CON 11-03-02-0
FO5-AFO4295

Fields of Opportunities

STATE OF IOWA

CHESTER J. CULVER, GOVERNOR
PATTY JUDGE, LT. GOVERNOR

DEPARTMENT OF NATURAL RESOURCES
RICHARD A. LEOPOLD, DIRECTOR

March 26, 2010

Wythe Willey
Grand River Cattle Company
PO Box 2424
Cedar Rapids, IA 52406-2424

SUBJECT: Notice of Violation – Improper Land Application of Manure [567 IAC 65.101(6)]
Grand River Cattle Co., NE¼, NE¼, Sec. 29, Grand River Twp., Decatur County
Facility No. 60056

Dear Mr. Willey:

On March 5, 2010 a report of odors was reported near the bridge at Highway 2 and West Elk Creek in Decatur County. On March 8, 2010, I visited the bridge and land application area of the Grand River Cattle Company (GRCC) to determine if the odors were associated with the operation. At that time a large amount of runoff water was being detained in the field north of the runoff control system and discharge was occurring from the runoff control system to West Elk Creek. The appearance of the water in the detention area and in the runoff control system was dark in color and odorous.

Further evaluation of the system included grab samples of the water taken at various locations in the field, runoff control system, and West Elk Creek. Copies of the laboratory reports and a table summarizing the results are included with this letter. The results indicate that the water in the north field, down gradient of the manure land application area, had elevated concentrations of ammonia nitrogen and organic material. Elevated concentrations of ammonia nitrogen and organic material from samples obtained at the runoff control area, the outlet to West Elk Creek, and a sample taken downstream of the outlet were also elevated.

Similar laboratory results were discovered in 2008 from samples taken from the land application area and runoff control system. At that time the system was being rebuilt following high waters and flooding from West Elk Creek. At that time the accuracy of the analytical results were in question due to the unknown impacts of the flood waters on the area. Following the investigation DNR Field Office 5 identified in a report dated September 3, 2008 that the land application method/area as a threat to the water quality of West Elk Creek. At that time a response was requested from GRCC addressing the runoff control system and the effluent from this area to West Elk Creek.

The response received on September 25, 2008 from GRCC included a commitment to increase the vegetation in the runoff control area known as the "snake" in an effort to return the area to a wetland as originally intended by the design engineer. Also included in the response was a commitment to purchasing a hose/irrigation gun so that other land application areas could be utilized. It does not appear that action was taken regarding those two items.

GRCC utilizes a flood irrigation system which includes a gated pipe and bermed land application areas. This type of system is effective when soil conditions are dry and the vegetation is actively growing. Unfortunately the land application area is in a low lying area that does not appear to drain well. As a result when manure effluent is land applied on these areas when soils are saturated it does not infiltrate and manure runoff is likely. All surface runoff from the land application area flows to the east to the north field area, then meanders through the "snake", and eventually flows out a standpipe to West Elk Creek. GRCC must find a means to properly land apply the manure when conditions are not favorable to use the flood irrigation system.

The Iowa Administrative Code 567-Chapter 65.101(6) states, "Open feedlot effluent shall be land applied in a manner which will not cause pollution of surface water or groundwater". Based on the analytical results, the effluent from the "snake" is causing pollution to West Elk Creek.

The following actions must be taken by GRCC:

1. Immediately discontinue discharging from the "snake" to West Elk Creek.
2. To prevent the contents of the north field and the "snake" from entering West Elk Creek, the contents of both areas must be removed and properly land applied.
3. Only use the flood irrigation system for land application when soil and weather conditions are favorable.
4. Before April 9, 2010, provide a plan to IDNR on what will be done to address the land application issues.

As a reminder, all land areas used for manure application must be included in the nutrient management plan. Be sure the proper soil analysis and calculations are completed for the fields used for manure application and update the nutrient management plan accordingly.

Failure to address this matter in a timely manner will result in additional enforcement by IDNR with the possibility of a monetary penalty.

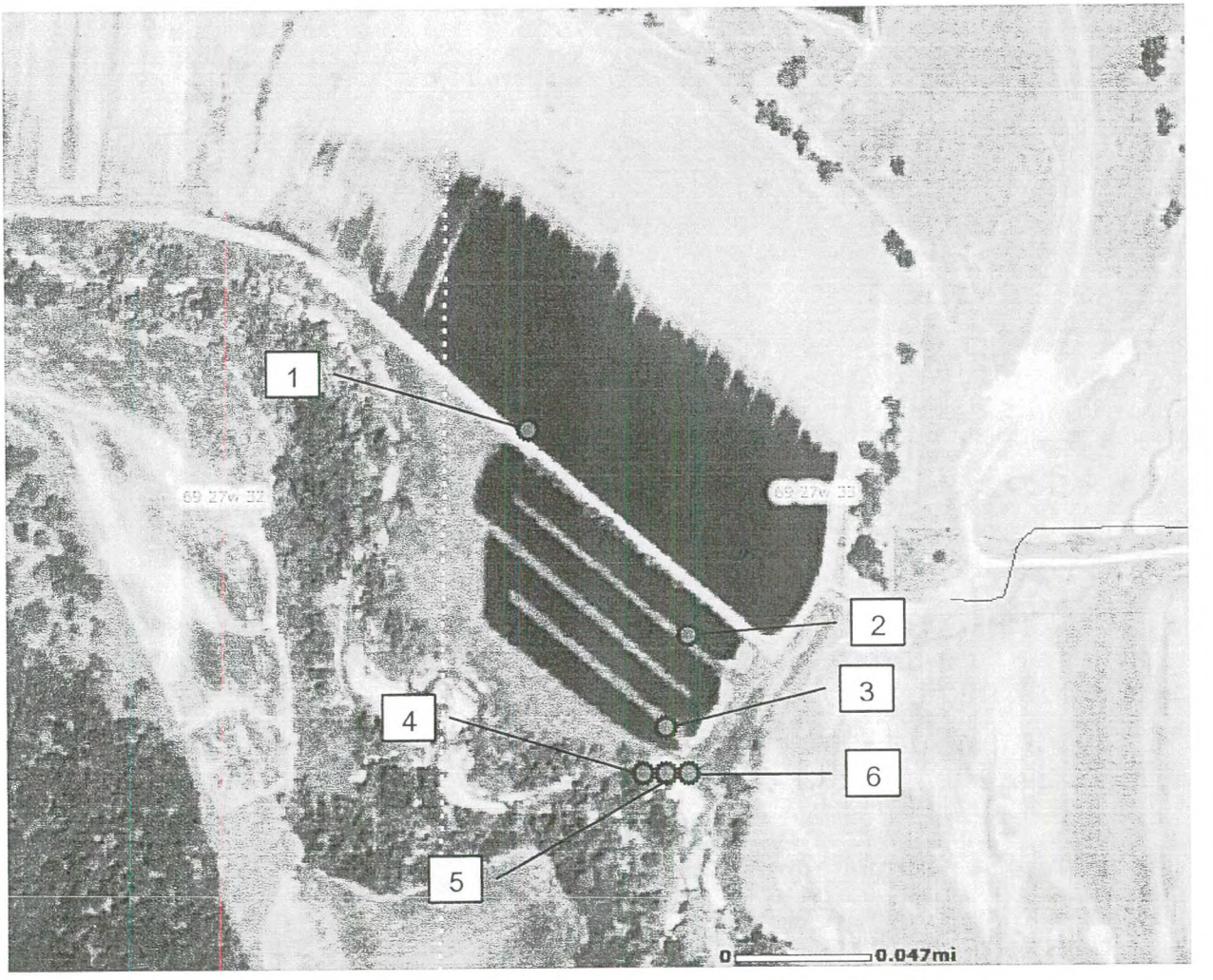
Please contact me at 515-725-0274 (email: ted.petersen@dnr.iowa.gov) with any questions or comments.

Sincerely,

Ted Petersen
Environmental Specialist Senior, Field Office #5

c: Gene Tinker AFO Section-IDNR (via email)
Robert Siek, 12011 205th Street, Grand River, IA 50108

Analytical Results for Samples Taken on March 8, 2010			
Sample Location	Biological Oxygen Demand (mg/L)	Ammonia-Nitrogen (mg/L)	Total Suspended Solids (mg/L)
#1 North Field	450	71	300
#2 Snake North	590	82	440
#3 Snake Near Standpipe	660	100	740
#4 Upstream West Elk Creek	<20	0.30	1100
#5 Outlet Pipe to West Elk Creek	660	110	440
#6 Downstream West Elk Creek	52	7.8	1400



Hygienic Laboratory

The University of Iowa

Date of report: 03-16-2010

TED PETERSEN
IDNR-FO 5
401 SOUTHWEST 7TH STREET
SUITE I
DES MOINES IA 50309-4611

Sample Number	**2010006698**
Date Received	03-08-2010
Project	04WQFS
Date Collected	03-08-2010 11:20
Collection Site	gr #1
Collection Town	Grand River
Description	feedlot runoff
Reference	
Collector	PETERSEN TED
Phone	(515) 725-0274
Purchase Order	

Comments: *Upon arrival, sample met container and preservation requirements for the analysis requested. Please review carefully your sample results for additional analyte comments or method exceptions.*

Results of Analyses

Total Suspended Solids

Analyte	Concentration mg/L	Quantitation Limit mg/L
Total Suspended Solids	300	1

Comments: *Dried at 103 degrees C*

Date Analyzed: 03-10-2010 Analyzed at: Ankeny Analyst: MP
Method: USGS I-3765-85 Verified: LF

Ammonia as N

Analyte	Concentration mg/L	Quantitation Limit mg/L
Ammonia Nitrogen as N	71	0.05

Date Analyzed: 03-15-2010 Analyzed at: Ankeny Analyst: JE
Method: LAC10-107-06-1J Verified: LF

Total Biological Oxygen Demand (5 day)

Analyte	Concentration mg/L	Quantitation Limit mg/L
Total Biochemical Oxygen Demand (5 day)	450	2

Date Analyzed: 03-10-2010 Analyzed at: Ankeny Analyst: PB
Method: SM 5210B Verified: DS

Description of units used within this report

mg/L - Milligrams per Liter Quant Limit - Lowest concentration reliably measured

The results of this report relate only to the items analyzed. This report shall not be reproduced except in full without the written approval of the laboratory.

Iowa Environmental Laboratory IDs are: Ankeny #397, Iowa City #027, Lakeside #393.

Page 1 - Continued on next page

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Michael A. Pentella, Ph.D.
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If you have any questions please call Client Services at 800/421-IOWA (4692) or 319/335-4500. Thank you.

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The University of Iowa

Date of report: 03-16-2010

TED PETERSEN
IDNR-FO 5
401 SOUTHWEST 7TH STREET
SUITE I
DES MOINES IA 50309-4611

Sample Number	**2010006699**
Date Received	03-08-2010
Project	04WQFS
Date Collected	03-08-2010 11:55
Collection Site	gr #2
Collection Town	Grand River
Description	feedlot runoff
Reference	
Collector	PETERSEN TED
Phone	(515) 725-0274
Purchase Order	

Comments: *Upon arrival, sample met container and preservation requirements for the analysis requested. Please review carefully your sample results for additional analyte comments or method exceptions.*

Results of Analyses

Total Suspended Solids

Analyte	Concentration mg/L	Quantitation Limit mg/L
Total Suspended Solids	440	1

Comments: *Dried at 103 degrees C*

Date Analyzed: 03-10-2010 Analyzed at: Ankeny Analyst: MP
Method: USGS I-3765-85 Verified: LF

Ammonia as N

Analyte	Concentration mg/L	Quantitation Limit mg/L
Ammonia Nitrogen as N	82	0.05

Date Analyzed: 03-15-2010 Analyzed at: Ankeny Analyst: JE
Method: LAC10-107-06-1J Verified: LF

Total Biological Oxygen Demand (5 day)

Analyte	Concentration mg/L	Quantitation Limit mg/L
Total Biochemical Oxygen Demand (5 day)	590	2

Date Analyzed: 03-10-2010 Analyzed at: Ankeny Analyst: PB
Method: SM 5210B Verified: DS

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The University of Iowa

Date of report: 03-16-2010

TED PETERSEN
IDNR-FO 5
401 SOUTHWEST 7TH STREET
SUITE I
DES MOINES IA 50309-4611

Sample Number	**2010006700**
Date Received	03-08-2010
Project	04WQFS
Date Collected	03-08-2010 12:10
Collection Site	gr #3
Collection Town	Grand River
Description	feedlot runoff
Reference	
Collector	PETERSEN TED
Phone	(515) 725-0274
Purchase Order	

Comments: *Upon arrival, sample met container and preservation requirements for the analysis requested. Please review carefully your sample results for additional analyte comments or method exceptions.*

Results of Analyses

Total Suspended Solids

Analyte	Concentration mg/L	Quantitation Limit mg/L
Total Suspended Solids	740	1

Comments: *Dried at 103 degrees C*

Date Analyzed: 03-10-2010 Analyzed at: Ankeny Analyst: MP
Method: USGS I-3765-85 Verified: LF

Ammonia as N

Analyte	Concentration mg/L	Quantitation Limit mg/L
Ammonia Nitrogen as N	100	0.05

Date Analyzed: 03-15-2010 Analyzed at: Ankeny Analyst: JE
Method: LAC10-107-06-1J Verified: LF

Total Biological Oxygen Demand (5 day)

Analyte	Concentration mg/L	Quantitation Limit mg/L
Total Biochemical Oxygen Demand (5 day)	660	2

Date Analyzed: 03-10-2010 Analyzed at: Ankeny Analyst: PB
Method: SM 5210B Verified: DS

Description of units used within this report

mg/L - Milligrams per Liter Quant Limit - Lowest concentration reliably measured

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Date of report: 03-16-2010

TED PETERSEN
IDNR-FO 5
401 SOUTHWEST 7TH STREET
SUITE I
DES MOINES IA 50309-4611

Sample Number	**2010006701**
Date Received	03-08-2010
Project	04WQFS
Date Collected	03-08-2010 12:25
Collection Site	gr #4
Collection Town	Grand River
Description	feedlot runoff
Reference	
Collector	PETERSEN TED
Phone	(515) 725-0274
Purchase Order	

Comments: *Upon arrival, sample met container and preservation requirements for the analysis requested. Please review carefully your sample results for additional analyte comments or method exceptions.*

Results of Analyses

Total Suspended Solids

Analyte	Concentration mg/L	Quantitation Limit mg/L
Total Suspended Solids	1100	1

Comments: *Dried at 103 degrees C*

Date Analyzed: 03-10-2010 Analyzed at: Ankeny Analyst: MP
Method: USGS I-3765-85 Verified: LF

Ammonia as N

Analyte	Concentration mg/L	Quantitation Limit mg/L
Ammonia Nitrogen as N	0.30	0.05

Date Analyzed: 03-15-2010 Analyzed at: Ankeny Analyst: JE
Method: LAC10-107-06-1J Verified: LF

Total Biological Oxygen Demand (5 day)

Analyte	Concentration mg/L	Quantitation Limit mg/L
Total Biochemical Oxygen Demand (5 day)	<24	2

Comments: *Reported result was based on a dilution that did not meet SM criteria for at least 2.0 mg/L DO depletion. The result does not meet all criteria for NPDES data validity and must be qualified as an estimate if reported to IDNR for discharge permit purposes. Based on the measured DO depletion for the dilution containing the greatest volume of sample the calculated BOD(C) is 3 mg/l.*

Date Analyzed: 03-10-2010 Analyzed at: Ankeny Analyst: PB
Method: SM 5210B Verified: DS

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Quant Limit - Lowest concentration reliably measured

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Date of report: 03-16-2010

TED PETERSEN
IDNR-FO 5
401 SOUTHWEST 7TH STREET
SUITE I
DES MOINES IA 50309-4611

Sample Number	**2010006702**
Date Received	03-08-2010
Project	04WQFS
Date Collected	03-08-2010 12:35
Collection Site	gr #5
Collection Town	Grand River
Description	feedlot runoff
Reference	
Collector	PETERSEN TED
Phone	(515) 725-0274
Purchase Order	

Comments: *Upon arrival, sample met container and preservation requirements for the analysis requested. Please review carefully your sample results for additional analyte comments or method exceptions.*

Results of Analyses

Total Suspended Solids

Analyte	Concentration mg/L	Quantitation Limit mg/L
Total Suspended Solids	440	1

Comments: *Dried at 103 degrees C*

Date Analyzed: 03-10-2010 Analyzed at: Ankeny Analyst: MP
Method: USGS I-3765-85 Verified: LF

Ammonia as N

Analyte	Concentration mg/L	Quantitation Limit mg/L
Ammonia Nitrogen as N	110	0.05

Date Analyzed: 03-15-2010 Analyzed at: Ankeny Analyst: JE
Method: LAC10-107-06-1J Verified: LF

Total Biological Oxygen Demand (5 day)

Analyte	Concentration mg/L	Quantitation Limit mg/L
Total Biochemical Oxygen Demand (5 day)	660	2

Date Analyzed: 03-10-2010 Analyzed at: Ankeny Analyst: PB
Method: SM 5210B Verified: DS

Description of units used within this report

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Date of report: 03-16-2010

TED [PETERSEN
IDNR-FO 5
401 SOUTHWEST 7TH STREET
SUITE I
DES MOINES IA 50309-4611

Sample Number	**2010006703**
Date Received	03-08-2010
Project	04WQFS
Date Collected	03-08-2010 13:05
Collection Site	gr #6
Collection Town	Grand River
Description	feedlot runoff
Reference	
Collector	PETERSEN TED
Phone	(515) 725-0274
Purchase Order	

Comments	*Upon arrival, sample met container and preservation requirements for the analysis requested. Please review carefully your sample results for additional analyte comments or method exceptions.*

Results of Analyses

Total Suspended Solids

Analyte	Concentration mg/L	Quantitation Limit mg/L
Total Suspended Solids	1400	1
Comments	*Dried at 103 degrees C*	

Date Analyzed: 03-10-2010 Analyzed at: Ankeny Analyst: MP
Method: USGS I-3765-85 Verified: LF

Ammonia as N

Analyte	Concentration mg/L	Quantitation Limit mg/L
Ammonia Nitrogen as N	7.8	0.05

Date Analyzed: 03-15-2010 Analyzed at: Ankeny Analyst: JE
Method: LAC10-107-06-1J Verified: LF

Total Biological Oxygen Demand (5 day)

Analyte	Concentration mg/L	Quantitation Limit mg/L
Total Biochemical Oxygen Demand (5 day)	52	2

Date Analyzed: 03-10-2010 Analyzed at: Ankeny Analyst: PB
Method: SM 5210B Verified: DS

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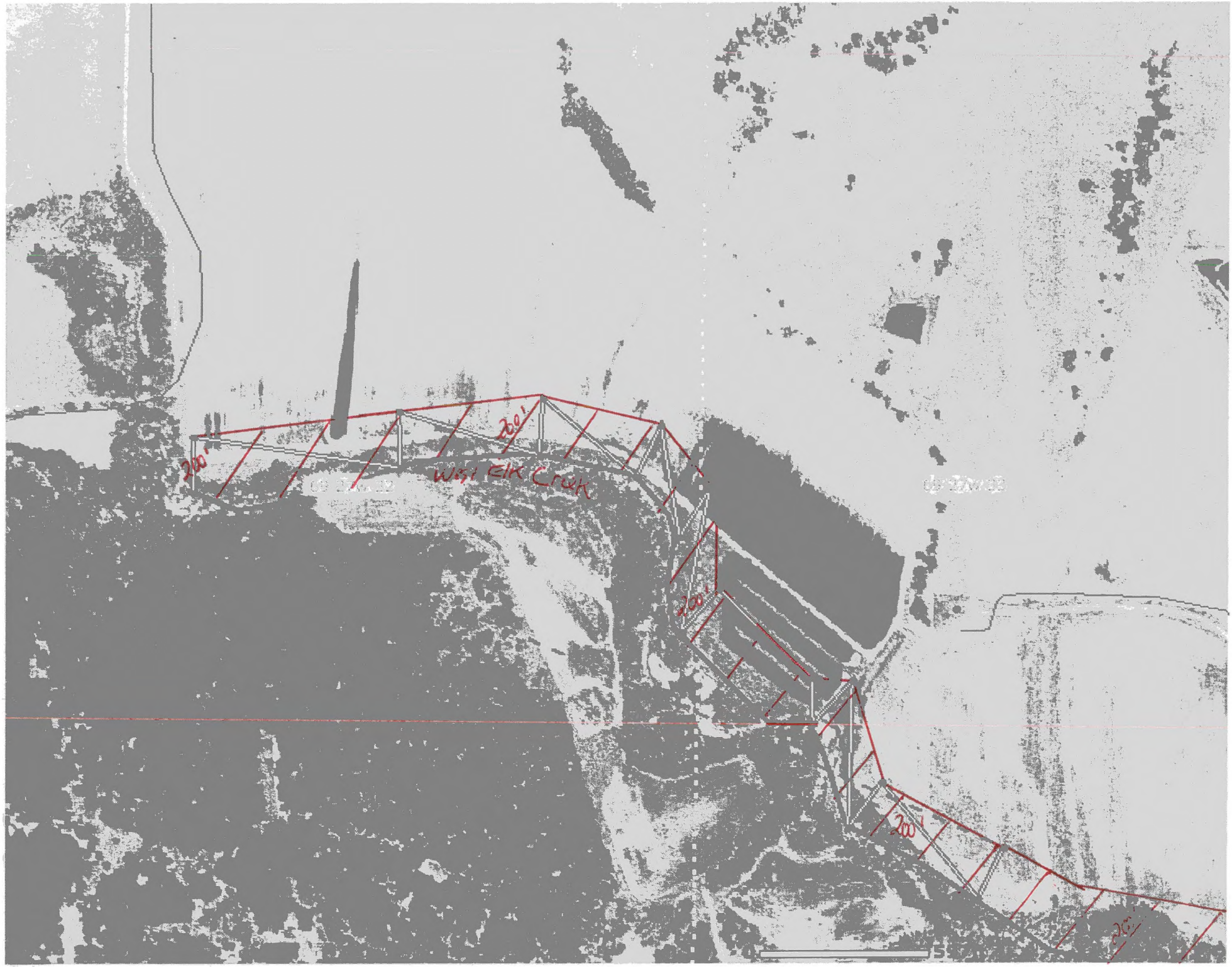
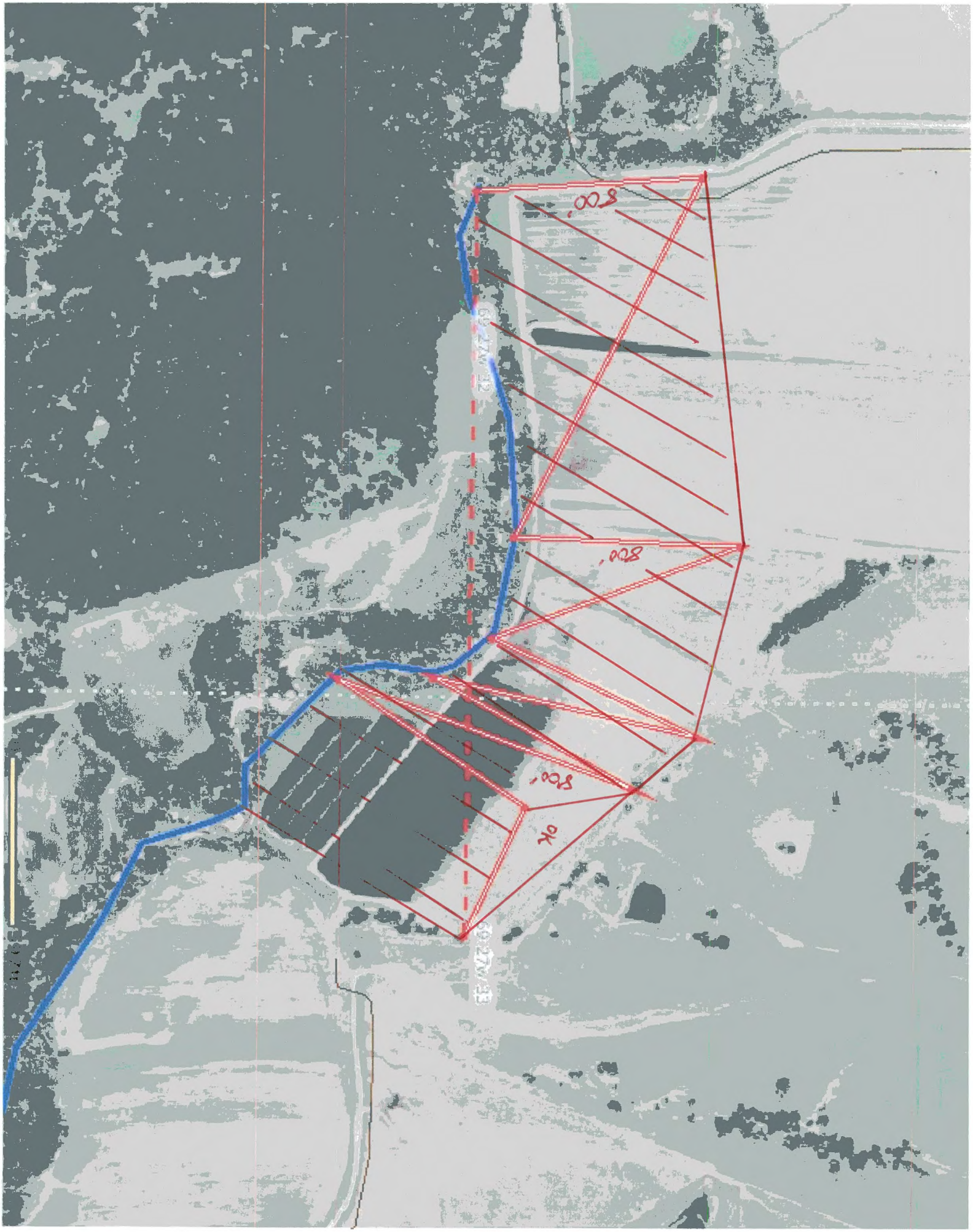
Sample Locations
1.) West Edge of Snake on Field side of Berm.
2.) Directly South of valve between field & snake on Snake side of berm
3.) Near south side of inlet stand pipe
4.) Upstream ~ 50' from outlet pipe
5.) Outlet pipe before reaching stream
6.) Downstream ~ 150' from outlet pipe
69 27W 32
69 27W 33
1.
2.
Valve Open
3.
Inlet Pipe
4.
5.
6.
Snake Area - mostly Ice cover w/ some open water - berm area full - less than 12" freeboard along River Berm
Flow from outlet pipe estimated at 300 gpm
0
0.047mi


200'
200'
West Elk Creek
200'
200'
200'


820'
820'
820'
OK


69 27w 29
69 27w 28
Field Basin
69 27w 32
69 27w 33
West Elk Creek
2
State Highway 2
0