receipt. The jursidictional agencies **strongly advise against** conducting surveys for the species listed on the receipt prior to consultation with the agencies.

PA Game Commission

RESPONSE:

No Impact is anticipated to threatened and endangered species and/or special concern species and resources.

PA Department of Conservation and Natural Resources

RESPONSE:

No Impact is anticipated to threatened and endangered species and/or special concern species and resources.

PA Fish and Boat Commission

RESPONSE:

No Impact is anticipated to threatened and endangered species and/or special concern species and resources.

U.S. Fish and Wildlife Service

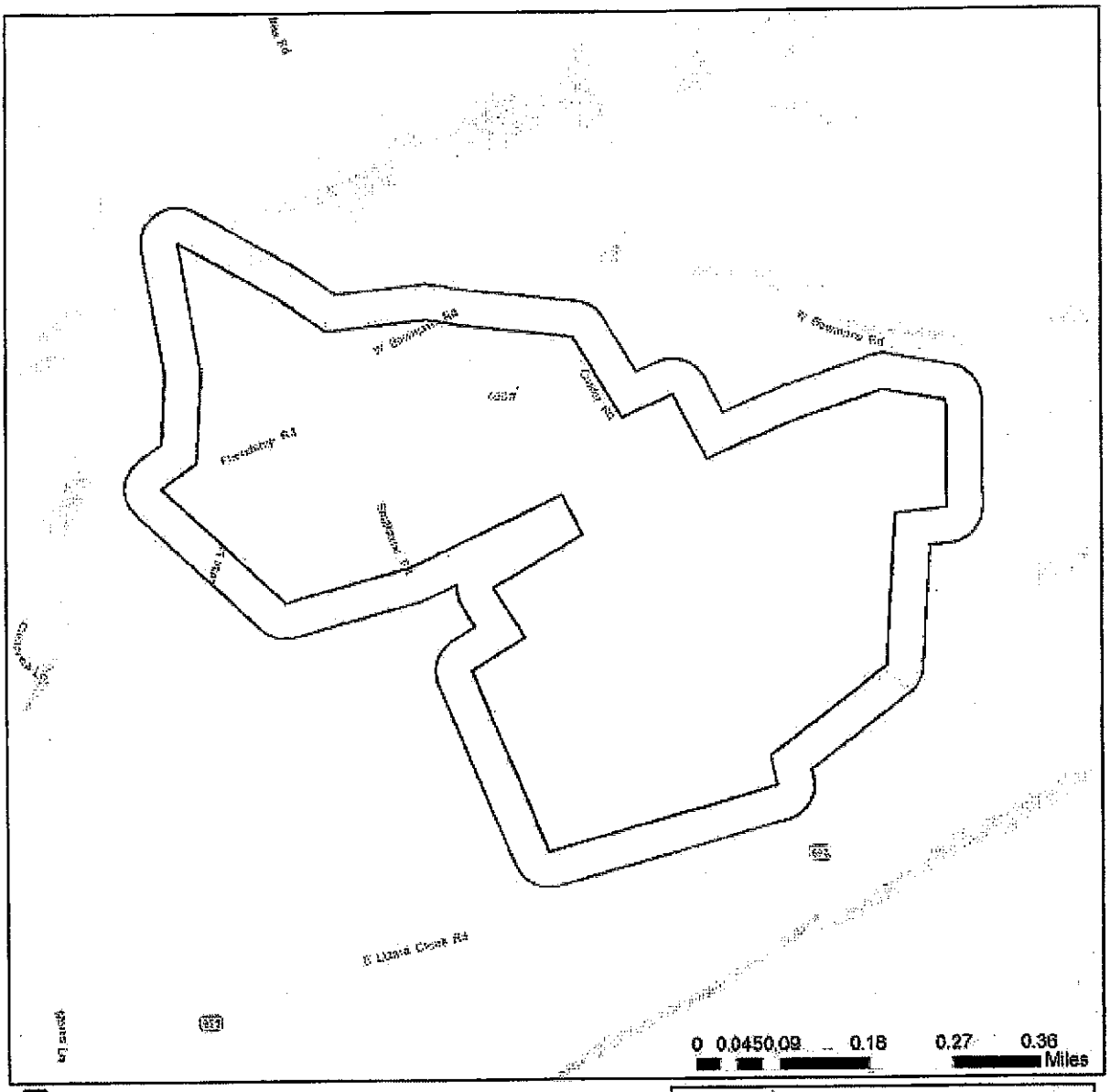
RESPONSE:

No impacts to **federally** listed or proposed species are anticipated. Therefore, no further consultation/coordination under the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq. is required. Because no take of federally listed species is anticipated, none is authorized. This response does not reflect potential Fish and Wildlife Service concerns under the Fish and Wildlife Coordination Act or other authorities.

4. DEP INFORMATION

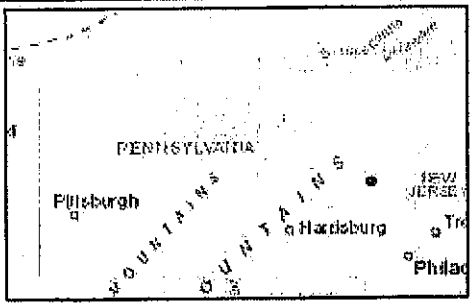
The Pa Department of Environmental Protection (DEP) requires that a signed copy of this receipt, along with any required documentation from jurisdictional agencies concerning resolution of potential impacts, be submitted with applications for permits requiring PNDI review. Two review options are available to permit applicants for handling PNDI coordination in conjunction with DEP's permit review process involving either T&E Species or species of special concern. Under sequential review, the permit applicant performs a PNDI screening and completes all coordination with the appropriate jurisdictional agencies prior to submitting the permit application. The applicant will include with its application, both a PNDI receipt and/or a clearance letter from the jurisdictional agency if the PNDI Receipt shows a Potential Impact to a species or the applicant chooses to obtain letters directly from the jurisdictional agencies. Under concurrent review, DEP, where feasible, will allow technical review of the permit to occur concurrently with the T&E species consultation with the jurisdictional agency. The applicant must still supply a copy of the PNDI Receipt with its permit application. The PNDI Receipt should also be submitted to the appropriate agency according to directions on the PNDI Receipt. The applicant and the jurisdictional agency will work together to resolve the potential impact(s). See the DEP PNDI policy at https://conservationexplorer.dcnr.pa.gov/content/resources.

Cunfer



☐ Project Boundary

☐ Buffered Project Boundary

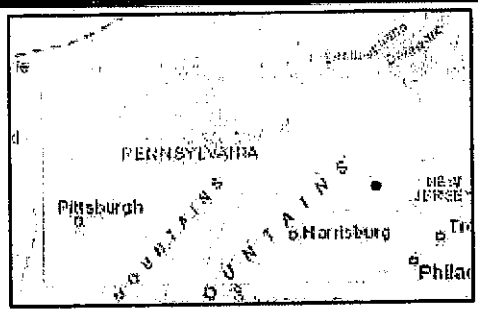


Service Layer Credits: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

Cunfer

☐ Project Boundary

☐ Buffered Project Boundary



Service Layer Credits: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community
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1. PROJECT INFORMATION

Project Name: **Cunfer**
Date of Review: **1/10/2018 11:01:16 AM**
Project Category: **Agriculture/Farming, Application of biosolids**
Project Area: **165.66 acres**
County(s): **Carbon**
Township/Municipality(s): **EAST PENN**
ZIP Code: **18235**
Quadrangle Name(s): **LEHIGHTON**
Watersheds HUC 8: **Lehigh**
Watersheds HUC 12: **Fireline Creek-Lehigh River; Lizard Creek**
Decimal Degrees: **40.792733, -75.693556**
Degrees Minutes Seconds: **40° 47' 33.8396" N, 75° 41' 36.8007" W**

2. SEARCH RESULTS

Agency	Results	Response
PA Game Commission	No Known Impact	No Further Review Required
PA Department of Conservation and Natural Resources	No Known Impact	No Further Review Required
PA Fish and Boat Commission	No Known Impact	No Further Review Required
U.S. Fish and Wildlife Service	No Known Impact	No Further Review Required

As summarized above, Pennsylvania Natural Diversity Inventory (PNDI) records indicate no known impacts to threatened and endangered species and/or special concern species and resources within the project area. Therefore, based on the information you provided, no further coordination is required with the jurisdictional agencies. This response does not reflect potential agency concerns regarding impacts to other ecological resources, such as wetlands.

Manure Analysis 5 Year Running Average						
Manure Average for Crop Years. 2017	Spring Applied Cattle Manure					
	Average	1 year ago	2 years ago	3 years ago	4 years ago	5 years ago
Manure Report Date	Sep 17 2015	Sep 17 2015				
Laboratory Name	Spectrum Analytic	Spectrum Analytic				
Manure Type	Other	Other				
Manure Unit (lbs/ton or 1000 gal)	lb/ton	lb/ton				
Total Nitrogen (N) (lbs/ton or 1000 gal)	9.80	9.80				
Ammonium N (NH_4-N) (lbs/ton or 1000 gal)	2.80	2.80				
Total Organic N (lbs/ton or 1000 gal)	7	7				
Total Phosphate (P_2O_5) (lbs/ton or 1000 gal)	7.80	7.80				
Total Potash (K_2O) (lbs/ton or 1000 gal)	11.40	11.40				
Percent Solids	25.40	25.40				
PSC Value (Enter analytical or book value)	0.65	0.65				

Manure Average for Crop Years. 2017	Fall Applied Cattle Manure					
	Average	1 year ago	2 years ago	3 years ago	4 years ago	5 years ago
Manure Report Date	Sep 17 2015	Sep 17 2015				
Laboratory Name	Spectrum Analytic	Spectrum Analytic				
Manure Type	Other	Other				
Manure Unit (lbs/ton or 1000 gal)	lb/ton	lb/ton				
Total Nitrogen (N) (lbs/ton or 1000 gal)	9.80	9.80				
Ammonium N (NH_4-N) (lbs/ton or 1000 gal)	2.80	2.80				
Total Organic N (lbs/ton or 1000 gal)	7	7				
Total Phosphate (P_2O_5) (lbs/ton or 1000 gal)	7.80	7.80				
Total Potash (K_2O) (lbs/ton or 1000 gal)	11.40	11.40				
Percent Solids	25.40	25.40				
PSC Value (Enter analytical or book value)	0.65	0.65				

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Manure Storage Capacity Calculations

Storage Facility Identification: Existing rectangular storage

V = l * w * h

where l = length of storage 173.5

w = width of storage 60

h = height of storage 6 *

V = 62,460 ft^3

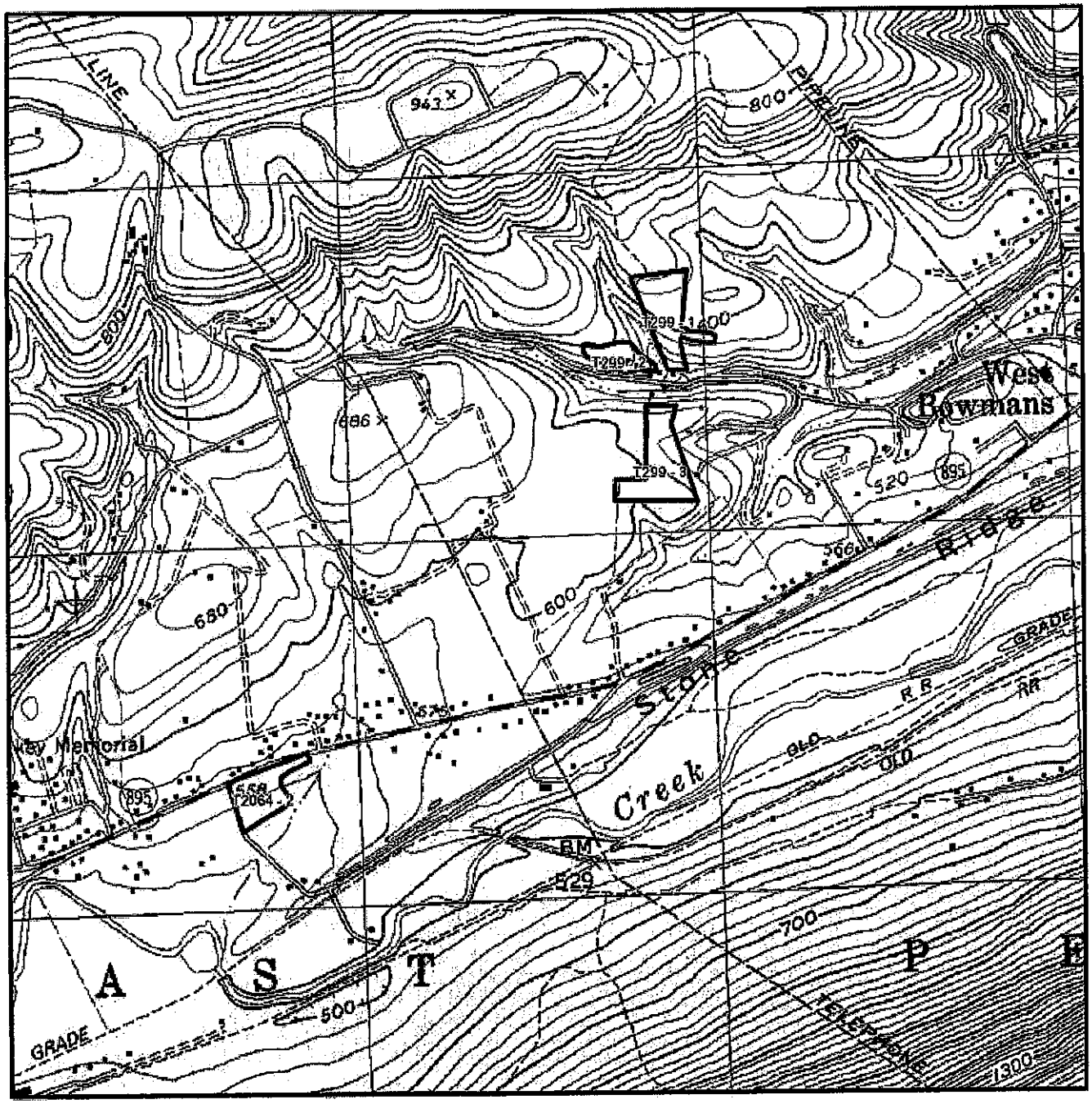
V = 1,874 tons

Useable Capacity	1,874 gallons

Supporting Information & Documentation

Includes if applicable the Rainfall Additions Worksheet, Winter Application Matrix, Residual N Calculation Worksheet and other supplemental worksheets included in the NMP Spreadsheet. Attach information and documentation necessary to support plan content not included elsewhere in the NMP Spreadsheet or appendices. Examples include, but are not limited to, documentation of animal weights if Agronomy Facts 54 is not used, bedding calculations, or calculations for irrigation rates.

Justin Cunfer - Tract 299 & Tract 2064



* 1302.0 feet per inch

0 651 1302 1953 2604 feet

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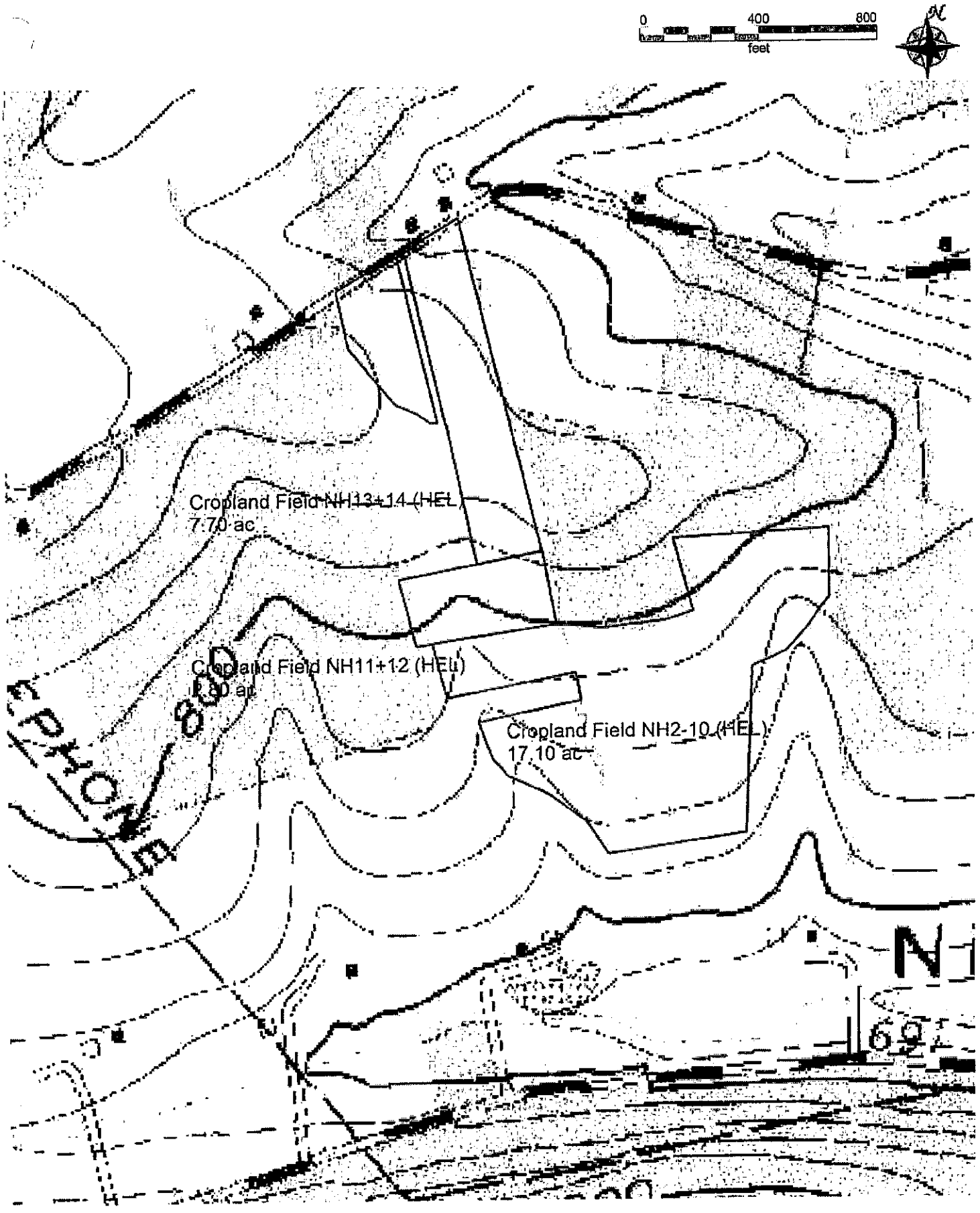
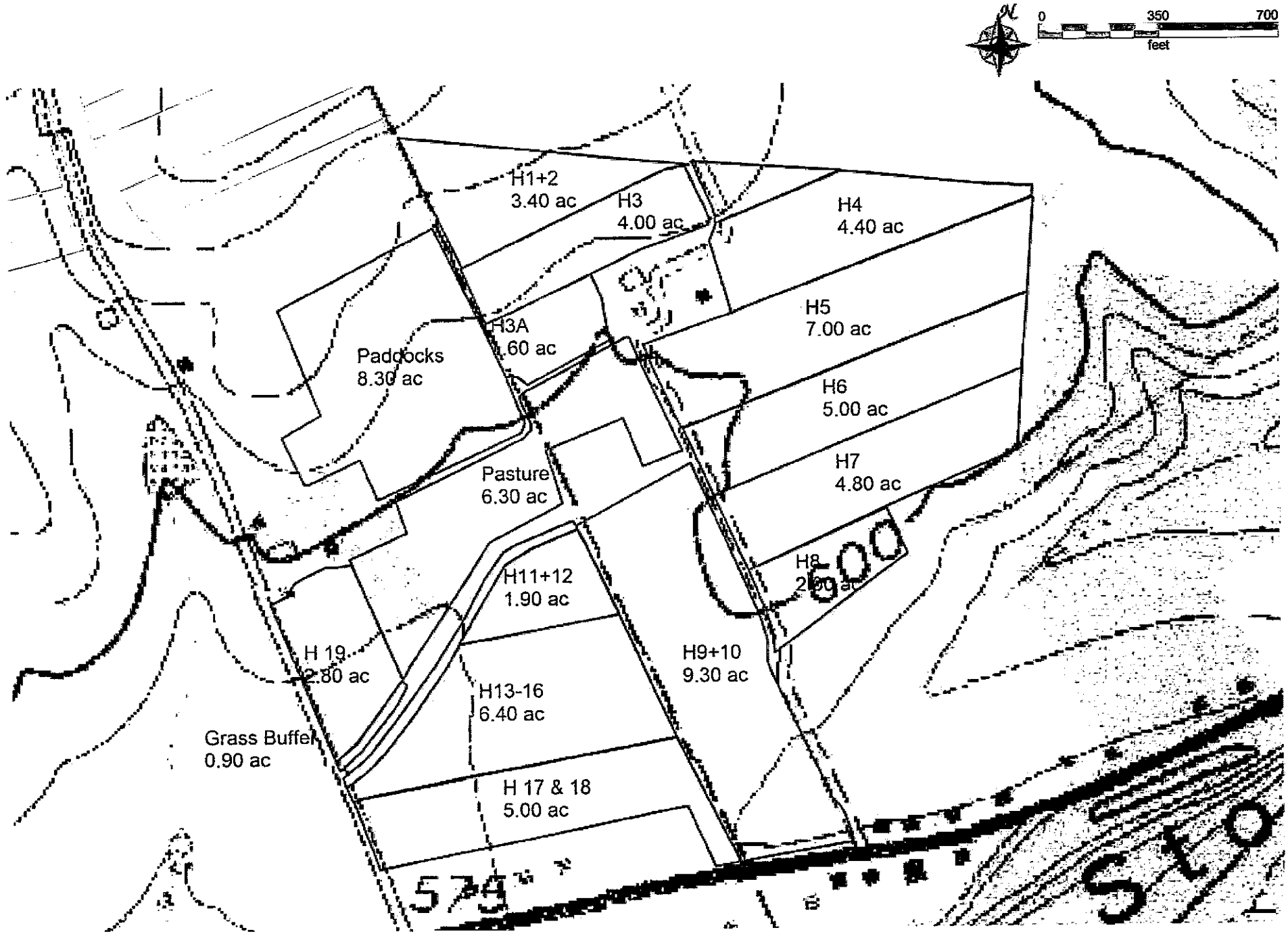
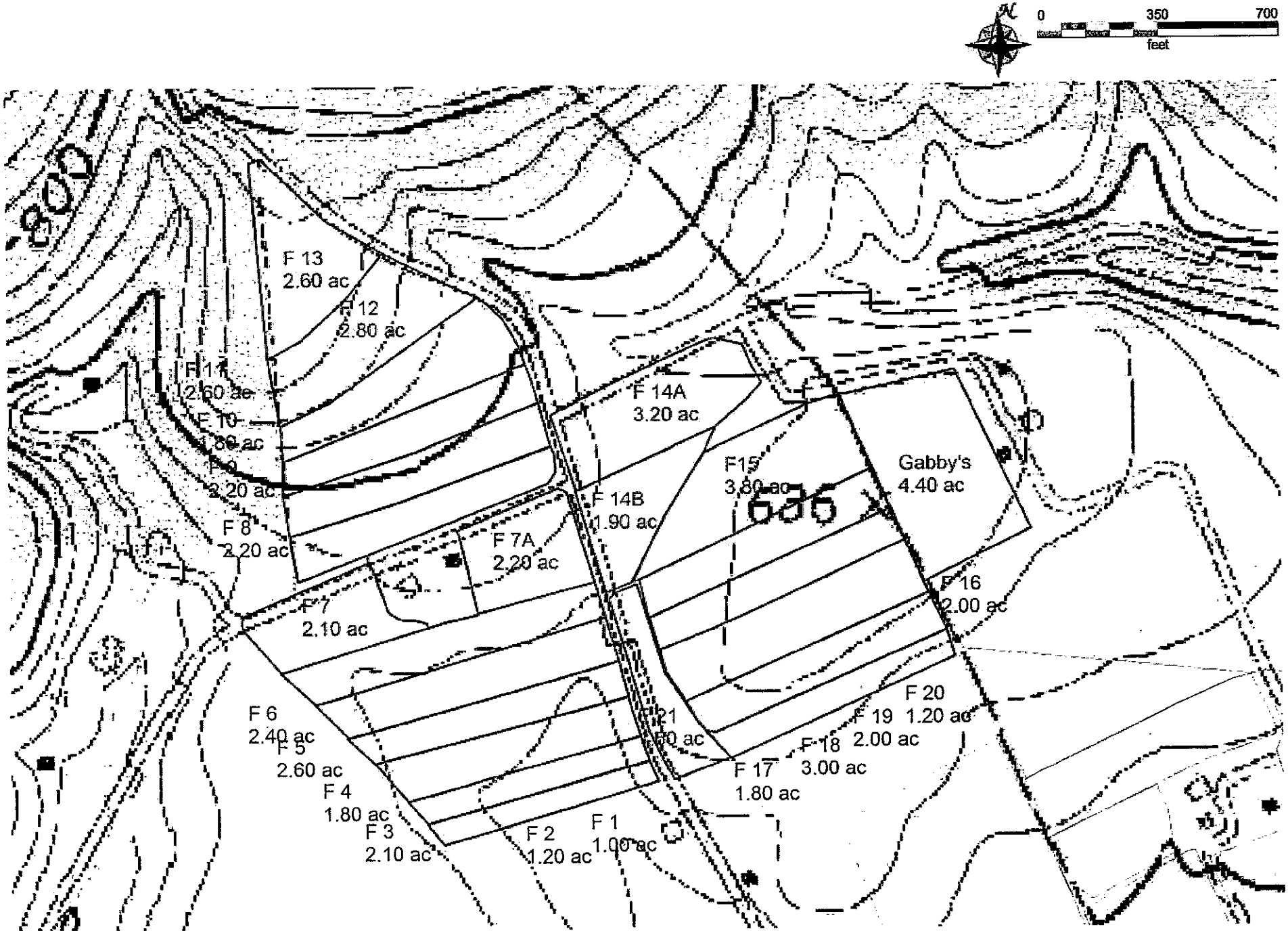
Nices' Hollow



Home Farm


N
0
350
700
feet
H1+2
3.40 ac
H3
4.00 ac
H4
4.40 ac
H5
7.00 ac
H3A
.60 ac
Paddocks
8.30 ac
H6
5.00 ac
H7
4.80 ac
Pasture
6.30 ac
H8
2.09 ac
H11+12
1.90 ac
H 19
2.80 ac
H9+10
9.30 ac
H13-16
6.40 ac
Grass Buffer
0.90 ac
H 17 & 18
5.00 ac
529
600
570

Frank' lace


N
0
350
700
feet
F 13
2.60 ac
F 12
2.80 ac
F 11
2.60 ac
F 10
1.80 ac
F 9
2.20 ac
F 8
2.20 ac
F 7
2.10 ac
F 7A
2.20 ac
F 14A
3.20 ac
F 14B
1.90 ac
F15
3.80 ac
Gabby's
4.40 ac
F 16
2.00 ac
F 20
F 19 1.20 ac
F 18 2.00 ac
F 17 3.00 ac
1.80 ac
F 6
2.40 ac
F 5
2.60 ac
F 4
1.80 ac
F 3
2.10 ac
F 2
1.20 ac
F 1
1.00 ac

Map Unit Legend

Carbon County, Pennsylvania (PA025)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
CmB2	Comly silt loam, 3 to 8 percent slopes, moderately eroded	11.5	39.0%
HaB2	Hartleton channery silt loam, 3 to 8 percent slopes, moderately eroded	5.8	19.6%
ShB2	Shelmadine silt loam, 3 to 8 percent slopes, moderately eroded	12.2	41.5%
Totals for Area of Interest		29.4	100.0%

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

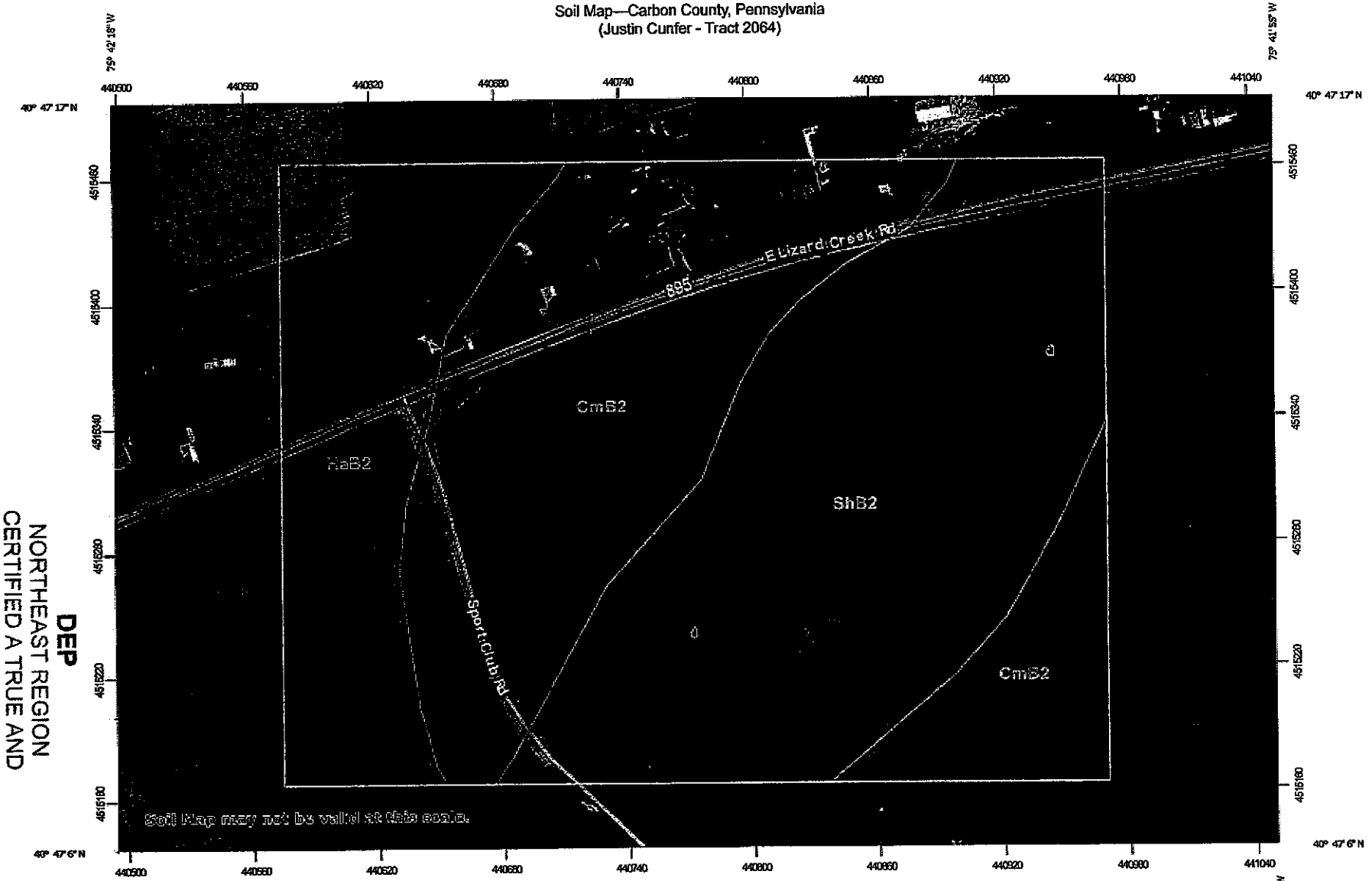
Soil Survey Area: Carbon County, Pennsylvania
Survey Area Data: Version 14, Sep 19, 2016

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 20, 2011—May 10, 2011

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Soil Map—Carbon County, Pennsylvania
(Justin Cunfer - Tract 2064)



Map Scale: 1:2,540 if printed on A landscape (11" x 8.5") sheet.

N

0 35 70 140 Meters

0 100 200 400 600 Feet

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

USDA Natural Resources Conservation Service

Web Soil Survey
National Cooperative Soil Survey

6/29/2017
Page 1 of 3

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Map Unit Legend

Carbon County, Pennsylvania (PA025)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
AdA	Allenwood gravelly loam and silt loam, 0 to 3 percent slopes	0.9	1.9%
HaB2	Hartleton channery silt loam, 3 to 8 percent slopes, moderately eroded	6.3	13.1%
HaC3	Hartleton channery silt loam, 8 to 15 percent slopes, severely eroded	1.8	3.8%
Hy	Holly silt loam	2.2	4.7%
Mn	Mine dumps, coal	0.3	0.6%
MoB2	Montevallo channery silt loam, 3 to 8 percent slopes, moderately eroded	7.6	15.9%
MoC2	Montevallo channery silt loam, 8 to 15 percent slopes, moderately eroded	13.4	28.0%
MoD2	Montevallo channery silt loam, 15 to 25 percent slopes, moderately eroded	8.1	17.1%
MoE2	Montevallo channery silt loam, 25 to 35 percent slopes, moderately eroded	7.1	14.9%
Totals for Area of Interest		**47.7**	**100.0%**

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

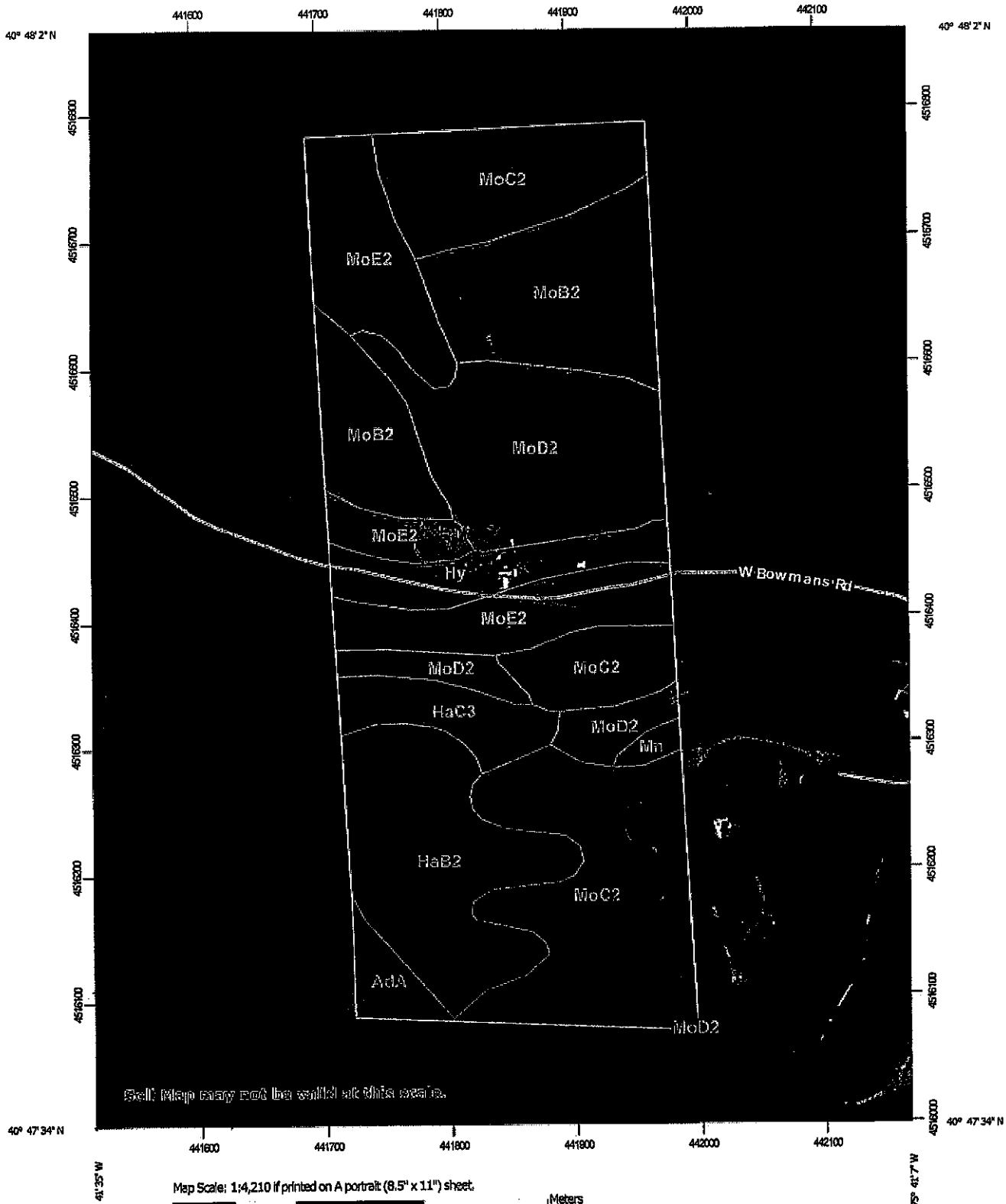
Soil Survey Area: Carbon County, Pennsylvania
Survey Area Data: Version 14, Sep 19, 2016

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 20, 2011—May 10, 2011

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Soil Map—Carbon County, Pennsylvania
(Justin Cunfer - Tract 299)



Map Scale: 1:4,210 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 200 400 800 1200

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

USDA **Natural Resources Conservation Service**

Web Soil Survey
National Cooperative Soil Survey

Map Unit Legend

Carbon County, Pennsylvania (PA025)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
HaC2	Hartleton channery silt loam, 8 to 15 percent slopes, moderately eroded	0.2	0.3%
HaD3	Hartleton channery silt loam, 15 to 25 percent slopes, severely eroded	0.0	0.0%
Hy	Holly silt loam	3.3	5.2%
KcB2	Klinesville channery silt loam, 3 to 8 percent slopes, moderately eroded	13.7	21.8%
KcC2	Klinesville channery silt loam, 8 to 15 percent slopes, moderately eroded	1.2	1.9%
KcC3	Klinesville channery silt loam, 8 to 15 percent slopes, severely eroded	24.3	38.8%
KcD2	Klinesville channery silt loam, 15 to 25 percent slopes, moderately eroded	2.5	4.0%
KcD3	Klinesville channery silt loam, 15 to 25 percent slopes, severely eroded	3.8	6.1%
KcE3	Klinesville channery silt loam, 25 to 35 percent slopes, severely eroded	0.9	1.4%
MdB	Middlebury silt loam, 3 to 8 percent slopes	5.4	8.6%
MoB2	Montevallo channery silt loam, 3 to 8 percent slopes, moderately eroded	1.2	1.9%
MoC2	Montevallo channery silt loam, 8 to 15 percent slopes, moderately eroded	3.9	6.2%
MoD2	Montevallo channery silt loam, 15 to 25 percent slopes, moderately eroded	0.8	1.2%
W	Water	0.7	1.2%
WsA	Watson silt loam, 0 to 3 percent slopes	0.8	1.3%
Totals for Area of Interest		**62.7**	**100.0%**

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

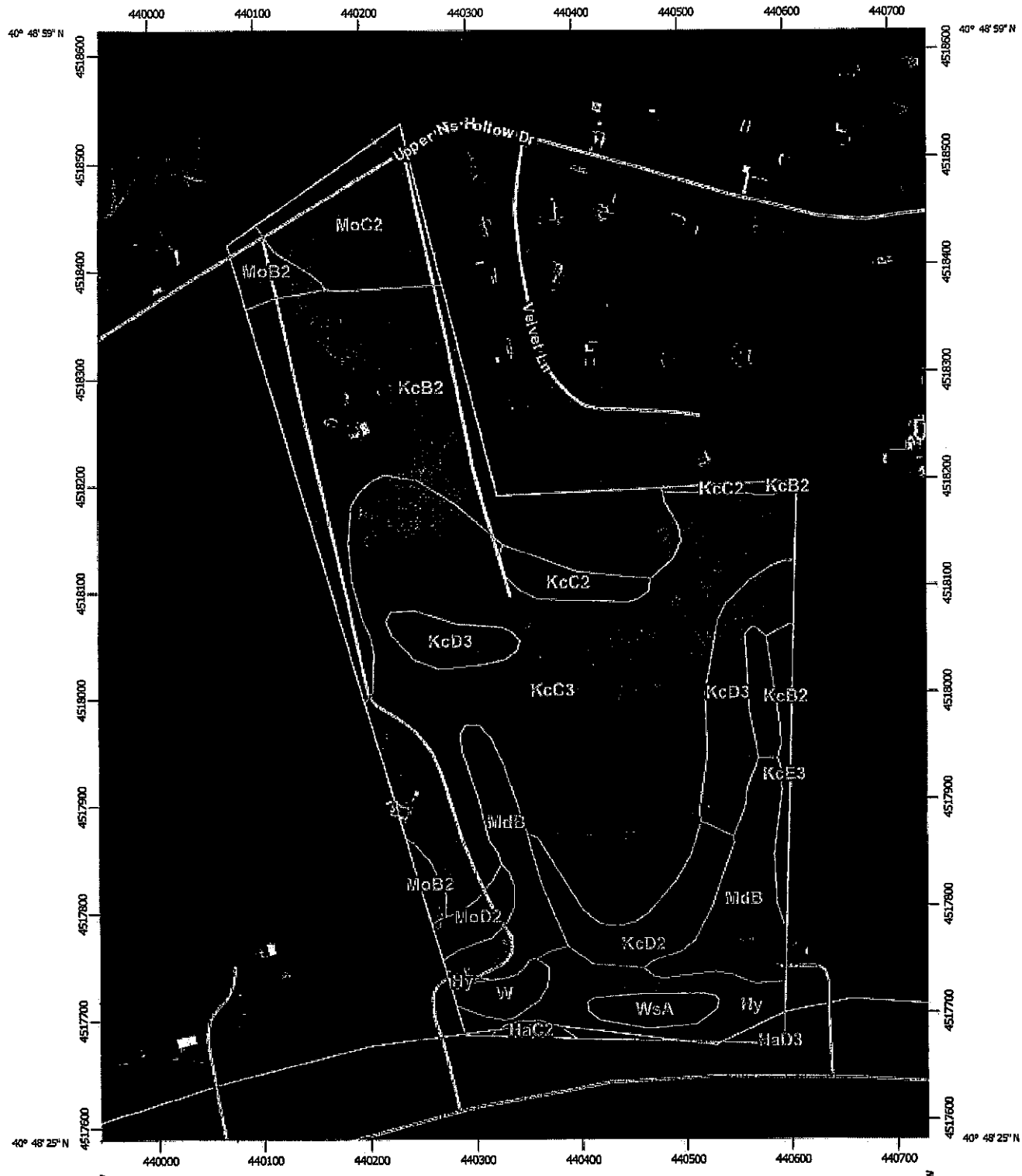
Soil Survey Area: Carbon County, Pennsylvania
Survey Area Data: Version 11, Sep 15, 2014

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 20, 2011—May 10, 2011

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Soil Map—Carbon County, Pennsylvania
(Nices' Hollow)



Map Scale: 1:5,040 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 200 400 800 1200

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

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Map Unit Legend

Carbon County, Pennsylvania (PA025)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
AdA	Allenwood gravelly loam and silt loam, 0 to 3 percent slopes	10.7	4.9%
AdB2	Allenwood gravelly loam and silt loam, 3 to 8 percent slopes, moderately eroded	1.2	0.5%
CmA	Comly silt loam, 0 to 3 percent slopes	31.3	14.3%
CmB2	Comly silt loam, 3 to 8 percent slopes, moderately eroded	4.5	2.1%
HaA	Hartleton channery silt loam, 0 to 3 percent slopes	9.8	4.5%
HaB2	Hartleton channery silt loam, 3 to 8 percent slopes, moderately eroded	83.6	38.3%
HaC2	Hartleton channery silt loam, 8 to 15 percent slopes, moderately eroded	10.1	4.6%
HaC3	Hartleton channery silt loam, 8 to 15 percent slopes, severely eroded	5.1	2.3%
HaD2	Hartleton channery silt loam, 15 to 25 percent slopes, moderately eroded	0.8	0.4%
Hy	Holly silt loam	6.3	2.9%
MoB2	Montevallo channery silt loam, 3 to 8 percent slopes, moderately eroded	5.0	2.3%
MoC2	Montevallo channery silt loam, 8 to 15 percent slopes, moderately eroded	21.2	9.7%
MoD2	Montevallo channery silt loam, 15 to 25 percent slopes, moderately eroded	5.4	2.5%
MoE2	Montevallo channery silt loam, 25 to 35 percent slopes, moderately eroded	8.3	3.8%
ShA	Shelmadine silt loam, 0 to 3 percent slopes	0.4	0.2%
ShB2	Shelmadine silt loam, 3 to 8 percent slopes, moderately eroded	14.6	6.7%
VeF	Very stony land, 25 to 120 percent slopes	0.0	0.0%
W	Water	0.1	0.0%
Totals for Area of Interest		218.6	100.0%

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Carbon County, Pennsylvania
Survey Area Data: Version 11, Sep 15, 2014

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 19, 2011—Jul 1, 2011

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Appendix 9

Operation Maps

Three types of maps are required for a CNMP 590 Nutrient Management Plan: 1) Topographic Map, 2) Soils Map, and 3) Operator Management Map. The **Topographic Map and Soils Map** must be included here. The Topographic map must be drawn to scale and identify the land included in the plan with operation boundaries. The Soils Map must include the field identification and boundaries, soil types and slopes with soil legend. Adding P Index lines can be helpful on the Topographic or Soils map but are not required. The Operator Management Map must be included in the Nutrient Management Plan Summary.

Appendix 8

Importer/Broker Agreements & NBSs

Nutrient Balance Sheets are not required for importers that have an approved Nutrient Management Plan.

Appendix 7

Stormwater Control

Date of Site Evaluation: 6-29-16

Statement Documenting Areas Evaluated During Site Evaluation

All cropland areas were evaluated during soil testing

Identification of Critical Runoff Problem Areas

Home Farm - Not enough protection of surface water (intermittent stream) flowing from pasture to Smithlane Road

Frank's Farm - gullies present in field F1-F6

Nice's Hollow - no critical runoff problem areas

BMPs to Address Critical Runoff Problem Areas

Home Farm - install hayland buffer along the creek (standard 512)

Franks Farm - implement 340 cover crop and install diversion & grassed waterway (362, 412)

Nice's Hollow - None

Appendix 6

Manure Management

Date of Site Evaluation: 6-29-16

Statement Documenting Areas Evaluated During Site Evaluation

The following areas were evaluated:

Existing Cattle Barns (Barn 1 & Barn 2), Pasture & Paddocks ACA

Identification of Inadequate Manure Management Practices and Conditions

Barn 1 & Barn 2 - no evidence of inadequate manure management practices

Pasture & Paddocks ACAs - Both areas show signs of overuse. Manure accumulation and erosion were noted. No vegetation present

BMPs to Address Manure Management Problem Areas

Barn 1 & Barn 2 - No practices are recommended

Pasture & Paddock ACA - Install a Heavy Use Area Protection / Waste Storage Facility to eliminate the need for winter confinement of the beef cow herd in these 2 areas. Both areas shall be reseeded and utilized as pasture. Runoff from the proposed concrete heavy use area protection (561) will be directed to an underground storage tank, which will then be irrigated to a vegetated treatment area (635). A roofed heavy use area protection may be installed to eliminate the need for the vegetated treatment area and collection storage tank. See I&E for details.

Currently winter spreading is practiced, a manure storage stacking pad is proposed to reduce the need for applying manure during winter months.

Appendix 5 - P Index

Crop Yrs. 2019

Pennsylvania P Index Version 2	Pasture	H11+12	H13to16+19
P Index Rating: Values	No	No	No
Low: 59 or less	No	No	No
Medium: 60 to 79	80	46	46
High: 80 to 99	Yes	Yes	Yes
Very High: 100 or greater	No	No	No
PART B: SOURCE FACTORS SOIL TEST	80	46	46
	16	9	9
FERTILIZER P APPLIED REGARDLESS OF MANURE (Starter or other)	0, 0	0	0
P INDEX APPLICATION METHOD OF FERTILIZER P APPLIED REGARGLESS OF MANURE[3]	-, -	-	-
SUPPLEMENTAL P FERTILIZER	0, 0	0	0
P INDEX APPLICATION METHOD OF SUPPLEMENTAL P FERTILIZER[3]	-, -	-	-
	0	0	0
MANURE P RATE	83, 15	0	0
MANURE APPLICATION METHOD[3]	0.6, 0.6	-	-
P SOURCE COEFFICIENT[3]	0.8, 0.8	-	-
	47	0	0
	63	9	9
PART B: TRANSPORT FACTORS EROSION	0.1	1.5	1.5
RUNOFF POTENTIAL	8	4	4
SUBSURFACE DRAINAGE	0	0	0
CONTRIBUTING DISTANCE	6	6	6
	14	12	12
MODIFIED CONNECTIVITY	1.0	1.0	1.0
[1] OR rapidly permeable soil near a stream	0.59	0.48	0.48
[2] "9" factor does not apply to fields receiving	74	9	9

[3] Error Note: if there is a manure or fertilizer

Appendix 5 - P Index

[redacted]

Crop Yrs. 2019

Pennsylvania P Index Version 2

P Index Rating: Values	Nutrient Application Guidance
Low: 59 or less	Nitrogen based management
Medium: 60 to 79	Nitrogen based management
High: 80 to 99	Phosphorus limited to crop removal
Very High: 100 or greater	No Phosphorus applied

PART A: SCREENING TOOL	CMU/Field ID
Is the CMU in a Special Protection watershed?	If the answer is Yes to any of these questions, Part B must be used.
Is there a significant farm management change as defined by Act 38?	
Is the Soil Test Mehlich 3 P greater than 200 ppm P? (enter soil test value in ppm P)	
Is the Contributing Distance from this CMU to receiving water less than 150 ft.?	
Is winter manure application planned for this field ?	

PART B: SOURCE FACTORS					
SOIL TEST	Mehlich 3 Soil Test P (ppm P)				
					Soil Test Rating = 0.20* Mehlich 3 Soil Test P (ppm P)
FERTILIZER P APPLIED REGARDLESS OF MANURE (Starter or other)					Fertilizer P (lb P2O5/acre)
P INDEX APPLICATION METHOD OF FERTILIZER P APPLIED REGARGLESS OF MANURE[3]	0.2 Placed or injected 2" or more deep	0.4 Incorporated <1 week following application	0.6 Incorporated > 1 week or not incorporated following application in April - October	0.8 Incorporated >1 week or not incorporated following application in Nov. - March	1.0 Surface applied to frozen or snow covered soil
SUPPLEMENTAL P FERTILIZER					Fertilizer P (lb P2O5/acre)
P INDEX APPLICATION METHOD OF SUPPLEMENTAL P FERTILIZER[3]	0.2 Placed or injected 2" or more deep	0.4 Incorporated <1 week following application	0.6 Incorporated > 1 week or not incorporated following application in April - October	0.8 Incorporated >1 week or not incorporated following application in Nov. - March	1.0 Surface applied to frozen or snow covered soil
					Fertilizer Rating = Fertilizer Rate x Fertilizer Application Method
MANURE P RATE					Manure P (lb P2O5/acre)
MANURE APPLICATION METHOD[3]	0.2 Placed or injected 2" or more deep	0.4 Incorporated <1 week following application	0.6 Incorporated > 1 week or not incorporated following application in April - October	0.8 Incorporated >1 week or not incorporated following application in Nov. - March	1.0 Surface applied to frozen or snow covered soil
P SOURCE COEFFICIENT[3]	Refer to: Test results for P Source Coefficient OR Book values from P Index Fact Sheet Table 1				
					Manure Rating = Manure Rate x Manure Application Method x P Source Coefficient
					Source Factor Sum

PART B: TRANSPORT FACTORS					
EROSION	Soil Loss (ton/acre/yr)				
RUNOFF POTENTIAL	0 *Drainage Class is* Excessively	2 *Drainage Class is* Somewhat Excessively	4 *Drainage Class is* Well/Moderately Well	6 *Drainage Class is* Somewhat Poorly	8 *Drainage Class is* Poorly/Very Poorly
SUBSURFACE DRAINAGE	0 None		1 Random		2[1] Patterned
CONTRIBUTING DISTANCE	0 > 500 ft.	2 350 to 500 ft.	4 200 to 349 ft.	8 100 to 199 ft. OR < 100 ft. with 35 ft. buffer	9[2] < 100 ft.
					Transport Sum = Erosion + Runoff Potential + Subsurface Drainage + Contributing Distance
MODIFIED CONNECTIVITY	0.85 50 ft. Riparian Buffer APPLIES TO DIST < 100 FT		1.0 Grassed Waterway or None		1.1 Direct Connection APPLIES TO DIST > 100 FT
					Transport Sum x Modified Connectivity / 24
					P Index Value = 2 x Source x Transport

[1] OR rapidly permeable soil near a stream

[2] "9" factor does not apply to fields receiving manure with a 35 ft. buffer.

[3] Error Note: if there is a manure or fertilizer rate and there is no corresponding method factor or PSC, it will display an "E".

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Appendix 5 - P Index

Crop Yrs. 2018

Pennsylvania P Index Version 2	Pasture	H11+12	H13to16+19
P Index Rating Values	No	No	No
Low: 59 or less	No	No	No
Medium: 60 to 79	80	46	46
High: 80 to 99	Yes	Yes	Yes
Very High: 100 or greater	No	No	No
PART B: SOURCE FACTORS SOIL TEST	80	46	46
	16	9	9
FERTILIZER P APPLIED REGARDLESS OF MANURE (Starter or other)	0, 0	11	11
P INDEX APPLICATION METHOD OF FERTILIZER P APPLIED REGARGLESS OF MANURE[3]	-, -	0.2	0.2
SUPPLEMENTAL P FERTILIZER	0, 0	0	0
P INDEX APPLICATION METHOD OF SUPPLEMENTAL P FERTILIZER[3]	-, -	-	-
	0	2	2
MANURE P RATE	83, 15	59	117
MANURE APPLICATION METHOD[3]	0.6, 0.6	0.6	0.6
P SOURCE COEFFICIENT[3]	0.8, 0.8	0.65	0.65
	47	23	46
	63	34	57
PART B: TRANSPORT FACTORS EROSION	0.1	1.5	1.5
RUNOFF POTENTIAL	8	4	4
SUBSURFACE DRAINAGE	0	0	0
CONTRIBUTING DISTANCE	6	6	6
	14	12	12
MODIFIED CONNECTIVITY	1.0	1.0	1.0
[1] OR rapidly permeable soil near a stream	0.59	0.48	0.48
[2] "9" factor does not apply to fields receiving	74	33	55

[3] Error Note: if there is a manure or fertilizer

Appendix 5 - P Index

[redacted]

Crop Yrs. 2018

Pennsylvania P Index Version 2

P Index Rating: Values	Nutrient Application Guidance
Low: 59 or less	Nitrogen based management
Medium: 60 to 79	Nitrogen based management
High: 80 to 99	Phosphorus limited to crop removal
Very High: 100 or greater	No Phosphorus applied

PART A: SCREENING TOOL	CMU/Field ID
Is the CMU in a Special Protection watershed?	If the answer is Yes to any of these questions, Part B must be used.
Is there a significant farm management change as defined by Act 38?	
Is the Soil Test Mehlich 3 P greater than 200 ppm P? (enter soil test value in ppm P)	
Is the Contributing Distance from this CMU to receiving water less than 150 ft.?	
Is winter manure application planned for this field ?	

PART B: SOURCE FACTORS					
SOIL TEST	Mehlich 3 Soil Test P (ppm P)				
					Soil Test Rating = 0.20* Mehlich 3 Soil Test P (ppm P)
FERTILIZER P APPLIED REGARDLESS OF MANURE (Starter or other)					Fertilizer P (lb P2O5/acre)
P INDEX APPLICATION METHOD OF FERTILIZER P APPLIED REGARGLESS OF MANURE[3]	0.2 Placed or injected 2" or more deep	0.4 Incorporated <1 week following application	0.6 Incorporated > 1 week or not incorporated following application in April - October	0.8 Incorporated >1 week or not incorporated following application in Nov. - March	1.0 Surface applied to frozen or snow covered soil
SUPPLEMENTAL P FERTILIZER					Fertilizer P (lb P2O5/acre)
P INDEX APPLICATION METHOD OF SUPPLEMENTAL P FERTILIZER[3]	0.2 Placed or injected 2" or more deep	0.4 Incorporated <1 week following application	0.6 Incorporated > 1 week or not incorporated following application in April - October	0.8 Incorporated >1 week or not incorporated following application in Nov. - March	1.0 Surface applied to frozen or snow covered soil
					Fertilizer Rating = Fertilizer Rate x Fertilizer Application Method
MANURE P RATE					Manure P (lb P2O5/acre)
MANURE APPLICATION METHOD[3]	0.2 Placed or injected 2" or more deep	0.4 Incorporated <1 week following application	0.6 Incorporated > 1 week or not incorporated following application in April - October	0.8 Incorporated >1 week or not incorporated following application in Nov. - March	1.0 Surface applied to frozen or snow covered soil
P SOURCE COEFFICIENT[3]	Refer to: Test results for P Source Coefficient OR Book values from P Index Fact Sheet Table 1				
					Manure Rating = Manure Rate x Manure Application Method x P Source Coefficient
					Source Factor Sum

PART B: TRANSPORT FACTORS					
EROSION	Soil Loss (ton/acre/yr)				
RUNOFF POTENTIAL	0 *Drainage Class is* Excessively	2 *Drainage Class is* Somewhat Excessively	4 *Drainage Class is* Well/Moderately Well	6 *Drainage Class is* Somewhat Poorly	8 *Drainage Class is* Poorly/Very Poorly
SUBSURFACE DRAINAGE	0 None		1 Random		2[1] Patterned
CONTRIBUTING DISTANCE	0 > 500 ft.	2 350 to 500 ft.	4 200 to 349 ft.	6 100 to 199 ft. OR < 100 ft. with 35 ft. buffer	9[2] < 100 ft.
					Transport Sum = Erosion + Runoff Potential + Subsurface Drainage + Contributing Distance
MODIFIED CONNECTIVITY	0.85 50 ft. Riparian Buffer APPLIES TO DIST < 100 FT		1.0 Grassed Waterway or None		1.1 Direct Connection APPLIES TO DIST > 100 FT
					Transport Sum x Modified Connectivity / 24
					P Index Value = 2 x Source x Transport

[1] OR rapidly permeable soil near a stream

[2] "9" factor does not apply to fields receiving manure with a 35 ft. buffer.

[3] Error Note: if there is a manure or fertilizer rate and there is no corresponding method factor or PSC, it will display an "E".

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Appendix 5 - P Index

Crop Yrs. 2017

Pennsylvania P Index Version 2	Pasture	H11+12	H13
P Index Rating: Values	No	No	#N/A
Low: 59 or less	No	No	#N/A
Medium: 60 to 79	80	46	#N/A
High: 80 to 99	Yes	Yes	#N/A
Very High: 100 or greater	No	No	No
PART B: SOURCE FACTORS SOIL TEST	80	46	#N/A
	16	9	#N/A
FERTILIZER P APPLIED REGARDLESS OF MANURE (Starter or other)	0, 0	0, 0	#N/A
P INDEX APPLICATION METHOD OF FERTILIZER P APPLIED REGARGLESS OF MANURE[3]	-, -	-, -	#N/A
SUPPLEMENTAL P FERTILIZER	0, 0	0, 0	#N/A
P INDEX APPLICATION METHOD OF SUPPLEMENTAL P FERTILIZER[3]	-, -	-, -	#N/A
	0	0	Check Fert
MANURE P RATE	83, 15	59, 117	#N/A
MANURE APPLICATION METHOD[3]	0.6, 0.6	0.6, 0.6	#N/A
P SOURCE COEFFICIENT[3]	0.8, 0.8	0.65, 0.65	#N/A
	47	69	Check Manure
	63	78	Check Source
PART B: TRANSPORT FACTORS EROSION	0.1	1.5	#N/A
RUNOFF POTENTIAL	8	4	#N/A
SUBSURFACE DRAINAGE	0	0	#N/A
CONTRIBUTING DISTANCE	6	6	#N/A
	14	12	Check Transport
MODIFIED CONNECTIVITY	1.0	1.0	#N/A
[1] OR rapidly permeable soil near a stream	0.59	0.48	Check Transport
[2] "9" factor does not apply to fields receiving	74	75	#N/A

[3] Error Note: if there is a manure or fertilizer

Appendix 5 - P Index

[redacted]

Crop Yrs. 2017

Pennsylvania P Index Version 2

P Index Rating: Values	Nutrient Application Guidance
Low: 59 or less	Nitrogen based management
Medium: 60 to 79	Nitrogen based management
High: 80 to 99	Phosphorus limited to crop removal
Very High: 100 or greater	No Phosphorus applied

PART A: SCREENING TOOL	CMU/Field ID
Is the CMU in a Special Protection watershed?	If the answer is Yes to any of these questions, Part B must be used.
Is there a significant farm management change as defined by Act 38?	
Is the Soil Test Mehlich 3 P greater than 200 ppm P? (enter soil test value in ppm P)	
Is the Contributing Distance from this CMU to receiving water less than 150 ft.?	
Is winter manure application planned for this field ?	

PART B: SOURCE FACTORS					
SOIL TEST	Mehlich 3 Soil Test P (ppm P)				
					Soil Test Rating = 0.20* Mehlich 3 Soil Test P (ppm P)
FERTILIZER P APPLIED REGARDLESS OF MANURE (Starter or other)					Fertilizer P (lb P2O5/acre)
P INDEX APPLICATION METHOD OF FERTILIZER P APPLIED REGARGLESS OF MANURE[3]	0.2 Placed or injected 2" or more deep	0.4 Incorporated <1 week following application	0.6 Incorporated > 1 week or not incorporated following application in April - October	0.8 Incorporated >1 week or not incorporated following application in Nov. - March	1.0 Surface applied to frozen or snow covered soil
SUPPLEMENTAL P FERTILIZER					Fertilizer P (lb P2O5/acre)
P INDEX APPLICATION METHOD OF SUPPLEMENTAL P FERTILIZER[3]	0.2 Placed or injected 2" or more deep	0.4 Incorporated <1 week following application	0.6 Incorporated > 1 week or not incorporated following application in April - October	0.8 Incorporated >1 week or not incorporated following application in Nov. - March	1.0 Surface applied to frozen or snow covered soil
					Fertilizer Rating = Fertilizer Rate x Fertilizer Application Method
MANURE P RATE					Manure P (lb P2O5/acre)
MANURE APPLICATION METHOD[3]	0.2 Placed or injected 2" or more deep	0.4 Incorporated <1 week following application	0.6 Incorporated > 1 week or not incorporated following application in April - October	0.8 Incorporated >1 week or not incorporated following application in Nov. - March	1.0 Surface applied to frozen or snow covered soil
P SOURCE COEFFICIENT[3]	Refer to: Test results for P Source Coefficient OR Book values from P Index Fact Sheet Table 1				
					Manure Rating = Manure Rate x Manure Application Method x P Source Coefficient
					Source Factor Sum

PART B: TRANSPORT FACTORS					
EROSION	Soil Loss (ton/acre/yr)				
RUNOFF POTENTIAL	0 *Drainage Class is* Excessively	2 *Drainage Class is* Somewhat Excessively	4 *Drainage Class is* Well/Moderately Well	6 *Drainage Class is* Somewhat Poorly	8 *Drainage Class is* Poorly/Very Poorly
SUBSURFACE DRAINAGE	0 None		1 Random		2[1] Patterned
CONTRIBUTING DISTANCE	0 > 500 ft.	2 350 to 500 ft.	4 200 to 349 ft.	6 100 to 199 ft. OR < 100 ft. with 35 ft. buffer	9[2] < 100 ft.
					Transport Sum = Erosion + Runoff Potential + Subsurface Drainage + Contributing Distance
MODIFIED CONNECTIVITY	0.85 50 ft. Riparian Buffer APPLIES TO DIST < 100 FT		1.0 Grassed Waterway or None		1.1 Direct Connection APPLIES TO DIST > 100 FT
					Transport Sum x Modified Connectivity / 24
					P Index Value = 2 x Source x Transport

[1] OR rapidly permeable soil near a stream

[2] "9" factor does not apply to fields receiving manure with a 35 ft. buffer.

[3] Error Note: if there is a manure or fertilizer rate and there is no corresponding method factor or PSC, it will display an "E".

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App. 4: Crop Yrs. 2019	T2064 - 2			T299 - 1			T299 - 2			T299 - 3		
CMU/Field ID												
Acres	5.3			6.4			2.0			7.5		
Soil Test Report Date	September 28, 2015			September 28, 2015			September 28, 2015			September 28, 2015		
Laboratory Name	Spectrum Analytic			Spectrum Analytic			Spectrum Analytic			Spectrum Analytic		
Soil Test Levels (Mehlich-3 P & K) (Show conversions to ppm in Appendix 10)	ppm P	ppm K	pH	ppm P	ppm K	pH	ppm P	ppm K	pH	ppm P	ppm K	pH
	46	88	6.0	14	30	5.9	14	30	5.9	14	30	5.9
P Index Part A	No to All			No to All			No to All			No to All		
	N Based			N Based			N Based			N Based		
Crop	Established Alfalfa with Manure			Established Alfalfa with Manure			Established Alfalfa with Manure			Established Alfalfa with Manure		
Planned Yield	5 ton/A			5 ton/A			5 ton/A			5 ton/A		
PSU Soil Test Recommendation (lb/A)	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O
	250	0	260	250	130	290	250	130	290	250	130	290
User Soil Test Recommendation (lb/A)												
Other Nutrients Applied (lb/A) (Nutrients applied regardless of manure)												
P Index Application Method												
Double Crop CarryOver N (lb/A)	0			0			0			0		
Manure History Description Residual Manure N (lb/A)	35	Continuously - Summer Crop		35	Continuously - Summer Crop		35	Continuously - Summer Crop		35	Continuously - Summer Crop	
Legume History Description Residual Legume N (lb/A)	0	No Previous Year Legume		0	No Previous Year Legume		0	No Previous Year Legume		0	No Previous Year Legume	
Net Nutrients Required (lb/A)	215	0	260	215	130	290	215	130	290	215	130	290
Manure Group	Spring Applied Cattle Manure											
Application Season: Management (incorporation, cover crops, etc.)	Spring: Incorporated after 7 days or none											
Availability Factors (Total N or NH4-N & Organic N)	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N
	0.20											
P Index Application Method												
N Balanced Manure Rate (ton; gal/A)	110 tons/A											
P Removal Balance Manure Rate (ton or gal/A; if required by P index)	10 tons/A											
	Crop P Removal (lb/A) 75.0			Crop P Removal (lb/A) 0.0			Crop P Removal (lb/A) 0.0			Crop P Removal (lb/A) 0.0		
P Index Value												
Planned Manure Rate (ton or gal/A)	15 tons/A			No Manure Applied			No Manure Applied			No Manure Applied		
Nutrient Balance after Manure	0	-117	89	0	130	290	0	130	290	0	130	290
Supplemental Fertilizer (lb/A)	0	0	90	0	130	180	0	130	180	0	130	180
P Index Application Method												
Final Nutrient Balance (lb/A)	0	-117	-1	215	0	110	215	0	110	215	0	110
Multiple Application												
Manure Utilized on CMU	79 tons			0			0			0		

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App. 4: Crop Yrs. 2019	H17&18			H17&18			NH2-10			NH11+12			NH13+14		
CMU/Field ID															
Acres	5.0			5.0			17.1			2.8			7.7		
Soil Test Report Date	September 28, 2015			September 28, 2015			September 28, 2015			September 28, 2015			September 28, 2015		
Laboratory Name	Spectrum Analytic			Spectrum Analytic			Spectrum Analytic			Spectrum Analytic			Spectrum Analytic		
Soil Test Levels (Mehlich-3 P & K) (Show conversions to ppm in Appendix 10)	ppm P	ppm K	pH	ppm P	ppm K	pH	ppm P	ppm K	pH	ppm P	ppm K	pH	ppm P	ppm K	pH
	46	88	6.0	46	88	6.0	18	35	4.9	27	87	6.0	27	87	6.0
P Index Part A	No to All			No to All			No to All			No to All			No to All		
	N Based			N Based			N Based			N Based			N Based		
Crop	Small Grain Silage			Corn for Grain (No-till)			Soybeans			Corn for Grain (No-till)			Corn for Grain (No-till)		
Planned Yield	6 ton/A			160 bu/A			50 bu/A			160 bu/A			160 bu/A		
PSU Soil Test Recommendation (lb/A)	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O
	90	0	170	160	0	60	0	80	140	160	60	60	160	60	60
User Soil Test Recommendation (lb/A)															
Other Nutrients Applied (lb/A) (Nutrients applied regardless of manure)	0	0	0	5	11	5	0	0	0	5	11	5	5	11	5
P Index Application Method															
Double Crop CarryOver N (lb/A)	[29]	Winter Double Crop		29	Summer Double Crop		0			0			0		
Manure History Description Residual Manure N (lb/A)	11	Continuously - Winter Double Crop		24	Continuously - Summer Double Crop		35	Continuously - Summer Crop		35	Continuously - Summer Crop		35	Continuously - Summer Crop	
Legume History Description Residual Legume N (lb/A)	0	No Previous Year Legume		0	No Previous Year Legume		0	No Previous Year Legume		50	Soybeans, 50 bu/A		50	Soybeans, 50 bu/A	
Net Nutrients Required (lb/A)	79	0	170	102	-128	54	0	80	140	70	49	55	70	49	55
Manure Group	Fall Applied Cattle Manure			Spring Applied Cattle Manure						Spring Applied Cattle Manure			Spring Applied Cattle Manure		
Application Season: Management (incorporation, cover crops, etc.)	Early Fall: Early Sring Utilization. Incorporated after 7 days or none			Spring: Incorporated after 7 days or none						Spring: Incorporated after 7 days or none			Spring: Incorporated after 7 days or none		
Availability Factors (Total N or NH4-N & Organic N)	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N
	0.20			0.20						0.20			0.20		
P Index Application Method															
N Balanced Manure Rate (ton; gal/A)	40 tons/A			52 tons/A						36 tons/A			36 tons/A		
P Removal Balance Manure Rate (ton or gal/A; if required by P index)	12 tons/A			0 tons/A						7 tons/A			7 tons/A		
	Crop P Removal (lb/A) 95.0			Crop P Removal (lb/A) 0.0			Crop P Removal (lb/A) 50.0			Crop P Removal (lb/A) 53.0			Crop P Removal (lb/A) 53.0		
P Index Value															
Planned Manure Rate (ton or gal/A)	15 tons/A			15 tons/A			No Manure Applied			15 tons/A			15 tons/A		
Nutrient Balance after Manure	50	-117	-1	73	-245	-117	0	80	140	41	-68	-116	41	-68	-116
Supplemental Fertilizer (lb/A)	50	0	0	70	0	0	0	0	0	35	0	0	35	0	0
P Index Application Method															
Final Nutrient Balance (lb/A)	0	-117	-1	3	-245	-117	0	80	140	6	-68	-116	6	-68	-116
Multiple Application															
Manure Utilized on CMU	75 tons			75 tons			0			42 tons			116 tons		

App. 4: Crop Yrs. 2019	H8			H9+10			H9+10			H11+12			H13to16+19		
CMU/Field ID															
Acres	2.0			9.3			9.3			1.9			9.2		
Soil Test Report Date	September 28, 2015			September 28, 2015			September 28, 2015			September 28, 2015			September 28, 2015		
Laboratory Name	Spectrum Analytic			Spectrum Analytic			Spectrum Analytic			Spectrum Analytic			Spectrum Analytic		
Soil Test Levels (Mehlich-3 P & K) (Show conversions to ppm in Appendix 10)	ppm P	ppm K	pH	ppm P	ppm K	pH	ppm P	ppm K	pH	ppm P	ppm K	pH	ppm P	ppm K	pH
	26	43	6.0	26	43	6.0	26	43	6.0	46	88	6.0	46	88	6.0
P Index Part A	No to All			No to All			No to All			<150ft			<150ft		
	N Based			N Based			N Based			Part B			Part B		
Crop	Small Grain Silage			Small Grain Silage			Corn for Grain (No-till)			Soybeans			Soybeans		
Planned Yield	6 ton/A			6 ton/A			160 bu/A			6 bu/A			160 bu/A		
PSU Soil Test Recommendation (lb/A)	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O
	90	40	200	90	40	200	160	60	110	0	0	50	*	*	*
User Soil Test Recommendation (lb/A)															
Other Nutrients Applied (lb/A) (Nutrients applied regardless of manure)	0	0	0	0	0	0	5	11	5	0	0	0	0	0	0
P Index Application Method															
Double Crop CarryOver N (lb/A)	0	Summer Double Crop		[29]	Winter Double Crop		29	Summer Double Crop		0			0		
Manure History Description Residual Manure N (lb/A)	24	Continuously - Summer Double Crop		11	Continuously - Winter Double Crop		24	Continuously - Summer Double Crop		35	Continuously - Summer Crop		35	Continuously - Summer Crop	
Legume History Description Residual Legume N (lb/A)	0	No Previous Year Legume		0	No Previous Year Legume		0	No Previous Year Legume		0	No Previous Year Legume		0	No Previous Year Legume	
Net Nutrients Required (lb/A)	66	120	370	79	40	200	102	-28	134	0	0	50			
Manure Group	Fall Applied Cattle Manure			Fall Applied Cattle Manure			Spring Applied Cattle Manure								
Application Season: Management (Incorporation, cover crops, etc.)	Summer: Incorporated after 7 days or none			Early Fall: Early Sring Utilization. Incorporated after 7 days or none			Spring: Incorporated after 7 days or none								
Availability Factors (Total N or NH4-N & Organic N)	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N
	0.20			0.20			0.20								
P Index Application Method															
N Balanced Manure Rate (ton; gal/A)	34 tons/A			40 tons/A			52 tons/A								
P Removal Balance Manure Rate (ton or gal/A; if required by P Index)	16 tons/A			12 tons/A			0 tons/A								
	Crop P Removal (lb/A) 122.0			Crop P Removal (lb/A) 95.0			Crop P Removal (lb/A) 0.0			Crop P Removal (lb/A) 6.0			Crop P Removal (lb/A) 160.0		
P Index Value										9			9		
Planned Manure Rate (ton or gal/A)	15 tons/A			15 tons/A			15 tons/A			No Manure Applied			No Manure Applied		
Nutrient Balance after Manure	37	3	199	50	-77	29	73	-145	-37	0	0	50			
Supplemental Fertilizer (lb/A)	35	0	0	50	0	0	70	0	0	0	0	0	0	0	0
P Index Application Method															
Final Nutrient Balance (lb/A)	2	3	199	0	-77	29	3	-145	-37	0	0	50			
Multiple Application															
Manure Utilized on CMU	30 tons			140 tons			140 tons			0			0		

App. 4: Crop Yrs. 2019	H4			H4			H5 + H6 + H7			H5 + H6 + H7			H8		
CMU/Field ID															
Acres	3.2			3.2			17.5			17.5			2.0		
Soil Test Report Date	September 28, 2015			September 28, 2015			September 28, 2015			September 28, 2015			September 28, 2015		
Laboratory Name	Spectrum Analytic			Spectrum Analytic			Spectrum Analytic			Spectrum Analytic			Spectrum Analytic		
Soil Test Levels (Mehlich-3 P & K) (Show conversions to ppm in Appendix 10)	ppm P	ppm K	pH	ppm P	ppm K	pH	ppm P	ppm K	pH	ppm P	ppm K	pH	ppm P	ppm K	pH
	39	84	5.6	39	84	5.6	14	30	5.9	14	30	5.9	26	43	6.0
P Index Part A	No to All			No to All			No to All			No to All			No to All		
	N Based			N Based			N Based			N Based			N Based		
Crop	Oats			Sorghum-Sudangrass			Oats			Sorghum-Sudangrass			Oats		
Planned Yield	80 bu/A			12 ton/A			80 bu/A			12 ton/A			80 bu/A		
PSU Soil Test Recommendation (lb/A)	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O
	70	40	140	120	50	130	70	110	190	120	110	260	70	80	170
User Soil Test Recommendation (lb/A)															
Other Nutrients Applied (lb/A) (Nutrients applied regardless of manure)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
P Index Application Method															
Double Crop CarryOver N (lb/A)	[29]	Winter Double Crop		29	Summer Double Crop		[29]	Winter Double Crop		29	Summer Double Crop		[0]	Winter Double Crop	
Manure History Description Residual Manure N (lb/A)	11	Continuously - Winter Double Crop		24	Continuously - Summer Double Crop		11	Continuously - Winter Double Crop		24	Continuously - Summer Double Crop		11	Continuously - Winter Double Crop	
Legume History Description Residual Legume N (lb/A)	0	No Previous Year Legume		0	Soybeans, 50 bu/A		0	No Previous Year Legume		0	Soybeans, 50 bu/A		0	No Previous Year Legume	
Net Nutrients Required (lb/A)	59	40	140	67	-27	99	59	110	190	67	103	279	59	80	170
Manure Group	Spring Applied Cattle Manure						Spring Applied Cattle Manure			Fall Applied Cattle Manure					
Application Season: Management (incorporation, cover crops, etc.)	Spring: Incorporated after 7 days or none						Spring: Incorporated after 7 days or none			Summer: Incorporated after 7 days or none					
Availability Factors (Total N or NH4-N & Organic N)	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N
	0.20						0.20			0.20					
P Index Application Method															
N Balanced Manure Rate (ton; gal/A)	30 tons/A						30 tons/A			34 tons/A					
P Removal Balance Manure Rate (ton or gal/A; If required by P Index)	21 tons/A						21 tons/A			6 tons/A					
	Crop P Removal (lb/A) 164.0			Crop P Removal (lb/A) 47.0			Crop P Removal (lb/A) 164.0			Crop P Removal (lb/A) 47.0			Crop P Removal (lb/A) 122.0		
P Index Value															
Planned Manure Rate (ton or gal/A)	15 tons/A			No Manure Applied			15 tons/A			15 tons/A			No Manure Applied		
Nutrient Balance after Manure	30	-77	-31	67	-27	99	30	-7	19	38	-14	108	59	80	170
Supplemental Fertilizer (lb/A)	30	0	0	65	0	0	30	0	0	35	0	0	50	0	0
P Index Application Method															
Final Nutrient Balance (lb/A)	0	-77	-31	2	-27	99	0	-7	19	3	-14	108	9	80	170
Multiple Application															
Manure Utilized on CMU	48 tons			0			263 tons			263 tons			0		

App. 4: Crop Yrs. 2019	Pasture Paddocks			Pasture Paddocks			H1+2			H1+2			H3		
CMU/Field ID															
Acres	8.3			8.3			3.4			3.4			4.0		
Soil Test Report Date	September 28, 2015			September 28, 2015			September 28, 2015			September 28, 2015			September 28, 2015		
Laboratory Name	Spectrum Analytic			Spectrum Analytic			Spectrum Analytic			Spectrum Analytic			Spectrum Analytic		
Soil Test Levels (Mehlich-3 P & K) (Show conversions to ppm in Appendix 10)	ppm P	ppm K	pH	ppm P	ppm K	pH	ppm P	ppm K	pH	ppm P	ppm K	pH	ppm P	ppm K	pH
	80	174	6.2	80	174	6.2	39	84	5.6	39	84	5.6	39	84	5.6
P Index Part A	No to All			No to All			No to All			No to All			No to All		
	N Based			N Based			N Based			N Based			N Based		
Crop	Established Pasture (without legume)			Established Pasture (without legume)			Oats			Small Grain Silage			Established Alfalfa		
Planned Yield	3 ton/A			3 ton/A			80 bu/A			6 ton/A			5 ton/A		
PSU Soil Test Recommendation (lb/A)	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O
	150	0	20	150	0	20	70	40	140	90	20	170	0	40	260
User Soil Test Recommendation (lb/A)															
Other Nutrients Applied (lb/A) (Nutrients applied regardless of manure)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
P Index Application Method															
Double Crop CarryOver N (lb/A)	0			0			[0]	Winter Double Crop		0	Summer Double Crop		0		
Manure History Description Residual Manure N (lb/A)	35	Continuously - Summer Crop		0	Continuously - Summer Crop		11	Continuously - Winter Double Crop		24	Continuously - Summer Double Crop		35	Continuously - Summer Crop	
Legume History Description Residual Legume N (lb/A)	0	No Previous Year Legume		0	No Previous Year Legume		0	No Previous Year Legume		0	No Previous Year Legume		0	No Previous Year Legume	
Net Nutrients Required (lb/A)	115	0	20	20	-301	-410	59	40	140	66	80	310	0	40	260
Manure Group	Proposed HUA Cows - Uncollected			Proposed HUA Calves - Uncollected						Fall Applied Cattle Manure					
Application Season: Management (Incorporation, cover crops, etc.)	Grazing anytime with nutrient uptake during growing season			Grazing anytime with nutrient uptake during growing season						Early Fall: Early Sring Utilization. Incorporated after 7 days or none					
Availability Factors (Total N or NH4-N & Organic N)	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N
	0.20			0.20						0.20					
P Index Application Method															
N Balanced Manure Rate (ton; gal/A)	52 tons/A			9 tons/A						34 tons/A					
P Removal Balance Manure Rate (ton or gal/A; If required by P Index)	6 tons/A			0 tons/A						16 tons/A					
	Crop P Removal (lb/A) 45.0			Crop P Removal (lb/A) 0.0			Crop P Removal (lb/A) 122.0			Crop P Removal (lb/A) 122.0			Crop P Removal (lb/A) 75.0		
P Index Value															
Planned Manure Rate (ton or gal/A)	43 tons/A			9 tons/A			No Manure Applied			15 tons/A			No Manure Applied		
Nutrient Balance after Manure	20	-301	-410	1	-361	-496	59	40	140	37	-57	139	0	40	260
Supplemental Fertilizer (lb/A)	0	0	0	0	0	0	50	0	0	35	0	0	0	0	180
P Index Application Method															
Final Nutrient Balance (lb/A)				1	-361	-496	9	40	140	2	-57	139	0	40	80
Multiple Application	Multiple Initial			Multiple Final											
Manure Utilized on CMU	357 tons			71 tons			0			51 tons			0		

App. 4: Crop Yrs. 2019	F15 + F17			F15 + F17			F16 + F18 + F19 + F20			Pasture			Pasture		
CMU/Field ID															
Acres	5.0			5.6			8.2			6.3			6.3		
Soil Test Report Date	September 28, 2015			September 28, 2015			September 28, 2015			September 28, 2015			September 28, 2015		
Laboratory Name	Spectrum Analytic			Spectrum Analytic			Spectrum Analytic			Spectrum Analytic			Spectrum Analytic		
Soil Test Levels (Mehlich-3 P & K) (Show conversions to ppm in Appendix 10)	ppm P	ppm K	pH	ppm P	ppm K	pH	ppm P	ppm K	pH	ppm P	ppm K	pH	ppm P	ppm K	pH
	28	51	6.4	28	51	6.4	28	51	6.4	80	174	6.2	80	174	6.2
P Index Part A	No to All			No to All			No to All			<150ft			<150ft		
	N Based			N Based			N Based			Part B			Part B		
Crop	Oats			Sorghum-Sudangrass			Established Alfalfa			Established Pasture (without legume)			Established Pasture (without legume)		
Planned Yield	80 bu/A			12 ton/A			5 ton/A			3 ton/A			3 ton/A		
PSU Soil Test Recommendation (lb/A)	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O
	70	80	170	120	110	190	0	80	270	150	0	20	150	0	20
User Soil Test Recommendation (lb/A)															
Other Nutrients Applied (lb/A) (Nutrients applied regardless of manure)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
P Index Application Method															
Double Crop CarryOver N (lb/A)	[29]	Winter Double Crop		29	Summer Double Crop		0			0			0		
Manure History Description Residual Manure N (lb/A)	35	Continuously - Summer Crop		35	Continuously - Summer Crop		35	Continuously - Summer Crop		35	Continuously - Summer Crop		0	Continuously - Summer Crop	
Legume History Description Residual Legume N (lb/A)	0	No Previous Year Legume		0	Soybeans, 50 bu/A		0	No Previous Year Legume		0	No Previous Year Legume		0	No Previous Year Legume	
Net Nutrients Required (lb/A)	35	80	170	56	73	189	0	80	270	115	0	20	89	-83	-99
Manure Group	Spring Applied Cattle Manure									Proposed HUA Cows - Uncollected			Proposed HUA Calves - Uncollected		
Application Season: Management (Incorporation, cover crops, etc.)	Spring: Incorporated after 7 days or none									Grazing anytime with nutrient uptake during growing season			Grazing anytime with nutrient uptake during growing season		
Availability Factors (Total N or NH4-N & Organic N)	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N
	0.20									0.20			0.20		
P Index Application Method										April - Oct: No incorp or incorp > 1 wk.			April - Oct: No incorp or incorp > 1 wk.		
N Balanced Manure Rate (ton; gal/A)	18 tons/A									52 tons/A			41 tons/A		
P Removal Balance Manure Rate (ton or gal/A; If required by P Index)	21 tons/A									6 tons/A			0 tons/A		
	Crop P Removal (lb/A) 164.0			Crop P Removal (lb/A) 47.0			Crop P Removal (lb/A) 75.0			Crop P Removal (lb/A) 45.0			Crop P Removal (lb/A) 0.0		
P Index Value										74			74		
Planned Manure Rate (ton or gal/A)	15 tons/A			No Manure Applied			No Manure Applied			12 tons/A			2 tons/A		
Nutrient Balance after Manure	6	-37	-1	56	73	189	0	80	270	89	-83	-99	84	-98	-121
Supplemental Fertilizer (lb/A)	0	0	0	50	0	0	0	0	180	0	0	0	80	0	0
P Index Application Method															
Final Nutrient Balance (lb/A)	6	-37	-1	6	73	189	0	80	90				4	-98	-121
Multiple Application										Multiple Initial			Multiple Final		
Manure Utilized on CMU	84 tons			0			0			75 tons			14 tons		

App. 4: Crop Yrs. 2019	F13			F13			F14A			F14B + F21 + Gabby			F14B + F21 + Gabby		
CMU/Field ID															
Acres	2.6			2.6			3.2			7.9			7.9		
Soil Test Report Date	September 28, 2015			September 28, 2015			September 28, 2015			September 28, 2015			September 28, 2015		
Laboratory Name	Spectrum Analytic			Spectrum Analytic			Spectrum Analytic			Spectrum Analytic			Spectrum Analytic		
Soil Test Levels (Mehlich-3 P & K) (Show conversions to ppm in Appendix 10)	ppm P	ppm K	pH	ppm P	ppm K	pH	ppm P	ppm K	pH	ppm P	ppm K	pH	ppm P	ppm K	pH
	81	71	7.3	81	71	7.3	27	57	5.6	27	57	5.6	27	57	5.6
P Index Part A	No to All			No to All			No to All			No to All			No to All		
	N Based			N Based			N Based			N Based			N Based		
Crop	Oats			Sorghum-Sudangrass			Soybeans			Oats			Small Grain Silage		
Planned Yield	80 bu/A			12 ton/A			50 bu/A			80 bu/A			6 ton/A		
PSU Soil Test Recommendation (lb/A)	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O
	70	0	150	120	0	150	0	50	110	70	80	170	90	40	190
User Soil Test Recommendation (lb/A)															
Other Nutrients Applied (lb/A) (Nutrients applied regardless of manure)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
P Index Application Method															
Double Crop CarryOver N (lb/A)	[0]	Winter Double Crop		0	Summer Double Crop		0			[0]	Winter Double Crop		0	Summer Double Crop	
Manure History Description Residual Manure N (lb/A)	35	Continuously - Summer Crop		35	Continuously - Summer Crop		35	Continuously - Summer Crop		11	Continuously - Winter Double Crop		24	Continuously - Summer Double Crop	
Legume History Description Residual Legume N (lb/A)	0	No Previous Year Legume		0	Soybeans, 50 bu/A		0	No Previous Year Legume		0	No Previous Year Legume		0	No Previous Year Legume	
Net Nutrients Required (lb/A)	35	0	150	85	0	300	0	50	110	59	80	170	66	120	360
Manure Group				Fall Applied Cattle Manure									Fall Applied Cattle Manure		
Application Season: Management (Incorporation, cover crops, etc.)				Early Fall: Early Sring Utilization. Incorporated after 7 days or none									Early Fall: Early Sring Utilization. Incorporated after 7 days or none		
Availability Factors (Total N or NH4-N & Organic N)	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N
				0.20									0.20		
P Index Application Method															
N Balanced Manure Rate (ton; gal/A)				43 tons/A									34 tons/A		
P Removal Balance Manure Rate (ton or gal/A; If required by P Index)				21 tons/A									16 tons/A		
	Crop P Removal (lb/A) 164.0			Crop P Removal (lb/A) 164.0			Crop P Removal (lb/A) 50.0			Crop P Removal (lb/A) 122.0			Crop P Removal (lb/A) 122.0		
P Index Value															
Planned Manure Rate (ton or gal/A)	No Manure Applied			15 tons/A			No Manure Applied			No Manure Applied			15 tons/A		
Nutrient Balance after Manure	35	0	150	56	-117	129	0	50	110	59	80	170	37	3	189
Supplemental Fertilizer (lb/A)	35	0	0	50	0	0	0	0	0	50	0	0	35	0	0
P Index Application Method															
Final Nutrient Balance (lb/A)	0	0	150	6	-117	129	0	50	110	9	80	170	2	3	189
Multiple Application															
Manure Utilized on CMU	0			39 tons			0			0			119 tons		

App. 4: Crop Yrs. 2019	F7A			F8+9			F10+11			F12			F12		
CMU/Field ID															
Acres	2.2			4.4			3.4			2.8			2.8		
Soil Test Report Date	September 28, 2015			September 28, 2015			September 28, 2015			September 28, 2015			September 28, 2015		
Laboratory Name	Spectrum Analytic			Spectrum Analytic			Spectrum Analytic			Spectrum Analytic			Spectrum Analytic		
Soil Test Levels (Mehlich-3 P & K) (Show conversions to ppm in Appendix 10)	ppm P	ppm K	pH	ppm P	ppm K	pH	ppm P	ppm K	pH	ppm P	ppm K	pH	ppm P	ppm K	pH
	51	71	7.3	81	71	7.3	81	71	7.0	81	71	7.0	81	71	7.0
P Index Part A	No to All			No to All			No to All			No to All			No to All		
	N Based			N Based			N Based			N Based			N Based		
Crop	Corn for Grain (No-till)			Corn for Grain (No-till)			Established Alfalfa			Small Grain Silage			Corn for Grain (No-till)		
Planned Yield	160 bu/A			160 bu/A			5 ton/A			6 ton/A			160 bu/A		
PSU Soil Test Recommendation (lb/A)	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O
	160	0	70	160	0	70	0	0	260	90	0	170	160	0	70
User Soil Test Recommendation (lb/A)															
Other Nutrients Applied (lb/A) (Nutrients applied regardless of manure)	5	11	5	5	11	5	0	0	0	0	0	0	5	11	5
P Index Application Method															
Double Crop CarryOver N (lb/A)	0			0			0			[29]	Winter Double Crop		29	Summer Double Crop	
Manure History Description Residual Manure N (lb/A)	11	Continuously - Winter Double Crop		11	Continuously - Winter Double Crop		35	Continuously - Summer Crop		11	Continuously - Winter Double Crop		24	Continuously - Summer Double Crop	
Legume History Description Residual Legume N (lb/A)	0	No Previous Year Legume		0	No Previous Year Legume		0	No Previous Year Legume		0	No Previous Year Legume		0	No Previous Year Legume	
Net Nutrients Required (lb/A)	144	-11	65	144	-11	65	0	0	260	79	0	170	102	-128	64
Manure Group	Spring Applied Cattle Manure			Spring Applied Cattle Manure						Fall Applied Cattle Manure			Spring Applied Cattle Manure		
Application Season: Management (Incorporation, cover crops, etc.)	Spring: Incorporated after 7 days or none			Spring: Incorporated after 7 days or none						Early Fall: Early Sring Utilization. Incorporated after 7 days or none			Spring: Incorporated after 7 days or none		
Availability Factors (Total N or NH4-N & Organic N)	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N
	0.20			0.20						0.20			0.20		
P Index Application Method															
N Balanced Manure Rate (ton; gal/A)	74 tons/A			74 tons/A						40 tons/A			52 tons/A		
P Removal Balance Manure Rate (ton or gal/A; If required by P Index)	7 tons/A			7 tons/A						12 tons/A			0 tons/A		
	Crop P Removal (lb/A) 53.0			Crop P Removal (lb/A) 53.0			Crop P Removal (lb/A) 75.0			Crop P Removal (lb/A) 95.0			Crop P Removal (lb/A) 0.0		
P Index Value															
Planned Manure Rate (ton or gal/A)	15 tons/A			15 tons/A			No Manure Applied			15 tons/A			15 tons/A		
Nutrient Balance after Manure	115	-128	-106	115	-128	-106	0	0	260	50	-117	-1	73	-245	-107
Supplemental Fertilizer (lb/A)	110	0	0	110	0	0	0	0	180	50	0	0	70	0	0
P Index Application Method															
Final Nutrient Balance (lb/A)	5	-128	-106	5	-128	-106	0	0	80	0	-117	-1	3	-245	-107
Multiple Application															
Manure Utilized on CMU	33 tons			66 tons			0			42 tons			42 tons		

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App. 4: Crop Yrs. 2019	F1+3+5+7			F1+3+5+7			F2+4			F2+4			F6		
CMU/Field ID															
Acres	7.8			7.8			3.0			3.0			2.4		
Soil Test Report Date	September 28, 2015			September 28, 2015			September 28, 2015			September 28, 2015			September 28, 2015		
Laboratory Name	Spectrum Analytic			Spectrum Analytic			Spectrum Analytic			Spectrum Analytic			Spectrum Analytic		
Soil Test Levels (Mehlich-3 P & K) (Show conversions to ppm in Appendix 10)	ppm P	ppm K	pH	ppm P	ppm K	pH	ppm P	ppm K	pH	ppm P	ppm K	pH	ppm P	ppm K	pH
	51	71	7.3	51	71	7.3	51	71	7.3	51	71	7.3	51	71	7.3
P Index Part A	No to All			No to All			No to All			No to All			No to All		
	N Based			N Based			N Based			N Based			N Based		
Crop	Small Grain Silage			Corn for Grain (No-till)			Small Grain Silage			Sorghum-Sudangrass			Established Alfalfa		
Planned Yield	6 ton/A			160 bu/A			6 ton/A			12 ton/A			5 ton/A		
PSU Soil Test Recommendation (lb/A)	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O
	90	0	170	160	0	70	90	0	170	120	0	150	0	0	260
User Soil Test Recommendation (lb/A)															
Other Nutrients Applied (lb/A) (Nutrients applied regardless of manure)	0	0	0	5	11	5	0	0	0	0	0	0	0	0	0
P Index Application Method															
Double Crop CarryOver N (lb/A)	[29]	Winter Double Crop		29	Summer Double Crop		[29]	Winter Double Crop		29	Summer Double Crop		0		
Manure History Description Residual Manure N (lb/A)	11	Continuously - Winter Double Crop		24	Continuously - Summer Double Crop		11	Continuously - Winter Double Crop		24	Continuously - Summer Double Crop		35	Continuously - Summer Crop	
Legume History Description Residual Legume N (lb/A)	0	No Previous Year Legume		0	No Previous Year Legume		0	No Previous Year Legume		0	No Previous Year Legume		0	No Previous Year Legume	
Net Nutrients Required (lb/A)	79	0	170	102	-128	64	79	0	170	67	-117	149	0	0	260
Manure Group	Fall Applied Cattle Manure			Spring Applied Cattle Manure			Fall Applied Cattle Manure			Spring Applied Cattle Manure					
Application Season: Management (incorporation, cover crops, etc.)	Early Fall: Early Sring Utilization. Incorporated after 7 days or none			Spring: Incorporated after 7 days or none			Early Fall: Early Sring Utilization. Incorporated after 7 days or none			Spring: Incorporated after 7 days or none					
Availability Factors (Total N or NH4-N & Organic N)	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N
	0.20			0.20			0.20			0.20					
P Index Application Method															
N Balanced Manure Rate (ton; gal/A)	40 tons/A			52 tons/A			40 tons/A			34 tons/A					
P Removal Balance Manure Rate (ton or gal/A; If required by P Index)	12 tons/A			0 tons/A			16 tons/A			1 tons/A					
	Crop P Removal (lb/A) 95.0			Crop P Removal (lb/A) 0.0			Crop P Removal (lb/A) 126.0			Crop P Removal (lb/A) 9.0			Crop P Removal (lb/A) 75.0		
P Index Value															
Planned Manure Rate (ton or gal/A)	15 tons/A			15 tons/A			15 tons/A			15 tons/A			No Manure Applied		
Nutrient Balance after Manure	50	-117	-1	73	-245	-107	50	-117	-1	38	-234	-22	0	0	260
Supplemental Fertilizer (lb/A)	50	0	0	70	0	0	50	0	0	35	0	0	0	0	180
P Index Application Method															
Final Nutrient Balance (lb/A)	0	-117	-1	3	-245	-107	0	-117	-1	3	-234	-22	0	0	80
Multiple Application															
Manure Utilized on CMU	117 tons			117 tons			45 tons			45 tons			0		

App. 4: Crop Yrs. 2018	T2064 - 2			T299 - 1			T299 - 2			T299 - 3		
CMU/Field ID												
Acres	5.3			6.4			2.0			7.5		
Soil Test Report Date	September 28, 2015			September 28, 2015			September 28, 2015			September 28, 2015		
Laboratory Name	Spectrum Analytic			Spectrum Analytic			Spectrum Analytic			Spectrum Analytic		
Soil Test Levels (Mehlich-3 P & K) (Show conversions to ppm in Appendix 10)	ppm P	ppm K	pH	ppm P	ppm K	pH	ppm P	ppm K	pH	ppm P	ppm K	pH
	46	88	6.0	14	30	5.9	14	30	5.9	14	30	5.9
P Index Part A	No to All			No to All			No to All			No to All		
	N Based			N Based			N Based			N Based		
Crop	Established Alfalfa			Established Alfalfa			Established Alfalfa			Established Alfalfa with Manure		
Planned Yield	5 ton/A			5 ton/A			5 ton/A			5 ton/A		
PSU Soil Test Recommendation (lb/A)	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O
	0	0	260	0	130	290	0	130	290	250	130	290
User Soil Test Recommendation (lb/A)												
Other Nutrients Applied (lb/A) (Nutrients applied regardless of manure)												
P Index Application Method												
Double Crop CarryOver N (lb/A)	0			0			0			0		
Manure History Description Residual Manure N (lb/A)	35	Continuously - Summer Crop		35	Continuously - Summer Crop		35	Continuously - Summer Crop		35	Continuously - Summer Crop	
Legume History Description Residual Legume N (lb/A)	0	No Previous Year Legume		0	No Previous Year Legume		0	No Previous Year Legume		0	No Previous Year Legume	
Net Nutrients Required (lb/A)	0	0	260	0	130	290	0	130	290	215	130	290
Manure Group										Fall Applied Cattle Manure		
Application Season: Management (Incorporation, cover crops, etc.)										Early Fall: Early Sring Utilization. Incorporated after 7 days or none		
Availability Factors (Total N or NH4-N & Organic N)	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N
										0.20		
P Index Application Method												
N Balanced Manure Rate (ton; gal/A)										110 tons/A		
P Removal Balance Manure Rate (ton or gal/A; If required by P Index)										0 tons/A		
	Crop P Removal (lb/A) 75.0			Crop P Removal (lb/A) 0.0			Crop P Removal (lb/A) 0.0			Crop P Removal (lb/A) 0.0		
P Index Value												
Planned Manure Rate (ton or gal/A)	No Manure Applied			No Manure Applied			No Manure Applied			15 tons/A		
Nutrient Balance after Manure	0	0	260	0	130	290	0	130	290	0	13	119
Supplemental Fertilizer (lb/A)	0	0	180	0	130	180	0	130	180	0	0	120
P Index Application Method												
Final Nutrient Balance (lb/A)	0	0	80	0	0	110	0	0	110	0	13	-1
Multiple Application												
Manure Utilized on CMU	0			0			0			112 tons		

App. 4: Crop Yrs. 2018	H17&18			H17&18			NH2-10			NH11+12			NH13+14		
CMU/Field ID															
Acres	5.0			5.0			17.1			2.8			7.7		
Soil Test Report Date	September 28, 2015			September 28, 2015			September 28, 2015			September 28, 2015			September 28, 2015		
Laboratory Name	Spectrum Analytic			Spectrum Analytic			Spectrum Analytic			Spectrum Analytic			Spectrum Analytic		
Soil Test Levels (Mehlich-3 P & K) (Show conversions to ppm in Appendix 10)	ppm P	ppm K	pH	ppm P	ppm K	pH	ppm P	ppm K	pH	ppm P	ppm K	pH	ppm P	ppm K	pH
	46	88	6.0	46	88	6.0	18	35	4.9	27	87	6.0	27	87	6.0
P Index Part A	No to All			No to All			No to All			No to All			No to All		
	N Based			N Based			N Based			N Based			N Based		
Crop	Oats			Sorghum-Sudangrass			Corn for Grain (No-till)			Soybeans			Soybeans		
Planned Yield	80 bu/A			12 ton/A			160 bu/A			50 bu/A			50 bu/A		
PSU Soil Test Recommendation (lb/A)	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O
	70	0	140	120	0	130	160	90	130	0	50	80	0	50	80
User Soil Test Recommendation (lb/A)															
Other Nutrients Applied (lb/A) (Nutrients applied regardless of manure)	0	0	0	0	0	0	5	11	5	0	0	0	0	0	0
P Index Application Method															
Double Crop CarryOver N (lb/A)	[29]	Winter Double Crop		29	Summer Double Crop		0			0			0		
Manure History Description Residual Manure N (lb/A)	11	Continuously - Winter Double Crop		24	Continuously - Summer Double Crop		35	Continuously - Summer Crop		35	Continuously - Summer Crop		35	Continuously - Summer Crop	
Legume History Description Residual Legume N (lb/A)	0	No Previous Year Legume		0	Soybeans, 50 bu/A		50	Soybeans, 50 bu/A		0	No Previous Year Legume		0	No Previous Year Legume	
Net Nutrients Required (lb/A)	59	0	140	67	-117	99	70	79	125	0	50	80	0	50	80
Manure Group	Spring Applied Cattle Manure						Spring Applied Cattle Manure								
Application Season: Management (incorporation, cover crops, etc.)	Spring: Incorporated after 7 days or none						Spring: Incorporated after 7 days or none								
Availability Factors (Total N or NH4-N & Organic N)	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N
	0.20						0.20								
P Index Application Method															
N Balanced Manure Rate (ton; gal/A)	30 tons/A						36 tons/A								
P Removal Balance Manure Rate (ton or gal/A; if required by P Index)	21 tons/A						7 tons/A								
	Crop P Removal (lb/A) 164.0			Crop P Removal (lb/A) 47.0			Crop P Removal (lb/A) 53.0			Crop P Removal (lb/A) 50.0			Crop P Removal (lb/A) 50.0		
P Index Value															
Planned Manure Rate (ton or gal/A)	15 tons/A			No Manure Applied			No Manure Applied tons/A			15			15		
Nutrient Balance after Manure	30	-117	-31	67	-117	99	70	79	125	0	50	80	0	50	80
Supplemental Fertilizer (lb/A)	30	0	0	65	0	0	65	0	0	0	0	0	0	0	0
P Index Application Method															
Final Nutrient Balance (lb/A)	0	-117	-31	2	-117	99	5	79	125	0	50	80	0	50	80
Multiple Application															
Manure Utilized on CMU	75 tons			0			0 tons			42			116		

App. 4: Crop Yrs. 2018	H8			H9+10			H9+10			H11+12			H13to16+19		
CMU/Field ID															
Acres	2.0			9.3			9.3			1.9			9.2		
Soil Test Report Date	September 28, 2015			September 28, 2015			September 28, 2015			September 28, 2015			September 28, 2015		
Laboratory Name	Spectrum Analytic			Spectrum Analytic			Spectrum Analytic			Spectrum Analytic			Spectrum Analytic		
Soil Test Levels (Mehlich-3 P & K) (Show conversions to ppm in Appendix 10)	ppm P	ppm K	pH	ppm P	ppm K	pH	ppm P	ppm K	pH	ppm P	ppm K	pH	ppm P	ppm K	pH
	26	43	6.0	26	43	6.0	26	43	6.0	46	88	6.0	46	88	6.0
P Index Part A	No to All			No to All			No to All			<150ft			<150ft		
	N Based			N Based			N Based			Part B			Part B		
Crop	Corn for Grain (No-till)			Oats			Sorghum-Sudangrass			Corn for Grain (No-till)			Corn for Grain (No-till)		
Planned Yield	160 bu/A			80 bu/A			12 ton/A			6 bu/A			160 bu/A		
PSU Soil Test Recommendation (lb/A)	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O
	160	60	110	70	80	170	120	110	210	100	0	40	160	0	60
User Soil Test Recommendation (lb/A)															
Other Nutrients Applied (lb/A) (Nutrients applied regardless of manure)	5	11	5	0	0	0	0	0	0	5	11	5	5	11	5
P Index Application Method										Starter or Injected			Starter or Injected		
Double Crop CarryOver N (lb/A)	0			[29]	Winter Double Crop		29	Summer Double Crop		0			0		
Manure History Description Residual Manure N (lb/A)	24	Continuously - Summer Double Crop		11	Continuously - Winter Double Crop		24	Continuously - Summer Double Crop		35	Continuously - Summer Crop		35	Continuously - Summer Crop	
Legume History Description Residual Legume N (lb/A)	0	No Previous Year Legume		0	No Previous Year Legume		0	Soybeans, 50 bu/A		0	No Previous Year Legume		0	No Previous Year Legume	
Net Nutrients Required (lb/A)	131	49	105	59	80	170	67	73	209	60	-11	35	120	-11	55
Manure Group	Spring Applied Cattle Manure			Spring Applied Cattle Manure			Fall Applied Cattle Manure			Spring Applied Cattle Manure			Spring Applied Cattle Manure		
Application Season: Management (Incorporation, cover crops, etc.)	Spring: Incorporated after 7 days or none			Spring: Incorporated after 7 days or none			Summer: Incorporated after 7 days or none			Spring: Incorporated after 7 days or none			Spring: Incorporated after 7 days or none		
Availability Factors (Total N or NH4-N & Organic N)	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N
	0.20			0.20			0.20			0.20			0.20		
P Index Application Method										April - Oct: No incorp or incorp > 1 wk.			April - Oct: No incorp or incorp > 1 wk.		
N Balanced Manure Rate (ton; gal/A)	57 tons/A			30 tons/A			34 tons/A			31 tons/A			61 tons/A		
P Removal Balance Manure Rate (ton or gal/A; if required by P Index)	0 tons/A			21 tons/A			6 tons/A			0 tons/A			7 tons/A		
	Crop P Removal (lb/A) 0.0			Crop P Removal (lb/A) 164.0			Crop P Removal (lb/A) 47.0			Crop P Removal (lb/A) 0.0			Crop P Removal (lb/A) 53.0		
P Index Value										33			55		
Planned Manure Rate (ton or gal/A)	15 tons/A			15 tons/A			15 tons/A			8 tons/A			15 tons/A		
Nutrient Balance after Manure	102	-68	-66	30	-37	-1	38	-44	38	45	-70	-51	91	-128	-116
Supplemental Fertilizer (lb/A)	100	0	0	30	0	0	35	0	0	45	0	0	85	0	0
P Index Application Method															
Final Nutrient Balance (lb/A)	2	-68	-66	0	-37	-1	3	-44	38	0	-70	-51	6	-128	-116
Multiple Application															
Manure Utilized on CMU	30 tons			140 tons			140 tons			14 tons			138 tons		

App. 4: Crop Yrs. 2018	H4			H4			H5 + H6 + H7			H5 + H6 + H7			H8		
CMU/Field ID															
Acres	3.2			3.2			17.5			17.5			2.0		
Soil Test Report Date	September 28, 2015			September 28, 2015			September 28, 2015			September 28, 2015			September 28, 2015		
Laboratory Name	Spectrum Analytic			Spectrum Analytic			Spectrum Analytic			Spectrum Analytic			Spectrum Analytic		
Soil Test Levels (Mehlich-3 P & K) (Show conversions to ppm in Appendix 10)	ppm P	ppm K	pH	ppm P	ppm K	pH	ppm P	ppm K	pH	ppm P	ppm K	pH	ppm P	ppm K	pH
	39	84	5.6	39	84	5.6	14	30	5.9	14	30	5.9	26	43	6.0
P Index Part A	No to All			No to All			No to All			No to All			No to All		
	N Based			N Based			N Based			N Based			N Based		
Crop	Small Grain Silage			Soybeans			Small Grain Silage			Soybeans with Manure			Small Grain Silage		
Planned Yield	6 ton/A			50 bu/A			6 ton/A			50 bu/A			6 ton/A		
PSU Soil Test Recommendation (lb/A)	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O
	90	20	170	0	30	80	90	80	220	160	90	150	90	40	200
User Soil Test Recommendation (lb/A)															
Other Nutrients Applied (lb/A) (Nutrients applied regardless of manure)	0	0	0	5	11	5	0	0	0	0	0	0	0	0	0
P Index Application Method															
Double Crop CarryOver N (lb/A)	[29]	Winter Double Crop		29	Summer Double Crop		[29]	Winter Double Crop		29	Summer Double Crop		[29]	Winter Double Crop	
Manure History Description Residual Manure N (lb/A)	11	Continuously - Winter Double Crop		24	Continuously - Summer Double Crop		11	Continuously - Winter Double Crop		24	Continuously - Summer Double Crop		11	Continuously - Winter Double Crop	
Legume History Description Residual Legume N (lb/A)	0	No Previous Year Legume		0	No Previous Year Legume		0	No Previous Year Legume		0	No Previous Year Legume		0	No Previous Year Legume	
Net Nutrients Required (lb/A)	79	20	170	0	-78	74	79	80	220	107	53	199	79	40	200
Manure Group	Fall Applied Cattle Manure						Fall Applied Cattle Manure			Spring Applied Cattle Manure			Fall Applied Cattle Manure		
Application Season: Management (Incorporation, cover crops, etc.)	Early Fall: Early Sring Utilization. Incorporated after 7 days or none						Early Fall: Early Sring Utilization. Incorporated after 7 days or none			Spring: Incorporated after 7 days or none			Early Fall: Early Sring Utilization. Incorporated after 7 days or none		
Availability Factors (Total N or NH4-N & Organic N)	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N
	0.20						0.20			0.20			0.20		
P Index Application Method															
N Balanced Manure Rate (ton; gal/A)	40 tons/A						40 tons/A			55 tons/A			40 tons/A		
P Removal Balance Manure Rate (ton or gal/A; If required by P Index)	10 tons/A						12 tons/A			0 tons/A			12 tons/A		
	Crop P Removal (lb/A) 81.0			Crop P Removal (lb/A) 0.0			Crop P Removal (lb/A) 92.0			Crop P Removal (lb/A) 0.0			Crop P Removal (lb/A) 95.0		
P Index Value															
Planned Manure Rate (ton or gal/A)	15 tons/A			No Manure Applied			15 tons/A			15 tons/A			15 tons/A		
Nutrient Balance after Manure	50	-97	-1	0	-78	74	50	-37	49	0	-64	28	50	-77	29
Supplemental Fertilizer (lb/A)	50	0	0	0	0	0	50	0	0	0	0	0	50	0	0
P Index Application Method															
Final Nutrient Balance (lb/A)	0	-97	-1	0	-78	74	0	-37	49	0	-64	28	0	-77	29
Multiple Application															
Manure Utilized on CMU	48 tons			0			263 tons			263 tons			30 tons		

App. 4: Crop Yrs. 2018	Pasture Paddocks			Pasture Paddocks			H1+2			H1+2			H3		
CMU/Field ID															
Acres	8.3			8.3			3.4			3.4			4.0		
Soil Test Report Date	September 28, 2015			September 28, 2015			September 28, 2015			September 28, 2015			September 28, 2015		
Laboratory Name	Spectrum Analytic			Spectrum Analytic			Spectrum Analytic			Spectrum Analytic			Spectrum Analytic		
Soil Test Levels (Mehlich-3 P & K) (Show conversions to ppm in Appendix 10)	ppm P	ppm K	pH	ppm P	ppm K	pH	ppm P	ppm K	pH	ppm P	ppm K	pH	ppm P	ppm K	pH
	80	174	6.2	80	174	6.2	39	84	5.6	39	84	5.6	39	84	5.6
P Index Part A	No to All			No to All			No to All			No to All			No to All		
	N Based			N Based			N Based			N Based			N Based		
Crop	Established Pasture (without legume)			Established Pasture (without legume)			Small Grain Silage			Corn for Grain (No-till)			Established Alfalfa		
Planned Yield	3 ton/A			3 ton/A			6 ton/A			160 bu/A			5 ton/A		
PSU Soil Test Recommendation (lb/A)	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O
	150	0	20	150	0	20	90	20	170	160	30	60	0	40	260
User Soil Test Recommendation (lb/A)															
Other Nutrients Applied (lb/A) (Nutrients applied regardless of manure)	0	0	0	0	0	0	0	0	0	5	11	5	0	0	0
P Index Application Method															
Double Crop CarryOver N (lb/A)	0			0			[29]	Winter Double Crop		29	Summer Double Crop		0		
Manure History Description Residual Manure N (lb/A)	35	Continuously - Summer Crop		0	Continuously - Summer Crop		11	Continuously - Winter Double Crop		24	Continuously - Summer Double Crop		35	Continuously - Summer Crop	
Legume History Description Residual Legume N (lb/A)	0	No Previous Year Legume		0	No Previous Year Legume		0	No Previous Year Legume		50	Soybeans, 50 bu/A		0	No Previous Year Legume	
Net Nutrients Required (lb/A)	115	0	20	20	-301	-410	79	20	170	52	-78	54	0	40	260
Manure Group	Proposed HUA Cows - Uncollected			Proposed HUA Calves - Uncollected			Fall Applied Cattle Manure			Spring Applied Cattle Manure					
Application Season: Management (Incorporation, cover crops, etc.)	Grazing anytime with nutrient uptake during growing season			Grazing anytime with nutrient uptake during growing season			Early Fall: Early Sring Utilization. Incorporated after 7 days or none			Spring: Incorporated after 7 days or none					
Availability Factors (Total N or NH4-N & Organic N)	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N
	0.20			0.20			0.20			0.20					
P Index Application Method															
N Balanced Manure Rate (ton; gal/A)	52 tons/A			9 tons/A			40 tons/A			27 tons/A					
P Removal Balance Manure Rate (ton or gal/A; if required by P Index)	6 tons/A			0 tons/A			12 tons/A			0 tons/A					
	Crop P Removal (lb/A) 45.0			Crop P Removal (lb/A) 0.0			Crop P Removal (lb/A) 95.0			Crop P Removal (lb/A) 0.0			Crop P Removal (lb/A) 75.0		
P Index Value															
Planned Manure Rate (ton or gal/A)	43 tons/A			9 tons/A			15 tons/A			15 tons/A			No Manure Applied		
Nutrient Balance after Manure	20	-301	-410	1	-361	-496	50	-97	-1	23	-195	-117	0	40	260
Supplemental Fertilizer (lb/A)	0	0	0	0	0	0	50	0	0	20	0	0	0	0	180
P Index Application Method															
Final Nutrient Balance (lb/A)				1	-361	-496	0	-97	-1	3	-195	-117	0	40	80
Multiple Application	Multiple Initial			Multiple Final											
Manure Utilized on CMU	357 tons			71 tons			51 tons			51 tons			0		

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App. 4: Crop Yrs. 2018	F14B + F21 + Gabby			F15 + F17			F16 + F18 + F19 + F20			Pasture			Pasture		
CMU/Field ID															
Acres	7.9			5.6			8.2			6.3			6.3		
Soil Test Report Date	September 28, 2015			September 28, 2015			September 28, 2015			September 28, 2015			September 28, 2015		
Laboratory Name	Spectrum Analytic			Spectrum Analytic			Spectrum Analytic			Spectrum Analytic			Spectrum Analytic		
Soil Test Levels (Mehlich-3 P & K) (Show conversions to ppm in Appendix 10)	ppm P	ppm K	pH	ppm P	ppm K	pH	ppm P	ppm K	pH	ppm P	ppm K	pH	ppm P	ppm K	pH
	27	57	5.6	28	51	6.4	28	51	6.4	80	174	6.2	80	174	6.2
P Index Part A	No to All			No to All			No to All			<150ft			<150ft		
	N Based			N Based			N Based			Part B			Part B		
Crop	Corn for Grain (No-till)			Soybeans			Established Alfalfa			Established Pasture (without legume)			Established Pasture (without legume)		
Planned Yield	160 bu/A			50 bu/A			5 ton/A			3 ton/A			3 ton/A		
PSU Soil Test Recommendation (lb/A)	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O
	160	60	100	0	50	110	0	80	270	150	0	20	150	0	20
User Soil Test Recommendation (lb/A)															
Other Nutrients Applied (lb/A) (Nutrients applied regardless of manure)	5	11	5	0	0	0	0	0	0	0	0	0	0	0	0
P Index Application Method															
Double Crop CarryOver N (lb/A)	29	Summer Double Crop		0			0			0			0		
Manure History Description Residual Manure N (lb/A)	24	Continuously - Summer Double Crop		35	Continuously - Summer Crop		35	Continuously - Summer Crop		35	Continuously - Summer Crop		0	Continuously - Summer Crop	
Legume History Description Residual Legume N (lb/A)	50	Soybeans, 50 bu/A		0	No Previous Year Legume		0	No Previous Year Legume		0	No Previous Year Legume		0	No Previous Year Legume	
Net Nutrients Required (lb/A)	52	-28	114	0	50	110	0	80	270	115	0	20	89	-83	-99
Manure Group	Spring Applied Cattle Manure									Proposed HUA Cows - Uncollected			Proposed HUA Calves - Uncollected		
Application Season: Management (Incorporation, cover crops, etc.)	Spring: Incorporated after 7 days or none									Grazing anytime with nutrient uptake during growing season			Grazing anytime with nutrient uptake during growing season		
Availability Factors (Total N or NH4-N & Organic N)	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N
	0.20									0.20			0.20		
P Index Application Method										April - Oct: No incorp or incorp > 1 wk.			April - Oct: No incorp or incorp > 1 wk.		
N Balanced Manure Rate (ton; gal/A)	27 tons/A									52 tons/A			41 tons/A		
P Removal Balance Manure Rate (ton or gal/A; If required by P Index)	0 tons/A									6 tons/A			0 tons/A		
	Crop P Removal (lb/A) 0.0			Crop P Removal (lb/A) 50.0			Crop P Removal (lb/A) 75.0			Crop P Removal (lb/A) 45.0			Crop P Removal (lb/A) 0.0		
P Index Value										74			74		
Planned Manure Rate (ton or gal/A)	15 tons/A			No Manure Applied			No Manure Applied			12 tons/A			2 tons/A		
Nutrient Balance after Manure	23	-145	-57	0	50	110	0	80	270	99	-83	-99	84	-98	-121
Supplemental Fertilizer (lb/A)	20	0	0	0	0	0	0	0	180	0	0	0	80	0	0
P Index Application Method															
Final Nutrient Balance (lb/A)	3	-145	-57	0	50	110	0	80	90				4	-98	-121
Multiple Application										Multiple Initial			Multiple Final		
Manure Utilized on CMU	119 tons			0			0			75 tons			14 tons		

App. 4: Crop Yrs. 2018	F12			F12			F13			F14A			F14B + F21 + Gabby		
CMU/Field ID															
Acres	2.8			2.8			2.6			3.2			7.9		
Soil Test Report Date	September 28, 2015			September 28, 2015			September 28, 2015			September 28, 2015			September 28, 2015		
Laboratory Name	Spectrum Analytic			Spectrum Analytic			Spectrum Analytic			Spectrum Analytic			Spectrum Analytic		
Soil Test Levels (Mehlich-3 P & K) (Show conversions to ppm in Appendix 10)	ppm P	ppm K	pH	ppm P	ppm K	pH	ppm P	ppm K	pH	ppm P	ppm K	pH	ppm P	ppm K	pH
	81	71	7.0	81	71	7.0	81	71	7.3	27	57	5.6	27	57	5.6
P Index Part A	No to All			No to All			No to All			No to All			No to All		
	N Based			N Based			N Based			N Based			N Based		
Crop	Small Grain Silage			Sorghum-Sudangrass			Soybeans			Corn for Grain (No-till)			Small Grain Silage		
Planned Yield	6 ton/A			12 ton/A			50 bu/A			160 bu/A			6 ton/A		
PSU Soil Test Recommendation (lb/A)	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O
	90	0	170	120	0	150	0	0	90	160	60	100	90	40	190
User Soil Test Recommendation (lb/A)															
Other Nutrients Applied (lb/A) (Nutrients applied regardless of manure)	0	0	0	0	0	0	0	0	0	5	11	5	0	0	0
P Index Application Method															
Double Crop CarryOver N (lb/A)	[29]	Winter Double Crop		29	Summer Double Crop		0			0			[29]	Winter Double Crop	
Manure History Description Residual Manure N (lb/A)	11	Continuously - Winter Double Crop		24	Continuously - Summer Double Crop		35	Continuously - Summer Crop		35	Continuously - Summer Crop		11	Continuously - Winter Double Crop	
Legume History Description Residual Legume N (lb/A)	0	No Previous Year Legume		0	Soybeans, 50 bu/A		0	No Previous Year Legume		50	Soybeans, 50 bu/A		0	No Previous Year Legume	
Net Nutrients Required (lb/A)	79	0	170	67	-117	149	0	0	90	70	49	95	79	40	190
Manure Group	Fall Applied Cattle Manure									Spring Applied Cattle Manure			Fall Applied Cattle Manure		
Application Season: Management (Incorporation, cover crops, etc.)	Early Fall: Early Sring Utilization. Incorporated after 7 days or none									Spring: Incorporated after 7 days or none			Early Fall: Early Sring Utilization. Incorporated after 7 days or none		
Availability Factors (Total N or NH4-N & Organic N)	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N
	0.20									0.20			0.20		
P Index Application Method															
N Balanced Manure Rate (ton; gal/A)	40 tons/A									36 tons/A			40 tons/A		
P Removal Balance Manure Rate (ton or gal/A; if required by P Index)	16 tons/A									7 tons/A			12 tons/A		
	Crop P Removal (lb/A) 126.0			Crop P Removal (lb/A) 9.0			Crop P Removal (lb/A) 50.0			Crop P Removal (lb/A) 53.0			Crop P Removal (lb/A) 95.0		
P Index Value															
Planned Manure Rate (ton or gal/A)	15 tons/A			No Manure Applied			No Manure Applied			15 tons/A			15 tons/A		
Nutrient Balance after Manure	50	-117	-1	67	-117	149	0	0	90	41	-68	-76	50	-77	19
Supplemental Fertilizer (lb/A)	50	0	0	65	0	0	0	0	0	35	0	0	50	0	0
P Index Application Method															
Final Nutrient Balance (lb/A)	0	-117	-1	2	-117	149	0	0	90	6	-68	-76	0	-77	19
Multiple Application															
Manure Utilized on CMU	42 tons			0			0			48 tons			119 tons		

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App. 4: Crop Yrs. 2018	F7A			F7A			F8+9			F8+9			F10+11		
CMU/Field ID															
Acres	2.2			2.2			4.4			4.4			3.4		
Soil Test Report Date	September 28, 2015			September 28, 2015			September 28, 2015			September 28, 2015			September 28, 2015		
Laboratory Name	Spectrum Analytic			Spectrum Analytic			Spectrum Analytic			Spectrum Analytic			Spectrum Analytic		
Soil Test Levels (Mehlich-3 P & K) (Show conversions to ppm in Appendix 10)	ppm P	ppm K	pH	ppm P	ppm K	pH	ppm P	ppm K	pH	ppm P	ppm K	pH	ppm P	ppm K	pH
	51	71	7.3	51	71	7.3	81	71	7.3	81	71	7.3	81	71	7.0
P Index Part A	No to All			No to All			No to All			No to All			No to All		
	N Based			N Based			N Based			N Based			N Based		
Crop	Oats			Small Grain Silage			Oats			Small Grain Silage			Established Alfalfa		
Planned Yield	80 bu/A			6 ton/A			80 bu/A			6 ton/A			5 ton/A		
PSU Soil Test Recommendation (lb/A)	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O
	70	0	150	90	0	170	70	0	150	90	0	170	0	0	260
User Soil Test Recommendation (lb/A)															
Other Nutrients Applied (lb/A) (Nutrients applied regardless of manure)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
P Index Application Method															
Double Crop CarryOver N (lb/A)	[29]	Winter Double Crop		29	Summer Double Crop		[29]	Winter Double Crop		29	Summer Double Crop		0		
Manure History Description Residual Manure N (lb/A)	11	Continuously - Winter Double Crop		24	Continuously - Summer Double Crop		11	Continuously - Winter Double Crop		24	Continuously - Summer Double Crop		35	Continuously - Summer Crop	
Legume History Description Residual Legume N (lb/A)	0	No Previous Year Legume		0	No Previous Year Legume		0	No Previous Year Legume		0	No Previous Year Legume		0	No Previous Year Legume	
Net Nutrients Required (lb/A)	59	0	150	37	-117	149	59	0	150	37	-117	149	0	0	260
Manure Group	Spring Applied Cattle Manure						Spring Applied Cattle Manure								
Application Season: Management (Incorporation, cover crops, etc.)	Spring: Incorporated after 7 days or none						Spring: Incorporated after 7 days or none								
Availability Factors (Total N or NH4-N & Organic N)	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N
	0.20						0.20								
P Index Application Method															
N Balanced Manure Rate (ton; gal/A)	30 tons/A						30 tons/A								
P Removal Balance Manure Rate (ton or gal/A; If required by P Index)	16 tons/A						16 tons/A								
	Crop P Removal (lb/A) 122.0			Crop P Removal (lb/A) 5.0			Crop P Removal (lb/A) 122.0			Crop P Removal (lb/A) 5.0			Crop P Removal (lb/A) 75.0		
P Index Value															
Planned Manure Rate (ton or gal/A)	15 tons/A			No Manure Applied			15 tons/A			No Manure Applied			No Manure Applied		
Nutrient Balance after Manure	30	-117	-21	37	-117	149	30	-117	-21	37	-117	149	0	0	260
Supplemental Fertilizer (lb/A)	30	0	0	35	0	0	30	0	0	35	0	0	0	0	180
P Index Application Method															
Final Nutrient Balance (lb/A)	0	-117	-21	2	-117	149	0	-117	-21	2	-117	149	0	0	80
Multiple Application															
Manure Utilized on CMU	33 tons			0			66 tons			0			0		

App. 4: Crop Yrs. 2018	F1+3+5+7			F1+3+5+7			F2+4			F2+4			F6		
CMU/Field ID															
Acres	7.8			7.8			3.0			3.0			2.4		
Soil Test Report Date	September 28, 2015			September 28, 2015			September 28, 2015			September 28, 2015			September 28, 2015		
Laboratory Name	Spectrum Analytic			Spectrum Analytic			Spectrum Analytic			Spectrum Analytic			Spectrum Analytic		
Soil Test Levels (Mehlich-3 P & K) (Show conversions to ppm in Appendix 10)	ppm P	ppm K	pH	ppm P	ppm K	pH	ppm P	ppm K	pH	ppm P	ppm K	pH	ppm P	ppm K	pH
	51	71	7.3	51	71	7.3	51	71	7.3	51	71	7.3	51	71	7.3
P Index Part A	No to All			No to All			No to All			No to All			No to All		
	N Based			N Based			N Based			N Based			N Based		
Crop	Small Grain Silage			Sorghum-Sudangrass			Small Grain Silage			Corn for Grain (No-till)			Established Alfalfa		
Planned Yield	6 ton/A			12 ton/A			6 ton/A			160 bu/A			5 ton/A		
PSU Soil Test Recommendation (lb/A)	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O
	90	0	170	120	0	150	90	0	170	160	0	70	0	0	260
User Soil Test Recommendation (lb/A)															
Other Nutrients Applied (lb/A) (Nutrients applied regardless of manure)	0	0	0	0	0	0	0	0	0	5	11	5	0	0	0
P Index Application Method															
Double Crop CarryOver N (lb/A)	[29]	Winter Double Crop		29	Summer Double Crop		[29]	Winter Double Crop		29	Summer Double Crop		0		
Manure History Description Residual Manure N (lb/A)	11	Continuously - Winter Double Crop		24	Continuously - Summer Double Crop		11	Continuously - Winter Double Crop		24	Continuously - Summer Double Crop		35	Continuously - Summer Crop	
Legume History Description Residual Legume N (lb/A)	0	No Previous Year Legume		0	No Previous Year Legume		0	No Previous Year Legume		50	Soybeans, 50 bu/A		0	No Previous Year Legume	
Net Nutrients Required (lb/A)	79	0	170	67	-117	149	79	0	170	52	-128	64	0	0	260
Manure Group	Fall Applied Cattle Manure			Spring Applied Cattle Manure			Fall Applied Cattle Manure			Spring Applied Cattle Manure					
Application Season: Management (Incorporation, cover crops, etc.)	Early Fall: Early Sring Utilization. Incorporated after 7 days or none			Spring: Incorporated after 7 days or none			Early Fall: Early Sring Utilization. Incorporated after 7 days or none			Spring: Incorporated after 7 days or none					
Availability Factors (Total N or NH4-N & Organic N)	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N
	0.20			0.20			0.20			0.20					
P Index Application Method															
N Balanced Manure Rate (ton; gal/A)	40 tons/A			34 tons/A			40 tons/A			27 tons/A					
P Removal Balance Manure Rate (ton or gal/A; If required by P Index)	16 tons/A			1 tons/A			12 tons/A			0 tons/A					
	Crop P Removal (lb/A) 126.0			Crop P Removal (lb/A) 9.0			Crop P Removal (lb/A) 95.0			Crop P Removal (lb/A) 0.0			Crop P Removal (lb/A) 75.0		
P Index Value															
Planned Manure Rate (ton or gal/A)	15 tons/A			15 tons/A			15 tons/A			15 tons/A			No Manure Applied		
Nutrient Balance after Manure	50	-117	-1	38	-234	-22	50	-117	-1	23	-245	-107	0	0	260
Supplemental Fertilizer (lb/A)	50	0	0	35	0	0	50	0	0	20	0	0	0	0	180
P Index Application Method															
Final Nutrient Balance (lb/A)	0	-117	-1	3	-234	-22	0	-117	-1	3	-245	-107	0	0	80
Multiple Application															
Manure Utilized on CMU	117 tons			117 tons			45 tons			45 tons			0		

App. 4: Crop Yrs. 2017	T2064 - 2			T299 - 1			T299 - 2			T299 - 3		
CMU/Field ID												
Acres	5.3			6.4			2.0			7.4		
Soil Test Report Date	September 28, 2015			September 28, 2015			September 28, 2015			September 28, 2015		
Laboratory Name	Spectrum Analytic			Spectrum Analytic			Spectrum Analytic			Spectrum Analytic		
Soil Test Levels (Mehlich-3 P & K) (Show conversions to ppm in Appendix 10)	ppm P	ppm K	pH	ppm P	ppm K	pH	ppm P	ppm K	pH	ppm P	ppm K	pH
	46	88	6.0	14	30	5.9	14	30	5.9	14	30	5.9
P Index Part A	No to All			No to All			No to All			No to All		
	N Based			N Based			N Based			N Based		
Crop	Established Alfalfa with Manure			Established Alfalfa with Manure			Established Alfalfa with Manure			Established Alfalfa with Manure		
Planned Yield	5 ton/A			5 ton/A			5 ton/A			5 ton/A		
PSU Soil Test Recommendation (lb/A)	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O
	250	0	260	250	130	290	250	130	290	250	130	290
User Soil Test Recommendation (lb/A)												
Other Nutrients Applied (lb/A) (Nutrients applied regardless of manure)												
P Index Application Method												
Double Crop CarryOver N (lb/A)	0			0			0			0		
Manure History Description Residual Manure N (lb/A)	35	Continuously - Summer Crop		35	Continuously - Summer Crop		35	Continuously - Summer Crop		35	Continuously - Summer Crop	
Legume History Description Residual Legume N (lb/A)	0	No Previous Year Legume		0	No Previous Year Legume		0	No Previous Year Legume		0	No Previous Year Legume	
Net Nutrients Required (lb/A)	215	0	260	215	130	290	215	130	290	215	130	290
Manure Group												
Application Season: Management (incorporation, cover crops, etc.)												
Availability Factors (Total N or NH4-N & Organic N)	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N
P Index Application Method												
N Balanced Manure Rate (ton; gal/A)												
P Removal Balance Manure Rate (ton or gal/A; if required by P Index)	Crop P Removal (lb/A) 75.0			Crop P Removal (lb/A) 0.0			Crop P Removal (lb/A) 0.0			Crop P Removal (lb/A) 0.0		
P Index Value												
Planned Manure Rate (ton or gal/A)	No Manure Applied			No Manure Applied			No Manure Applied			No Manure Applied		
Nutrient Balance after Manure	0	0	260	0	130	290	0	130	290	0	130	290
Supplemental Fertilizer (lb/A)	0	0	180	0	130	180	0	130	180	0	130	180
P Index Application Method												
Final Nutrient Balance (lb/A)	215	0	80	215	0	110	215	0	110	215	0	110
Multiple Application												
Manure Utilized on CMU	0			0			0			0		

App. 4: Crop Yrs. 2017	H13-16+19			H17&18			NH2-10			NH11+12			NH13+14		
CMU/Field ID															
Acres	9.2			5.0			17.1			2.8			7.7		
Soil Test Report Date	September 28, 2015			September 28, 2015			September 28, 2015			September 28, 2015			September 28, 2015		
Laboratory Name	Spectrum Analytic			Spectrum Analytic			Spectrum Analytic			Spectrum Analytic			Spectrum Analytic		
Soil Test Levels (Mehlich-3 P & K) (Show conversions to ppm in Appendix 10)	ppm P	ppm K	pH	ppm P	ppm K	pH	ppm P	ppm K	pH	ppm P	ppm K	pH	ppm P	ppm K	pH
	46	88	6.0	46	88	6.0	18	35	4.9	27	87	6.0	27	87	6.0
P Index Part A	<150ft			No to All			No to All			No to All			No to All		
	Part B			N Based			N Based			N Based			N Based		
Crop	Corn for Grain (No-till)			Soybeans with Manure			Soybeans with Manure			Corn for Grain (No-till)			Corn for Grain (No-till)		
Planned Yield	160 bu/A			50 bu/A			50 bu/A			160 bu/A			160 bu/A		
PSU Soil Test Recommendation (lb/A)	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O
	160	0	60	160	0	80	160	80	140	160	60	60	160	60	60
User Soil Test Recommendation (lb/A)															
Other Nutrients Applied (lb/A) (Nutrients applied regardless of manure)	5	11	5	0	0	0	5	11	5	0	0	0	0	0	0
P Index Application Method	Starter or Injected														
Double Crop CarryOver N (lb/A)	15	Summer Double Crop		0			0			0			0		
Manure History Description Residual Manure N (lb/A)	24	Continuously - Summer Double Crop		35	Continuously - Summer Crop		35	Continuously - Summer Crop		35	Continuously - Summer Crop		35	Continuously - Summer Crop	
Legume History Description Residual Legume N (lb/A)	0	No Previous Year Legume		0	No Previous Year Legume		0	No Previous Year Legume		50	Soybeans, 50 bu/A		50	Soybeans, 50 bu/A	
Net Nutrients Required (lb/A)	116	-70	139	125	0	80	120	69	135	75	60	60	75	60	60
Manure Group	Spring Applied Cattle Manure			Fall Applied Cattle Manure						Spring Applied Cattle Manure			Spring Applied Cattle Manure		
Application Season: Management (Incorporation, cover crops, etc.)	Spring: Incorporated after 7 days or none			Late Fall: For next summer use by corn or annuals-Green manure cover crop						Spring: Incorporated after 7 days or none			Spring: Incorporated after 7 days or none		
Availability Factors (Total N or NH4-N & Organic N)	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N
	0.20			0.40						0.20			0.20		
P Index Application Method	April - Oct: No incorp or incorp > 1 wk.														
N Balanced Manure Rate (ton; gal/A)	59 tons/A			32 tons/A						38 tons/A			38 tons/A		
P Removal Balance Manure Rate (ton or gal/A; If required by P Index)	5 tons/A			6 tons/A						8 tons/A			8 tons/A		
	Crop P Removal (lb/A) 36.0			Crop P Removal (lb/A) 50.0			Crop P Removal (lb/A) 39.0			Crop P Removal (lb/A) 64.0			Crop P Removal (lb/A) 64.0		
P Index Value	77														
Planned Manure Rate (ton or gal/A)	15 tons/A			15 tons/A			No Manure Applied			15 tons/A			15 tons/A		
Nutrient Balance after Manure	87	-187	-32	0	-117	-91	0	69	135	46	-57	-111	46	-57	-111
Supplemental Fertilizer (lb/A)	85	0	0	0	0	0	0	0	0	45	0	0	45	0	0
P Index Application Method															
Final Nutrient Balance (lb/A)	2	-187	-32	0	-117	-91	120	69	135	1	-57	-111	1	-57	-111
Multiple Application															
Manure Utilized on CMU	138 tons			75 tons			0			42 tons			116 tons		

App. 4: Crop Yrs. 2017	H8			H9+10			H11+12			H11+12			H13-16+19		
CMU/Field ID															
Acres	2.0			9.3			1.9			1.9			9.2		
Soil Test Report Date	September 28, 2015			September 28, 2015			September 28, 2015			September 28, 2015			September 28, 2015		
Laboratory Name	Spectrum Analytic			Spectrum Analytic			Spectrum Analytic			Spectrum Analytic			Spectrum Analytic		
Soil Test Levels (Mehlich-3 P & K) (Show conversions to ppm in Appendix 10)	ppm P	ppm K	pH	ppm P	ppm K	pH	ppm P	ppm K	pH	ppm P	ppm K	pH	ppm P	ppm K	pH
	26	43	6.0	26	43	6.0	46	88	6.0	46	88	6.0	46	88	6.0
P Index Part A	No to All			No to All			<150ft			<150ft			<150ft		
	N Based			N Based			Part B			Part B			Part B		
Crop	Sorghum-Sudangrass			Soybeans with Manure			Small Grain Silage			Sorghum-Sudangrass			Small Grain Silage		
Planned Yield	15 ton/A			50 bu/A			6 ton/A			15 ton/A			6 ton/A		
PSU Soil Test Recommendation (lb/A)	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O
	120	110	210	160	50	130	90	0	170	120	0	130	90	0	170
User Soil Test Recommendation (lb/A)															
Other Nutrients Applied (lb/A) (Nutrients applied regardless of manure)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
P Index Application Method															
Double Crop CarryOver N (lb/A)	0			0			[15]	Winter Double Crop		15	Summer Double Crop		[15]	Winter Double Crop	
Manure History Description Residual Manure N (lb/A)	35	Continuously - Summer Crop		35	Continuously - Summer Crop		11	Continuously - Winter Double Crop		24	Continuously - Summer Double Crop		11	Continuously - Winter Double Crop	
Legume History Description Residual Legume N (lb/A)	0	Soybeans, 55 bu/A		0	No Previous Year Legume		0	No Previous Year Legume		0	Soybeans, 50 bu/A		0	No Previous Year Legume	
Net Nutrients Required (lb/A)	85	110	210	125	50	130	79	0	170	81	-59	214	79	0	170
Manure Group	Spring Applied Cattle Manure			Fall Applied Cattle Manure			Fall Applied Cattle Manure			Spring Applied Cattle Manure			Fall Applied Cattle Manure		
Application Season: Management (incorporation, cover crops, etc.)	Spring: Incorporated after 7 days or none			Late Fall: For next summer use by corn or annuals-Green manure cover crop			Early Fall: Early Sring Utilization. Incorporated after 7 days or none			Spring: Incorporated after 7 days or none			Early Fall: Early Sring Utilization. Incorporated after 7 days or none		
Availability Factors (Total N or NH4-N & Organic N)	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N
	0.20			0.40			0.20			0.20			0.20		
P Index Application Method							April - Oct: No incorp or incorp > 1 wk.			April - Oct: No incorp or incorp > 1 wk.			April - Oct: No incorp or incorp > 1 wk.		
N Balanced Manure Rate (ton; gal/A)	43 tons/A			32 tons/A			40 tons/A			41 tons/A			40 tons/A		
P Removal Balance Manure Rate (ton or gal/A; if required by P Index)	14 tons/A			6 tons/A			19 tons/A			11 tons/A			12 tons/A		
	Crop P Removal (lb/A) 105.0			Crop P Removal (lb/A) 50.0			Crop P Removal (lb/A) 147.0			Crop P Removal (lb/A) 88.0			Crop P Removal (lb/A) 95.0		
P Index Value							75			75			77		
Planned Manure Rate (ton or gal/A)	15 tons/A			15 tons/A			8 tons/A			15 tons/A			8 tons/A		
Nutrient Balance after Manure	56	-7	39	0	-67	-41	64	-59	84	52	-176	43	64	-59	84
Supplemental Fertilizer (lb/A)	50	0	0	0	0	0	60	0	0	50	0	0	60	0	0
P Index Application Method															
Final Nutrient Balance (lb/A)	6	-7	39	0	-67	-41	4	-59	84	2	-176	43	4	-59	84
Multiple Application															
Manure Utilized on CMU	30 tons			140 tons			14 tons			29 tons			69 tons		

App. 4: Crop Yrs. 2017	H1+2			H1+2			H3			H4			H5 + H6 + H7		
CMU/Field ID															
Acres	3.4			3.4			4.0			3.2			17.5		
Soil Test Report Date	September 28, 2015			September 28, 2015			September 28, 2015			September 28, 2015			September 28, 2015		
Laboratory Name	Spectrum Analytic			Spectrum Analytic			Spectrum Analytic			Spectrum Analytic			Spectrum Analytic		
Soil Test Levels (Mehlich-3 P & K) (Show conversions to ppm in Appendix 10)	ppm P	ppm K	pH	ppm P	ppm K	pH	ppm P	ppm K	pH	ppm P	ppm K	pH	ppm P	ppm K	pH
	39	84	5.6	39	84	5.6	39	84	5.6	39	84	5.6	14	30	5.9
P Index Part A	No to All			No to All			No to All			No to All			No to All		
	N Based			N Based			N Based			N Based			N Based		
Crop	Small Grain Silage			Sorghum-Sudangrass			Established Alfalfa with Manure			Corn for Grain (No-till)			Corn for Grain (No-till)		
Planned Yield	6 ton/A			15 ton/A			5 ton/A			160 bu/A			160 bu/A		
PSU Soil Test Recommendation (lb/A)	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O
	90	20	170	120	50	130	250	40	260	160	30	60	160	100	140
User Soil Test Recommendation (lb/A)															
Other Nutrients Applied (lb/A) (Nutrients applied regardless of manure)	0	0	0	0	0	0	0	0	0	5	11	5	5	11	5
P Index Application Method															
Double Crop CarryOver N (lb/A)	[29]	Winter Double Crop		29	Summer Double Crop		0			0			0		
Manure History Description Residual Manure N (lb/A)	11	Continuously - Winter Double Crop		24	Continuously - Summer Double Crop		35	Continuously - Summer Crop		35	Continuously - Summer Crop		35	Continuously - Summer Crop	
Legume History Description Residual Legume N (lb/A)	0	No Previous Year Legume		0	Soybeans, 50 bu/A		0	No Previous Year Legume		0	No Previous Year Legume		0	No Previous Year Legume	
Net Nutrients Required (lb/A)	79	20	170	67	-47	129	215	40	260	120	19	55	120	89	135
Manure Group	Fall Applied Cattle Manure			Spring Applied Cattle Manure			Fall Applied Cattle Manure			Spring Applied Cattle Manure			Spring Applied Cattle Manure		
Application Season: Management (incorporation, cover crops, etc.)	Early Fall: Early Sring Utilization. Incorporated after 7 days or none			Spring: Incorporated after 7 days or none			Late Fall: For next summer use by corn or annuals-No cover crop			Spring: Incorporated after 7 days or none			Spring: Incorporated after 7 days or none		
Availability Factors (Total N or NH4-N & Organic N)	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N
	0.20			0.20			0.20			0.20			0.20		
P Index Application Method															
N Balanced Manure Rate (ton; gal/A)	40 tons/A			34 tons/A			110 tons/A			61 tons/A			61 tons/A		
P Removal Balance Manure Rate (ton or gal/A; If required by P Index)	19 tons/A			4 tons/A			10 tons/A			7 tons/A			7 tons/A		
	Crop P Removal (lb/A) 147.0			Crop P Removal (lb/A) 30.0			Crop P Removal (lb/A) 75.0			Crop P Removal (lb/A) 53.0			Crop P Removal (lb/A) 53.0		
P Index Value															
Planned Manure Rate (ton or gal/A)	15 tons/A			15 tons/A			15 tons/A			15 tons/A			15 tons/A		
Nutrient Balance after Manure	50	-97	-1	38	-164	-42	0	-77	89	91	-98	-116	91	-28	-36
Supplemental Fertilizer (lb/A)	50	0	0	35	0	0	0	0	0	90	0	0	90	0	0
P Index Application Method															
Final Nutrient Balance (lb/A)	0	-97	-1	3	-164	-42	0	-77	89	1	-98	-116	1	-28	-36
Multiple Application															
Manure Utilized on CMU	51 tons			51 tons			60 tons			48 tons			263 tons		

App. 4: Crop Yrs. 2017	F16 + F18 + F19 + F20			Pasture			Pasture			Pasture Paddocks			Pasture Paddocks		
CMU/Field ID	8.2			6.3			6.3			8.3			8.3		
Acres	September 28, 2015			September 28, 2015			September 28, 2015			September 28, 2015			September 28, 2015		
Soil Test Report Date	Spectrum Analytic			Spectrum Analytic			Spectrum Analytic			Spectrum Analytic			Spectrum Analytic		
Laboratory Name	ppm P	ppm K	pH	ppm P	ppm K	pH	ppm P	ppm K	pH	ppm P	ppm K	pH	ppm P	ppm K	pH
Soil Test Levels (Mehlich-3 P & K) (Show conversions to ppm in Appendix 10)	28	51	6.4	80	174	6.2	80	174	6.2	80	174	6.2	80	174	6.2
P Index Part A	No to All			<150ft			<150ft			No to All			No to All		
	N Based			Part B			Part B			N Based			N Based		
Crop	Established Alfalfa with Manure			Established Pasture (without legume)			Established Pasture (without legume)			Established Pasture (without legume)			Established Pasture (without legume)		
Planned Yield	5 ton/A			3 ton/A			3 ton/A			3 ton/A			3 ton/A		
PSU Soil Test Recommendation (lb/A)	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O
	250	80	270	150	0	20	150	0	20	150	0	20	150	0	20
User Soil Test Recommendation (lb/A)															
Other Nutrients Applied (lb/A) (Nutrients applied regardless of manure)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
P Index Application Method															
Double Crop CarryOver N (lb/A)	0			0			0			0			0		
Manure History Description Residual Manure N (lb/A)	35	Continuously - Summer Crop		35	Continuously - Summer Crop		0	Continuously - Summer Crop		35	Continuously - Summer Crop		0	Continuously - Summer Crop	
Legume History Description Residual Legume N (lb/A)	0	No Previous Year Legume		0	No Previous Year Legume		0	No Previous Year Legume		0	No Previous Year Legume		0	No Previous Year Legume	
Net Nutrients Required (lb/A)	215	80	270	115	0	20	89	-83	-99	115	0	20	20	-301	-410
Manure Group	Fall Applied Cattle Manure			Proposed HUA Cows - Uncollected			Proposed HUA Calves - Uncollected			Proposed HUA Cows - Uncollected			Proposed HUA Calves - Uncollected		
Application Season: Management (Incorporation, cover crops, etc.)	Late Fall: For next summer use by corn or annuals-No cover crop			Grazing anytime with nutrient uptake during growing season			Grazing anytime with nutrient uptake during growing season			Grazing anytime with nutrient uptake during growing season			Grazing anytime with nutrient uptake during growing season		
Availability Factors (Total N or NH4-N & Organic N)	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N
	0.20			0.20			0.20			0.20			0.20		
P Index Application Method				April - Oct: No incorp or incorp > 1 wk.			April - Oct: No incorp or incorp > 1 wk.								
N Balanced Manure Rate (ton; gal/A)	110 tons/A			52 tons/A			41 tons/A			52 tons/A			9 tons/A		
P Removal Balance Manure Rate (ton or gal/A; if required by P Index)	10 tons/A			6 tons/A			0 tons/A			6 tons/A			0 tons/A		
	Crop P Removal (lb/A) 75.0			Crop P Removal (lb/A) 45.0			Crop P Removal (lb/A) 0.0			Crop P Removal (lb/A) 45.0			Crop P Removal (lb/A) 0.0		
P Index Value				74			74								
Planned Manure Rate (ton or gal/A)	15 tons/A			12 tons/A			2 tons/A			43 tons/A			9 tons/A		
Nutrient Balance after Manure	0	-37	99	89	-83	-99	84	-98	-121	20	-301	-410	1	-361	-496
Supplemental Fertilizer (lb/A)	0	0	0	0	0	0	80	0	0	0	0	0	0	0	0
P Index Application Method															
Final Nutrient Balance (lb/A)	0	-37	99				4	-98	-121				1	-361	-496
Multiple Application				Multiple Initial			Multiple Final			Multiple Initial			Multiple Final		
Manure Utilized on CMU	123 tons			75 tons			14 tons			357 tons			71 tons		

App. 4: Crop Yrs. 2017	F13			F14A			F14B + F21 + Gabby			F14B + F21 + Gabby			F15 + F17		
CMU/Field ID															
Acres	2.6			3.2			7.9			7.9			5.6		
Soil Test Report Date	September 28, 2015			September 28, 2015			September 28, 2015			September 28, 2015			September 28, 2015		
Laboratory Name	Spectrum Analytic			Spectrum Analytic			Spectrum Analytic			Spectrum Analytic			Spectrum Analytic		
Soil Test Levels (Mehlich-3 P & K) (Show conversions to ppm in Appendix 10)	ppm P	ppm K	pH	ppm P	ppm K	pH	ppm P	ppm K	pH	ppm P	ppm K	pH	ppm P	ppm K	pH
	81	71	7.3	27	57	5.6	27	57	5.6	27	57	5.6	28	51	6.4
P Index Part A	No to All			No to All			No to All			No to All			No to All		
	N Based			N Based			N Based			N Based			N Based		
Crop	Corn for Grain (No-till)			Soybeans with Manure			Small Grain Silage			Sorghum-Sudangrass			Corn for Grain (No-till)		
Planned Yield	160 bu/A			50 bu/A			6 ton/A			15 ton/A			160 bu/A		
PSU Soil Test Recommendation (lb/A)	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O
	160	0	70	160	50	110	90	40	190	120	110	190	160	60	100
User Soil Test Recommendation (lb/A)															
Other Nutrients Applied (lb/A) (Nutrients applied regardless of manure)	5	11	5	0	0	0	0	0	0	0	0	0	5	11	5
P Index Application Method															
Double Crop CarryOver N (lb/A)	29	Summer Double Crop		0			[29]	Winter Double Crop		29	Summer Double Crop		0		
Manure History Description Residual Manure N (lb/A)	24	Continuously - Summer Double Crop		35	Continuously - Summer Crop		11	Continuously - Winter Double Crop		24	Continuously - Summer Double Crop		35	Continuously - Summer Crop	
Legume History Description Residual Legume N (lb/A)	0	No Previous Year Legume		0	No Previous Year Legume		0	No Previous Year Legume		0	Soybeans, 50 bu/A		0	No Previous Year Legume	
Net Nutrients Required (lb/A)	102	-128	64	125	50	110	79	40	190	67	33	209	120	49	95
Manure Group	Spring Applied Cattle Manure			Fall Applied Cattle Manure			Fall Applied Cattle Manure			Spring Applied Cattle Manure			Spring Applied Cattle Manure		
Application Season: Management (Incorporation, cover crops, etc.)	Spring: Incorporated after 7 days or none			Late Fall: For next summer use by corn or annuals-Green manure cover crop			Early Fall: Early Sring Utilization. Incorporated after 7 days or none			Spring: Incorporated after 7 days or none			Spring: Incorporated after 7 days or none		
Availability Factors (Total N or NH4-N & Organic N)	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N
	0.20			0.40			0.20			0.20			0.20		
P Index Application Method															
N Balanced Manure Rate (ton; gal/A)	52 tons/A			32 tons/A			40 tons/A			34 tons/A			61 tons/A		
P Removal Balance Manure Rate (ton or gal/A; If required by P Index)	0 tons/A			6 tons/A			19 tons/A			4 tons/A			7 tons/A		
	Crop P Removal (lb/A) 0.0			Crop P Removal (lb/A) 50.0			Crop P Removal (lb/A) 147.0			Crop P Removal (lb/A) 30.0			Crop P Removal (lb/A) 53.0		
P Index Value															
Planned Manure Rate (ton or gal/A)	15 tons/A			15 tons/A			15 tons/A			15 tons/A			15 tons/A		
Nutrient Balance after Manure	73	-245	-107	0	-57	-61	50	-77	19	38	-84	38	91	-68	-76
Supplemental Fertilizer (lb/A)	70	0	0	0	0	0	50	0	0	35	0	0	90	0	0
P Index Application Method															
Final Nutrient Balance (lb/A)	3	-245	-107	0	-57	-61	0	-77	19	3	-84	38	1	-68	-76
Multiple Application															
Manure Utilized on CMU	39 tons			48 tons			119 tons			119 tons			84 tons		

App. 4: Crop Yrs. 2017	F8+9			F8+9			F10+11			F12			F13		
CMU/Field ID															
Acres	4.4			4.4			3.4			2.8			2.6		
Soil Test Report Date	September 28, 2015			September 28, 2015			September 28, 2015			September 28, 2015			September 28, 2015		
Laboratory Name	Spectrum Analytic			Spectrum Analytic			Spectrum Analytic			Spectrum Analytic			Spectrum Analytic		
Soil Test Levels (Mehlich-3 P & K) (Show conversions to ppm in Appendix 10)	ppm P	ppm K	pH	ppm P	ppm K	pH	ppm P	ppm K	pH	ppm P	ppm K	pH	ppm P	ppm K	pH
	81	71	7.3	81	71	7.3	81	71	7.0	81	71	7.0	81	71	7.3
P Index Part A	No to All			No to All			No to All			No to All			No to All		
	N Based			N Based			N Based			N Based			N Based		
Crop	Small Grain Silage			Corn for Grain (No-till)			Established Alfalfa with Manure			Soybeans with Manure			Small Grain Silage		
Planned Yield	6 ton/A			160 bu/A			5 ton/A			50 bu/A			6 ton/A		
PSU Soil Test Recommendation (lb/A)	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O
	90	0	170	160	0	70	250	0	260	160	0	90	90	0	170
User Soil Test Recommendation (lb/A)															
Other Nutrients Applied (lb/A) (Nutrients applied regardless of manure)	0	0	0	5	11	5	0	0	0	0	0	0	0	0	0
P Index Application Method															
Double Crop CarryOver N (lb/A)	[29]	Winter Double Crop		29	Summer Double Crop		0			0			[29]	Winter Double Crop	
Manure History Description Residual Manure N (lb/A)	11	Continuously - Winter Double Crop		24	Continuously - Summer Double Crop		35	Continuously - Summer Crop		35	Continuously - Summer Crop		11	Continuously - Winter Double Crop	
Legume History Description Residual Legume N (lb/A)	0	No Previous Year Legume		0	No Previous Year Legume		0	No Previous Year Legume		0	No Previous Year Legume		0	No Previous Year Legume	
Net Nutrients Required (lb/A)	79	0	170	102	-128	64	215	0	260	125	0	90	79	0	170
Manure Group	Fall Applied Cattle Manure			Spring Applied Cattle Manure			Fall Applied Cattle Manure			Fall Applied Cattle Manure			Fall Applied Cattle Manure		
Application Season: Management (Incorporation, cover crops, etc.)	Early Fall: Early Sring Utilization. Incorporated after 7 days or none			Spring: Incorporated after 7 days or none			Late Fall: For next summer use by corn or annuals-No cover crop			Late Fall: For next summer use by corn or annuals-Green manure cover crop			Early Fall: Early Sring Utilization. Incorporated after 7 days or none		
Availability Factors (Total N or NH4-N & Organic N)	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N
	0.20			0.20			0.20			0.40			0.20		
P Index Application Method															
N Balanced Manure Rate (ton; gal/A)	40 tons/A			52 tons/A			110 tons/A			32 tons/A			40 tons/A		
P Removal Balance Manure Rate (ton or gal/A; If required by P Index)	12 tons/A			0 tons/A			10 tons/A			6 tons/A			12 tons/A		
	Crop P Removal (lb/A) 95.0			Crop P Removal (lb/A) 0.0			Crop P Removal (lb/A) 75.0			Crop P Removal (lb/A) 50.0			Crop P Removal (lb/A) 95.0		
P Index Value															
Planned Manure Rate (ton or gal/A)	15 tons/A			15 tons/A			15 tons/A			15 tons/A			15 tons/A		
Nutrient Balance after Manure	50	-117	-1	73	-245	-107	0	-117	89	0	-117	-81	50	-117	-1
Supplemental Fertilizer (lb/A)	50	0	0	70	0	0	0	0	0	0	0	0	50	0	0
P Index Application Method															
Final Nutrient Balance (lb/A)	0	-117	-1	3	-245	-107	0	-117	89	0	-117	-81	0	-117	-1
Multiple Application															
Manure Utilized on CMU	66 tons			66 tons			51 tons			42 tons			39 tons		

App. 4: Crop Yrs. 2017	F1+3+5+7			F2+4			F6			F7A			F7A		
CMU/Field ID															
Acres	7.8			3.0			2.4			2.2			2.2		
Soil Test Report Date	September 28, 2015			September 28, 2015			September 28, 2015			September 28, 2015			September 28, 2015		
Laboratory Name	Spectrum Analytic			Spectrum Analytic			Spectrum Analytic			Spectrum Analytic			Spectrum Analytic		
Soil Test Levels (Mehlich-3 P & K) (Show conversions to ppm in Appendix 10)	ppm P	ppm K	pH	ppm P	ppm K	pH	ppm P	ppm K	pH	ppm P	ppm K	pH	ppm P	ppm K	pH
	51	71	7.3	51	71	7.3	51	71	7.3	51	71	7.3	51	71	7.3
P Index Part A	No to All			No to All			No to All			No to All			No to All		
	N Based			N Based			N Based			N Based			N Based		
Crop	Corn for Grain (No-till)			Soybeans with Manure			Established Alfalfa with Manure			Small Grain Silage			Corn for Grain (No-till)		
Planned Yield	160 bu/A			50 bu/A			5 ton/A			6 ton/A			160 bu/A		
PSU Soil Test Recommendation (lb/A)	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O
	160	0	70	160	0	90	250	0	260	90	0	170	160	0	70
User Soil Test Recommendation (lb/A)															
Other Nutrients Applied (lb/A) (Nutrients applied regardless of manure)	5	11	5	0	0	0	0	0	0	0	0	0	5	11	5
P Index Application Method															
Double Crop CarryOver N (lb/A)	0			0			0			[29]	Winter Double Crop		29	Summer Double Crop	
Manure History Description Residual Manure N (lb/A)	35	Continuously - Summer Crop		35	Continuously - Summer Crop		35	Continuously - Summer Crop		11	Continuously - Winter Double Crop		24	Continuously - Summer Double Crop	
Legume History Description Residual Legume N (lb/A)	0	No Previous Year Legume		0	No Previous Year Legume		0	No Previous Year Legume		0	No Previous Year Legume		0	No Previous Year Legume	
Net Nutrients Required (lb/A)	120	-11	65	125	0	90	215	0	260	79	0	170	102	-128	64
Manure Group	Spring Applied Cattle Manure			Fall Applied Cattle Manure			Fall Applied Cattle Manure			Fall Applied Cattle Manure			Spring Applied Cattle Manure		
Application Season: Management (Incorporation, cover crops, etc.)	Spring: Incorporated after 7 days or none			Late Fall: For next summer use by corn or annuals-Green manure cover crop			Late Fall: For next summer use by corn or annuals-No cover crop			Early Fall: Early Sring Utilization. Incorporated after 7 days or none			Spring: Incorporated after 7 days or none		
Availability Factors (Total N or NH4-N & Organic N)	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N	Total N	NH4-N	Org. N
	0.20			0.40			0.20			0.20			0.20		
P Index Application Method															
N Balanced Manure Rate (ton; gal/A)	61 tons/A			32 tons/A			110 tons/A			40 tons/A			52 tons/A		
P Removal Balance Manure Rate (ton or gal/A; If required by P Index)	7 tons/A			6 tons/A			10 tons/A			12 tons/A			0 tons/A		
	Crop P Removal (lb/A) 53.0			Crop P Removal (lb/A) 50.0			Crop P Removal (lb/A) 75.0			Crop P Removal (lb/A) 95.0			Crop P Removal (lb/A) 0.0		
P Index Value															
Planned Manure Rate (ton or gal/A)	15 tons/A			15 tons/A			15 tons/A			15 tons/A			15 tons/A		
Nutrient Balance after Manure	91	-128	-106	0	-117	-81	0	-117	89	50	-117	-1	73	-245	-107
Supplemental Fertilizer (lb/A)	90	0	0	0	0	0	0	0	0	50	0	0	70	0	0
P Index Application Method															
Final Nutrient Balance (lb/A)	1	-128	-106	0	-117	-81	0	-117	89	0	-117	-1	3	-245	-107
Multiple Application															
Manure Utilized on CMU	117 tons			45 tons			36 tons			33 tons			33 tons		

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Manure Group Information Crop Yrs. 2019	Spring Applied Cattle Manure		Fall Applied Cattle Manure	
Appendix 3 Manure Group Information Crop Yrs. 2019	Manure Generation per Animal Group	Uncollected Manure: Nutrient Analysis Book Values	Manure Generation per Animal Group	Uncollected Manure: Nutrient Analysis Book Values
Animal Group 5	Barn 1 Finishing Hogs		Barn 1 Finishing Hogs	
Animal Type	Swine:Grow-Finish		Swine:Grow-Finish	
Animal Number	20		20	
Animal Weight	125		125	
Animal Group AUs	2.5		2.5	
Animal Group AEUs	0.4		0.7	
Daily Manure Production per AU	50.0		50.0	
Total Days Manure Produced	60		100	
Total Manure Produced	4		6	
Days On Pasture	0		0	
Hours Per Day On Pasture	0		0	
Total Bedding	1		2	
Total Washwater	0		0	
CALCULATED - Total Uncollected Manure				
CALCULATED-Total Manure Collected Per	5		8	

Manure Group Information Crop Yrs. 2019	Spring Applied Cattle Manure		Fall Applied Cattle Manure	
Appendix 3 Manure Group Information Crop Yrs. 2019	Manure Generation per Animal Group	Uncollected Manure: Nutrient Analysis Book Values	Manure Generation per Animal Group	Uncollected Manure: Nutrient Analysis Book Values
Animal Group 3	Barn 1 Steers & Heifers		Barn 1 Steers & Heifers	
Animal Type	Beef: Finishing Cattle		Beef: Finishing Cattle	
Animal Number	48		48	
Animal Weight	900		900	
Animal Group AUs	43.2		43.2	
Animal Group AEUs	21.6		21.6	
Daily Manure Production per AU	65.0		65.0	
Total Days Manure Produced	183		183	
Total Manure Produced	258		256	
Days On Pasture	0		0	
Hours Per Day On Pasture	0		0	
Total Bedding	39		39	
Total Washwater	0		0	
CALCULATED - Total Uncollected Manure				
CALCULATED-Total Manure Collected Per	295		295	
Animal Group 4	Barn 2 Steers		Barn 2 Steers	
Animal Type	Beef: Finishing Cattle		Beef: Finishing Cattle	
Animal Number	50		50	
Animal Weight	900		900	
Animal Group AUs	45.0		45.0	
Animal Group AEUs	22.5		22.5	
Daily Manure Production per AU	65.0		65.0	
Total Days Manure Produced	183		183	
Total Manure Produced	267		267	
Days On Pasture	0		0	
Hours Per Day On Pasture	0		0	
Total Bedding	78		78	
Total Washwater	0		0	
CALCULATED - Total Uncollected Manure				
CALCULATED-Total Manure Collected Per	345		345	

Manure Group Information Crop Yrs. 2019	Spring Applied Cattle Manure		Fall Applied Cattle Manure	
Appendix 3 Manure Group Information Crop Yrs. 2019	Manure Generation per Animal Group	Uncollected Manure: Nutrient Analysis Book Values	Manure Generation per Animal Group	Uncollected Manure: Nutrient Analysis Book Values
Animal Group 1	Proposed HUA Cows	Proposed HUA Cows - uncollected Total Nitrogen (N) (lbs/ton or 1000 gal)	Proposed HUA Cows	Proposed HUA Cows - uncollected Total Nitrogen (N) (lbs/ton or 1000 gal)
Animal Type	Beef: Cow		Beef: Cow	
Animal Number	40	11	40	11
Animal Weight	1,400	Total Phosphate (P2O5) (lbs/ton or	1,400	Total Phosphate (P2O5) (lbs/ton or
Animal Group AUs	56.0	7	56.0	7
Animal Group AEUs	23.0	Total Potash (K2O) (lbs/ton or 1000 gal)	33.0	Total Potash (K2O) (lbs/ton or 1000 gal)
Daily Manure Production per AU	90.0	10	90.0	10
Total Days Manure Produced	150	PSC Value	215	PSC Value
Total Manure Produced	378	0.8	542	0.8
Days On Pasture	30		190	
Hours Per Day On Pasture	18		18	
Total Bedding	80		20	
Total Washwater	0		0	
CALCULATED - Total Uncollected Manure	57	57 - Tons	359	359 - Tons
CALCULATED-Total Manure Collected Per	401		203	

Animal Group 2	Proposed HUA Calves	Proposed HUA Calves - uncollected Total Nitrogen (N) (lbs/ton or 1000 gal)	Proposed HUA Calves	Proposed HUA Calves - uncollected Total Nitrogen (N) (lbs/ton or 1000 gal)
Animal Type	Beef: Calf		Beef: Calf	
Animal Number	40	11	40	11
Animal Weight	300	Total Phosphate (P2O5) (lbs/ton or	300	Total Phosphate (P2O5) (lbs/ton or
Animal Group AUs	12.0	7	12.0	7
Animal Group AEUs	1.9	Total Potash (K2O) (lbs/ton or 1000 gal)	6.0	Total Potash (K2O) (lbs/ton or 1000 gal)
Daily Manure Production per AU	90.0	10	90.0	10
Total Days Manure Produced	57	PSC Value	183	PSC Value
Total Manure Produced	31	0.8	99	0.8
Days On Pasture	57		183	
Hours Per Day On Pasture	18		18	
Total Bedding	0		0	
Total Washwater	0		0	
CALCULATED - Total Uncollected Manure	23	23 - Tons	74	74 - Tons
CALCULATED-Total Manure Collected Per	8		24	

Appendix 3 Manure Group Information Crop Yrs. 2019	Spring Applied Cattle Manure	Fall Applied Cattle Manure
Manure Report Date (note if averaging several reports)	September 17, 2015	September 17, 2015
Laboratory Name	Spectrum Analytic	Spectrum Analytic
Manure Type	Other	Other
Manure Unit (lbs/ton or 1000 gal)	lb/ton	lb/ton
Total Nitrogen (N) (lbs/ton or 1000 gal)	9.8	9.8
Ammonium N (NH_4-N) (lbs/ton or 1000 gal)	2.8	2.8
Total Organic N (lbs/ton or 1000 gal)	7.0	7.0
Total Phosphate (P_2O_5) (lbs/ton or 1000 gal)	7.8	7.8
Total Potash (K_2O) (lbs/ton or 1000 gal)	11.4	11.4
Percent Solids	25.4	25.4
PSC Value (analytical or book value)	0.65	0.65
Manure Group AEU's	69.40	63.77

Inventory Method	Calculated		Calculated	
	Collected Calc.	Uncollected Calc.	Collected Calc.	Uncollected Calc.
Manure Group Identification	Spring Applied Cattle Manure	Spring Applied Cattle Manure -	Fall Applied Cattle Manure	Fall Applied Cattle Manure -
Description: Site & Season Applied	Removed from Storage or confinement areas	Spring	Removed from Storage or confinement areas	Fall
CALCULATED: Total Manure Collected Per Manure Group Unit	1,054 Tons	80 Tons	876 Tons	433 Tons
RECORDS: Total Manure Collected Per Manure Group Unit				
Manure Used On-Farm Units	Collected 1,148 Tons	Uncollected 80 Tons	Collected 920 Tons	Uncollected 433 Tons
Manure Allocation Balance Units	0 Tons	0 Tons	0 Tons	0 Tons
Manure Exported Units	0 tons		0 tons	
Total Rainfall and Runoff	0 Tons		0 Tons	

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Manure Group Information Crop Yrs. 2018	Spring Applied Cattle Manure		Fall Applied Cattle Manure	
Appendix 3 Manure Group Information Crop Yrs. 2018	Manure Generation per Animal Group	Uncollected Manure: Nutrient Analysis Book Values	Manure Generation per Animal Group	Uncollected Manure: Nutrient Analysis Book Values
Animal Group 5	Barn 1 Finishing Hogs		Barn 1 Finishing Hogs	
Animal Type	Swine:Grow-Finish		Swine:Grow-Finish	
Animal Number	20		20	
Animal Weight	125		125	
Animal Group AUs	2.5		2.5	
Animal Group AEUs	0.4		0.7	
Daily Manure Production per AU	50.0		50.0	
Total Days Manure Produced	60		100	
Total Manure Produced	4		6	
Days On Pasture	0		0	
Hours Per Day On Pasture	0		0	
Total Bedding	1		2	
Total Washwater	0		0	
CALCULATED - Total Uncollected Manure				
CALCULATED-Total Manure Collected Per	5		8	