

CHECKLIST ENVIRONMENTAL ASSESSMENT

Project Name:	LUL#3073254 – Big Sky Carbon Sequestration Partnership Testing
Proposed Implementation Date:	June 2013
Proponent:	Big Sky Carbon Sequestration Partnership
Location:	Section 16, T35N, R1W
County:	Toole
Trust:	Common Schools (CS)

I. TYPE AND PURPOSE OF ACTION

Big Sky Carbon Sequestration Partnership (BSCSP) is applying for 1 Land Use License to complete base line environmental studies on state land. The BSCSP is part of Montana State University's Energy Research Institute. The partnership is supported by the U.S. Department of Energy as one of seven regional carbon sequestration partnerships and engages key stakeholders to help determine or identify the best approaches for permanently storing regional carbon dioxide (CO2) emissions. A detail description of the project is located at <http://www.bigskyco2.org/>. The test will be Differential Absorption Lidar (DIAL) using laser technology to monitor, analyze and collect data on the spatial distribution of carbon dioxide. This test requires placing a single stationary laser about 2 meters off the ground. The beam of the laser will scan in a 45-degree pie shape from the starting point and will collect data within 10 meters of the ground. The laser will be will be operated from 7 pm to 7 am for a five week period. A detailed description of the testing process is attached.

II. PROJECT DEVELOPMENT

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

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

DNRC-Surface and Mineral Owner
Steen Alme - Surface Lessee, Lease #7351
BSCSP-Proponent

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

DNRC is not aware of any other agencies with jurisdiction or other permits needed to complete this project.

3. ALTERNATIVES CONSIDERED:

Alternative A (No Action) – Do not issue BSCSP LUL #3073254.

Alternative B (the Proposed action) – Issue BSCSP the LUL #3073254.

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.

Soils at the proposed project sites are stable and suitable for this type of testing. No surface disturbing actions are proposed. Cumulative impacts on soil resources are not 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.

Water quantity and/or quality issues will not be impacted by the proposed action.

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.

The proposed action will not impact the air quality.

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.

The proposed testing does not include any surface disturbing activities. Vehicle access will be limited to existing roads. Placement of all equipment and sensors will be by foot travel only. Immediate and/or cumulative impacts on the vegetative resources are not expected.

A review of Natural Heritage data through the NRIS was conducted and there were no plant species of concern noted or potential species of concern noted on the NRIS survey.

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.

The area is not considered critical wildlife habitat. However, this tract provides habitat for a variety of big game species (mule deer, whitetail deer, pronghorn antelope), predators (coyote, fox, badger), upland game birds (sharp tail grouse, Hungarian partridge), other non-game mammals, raptors and various songbirds. The proposal does not include any land use change which would yield changes to the wildlife habitat. The proposed action will not impact wildlife forage, cover, or traveling corridors. Nor will this action change the juxtaposition of wildlife forage, water, or hiding and thermal cover. Wildlife usage is expected to return to "normal" (pre-action usage) following the installation of the new pipeline. The proposed action will not have long-term negative effects on existing wildlife species and/or wildlife habitat.

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.

There are no threatened or endangered species, sensitive habitat types, or other species of special concern associated with the proposed project area. At this time, no known unique, endangered, fragile or limited environmental resources have been identified within the proposed project area.

A review of Natural Heritage data through the NRIS was conducted for this area. Ferruginous Hawk was listed as a species of concern. Impacts to this species are not expected. If any are present, they will be dispersed into the surrounding permanent cover and return to the project area once it is completed.

10. HISTORICAL AND ARCHAEOLOGICAL SITES:

Identify and determine effects to historical, archaeological or paleontological resources.

This tract contains several archaeological features and sites. TLMS lists 5 registered sites. No surface disturbing actions are planned for this project. Therefore, impacts to historical and archaeological sites are not 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.

This type of testing will not affect the long term aesthetics of the land.

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.

The demand on environmental resources such as land, water, air, or energy will not be affected by the proposed action. The proposed action will not consume resources that are limited in the area. There are no other projects in the area that will affect the proposed project.

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.

The proposed testing is a part of the BSCSP overall project. Environmental documents associated with this project can be found at: <http://www.bigskyco2.org/>

IV. IMPACTS ON THE HUMAN POPULATION
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| <ul style="list-style-type: none">• <i>RESOURCES potentially impacted are listed on the form, followed by common issues that would be considered.</i>• <i>Explain POTENTIAL IMPACTS AND MITIGATIONS following each resource heading.</i>• <i>Enter "NONE" if no impacts are identified or the resource is not present.</i> |
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14. HUMAN HEALTH AND SAFETY:

Identify any health and safety risks posed by the project.

The proposed project will not change human safety in the area.

15. INDUSTRIAL, COMMERCIAL AND AGRICULTURE ACTIVITIES AND PRODUCTION:

Identify how the project would add to or alter these activities.

The proposed testing project will benefit the BSCSP project. It is not expected to impact other industrial, commercial, or agricultural activities or production in the area.

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.

This project will benefit employment.

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.

The proposed action will slightly add to the tax revenue.

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

Overall funding for this project is through MSU and the DOE. There will be no excessive stress placed on the existing infrastructure of the area.

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.

The proposed action is in compliance with State and County laws. No other management plans are in effect for the area.

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.

State land tract is legally accessible. The proposed action is not expected to impact long term general recreational and other activities on this state tract.

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

The proposal does not include any changes to housing or developments. No direct or cumulative effects to population or housing are anticipated.

22. SOCIAL STRUCTURES AND MORES:

Identify potential disruption of native or traditional lifestyles or communities.

Native, unique or traditional lifestyles or communities in the vicinity will not be impacted by the proposal.

23. CULTURAL UNIQUENESS AND DIVERSITY:

How would the action affect any unique quality of the area?

The proposed action will not impact the cultural uniqueness or diversity of the area.

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.

This project will benefit the common school trust in terms of the \$25.00 LUL application fee. Also a one-time LUL fee of \$500.00 will be charged for LUL#3073254.

EA Checklist Prepared By:	Name: Tony Nickol	Date: June 4, 2013
	Title: Land Use Specialist, Conrad Unit, Central Land Office	

V. FINDINGS

25. ALTERNATIVE SELECTED:

Issue BSCSP the LUL #3073254, action alternative.

26. SIGNIFICANCE OF POTENTIAL IMPACTS:

The completion of the EA did not identify issues that could not be reasonable mitigated.

27. NEED FOR FURTHER ENVIRONMENTAL ANALYSIS:

EIS

More Detailed EA

No Further Analysis

EA Checklist Approved By:	Name: Erik Eneboe
	Title: Conrad Unit Manager, CLO, DNRC
Signature: 	Date: 6/14/2013

Kevin Dome Carbon Storage Project K.Repasky Laser Study Proposal Summary

Project Summary

In association with the Big Sky Carbon Sequestration (BSCSP) Kevin Dome Carbon Storage Project, Montana State University's (MSU) Dr. Kevin Repasky is using laser technology to monitor, analyze, and collect data on the spatial distribution of the carbon dioxide number density using a differential absorption lidar (DIAL). In order to do so, a cargo trailer will be used to house the laser equipment and will be temporarily placed within the Kevin Dome research area. The cargo trailer will measure approximately 8' long and will be parked on the research property for no longer than 5 weeks. A 1.8 KW generator will be required to power the laser equipment, such as a Honda commercial-use generator. This generator is consumer-rated, emits no noxious fumes and is similar to the power generators commonly used in campgrounds. The generator will operate every evening from the hours of 7:00 p.m. to 7:00 a.m. and a MSU student will be on-site to monitor and oversee its routine operation.

Located within the trailer will be an infrared eye-safe laser (ANSI Z136.1-1993) that will additionally operate every night from 7:00 p.m. to 7:00 a.m. The laser will be situated approximately 2 meters off the ground and will have a linear range of 3 km distance from the trailer (Fig.1). The beam of the laser will scan in a 45-degree pie shape from the starting point and will collect data within 10 meters of the ground (Fig.2). In order to minimize obstruction of the laser range therefore, an ideal location for the trailer and laser equipment will be road and structure-free. However, vehicle access will be required in order to place the trailer on the research property. When not in use, the trailer will be locked at all times and will include jack stands to stabilize the trailer and minimize potential damage to the surface.

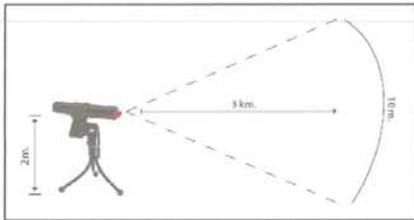


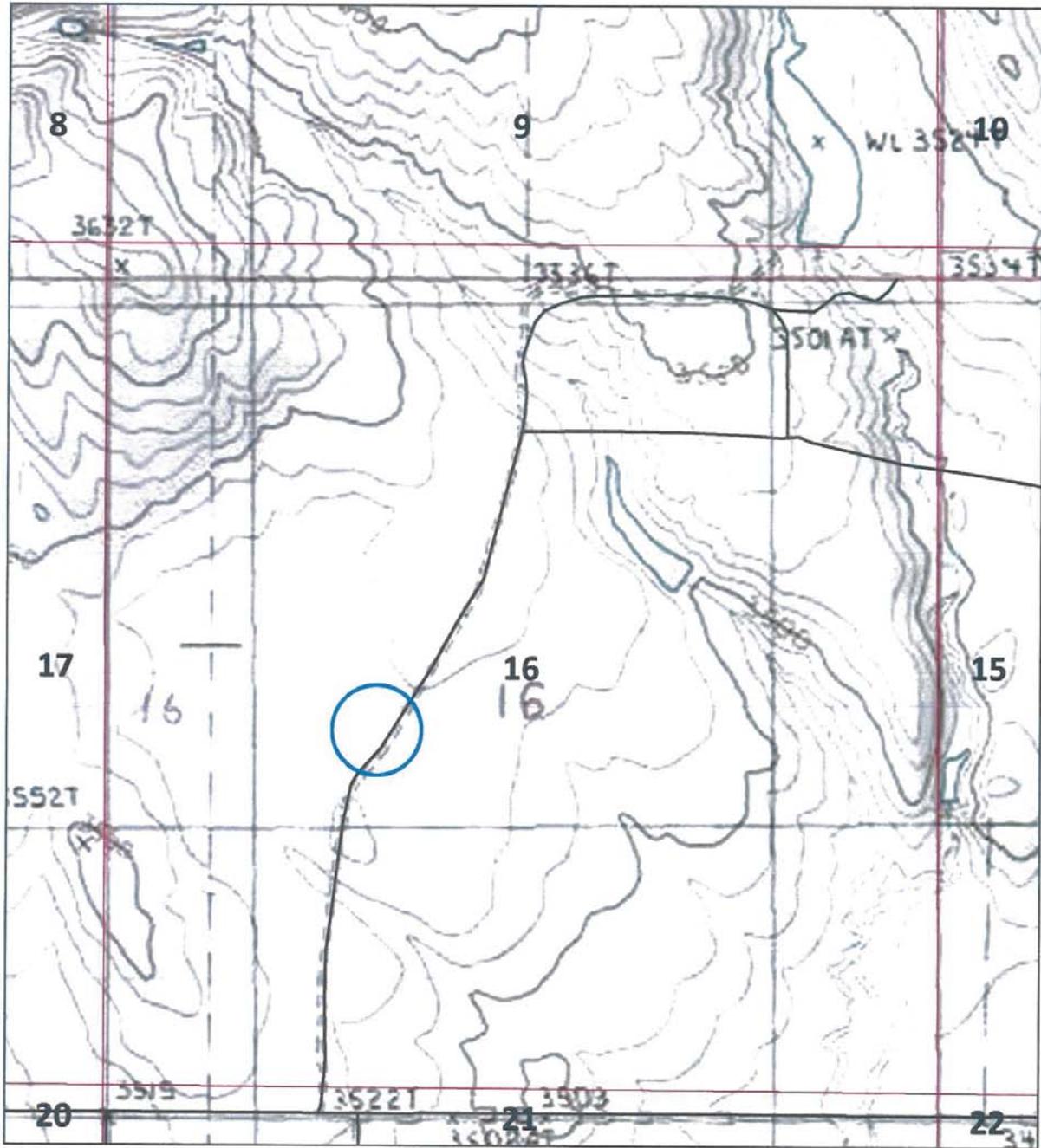
Figure 1: Diagram measurements of Laser equipment



Figure 2: Range of laser viewed from above

5 weeks

Site Option #1



- Building Locations
- General Area for Site
- Roads
- Sections

