



**Categorical Exclusion Documentation Format When Using  
Categorical Exclusions Not Established by Statute**



**CX No.: WY-070-CX12- 219**

**A. BACKGROUND**

**BLM Office:** Buffalo Field Office

**Lease/Serial/Case File No.:** WYW168369

**Proposed Action Title/Type:** Bell Creek 3-D Seismic Project

**Location of Proposed Action:**

Dawson Geophysical Company (Dawson) on behalf of Roff Oil & Gas LTD has proposed a three-dimensional (3D) geophysical data acquisition project (Bell Creek 3D seismic survey) to examine the subsurface geologic structure below 30.8 square miles, or 19,712 acres, in Campbell County, Wyoming. The 3-D survey will provide a high resolution image of subsurface geological features underlying the project area. The proposed 3-D seismic project is designed to accurately map structure, stratigraphy, rock and fluid properties in the subsurface.

A Notice of Intent (NOI) to conduct geophysical operations is attached and was filed on June 18, 2012, by the Applicant in the Bureau of Land Management (BLM)'s Buffalo Field Office. The seismic survey would be conducted on federally owned lands administered by the Buffalo Field Office. Private and state owned lands will be permitted separate and will not be any part of this NOI application. The Applicant requests to conduct the Bell Creek 3D seismic survey on behalf of Roff Oil& Gas LTD, which holds oil and gas leases in the area.

The seismic survey area includes approximately 4,160 acres of BLM-administered federal land and 832 acres of land owned by the State of Wyoming. Private surface owners cover 14,720 acres of this 3D prospect. Table 1 displays details of the lands that would be included in the survey.

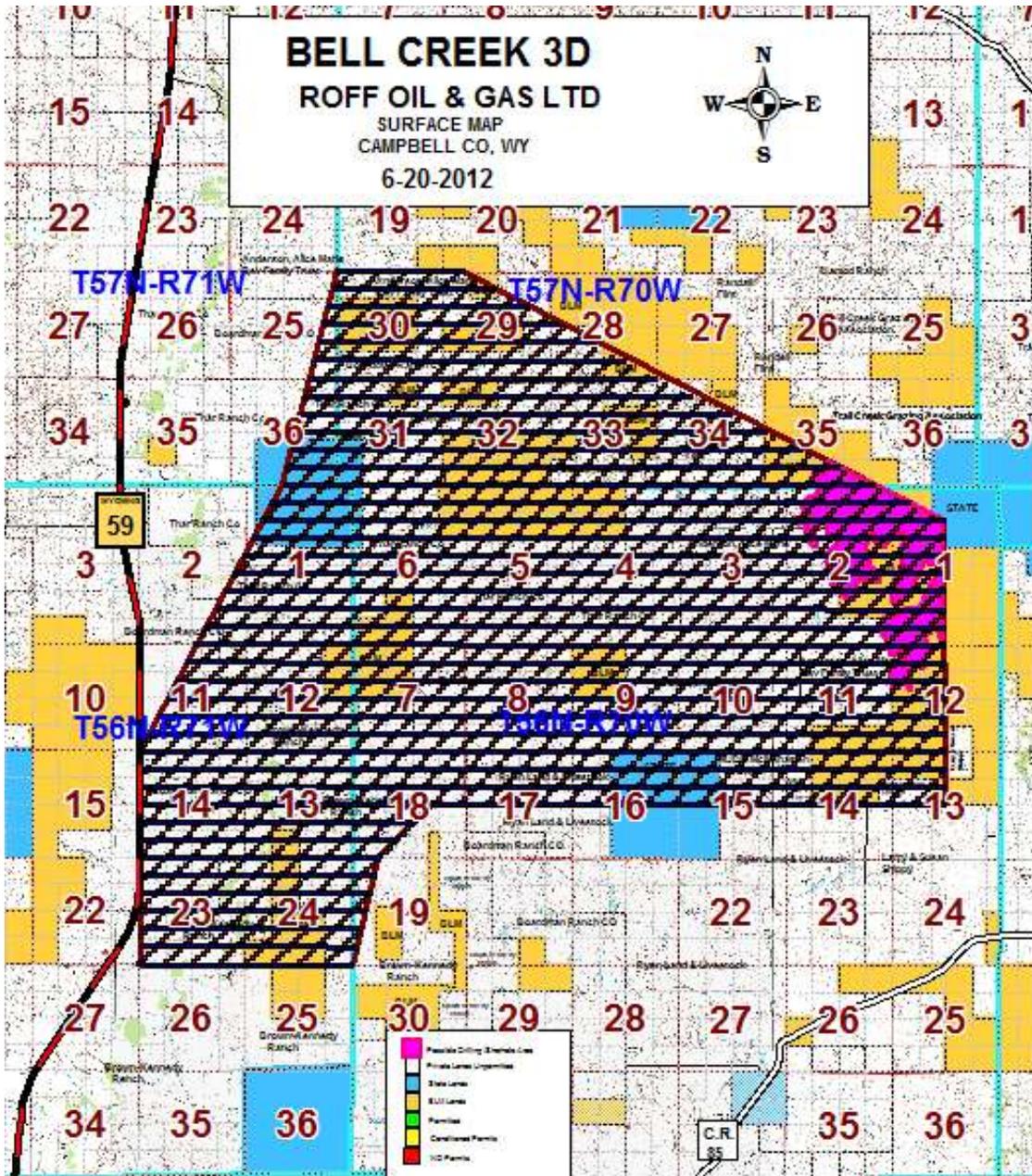
**Table 1: Bell Creek 3D Acreage Summary**

Description	Acreage	Square Miles	Percent of Project
Federal	4,160	6.5	21%
State of Wyoming	832	1.3	4%
Private lands	14,720	23	75%
<b>Total</b>	<b>19,712</b>	<b>30.8</b>	<b>100.0%</b>

Applicable permits and approvals would be acquired from the BLM, State of Wyoming, Campbell County and any private surface owners prior to commencing seismic operations and data acquisition. Survey geophones and source point placement are highlighted on the maps attached to the operators Plan of Action (POA).

The Bell Creek 3D seismic survey would take place approximately 42 miles north of Gillette, Wyoming (See Figure 1). Location details are provided in Table 2. The seismic survey area would be accessed by traveling north from Gillette on WY Highway 59 about 42.5 miles, then east on designated roads and access granted by private surface owners for the crew and equipment.

Figure 1: Seismic Survey Location for Bell Creek 3D



**Table 2: Seismic Survey Location**

Surface Owner	Township – Range (T-R)	Sections
Federal	T56N-R70W 2506 acres	1: lots 5,6,7,8,11,12,13,14 SW/4 less areas without any operations, but may need for access; (see map) 390 acres
		2: lots 5,12,13,14,19,20,N/2SE/4; 320 acres
		4: lots 7,8,9,10,11; 160 acres
		5: lots 5,6,7,8,9,10,11,12; 316 acres
		6: lots 8,15,25,29,30; 200 acres
		7: lots 5,6,7,8,9,10,13,14; 200 acres
		9: NW/4; 160 acres
		11: SE/4SW/4, S/2SE/4; 120 acres
		12: N/2, N/2S/2, S/2SW/4, SE/4SE/4; 320 acres
		13: NE/4NE/4, S/2NE/4, N/2NW/4, E/2SE/4SW/4; 100 acres
		14: N/2NE/4, SW/4NE/4, W/2SE/4NE/4, E/2NW/4; 220 acres
		12: E/2NE/4; 80 acres
		13: SE/4SW/4; 40 acres
24: E/2W/2, SW/4SW/4, W/2SE/4; 280 acres		
	T57N-R70W 1254 acres	27: SW/4SW/4; less areas without any operations, but may need for access; (see map); 3 acres
		28: SE/4, 66 acres
		NW/4; less areas without any operations, but may need for access; (see map); 6 acres
		29: NE/4NW/4; less areas without any operations, but may need for access; (see map); 30 acres
		N/2SW/4, NW/4SE/4; 120 acres

		acres 30: lots 6,7, SW/4NE/4, SE/4NW/4, NE/4SW/4, NE/4SE/4; 238acres 31: lot 7; 13 acres, NW/4NE/4; 40 acres 32: N/2NW/4, 80 acres S2; 320 acres 33: S/2NE/4; 80 acres, NW/4SW/4; 40 acres, NE/4SE/4; 40 acres 34: NW/4NE/4; less areas without any operations, but may need for access; (see map); 2 acres 35: S/2NW/4, S/2; less areas without any operations, but may need for access; (see map); 175 acres 36: SW/4SW/4; less areas without any operations, but may need for access; (see map); 1 acre
Total federal acres	4160	
State Of Wyoming	T56N-R70W	1: T77; less areas without any operations, but may need for access; (see map); 18 acres 6: T56; 30 acres 15&16: T41; 319 acres
	T56N-R71W	1: T56; 261 acres
	T57N-R70W	31: T56; acres 90
	T57N-R71W	36: T56; 114 acres
Total state	832	

acres	
<b>Total acres – all owners</b>	19,712

**Survey Parameters:**

The Bell Creek 3D seismic survey is a mixed source geophysical exploration, employing acoustic signals generated by vibroseis buggies (vibrators) and small explosive charges placed in drilled (shot) holes as energy sources. The type of energy source used would vary according to site-specific conditions, including vegetation type, terrain, and slope; however, vibrators would be used as the primary energy source. Vibrators would be used where slopes typically range from 0 to 20 percent in easily accessible areas. Buggy drills would be used where vibrators are not able to access and slopes would typically not exceed 25 percent.

Forty-two source lines would run southwest to northeast for a total length of 20 miles on BLM surface. The source lines would be spaced 1,320 feet apart with 220-foot intervals between source points. The project design requires 96 source points per square mile to ensure adequate data resolution, or 2967 total source points. Vibrators would generate 509 sources (81.6 percent), buggy-drilled shots would generate 115 sources (18.4 percent) of the source points on BLM surface lands. All of the shot holes would be drilled with buggies. The shot holes would be drilled to depths of up to 40 feet. The explosives would consist of 5.5-pound seismic grade explosives. MSDS documentation would be supplied upon request. Forty-one receiver lines consisting of 4546 receiver stations would run east-west for a total length of 145 miles. The receiver lines would be spaced 880 feet apart with 220-foot intervals between receiver stations. Out of this total number of miles only 33 miles of receivers lines cross the surface of the BLM.

**Schedule:**

The Bell Creek 3D seismic survey would be conducted in phases, as described in the following sections. The approximate schedule of operations is shown in Table 3. All operations would be performed in daylight or dusk hours.

**Table 3-Bell Creek 3D: Project Schedule**

<b>Project Activity</b>	<b>Schedule</b>
Civil survey for source locations and cultural resource inventory	June 18 – July 18, 2012
Biological Survey	June 18 – July 18, 2012
NOI approval	September 5, 2012
Drilling	September 5 – December 31, 2012
Civil survey for receiver locations	June 18 – July 18, 2012
Data acquisition/recording	September 5 – December 31, 2012
Reclamation, if needed	Started as soon as the crew has completed data acquisition/recording operations

***Description of Survey Operations:***

Civil surveys have been and will be performed as “casual use” operations, as defined by 43 CFR 3150.0-5(b). Before ground work has commenced. Biological surveys if needed would be conducted before August 1, 2012. The civil survey for receiver locations would be performed in June or July as the crews become available. No off-(designated) route travel would occur at any time until the BLM approves the NOI,

During the civil survey, 8 to 12 persons located source points and cross-country travel routes. The civil survey crew records the global positioning system (GPS) coordinates of each source point and travel route, using lath or pin flags to mark each location. The civil survey crew is responsible for positioning source points and vehicle routes such that they avoid all identified eligible cultural resource sites. Any re-positioned source point will be re-mapped and re-inventoried to ensure avoidance of cultural resources.

The cultural resource inventory was conducted in coordination with the civil survey of source points and travel routes that would be used by drill buggies and vibrators off of designated routes. All travel routes that would be used for all vehicle travel off of designated routes were inventoried on BLM lands only. Routes that were “cleared” for cultural resources would be identified with pre-installed GPS coordinates on GPS units on buggy drills and vibrators for use during data acquisition operations. Cultural resource surveyors used designated routes to access the survey area but performed the cultural resource inventory on foot. They followed standard protocol procedures by performing visual inspections of a 100-foot wide corridor between source points along the cross-country vehicle travel routes. Cultural resource inventories will be performed on receiver lines in the event drill buggies or vibrators would need travel the receiver lines for access to the pre-surveyed source points. Receivers (geophones) would be placed by crewmembers accessing the area by foot, UTV and/or Equipment Truck. Access will be allowed for along cleared routes only.

While conducting the receiver station survey, the civil survey crew would generally use utility terrain vehicles (UTVs) with 9-inch tires on designated routes only. Receiver locations would be identified with flagging as they are located. Flagging would remain in place for approximately two month before being retrieved as recording takes place. Several 8-by-8-foot (approximate) areas would be used for the temporary placement of the 15-foot tall survey tripods to serve as communications base stations during the civil survey. The base stations would be located on areas cleared by the resource surveys, including previously disturbed areas or areas adjacent to an existing road or designated route. Smaller radio repeater stations would assist in signal transmission and would be continuously re-located to provide service as the civil survey progresses through the project area.

***Drilling and Source Deployment:***

Drilling operations would require a crew of approximately 10 to 20 people. Each shot hole would be drilled in approximately 45 minutes. Each 4.5-inch diameter shot hole would be loaded, backfilled, and plugged immediately after drilling. After a shot hole is drilled, its location would be marked with flagging. All shot hole plugging procedures would be in compliance with Wyoming Oil and Gas Conservation Commission regulations which states that all drill cuttings will be placed back in the holes to the extent possible and the BLM requirement that loaded shot holes be properly secured. Bentonite is used if the volume of natural cuttings is insufficient to properly plug the shot hole. Cuttings remaining around the plugged hole would be scattered or raked so that they are one inch or less in depth.

Buggy drill access would be via pre-cleared routes. From one to four buggy drills would be used, and they may operate in different parts of the survey area. Buggy drills weigh less than 20,000 pounds and would be outfitted with cleated tires. Buggy drill tires exert a pressure of five pounds per square inch (psi), approximately equivalent to that of a man’s footprint. Past monitoring has shown that cleated tires on wheeled drill buggies if carefully managed do not have substantial impact to vegetation.

Air would be used as the drilling medium for all shot holes; however, drilling through loose, unconsolidated gravels may require the use of water and drilling mud.

Vibrators and buggy drills would utilize GPS coordinates pre-loaded on internal tracking systems to access the project area and locate source points using pre-cleared routes. In order to minimize impacts to vegetation (especially shrubs), vibrators would offset their travel routes to the extent practical within the approved travel corridors. Vibrators would typically proceed from one source location to the next with one pass per source line, unless the terrain or a man-made obstacle required a vibrator to enter and exit the area using the same route. The Applicant would utilize three vibrators at each vibrator source point. Two independent teams of three vibrators may work in tandem on adjacent blocks of source points to expedite data acquisition. Distinct vibrator teams would not travel on surveyed routes used by the other team, such that a travel route would be used only once by any vibrator team.

A vibrator pad measuring 4.5 by 7.5 feet is centered under each vehicle. Each vibrator is approximately 13 feet high, 36 feet long and 12 feet wide, and weighs 62,000 pounds. A vibrator is equipped with wide, low-pressure tires, resulting in an effective 16 psi ground pressure, as compared to tires of a ¾-ton four-wheel-drive pickup, which exerts 27 psi. Ground pressure under the vibrator pads is approximately 12.3 psi.

***Deployment of Receiving Stations:***

Placement of receiving/recording stations, consisting of six geophones each, would occur during the data acquisition operations. Bags would be deposited one at a time using predetermined GPS locations provided by the civil surveyors. UTV's and /or Equipment Trucks will be used to deposit each cash bag along the receiver lines. Ground crewmembers would walk to the first dropped cash bag on a receiver line, prepare and connect the station, and manually deploy cables and geophones. Cables and attached geophones would be laid out by hand around each station in a pre-determined pattern. Each geophone would be mounted on a four-inch spike and placed into the soil using foot pressure. The crewmembers would proceed on foot to the second bag and repeat the set-up of the first receiver station and its network of cables and geophones. Staggered deployment and pick up of receiving stations would occur as the source sequence proceeds during data acquisition. Depending on the rate of progress after data recording starts, the first few lines of cable and equipment would be picked up and moved "leap-frog" fashion ahead of the last line laid. This pattern of picking up and moving receiver stations a few lines ahead would continue through the entire recording process. As soon as data acquisition is complete, all equipment will be removed by placing it back into the cash bags to be picked up by the operators on the UTV's and/or Equipment Trucks. Flagging and pin flags will be removed at the same time the line is being cleared.

***Source Generation and Data Acquisition:***

Controlled source generation and recording would begin shortly after placement of the initial grouping of receiver stations. Approximately 50 to 60 crewmembers, organized into field groups of four to six workers, would conduct daily operations during receiver placement and data acquisition operations. Source generation would be triggered from a central control truck stationed on a designated route. Source generation from vibrators would occur between 3 and 5-minute intervals, depending on access, detours, and terrain. Approximately 1,200 receiver channels may be active at any particular time. The recording truck would be equipped with GPS technology that would allow the Applicant to track the vibrators' positions in real time. After recording in an "active" receiver station area, geophones, cables, and associated equipment would be retrieved on foot, bagged, and moved to a new receiver location. Repairing line problems or faulty equipment may be necessary during geophone deployment and/or data acquisition. As the geophones are being deployed, they would be checked for functionality. If there is a need to further check or replace equipment, a "troubleshooter" would be sent to the problem area. The

troubleshooters would travel to the closest possible point using an UTV on cleared routes and continue on foot to the problem area. Troubleshooting operations would utilize approximately 6 to 10 crewmembers.

A “blowout” may occur if a detonated charge ejects the plug and drill cuttings out of the hole. Surface disturbance resulting from a blowout would be spatially limited to the immediate area of the shot hole. A blowout would be repaired immediately by the shooting team as part of line restoration; including re-plugging and repacking the hole with drill cuttings and soil materials that were expelled. Based on the Applicant’s experience in similar geologic settings, blowouts are unlikely to occur.

Geophysical operations, properly conducted, are not known to present risks to public safety; however, the Applicant would ensure that the immediate area is secure prior to and during explosives loading and detonation operations. Trained personnel would be posted at the active shot hole to ensure the area is secure prior to detonation of each seismic charge.

***Staging and Support Operations:***

All equipment, including the buggy drills and vibrators, would be brought to the project area by approximately 14 semitrailer loads as part of project mobilization. Support vehicles would include one 1-ton recording truck, 1 vibrator mechanic truck and trailer, 6 UTVs, five 1-ton equipment trucks, 2 crew transport vans, and approximately 10 miscellaneous trucks for crew support. The actual number of vehicles needed to support the seismic survey would vary according to different operational phases of the seismic survey; thus, the preceding figures are estimates.

The Applicant has identified sites that would be used as staging areas for vehicle parking; and equipment, water, and fuel storage locations (See Table 4). Staging areas were selected to maximize use of previously disturbed areas. A typical staging area would be approximately 300 by 300 feet, or approximately 2 acres in size and will be located on private surface owner properties only and not on the BLM lands.

**Table 4: Bell Creek 3D Staging Areas**

Use	Location Identifier	Physical Location	Additional Information
<b>BLM lands</b>			
Crew staging; none	Staging area #1; on ranch property only	Added in later	
Crew staging; none	Staging area #2; on ranch property only	Added in later	
<b>State of Wyoming</b>			
Crew staging; none			

Explosives would be stored and secured according to U.S. Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF) regulations (27 CFR Part 55, Subsection K and 49 CFR 177). Explosives powder magazines would be positioned on previously disturbed lands where public access would be minimized and public safety optimized

***Cleanup and Reclamation:***

Crewmembers would conduct cleanup activities concurrently with project operations during all phases of the seismic survey. All pin flags, flagging, and other wastes would be gathered daily from source lines,

receiver lines, staging areas, and any other areas utilized by the seismic survey crew as they complete data-acquisition portions of the project. The waste would be gathered as recording operations proceed and ferried to staging areas from where it would be disposed of at the nearest appropriate landfill. The survey area would be spot checked continuously for waste removal. Inadvertent spills of oil or fuel from mechanized equipment would be cleaned up according to the geophysical contractor's Spill Prevention Control and Countermeasure Plan (SPCCP) and properly disposed in an approved landfill.

Disturbed areas, where a site will not naturally re-vegetate in a reasonable time, or areas where soil stability is threatened as a result of seismic survey operations, would be reseeded. At a time when seed germination would be facilitated by natural conditions, the Applicant would re-seed using a seed mix specified by the BLM.

**Surface Use Estimate (Casual Use):**

Surface area affected by our operations as a result from vibrators and buggy drills along source lines using designated routes and deploying receiver stations by UTV's, foot travel and/or Equipment Trucks. Approximately 53 miles of cross-country vehicle routes will be used for designated access during operations, corresponding to this would be about 96.4 acres of surface area that would be affected by seismic survey BLM surface.

The assumptions used to estimate surface use include:

- Vibrators and buggy drills would use a 15-foot wide travel corridor.
- Drilling would require approximately 100 square feet for each shot hole drilled.
- All receiving stations will be deployed by UTV's, Equipment Trucks and on foot, resulting in little or no surface damage.

Quantification of the estimated surface use area is displayed in Table 5. The total amount of surface area that would be used to implement the project would be 588 acres, or 2.9 percent of the project area. Approximately 53 miles of cross-country buggy vibrator access would be needed.

**Table 5: Estimated Acreage Affected by Surface Use (acres)**

Surface owner	Access for Vibrator and buggy drills		Total % of Project
	Miles	Acres	
Federal	53	96.4	0.49%
State of Wyoming	15	27.3	0.14%
<b>Total</b>	68	123.7	0.63%

**Applicant-committed Environmental Protection Measures:**

**General:**

1. All geophysical operations will be executed in accordance with applicable federal, state, and local regulations.
2. Measures will be taken to ensure that flagging associated with other projects will not be removed.
3. Geophysical operations will be conducted in accordance with BLM Handbook H-3150-1 for geophysical operations unless written waivers are obtained and approved by the BLM. Source point placement will comply with BLM Handbook H-3150-1, Illustrations 10 and 16.
4. Prior to the commencement of each phase of operations (such as drilling and vibrator data acquisition), personnel will be informed of the critical elements of compliance with the Archaeological Resources Protection Act, the National Historic Preservation Act, and the Endangered Species Act.

5. During daily pre-operational meetings, survey personnel will be informed of pertinent BLM requirements and expectations concerning the protection of cultural resources; biological resources; livestock management; riparian areas; soil resources, including biological soil crusts; other sensitive resources that may be found in the survey area; vehicle use in rough terrain; keeping vehicles on designated and cleared cross-country routes.

***Air Quality/Noise:***

1. All vehicles and construction equipment will be properly maintained to minimize exhaust emissions and will be properly muffled to minimize noise.
2. The Applicant will have a mechanic on site to ensure proper exhaust systems.

***Cultural Resources:***

1. A file search (Class I) will be completed, and a Class III archaeological inventory was conducted along source lines and cross-country vehicle travel routes.
2. Without exception, impacts to cultural resources will be mitigated by avoidance of all eligible and unevaluated sites and adherence to the procedures specified in 36 CFR 800, Protection of Historic Properties, on BLM and state lands.
3. Source points that were inventoried within the boundaries of an eligible site will be moved outside of the boundaries or will be dropped.
4. All vehicle traffic will be limited to the approved access corridors. Class B and D roads that bisect eligible sites may be used as access; however, no source points will occur in such locations, and traffic will be limited to the road surface.
5. At known site, consulting with the BLM archaeologist:
  - a. Vibroseis buggies can be used on designated roads that bisect this site.
  - b. Seismic survey operations on known sites will be avoided or limited to foot traffic only during operations occurring within these site.
6. The independent 3<sup>rd</sup> party monitor will carefully review conditions of approval that pertain to the protection of cultural resources and will immediately notify the AO of any instances of non-compliance. In addition, in the report at project completion, the monitor will provide the AO with an evaluation of the sufficiency of the conditions of approval as related to the protection of cultural resources.
7. Field personnel will carry maps that identify the appropriate (cleared) routes.
8. Sources will avoid eligible cultural resource *structures* according to the offsets in the H-3150-1 Illustration 10.
9. If a previously unidentified cultural resource were to be discovered during operations, the finding will be immediately reported to the BLM office before any other work would be allowed.
10. Should human remains be discovered during seismic survey operations, all work in the vicinity of the remains will cease; the remains will be protected from further exposure or damage; and the appropriate BLM office will be notified immediately.
11. Violation of the laws that protect cultural resources will be treated as law enforcement/administrative issues with potentially severe consequences.

***Existing Facilities and Rights-of-Way:***

1. Safe operating distances, based on existing industry standards, will be maintained between source generation points and existing facilities, including producing oil and gas wells, pipelines, and electrical utility lines.

***Fire Protection:***

1. Vehicles with catalytic converters will be restricted to designated or authorized routes. Parking or idling vehicles will not be permitted in areas with vegetation that could potentially ignite.
2. All vehicles will be equipped with fire extinguishers and shovels.

3. The following fire prevention procedures will be followed:
  - a. All brush build-up around mufflers, radiators, headers, and other engine parts will be avoided. Periodic checks will be conducted to prevent this build-up.
  - b. Smoking will be allowed in company vehicles or in designated smoking areas only. All cigarette butts will be placed in appropriate containers and not thrown on the ground or out the windows of vehicles.
  - c. Campfires or uncontained fires of any kind will be prohibited.
  - d. Portable generators used in the project area will be required to have spark arrestors.
  - e. Project activities will be coordinated with appropriate fire-fighting personnel in the BLM's Buffalo Field Office. The crew contingency plan will include a fire communications protocol for contacting fire-fighting and BLM personnel.

***Range and Livestock Management:***

1. Gates will be used for crossing fences where possible. If a fence must be crossed by a vehicle at a location other than an existing gate, the Applicant will provide notice to the AO in advance of cutting the fence. The fence will be cut and H-braces will be installed to support the existing fence. After completion of the seismic survey operations, the temporary opening or gate will be permanently re-wired and stretched to its original tension.
2. Range study areas, if present, will be avoided.
3. Existing facilities related to range management or other uses in the project area impacted by seismic survey activities will be repaired or replaced as soon as practical before the end of the project.
4. Seismic survey activities will avoid stock ponds/reservoirs, water wells, and guzzlers by a distance of 300 feet.

***Recreation:***

1. In order to discourage public travel on source routes and reduce the visual appearance of straight lines, vibrators will enter or exit existing roads at oblique angles.

***Safety:***

1. A pre-operations meeting will be held daily to review all applicable safety procedures.
2. All utility and production companies that may be affected by the seismic survey operations will be notified, and offsets to their facilities will be agreed upon.
3. Vehicles will travel at speeds within set speed limits of main access roads and at slower speeds appropriate for off-road conditions.
4. Signs warning the public of seismic activity will be located at the closest road/designated route intersections on either side of the next day's planned recording activities or where small staging areas may be temporarily located.
5. Crew personnel will keep the public a safe distance away from all buggy activity.
6. All crew members will wear orange safety vests, hardhats, and safety glasses / goggles where required.
7. Temporary signs will be placed along roads to warn the public against off-road travel where vibrators will be operating off of designated routes.

***Soils:***

1. Source lines will be moved to follow designated routes where possible throughout the seismic survey area.
2. Vehicle operators will be instructed to travel at slow speeds to limit disturbance to soils and vegetation.
3. Where possible, the spinning of all vehicle tires will be avoided to minimize the potential for soil displacement and impacts to biological soil crusts.

4. If a washout were to be encountered on an authorized or designated route, permission to fill the washout would be obtained from the BLM office prior to operations that would affect the washout.

**Surface Water:**

1. Sedimentation, soil erosion, and soil compaction that may result from cross-country vibrator operations will be minimized by limiting the number of crossings of intermittent drainages as much as possible. Upon completion of the seismic survey, all bank cuts at crossings will be reconstructed to approximate the original contour and will be reclaimed according to BLM, as appropriate.
2. Source generation will not occur within 300 feet (100 meters) of springs.

**Vegetation, Special Status Plant Species, and Invasive /Noxious Species:**

1. No wetland/riparian vegetation will be removed during the placement of geophones.
2. Prior to commencing operations within the project area, all equipment and vehicles will be cleaned to remove seed and soil that may contain seeds.
3. Larger shrubs, trees, and other obstacles will be avoided where possible. Some tree limbs (*only*) may be removed for access. If so, limbs would typically be limited to those of 3 to 4-inch diameters at approximately chest height.
4. If present, listed threatened and endangered plant species will be avoided.
5. Project personnel will not be allowed to collect plants.
6. In order to minimize impacts to vegetation (especially shrubs) vibrators would offset their travel routes to the extent practical within the approved travel corridors and would use one pass, to the extent practical.

**Waste and Trash Disposal:**

1. No other hazardous or potentially hazardous materials will be brought into the project area.
2. All solid waste or trash will be transported for disposal to an approved solid waste disposal facility. All project debris, including flagging, stakes, and pin flags, will be gathered daily and disposed of at an approved site or landfill.
3. All spills or leaks of oil, diesel, hydraulic fluid, or coolant, including any contaminated soils, will be reported to the BLM office, after which the spill materials will be excavated to an appropriate container and transported to an approved disposal site.
4. No potentially harmful materials or substances will be left on, or in the vicinity of, the seismic survey area.

**Wildlife:**

1. Raptor surveys will be conducted prior to seismic operations if they would take place during raptor nesting season (February 1-July 31), if operations start before August 1,
2. Visible migratory bird nests will be avoided and not disturbed.
3. Operations will not take place within one mile of Bald Eagle Winter Roost habitat (Little Powder River) from November 1-April.

**Description of Proposed Action:**

On June 25, 2012 BLM had scoping meeting with the operator Dawson Geophysical with the following:

Name	Title	Company
Andy Perez	NRS	BLM
Mike Granger	Contract Agent	Dawson
Scott Jawors	Wildlife Biologist	BLM
Clint Crago	Archaeologist	BLM

On June 25, 2012, Dawson Geophysical Company (Dawson) submitted a Notice of Intent and Authorization to Conduct Oil and Gas Geophysical Exploration Operations for a project titled Bell Creek

3D for Roff Oil & Gas LTD (Operator/Lessee). On July 26, 2012 BLM assigned a team to the Bell Creek 3D project, it was at this point that Dawson informed BLM that they were nearly complete with their Archaeology Surveys etc. On August 29, 2012 Dawson submitted proof of the Bond to BLM. BLM had several conversations with Dawson in regards, to required surveys for wildlife, cultural, and plan of operations from the time the scoping meeting was held and the final approval of the NOI on September 25, 2012.

The Bell Creek 3D Seismic Project area contains approximately ~ 4,160 acres of BLM administered surface. The approval of this Notice of Intent is for the public surface only. Roff Oil & Gas LTD will obtain a permit to conduct geophysical operations on the private surface from the Wyoming Oil and Gas Conservation Commission.

**B. LAND USE PLAN CONFORMANCE**

**Land Use Plan Name:** Buffalo Resource Management Plan **Date Approved:** 1985, 2001 Update

The proposed action is in conformance with the applicable LUP because it is specifically provided for in the following LUP decision(s): Minerals Management – Oil and Gas

The proposed action is in conformance with the LUP, even though it is not specifically provided for, because it is clearly consistent with the following LUP decision(s) (objectives, terms, and conditions):

**Decision Record MM-7** – Continue to lease and allow development of federal oil and gas in the Buffalo Resource Area

**C. COMPLIANCE WITH NEPA**

The Proposed Action is categorically excluded from further documentation under the National Environmental Policy Act (NEPA) in accordance with 516 DM 11.9(B)(6):

**“Approval of Notices of Intent to conduct geophysical exploration of oil, gas, or geothermal, pursuant to 43 CFR 3150 or 3250, when no temporary or new road construction is proposed”.**

This categorical exclusion is appropriate in this situation because there are no extraordinary circumstances potentially having effects that may significantly affect the environment. I’ve reviewed the proposed action and none of the extraordinary circumstances described below and in 516 DM 2 apply.

**Cultural:**

A Class III cultural resource inventory was performed for the Belle Creek 3D seismic project prior to on-the-ground project work (BFO project no. 70120089). A class III cultural resource inventory following the Archeology and Historic Preservation, Secretary of the Interior's Standards and Guidelines (48CFR190) and the *Wyoming State Historic Preservation Office Format, Guidelines, and Standards for Class II and III Reports* was provided to BFO by Dawson Geophysical. Clint Crago, BLM Archaeologist, reviewed the report for technical adequacy and compliance with Bureau of Land Management (BLM) standards, and determined it to be adequate. The following resources are located in or near the project area (E = Eligible for National Register of Historic Places, NE = Not Eligible, U = Unevaluated):

Site Number/Type/Eligibility	Site Number/Type/Eligibility	Site Number/Type/Eligibility
48CA2204/Prehistoric Lithic Scatter/NE	48CA2295/Historic Homestead/U	48CA2296/Historic Weis Ranch/NE
48CA2335/Prehistoric Habitation – Stone Circles/U	48CA2336/Historic Cairn/U	48CA2448/ Prehistoric Habitation – Stone Circles /U
48CA7000/Historic Turley Road/NE	48CA7132/ Prehistoric Habitation – Stone Circles /NE	

All unevaluated or eligible sites within the project area will be avoided by project activities. Following the Wyoming State Protocol Section VI (A) (4) the Bureau of Land Management electronically notified

the Wyoming State Historic Preservation Officer (SHPO) on 9/5/2012 that no historic properties will be affected by the project.

**Wildlife:**

No known raptor nest occur within the project area, however extensive amount of nesting habitat (trees, cliffs, banks, and rock outcrops) is present throughout the area. Operations will take place outside of the raptor nesting/breeding season (February 1 –July 31), therefore no impacts towards raptors is expected to occur from project related activities.

The Little Powder River travels along the south west portion of the project boundary. The Little Powder River has galleries of mature cottonwood trees near the bank which provides habitat for bald eagle winter roost, and it is likely that eagles use the area for foraging. The BLM encourages the operator to conduct operations near bald eagle winter roost habitat first (south west portion of the project boundary).If activities are not completed prior to November 1, then a bald eagle roosting survey will be required beginning on December 1, to determine the presence of roosts 1 mile of the public lands before operations may proceed. If a roost is located, a timing limitation will be implemented for activities occurring on public lands, decreasing negative impacts that may result from human disturbance in close proximity to roosts. Geophysical exploration on private lands may occur in suitable habitats for bald eagle nesting or roosting. Noise, surface disturbance, and human disturbance may negatively affect bald eagles and cause them to avoid the area while exploration activities are taking place.

Ute ladies’-tresses orchid habitat will not be disturbed on public lands, and the project is likely to have no effect to the species.

**Extraordinary Circumstances (from 516 DM 2, Appendix 2)**

Extraordinary circumstances exist for individual actions within categorical exclusions which may:

- Have significant impacts on public health or safety.
- Have significant impacts on such natural resources and unique geographic characteristics as historic or cultural resources; park, recreation or refuge lands; wilderness areas; wild or scenic rivers; national natural landmarks; sole or principal drinking water aquifers; prime farmlands; wetlands (Executive Order 11990); floodplains (Executive Order 11988); national monuments; migratory birds; and other ecologically significant or critical areas.
- Have highly controversial environmental effects or involve unresolved conflicts concerning alternative uses of available resources [National Environmental Policy Act Section 102 (2) (E)].
- Have a highly uncertain and potentially significant environmental effects or involved unique or unknown environmental risks.
- Establish a precedent for future action or represent a decision in principle about future actions with potentially significant environmental effects.
- Have a direct relationship to other actions with individually insignificant but cumulatively significant environmental effects.
- Have significant impacts on properties listed, or eligible for listing, on the National Register of Historic Places as determined by either the bureau or office.
- Have significant impacts on species listed, or proposed to be listed, on the List of Endangered or Threatened Species, or have significant impacts on designated Critical Habitat for these species.
- Violate a Federal law, or a state, local, or tribal law or requirement imposed for the protection of the environment.
- Have a disproportionately high and adverse effect on low income or minority populations (Executive Order 12898).
- Limit access to and ceremonial use of Indian sacred sites on Federal lands by Indian religious practitioners or significantly adversely affect the physical integrity of such sacred sites (Executive

Order 13007).

- Contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species known to occur in the area or actions that may promote the introduction, growth, or expansion of the range of such species (Federal Noxious Weed Control Act and Executive Order 13112).

**D. SIGNATURE**

Authorizing Official: \_\_\_\_\_

*Cary Fein*  
Duane Spencer, Field Manager

Date: \_\_\_\_\_

*9/6/12*

**Contact Person**

For additional information concerning this CX review, contact:

Andy Perez  
Bureau of Land Management  
Buffalo Field Office  
1425 Fort St.  
Buffalo, WY 82834  
(307) 684-1166

## DECISION RECORD

Lease/Serial/Case File No.: **WYW168369**

**Recommendation/Rationale:** I recommend approving Roff Oil & Gas LTD. Notice of Intent to Conduct Geophysical Exploration Operations on public lands administered by the BLM in the Bell Creek 3D Seismic Project Area with the mitigation measures described below. The Ballard Petroleum's Company will utilize the subsurface information gathered by this project to explore for and develop the oil and gas resources in this area. The subsurface data will limit unnecessary drilling, reduce surface disturbance, and reduce adverse impacts to other resources.

### **Mitigation Measures:**

- 1) No Surface Disturbing activities are authorized with this action.
- 2) Disruptive activities are prohibited or restricted on public surface in the project area from March 15<sup>th</sup> through June 30 in suitable sage-grouse nesting and early brood-rearing habitat.
- 3) If the project activities are not completed prior to November 1; then, a bald eagle roosting survey will be required beginning on December 1, to determine the presence of roosts within 1 mile of the public lands before operations may proceed. If a roost is located, then a seasonal minimum disturbance-free buffer zone of 1 mile will be established for the bald eagle winter roost site during November 1 – April 1. The buffer zone and timing may be adjusted based on site-specific information through coordination with, and written approval from, the USFWS.
- 4) All identified cultural sites in the project area shall be avoided by at least 30 meters by all geophysical operations.
- 5) Vehicular travel shall be suspended when ground conditions are wet enough to cause rutting or other noticeable surface deformation and severe compaction. As a general rule, if vehicles or other project equipment create ruts in excess of four inches deep when traveling cross-country over wet soils, the soil shall be deemed too wet for vehicular use.
- 6) The staging area(s) shall be kept clean and free of litter. Appropriate human waste facilities will be provided and properly maintained. Such waste facilities shall be removed from the site upon completion of the project.
- 7) Roads will not be constructed for geophysical projects authorized under a categorical exclusion.
- 8) Operators of vehicles and equipment shall be responsible for not damaging fences and keeping gates as found. As a last resort, should a fence be cut for access, that fence must be repaired to former or better condition, immediately after equipment has passed through.
- 9) If soil is disturbed to the extent that erosion is likely or visual impacts are readily apparent, the disturbed areas will be rehabilitated utilizing the following techniques:
  - Ruts and vehicle tracks will be filled with soil and/or obliterated by either hand raking or similar method. When completing this work, care will be taken to minimize disturbance to surrounding lands that have not been disturbed. All areas where rehabilitation work is accomplished will be reseeded with the seed mix provided below.
  - The seeded area should be hand raked to assure the seed is covered with approximately ¼ to ½ inch of soil.

- The seed shall be certified, pure live seed, and seed tags must be available if requested by the authorized officer. Certified weed free seed is to be used to rehabilitate disturbed land.

<b>Loamy/Sandy Ecological Site Seed Mix</b>		
<b>Species</b>	<b>% in Mix</b>	<b>Lbs PLS*</b>
<i>Western Wheatgrass</i> (Pascopyrum smithii)/or <i>Thickspike Wheatgrass</i> (Elymus lanceolatus ssp. lanceolatus)	30	3.6
<i>Bluebunch Wheatgrass</i> (Pseudoroegneria spicata ssp. Spicata)	10	1.2
<i>Green needlegrass</i> (Nassella viridula)	25	3.0
<i>Slender Wheatgrass</i> (Elymus trachycaulus ssp. trachycaulus)	20	2.4
<i>Prairie coneflower</i> (Ratibida columnifera)	5	0.6
<i>Indian ricegrass</i> (Achnatherum hymenoides)	5	0.6
<i>Blue flax</i> (Linum lewisii)	5	0.6
<b>Totals</b>	<b>100%</b>	<b>12 lbs/acre</b>

Authorizing Official: \_\_\_\_\_

*Duane Spencer*  
Duane Spencer, Field Manager

Date: \_\_\_\_\_

*9/6/12*

**Decision**

I have reviewed the plan conformance and NEPA compliance record and have determined that the proposed project is in conformance with the approved land use plan and no further environmental analysis is required.

It is my decision to implement the project as described with the mitigation measures identified above and included in the Special Terms and Conditions along with the mitigation measures in the Standard Terms and Conditions attached to the Notice of Intent to Conduct Geophysical Exploration Operations.

Authorizing Official:   
Duane Spencer, Field Manager

Date: 9/6/12

**DECISION FACTORS**

1. **Land Status Including Prior Existing Rights and Land Ownership of Adjacent Non-Federal Lands:** The affected public land in the project area is intermingled with private and Forest Service Lands. The approval of the NOI is only for geophysical operations on public lands. The Wyoming Oil and Gas Conservation Commission authorize geophysical operations on private lands in the project area.
2. **Pending Applications:** None.
3. **Economic and Social Effects:** NA
4. **Access:** Access to the project area is via State highways, existing county and private roads, and existing two-track trails.
5. **Land Use Capability and Past, Present, and Future Land Uses:** Livestock grazing, wildlife habitat, agriculture, oil and gas production, and residential & business uses are the primary land uses in the general area.
6. **Government and Public Support:** None.
7. **Legal Requirements:** No special legal requirements are applicable to this action.

**References**

Romin, Laura A., and Muck, James A. May 1999. Utah Field Office Guidelines For Raptor Protection From Human And Land Use Disturbances. U.S. Fish and Wildlife Service, Salt Lake City, Utah