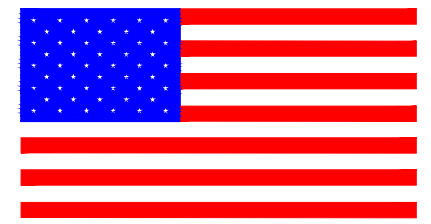


Client:

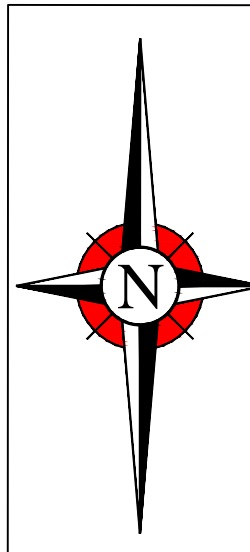
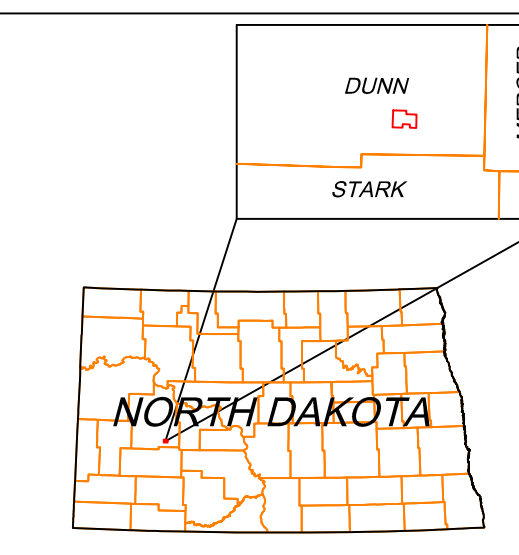
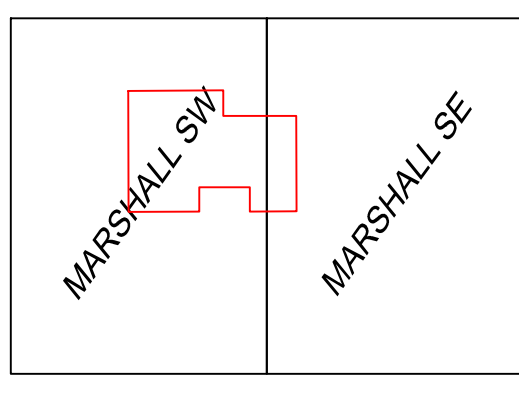
Geophysical Contractor:



Surveying, Mapping, and GIS done by:



1:24000 USGS TOPOGRAPHIC MAPS



FRIDLEY 3-D  
POSTPLOT MAP  
DUNN CO., NORTH DAKOTA  
TOWNSHIPS: 141 & 142 NORTH  
RANGES: 92 & 93 WEST  
RECEIVER PT. INTERVAL: 220'  
SOURCE PT. INTERVAL: 311.127'  
VIBROSEIS

NAD27  
NORTH DAKOTA STATE PLANE  
SOUTH ZONE  
TOTAL RECEIVER POINTS: 852  
TOTAL SOURCE POINTS: 588  
AREA (SQUARE MILES) +/- : .8  
RECEIVER LINE INTERVAL: 1320'  
SOURCE LINE INTERVAL: 1760'  
RECEIVER LINE AZIMUTH: 91°22'59.55"  
SOURCE LINE AZIMUTH: 01°22'59.55"  
SCALE: 1:12000  
NOVEMBER 19, 2013  
1" = 1000'

GPS CONTROL POINT SUMMARY				NDSPC SOUTH ZONE		
STATION ID	SET	OPUS / RTK	WGS84 LATITUDE	WGS84 LONGITUDE	ELLIP. HEIGHT	ORTHO HEIGHT
7777	7777	7777	77-77-77.77 N	77-77-77.77 W	7777	7777

## LEGEND

- █ NATIONAL GRASSLAND
- █ BUREAU OF LAND MANAGEMENT
- █ STATE
- █ U.S. ARMY CORPS OF ENGINEERS
- █ NATIONAL FISH AND WILDLIFE SERVICE
- █ CONDITIONAL PERMITS
- █ CABLE / WALK ONLY PERMITS
- █ NO PERMITS
- █ PRIMARY HIGHWAY
- █ IMPROVED ROAD
- █ PRIMITIVE ROAD
- █ GAS PIPELINES
- █ WATER PIPELINES
- █ POWER LINES
- █ TELEPHONE LINES
- - - FENCE
- - - GATE
- - - LETDOWN
- - - LETDOWN FENCE
- - - OFF-ROAD ACCESS
- DRYHOLES
- OIL / GAS WELLS
- ▲ CONTROL POINTS
- ♦ PREPLOT RECEIVERS
- PREPLOT SOURCE
- POSTPLOT RECEIVERS
- ♦ POSTPLOT SOURCE - VIBES
- POSTPLOT SOURCE - CONN. DRILLS
- ♦ POSTPLOT SOURCE - BUGGY DRILLS
- POSTPLOT SOURCE - HELI DRILLS
- \* HAZARDS
- E RESTRICTED AREA - 330 FT
- A CEMETERY
- B AIRPORT
- C INTERSTATE HIGHWAY
- D U.S. HIGHWAY
- E STATE HIGHWAY
- F COUNTY ROAD

E.C.S. INC. IS NOT LIABLE FOR UNDERGROUND UTILITIES. ALL TOPO FEATURES ON THIS MAP ARE APPROXIMATE ONLY. IT IS E.C.S. INC. POLICY TO STAKE ALL SOURCE POINTS A MINIMUM OF 1320 FT. FROM WATERWELLS, SPRINGS, OILWELLS, AND / OR ANY OTHER STRUCTURES. ANY SOURCE POINTS CLOSER THAN 1320 FT. TO THE ABOVE REFERENCED ITEMS HAVE BEEN UNDER THE DIRECTION OF THE CLIENT. THEREFORE, E.C.S. INC. ASSUMES NO LIABILITY ON ANY SOURCE POINTS CLOSER THAN 1320 FT. TO THE ABOVE MENTIONED ITEMS.

# Affidavit of Compliance

AFFIDAVIT OF David Hennig

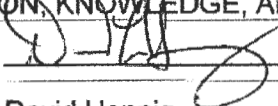
Name: David Hennig

Occupation: Manager of Inland Geoservices LLC

I, David Hennig, affirm:

1. That I am the manager of Inland Geoservices LLC, with offices located in Brazoria County, Texas.
2. That Inland Geoservices LLC was hired to obtain seismic permits in Dunn County ND for the Fridley 3D project.
3. That Inland Geoservices LLC has satisfied and sent the required notifications set forth in NDCC 38-11.1-04.1.

I AFFIRM THAT THE ABOVE AND FOREGOING REPRESENTATIONS ARE TRUE AND CORRECT TO THE BEST OF MY INFORMATION, KNOWLEDGE, AND BELIEF.

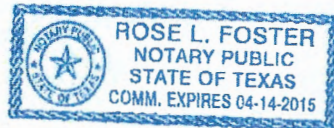
<u>10/21/2013</u>	
Date	David Hennig

STATE OF TEXAS

COUNTY OF BRAZORIA

I, the undersigned Notary Public, do hereby affirm that David Hennig personally appeared before me on the 21<sup>st</sup> day of October 2013, and signed the above Affidavit as his free and voluntary act and deed.

	<u>Rose L. Foster</u>
	Notary Public





# 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>97-0240</b>	
<del>Shot Hole Operations</del> <b>Vibroseis</b>	*Non-Explosive Operations

## SECTION 1

Geophysical Contractor <b>Geokinetics Inc.</b>	
Project Name and Number <b>Fridley 3-D 100833</b>	County(s) <b>Dunn</b>
Township(s) <b>142N-92&amp;93W</b>	Range(s)
Drilling and Plugging Contractors <b>NA</b>	
Date Commenced <b>November 3, 2013</b>	Date Completed <b>November 16, 2013</b>

## SECTION 2

First S.P. #	Last S.P. #											
Loaded Holes (Undetonated Shot Points)												
S.P.#s												
Charge Size												
Depth												
Reasons Holes Were Not Shot												

## SECTION 3

Flowing Holes and/or Blowouts S.P.#s
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).



PERMIT NAME (Required) Fridley 3-D

PERMIT NUMBER: 97-0240

**AFFIDAVIT OF COMPLETION (GEOPHYSICAL CONTRACTOR)**

STATE OF North Dakota Montana )  
 )  
 COUNTY OF Dunn Fallon )

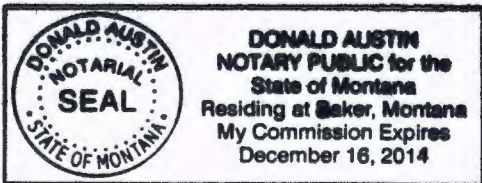
Before me, Donald Austin, a Notary Public in and for the said  
 County and State, this day personally appeared Jose L Mares

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.

Jose L Mares  
 Geophysical Contractor Representative

Subscribed in my presence and sworn before me this 27<sup>th</sup> day of November, 2013.



**DONALD AUSTIN**  
 NOTARY PUBLIC for the  
 State of Montana  
 Residing at Baker, Montana  
 My Commission Expires  
 December 16, 2014

Notary Public Donald Austin

My Commission Expires December 16, 2014

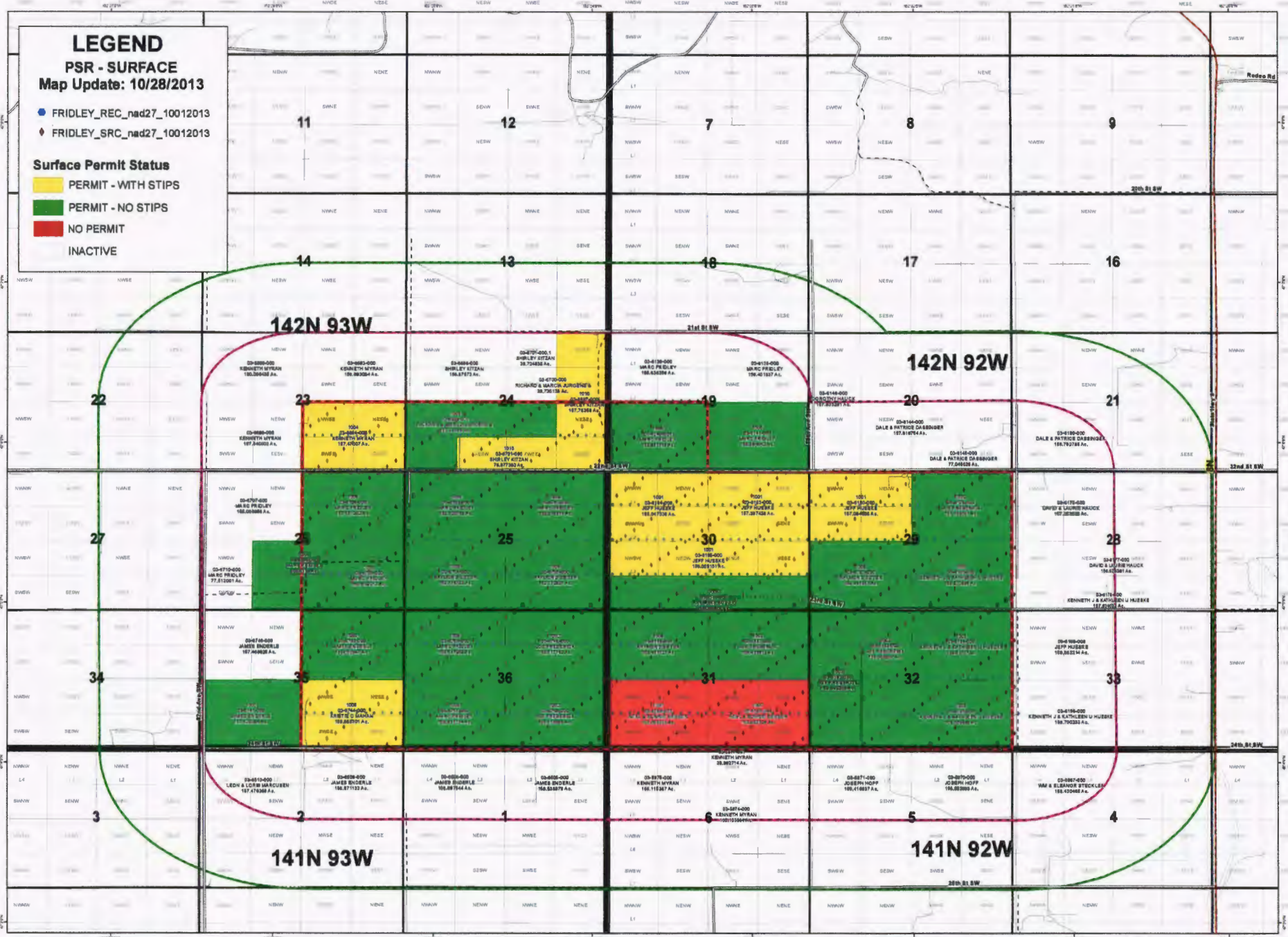
# LEGEND

PSR - SURFACE  
Map Update: 10/28/2013

- FRIDLEY\_REC\_nad27\_10012013
- ◆ FRIDLEY\_SRC\_nad27\_10012013

## Surface Permit Status

- PERMIT - WITH STIPS
- PERMIT - NO STIPS
- NO PERMIT
- INACTIVE



### ROADS/SURFACE TYPE

- Federal & State Roads
- Graded & Drained
- Gravel
- Paved
- Proposed
- State Highway
- Trail
- Unimproved

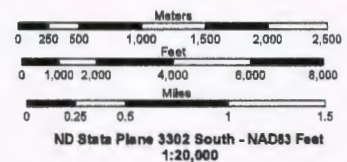
### OTHER

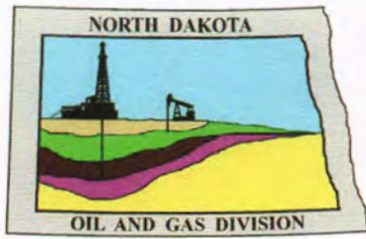
- FRIDLEY 3D\_20130718\_Hull\_nad27
- Buffer\_1\_Mile
- Buffer\_1/2\_Mile
- NHDFlowline
- Hydro\_100k\_nad27

## FRIDLEY - 3D

### Dunn County ND

### Inland Geoservices





# 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.dmr.nd.gov/oilgas](http://www.dmr.nd.gov/oilgas)

OCTOBER 14, 2013

VINCENT HANRAHAN  
GEOKINETICS USA, INC.  
1500 CITYWEST BLVD.  
STE 800  
HOUSTON, TX 77042

RE: FRIDLEY 3-D  
GEOPHYSICAL EXPLORATION PERMIT # 97-0240  
DUNN COUNTY  
NON-EXPLOSIVE METHOD

Dear MR. HANRAHAN:

Please be advised that we are in receipt of your Geophysical Exploration permit application and it is conditionally approved; effective for one year from OCTOBER 14, 2013. **PURSUANT TO NDAC 43-02-12-05 (DISTANCE RESTRICTION) non-explosive exploration method may not be conducted less than 300 feet from a water well, building, underground cistern, pipeline, or a flowing spring. In addition, pursuant to NDAC 43-02-12-06 (NOTIFICATION OF WORK PERFORMED), "The director is authorized to suspend operations of the entire geophysical project, or any portion thereof, if further activity will cause excessive damage to the surface of the land".**

Review the following conditions for your permit:

1. A pre-program meeting with state seismic inspector Tom Torstenson is required. You must contact him at 701-290-1546 (cell) or 701-227-7436 at least 24 hours prior to any exploration operations. Also, a copy of the entire permit is required for all contractors at the pre-program meeting.
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. 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,

A handwritten signature in black ink that reads "Todd L. Holweger". The signature is written in a cursive style and is followed by a long horizontal line that extends to the right.

Todd L. Holweger  
DMR Permit Manager



# GEOPHYSICAL EXPLORATION PERMIT - FORM GE 1

INDUSTRIAL COMMISSION OF NORTH DAKOTA  
 OIL AND GAS DIVISION  
 600 EAST BOULEVARD DEPT 405  
 BISMARCK, ND 58505-0840  
 SFN 51459 (03-2011)



1) a. Company <b>Geokinetics Inc.</b>		Address <b>1500 Citywest Blvd. Suite 800, Houston TX. 77042</b>			
Contact <b>Vincent Hanrahan</b>		Telephone <b>(832) 776-8983</b>		Fax <b>(713) 706-3749</b>	
Surety Company <b>U.S. Specialty Insurance Company</b>		Bond Amount <b>\$50,000.00</b>		Bond Number <b>B004059</b>	
2) a. Subcontractor(s) <b>Erickson Contract Survey Inc.</b>		Address <b>333-10th Ave. S.E. Sidney MT. 59270</b>		Telephone <b>(406) 482-6606</b>	
b. Subcontractor(s) <b>Inland GeoServices, L.L.C.</b>		Address <b>122 West Way, Suite 400, Lake Jack</b>		Telephone <b>(979) 529-9157</b>	
3) Party Manager <b>Vincent Hanrahan</b>		Address (local) <b>229 15th St. Dickinson, N.D. 58601</b>		Telephone (local) <b>(701) 225-1400</b>	
4) Project Name or Line Numbers <b>Fridley 3D</b>					
5) Exploration Method (Shot Hole, Non-Explosive, 2D, 3D, Other) <b>Vibroseis</b>					
6) Distance Restrictions (Must check all that apply)					
<input checked="" type="checkbox"/> 300 feet - NonExplosive - Distance setbacks apply to water wells, buildings, underground cisterns, pipelines, and flowing springs.					
<input type="checkbox"/> 660 feet - Shot Hole - Distance setbacks apply to water wells, buildings, underground cisterns, pipelines, and flowing springs.					
7) Size of Hole 3-D	Amt of Charge N/A	Depth N/A	Source points per sq. mi. 71.98	No. of sq. mi. ~8.1	
Size of Hole 2-D	Amt of Charge N/A	Depth N/A	Source points per ln. mi. N/A	No. of ln. mi. N/A	
8) Approximate Start Date <b>October 15, 2013</b>			Approximate Completion Date <b>December 31, 2013</b>		

**THE COMMISSION MUST BE NOTIFIED AT LEAST 24 HOURS IN ADVANCE OF COMMENCEMENT OF GEOPHYSICAL OPERATIONS**

9) Location of Proposed Project - County <b>Dunn County</b>					
Section(s), Township(s) & Range(s)	Section <b>SW 19, 29-30-31 and 32</b>	T.	<b>142N</b>	R.	<b>92W</b>
	Section <b>SE 23,S1/2 24, E1/2 26,E1/2 35</b>	T.	<b>142N</b>	R.	<b>93W</b>
	Section <b>25 and 36</b>	T.	<b>142N</b>	R.	<b>93W</b>
	Section	T.		R.	
	Section	T.		R.	
	Section	T.		R.	

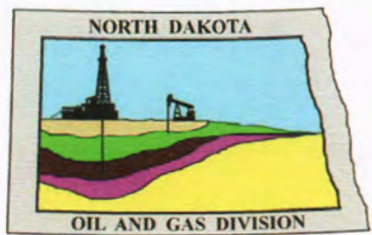
I hereby swear or affirm that the information provided is true, complete and correct as determined from all available records. Date **October 1, 2013**

Signature *Vincent Hanrahan* Printed Name **Vincent Hanrahan** Title **Project Manager**

Email Address(es)  
**vince.hanrahan@geokinetics.com**

(This space for State office use)		<b>Permit Conditions</b>
Permit No. <b>970240</b>	Approval Date <b>10/14/13</b>	
Approved by <i>[Signature]</i>		
Title <b>Mineral Resources Permit Manager</b>		* Permit in hand required at pre-program meeting with field inspector and be aware of all NDIC Rules and Regulations (i.e. distance restrictions).
		* See attached letter.





# 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.dmr.nd.gov/oilgas](http://www.dmr.nd.gov/oilgas)

---

OCTOBER 14, 2013

The Honorable Reinhard Hauck  
Dunn County Auditor  
205 Owens Street  
Manning, ND 58642-0105

RE:    Geophysical Exploration  
      Permit #97-0240

Dear Mr. Hauck:

Pursuant to Section 38-08.1-04.2 of the North Dakota Century Code, please be advised that GEOKINETICS USA, INC. was issued the above captioned permit on OCTOBER 14, 2013 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

# Fridley 3D

## Design Map



Date: 09-Sep-13

Rec Area (sq.miles): 8.1  
Src Area (sq.miles): 8.1

Dunn County ND  
SPCS - ND South (FIPS 3302)  
NAD 27 - US Feet

### Receivers

Group Interval: 220  
Line Interval: 1320  
Line Bearing: 91.4  
**Total: 802**  
Longest line: 85  
Line count: 11  
Per Square Mile: 99.0  
Line miles: 33.0

### Sources

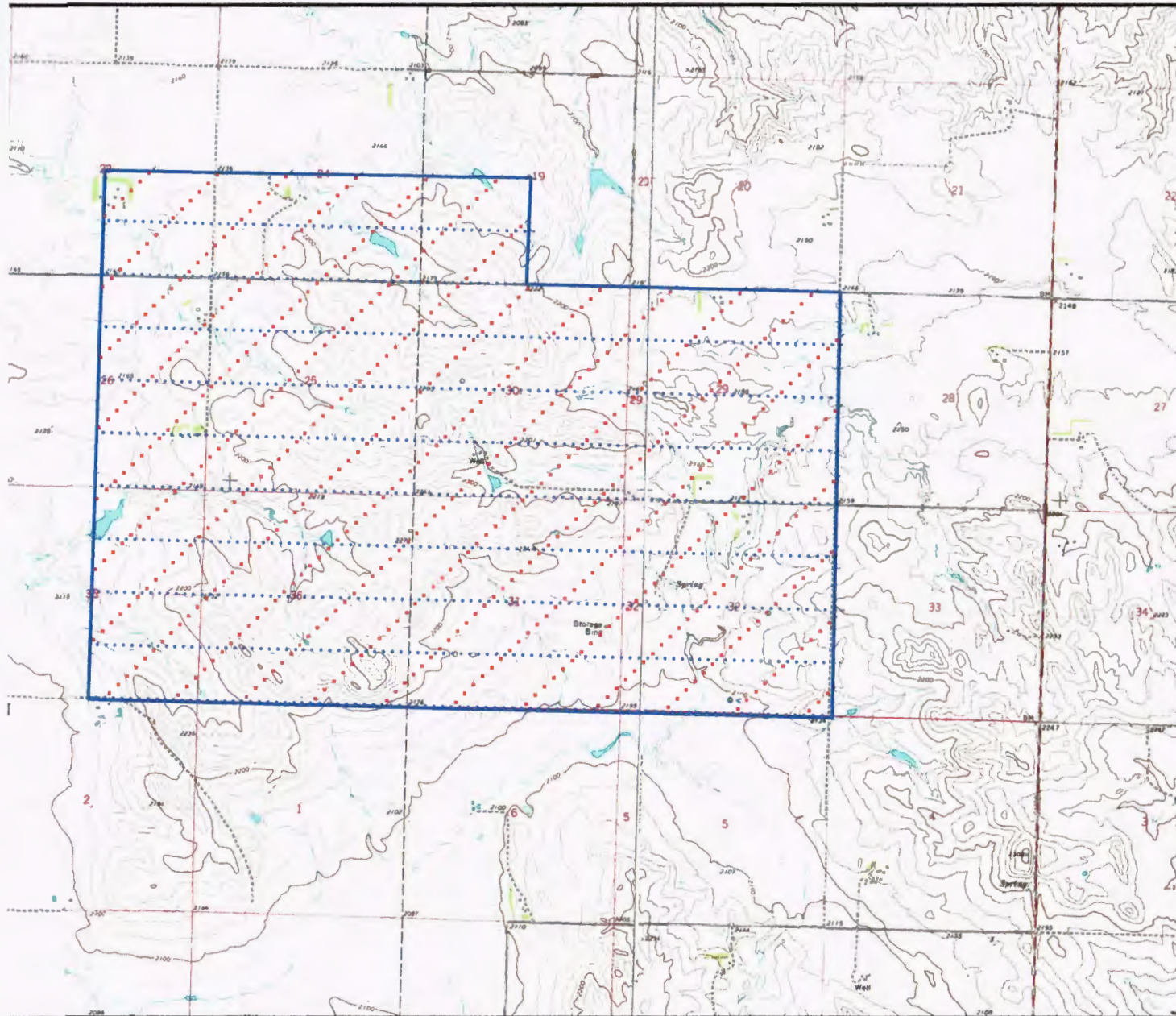
Inline Interval: 311.1  
Group Interval: 220  
Line Interval: 1760  
Line Bearing: 46.4  
**Total: 583**  
Line count: 18  
Per Square Mile: 72.0  
Line miles: 33.3

### Design

Type: Slant (45)  
Bin Size: 110 x 110  
Patch Size: All Live  
Max Channels: 935

### Statistics

Max. Fold: 29.22  
Max Inline Offsets: 9240.00  
Max Xline Offsets: 7104.45  
Max Offsets: 11655.51  
Max. Near: 155.60  
Ratio: 0.71



1520000 1525000 1530000 1535000 1540000 1545000

Easting (X)