

STANDARDIZED ENVIRONMENTAL ASSESSMENT

Attachment 1, Sinkhole Location Maps 2005-2019

Prepared by

North Dakota Public Service Commission

In Cooperation with

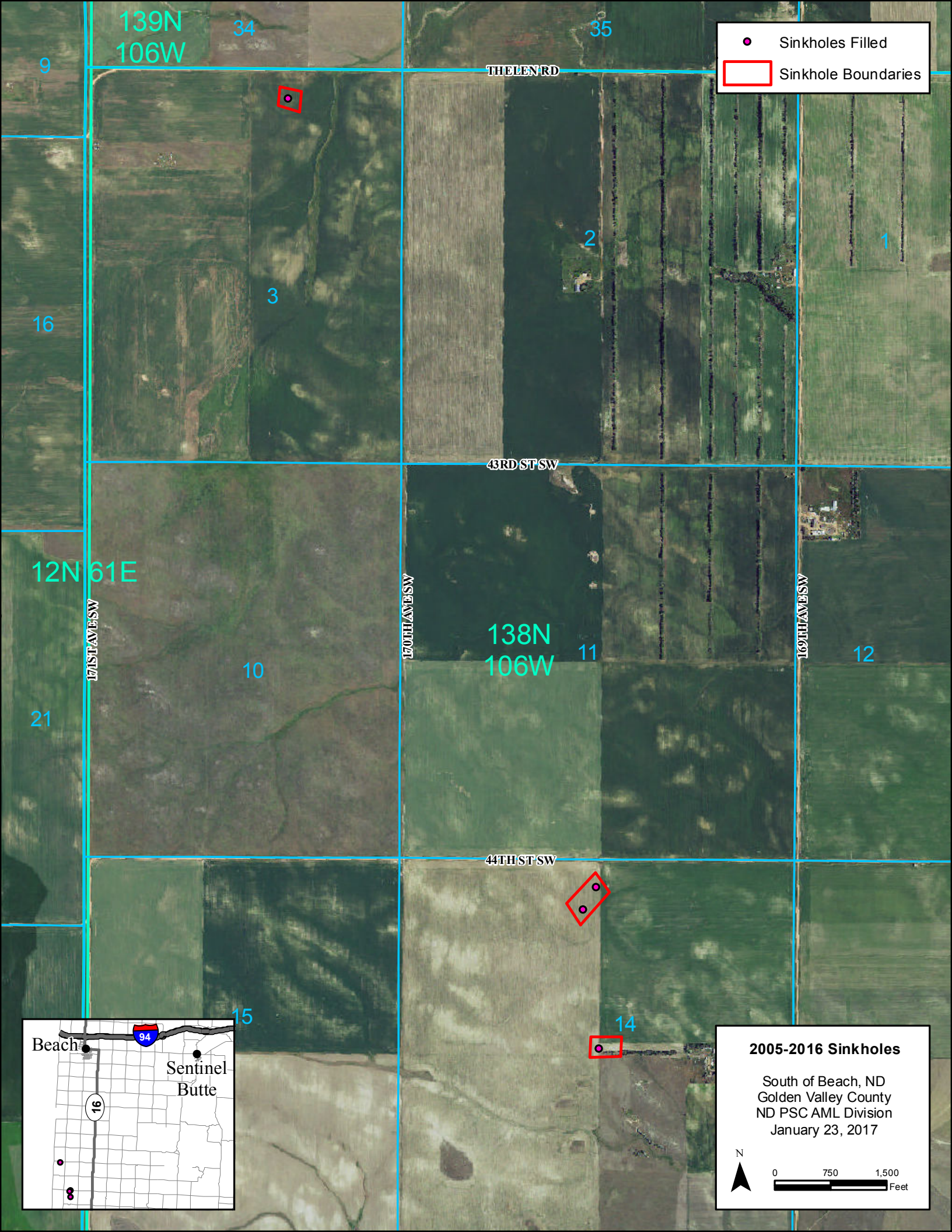
United States Department of the Interior
Office of Surface Mining Reclamation and Enforcement
Casper Field Office

September 2016 (Revised December 2019)

Note to users:

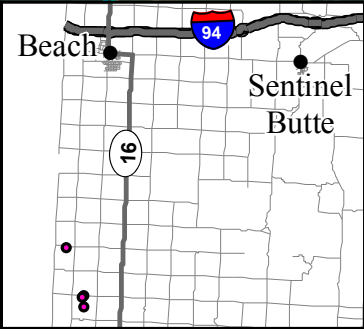
It is impossible to predict where mining-related sinkholes will occur during the period from 2017 to 2021. This appendix contains maps of locations where sinkhole filling projects have been conducted in the past fourteen years. We expect most sinkholes that occur between 2017 and 2021 will be at or near these locations.

North Dakota Sinkhole Filling Project Locations 2005-2019						
Location	PA Name	PA	County	Township	Range	Section(s)
Beach	Sokolski	ND009	Golden	138	106	3, 14
Beulah	Beulah	ND014	Mercer	144	87	6, 7, 18, 30
				144	88	12, 13, 15, 25
Bowman	Andrews	ND033	Bowman	132	102	14, 15, 22
Dickinson	Jablonsky	ND146	Dunn	141	95	1
Dickinson	Binek	ND024	Stark	139	95	5, 6, 7, 8, 17, 18
Garrison	Garrison	ND019	McLean	148	84	7, 8, 17, 18
Hanks	Hanks	ND147	William	159	101	17, 19
				159	102	12, 13, 24
Haynes	Haynes	ND124	Adams	129	94	6, 7, 8, 9, 15, 16, 17, 21,
				129	95	1
New	Ruck	ND026	Hettinger	134	91	24
New	New Leipzig	ND030	Grant	133	90	10
				134	90	26, 34
New Salem	Mad Dog	ND053	Morton	139	85	7
New Salem	New Salem	ND054	Morton	139	85	15, 21
Niobe	Niobe	ND938106	Ward	160	89	20
Noonan	Noonan	ND029	Divide	162	95	3, 9, 10
			Burke	162	94	7
Parshall	Parshall	ND090	Mountrail	152	89	19
				152	90	13
Regent	Havelock	ND023	Hettinger	134	95	10
Richardton	Abbey	ND025	Stark	139	92	4, 5
				140	92	32, 33
Scranton	Scranton	ND528	Bowman	131	100	24
	South	ND003	Bowman	131	100	25, 26
Velva	Buechler	ND004	Ward	152	81	28, 29
Washburn	Black	ND006	McLean	144	83	10, 11
Williston	Williams Co.	ND111	Williams	154	100	7, 8, 9, 17, 19, 20, 21, 22,
Williston	West	ND046	Williams	154	101	5, 6, 7, 8
				155	102	28
Wilton	Wilton	ND001	Burleigh	141	79	2
				142	79	4, 5, 6, 8, 9, 10, 11, 15, 28,
				142	80	1, 22, 27
			McLean	143	80	36
Zap	Beulah/Zap	ND014	Mercer	144	89	17, 20, 22, 23, 24, 25, 26
				144	88	4



● Sinkholes Filled

□ Sinkhole Boundaries

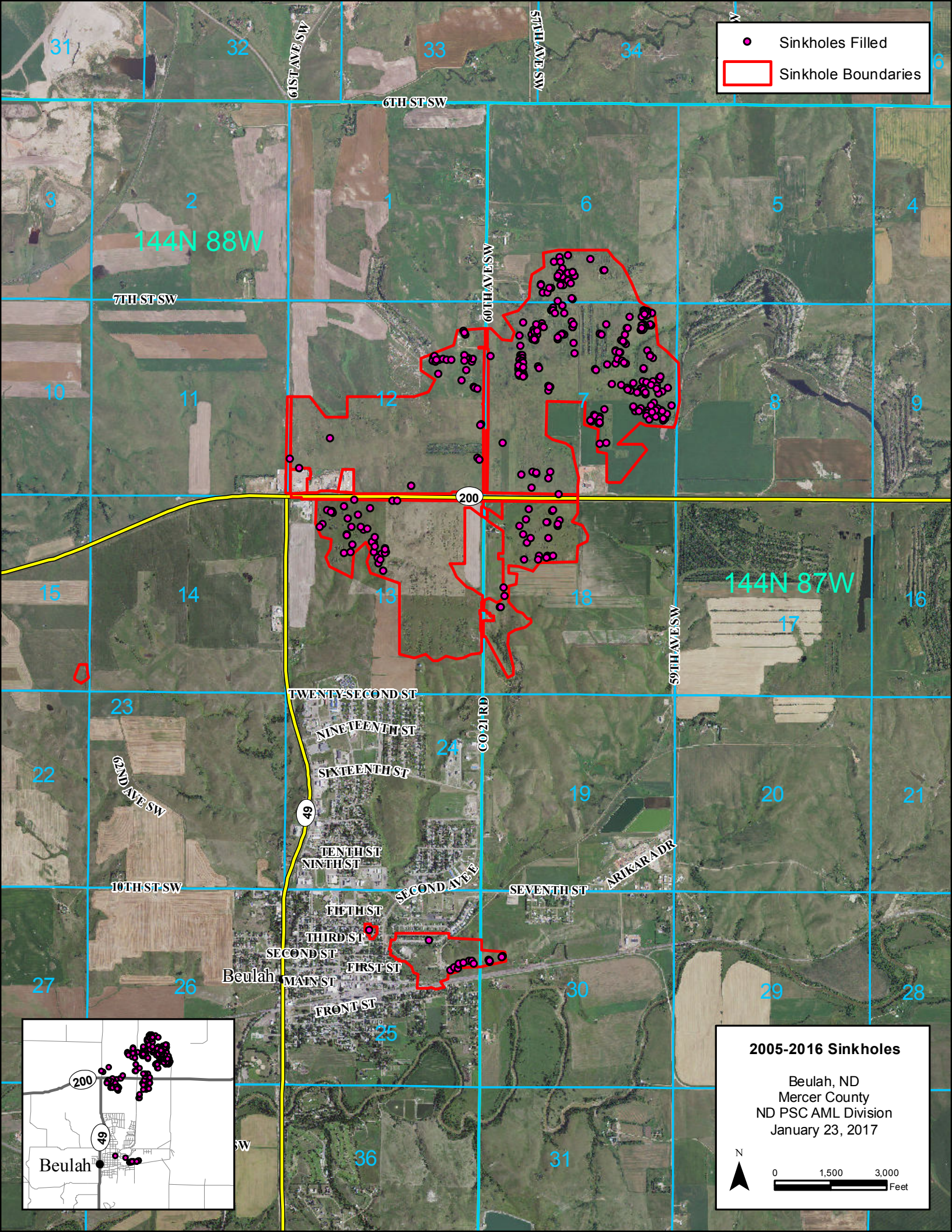


2005-2016 Sinkholes

South of Beach, ND
Golden Valley County
ND PSC AML Division
January 23, 2017

N

0 750 1,500 Feet

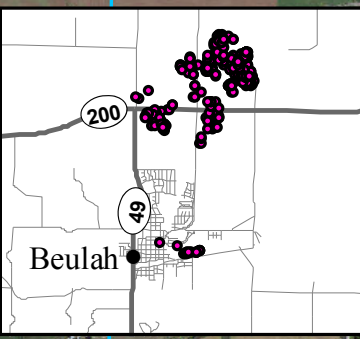
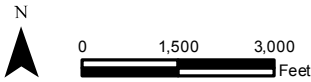


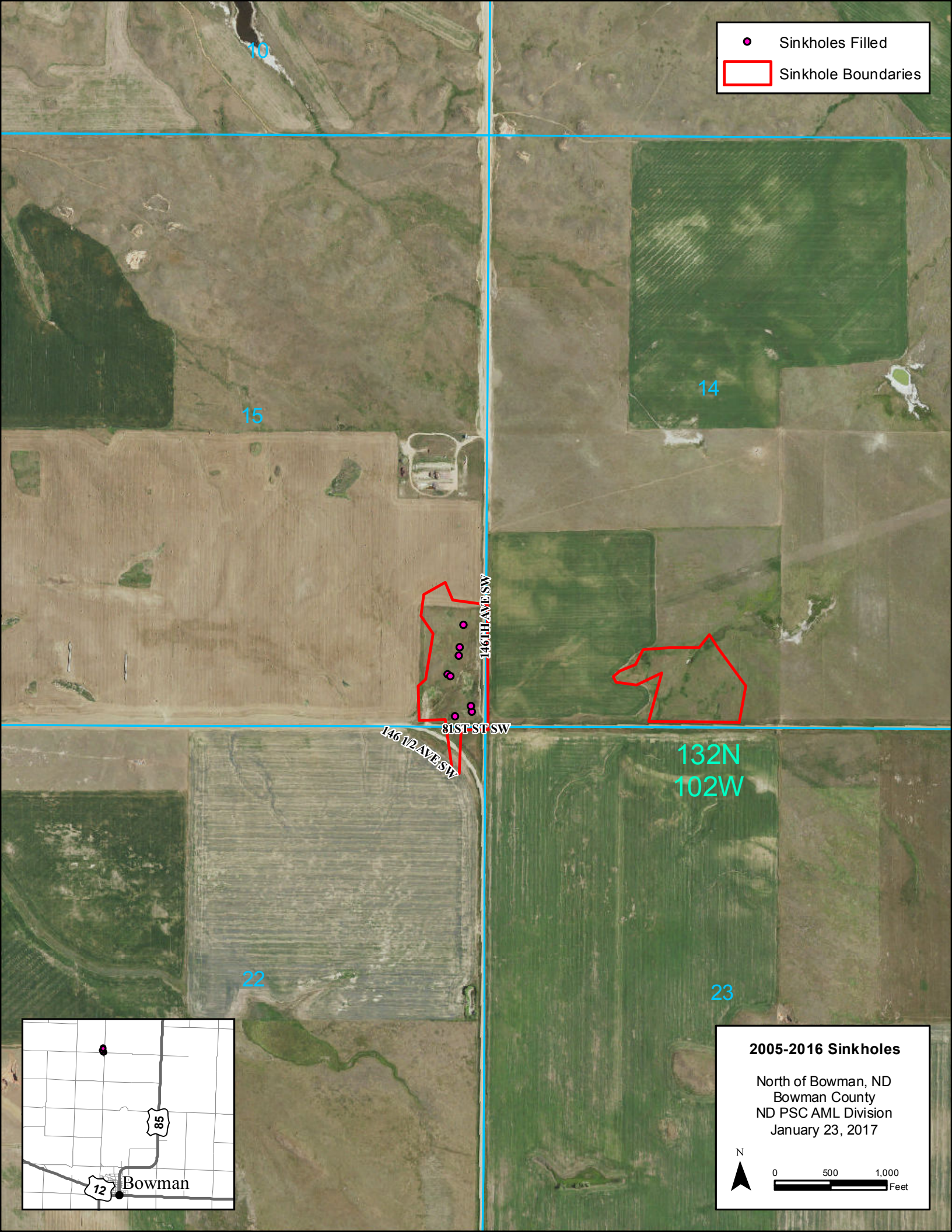
- Sinkholes Filled
- Sinkhole Boundaries

144N 87W

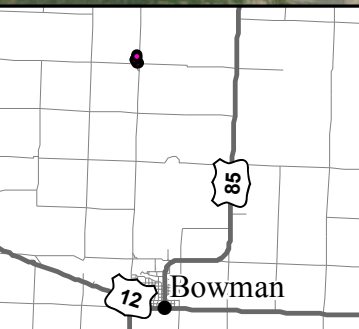
2005-2016 Sinkholes

Beulah, ND
Mercer County
ND PSC AML Division
January 23, 2017





- Sinkholes Filled
- Sinkhole Boundaries

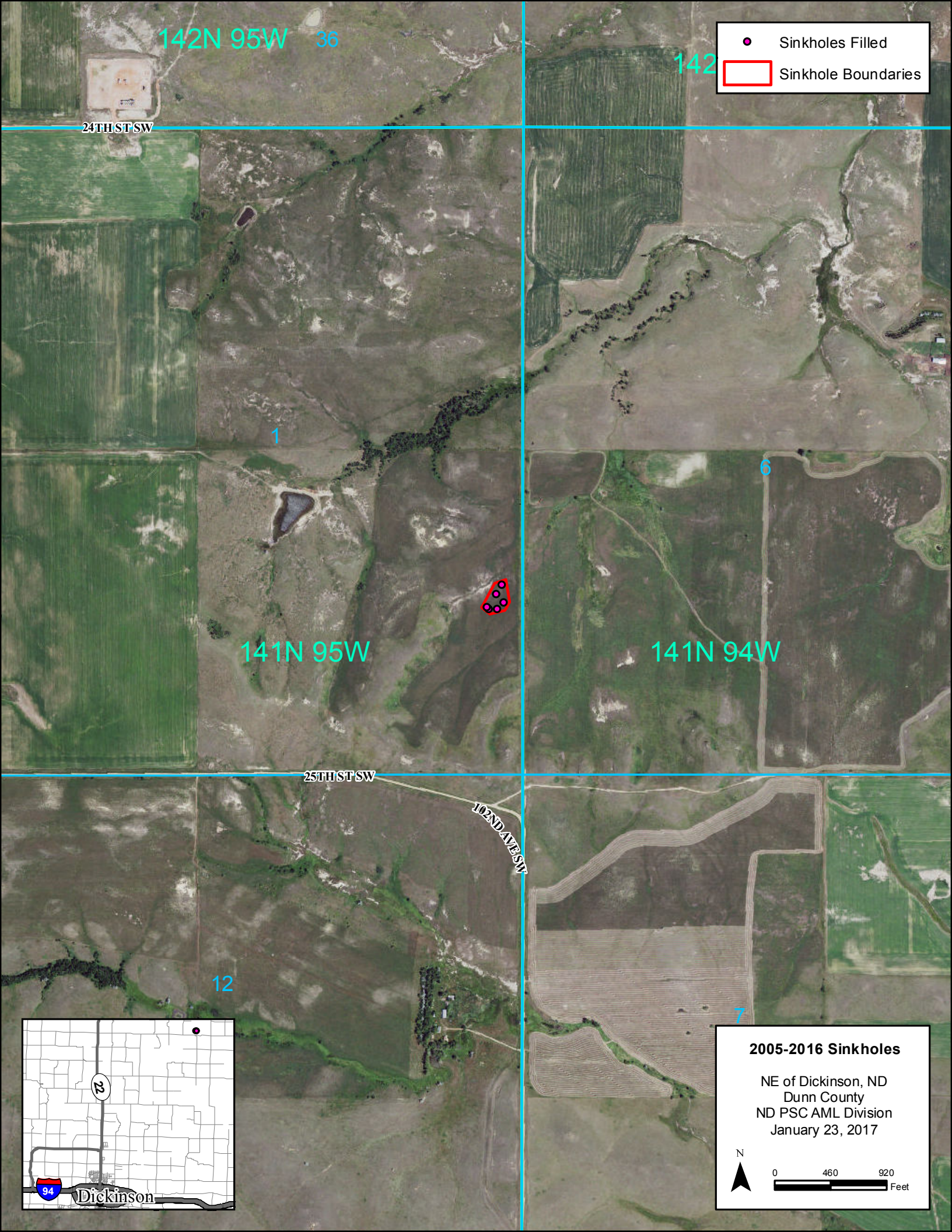


2005-2016 Sinkholes

North of Bowman, ND
Bowman County
ND PSC AML Division
January 23, 2017

N

0 500 1,000 Feet



142N 95W 36

142

Sinkholes Filled

Sinkhole Boundaries

24TH ST SW

1

141N 95W



6

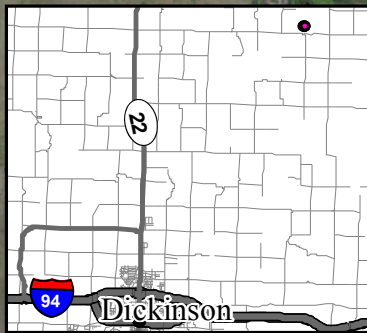
141N 94W

25TH ST SW

102ND AVE SW

12

7

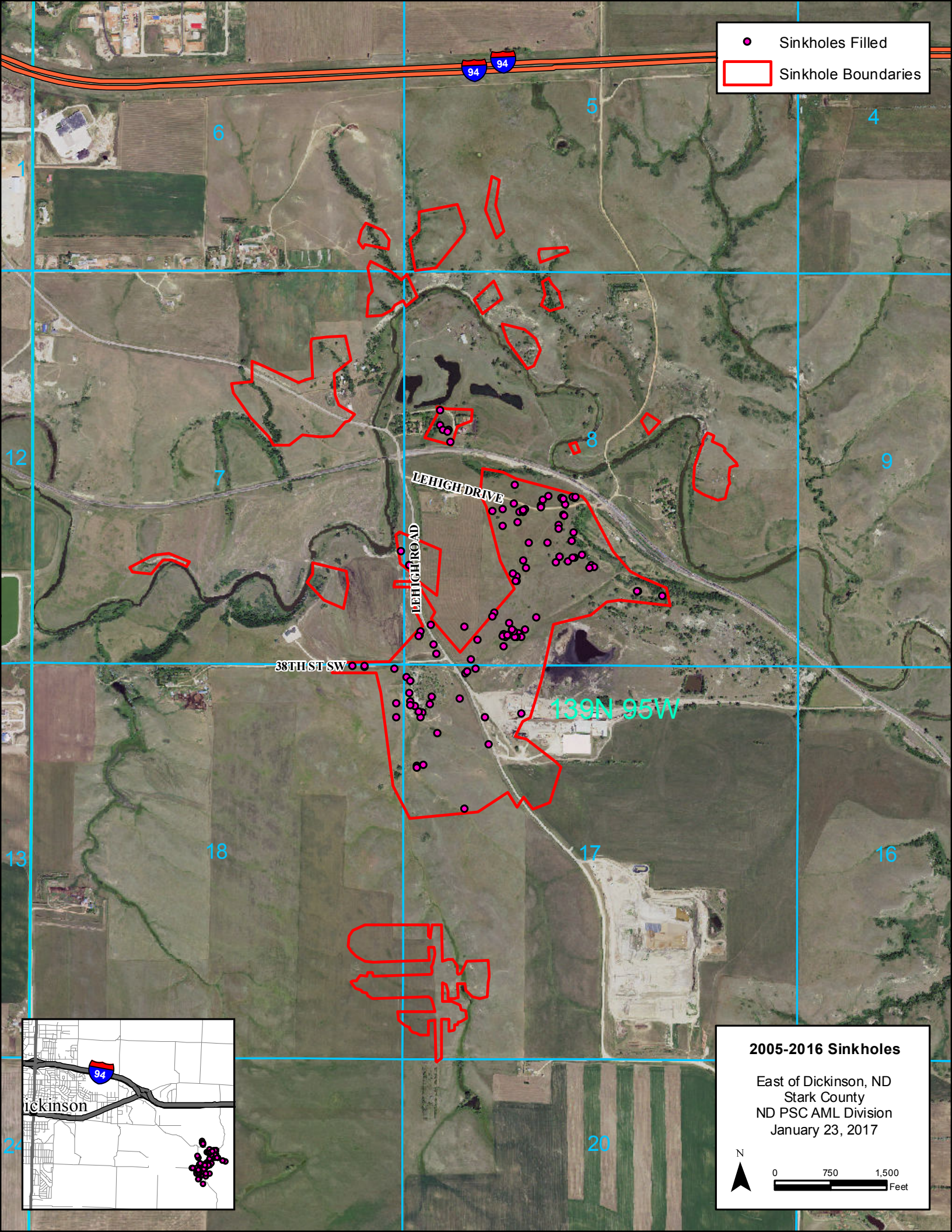


2005-2016 Sinkholes

NE of Dickinson, ND
Dunn County
ND PSC AML Division
January 23, 2017



0 460 920 Feet

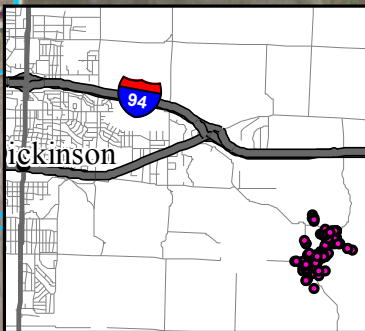
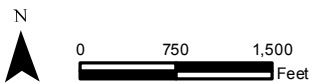


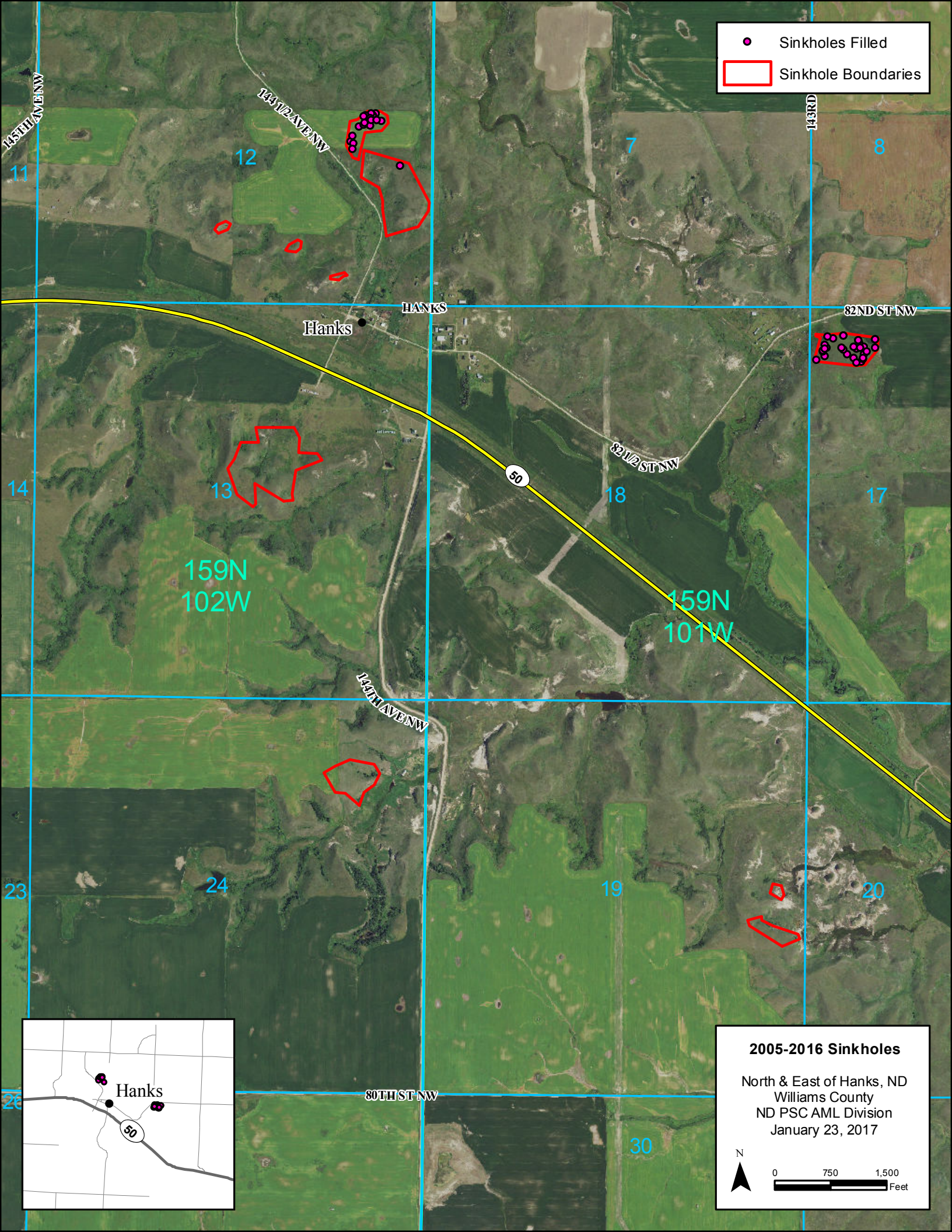
● Sinkholes Filled

□ Sinkhole Boundaries

2005-2016 Sinkholes

East of Dickinson, ND
Stark County
ND PSC AML Division
January 23, 2017





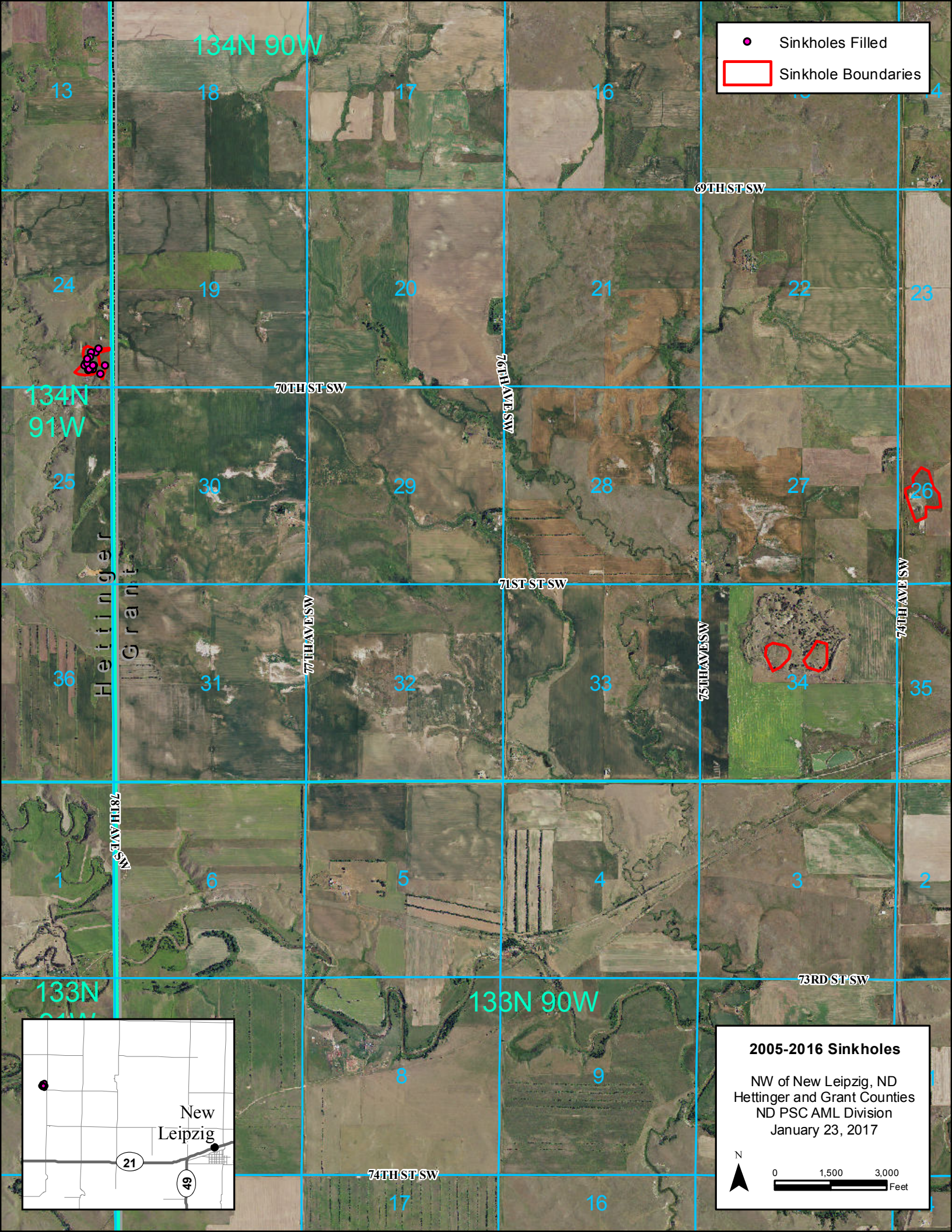
- Sinkholes Filled
- Sinkhole Boundaries

2005-2016 Sinkholes

North & East of Hanks, ND
Williams County
ND PSC AML Division
January 23, 2017



0 750 1,500
Feet

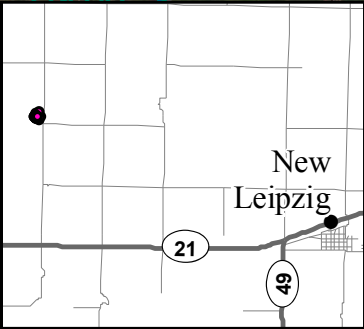
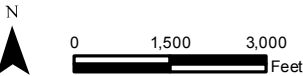


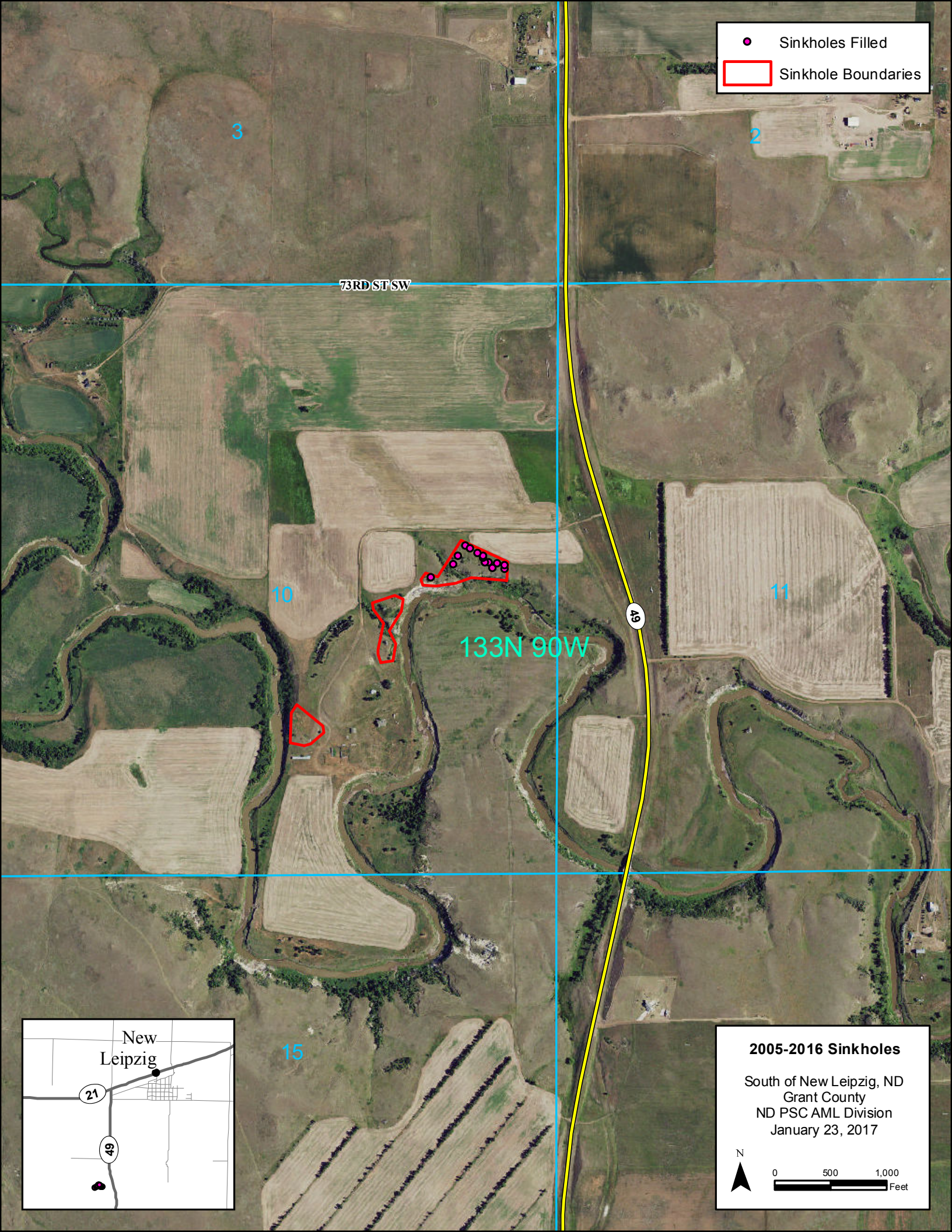
● Sinkholes Filled

□ Sinkhole Boundaries

2005-2016 Sinkholes

NW of New Leipzig, ND
Hettinger and Grant Counties
ND PSC AML Division
January 23, 2017





- Sinkholes Filled
- Sinkhole Boundaries

73RD ST SW

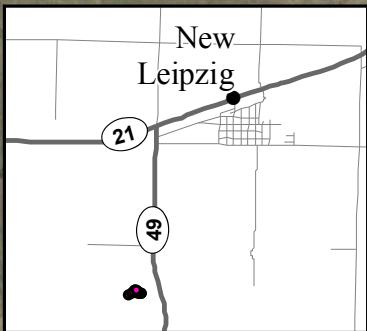
10

133N 90W

11

49

15

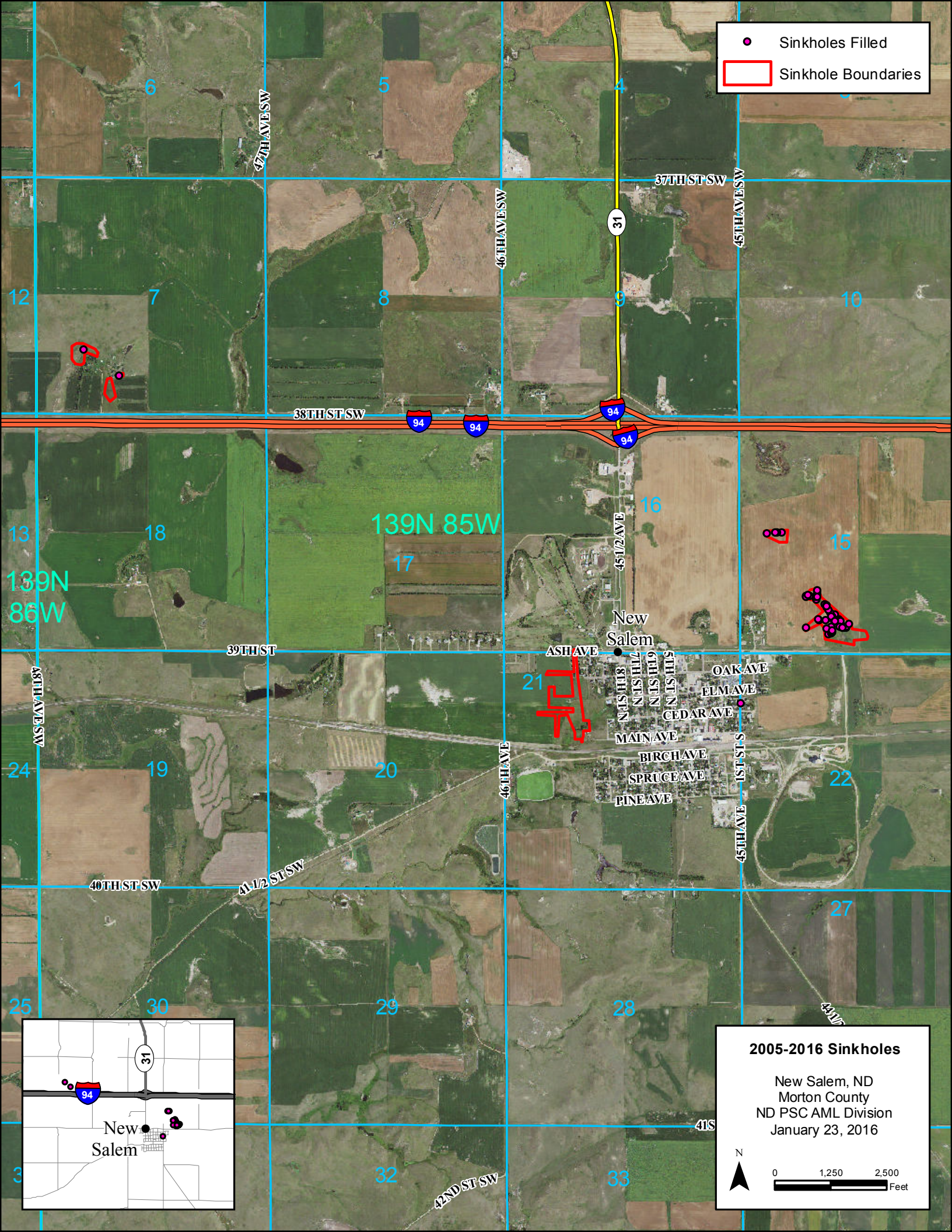


2005-2016 Sinkholes

South of New Leipzig, ND
Grant County
ND PSC AML Division
January 23, 2017

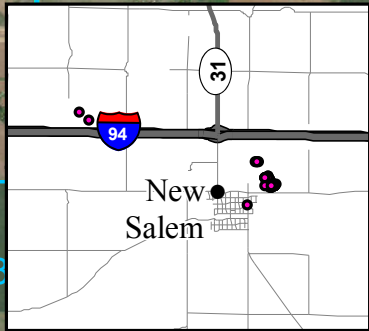


0 500 1,000
Feet



● Sinkholes Filled

□ Sinkhole Boundaries

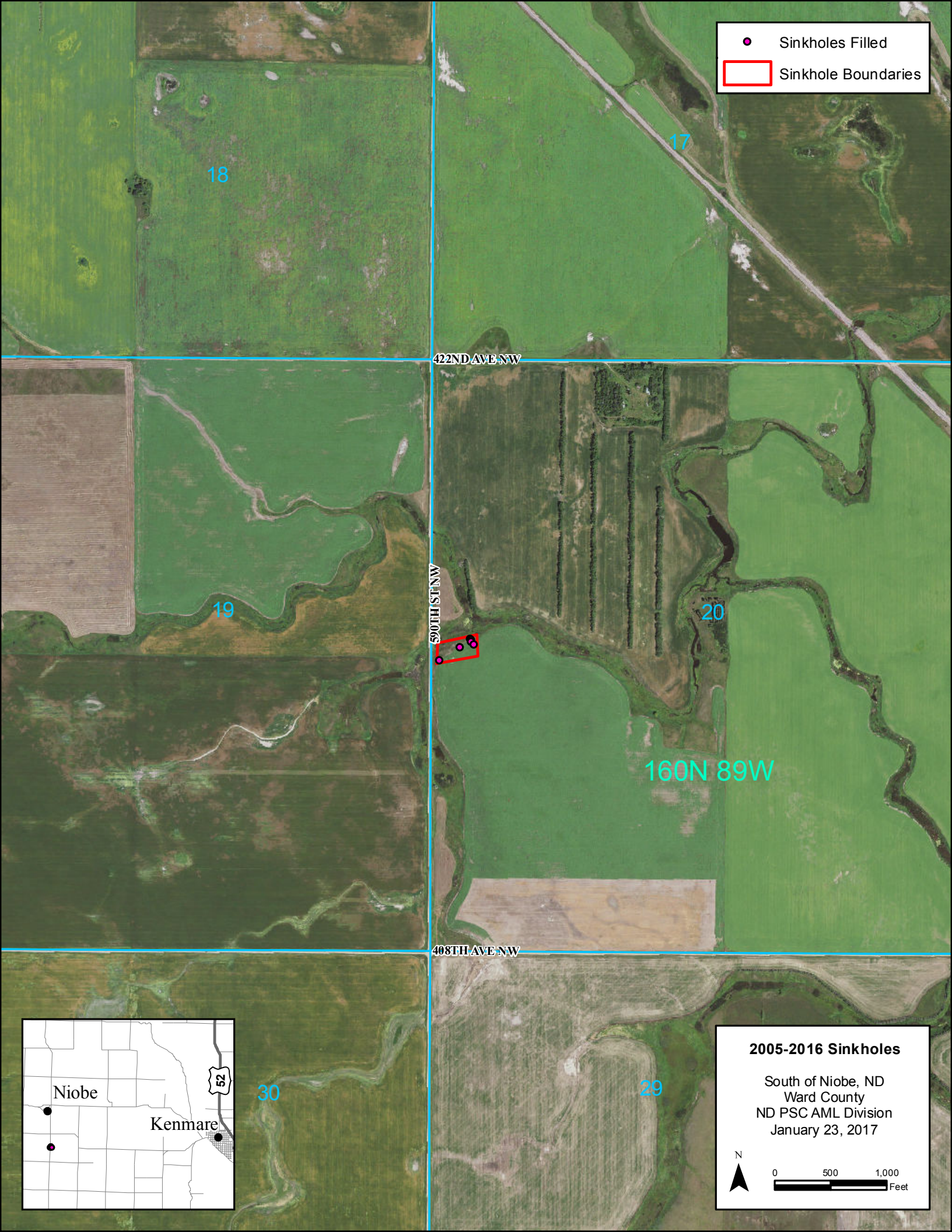


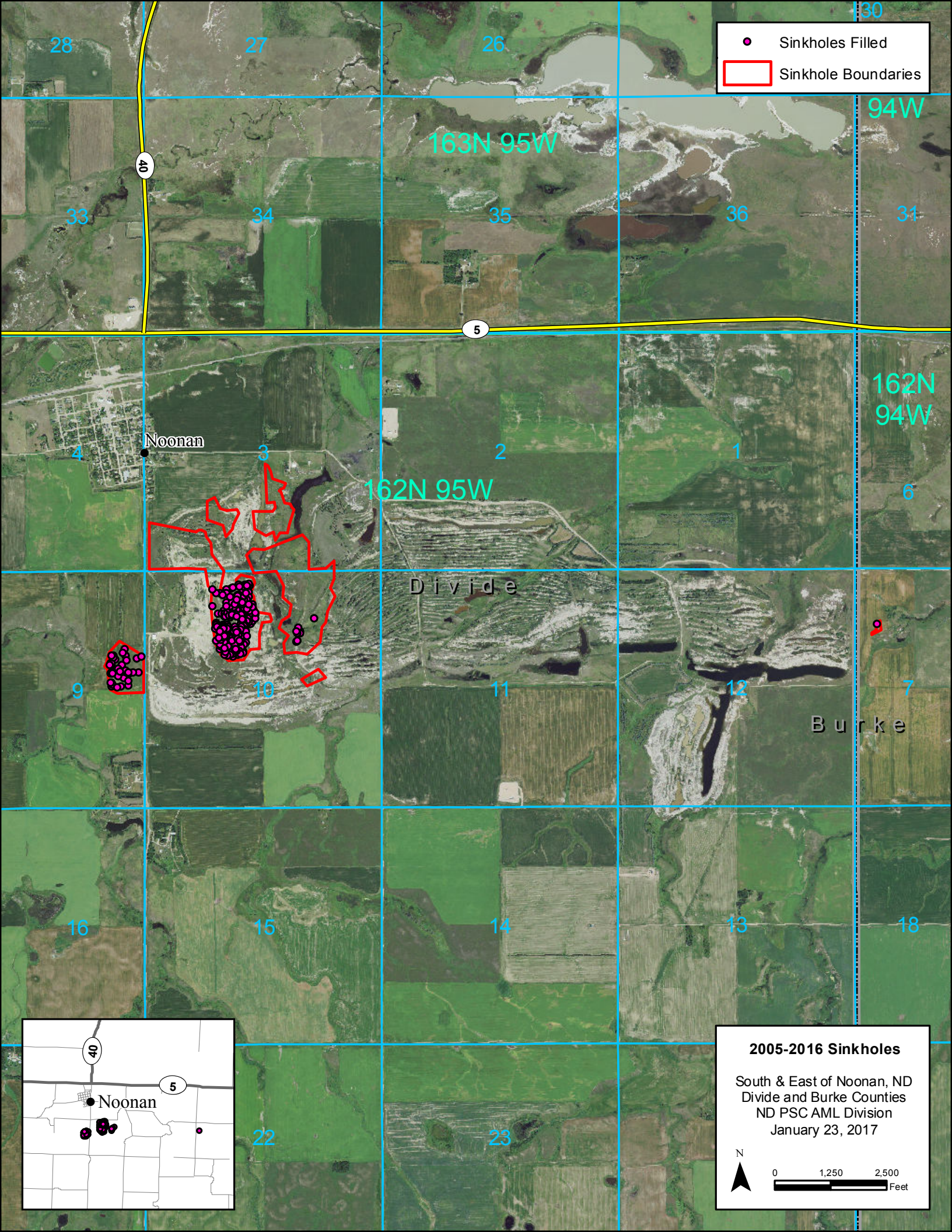
2005-2016 Sinkholes

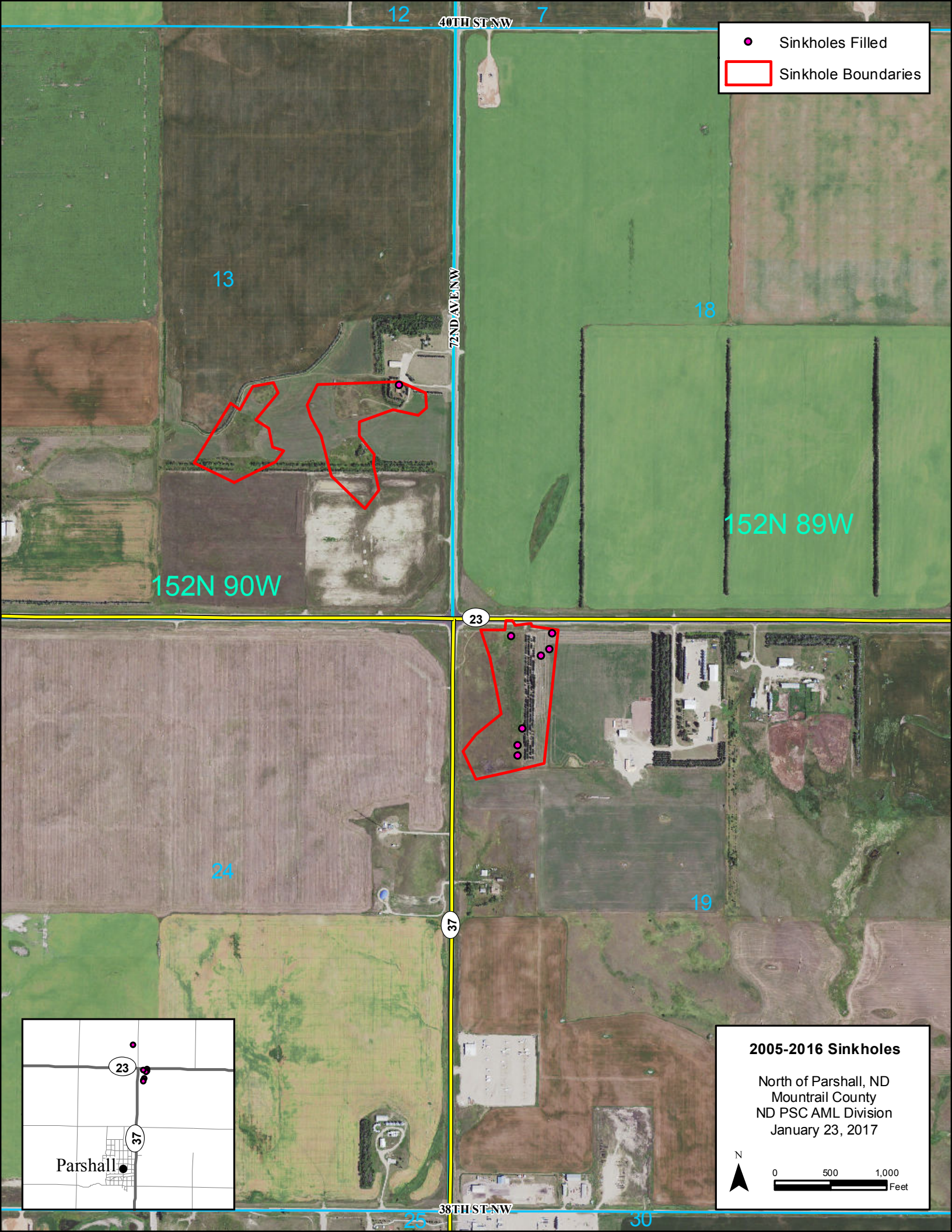
New Salem, ND
Morton County
ND PSC AML Division
January 23, 2016

N

0 1,250 2,500 Feet





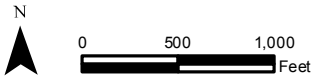


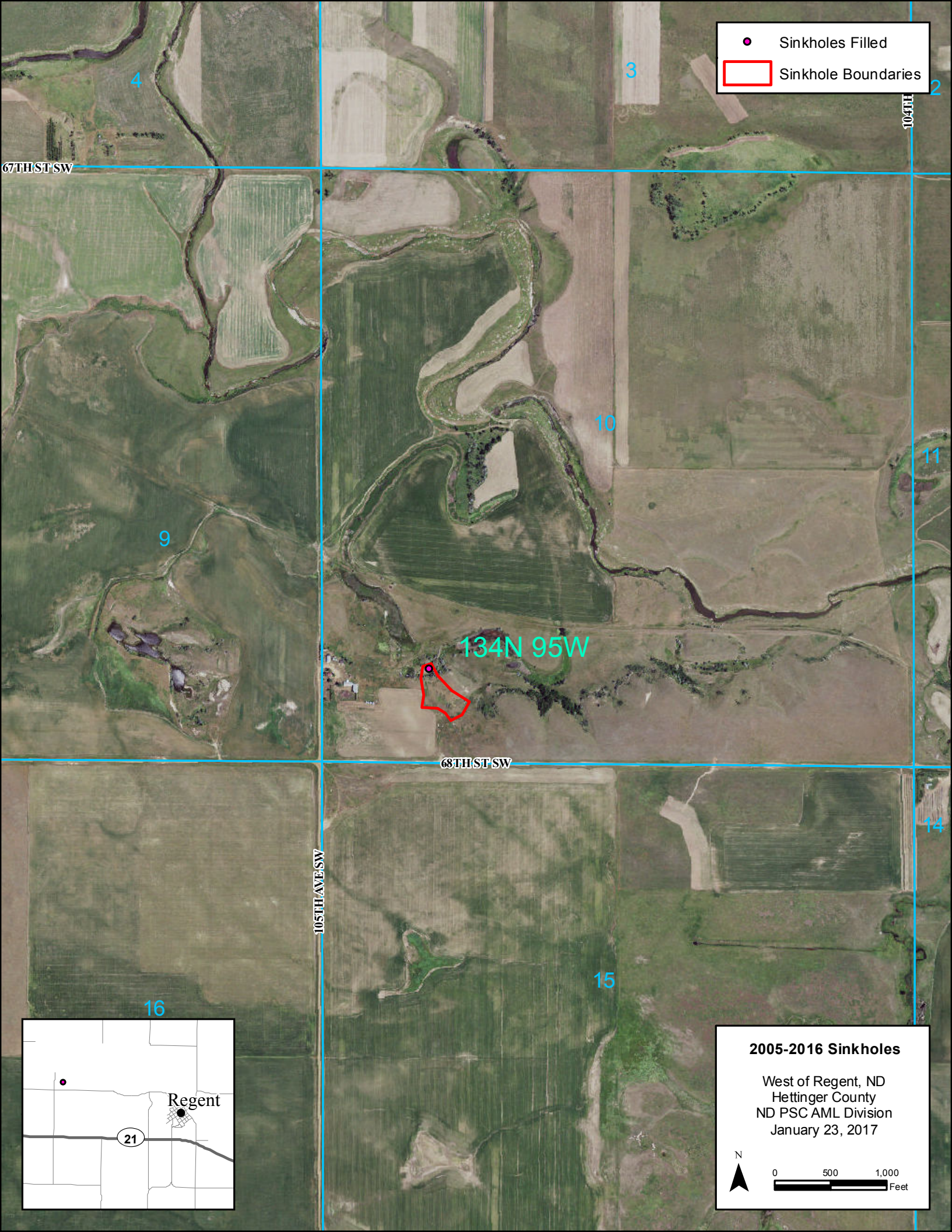
Sinkholes Filled

Sinkhole Boundaries

2005-2016 Sinkholes

North of Parshall, ND
Mountrail County
ND PSC AML Division
January 23, 2017

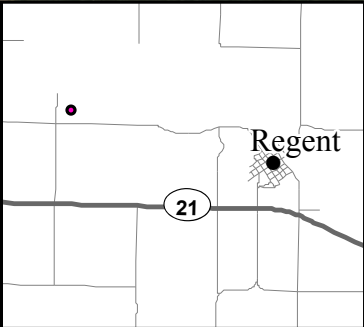




● Sinkholes Filled

□ Sinkhole Boundaries

134N 95W

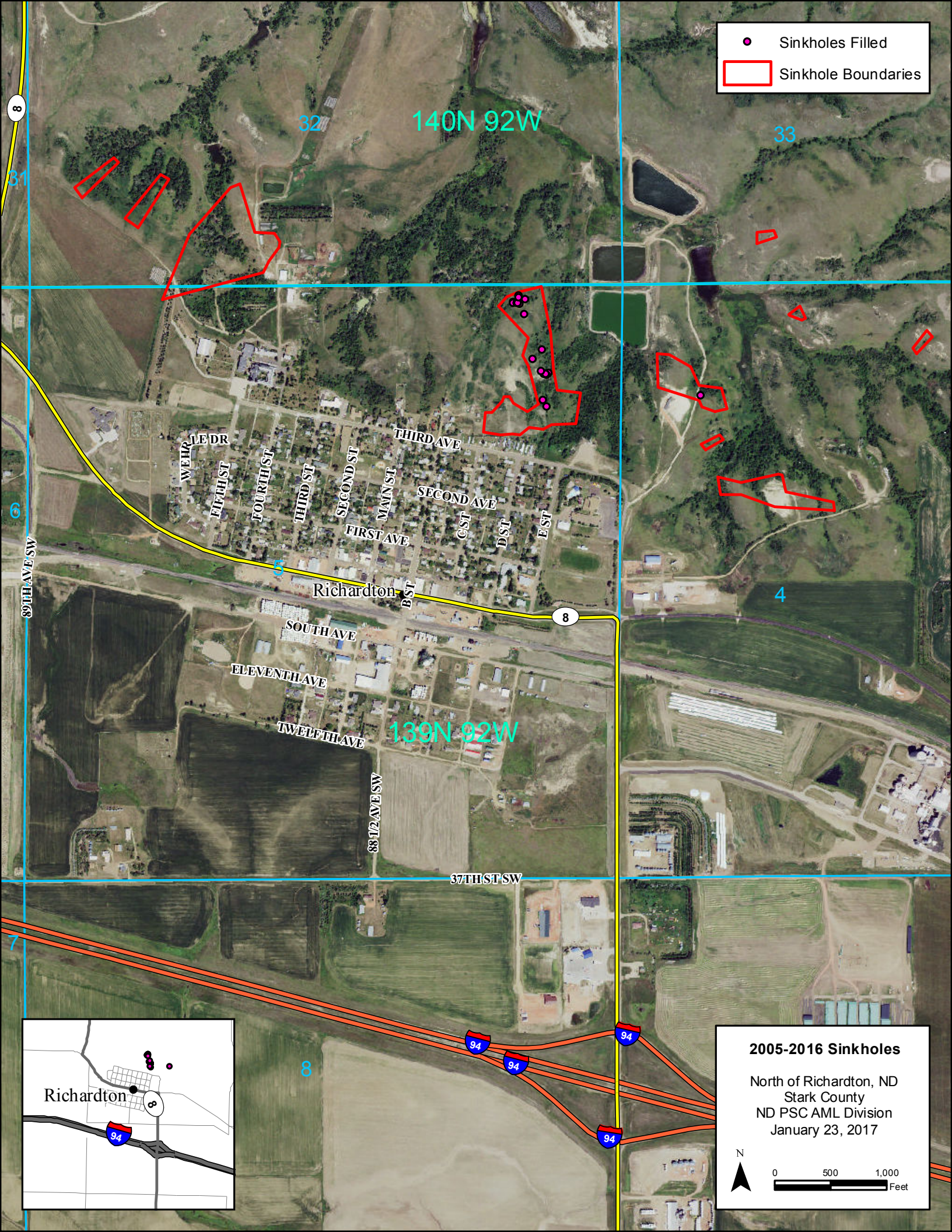


2005-2016 Sinkholes

West of Regent, ND
Hettinger County
ND PSC AML Division
January 23, 2017

N

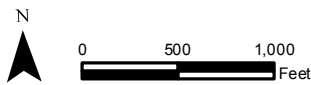
0 500 1,000 Feet

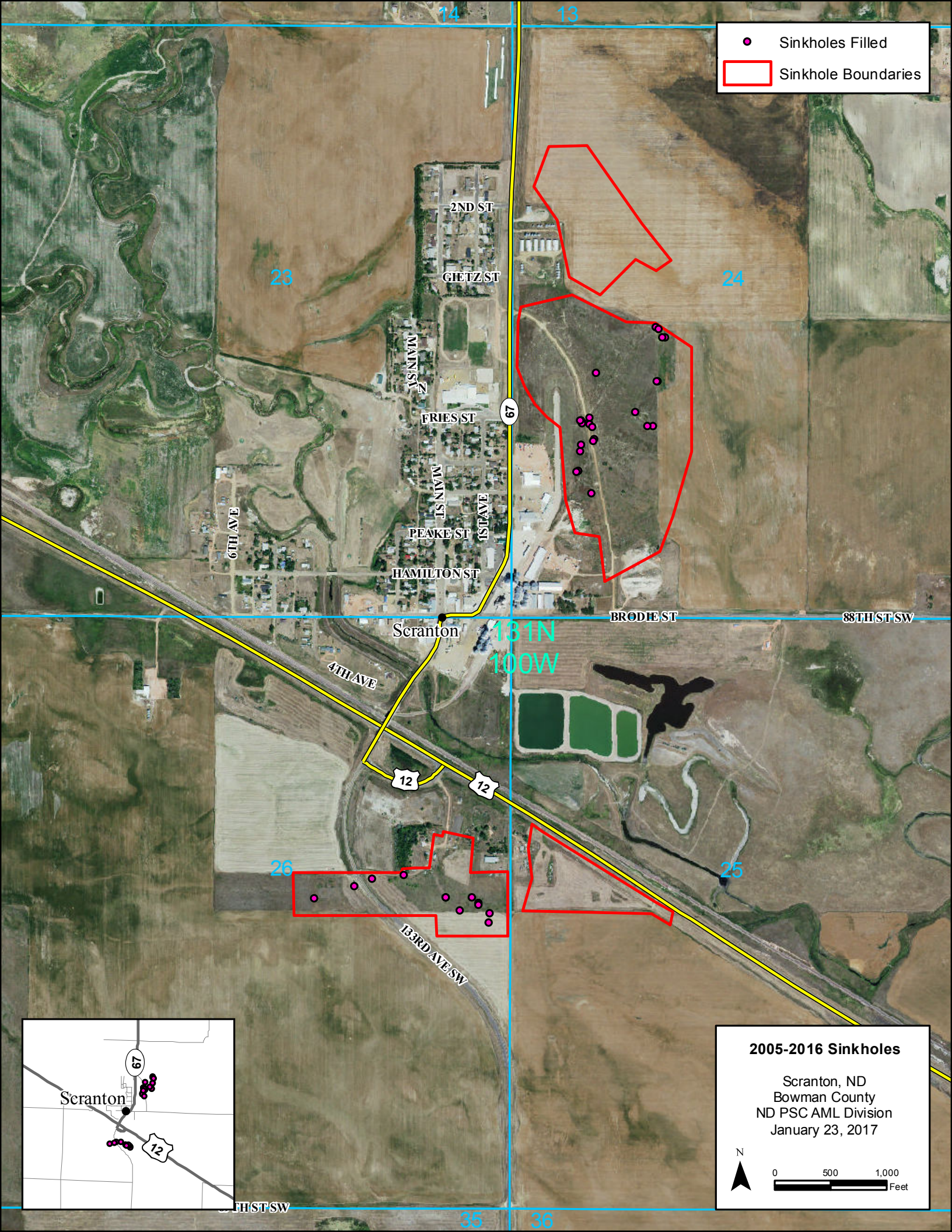


- Sinkholes Filled
- Sinkhole Boundaries

2005-2016 Sinkholes

North of Richardton, ND
Stark County
ND PSC AML Division
January 23, 2017





- Sinkholes Filled
- Sinkhole Boundaries

23

13

24

2ND ST

GIETZ ST

MAIN ST

FRIES ST

MAIN ST

PEAKE ST

HAMILTON ST

6TH AVE

67

BRODIE ST

88TH ST SW

Scranton

131N
100W

4TH AVE

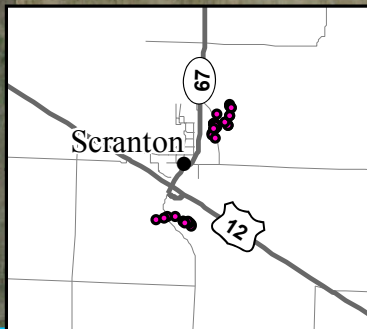
12

12

26

25

133RD AVE SW



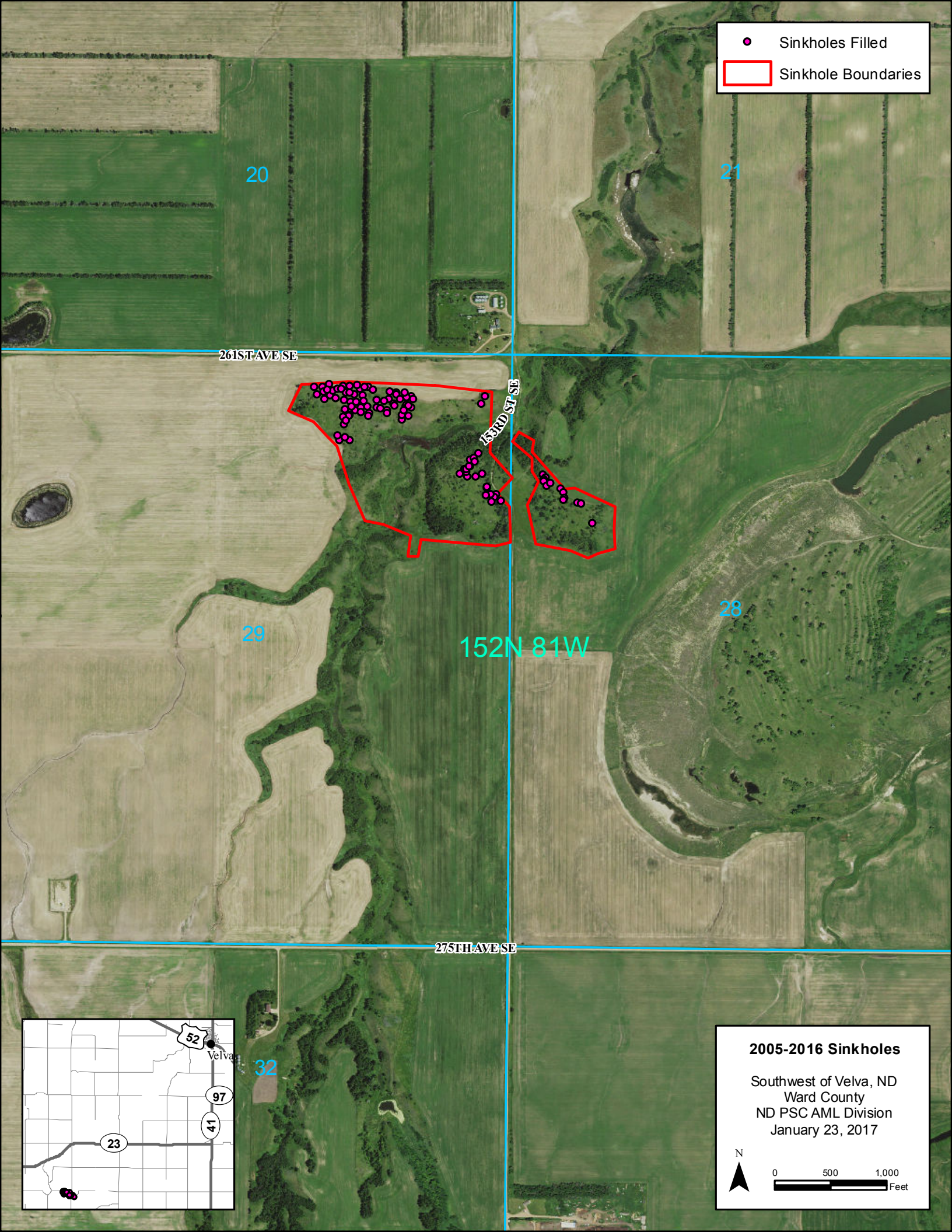
2005-2016 Sinkholes

Scranton, ND
Bowman County
ND PSC AML Division
January 23, 2017



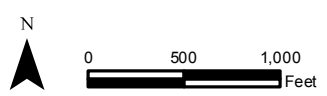
0 500 1,000 Feet

● Sinkholes Filled
□ Sinkhole Boundaries



2005-2016 Sinkholes

Southwest of Velva, ND
Ward County
ND PSC AML Division
January 23, 2017



145N 83W

31

145N 82W

36

61

- Sinkholes Filled
- Sinkhole Boundaries

3

2

7TH ST SW

144N 83W

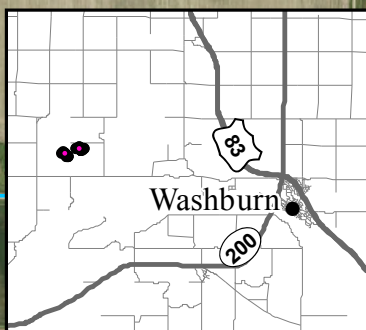
11

10

8TH ST SW

15

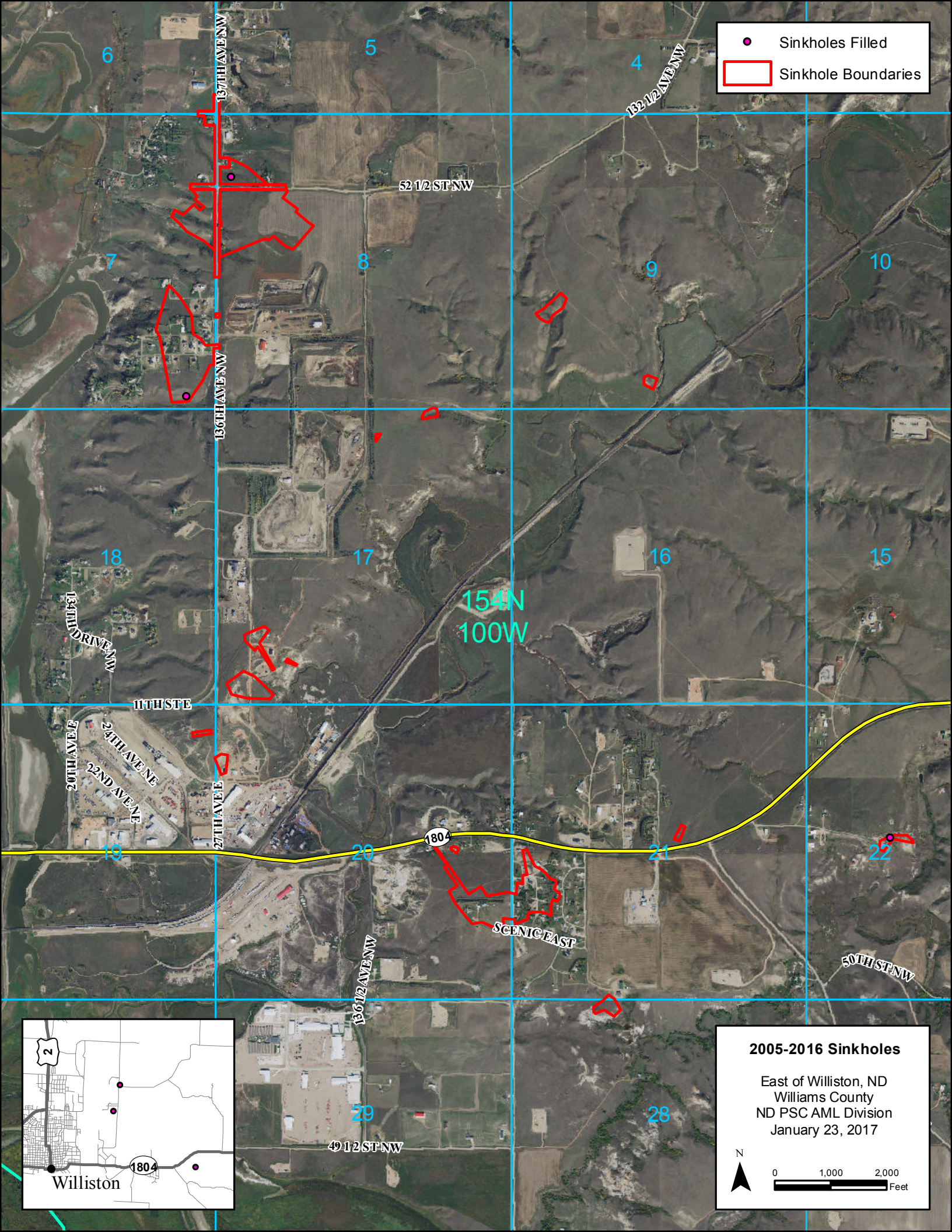
32ND AVE SW



2005-2016 Sinkholes

West of Washburn, ND
McLean County
ND PSC AML Division
January 23, 2017



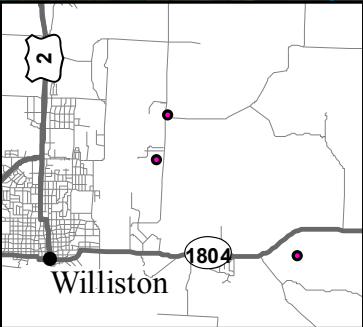
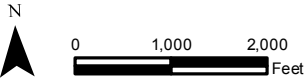


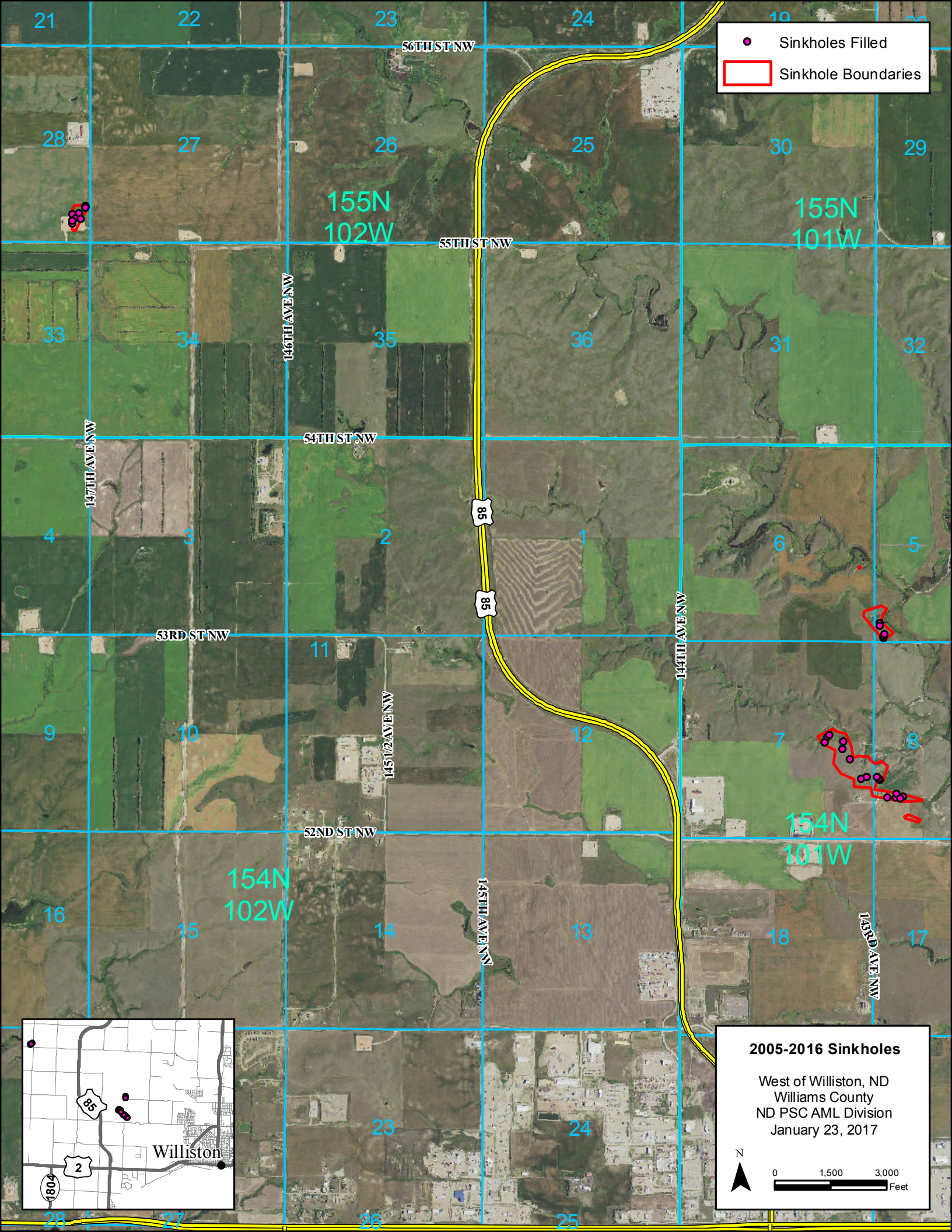
● Sinkholes Filled

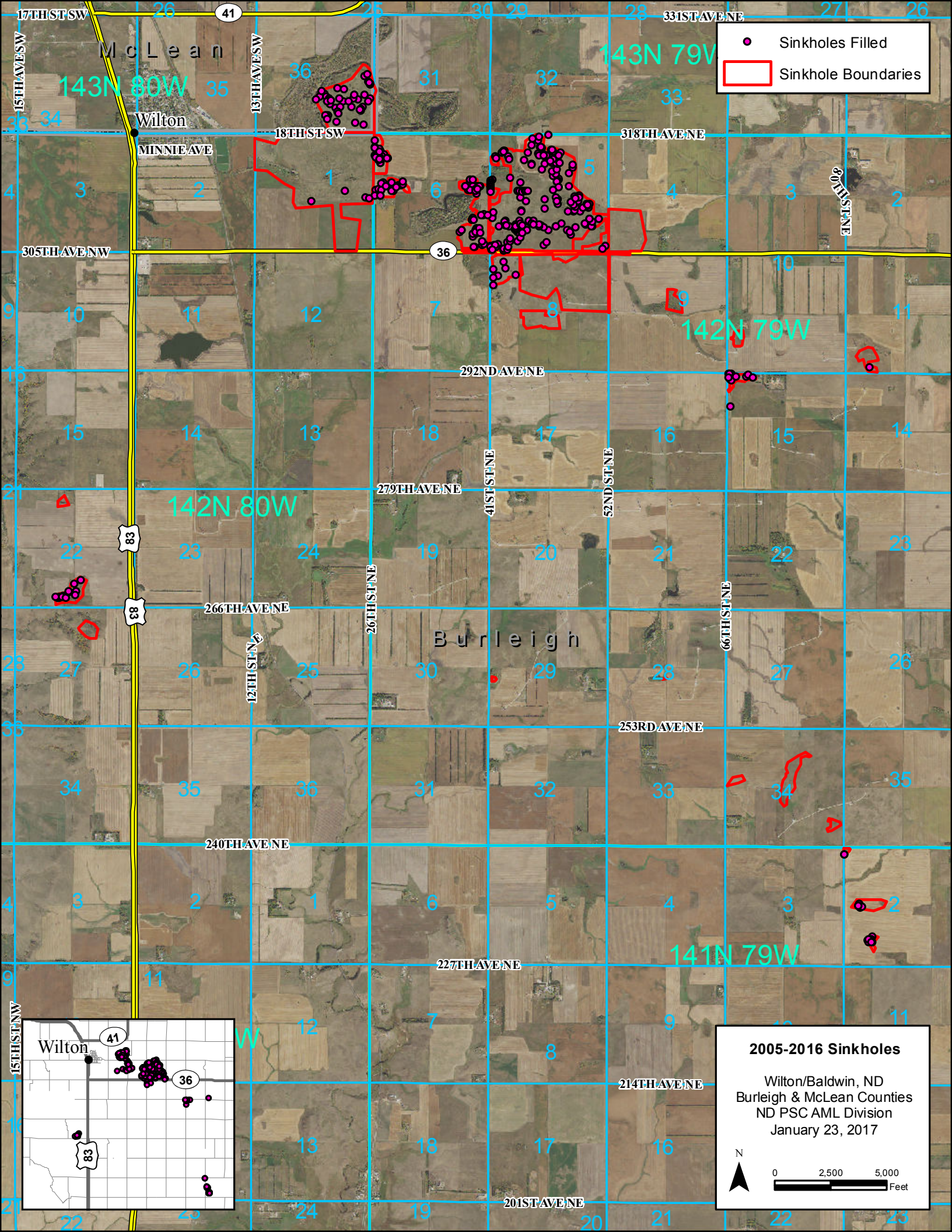
□ Sinkhole Boundaries

2005-2016 Sinkholes

East of Williston, ND
Williams County
ND PSC AML Division
January 23, 2017







- Sinkholes Filled
- Sinkhole Boundaries

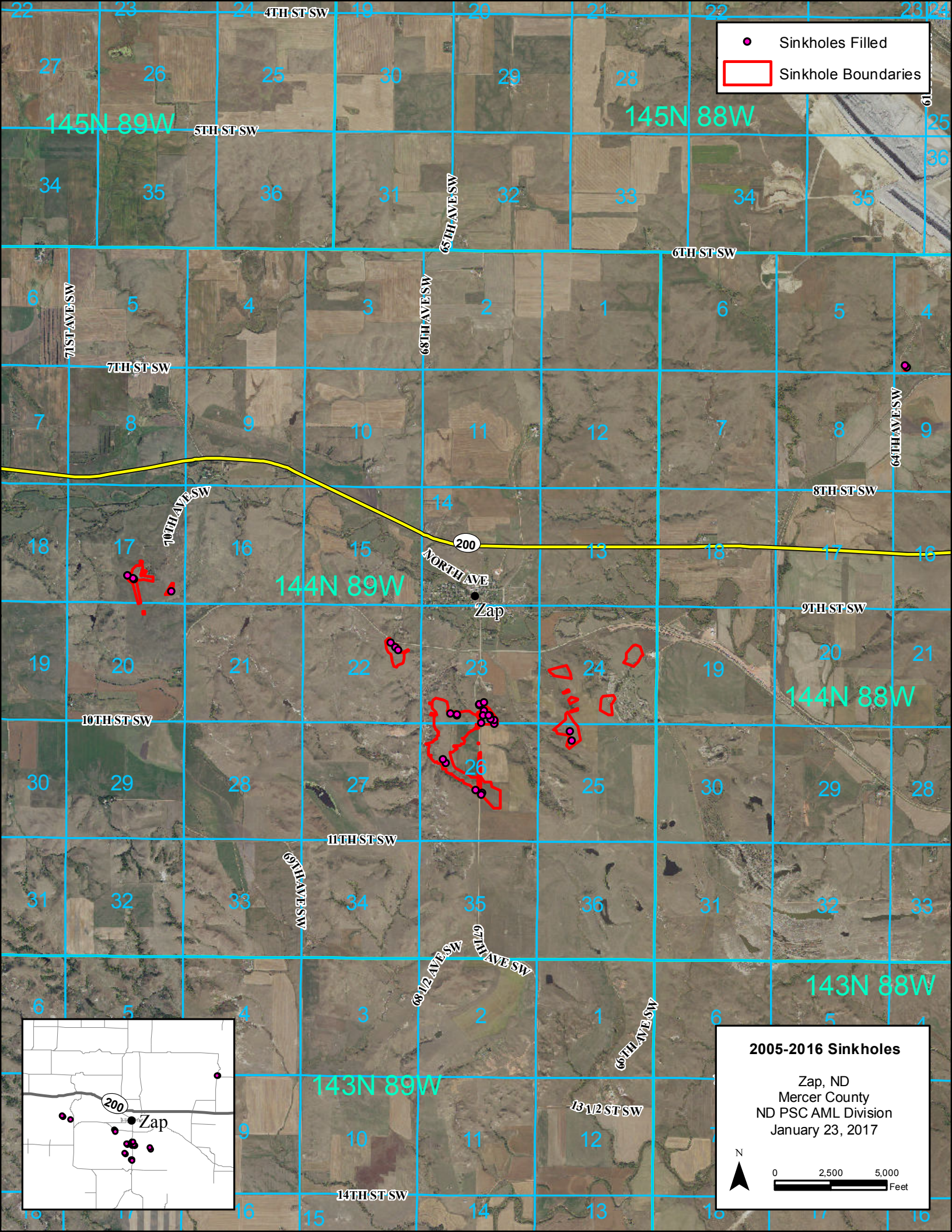
2005-2016 Sinkholes

Wilton/Baldwin, ND
Burleigh & McLean Counties
ND PSC AML Division
January 23, 2017

N



0 2,500 5,000
Feet



Sinkholes Filled

Sinkhole Boundaries

2005-2016 Sinkholes

Zap, ND
Mercer County
ND PSC AML Division
January 23, 2017

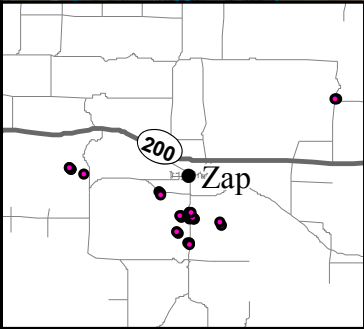
N

0

2,500

5,000

Feet



STANDARDIZED ENVIRONMENTAL ASSESSMENT

Attachment 2, Potential Sinkhole Location Maps 2020

Prepared by

North Dakota Public Service Commission

In Cooperation with

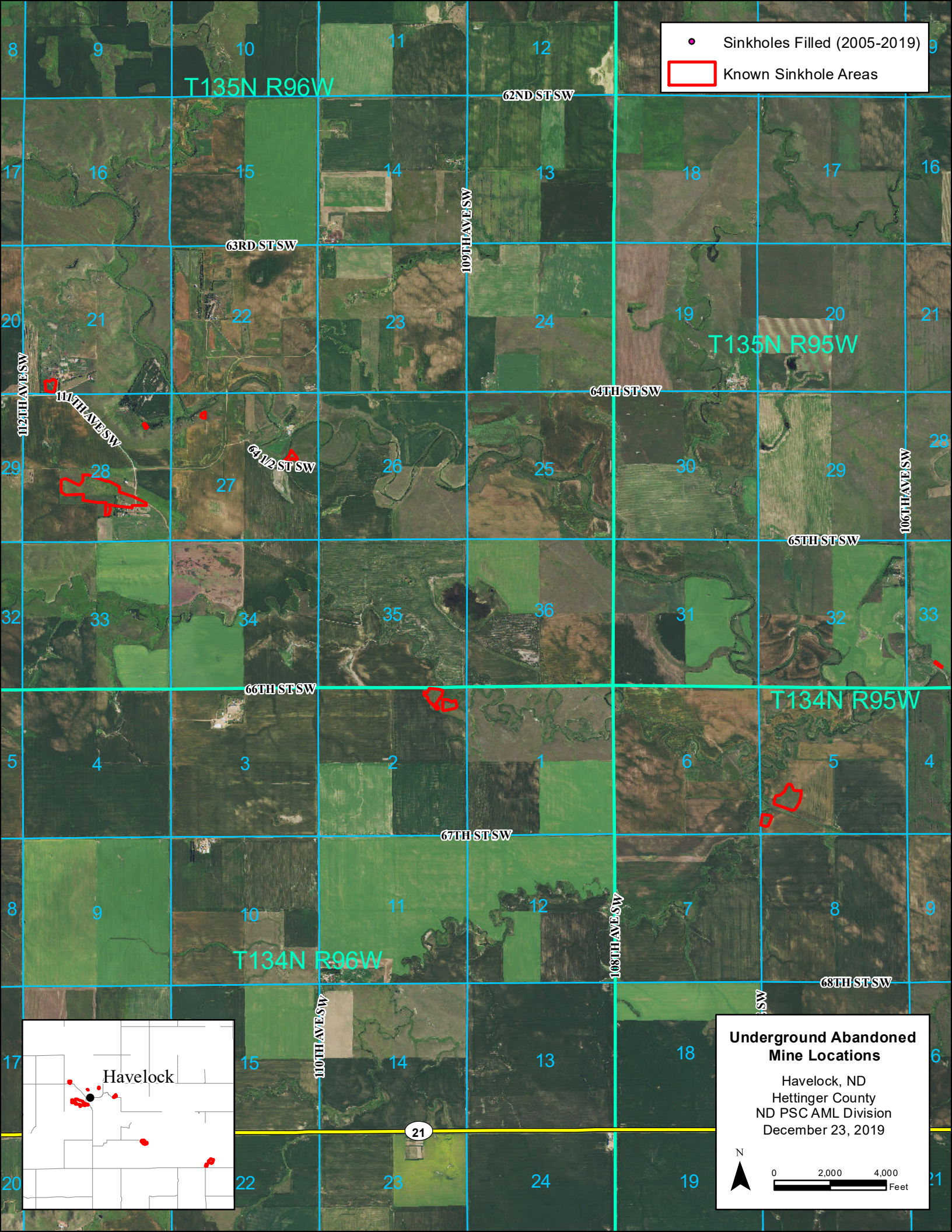
United States Department of the Interior
Office of Surface Mining Reclamation and Enforcement
Casper Field Office

(December 2019)

Note to users:

It is impossible to predict where mining-related sinkholes will occur during the period 2020. This appendix contains maps of locations where potential sinkhole filling projects may be conducted.

Proposed North Dakota Sinkhole Filling Project Locations 2020						
Location	PA Name	PA	County	Township	Range	Section(s)
SW of Tioga	SW Tioga	ND000142	Williams	155	96	29
White Earth	White Earth	ND000223	McKenzie	156	94	9,15,19,23
Havelock	Havelock	ND000023	Hettinger	134	96	2,5,27,28,33



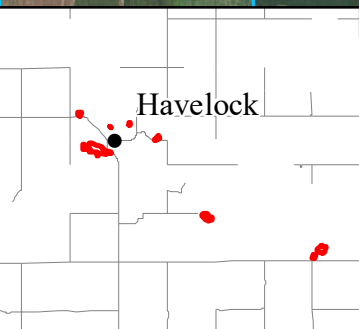
- Sinkholes Filled (2005-2019)
- Known Sinkhole Areas

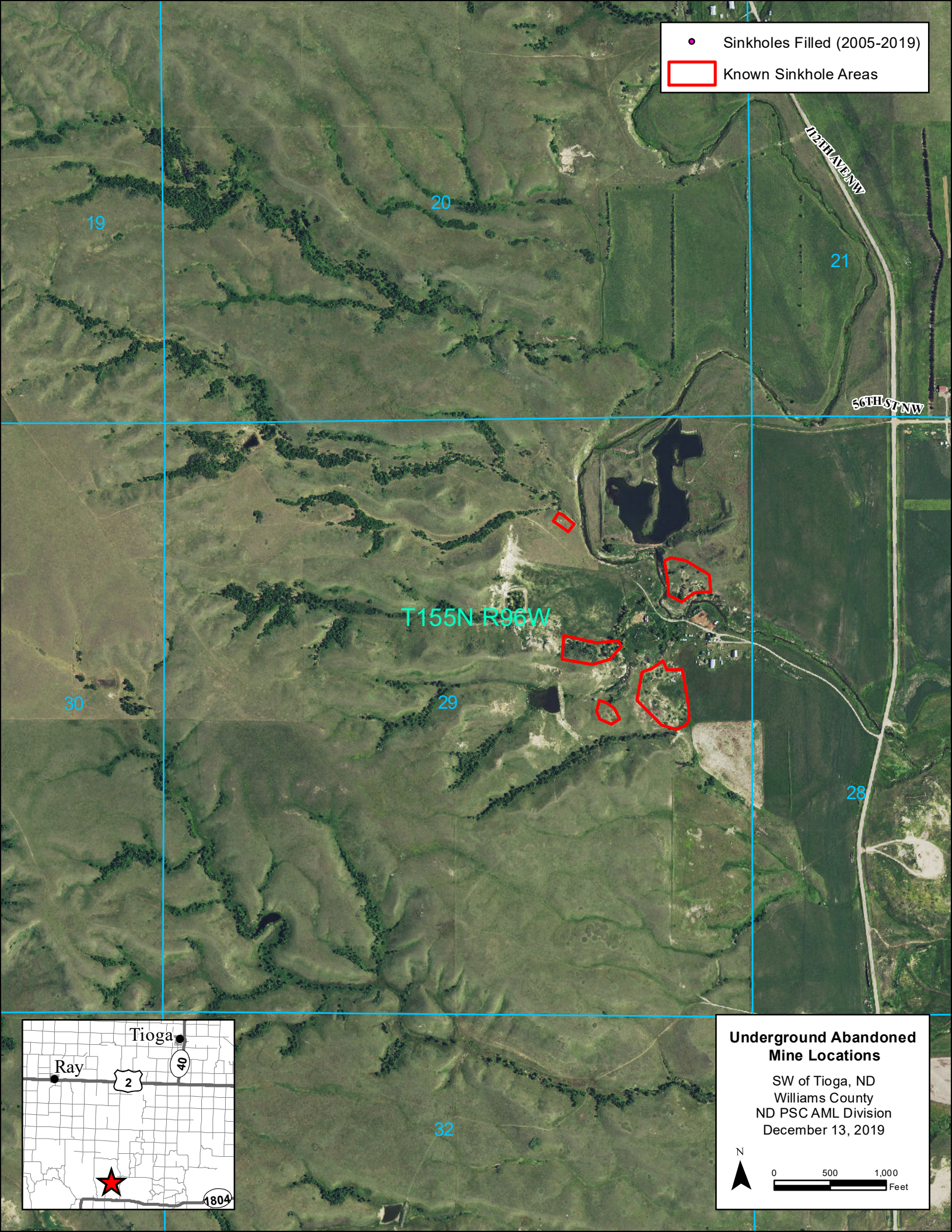
Underground Abandoned Mine Locations

Havelock, ND
Hettinger County
ND PSC AML Division
December 23, 2019

N

0 2,000 4,000 Feet





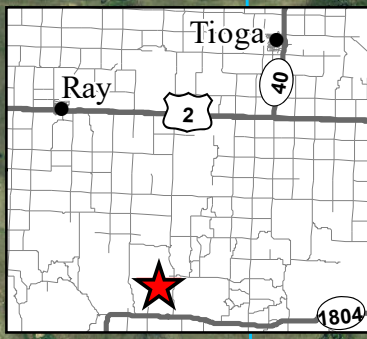
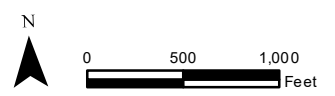
● Sinkholes Filled (2005-2019)

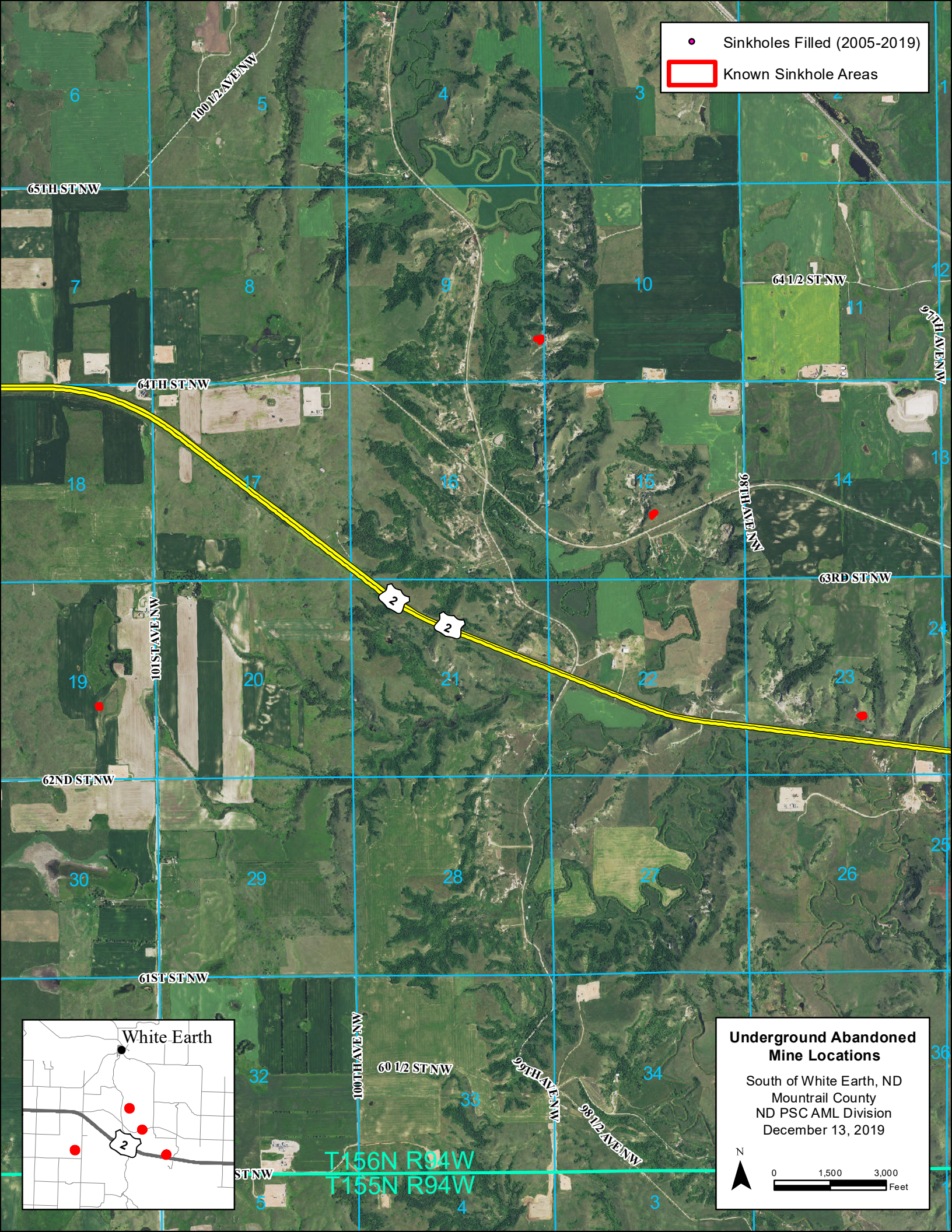
Known Sinkhole Areas

T155N R96W

Underground Abandoned Mine Locations

SW of Tioga, ND
Williams County
ND PSC AML Division
December 13, 2019





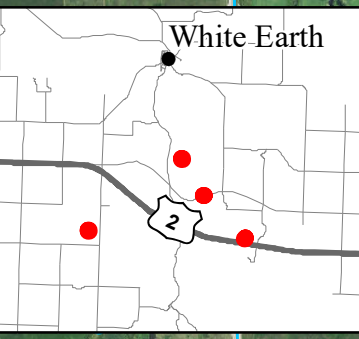
- Sinkholes Filled (2005-2019)
- ▭ Known Sinkhole Areas

Underground Abandoned Mine Locations

South of White Earth, ND
Mountrail County
ND PSC AML Division
December 13, 2019

N

0 1,500 3,000 Feet



T156N R94W
T155N R94W

STANDARDIZED ENVIRONMENTAL ASSESSMENT

Attachment 3, Potential Sinkhole Location Maps 2021

Prepared by

North Dakota Public Service Commission

In Cooperation with

United States Department of the Interior
Office of Surface Mining Reclamation and Enforcement
Casper Field Office

(Revised June 2021)

Note to users:

It is impossible to predict where mining-related sinkholes will occur during 2021. This appendix contains maps of locations where potential sinkhole filling projects may be conducted in 2021.

Proposed North Dakota Sinkhole Filling Project Locations 2020						
Location	PA Name	PA	County	Township	Range	Section(s)
Beulah	Beulah	ND014	Mercer	144	87	6, 7, 18, 30
			Mercer	144	88	12, 13, 15, 25
Garrison	Garrison	ND019	McLean	148	84	7, 8, 17, 18
Hanks	Hanks	ND147	William	159	101	17, 19
				159	102	12, 13, 24
Haynes	Haynes	ND124	Adams	129	94	6, 7, 8, 9, 15, 16, 17, 21
				129	95	1
Noonan	Noonan	ND029	Divide	162	95	3, 9, 10
			Burke	162	94	7
Parshall	Parshall	ND090	Mountrail	152	89	19
				152	90	13
Scranton	Scranton	ND528	Bowman	131	100	24
Velva	Buechler	ND004	Ward	152	81	13, 19, 20, 28, 29
Williston	Williams	ND111	Williams	154	100	7, 8, 9, 17, 19, 20, 21, 22,
Wilton	Wilton	ND001	Burleigh	141	79	2
		ND001	Burleigh	142	79	4, 5, 6, 8, 9, 10, 11, 15, 28
Zap	Beulah/Zap	ND014	Mercer	144	89	17, 20, 22, 23, 24, 25, 26
				144	88	4

