

ENVIRONMENTAL ASSESSMENT

Project Name:	Seismic Permit #1571 – Eureka Lake 3D
Proposed Implementation Date:	January 23 to February 28, 2012
Proponent:	St. Croix Seismic LLC, Lesle Wright, PO Box 1048, Laurel, MT 59044 on behalf of LXL Consulting, Ltd (permit agent) Tesla Exploration LTD, 4500 8A Street NE, Calgary, AB T2P 4J8 Tesla-Conquest, Inc., 6430 S. Fiddlers Green Circle, Suite 100, Greenwood Village, CO. 80111 (seismic company) Primary Petroleum, Suite 800, 744 4 th Ave SW, Calgary, AB T2P 3T4 (Oil and Gas Lessee)
Location:	<u>Township 25 North, Range 5 West</u> Section 16: ALL Section 18: Lots 3, 4, NW $\frac{1}{4}$ SE $\frac{1}{4}$, NE $\frac{1}{4}$ SW $\frac{1}{4}$ (state surface and private subsurface) <u>Township 25 North, Range 6 West</u> Section 2: W $\frac{1}{2}$ SE $\frac{1}{4}$ Section 3: SW $\frac{1}{4}$ NE $\frac{1}{4}$ (state surface and private subsurface) Section 11: W $\frac{1}{2}$ NE $\frac{1}{4}$, SE $\frac{1}{4}$ Section 12: SW $\frac{1}{4}$ (state surface and subsurface), S $\frac{1}{2}$ SE $\frac{1}{4}$ (state surface and private subsurface) Section 13: ALL Section 14: SE $\frac{1}{4}$ NW $\frac{1}{4}$, NE $\frac{1}{4}$, NW $\frac{1}{4}$ SE $\frac{1}{4}$, S $\frac{1}{2}$ SE $\frac{1}{4}$, E $\frac{1}{2}$ SW $\frac{1}{4}$ <u>Township 26 North, Range 6 West</u> Section 36: ALL (state does not own the surface in the E $\frac{1}{2}$, W $\frac{1}{2}$ SW $\frac{1}{4}$)
County:	Teton
Trust:	Common Schools, Capitol Buildings

I. TYPE AND PURPOSE OF ACTION

St Croix Seismic LLC, LXL Consulting LTD and Tesla Exploration LTD on behalf of Primary Petroleum have applied for a 3D seismic permit on 2,679 acres of state lands listed above. The total project area consists of 23,060 acres (2,679 acres of state land and 20,381 acres of private land). This Environmental Assessment is intended exclusively for the previously listed state owned lands. The proposed seismic project will likely proceed on private land regardless of state involvement. DNRC has no authority over activities on private land. The seismic contractor anticipates the entire exploration activity will take approximately one month regardless of whether state lands are included. The proposed 3D seismic operation over the entire 23,060 acres is scheduled to occur in 4 stages described below:

1. Staking and Surveying – Ground crews and/or crews on ATV's survey and stake land in order to precisely orient receiver lines and geophones as well as locate and avoid sensitive areas. (1 Week)
2. Placement of Receiver Lines and Equipment – A helicopter, ATVs, and ground crews will transport receiver cables, data collectors, batteries and geophones along receiver lines. (<7 Days Concurrent with Seismic Shoot)

3. Conduct Seismic Shoot – 4 servo-hydraulic vibroseis trucks will be used to create the vibratory energy source at each source point. Receiver lines will be removed as needed via ATV crews. (7-12 Days)
4. Finish removal of receiver lines and site cleanup – Project cleanup will proceed concurrently with the recording phase in which all pins, flags, and lath will be collected and site restored. (<7 Days)

II. PROJECT DEVELOPMENT

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

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

Ross Baty, DNRC Wildlife Biologist
 St. Croix Seismic – Landman / Permit agent
 DNRC TLMD-Surface and Mineral Owners
 Sharon Lea & Alvin G. Guse
 Joel & Mary Christiaens
 Leonard L. & Rayleen P. Blixrud
 Richard E. & Kathleen J. Byrd
 Clay R. Crawford Living Trust
 Vanessa Y. & John T Bucklin
 Ralston Gap Cattle Co Inc
 Stephen F. & Kathy Yonce
 Ottis N. & Sylvia N. Bryan
 Douglas G. Bardwell
 Richard K. & Luann Chadwick
 Ryan & Kelly DeBruyker
 Barney F. & Emily Bouma
 Marlin H. & Mary E. Styren
 Deanna R. Styren
 Nick & Jamie Stubblefield
 Kathleen M. Forrest
 Ray Habel Inc.
 Richins Ranch LLC
 Cecil C. Cole etal
 William A. & Agnes Leys Trustees
 Joann Gebhart etal
 Russell E. & Floyd A. Joramo
 Michael W. Leys Heritage Trust
 Ira Perkins & Sons
 Kaylene M. Larson etal Co-Trustees
 Kirk & Rusyl Klingaman
 Miller Colony
 Boneyard Coulee Ranch Inc
 Michael W. Leys
 Charles N. & Toni M. Crane
 Cloyd & Gineal O. Stott Trustees
 John & Laura A. Buck

Montana Wilderness Association
 Teton County Commissioners
 National Wildlife Association
 Montana FWP, Gary Olson, Wildlife Biologist
 Montana FWP, Gary Bertellotti, Region 4 Manager
 Montana FWP, Brent Loner, Wildlife Biologist
 Montana Environmental Information Center
 Montana Wildlife Federation
 The Wilderness Society

Friends of the Rocky Mountain Front
The Blackfeet Nation
Montana Petroleum Association
Benton Lake National Wildlife Refuge, Bob Johnson
Northern Montana Oil & Gas Association
The Nature Conservancy

Public Scoping notice published in the Choteau Acantha on December 21, 2011 and December 28, 2011.
Public Scoping notice published at www.dnrc.mt.gov

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

The DNRC Trust Land Management Division has jurisdiction over this proposed activity on state land. A DNRC seismic exploration permit for the state lands, county permit, proof of qualification to conduct business in the State of Montana and bonding with the Secretary of State's office are required.

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) – Deny permission to conduct the 3D seismic survey on state land.

Alternative B (the Proposed action) – Grant permission to conduct the 3D seismic survey on state land using the DNRC-TLMD mitigation measures to minimize adverse environmental impacts.

III. IMPACTS ON THE PHYSICAL ENVIRONMENT
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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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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.

Surface geology in the majority of the seismic proposal consists of the quaternary Burton Bench alpine glacial outwash deposit. The hills to the north and south of the Ralston Gap in the seismic area are layered on the top by the Virgelle Formation which is a weather resistant titaniferous magnetite sandstone overlying the interbedded mudstone/sandstone Telegraph Formation. Narrow bands of the Kevin Member of the Marias River Formation are present near the base of the hills and consist of dark gray, fine-grained sandstones.

The proposed seismic activity is located between the Eastern Edge of the Disturbed Belt and the Sweetgrass Arch structures. Nearest oil fields with significant oil production include the Second Guess Field located five miles to the northwest and Pondera Field located just over five miles to the northeast. Most existing exploration wells in the vicinity of the project are dry holes.

The soils and range sites within the proposed project area vary. Identified range sites within the project area include sub-irrigated, overland flow, thin silty, silty, shallow, sandy, thin hilly, and saline lowland. The terrain is also varied from flat to gently rolling hills with intermittent coulees with steeper slopes. Soils throughout the project area are well vegetated (native range land) and very stable. Wet areas, wet coulee bottoms, riparian and steep slopes on state lands will be avoided. The proposed action may cause minimal localized areas of soil erosion and compaction from the manipulation of vehicles and equipment on the surface. Soil types throughout the area have a high potential to recover functional and structural integrity after disturbance. The proposed seismic project may only be completed when the topsoil conditions are dry and/or frozen to minimize soil erosion and compaction. The proposed action will temporarily disturb a small portion of the landscape. Any impacts to

the soil are expected to be minor, and temporary. Snow plowing and/or snow removal on state land within the project area will not be authorized. Standard special stipulations including no vehicle operation during wet or muddy conditions, no seismic testing on slopes greater than 25%, and no seismic testing in wet zones will minimize impacts. No significant or cumulative impacts to soils are anticipated.

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.

There are several documented and/or recorded water rights associated with the proposed project areas. There are also several springs, one spring development, two irrigation ditches, and two reservoirs in the proposed project areas.

The proponent will be required by the standard special stipulations to stay 300 feet from springs, water wells, streams, lakes, or water storage reservoir facilities while conducting vibratory operations on state land. No drilling or blasting operations are planned or authorized for this project. Riparian areas, wet coulee bottoms and brushy areas are also present in the proposed project area. Special stipulations in attachment A require no seismic activity within 100 feet of these areas. This requirement will prevent damages to these sensitive areas.

No important surface or groundwater resources will be impacted by the proposed project by utilizing the above special stipulations.

Other water quality and/or quantity 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 seismic project will not consist of any significant disturbance to soils, so no cumulative effects to air quality are anticipated.

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 vegetation within the proposed project area consists primarily of native rangeland grasses, forbs, and shrubs. 69 acres of irrigated cropland is also present in the project area. Seismic operations will occur when plants are dormant (winter). Native rangeland vegetation is dominated by grass species that include rough fescue, blue bunch wheatgrass, green needle grass, western wheatgrass, needle and thread grass, prairie June grass, sedges, and shrubby cinquefoil. Approximately 75 acres in the SE ¼ of Section 16, T25N, R5W contains a dense stand of silver buffalo berry and other woody vegetation. This sensitive area will be avoided by all seismic activities.

The project area is relatively free of noxious weeds. At this time, no noxious weeds have been identified on state land within the project area. Introduction of new noxious weeds and the spread of existing noxious weeds is a concern. This will be mitigated by initially power washing all equipment prior to entering the project area, briefing crews for identification of noxious weeds, and avoidance of known infestations. The proponent is currently working with the appropriate County Weed Coordinator and the Rocky Mountain Front Weed Round Table on best management practices for this project. In the long term, the oil and gas lessee is responsible for mitigating noxious weed issues that may arise as a result of this project.

ATV, foot traffic and vibroseis trucks will temporarily flatten native vegetation along source and receiver lines. No ground disturbing actions are planned or authorized. Snow plowing will not be authorized. Trampled vegetation is expected to recover quickly and naturally. Sensitive areas including the 75 acre silver buffalo berry area in Sec 16 will be avoided. All other wooded bottoms, wet coulees and/or riparian areas on state land will be avoided. As

a practical matter, mechanized equipment generally avoids wetland and riparian areas, regardless of land ownership. The vegetation along the proposed seismic routes will be minimally impacted. Restricting the vibroseis and vehicle activity to only dry conditions will minimize any impacts to the existing vegetation. No long term or cumulative impacts to the existing vegetation are 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.

State land tracts provides habitat for a variety of big game species (mule deer, whitetail deer, pronghorn antelope), predators (coyote, fox, badger), upland game birds (ring neck pheasant, sharp tail grouse, Hungarian partridge), other non-game mammals, raptors and various song bird species. Under the proposed action, activities would take place only during the winter (late January through February). Timing of this project (winter) will limit the impacts to migratory wildlife species including many birds species and will be completed outside of the primary nesting season. This project may temporarily displace wintering big game animals located in the area (deer and antelope), however the project would be completed before fawning (May to July).

Under the proposed action, no road construction would be required and no activities would take place in streams or sensitive wetland communities. Vehicles would be prohibited from entering wet sites and crossing sensitive wetlands and riparian areas on state lands. As a practical matter, vehicles would not cross or occupy wetland and riparian areas on private land either. Thus, minimal risk of direct, indirect or cumulative effects to sensitive wetland plant and animal communities and aquatic species would be expected.

Given the types of activities that would occur, the limited duration of the proposed activities and timing, minimal direct, indirect and cumulative effects to wildlife species listed above would be anticipated. 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.

There are no unique or critical wildlife habitats associated with the state tract and do not expect direct or cumulative wildlife impacts would occur as a result of implementing the proposal. The proposed action will not have long-term negative impacts 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.

The following is a list of federally listed threatened or endangered species, and state-listed sensitive species that are likely to occur in some portion of lands administered by the DNRC Central Land Office. The information and sources used to evaluate impacts related to the following species included: MNHP species occurrence record search (1/15/12), species specific assessments of distribution and habitat suitability, field reviews by local managers, assessment of anecdotal information obtained from local biologists on species occurrence, professional judgment, assessment of risk factors for each species, timing and duration of proposed activity, type of proposed activity, location of proposed activities, and scale of activity. Cumulative effects analysis encompasses the 23,060 acres proposed seismic permit area, which includes private, state, and federal land.

CHECKLIST FOR ENDANGERED, THREATENED AND SENSITIVE SPECIES
CENTRAL LAND OFFICE

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Threatened and Endangered Species	[Y/N] Potential Impacts and Mitigation Measures N = Not Present or No Impact is Likely to Occur Y = Impacts May Occur (Explain Below)
<p>Grizzly Bear (<i>Ursus arctos</i>) Habitat: recovery areas, security from human activity</p>	<p>[N] – These tracts of state land are located within the Northern Continental Divide Grizzly Bear Recovery Zone. Grizzly bear hibernating periods normally last from November to March/April (FWP comment letter). All proposed activities would occur within this denning period and would not occur near any habitats preferred for denning. Thus, no direct, indirect, or cumulative effects to grizzly bears would be anticipated.</p>
<p>Lynx (<i>Felis lynx</i>) Habitat: mosaics--dense sapling and old forest >5,000 ft. elev.</p>	<p>[N] -- Habitat suitable for use by Canada lynx does not occur within the project area or cumulative effects analysis area. Thus, no direct, indirect, or cumulative effects to lynx would be anticipated.</p>

DNRC Sensitive Species	[Y/N] Potential Impacts and Mitigation Measures N = Not Present or No Impact is Likely to Occur Y = Impacts May Occur (Explain Below)
<p>Bald Eagle (<i>Haliaeetus leucocephalus</i>) Habitat: late-successional forest <1 mile from open water</p>	<p>[Y] Bald eagles are present along the Rocky Mountain Front in general and can congregate around Farmer and Eureka Reservoir located adjacent to the project area. However, habitat suitable for nesting eagles does not occur in the project area or cumulative effects analysis area. Any appreciable use of the project area would likely be confined to the winter period when eagles would likely be foraging in the area on carrion. Any disturbance associated with project activities would occur outside of the normal nesting period for eagles and would pose minimal adverse effects to wintering eagles. Thus, minor direct, indirect or cumulative effects to bald eagles would be anticipated.</p>
<p>Gray Wolf (<i>Canis lupus</i>) Habitat: ample big game pops., security from human activity</p>	<p>[N] No active wolf packs or dens are known to occur within the project area or cumulative effects analysis area, and project activities would occur outside of the sensitive spring denning season (April 1 to June 30). Thus, no direct, indirect or cumulative effects to gray wolves would be anticipated.</p>
<p>Black-Backed Woodpecker (<i>Picoides arcticus</i>) Habitat: mature to old burned or beetle-infested forest</p>	<p>[N] Habitat suitable for use by black-backed woodpeckers does not occur within the project area or cumulative effects analysis area. Thus, no direct, indirect, or cumulative effects to black-backed woodpeckers would be anticipated.</p>
<p>Black-tailed Prairie Dog (<i>Cynomys ludovicianus</i>) Habitat: Prairie, shortgrass prairie, badlands</p>	<p>[N] No known prairie dog colonies occur within the project area or cumulative effects analysis area. Thus, no direct, indirect, or cumulative effects to prairie dogs would be anticipated.</p>

<p>Flammulated Owl (<i>Otus flammeolus</i>) Habitat: late-successional ponderosa pine and Doug.-fir forest</p>	<p>[N] Habitat suitable for use by flammulated owls does not occur within the project area or cumulative effects analysis area. Thus, no direct, indirect, or cumulative effects to flammulated owls would be anticipated.</p>
<p>Greater Sage-grouse (<i>Centrocercus urophasianus</i>) Habitat: sagebrush semi-desert</p>	<p>[N] Developed sagebrush communities do not occur on the project area within the cumulative effects analysis area, and no sage-grouse flocks or leks are known to occur in these areas. Thus, no direct, indirect or cumulative effects to greater sage grouse would be anticipated.</p>
<p>Ferruginous Hawk (<i>Buteo regalis</i>) Habitat: prairies and badlands</p>	<p>[N] Project activities would occur outside of the critical nesting season (April 1-July 30) (USFWS 1987). Proposed activities would also be completed prior to return of ferruginous hawks to Montana in spring following migration. Thus, no direct, indirect, and cumulative effects to ferruginous hawks would be anticipated.</p>
<p>Long-billed Curlew (<i>Numenius americanus</i>) Habitat: moist meadows and dry upland prairies</p>	<p>[N] Long-billed curlews have been observed in the vicinity of the project area. Project activities would occur outside of the spring nesting season for curlews. By conducting activities in winter months, the potential for adverse effects associated with displacement and nesting would be eliminated. Thus, no adverse direct, indirect, or cumulative effects to long-billed curlews would be anticipated.</p>
<p>McCown's Longspur (<i>Rhynchophanes mccownii</i>) Habitat: dry short-grass plains</p>	<p>[N] The project area occurs within the known distribution of McCown's longspurs. Project activities would occur outside of the spring nesting season. By conducting activities in winter months, the potential for adverse effects associated with nest disturbance and displacement would be eliminated. Given the season activities would occur, no direct, indirect, or cumulative effects to McCown's longspurs would be anticipated.</p>
<p>Sprague's Pipit (<i>Anthus spragueii</i>) Habitat: native medium to intermediate height prairie</p>	<p>[N] The project area occurs within the known distribution of Sprague's pipit. Project activities would occur outside of the critical spring nesting season. By conducting activities in winter months, the potential for adverse effects associated with nest disturbance and displacement would be eliminated. Given the season activities would occur, no adverse direct, indirect, or cumulative effects to Sprague's pipits would be anticipated.</p>
<p>Harlequin Duck (<i>Histrionicus histrionicus</i>) Habitat: white-water streams, boulder and cobble substrates</p>	<p>[N] Harlequin ducks have been documented in streams along the Rocky Mountain Front. Project activities would occur outside of the nesting season for harlequins during a period when they are not present in Montana. By conducting activities in winter months, the potential for any adverse effects to harlequin ducks would be eliminated. No adverse direct, indirect, or cumulative effects to harlequin ducks would be anticipated.</p>

<p>Mountain Plover (<i>Charadrius montanus</i>) Habitat: short-grass prairie, alkaline flats, prairie dog towns</p>	<p>[N] Short-grass prairie types and prairie dog towns are not present in the project area and no observations of mountain plovers have been reported in the local geographic area. Proposed activities would occur during winter, outside of the nesting season for mountain plovers. Thus, no direct, indirect or cumulative effects to mountain plovers would be anticipated.</p>
<p>Northern Bog Lemming (<i>Synaptomys borealis</i>) Habitat: sphagnum meadows, bogs, fens with thick moss mats</p>	<p>[N] The project area is outside of the known distribution of bog lemmings, thus no impacts to bog lemmings would be anticipated. Further, motor vehicle use would be prohibited within any wet meadows, bogs or fens that could occur within the project area, which would protect potential habitat or suitable features should they be present. Thus, no direct, indirect, or cumulative effects to northern bog lemmings would be anticipated.</p>
<p>Peregrine Falcon (<i>Falco peregrinus</i>) Habitat: cliff features near open foraging areas and/or wetlands</p>	<p>[N] Peregrine falcon nesting habitat and foraging habitat occurs along the Rocky Mountain Front. However, cliff features suitable for nesting sites do not exist within the project area or cumulative effects analysis area. By conducting activities in winter months the potential for any adverse effects to peregrine falcons would be minimized. Thus, the potential for adverse direct, indirect, or cumulative effects to peregrine falcons would be minimal.</p>
<p>Pileated Woodpecker (<i>Dryocopus pileatus</i>) Habitat: late-successional ponderosa pine and larch-fir forest</p>	<p>[N] Forested habitat suitable for use by pileated woodpeckers does not occur within the project area or cumulative effects analysis area. Thus, no direct, indirect, or cumulative effects to pileated woodpeckers would be anticipated.</p>
<p>Townsend's Big-Eared Bat (<i>Plecotus townsendii</i>) Habitat: caves, caverns, old mines</p>	<p>[N] Caves suitable for use by Townsend's big-eared bats do not occur within the project area or cumulative effects analysis area. Thus, no direct, indirect, or cumulative effects to bats would be anticipated.</p>

There are no unique or critical wildlife habitats associated with the state tracts and do not expect direct or cumulative wildlife impacts would occur as a result of implementing the proposal. The proposed action will not have long-term negative impacts on threatened, endangered or sensitive wildlife species and/or wildlife habitat.

10. HISTORICAL AND ARCHAEOLOGICAL SITES:

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

A review of previous field evaluations and TLMS indicates the presence of stone circles in section 18, T25N, R5W, and sections 11 and 13, T25N, R6W. Two registered sites are also located within the project area. Site 24TT416 (section 16, T25N, R5W) is the Eldorado Coop Canal. Site 24TT0613 (section 13, T25N, R6W) is an old ditch.

This type of seismic activity has very low impacts to historical, archaeological, and paleontological resources. The DNRC archaeologist, Patrick Rennie, has been contacted concerning the proposed state-land area and does not have any cultural resource concerns with this type of seismic exploration as long as the operations are restricted to dry soil conditions and identified cultural features are avoided.

The proponent will be required by the special stipulations to avoid and report any historical, archaeological, and paleontological resources encountered in the project area as well to conduct seismic activities only during dry conditions.

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.

During seismic operations, a variety of vehicles, including ATVs, pickups, buggies, large vibroseis trucks, and a helicopter will be seen and possibly heard by people in the vicinity of the operations. The survey vehicles and equipment will only be visible during the seismic operation of approximately one month and therefore no long term effects to the aesthetics of this area will occur.

The state land is located approximately 15 miles east of Rocky Mountain Front topography and therefore provides some scenic opportunities from a distance. This scenic opportunity is abundantly available to the north or south of the seismic project area from existing county roads. The seismic operations activity will be temporary and no long term changes to the aesthetic values of the area will occur.

No direct or cumulative effects to aesthetics are anticipated.

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.

There are no other projects or plans being considered on the tracts listed on this EA or in the immediate area around the state lands involved.

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 project area is in the occupied grizzly bear zone. Human / bear encounters are not expected because this project will be completed during the winter when bears are in hibernation. The silver buffalo berry area in section 16, a known grizzly bear use area, will be avoided. The proponent and their employees will be briefed through safety meetings and therefore will be aware of safe operating practices for the area. Employees are also trained and familiar with safe operating practices for the equipment they are operating and accept any health and safety risks as normal occupational hazards.

Once the survey has been completed, there will be no health and safety concerns associated with this project.

15. INDUSTRIAL, COMMERCIAL AND AGRICULTURE ACTIVITIES AND PRODUCTION:

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

The local economy (motels, restaurants, ect.) will benefit from this project. Below is a list of estimated personnel numbers and days spent completing various phases of the seismic project.

Survey	5 people	5-7 days
Seismic operations	50 people	7-15 days
Clean-up	10 people	3 days

The applicant will pay surface lessees \$1.00 per acre plus any additional required for actual damage to state grazing land. .

This proposed seismic exploration project may increase or decrease the possibility of oil and gas drilling and development in the area. Any new activities proposed on state land will be subject to MEPA review.

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.

The proposed activity will create a limited number of jobs. These are already held by employees of the proponent.

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 seismic project will temporarily increase the tax base or tax revenues through payroll taxes and vehicle registrations. No other long term impacts to tax base or tax revenues are expected.

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

There will be a temporary increase in local traffic if this project is approved, but the traffic levels will return to normal, "pre-action" levels once the project is completed. Wildfire is a potential concern with equipment operating in grasslands. However, winter months typically have shorter days and higher humidity levels to help mitigate wildfire concerns. The applicant will have fire extinguishers on equipment and have other firefighting equipment onsite in case of a fire. Local fire departments will be notified of this project. The applicant will be responsible for all suppression costs and resource damage associated with a wildfire started by seismic operations.

There will be no other direct or cumulative effects on government services.

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 1987 "Interagency Rocky Mountain Front Wildlife Monitoring / Evaluation Program" publication provides general management guideline pertaining to seismic and oil and gas development along the Rocky Mountain Front. These guidelines and recommendations are being utilized where appropriate to mitigate identified wildlife concerns (see sections 8 and 9 of this EA). Previous DFWP's comments advises that "if this company can minimize impacts to a level that habitat and species recovery from the disturbance can occur in a short time frame, both the industry, public, wildlife and habitat will benefit. With new techniques, equipment and knowledge both the industry side and the natural resources side there should be ways to accomplish this." This statement is consistent with the Bureau of Land Management's 2006 Analysis Report and determination that the impacts from geophysical exploration were usually short term and do not contribute to significant cumulative impacts, and as a result, were eligible for a categorical exclusion status under NEPA. This document's description of seismic exploration is particularly instructive:

“Today’s energy development is dependent upon geophysical exploration to maximize recovery potential while minimizing the number of necessary platforms and wells. Seismic operations that occurred on public lands twenty plus years ago often involved road building and heavy truck mounted drill rigs. This type of exploration had much greater environmental impacts on the landscape than the exploration occurring today. Most modern geophysical exploration involves low impact and state-of-the-art techniques that minimize surface disturbance. The seismic operations BLM authorizes today are typically conducted by vibroseis trucks or small portable drill rigs transported by either off-road vehicles with low pressure tires, or helicopter. Thus, the traditional work camps and bulldozers that accompany heavy equipment have been abandoned and the seismic crews greatly reduced in size. Using best management practices such as seasonal restrictions, equipment restrictions and other mitigation measures are employed, operators are able to minimize the impacts associated with modern seismic operations.”

As discussed in the proposed action, this seismic project proposal would utilize vibroseis technology. No road or pad construction, no dynamite shot-holes, and no work-camps would be required. The entire operation could be completed in about one month.

The proponent must obtain a seismic permit from Teton County. 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.

The Bob Marshall Wilderness boundary is approximately 25 miles west of the project area. The Wilderness is located within the Lewis and Clark National Forest whose boundary is approximately 16 miles from the seismic project. In 2006, Federal Legislation withdrew lands in the Lewis and Clark National Forest and adjacent Bureau of Land Management Lands along the Rocky Mountain Front from future oil and gas leasing. The east boundary of the area, known as the Baucus Withdrawal is located approximately 10 miles west of the west edge of the state mineral lands within the seismic project area. In response to the Baucus Withdrawal legislation and in recognition of the resource values within the withdrawal area, DNRC places a special restrictive stipulation on state oil and gas leases which locate within the withdrawal area boundary. All of the state lands in this seismic proposal are outside of the Baucus Withdrawal Area.

Below is a list of the state lands within the project area and the accessibility status.

<u>Township 25 North, Range 5 West</u>	<u>Accessible (yes or no)</u>
Section 16: ALL	yes – county road
Section 18: Lots 3, 4, NW¼SE¼, NE¼SW¼	no – land locked
<u>Township 25 North, Range 6 West</u>	
Section 2: W½SE¼	no – land locked
Section 3: SW¼NE¼	no – land locked
Section 11: W½NE¼, SE¼	no – land locked
Section 12: SW¼ S½SE¼	no – land locked
Section 13: ALL	no – land locked
Section 14: SE¼NW¼, NE¼, NW¼SE¼, S½SE¼, E½SW¼	no – land locked
<u>Section 26 North, Range 6 West</u>	
Section 36: ALL (state does not own the surface in the E½, W½SW¼)	no – land locked

The majority of the state land within the project area are not legally accessible. Legally accessible state lands are available for recreational uses with the purchase of a Recreational Use License or a DFWP Conservation License

for hunting and fishing purposes. The majority of recreational use on these state lands is hunting. Because this proposed project is occurring in winter months, outside of the general hunting season, impacts to recreational use is not expected. Other general recreational use such as hiking and fishing is not expected to be impacted. The proposed action is not expected to impact general recreational activities on the state tracts in the long-term.

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.

There are no native, unique or traditional lifestyles or communities in the vicinity that would 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.

Proposed permit special stipulations are listed in attachment A.

DNRC received 2 written comments in response to the public scoping notice sent in the mail and published in two local newspapers. Attachment B contains the comments letters and emails and DNRC response.

EA Prepared By:	Name: Erik Eneboe	Date: January 17, 2012
	Title: Conrad Unit Manager, CLO, DNRC	

V. FINDING

25. ALTERNATIVE SELECTED:


I have selected Alternative B which would grant the proponent authority to conduct a 3-D seismic survey on state lands located within the project area.

26. SIGNIFICANCE OF POTENTIAL IMPACTS:

Significant impacts are not expected to occur as a result of the proposed activity on state lands. The intent of the proposed activity is to collect geophysical data in the project area. 3-D seismic operations are a very common method to collect sub-surface data in a manner which results in very little surface disturbance. The state lands represent approximately 12% of the overall project area and conducting activities on these state lands will result in little additional impacts to those which will likely occur with or without participation by the state. Seismic surveys necessarily result in a greater amount of short-term human activity than would normally occur in an area which may temporarily displace some wildlife species. State lands within the project area are primarily high bench, grass lands which are common in the vicinity. The activity is proposed during a period of the year where there are few critical habitat requirements and species would most likely be expected to adapt to the short-term activity levels. Mitigation measures which are common and effective have been incorporated in the proposal to minimize the potential for environment impact. Impacts associated with this proposal on state lands are expected to be minor and short-term.

27. NEED FOR FURTHER ENVIRONMENTAL ANALYSIS:

The environmental analysis for this project is appropriate and additional analysis is not needed.

EA Approved By:	Name: Garry Williams Title: Area Manager, CLO, DNRC
Signature: 	Date: 1/19/2012

ATTACHMENT A

1. The permittee shall contact and meet with the Conrad Unit Staff prior to commencing any surface activity on state lands.

Erik Eneboe, Conrad Unit Manager,
P O Box 961 Conrad, MT 59425 PH (406)278-7869 or (406)788-7074.

2. The permittee shall be responsible for controlling any noxious weeds introduced by permittee's activity on state owned land and shall prevent or eradicate the spread of those noxious weeds onto land adjoining the leased premises by implementing the below measures:
 - a. Obtain information on noxious weed issues and management in the area from the appropriate County and the Rocky Mountain Front Weed Round Table.
 - b. Implement best management practices that prevent the spread of noxious weeds.
 - c. Power wash all equipment (vehicles, ATVs, command center, etc.) prior to entering the project area.
 - d. Provide crew training and briefings on noxious weed identification.
 - e. Avoid areas infested with noxious weeds.
3. The seismic permit is valid through Wednesday, Feb 29, 2012. The permit will allow for 24 hour seismic operations. All stages of the project including removal of all receiver lines, staking, equipment and reclamation, if needed, shall be completed by February 29, 2012. Extension of the permit beyond February 29, 2012 requires DNRC written approval.
4. To minimize the extent of displacement associated with project-related disturbances, conduct ground activities to the extent possible in a sequential vs. a concurrent manner.
5. To minimize potential damages to soil and vegetation resources no snow plowing and/or other snow removal is authorized.
6. To minimize risk of sensitive wildlife habitat disturbances, approximately 75 acres in the SE¹/₄, Sec 16, T25N, R5W which contains a dense stand of silver buffalo berry and other woody vegetation, will be avoided by all seismic activities.
7. The seismic project area contains several springs, wells, reservoirs, creeks and other surface / subsurface water features. The permittee shall pay particular attention to and follow the standard set-backs outlined in paragraph #7 on the seismic permit.
8. No seismic activity will occur within 100 feet of woody draws and/or other dense woody vegetation on state lands.
9. This area may contain significant archaeological, historic, or paleontologic resources. If any of these resources are located within the direct route of the proposed seismic lines, the permittee shall

cease all activity and contact the field Unit Office and the Department Archaeologist in Helena immediately.

10. It is the responsibility of the permittee to make sure that the seismic company that has been contracted to do the seismic work under this permit has a valid permit with the appropriate county(s) and has registered their bond with the Secretary of State's office.
11. Permittee shall contact surface lessee 48 hours prior to any seismic activity on state-owned lands.
12. Seismic activity may occur on dry and/or frozen ground only. No activity will be allowed during muddy conditions or conditions where rutting will occur.
13. No vehicle oil changes or petroleum disposal shall occur on the state land. All seismic vehicles will contain suitable fire extinguishers. No open burning will be allowed on state land.
14. There will be no off road traffic other than that necessary to accomplish the seismographic goals. Vehicles will not be allowed to traverse wet areas and/or steep slopes greater than 25% or areas with very thin soils that may be rutted and left open to erosion. All receiver lines that will be placed on steep slopes (>25%) shall be completed by hand crews on foot.
15. All gates will be closed and all fences that are taken down will be repaired as soon as possible. All flagging and flagging tape will be removed from the roads and fences leading into the site, along designated routes, and fence lines indicating where gates are located, once the project is completed.
16. Permittee shall settle all damages with the surface lessee within a reasonable time period following the completion of the seismic project.

Attachment B

Responses to Comments:

1. **Soil and Vegetation Concerns** – See sections 4 and 7 of the EA for soil and vegetation analysis. DNRC will not authorize snow removal and/or snow plowing on state lands. Therefore, physical disturbance to soils are not expected (Section 4). Operations are to be conducted during dry or frozen periods, which will aid in mitigating disturbance (Section 4). Soils throughout the seismic area are classified as having a high potential to fully recover after being disturbed (Section 4). To minimize risk of weed introduction and spread, power washing of all vehicles, vibroseis trucks, ATVs and other equipment will be required before entering the survey area (Section 7). Crews will be briefed on identification of noxious weeds and instructed to avoid known infestations. Riparian areas and/or other wet areas will be avoided (Section 7).
2. **Wildlife and Habitat Concerns** – See Section 8 and 9 of the EA for concerns relating to wildlife, habitat, and sensitive species. Given the types of activities that would occur, the limited duration of the proposed activities and timing, minimal direct, indirect and cumulative effects to wildlife species would be anticipated. 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. There are no unique or critical wildlife habitats associated with the state lands and do not expect direct or cumulative wildlife impacts would occur as a result of implementing the proposal. The proposed action will not have long-term negative impacts on existing wildlife species and/or wildlife habitat. See Section 8 and 9 of the EA for concerns relating to wildlife, habitat, and sensitive species.
3. **Cultural, Aesthetic, and Recreational Concerns** – See sections 10, 11, & 20. Seismic crews will be required by stipulations to avoid and report any historical, archaeological, and paleontological resources encountered. DNRC archaeologist, Patrick Rennie, does not have cultural resource concerns with the seismic exploration provided activities occur on dry or frozen soils.

No long term aesthetic impacts are expected as a result of the proposed action.

Seismic operations will not conflict with hunting season.

4. **Water and Air Concerns** – See sections 5 & 6. All surface waters and riparian areas are to be avoided on State lands. 300' buffer areas are to be maintained around springs, water wells, streams, lakes, or water storage facilities. 100' buffer zones are to be maintained around woody draws on State land. Mitigations will be in place to prevent disturbance to soils, thus no cumulative effects to the air quality are anticipated.
5. **General Oil and Gas Concerns** – This EA focuses on the portion of the proposed activity which occurs on State mineral ownership. State lands constitute approximately 12% of the total seismic shoot area. The DNRC TLMD has no authority over the proposed activity occurring on the other 88% of the lands that overlay private mineral ownership. Seismic exploration will occur on the private mineral ownership regardless of whether State lands are involved. (See Part I.)

Future Oil and Gas Concerns – This EA addresses the proposed activity. Wells may or may not be proposed in the future, and may or may not involve State lands. See Part I of the EA.

From: Dave Hanna [<mailto:dhanna@TNC.ORG>]
Sent: Friday, January 13, 2012 2:36 PM
To: Eneboe, Erik
Subject: Eureka Lake 3-D Seismic

January 13, 2012

Eureka Lake 3-D Seismic

Erik Eneboe
DNRC – Conrad Unit Office
P.O. Box 961
600 South Main, Suite 10
Conrad, MT 59425

Dear Mr. Eneboe,

I am writing to provide comments on the Eureka Lake 3-D Seismic EA.

Other recent seismic surveys I have observed in the area incorporate an intensive pattern of source and receiver lines, which will require a significant amount of off-road vehicular traffic, including heavy vibroseis trucks, to implement. Basic precautions to reduce impacts of vehicular traffic include limiting off-road travel to only essential travel, avoiding time periods when soils are wet and can be easily damaged or rutted, avoidance of steep slopes, and avoidance of cultural features. In addition, procedures to eliminate the introduction and spread of noxious weeds are essential to protect agricultural and ranching enterprises.

1

3

Currently, the area within the proposed seismic survey boundary is mostly free of noxious weeds. The Rocky Mountain Front Weed Roundtable could provide data on known noxious weed locations in the proposed project area. However, this data is undoubtedly incomplete and should not be solely relied upon for avoidance of noxious weeds.

1

Avoiding any areas with noxious weeds will prevent spread from these existing sources. Thoroughly washing all vehicles prior to arriving in the project area will help prevent new introductions of noxious weeds. Vehicles which are subsequently exposed to noxious weed sources, either within or outside the project area, could be again washed after exposure to prevent transport of noxious weeds. Additional precautions include minimizing off-road vehicle travel and ensuring that any staging areas are weed-free.

1

However, even with appropriate precautions, some introduction of noxious weeds could occur given the intensity of the proposed seismic survey, some inevitable ground disturbance, and the presence of noxious weed sources near the project area. Post-activity surveys in subsequent years could be conducted to locate and eradicate any new introductions.

1

2

The DNRC land within the proposed project area includes extensive areas of native grasslands which support numerous grassland bird species, including several species of concern as listed by the Montana Natural Heritage Program. These include long-billed curlew and McCown's longspur. Avoidance of grassland habitat during the breeding season, as proposed, would reduce impacts to these species.

2

DNRC lands in T25N R5W S16 also provide important habitat for numerous other wildlife species. If the seismic survey were to occur after the identified completion date of February 28, additional wildlife considerations would need to be incorporated.

4

Wetlands and riparian zones, while only occupying a small proportion of the landscape, are critical features in this arid landscape. Soils and vegetation in these areas can often be easily damaged by heavy vehicles. Avoidance is the best strategy to reduce impacts to these features. These areas appear to make up only a small portion of the DNRC lands in the project area and should be able to be easily avoided. Some of these are mapped by the National Wetlands Inventory data; others could be identified and mapped as encountered in the field by project survey crews.

1

Cultural features such as cairns and stone circles may occur on state lands within the project area. These features could be identified and easily avoided since they are small.

3

1

If snow removal is required for the seismic operations, this could create a significant network of ground disturbance that would damage soils and vegetation and serve as a vector for noxious weeds. Snow removal impacts could be avoided by restricting seismic activity to periods when the ground is snow-free and mechanized snow removal is not necessary. Due to the frequent high winds in the proposed survey area, snow-free periods are common in winter.

Thank you for the opportunity to comment. If you have any questions regarding my comments or need additional information please contact me.

Sincerely,

David Hanna
Rocky Mountain Front Science and Stewardship Director
The Nature Conservancy
PO Box 825
Choteau, MT 59422
406-466-5299



Montana Fish, Wildlife & Parks

TO: Eric Eneboe, Conrad Unit Manager
DNRC – Conrad Unit Office
PO Box 961
600 S. Main, Suite 10
Conrad, MT 59425

FROM: Brent Lonner, Area Wildlife Biologist
MT Fish, Wildlife & Parks

DATE: January 9, 2012

SUBJECT: *Eureka lake 3-D Seismic*

This comment letter is in response to the proposed seismic operations by Tesla-Conquest Inc. on behalf of Primary Petroleum located on certain DNRC parcels along the Rocky Mountain Front. Based on the description in the letter, it would appear that the initial activity would likely last at least one month, assuming under ideal conditions (perhaps longer if conditions do not warrant reliable data collection). Below, please find comments related to the proposed activities.

The proposed seismic operations lie within the Rocky Mountain Front Foothills Focus Area identified in the Comprehensive Fish and Wildlife Conservations Strategy (CFWCS, MFWP 2005).

2 There are a total of 362 terrestrial vertebrate species that have been identified within the Rocky Mountain Front Foothills Focus Area, 19 of which are considered Tier I species of great conservation need (Table 1) (CFWCS, MFWP 2005). More specifically, all proposed DNRC parcels are located within recent known grizzly bear habitat and activity. Although tentatively not scheduled during this time frame, minimizing activity on at least the DNRC parcels in this area is important, especially during the height of grizzly bear presence in this area - approximately March through November. Grizzly bear hibernating periods normally last from sometime in November to March/April.

2 Other seasonal activity by wildlife in this area, including bird nesting (April – August) and pronghorn antelope/mule and white-tailed deer fawning (May – July), are also important time frames to avoid in order to mitigate direct or indirect disturbances to young of the year wildlife. Due to the scheduled January/February activity in this area, big game (elk, mule deer, white-tailed deer and antelope) use of this area to include all noted proposed DNRC parcels is worth

2 noting and mitigating disturbance to these and other wildlife during this time frame is important during the critical winter season.

1 There are 4 Tier 1 Habitat types identified in the Rocky Mountain Front Foothills Focus Area, comprising approximately 69% of the area (CFWCS, MFWP 2005). Negative physical disturbance to these habitat types (i.e., native short grass prairie or riparian zone habitat types) is more likely to occur during the primary growth period (April – September), but can also be of some negative effect outside the normal growth period. In addition to any potential negative disturbance to the habitat, physically conducting some of the proposed activities may prove to be difficult due to habitat conditions (i.e., saturated ground, significant snow accumulation/drifts, wind, etc.) depending on the time of year.

3 Again, although likely not pertaining to the proposed work period, hunting and other recreation on these public lands is likely highest in the fall (September-November). In order to minimize disturbance to hunter and other recreationists, it is recommended to not conduct these activities during this period.

If there are any other questions or concerns please do not hesitate to contact me. Thanks for the opportunity to comment.

Brent Lonner
Wildlife Biologist
MT Fish, Wildlife & Parks,
PO Box 488
Fairfield, MT 59436
406-467-2488
blonner@mt.gov

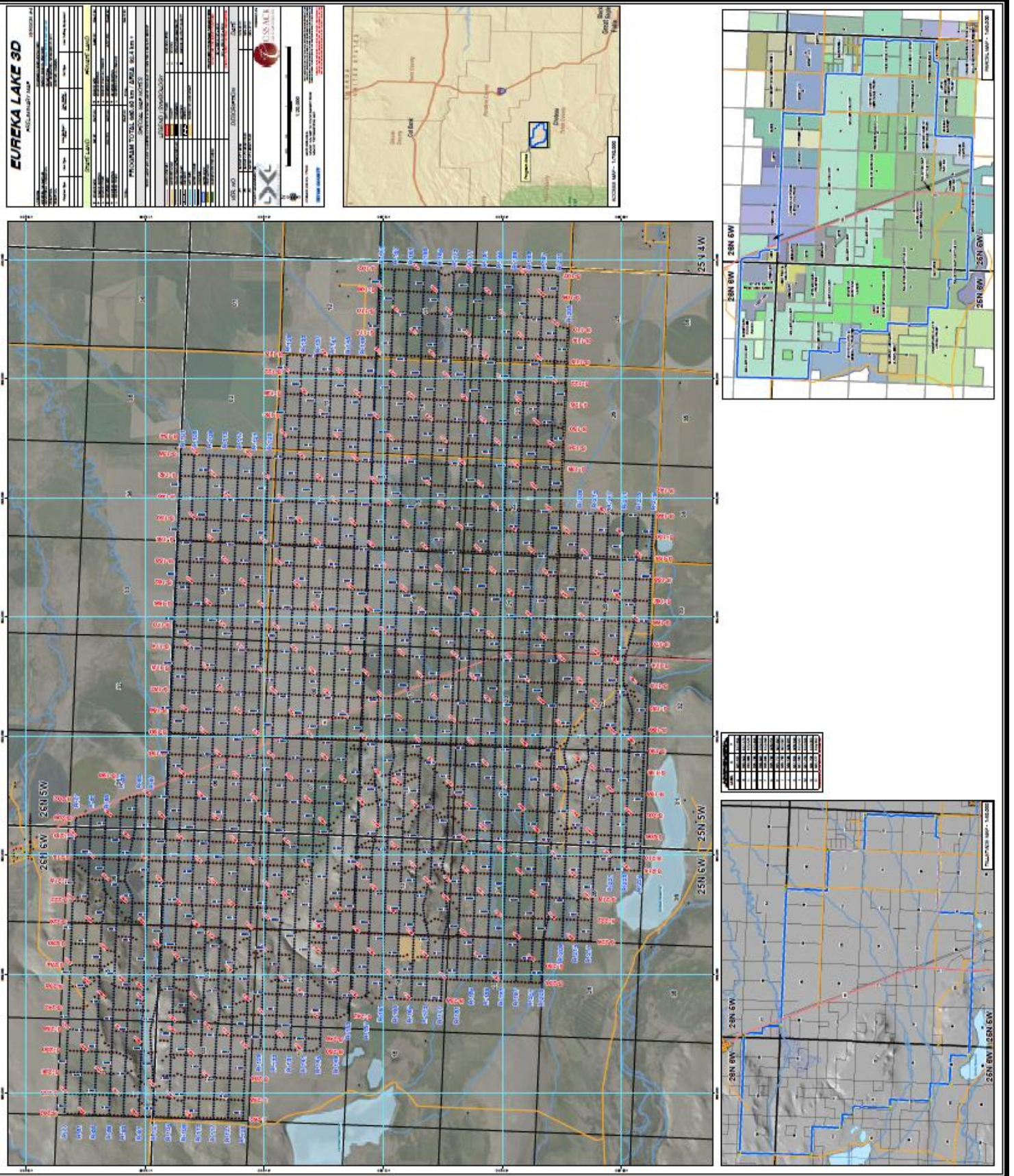
Table 1. Tier 1 terrestrial species of greatest conservation need located on the Rocky Mountain Front Focus Area.

1 Western Toad	6 Harlequin Duck	11 Black Tern	16 Northern Bog Lemming
2 Northern Leopard Frog	7 Bald Eagle	12 Flammulated Owl	17 Grizzly Bear
3 Western Hog-nosed Snake	8 Piping Plover	13 Burrowing Owl	18 Canada Lynx
4 Common Loon	9 Mountain Plover	14 Townsend’s Big-eared Bat	19 American Bison
5 Trumpeter Swan	10 Long-Billed Curlew	15 Black-tailed Prairie Dog	

Literature Cited

Montana’s Comprehensive Fish and Wildlife Conservation Strategy, Executive Summary. 2005. Montana Fish, Wildlife & Parks, 1420 East Sixth Avenue, Helena, MT 59620.

Attachment C: MAPS



Eureka Lake 3D Seismic

