



**GEOPHYSICAL EXPLORATION AFFIDAVIT OF COMPLETION REPORT - FORM GE 6B**

INDUSTRIAL COMMISSION OF NORTH DAKOTA  
OIL AND GAS DIVISION  
600 EAST BOULEVARD DEPT 405  
BISMARCK, ND 58505-0840  
SFN 51456 (03-2011)

PERMIT NAME (Required): Big Island 3-D

PERMIT NUMBER: 970182

**AFFIDAVIT OF COMPLETION (GEOPHYSICAL CONTRACTOR)**

STATE OF Montana )

COUNTY OF Richland )

Before me, \_\_\_\_\_, a Notary Public in and for the said

County and State, this day personally appeared Rickie Scheetz

who being first duly sworn, deposes and says that (s)he is employed by \_\_\_\_\_

Geokinetics USA Inc., that (s)he has read North Dakota

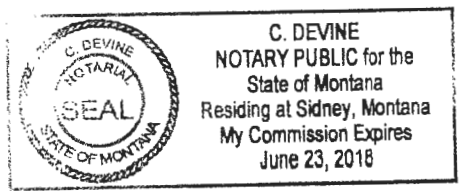
Century Code Section 38-08.1, that the foregoing seismic project has been completed in

accordance with North Dakota Administrative Code Rule 43-02-12 and that the statements on

the reverse side of this document are true.

[Signature]  
Geophysical Contractor Representative

Subscribed in my presence and sworn before me this 10 day of April, 2015.



Notary Public C. Devine

My Commission Expires June 23, 2018



# GEOPHYSICAL EXPLORATION COMPLETION REPORT - FORM GE 6A

INDUSTRIAL COMMISSION OF NORTH DAKOTA

OIL AND GAS DIVISION

600 EAST BOULEVARD DEPT 405

BISMARCK, ND 58505-0840

SFN 51456 (03-2011)

Permit No. <b>970182</b>	
Shot Hole Operations <b>Big Island 3-D</b>	*Non-Explosive Operations

## SECTION 1

Geophysical Contractor <b>Geokinetics USA Inc.</b>	
Project Name and Number <b>Big Island 3-D</b>	County(s) <b>Golden Valley</b>
Township(s) <b>140N,141N,142N,143N</b>	Range(s) <b>103W,104W,105W,106W</b>
Drilling and Plugging Contractors <b>Excell Drilling</b>	
Date Commenced <b>January 20, 2010</b>	Date Completed <b>May 18, 2010</b>

## SECTION 2

First S.P. # <b>3-D</b>	Last S.P. # <b>3-D</b>
Loaded Holes (Undetonated Shot Points)	
S.P.#s	
Charge Size	
Depth	
Reasons Holes Were Not Shot <b>N/A</b>	

## SECTION 3

Flowing Holes and/or Blowouts S.P.#s <b>N/A</b>
Procedure for Plugging Flowing Holes and/or Blowouts
Include a 7.5 minute USGS topographic quadrangle map or a computer generated post-plot facsimile of the approximate scale displaying each individual shot hole, SP #, line #, and legal location.

\*Non-Explosive Operations - Complete Section 1 and Affidavit (Form GE 6B).



# GEOPHYSICAL EXPLORATION PERMIT

INDUSTRIAL COMMISSION OF NORTH DAKOTA  
 OIL AND GAS DIVISION  
 600 EAST BOULEVARD DEPT 405  
 BISMARCK, ND 58505-0840  
 SFN 51459 (02-2008)



1) a. Company <b>PGS ONSHORE, INC.</b>		Address <b>15150 MEMORIAL DR., HOUSTON, TX 77079</b>	
Contact <b>HENRY E. BIGGART</b>		Telephone <b>(281) 509-8130</b>	Fax <b>(281) 509-8088</b>
Surety Company <b>RLI INSURANCE COMPANY</b>		Bond Amount <b>\$50,000.00</b>	Bond Number <b>RLB0011948</b>
2) a. Subcontractor(s) <b>Erickson Contract Surveying, Inc.</b>		Address <b>1101 5th St. SW., Sidney, MT 59270</b>	
b. Subcontractor(s)		Telephone <b>(406) 482-6606</b>	
c. Subcontractor(s)		Telephone	
3) Party Manager <b>KEVIN O'CONNELL</b>		Address (local) <b>TBD</b>	
		Telephone (local) <b>(713) 392-0450</b>	
4) Project Name or Line Numbers <b>BIG ISLAND 3D</b>			
5) Exploration Method (Shot Hole, Non-Explosive, 2D, 3D, Other) <b>SHOT HOLE, 3D</b>			
6) Approximate Start Date <b>December 1, 2009</b>		Approximate Completion Date <b>April 1, 2010</b>	

**THE COMMISSION MUST BE NOTIFIED AT LEAST 24 HOURS IN ADVANCE OF COMMENCEMENT OF DRILL/PLUG OPERATIONS**

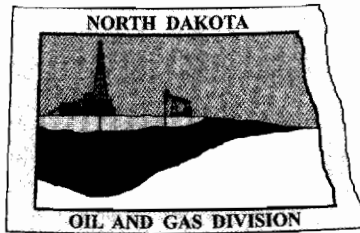
7) Location of Proposed Project - County <b>GOLDEN VALLEY COUNTY, ND</b>					
Section(s), Township(s) & Range(s)	Section <b>"SEE ATTACHED SHEET"</b>	T.	R.		
	Section	T.	R.		
	Section	T.	R.		
	Section	T.	R.		
8) Size of Hole <b>3-D</b>	Amt of Charge <b>5 LBS</b>	Depth <b>40 FT</b>	Source points per sq. mi. <b>72</b>	No. of sq. mi. <b>127.30</b>	9) Must supply latitudes and longitudes of post-plot source and receiver points on an SD card.
Size of Hole <b>2-D</b>	Amt of Charge	Depth	Source points per ln. mi.	No. of ln. mi.	
10) Anticipated special drilling and plugging procedures? <b>IN ACCORDANCE WITH THE NORTH DAKOTA REGULATIONS</b>					
11) Enclose a pre-plot map with proposed location of seismic program lines and powder mag. <b>PRE-PLOT MAP INCLUDED</b>					
Signed 		Title <b>OPERATIONS SUPERVISOR</b>		Date <b>December 1, 2009</b>	
(This space for State office use)				Conditions of Approval if any	
Permit No. <b>970182</b>		Approval Date <b>12/18/09</b>		<i>See Attached letter</i>	
Approved by 					
Title <b>Mineral Resources Permit Manager</b>					
County Approval Sent <b>Golden Valley</b>					

See Instructions On Reverse Side

BIG ISLAND 3D - TOWNSHIP,RANGE & SECTION INFORMATION:

SECTION	TOWNSHIP	RANGE
31,32,33,34,35	T143N	R105W
5,6,7,8,17,18,19,20,29,30,31,32	T142N	R104W
1 thru 36	T142N	R105W
17,18,19,20,29,30,31,32	T141N	R103W
4 thru 11, 13 thru 36	T141N	R104W
1 thru 36	T141N	R105W
1,2,3,4,5,6	T140N	R104W
1,2,3,4,5,6	T140N	R105W
1	T140N	R106W
1,12,13,24,25	T15N	R60E

Montana Lands - Not Included In ND State Permit.



# Oil and Gas Division

Lynn D. Helms - Director      Bruce E. Hicks - Assistant Director

**Department of Mineral Resources**

Lynn D. Helms - Director

**North Dakota Industrial Commission**

[www.oilgas.nd.gov](http://www.oilgas.nd.gov)

December 18, 2009

Mr. Henry E. Biggart  
PGS Onshore, Inc.  
15150 Memorial Drive  
Houston, TX 77079

RE:   BIG ISLAND 3-D  
      Geophysical Exploration Permit #97-0182  
      Golden Valley County

Dear Mr. Biggart:

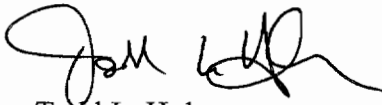
Please be advised that we are in receipt of your Geophysical Exploration permit and it is conditionally approved; effective for one year from December 18, 2008. Review the following conditions for your permit:

1. A pre-program meeting with state seismic inspector Tom Torstenson may be required. You must contact him at 701-290-1546 (cell) or 701-227-7436 at least 24 hours prior to any exploration operations.
2. All variances for distance restrictions are to be furnished, and a pre-plot map displaying any source points that do not comply with the distance restriction rule must be supplied to the inspector.
3. The following information must be submitted within 30 days of the completion of the project by the Geophysical Company:
  - a. Completion Report,
  - b. Completion Affidavit,
  - c. Post Plot Map. It must show all water wells, buildings, underground cisterns, pipelines, and flowing springs that fall within the program area and within one half mile of the perimeter of the program.
  - d. Mini SD card or email: [ttorstenson@nd.gov](mailto:ttorstenson@nd.gov) with all source and receiver points,
  - e. Letter stating that the Geophysical Company has given all surface owner's a copy of the Section and Chapter of the NDCC as stated in paragraph 5.
4. The following information must be submitted within 30 days of the completion of the project by the SUBCONTRACTOR(s) (when applicable):
  - a. Plugging Report
  - b. Plugging Affidavit

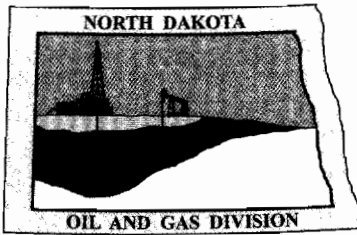
5. It is required that within seven days of initial contact between the permitting agent and the operator of the land, the permitting agent shall provide the operator of the land and each landowner owning land within one-half mile of the land on which geophysical exploration activities are to be conducted a written copy of NDCC Section 38-08.1-04.1 (Exploration Permit) and NDCC Chapter 38-11.1 (Oil and Gas Production Damage Compensation). The permitting agent shall file an affidavit with this office confirming compliance with such notification. For your convenience, a copy of both Sections are enclosed.
6. The permit agent shall notify the operator of the land at least seven days before commencement of any geophysical exploration activity, unless waived by mutual agreement of both parties. The notice must include the approximate time schedule and the location of the planned activity.
7. Information regarding the location of water wells, springs, etc.; refer to the following ND State Water Commission Mapservice website, at: <http://mapservice.swc.state.nd.us/>
8. The entire permit can be viewed, as well as the status of various seismic projects in the state, at: <https://www.dmr.nd.gov/oilgas/seismic/seismicstats.asp>

Should you have any questions regarding this matter, feel free to contact me at 701-328-8020, or Tom Torstenson at the number listed in paragraph 1.

Sincerely,



Todd L. Holweger  
Mineral Resources Permit Manager



# Oil and Gas Division

Lynn D. Helms - Director      Bruce E. Hicks - Assistant Director

## Department of Mineral Resources

Lynn D. Helms - Director

## North Dakota Industrial Commission

[www.oilgas.nd.gov](http://www.oilgas.nd.gov)

December 18, 2009

The Honorable Cecilia Stedman  
Golden Valley County Auditor  
P.O. Box 67  
Beach, ND 58621-0067

RE:    Geophysical Exploration Permit  
       Permit #97-0182

Dear Ms. Stedman:

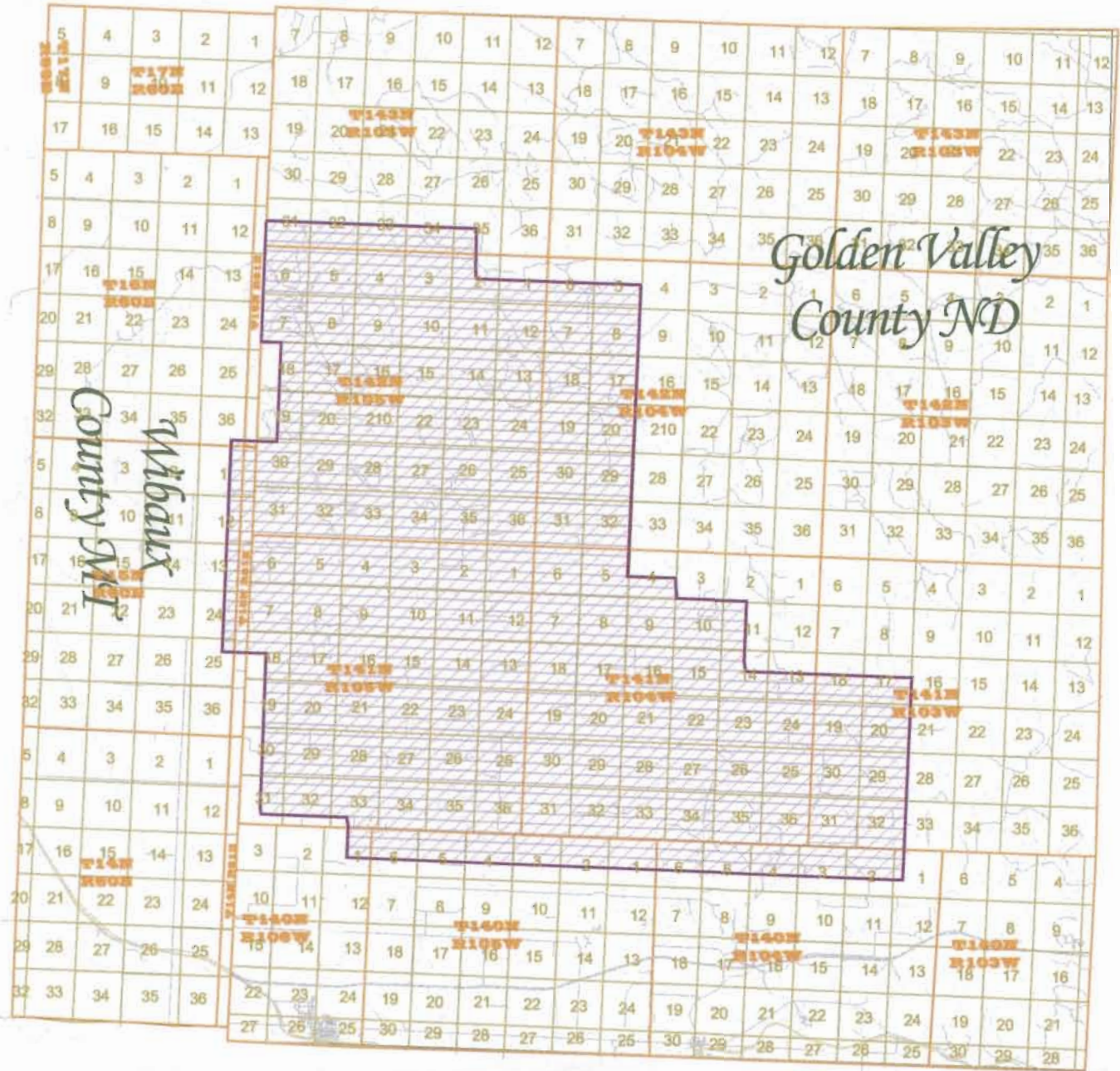
Pursuant to Section 38-08.1-04.2 of the North Dakota Century Code, please be advised that PGS Onshore Inc. was issued the above captioned permit on December 18, 2009 and will remain in effect for a period of one year. The entire permit can be viewed on our website at: <https://www.dmr.nd.gov/oilgas/seismic/seismicstats.asp>

Should you have any questions, please contact our office.

Sincerely,

Todd L. Holweger  
DMR Permit manager





# Big Island 3-D Surface Map

December 2, 2009

Area of Interest  
Golden Valley County, ND  
Wibaux County, MT

SPCS  
NAD 83  
MAD 27 Feet  
Scale: 1" = 4000'  
137.2 Square Miles  
31,472 Acres







**WHITING OIL & GAS**

**Big Island 3D Golden Valley Co, ND and Wilbaux Co, MT**

**Design: bigisland\_req1**

**Receiver Interval 220 feet**

**Recording Spread: 16 lines x 96 stations**

**Receiver Line Interval 1100 feet**

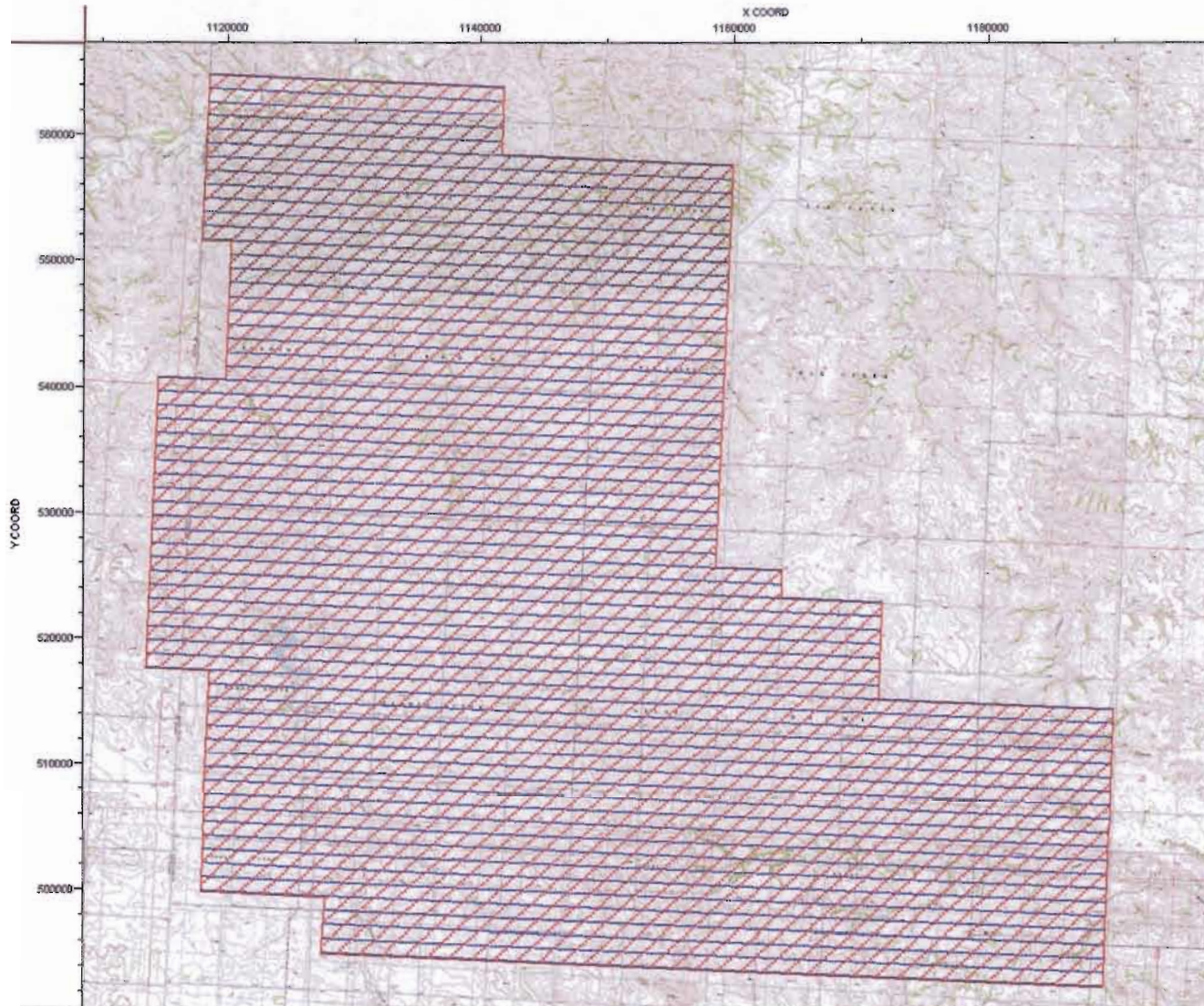
**Total Channels - 1536**

**Source Point Int. (diag) 311.1 feet**

**Fold - 48 Bin Size - 110 x 110 ft**

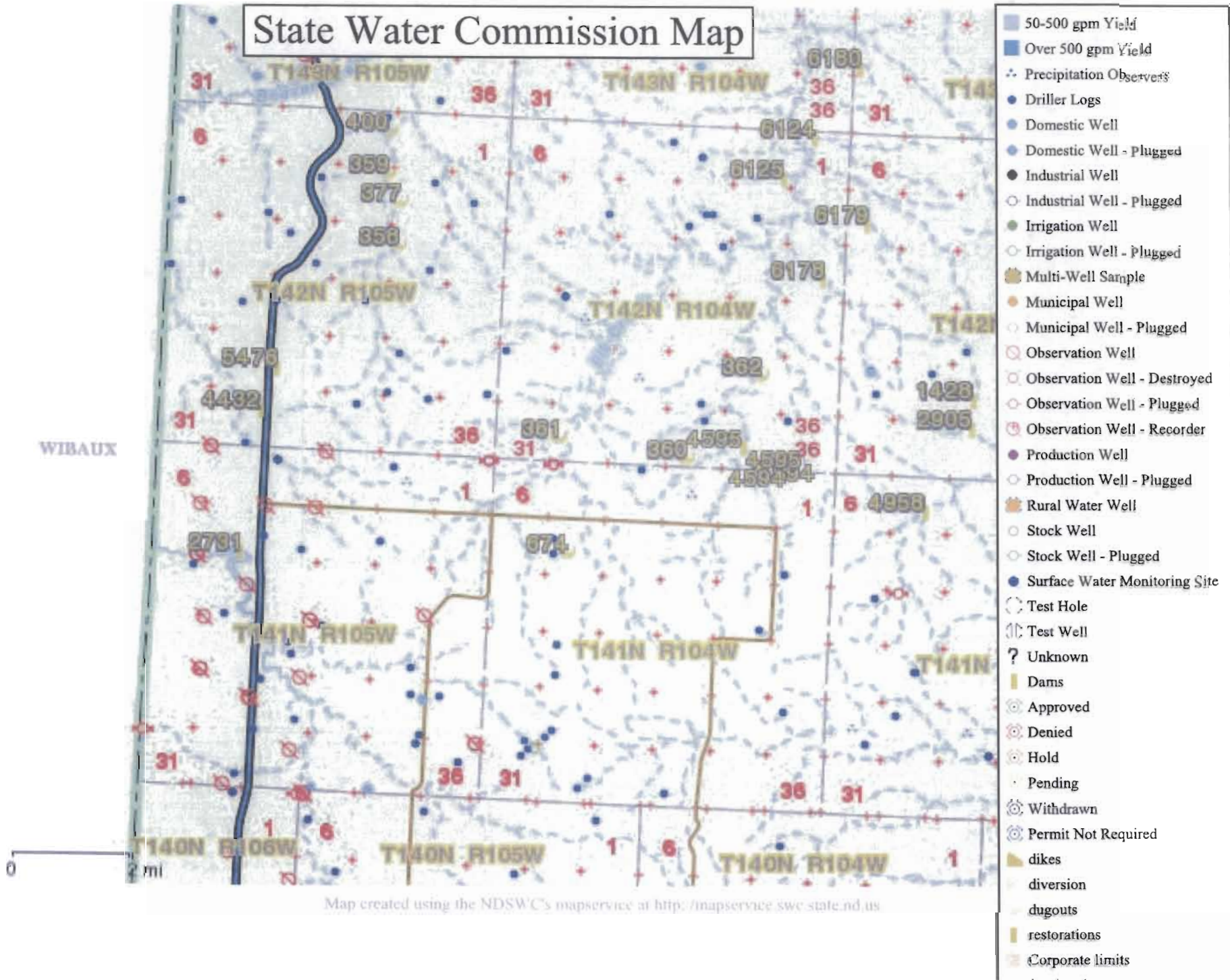
**Source Line Interval 1760 feet**

**Max Offset - 13,932 ft**





# State Water Commission Map



Map created using the NDSWC's mapservice at <http://mapservice.swc.state.nd.us>