



GEOPHYSICAL EXPLORATION SUNDRY NOTICE - FORM GE 4
 INDUSTRIAL COMMISSION OF NORTH DAKOTA
 OIL AND GAS DIVISION
 600 EAST BOULEVARD DEPT 405
 BISMARCK, ND 58505-0840
 SFN 51458 (03-2011)

Received

PERMIT # **97-0325**

DEC 18 2023

Project Name	Underwood 3D	ND Oil & Gas Division
County	McLean	
Supplemental Information	Source and Receiver Line Spacing has changed from 880' to 825'. Source density per square mile now 204.8	

Company	Paragon Geophysical Services			Telephone Number	316.636.5552
Address	3500 N Rock Road Bldg 800 Ste B				
City	Wichita	State	KS	Zip Code	67226
Signature		Printed Name	Bruce A Fulker		
Title	Agent for Paragon Geophysical	Date	December 15, 2023		
Email Address	bfulker@cougarlandservices.net				

FOR STATE USE ONLY	
<input checked="" type="checkbox"/> Received	<input type="checkbox"/> Approved
Date	12/18/23
By	
Title	Mineral Resources Permit Manager



December 12, 2023

Aaron Bateman
President
Paragon Geophysical Services, Inc.
3500 N. Rock Rd., Bldg. 800, Ste B
Wichita, KS 67226

RE: UNDERWOOD 3-D
GEOPHYSICAL EXPLORATION PERMIT #97-0325
MCLEAN COUNTY
NON-EXPLOSIVE METHODS

Dear Mr. Bateman:

Be advised that your Geophysical Exploration permit is conditionally approved; effective for one year from December 12, 2023.

PERMIT STIPULATIONS:

- Paragon must contact seismic inspector Tom Torstenson at (701) 290-1546 72 hours prior, to arrange a start-up meeting. Also, a copy of the entire permit is required for all contractors at the start-up meeting.
- Paragon must contact Tom Torstenson at (701) 290-1546 24 prior to conducting any geophysical activities.
- Pursuant to NDAC 43-02-12-05 (DISTANCE RESTRICTION) Non-explosive exploration methods may not be conducted less than 300 feet from water wells, buildings, underground cisterns, pipelines, and flowing springs.
- 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".

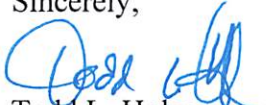
Conditions of Approval:

1. 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.
2. 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. Must provide a GIS layer using NAD83 in an Esri shape file format and an Image file (.img) on a Flash Drive or email: tstorstenson@nd.gov with all source and receiver points,
3. 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.
 4. 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/>
 5. 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 the geophysical permit or permit letter, feel free to call.

Sincerely,



Todd L. Holwegger

Permit Manager/Geophysical Supervisor



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)

Received

NOV 16 2023

1) a. Company Paragon Geophysical Services Inc.		Address 3500 North Rock Road, BLDG 800 Ste B Wichita KS 67226			
Contact Aaron Bateman		Telephone 316.636.5552		Fax 316.636.5572	
Surety Company Arch Insurance		Bond Amount \$50,000.00		Bond Number SU1135989	
2) a. Subcontractor(s) N/A		Address		Telephone	
b. Subcontractor(s) N/A		Address		Telephone	
3) Party Manager Patrick Dooley		Address (local)		Telephone (local) 713.306.4843	
4) Project Name or Line Numbers Underwood 3D					
5) Exploration Method (Shot Hole, Non-Explosive, 2D, 3D, Other) Non-Explosive - 3D					
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. 192	No. of sq. mi. 236.4	
Size of Hole 2-D	Amt of Charge N/A	Depth N/A	Source points per ln. mi.	No. of ln. mi.	
8) Approximate Start Date Survey December 7, 2023 / Recording January 1, 2024			Approximate Completion Date May 31, 2024		

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

9) Location of Proposed Project - County McLean County - See Attached "Exhibit A" For Township - Range - Sections			
Section(s), Township(s) & Range(s)	Section	T.	R.
	Section	T.	R.
	Section	T.	R.
	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 11/29/23
Signature 	Printed Name Bruce A Fulker	Title Authorized Agent For Paragon	
Email Address(es) bfulker@cougarlandservices.net			

(This space for State office use)		Permit Conditions
Permit No. 97-0325	Approval Date 12/12/23	
Approved by 		
Title Mineral Resources Permit Manager		
* 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.		

Exhibit "A"

Geophysical Exploration Permit Form GE 1

Underwood 3D

Paragon Geophysical Services, Inc.

Township 147 N Range 81 West: Sections 19.20.21.28.29.30.31.32.33

Township 147 N Range 82 West: Sections: 19.20.21.22.23.24.25.26.27.28.29.30.31.32.33.34.35.36

Township 147 N Range 83 West: Sections: 35.36

Township 146 N Range 81 West: Sections: 4.5.6.7.8.9.16.17.18.19.20.21.28.29.30.31.32.33

Township 146 N Range 82 West: Sections:

1.2.3.4.5.6.7.8.9.10.11.12.13.14.15.16.17.18.19.20.21.22.23.24.25.26.27.28.29.30.31.32.33.34.35.36

Township 146 N Range 83 West: Sections:

1.2.3.9.10.11.12.13.14.15.16.17.19.20.21.22.23.24.25.26.27.28.29.30.31.32.33.34.35.36

Township 146 N Range 84 West: Sections: 21.22.23.24.25.26.27.28.33.34.35.36

Township 145 N Range 81 West: Sections: 4.5.6.7.8.9.16.17.18.19.20.21

Township 145 N Range 82 West: Sections:

1.2.3.4.5.6.7.8.9.10.11.12.13.14.15.16.17.18.19.20.21.22.23.24.25.26.27.28.29.30.31.32.33.34.35.36

Township 145 N Range 83 West: Sections:

1.2.3.4.5.6.7.8.9.10.11.12.13.14.15.16.17.18.19.20.21.22.23.24.25.26.27.28.29.30.31.32.33.34.35.36

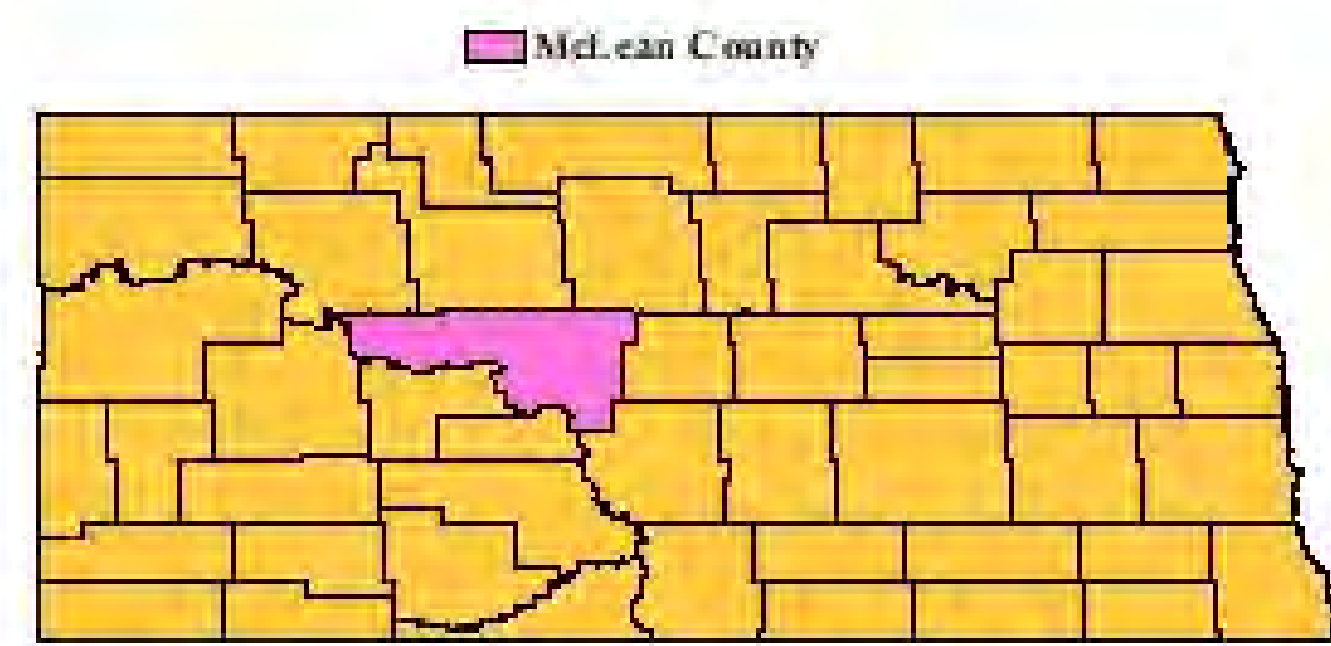
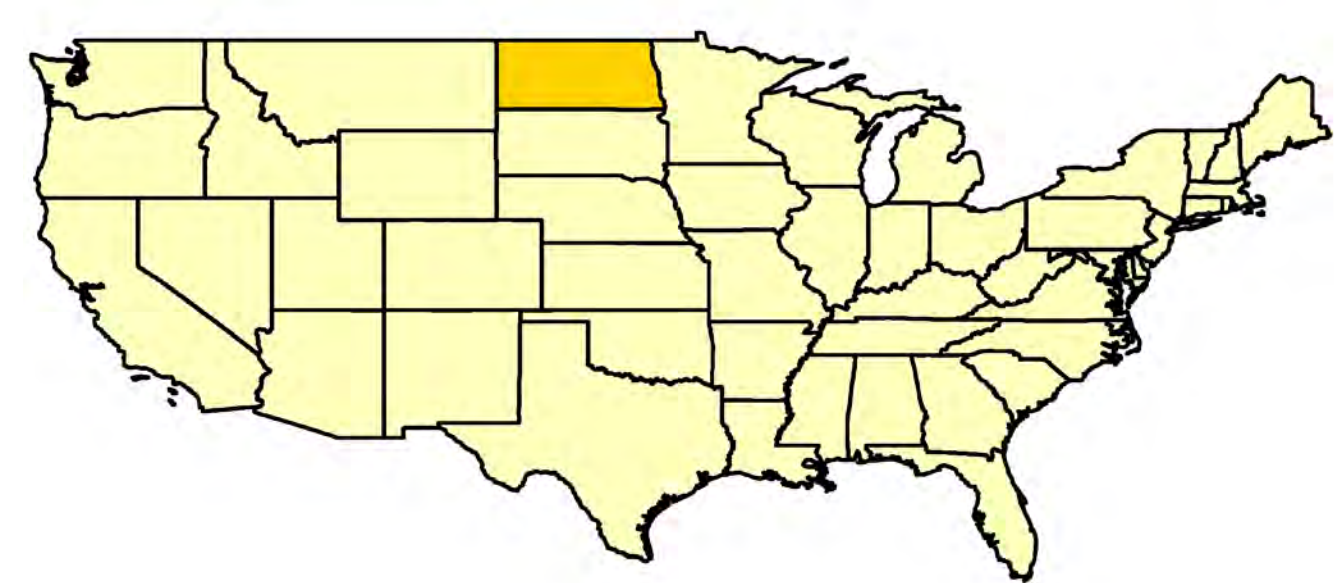
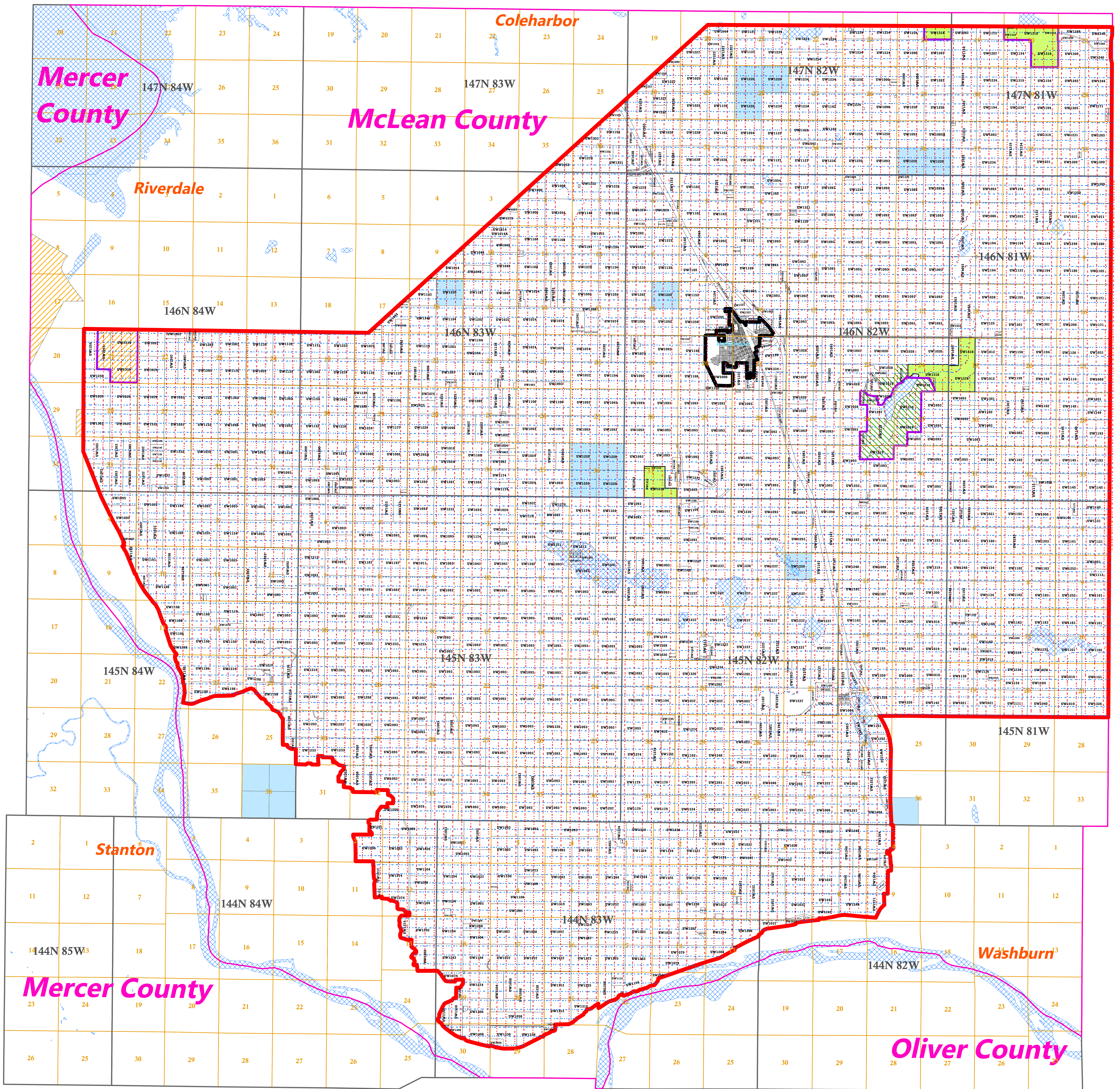
Township 145 N Range 84 West: Sections: 1.2.3.4.9.10.11.12.13.14.15.22.23.24.25

Township 144 N Range 82 West: Sections: 4.5.6.7.8.9.17.18

Township 144 N Range 83 West: Sections:

1.2.3.4.5.6.7.8.9.10.11.12.13.14.15.16.17.18.19.20.21.22.23.28.29.30

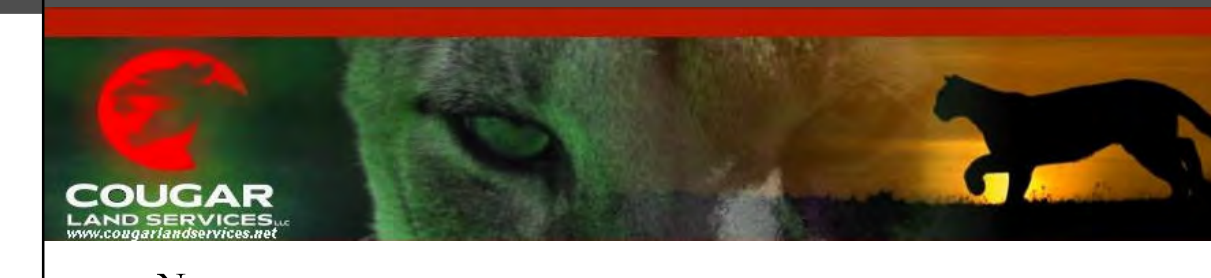
Township 144 N Range 84 West: Sections: 1.2.11.12.13.24



Underwood 3D Surface Map

November 29, 2023

- Legend**
- Source
 - Receivers
 - County Line
 - Roads
 - Rail
 - Outline
 - Townships
 - Sections
 - City Limits
 - State Limits
 - Comptrol Engineers
 - US Fish & Wildlife
 - ND Game & Fish Commission
 - WMA
 - US Bureau of Reclamation



State Plane
North Dakota North
NAD 27
Scale 1:33,000

Area Of Interest
236.40 Sq. Miles
McLean County
North Dakota

This map has been carefully prepared from official records, maps, engineering data, photographs and/or other information, which is provided as a courtesy only. We make no warranties as to its completeness or accuracy, whether expressed or implied.



December 12, 2023

The Honorable Beth Knutson
McLean County Auditor
P.O. Box 1108
Washburn, ND 58577

RE: Geophysical Exploration
Permit #97-0325

Dear Ms. Knutson:

Pursuant to Section 38-08.1-04.2 of the North Dakota Century Code, please be advised that Paragon Geophysical Services Inc. was issued the above captioned permit on December 12, 2023, 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,

A handwritten signature in blue ink, appearing to read "Todd L. Holweger".

Todd L. Holweger
Permit Manager/Geophysical Supervisor



AFFIDAVIT OF NOTICE

BEFORE ME, the undersigned authority, personally appeared Bruce A. Fulker of Cougar Land Services, LLC., whose office address is located at 19901 SW Freeway, Suite 102, Sugar Land, TX. 77479 who being duly sworn, upon oath stated and affirmed that as an authorized agent for Paragon Geophysical Services, Inc. all operators of the land and each landowner within one-half mile of the land on which the geophysical exploration activities are to be conducted on the Underwood 3D project have been provided with a copy of Section 38.08.1 (Exploration Permit) and NDCC Chapter 38.11.1, (Oil and Gas Production Damage Compensation), per the requirement of the Geophysical Exploration Permit.

Executed this 7th day of November 2023.

Bruce A. Fulker

Bruce A. Fulker

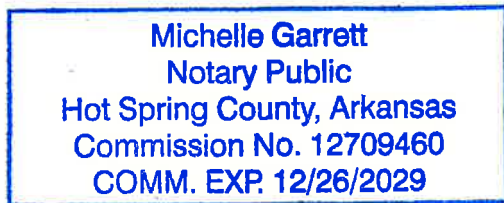
STATE OF ARKANSAS)

) ss

COUNTY OF WASHINGTON)

The foregoing instrument was acknowledged signed and subscribed before me this 7th day of November 2023, by Bruce A. Fulker, who represented that he was duly authorized to execute the foregoing instrument for the uses and purposes set forth therein.

WITNESS my hand and official seal.



Michelle Garrett
Name: *Michelle Garrett*
Notary Public
State of Arkansas
My commission expires: *12-26-2029*



AFFIDAVIT OF NOTICE

BEFORE ME, the undersigned authority, personally appeared Bruce A. Fulker of Cougar Land Services, LLC., whose office address is located at 19901 SW Freeway, Suite 102, Sugar Land, TX. 77479 who being duly sworn, upon oath stated and affirmed that as an authorized agent for Paragon Geophysical Services, Inc. all landowners within the proposed CarbonSAFE Rainbow North Dakota low-impact geophysical project area have been notified of the approximate schedule and location of the project and provided a written copy of North Dakota Century Code (NDCC) Section 38-08.1-04.1 (Exploration Permit) and NDCC Chapter 38-11.1 (Oil & Gas Production Damage Compensation). The 3D seismic survey will not be conducted through the residential areas of Underwood, North Dakota, but pursuant to NDCC Section 38-08.1-04.1(4), residents were notified that survey activities would be taking place within half a mile of town. Information of the survey was provided through the following means:

- Newspaper advertisement published in the October 16th edition of the McLean County Independent, the Central McLean News-Journal, and the Leader-News (advertisement attached).
- Staff from the Energy & Environmental Research Center presented to the Underwood City Council and provided council members with project fact sheets on October 17 (fact sheets attached).
- A notice letter and relevant NDCC sections were sent to Mayor Weisenberger (city of Underwood) (letter attached).

Executed this 8th day of November 2023.

B. A. Fulker

Bruce A. Fulker

STATE OF ARKANSAS)

) ss

COUNTY OF WASHINGTON)

The foregoing instrument was acknowledged signed and subscribed before me this 8th day of November 2023, by Bruce A. Fulker, who represented that he was duly authorized to execute the foregoing instrument for the uses and purposes set forth therein.

WITNESS my hand and official seal.



Michelle Garrett
Name: Michelle Garrett
Notary Public
State of Arkansas
My commission expires: 12-26-2029



AFFIDAVIT OF NOTICE

BEFORE ME, the undersigned authority, personally appeared Bruce A. Fulker of Cougar Land Services, LLC., whose office address is located at 19901 SW Freeway, Suite 102, Sugar Land, TX. 77479 who being duly sworn, upon oath stated and affirmed that as an authorized agent for Paragon Geophysical Services, Inc. no seismic operations will be conducted on State Highways.

Executed this 11th day of December 2023.

Bruce A. Fulker

Bruce A. Fulker

STATE OF ARKANSAS)

) ss

COUNTY OF WASHINGTON)

The foregoing instrument was acknowledged signed and subscribed before me this 11th day of December 2023, by Bruce A. Fulker, who represented that he was duly authorized to execute the foregoing instrument for the uses and purposes set forth therein.

WITNESS my hand and official seal.

**Michelle Garrett
Notary Public
Hot Spring County, Arkansas
Commission No. 12709460
COMM. EXP. 12/26/2029**

Michelle Garrett
Name: _____
Notary Public
State of Arkansas
My commission expires: 12-26-2029

PUBLIC NOTICE

Geologic Site Characterization Project Fieldwork Begins November 2023

Beginning December 2023, a crew from Paragon Geophysical Services, Inc., will be collecting information on rock layers more than a mile below the surface near Underwood, North Dakota. Paragon has been contracted by the University of North Dakota (UND) Energy & Environmental Research Center (EERC), which is working in collaboration with Rainbow Energy Center to study the geology more than a mile deep. Paragon will work under a state permit approved by the North Dakota Industrial Commission and with the knowledge of the McLean County Commissioners and Underwood City Council. Paragon will contact local landowners to seek permission to access their property. Care will be taken to avoid or minimize any environmental impacts and maintain normal traffic flow.

The data collection survey will encompass about 236 square miles of rural land in McLean County. The survey involves a network of vibrational sensors and pairs of source trucks (called vibroseis trucks). Sensors will be placed on the ground in a grid pattern to record reflected vibrations generated during the survey. The survey crew will drive the trucks in the grid and stop at intervals to vibrate the ground for 1–2 minutes. A person standing 100 feet from the source will not feel ground vibration. The trucks will remain a safe distance away from buildings and other infrastructure when vibrating the ground; North Dakota state regulations define a safe distance as ~~330~~ ³⁰⁰ feet. These surveys, referred to as geophysical surveys, are a common data collection tool and have been used in every county in western North Dakota.

The geophysical survey is being conducted as part of the Coal Creek Carbon Capture: Site Characterization and Permitting project to investigate the feasibility of developing safe, permanent, commercial-scale geologic storage for CO₂ in the region. Project partners the EERC, Rainbow Energy Center, and Naset Consulting Service, Inc., are conducting this work to advance the potential development of carbon capture technology for Coal Creek Station.

EERC Contact | Nikki Krueger, Director of Communications, 701.777.5428, nkrueger@undeerc.org

October 19, 2023

Field Activity FAQs



INVESTIGATING SAFE, PERMANENT GEOLOGIC STORAGE OF CO₂ IN NORTH DAKOTA

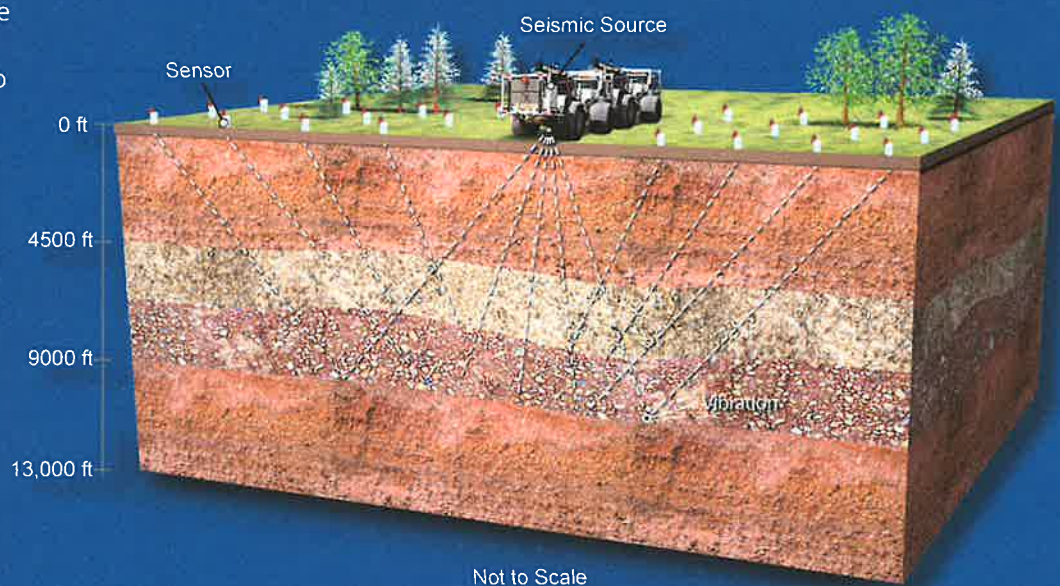
Geophysical Survey in Central North Dakota

In fall 2023 and winter 2024, field crews will conduct geophysical surveys to collect information about rock layers in the deep subsurface. This data gathering is an essential part of investigating the feasibility of developing safe, permanent, commercial-scale geologic storage for carbon dioxide, or CO₂. The geologic information collected will be assessed by geologists, engineers, and scientists to help determine the potential for CO₂ storage in the project area.

What Is a Geophysical Survey?

A truck-mounted seismic source generates vibrations using a metal plate that is pressed onto the ground and shakes. The vibrations travel deep into the earth and are reflected back to the surface. Sensors at the surface record the reflected vibrations. Geophysicists decipher these signals to learn about the subsurface rock layers.

Geophysical surveys are a common data collection tool and have been used in every county in western North Dakota.



What Is the Benefit of the Survey?

The data from the geophysical survey help evaluate the rock layers more than a mile below the surface; help develop more accurate computer models to simulate where injected CO₂ might travel, evaluate the suitability of the storage zone, and determine the best location for injection and monitoring wells; help the permitting authority decide whether the geologic storage project can move forward; and ultimately map the movement of CO₂ in future surveys should the effort result in a commercial carbon capture and storage project.

What Is the Community Impact?

Safety and courtesy are top priorities during this survey. A low-level noise similar to that of a passing truck will be generated at each location from the vibrating truck-mounted plates. A person standing 100 feet from the source will not feel ground vibration. Care will be taken to avoid or minimize any environmental impacts and maintain normal traffic flow. The work will be carried out under a permit issued by the North Dakota Industrial Commission.

What Can Landowners on the Route Expect?

Project partners recognize the impact of survey work on the land and will contact landowners before the survey work to request permission to drive vehicles and place sensors on their land. The sensors will be pressed into the ground by hand by field crew walking and driving pickups or ATVs. Once installed, the sensors remain in place up to 2 weeks, as the source trucks (called vibroseis trucks) travel through the survey area along lines spaced about 880 feet apart, until each portion of the survey is finished. The survey will avoid buildings and other infrastructure such as drinking water wells and pipelines. Snowplows may be used to clear snow ahead of the vibroseis trucks. No trucks will operate within Underwood city limits to minimize traffic disruption. Project partners will work with landowners to mitigate inconveniences.

Where Will the Survey Be Conducted?

The proposed geophysical survey encompasses about 236 square miles of rural land in McLean County.



Proposed Geophysical Survey



M1016



Vibroseis trucks drive across the landscape, stopping to generate vibrations every 110 feet along straight paths throughout the study area, avoiding buildings and infrastructure.



Example of a sensor in position at a similar geophysical survey.

How Will the Survey Be Carried Out?

The survey involves a network of vibrational sensors and pairs of vibroseis trucks working miles apart in the survey area. Sensors will be inserted into the ground every 110 feet along lines that are spaced 880 feet apart to record reflected vibrations generated during the survey. Next, the survey crew will drive the large vibroseis trucks along lines spaced 880 feet apart. At 110-foot intervals along lines, the trucks will stop and vibrate the ground for 1-2 minutes. The trucks will remain a safe distance from buildings and other infrastructure when vibrating the ground. This is anticipated to be approximately 300 feet.

For More Information:

Nikki Krueger | Director of Communications, EERC
nkrueger@undeerc.org | 701.777.5428

undeerc.org





November 3, 2023

The Honorable Leon Weisenberger
Mayor of Underwood
88 Lincoln Avenue
Underwood, ND, 58576

Dear Mayor Weisenberger:

Subject: Notice of Upcoming Geophysical Survey

The Energy & Environmental Research Center (EERC) and Rainbow Energy Center (REC) have contracted with Paragon Geophysical to conduct a geophysical survey near, but not within, Underwood, North Dakota, between January 4, 2024, and the end of March 2024. The data collection survey will encompass about 236 square miles of rural land in McLean County. These surveys, referred to as geophysical surveys, are a common data collection tool and have been used in every county in western North Dakota.

The purpose of this letter is to notify you as the Mayor of Underwood that a geophysical survey for the area is being conducted under permit from the North Dakota Industrial Commission. I have enclosed North Dakota Century Code (NDCC) sections pertaining to geophysical surveys and a survey fact sheet for your reference:

- A copy of NDCC Section 38-08.1-04.1 (Exploration Permit) and NDCC Chapter 38-11.1 (Oil and Gas Production Damage Compensation)
- A copy of Field Activity FAQs fact sheet

Before acquiring the geophysical survey, Paragon Geophysical personnel will contact landowners to discuss access and to coordinate around any sensitive areas and/or activities on their property. Once access is agreed upon, Paragon's field crew will access the land during the time span from early December 2023 and the end of March 2024 to conduct the following research activities:

- Locate infrastructure such as underground pipelines and drinking water wells
- Mark source and receiver points with a paint mark and a stake or a flag
- Deploy and retrieve equipment, including sensors, battery packs, and Wi-Fi transmitters
- Acquire a 3D geophysical survey using buggy-mounted vibroseis units

Should you have any immediate questions or concerns, please contact me by phone at (701) 777-5344 or by email at alivers@undeerc.org.

We welcome the opportunity to discuss the geophysical survey with you further and appreciate your kind consideration.

Sincerely,

Amanda J. Livers-Douglas
Assistant Director for Integrated Subsurface Projects
Energy & Environmental Research Center

AJL/rlo



North Dakota Industrial Commission Department of Mineral Resources Oil & Gas Division

FORM GE 1

FILING AUTHORIZATION

COMPANY NAME: Paragon Geophysical Services, Inc.

ADDRESS: 3500 N Rock Rd. Bldg. 800 Suite B

CITY: Wichita STATE: KS ZIP: 67266

This form authorizes the person(s) listed below to submit a NDIC Geophysical Exploration Permit – Form GE 1 for approval on behalf of the designated company as listed above.

A new authorization will be required if any changes are to be made to the authorized individuals on the form.

The data submitted from the authorized individuals listed below have been checked and conform to the standards and procedures set forth by the NDIC Department of Mineral Resources.

The authorized individual(s) will ensure that the company, as listed above, and party manager receive a copy of the approved Form GE 1

<u>Authorized Individuals</u>	<u>Phone Number</u>	<u>E-Mail Address</u>
Bruce Fulker	713-806-2024	bfulker@cougarlandservices.net

Company Authorized Signature: Aaron Bateman Date: 01/19/2023

Printed Name: Aaron Bateman Title: President

Phone: 316-636-552 Email Address: abateman@paragongeo.com

Witness Signature: Erick Erwin Date: 1-19-23

Witness Printed Name: Erick Erwin

McLEAN COUNTY ROAD DEPARTMENT
AGREEMENT FOR USE AND RESTORATION OF ROADS

Agreement # 1001 Dated this 5th day of Dec., 2023

WHEREAS, Paragon Geophysical Services, Inc (hereinafter referred to as Permittee) has requested authorization to use McLean County Roads as shown on the attached map and list of roads made a part hereof for all purposes and considerations to conduct geophysical operations as set forth in the attached report.

Start Date: 12-1-23

Finish Date: 12-2-24

WHEREAS, in order to complete the project, it has become necessary for the contractor to utilize a portion of McLean County's Road System for Geophysical Operations.

And WHEREAS, the Permittee or its designee will restore that portion of said road system, after it has been used for geophysical operations, to the condition which existed immediately prior to its use.

And WHEREAS, an inspection of the proposed route to be so utilized will be made, preferably not to exceed thirty days prior to expected initiation to its stated use, at which time the McLean County Road Superintendent or his designee will determine and record the existing condition of the roads to be used for Geophysical Operations, including the type, thickness, and width of surfacing material in place;

And WHEREAS, McLean County Road Superintendent or his designee and the Permittee (or an authorized agent thereof), after making said inspection and recording the existing conditions of the roads, shall all sign the inspection report, agreeing to the conditions stated therein.

And WHEREAS, the Permittee agrees to maintain roads used for Geophysical operations in a safe condition satisfactory to the McLean County Road Superintendent. Maintenance of gravel roads shall include blading of

material, material replacement, dust control and snow removal as so determined. Maintenance of asphalt roads shall include repairing of road surface defects, deformities, and any other asphalt failures. All signing shall be in accordance with the Manual of Traffic Control Devices;

And WHEREAS, any improvements, alterations, or proposed changes to said route will be pre-approved by the McLean County Road Superintendent in accordance with McLean County's standard specifications for roads before such improvements, alterations or proposed changes take place.

NOW THEREFORE, in consideration of the premises, the mutual and independent covenants, all as hereinafter more fully set forth, the parties hereto agree as follows:

1. That the portion of the McLean County Road System as shown on attached project map and list, is maintained by McLean County and is that portion which is proposed use is to conduct geophysical operations and that, after use of said road as for the purposes herein set forth, the Permittee hereby agrees to maintain and restore to the satisfaction of the McLean County Road Superintendent said road to its pre-existing condition, as reported in the Road Inspection Report in accordance with measurements and observations at the time of the inspection.
 2. That Permittee shall comply with terms of the Risk Management Appendix which is appended hereto and incorporated herein by reference.
 3. Financial Assurance: To guarantee compliance with its obligation to perform Road Restoration or other Maintenance during geophysical operations, Paragon Geophysical Services Inc shall furnish, or cause to be furnished, to the County an irrevocable letter of credit, cash escrow, performance bond, guaranty, or such other security as is reasonably acceptable to the County (the "Security"). The Security shall be in an amount equal to
-

Twenty Thousand Dollars (\$20,000) Developer's obligation to provide Security shall terminate, and the County shall return the Security to the Developer, at the completion of any Road Restoration efforts of the road(s) and upon issuance of a Road Release.

4. Other:

This permit authorizes use of vibroseis trucks/buggies to travel along county roads and to generate vibrations along one side of county road using a metal plate that is applied to the surface of the road to vibrate for an energy source. Permit authorizes Paragon Geophysical Services, Inc to place vibrational sensors along the outside edges of county roads rights-of-way.

IN WITNESS WHEREOF, the said parties hereto have caused this agreement to be signed by their representative and duly authorized officers.

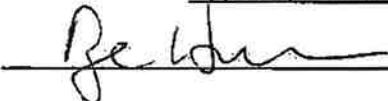
Date: 12-5-23

Permittee Name: Paragon Geophysical Services, Inc.

Address: 3500 N Rock Rd. Bldg 800 Suite B

Wichita, KS 67226

Phone Number: (316)636-5552

By: 

Representative Signature

Title: Agent # of Trucks/Buggies Six

FOR OFFICIAL USE ONLY

McLean County Road Department

Phone: 701 462-8802

Jin Lee

McLean County Road Superintendent

Permit Fee: \$2,000.00

PAID AND APPROVED THIS DATE

McLean County Road Superintendent

Risk Management Appendix

Permittee agrees to defend, indemnify, and hold harmless McLean County, its agencies, officers, and employees (County), from and against claims based on the vicarious liability of the County or its agents, and based on the County's contributory negligence, comparative and/or contributory negligence or fault, and sole negligence, and intentional misconduct. The legal defense provided by the Permittee to the County under this provision must be free of any conflicts of interest, even if retention or separate legal counsel for the County is necessary. Permittee also agrees to defend, indemnify, and hold the County harmless for all costs, expenses, and attorney's fees incurred if the County prevails in an action against the Permittee in establishing and litigating the indemnification coverage provided herein. The obligation shall continue after the termination of this agreement.

Permittee shall secure and keep in force during the term of this agreement, from insurance companies, government self-insurance pools, or government self-retention funds authorized to do business in North Dakota, the following insurance coverages:

- 1) Commercial general liability insurance – minimum limits of liability required are \$250,000 per person and \$1,000.00 per occurrence. If it is not practical for the Permittee to carry commercial general liability insurance, Permittee may substitute farm liability insurance, renters' insurance, or homeowners' insurance in the amount of at least \$300,000.
- 2) If Permittee may use an automobile in relation to the attached agreement, Permittee must secure automobile liability insurance with a minimum liability of at least \$250,000. The above limits may be satisfied through a policy or policies of insurance, primary and excess, including the so-called umbrella or catastrophe form.
- 3) The County, its agencies, officers, and employees (County) shall be endorsed as an additional insured on the above policies.

The Permittee shall furnish a certificate of insurance coverage evidencing the requirements in 1 through 3 above to the undersigned County Representative prior to commencement of this agreement.

Permittees' insurance coverage shall be primary (i.e., pay first) as respects any insurance, self-insurance, or self-retention maintained by the County.

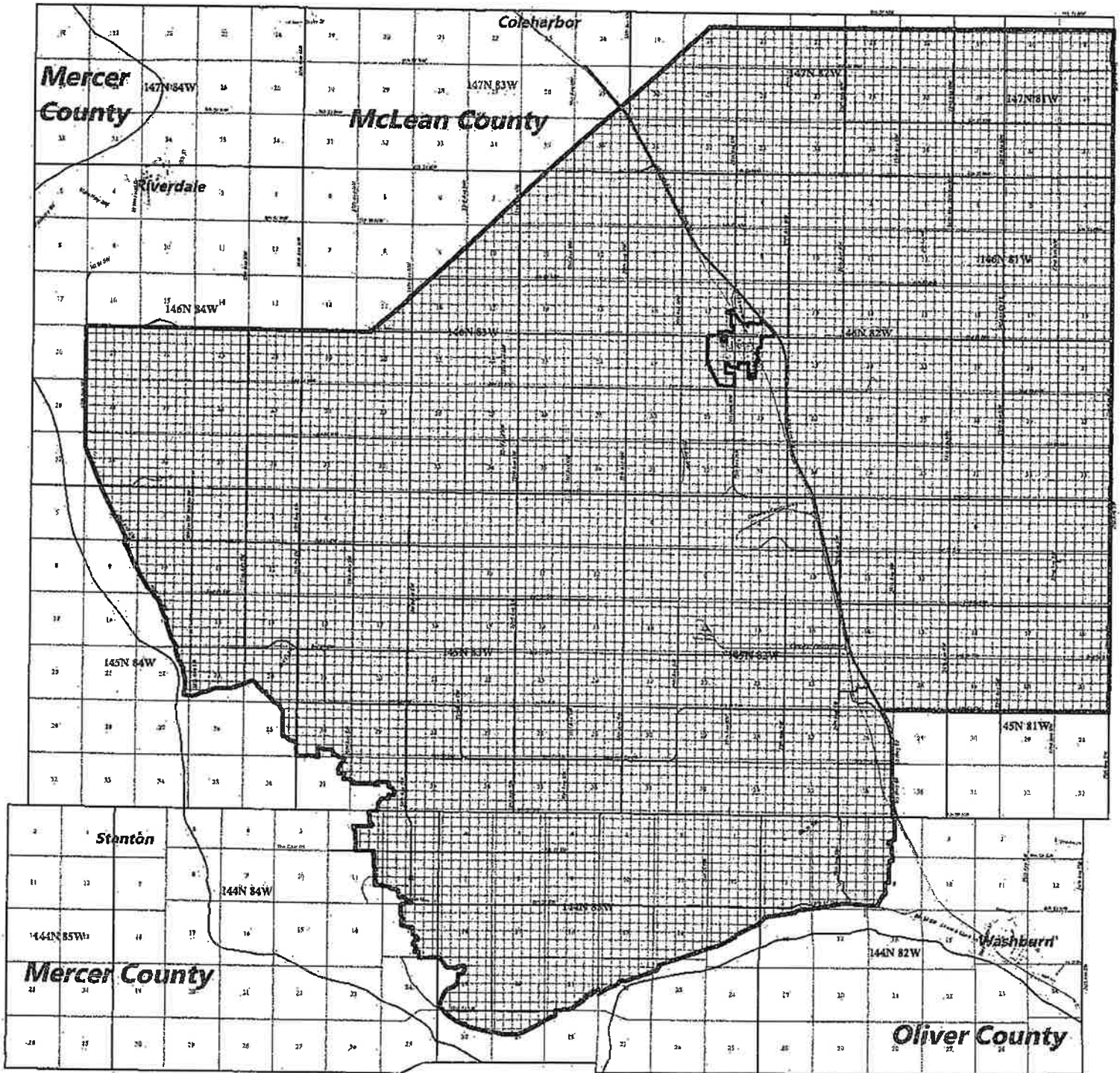
The insolvency or bankruptcy of the insured Permittee shall not release the insurer from payment under the policy, even when such insolvency or bankruptcy prevents the insured Permittee from meeting the retention limit under the policy.

The Permittee must secure any necessary Workers Compensation coverage that may be required by North Dakota law.

When a portion of a Contract is sublet, the Permittee shall obtain insurance protection (as outlined above) to provide liability coverage to protect the Permittee and the County as a result of work undertaken by the Subcontractor or Sublessor. In addition, the Permittee shall ensure that any and all

parties performing work under the Contract are coverage by public liability insurance as outlined above. All Subcontractors and Sublessors performing work under the Permit are required to maintain the same scope of insurance required of the Permittee. The Permittee shall be held responsible for ensuring compliance with those requirements by all Subcontractors and Sublessors.

NAME
1ST ST SW
23RD AVE NW
26TH AVE NW
26TH AVE SW
27TH AVE NW
28TH AVE NW
29TH AVE SW
2ND ST SW
31ST AVE SW
32ND AVE NW
32ND AVE SW
33RD AVE SW
34TH AVE SW
37TH AVE NW
37TH AVE SW
3RD ST NW
3RD ST SW
40TH AVE NW
4TH ST SW
5TH ST SW
6TH ST NW
7TH ST NW
8TH ST SW
COUNTY ROAD 14
COUNTY ROAD 20
FALKIRK RD SW
MAIN ST
MAIN ST NW
MAIN ST SW



Underwood 3D Surface Map

November 16, 2023

- Legend**
- Center
 - Boundary
 - ▬ Contour Line
 - ▬ Road
 - ▬ Railroad
 - ▬ Telephone
 - ▬ Utility
 - ▬ Well
 - ▬ Water
 - ▬ Wetland
 - ▬ Other

State Plane
 North Dakota North
 NAD 83
 Scale 1:50,000
 Area Of Interest
 T16-40 S. 1/2 R. 20E
 McLean County
 North Dakota

SPECIFICATIONS

WiNG^{NT}

GENERAL		
	AFU	DFU
Acquisition	<ul style="list-style-type: none"> Data filtering, compression & time stamping 24 bits A/D conversion 	<ul style="list-style-type: none"> Data filtering, compression & time stamping 24 bits data
Sensor tests	resistance, noise, tilt	distortion, noise, tilt
Instrument tests	noise, gain, phase, distortion	gain, phase, distortion
Memory autonomy	1480 hours (60 days 24 hr/day)	
Battery autonomy (Pathfinder enabled) (Pathfinder disabled)	> 960 hours (40 days 24 hr/7days) > 1200 hours (50 days 24 hr/7days)	
Weight	760 g	780 g (no spike), 830 g (with spike)

ENVIRONMENTAL LIMITS	
Operational temperature	-40 °C to +60 °C
Storage temperature	-40 °C to +60 °C
Ingress protection	IP68
Battery charge temperature	0 °C to +30 °C

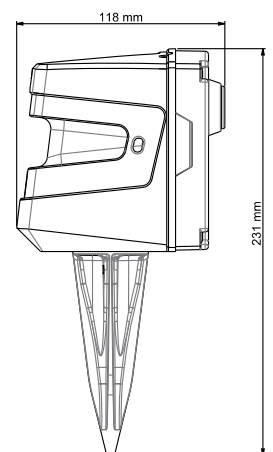
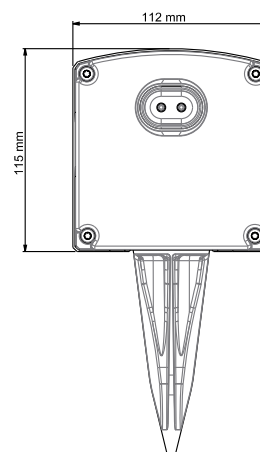
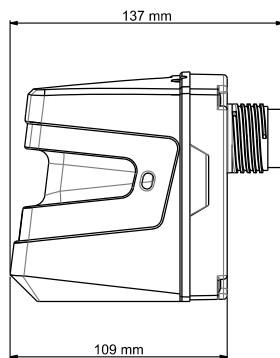
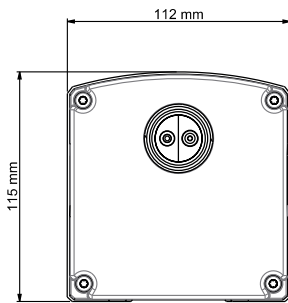
RADIO TRANSMISSION -Pathfinder	
Frequency band	2402 MHz – 2478 MHz
Range	75 m nominal LOS

RADIO TRANSMISSION - Direct	
Frequency band	2402 MHz – 2478 MHz
Range	50 m nominal LOS

GNSS	
Supported constellations	GPS L1 C/A, GLONASS
Cold start acquisition sensitivity	GPS, GLONASS: -148 dBm

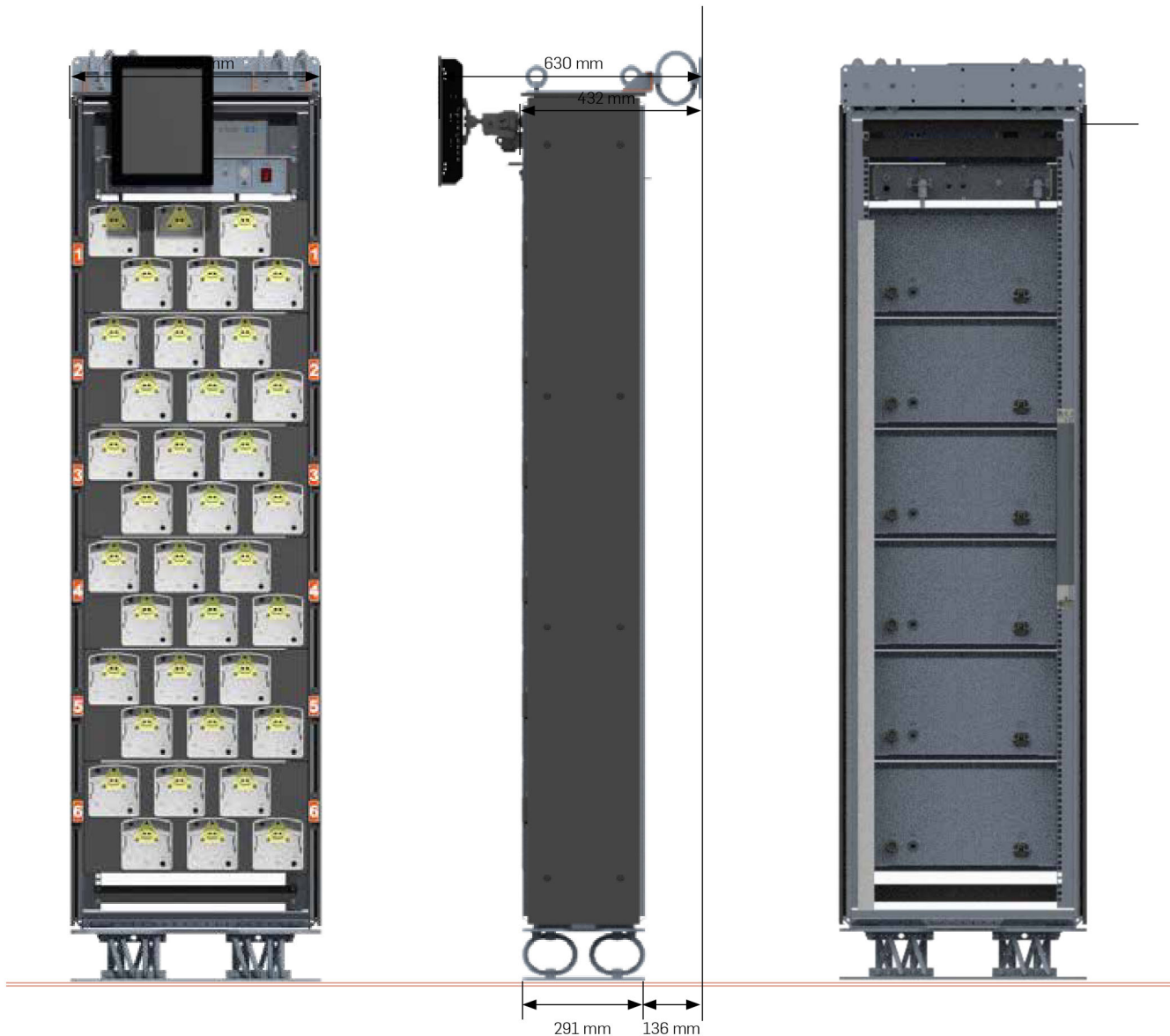
SENSOR PARAMETERS

	AFU	DFU
Sensor type	External	MEMS Accelerometer
Sample rate	4, 2, 1, 0.5 ms	
Timing accuracy	Synchronous to GPS clock	
Input impedance differential mode	20 k Ω // 77 nF	-
Bandwidth	-	0-400 Hz, 3 dB
Low-cut filter	Selectable (none, 0.15625 Hz, 0.3125 Hz, 0.625 Hz, 1.25 Hz, 2.5 Hz)	
High-cut filter	0.8 FN linear or minimum phase	
Full scale	1.6 V RMS (0 dB), 400 mV RMS (12 dB), 100 mV RMS (24 dB) (pre-amp gain)	5 m/s ² (510 mg)
Noise (3-200Hz)	350 nV RMS(0 dB), 145 nV RMS (12 dB), 90 nV RMS (24 dB)	-
Noise (10-200Hz)	-	0.15 μ m/s ² /√Hz (15 ng/√Hz)
Instantaneous dynamic range	132 dB	128 dB
System dynamic range	145 dB	-
Distortion	-110 dB	-90 dB
Gain accuracy	< 0.1 %	< 0.25 %
Phase accuracy	< 20 μ s	



RACK

Dimensions	2075 mm H x 600 mm W x 300 mm D without shock absorbers 2200 mm H x 600 mm W x 630 mm D with shock absorbers and screen
Weight	130 Kg
Capacity	36 DFU
Charging time	6 hr (fully discharged – fully charged)
Input voltage	110-240 Vac
Rated power	950 W (with 36xDFU charging)
Operational temperature	0 °C to +30 °C
Storage temperature	-40 °C to +70 °C
Charge temperature	0 °C to +30 °C
Protection rating	IP4X



PORTABLE HARVESTER CHARGER

Dimensions	682x777x771 mm
Weight	65 Kg
Capacity	12 slots
Charging time	6 hr (fully discharged – fully charged)
Input voltage	110-240 Vac
Rated power	325 W (with 12xDFU charging)
Operational temperature	0 °C to +30 °C
Storage temperature	-40 °C to +70 °C
Charge temperature	0 °C to +30 °C
Protection rating	IP54 closed / IP4X open

