CHECKLIST ENVIRONMENTAL ASSESSMENT

Project Name:	Paragon Culbertson 3D Seismic 2019
Proposed Implementation Date:	Fall 2019
Proponent:	Paragon Geophysical Services Inc.
Location:	Surface and Minerals: T28N-R56E: Section 16 (SW¼) Section 20 (N½ N½, SE¼ NE¼) Section 21 (W½ NW¼) Section 30 (E½ SE¼ NE¼)
County:	Roosevelt

I. TYPE AND PURPOSE OF ACTION

Paragon Geophysical (henceforth referred to as the proponent) has requested to conduct a seismic survey on the State Trust land mentioned above. This project would utilize heavy vibration equipment and seismic detecting equipment for the purpose of oil and gas exploration. This proposed survey boundary encompasses 2,870 acres and extends from the town of Culbertson, Montana up to two miles north of Culbertson. This review considers only the 460 acres of State of Montana Trust Land mineral tracts that are included within the project boundary. The state tracts account for approximately 16% of the proposed seismic area.

II. PROJECT DEVELOPMENT

1. PUBLIC INVOLVEMENT, AGENCIES, GROUPS OR INDIVIDUALS CONTACTED:

Provide a brief chronology of the scoping and ongoing involvement for this project.

The proponent has submitted the proper documentation to request this project. Staff from the Minerals Management Bureau conducted a field review of the state tracts within the project on September 4th, 2019. The proponent has contacted the DNRC surface lessees to discuss surface impacts and compensation for projected damages. Scoping was performed by contacting surface and mineral Lessees, the Montana Natural Heritage Program, DNRC Glasgow Unit Manager Matt Poole, Native American Tribes in Montana, and Patrick Rennie, Montana DNRC Archaeologist.

2. OTHER GOVERNMENTAL AGENCIES WITH JURISDICTION, LIST OF PERMITS NEEDED:

None

3. ALTERNATIVES CONSIDERED:

Alternative A- Allow the proponent to include the parcels of the State Trust Land in the proposed seismic survey project.
Alternative B- The parcels of State Trust Lands would not be included in the project proponent's seismic survey.

III. IMPACTS ON THE PHYSICAL ENVIRONMENT

- *RESOURCES potentially impacted are listed on the form, followed by common issues that would be considered.*
- *Explain POTENTIAL IMPACTS AND MITIGATIONS following each resource heading.*
- *Enter "NONE" If no impacts are identified or the resource is not present.*

4. GEOLOGY AND SOIL QUALITY, STABILITY AND MOISTURE:

Consider the presence of fragile, compactable or unstable soils. Identify unusual geologic features. Specify any special reclamation considerations. Identify any cumulative impacts to soils.

Alternative A- Geology of the state tracts consists primarily of tertiary Tongue River Member sandstone of the Fort Union Formation overlain by unconsolidated, poorly sorted quaternary glacial till and outwash.
Soil composition is varied throughout the project, although soil types primarily include loams, silty loams and clay loams. Some soil disturbance may take place through the use of heavy vibration equipment. Major disturbance can be mitigated through the exclusion of heavy equipment on areas of trust land in which the soils are excessively fragile or susceptible to degradation, on areas with steep topography, or at times when the soils are wet. Although, soils on these tracts are vulnerable to degradation, they are rated as having the ability to recover well both in structure and functional integrity once disturbance has occurred.

Alternative B- No Impacts expected

5. WATER QUALITY, QUANTITY AND DISTRIBUTION:

Identify important surface or groundwater resources. Consider the potential for violation of ambient water quality standards, drinking water maximum contaminant levels, or degradation of water quality. Identify cumulative effects to water resources.

Alternative A- Water quality will be maintained by excluding access to any area where ground or surface water could potentially be disturbed. Heavy equipment will not be allowed into wetlands, sub irrigated sites, rivers, streams, springs, reservoirs, or ponds on the project. A minimum 300-foot setback will be placed around all surface and subsurface water sources and impoundments.

Alternative B- No Impacts Expected

6. AIR QUALITY:

What pollutants or particulate would be produced? Identify air quality regulations or zones (e.g. Class I air shed) the project would influence. Identify cumulative effects to air quality.

Alternative A- Pollutants and Particulates may be slightly elevated during the project. After the completion of the project pollutant and particulate levels should return to normal. Soils on the state tracts have a moderate resistance to dust propagation, which can be further mitigated by the slow speed at which the seismic buggies travel.

Alternative B- No Impacts Expected

7. VEGETATION COVER, QUANTITY AND QUALITY:

What changes would the action cause to vegetative communities? Consider rare plants or cover types that would be affected. Identify cumulative effects to vegetation.

Alternative A- Vegetation communities may be affected by this project. The use of heavy equipment has the potential to temporarily damage some areas of the plant community. This may come from the vegetation being compacted by heavy equipment. Damage to the plant community should be lessened at this time of year due to the fact that most species have produced seed and entered dormancy. There is no evidence of rare plants or cover types in the scope of the project. Current plant species which occupy the construction area include Western Wheatgrass (Agropyron Smithii), Green Needlegrass (Stipa Viridula), Bluestem (Schizachyrium scoparium), Prairie Sandreed (Calamovilfa longifolia), Needle and Thread (Stipa comata), Prairie Junegrass (Koleria pyramidata), Blue Grama (Bouteloua gracilis), Sandberg Bluegrass (Poa secunda), Silver Sagebrush (Artemisia cana), Fringed Sagewort (Artemisia frigida), Broom Snakeweed (Gutierrezia sarothrae), Downy Brome (Bromus tectorum) and Japanese Brome (Bromus japonicus). Smooth Brome

(Bromus inermus), Creeping Juniper (Juniperus horizontalis), Threadleef Sedge (Carex filifolia), and various native forbs. Some of the draws contain Ash trees and Buffalo Berry bushes (Sheperdia argentea). Stipulations would be included to the seismic permit that limit the use of heavy equipment on wet or sensitive soils.

Alternative B- No Impacts expected

8. TERRESTRIAL, AVIAN AND AQUATIC LIFE AND HABITATS:
Consider substantial habitat values and use of the area by wildlife, birds or fish. Identify cumulative effects to fish and wildlife.

Alternative A-There may be minimal disruption to the wildlife that inhabit the area. The scale and length of the project should not be enough to permanently disrupt the wildlife species. Species in the area include Whitetail and Mule Deer, Antelope, Raptors and other birds, various rodents, rabbits, reptiles and others.

Alternative B- No Impacts Expected

9. UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES:
Consider any federally listed threatened or endangered species or habitat identified in the project area. Determine effects to wetlands. Consider Sensitive Species or Species of special concern. Identify cumulative effects to these species and their habitat.

Alternative A- A search of the Montana Natural Heritage Database shows that no threatened, endangered or species of concern were noted within State Trust Lands located in the general project area. A Great Blue Heron, Franklin's Gull, and Plains Hog-nosed Snake were identified on a section adjacent to a State tract, within the town of Culbertson.

Alternative B- No Impacts Expected

10. HISTORICAL AND ARCHAEOLOGICAL SITES:
Identify and determine effects to historical, archaeological or paleontological resources.

Alternative A- A search of the TLMS database resulted in previous encounters of cairn alignments on Section 20, T28N-R56E. A visit by the Minerals Management Bureau (MMB) did not encounter any resources along the proposed seismic source lines located on state tracts. The DNRC archaeologist was also consulted regarding the proposed activity and had no concerns that cultural or archaeological resources would be affected. If resources are discovered during the proposed survey, operations in that area must cease until staff from the Glasgow Unit Office or the DNRC Archeologist can make an appropriate determination.

Alternative B- No Impacts Expected

11. AESTHETICS:
Determine if the project is located on a prominent topographic feature, or may be visible from populated or scenic areas. What level of noise, light or visual change would be produced? Identify cumulative effects to aesthetics.

Alternative A- Due to the short duration of the project, any aesthetic impacts incurred due to the proximity of the proposed activity to the town of Culbertson, Montana Highway 16, and U.S. Highway 2 should be minor. Effects on the landscape from this project are expected to be temporary. The project should only last part of a day on each State tract, after which the landscape will be allowed to recover.

Alternative B- No Impacts Expected

12. DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AIR OR ENERGY:
Determine the amount of limited resources the project would require. Identify other activities nearby that the project would affect. Identify cumulative effects to environmental resources.

Alternative A- No impacts expected.

Alternative B- No Impacts expected

13. OTHER ENVIRONMENTAL DOCUMENTS PERTINENT TO THE AREA:
List other studies, plans or projects on this tract. Determine cumulative impacts likely to occur as a result of current private, state or federal actions in the analysis area, and from future proposed state actions in the analysis area that are under MEPA review (scoped) or permitting review by any state agency.

DNRC conducted MEPA reviews in Section 16 for two different scoria pits.

IV. IMPACTS ON THE HUMAN POPULATION

- *RESOURCES potentially impacted are listed on the form, followed by common issues that would be considered.*
- *Explain POTENTIAL IMPACTS AND MITIGATIONS following each resource heading.*
- *Enter "NONE" If no impacts are identified or the resource is not present.*

14. HUMAN HEALTH AND SAFETY:
Identify any health and safety risks posed by the project.

Alternative A- Typical health and safety risks exist for this type of work, but potential risk could be mitigated with proper safety protocol.

Alternative B- No Impact Expected

15. INDUSTRIAL, COMMERCIAL AND AGRICULTURE ACTIVITIES AND PRODUCTION:
Identify how the project would add to or alter these activities.

Alternative A- The project has potential to have a positive effect on Industrial and Commercial Activities and Production.

Alternative B- No Impacts Expected

16. QUANTITY AND DISTRIBUTION OF EMPLOYMENT:
Estimate the number of jobs the project would create, move or eliminate. Identify cumulative effects to the employment market.

Alternative A- The proposed project would be conducted by existing employees, and therefore not create, move or eliminate jobs.

Alternative B- No Impacts Expected

17. LOCAL AND STATE TAX BASE AND TAX REVENUES:
Estimate tax revenue the project would create or eliminate. Identify cumulative effects to taxes and revenue.

Alternative A- No Impacts Expected

Alternative B- No Impact

18. DEMAND FOR GOVERNMENT SERVICES:
Estimate increases in traffic and changes to traffic patterns. What changes would be needed to fire protection, police, schools, etc.? Identify cumulative effects of this and other projects on government services

Alternative A- No Impacts Expected

Alternative B- No Impact

19. LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS:
List State, County, City, USFS, BLM, Tribal, and other zoning or management plans, and identify how they would affect this project.

Alternative A- No Impact Expected
Alternative B- No Impact

20. ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES:
Identify any wilderness or recreational areas nearby or access routes through this tract. Determine the effects of the project on recreational potential within the tract. Identify cumulative effects to recreational and wilderness activities.

Alternative A- No Impacts Expected
Alternative B- No Impact

21. DENSITY AND DISTRIBUTION OF POPULATION AND HOUSING:
Estimate population changes and additional housing the project would require. Identify cumulative effects to population and housing.

Alternative A- No Impacts Expected

Alternative B- No Impact

22. SOCIAL STRUCTURES AND MORES:
Identify potential disruption of native or traditional lifestyles or communities.

Alternative A- No Impacts Expected

Alternative B- No Impact

23. CULTURAL UNIQUENESS AND DIVERSITY:
How would the action affect any unique quality of the area?

Alternative A- No Impacts Expected

Alternative B- No Impact

24. OTHER APPROPRIATE SOCIAL AND ECONOMIC CIRCUMSTANCES:
Estimate the return to the trust. Include appropriate economic analysis. Identify potential future uses for the analysis area other than existing management. Identify cumulative economic and social effects likely to occur as a result of the proposed action.

Alternative A- The proponent filed a $25 application fee for the Seismic Permit application. This project could provide a benefit to the trust by locating minerals with the potential of commercial development. True Oil currently holds the mineral leases on two of these tracts, and Paragon has received permission from the two different oil and gas lease holders on the other two state mineral tracts in Section 30 and Section 16. Along with the application fee, the proponent has paid a $151 fee to conduct seismic operations over State minerals not covered under the State lease owned by the of the company in which the proponent is the client. No cumulative economic and social effects are expected to occur as a result of the proposed action. As a result of the above findings, the proponent is authorized to conduct seismic projects with Department approval.

Alternative B- No Impact

EA Checklist Prepared By:	**Name:**	Trevor Taylor	**Date:**	11-25-2019
	Title:	Petroleum Engineer		

V. FINDING

25. ALTERNATIVE SELECTED:

Alternative A

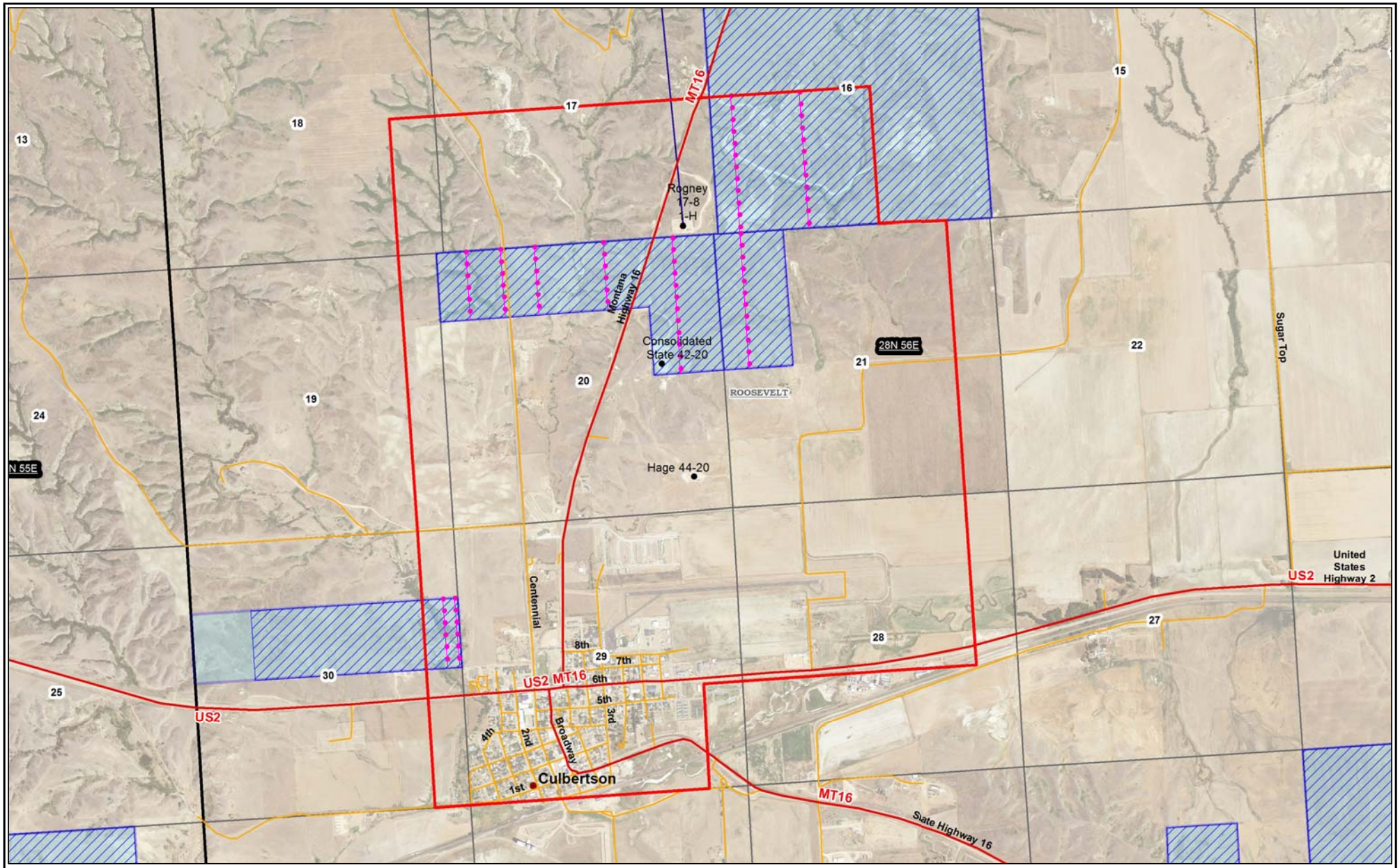
26. SIGNIFICANCE OF POTENTIAL IMPACTS:

None

27. NEED FOR FURTHER ENVIRONMENTAL ANALYSIS:

[ ]	EIS	[ ]	More Detailed EA	[X]	No Further Analysis

EA Checklist Approved By:	**Name:**	Monte Mason
	Title:	Bureau Chief, Minerals Management Bureau
Signature:	Monte L Mason	**Date:** 11/25/2019



Wukong Seismic Operation Boundary

State Mineral Tracts with Seismic Source Lines

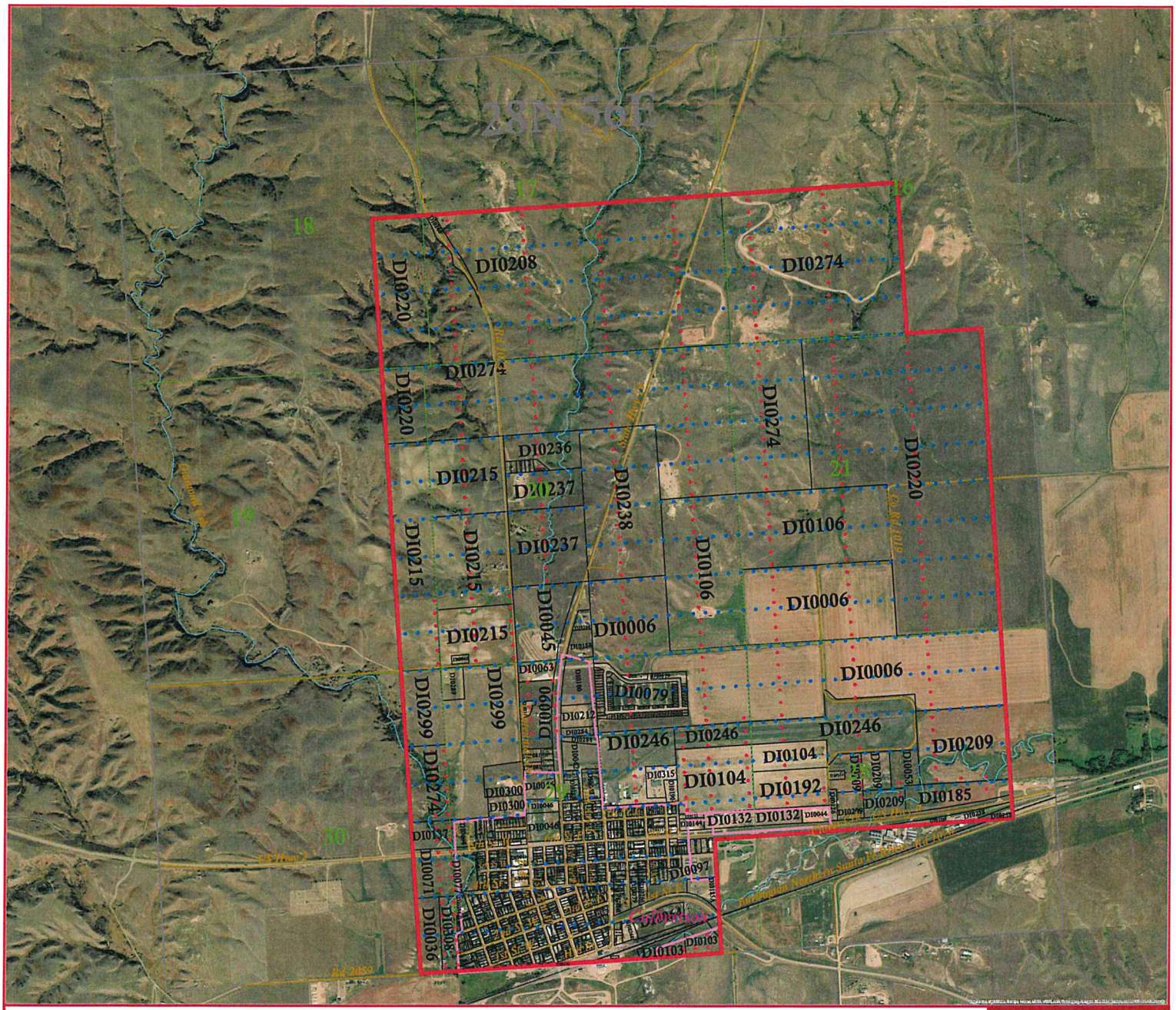
State Mineral Tracts in Seismic Boundary

Montana Trust Land Mineral Tracts within Paragon Culbertson Geophysical Survey

Not to scale

N W E S

Map Description: Culbertson Seismic
Location: Roosevelt County
Date: November 25, 2019



Diamond Point 3D

Surface Map

September 04, 2019

State Plane
Montana North
NAD 27
Scale 1:6,000

Area Of Interest

2,880 Acres
4.50 Square Miles
Roosevelt County
Montana