UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
Farmington District
Farmington Field Office
6251 N College Blvd., Ste. A
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Finding of No Significant Impact
Encana Oil and Gas (USA) Inc.
Lybrook P 12 2206 01H and 02H

NEPA No. DOI-BLM-NM-FO-*010-2015-0106*
(ATS No'sF010-13-216,217)

FINDING OF NO SIGNIFICANT IMPACT

I have determined that the proposed action, as described in Environmental Assessment (EA) **NM-FO10-2015-0106** will not have any significant impact, individually or cumulatively, on the quality of the human environment. Because there would not be any significant impact, an Environmental Impact Statement is not required.

In making this determination, I considered the following factors:

Context

The Farmington Field Office (FFO) is located in northwestern New Mexico. The field office boundaries include approximately 7,800,000 acres; 1.4 million surface acres and an additional 1 million acres of mineral estate are managed by the BLM. The distribution of BLM-managed lands is fairly well consolidated in the north and becomes increasingly mingled with Tribal lands to the south. BLM-managed lands abut the Navajo Reservation to the west and south, Jicarilla Apache Nation Reservation to the east, and the Ute Mountain Reservation and Southern Ute Indian Reservation to the north. Aztec Ruins National Monument and Chaco Culture National Historical Park, managed by the National Park Service, lie within the field office boundaries. The BLM manages approximately 18% of lands within a 10 mile radius of Chaco Culture National Historical Park.

The FFO encompasses the New Mexico portion of the San Juan Basin. The San Juan Basin and surrounding areas have been occupied by varied cultures since the Paleo Indian period (circa 10,000 BC). The San Juan Basin and Four Comers area have one of the most extensive prehistoric and protohistoric occupations in the United States. The most commonly known archaeological resources are the Anasazi structures at Chaco Culture National Historical Park, Mesa Verde National Park, and other National Park Service sites. Scattered across BLM-managed lands are similar, but smaller structures, which were probably related to these larger sites. Twenty-three Chacoan outliers are known to exist within the FFO. Each contains at least one Chacoan structure and most have associated communities, prehistoric roads, and great kivas along with features such as herraduras and special use areas. The FFO contains an extensive system of finely engineered roads radiating out from Chaco Canyon and extending a considerable distance to outlying sites through the San Juan Basin and beyond. These roads are remarkably straight and carefully constructed. The most notable is the Great North Road, which starts at Chaco Canyon and run north to the Aztec Ruins.

Located within the boundary of the FFO is much of Dinétah, the ancestral homeland to the Navajo. Here the Navajo constructed forked-stick hogans, shades, sweat lodges, and other structures over a several hundred year span. During a short period between 1680 and the mid-1700s, pueblitos were constructed, often associated with other structures. Although not firmly dated, extensive Navajo pictograph and petroglyph sites were painted, etched, pecked, or ground onto the sandstone cliffs of the canyons of

Dinétah. Most are believed to be ceremonial art which is no longer traditionally executed in a permanent form.

Native American Traditional and Sacred Areas are known to exist across the FFO. Many are associated with narrative accounts of origin or other traditional stories. Most of the identified sacred areas are associated with the Navajo culture. These places are still important in Navajo ceremonies and daily activities.

Historic Hispanic or Spanish and Anglo sites within the San Juan Basin primarily date from the late 1800s to the present. Although there are some early Spanish land grants in the southern portion of the FFO, most historic sites located on public lands are either Hispanic or Anglo homesteads with associated structures from the late 1800s and early 1900s. Associated with many clusters of homesteads were a school house and often a church which was visited every few months by a priest.

Cultural resource inventories have been conducted throughout the FFO for project undertakings, management studies, and scientific inquiries. As of April 2014, approximately 760,000 acres of the 7,800,000 acres in the FFO boundaries have been inventoried. Over 46,000 sites have been identified ranging from small artifacts to the 800-room structures in Chaco Canyon. Many of these sites are listed on the National Register of Historic Places and Chaco Culture National Historical Park along with several of the Chacoan sites which have been placed on the World Heritage List. The FFO manages 79 Areas of Critical Environmental Concern (ACECs) for relevant and important cultural values, including five World Heritage Sites.

The San Juan Basin is an important area for mammalian and reptilian fossils. A variety of paleontological resources exist in the FFO including animal fossils, fossil leaves, palynomorphs, petrified wood, and trace fossils occurring in the Triassic, Jurassic, Cretaceous, and Tertiary rocks. Dinosaur and other fossils have made significant contribution to the scientific record have been found and excavated in the FFO. Paleontolgical resources are present in the Bisti De-Na-Zin Wilderness Area, Ah-Shi-Sle-Pa Wilderness Study Area, Fossil Forest Research Natural Area, and seven fossil areas identified in the 2003 Farmington Resource Management Plan.

The San Juan Basin is one of the largest natural gas fields in the nation and has been under development for more than 60 years. Oil was discovered by accident in the Seven Lakes area of McKinley County in 1911. Natural gas was discovered near Aztec, New Mexico, in 1920-1921 with oil of commercial quantity discovered near the Hogback in 1922 (Barnes 1951). Several small pipelines were built to carry the oil and gas from these discoveries to Aztec and Farmington. Development began in earnest in the late 1940s and early 1950s as the demand for natural gas increased. The FFO manages 2,765 active oil and gas leases in the San Juan Basin consisting of 2.1 million acres. Leasing began in the mid-1930s and accelerated in the late 1940s. By 1950, over 1 million acres were under lease.

In 1951, El Paso Natural Gas completed the first interstate pipeline out of the San Juan Basin to California. That same year, oil was discovered in the Mancos Shale in Dogie Canyon (Barnes 1951). Since that time, over 30,000 oil and gas wells have been drilled in the San Juan Basin with approximately 16,000 associated rights-of-way. Approximately 23,000 wells are currently producing. Since Stanolind Oil introduced hydraulic fracturing in 1949, nearly every well in the San Juan Basin has been fracture stimulated.

Intensity

1. The activities described in the proposed action do not include any significant beneficial or adverse impacts (40 CFR 1508.27(b)(1)). Per 40 CFR 1500.1(b), the EA concentrated on issues that are truly significant to the action in question, rather than amassing needless detail. Issues have a cause and effect relationship with the proposed action or alternatives; are within the scope of the analysis; have not been decided by law, regulation, or previous decision; and are amendable to scientific analysis rather than conjecture (BLM 2008, page 40). The following issues were identified related to the proposed action.

- How would dust and equipment emissions associated with the proposed project impact air resources?
- How would noise levels from the proposed project affect the general vicinity?
- How would vegetation clearing and project activities associated with the proposed well pad, access road, and well-connect pipeline corridor impact soil resources?
- How would the proposed project impact water resources, including groundwater and surface water?
- How would vegetation clearing, proposed project activities, and final reclamation associated with the proposed project impact upland vegetation?
- How would vegetation clearing, proposed project activities, and final reclamation impact wildlife, including migratory birds?
- How would vegetation clearing, proposed project activities, and final reclamation impact the following BLM Special Status Species (SSS): Bendire's thrasher (*Toxostoma bendirei*), ferruginous hawk (*Buteo regalis*), golden eagle (*Aquila chrysaetos*), pinyon jay (*Gymnorhinus cyanocephalus*), spotted bat (*Euderma maculatum*), and Townsend's big-eared bat (*Corynorhinus townsendii*)?
- How would surface-disturbing activities associated with construction of the proposed project impact cultural resources?
- How would the proposed project impact visual resources?
- How would the proposed project activities impact travel and transportation?
- How would vegetation clearing, proposed project activities, and final reclamation associated with the proposed project impact livestock grazing?
- How would the proposed project activities impact environmental justice?
- How would the proposed project activities impact public health and safety?

The EA includes a description of the expected environmental consequences of the proposed activities for those issues in Chapter 3.

2. The activities included in the proposed action would not significantly affect public health or safety (40 CFR 1508.27(b)(2)). The following design features have been included in the proposed action to address any impacts to public health and safety: The proposed project area is remote. The nearest town, Nageezi, New Mexico (population 286 [U.S. Census Bureau 2010]) is approximately 20 miles northeast of the proposed project area. The community of Counselor, New Mexico and U.S. Highway 550 are approximately 4 miles northwest of the proposed project area. There are no designated recreation areas, commercial areas, or occupied residential areas within one mile of the proposed project area. However, the location is accessible to the public by dirt roads. As a result of the proposed project, short-term effects to public health and safety would be low to moderate. For the long term, effects to public health and safety would be low.

The proposed project would affect transportation. During construction, the proposed project would result in increased traffic on area roads; some vehicles would be hauling heavy equipment. Therefore, there would be an increased potential for traffic accidents. Dust associated with construction activities or travel on dirt access roads may result in poor visibility in the area. The increased use of dirt access roads during muddy conditions may worsen the roads' conditions. The access road associated with the proposed Lybrook P12 project would include a pullout area that would be an improvement to safety conditions for workers traveling

to and from the proposed project area. Following construction, traffic levels would be similar to current levels; long-term effects on transportation would be low.

During construction, drilling, and maintenance activities, the operation of heavy equipment poses potential safety concerns. Existing facilities (such as oil and gas wells, pipelines, and powerlines) could be damaged or ruptured, posing a risk to human safety.

During the operation of the proposed wells, facility failure (such as pipeline ruptures) could represent a potential danger to the public.

Hazardous and solid wastes associated with the proposed projects are discussed in Section 2.1.2. (Description of Proposed Projects – Design Features and Best Management Practices - Control of Waste). As a result of the proposed project, the public could be exposed to hazardous materials. **Public Health and Safety section 3.13. of the EA (page(s) 53 and 54.**

Air quality may effect health and safety. Air quality for San Juan County and for the State of New Mexico is described earlier in **Air Resources section 3.1. of the EA (page(s) 26 thru 31.**

Changes to air quality from the proposed action are expected to be relatively minor, as discussed in Section 3.1. of the EA. It is unclear whether these air pollutants would affect the health of nearby residents or workers closest to the well. Workers in closest proximity to the drilling activity use engineering controls and protective gear to minimize risk of effects.

Cumulative impacts: None would be expected due to the relatively small scale and short duration of the project, as well as local traffic and crime trends.

3. The proposed activities would not significantly affect any unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas (40 CFR 1508.27(b)(3)). Unique characteristics are generally limited to those that have been identified through the land use planning process or other legislative, regulatory or planning processes (BLM 2008, page 71). The FFO does not contain any prime and unique farmlands, suitable or designated wild and scenic rivers, or designated caves. Table 1 discloses the distance of the proposed activities to wetlands delineated by the Army Corps of Engineers. Table 2 discloses the distance of the proposed activities to National Park Service units and Congressionally designated areas. ***The proposed action and alternatives are not located within an Area of Critical Environmental Concern.*** Impacts to historic or cultural resources are described in the Cultural Resources section of the EA and discussed further under item 8.

Table 1. Distance of the Proposed Activities from Wetlands

Delineated Wetlands	Distance from Proposed Activities
Bancos	52 – 53 miles
Blanco	44 – 45 miles
Bloomfield	47 – 48 miles
Cutter Canyon	38 – 39miles
Carrizo Oxbow	36 – 37 miles
Desert Hills	51 – 52 miles
Valdez	46 – 47 miles

Table 2. Distance of the Proposed Activities from Park Lands and Ecologically Critical Areas

Park Land or Ecologically Critical Area	Distance from Proposed Activities
Ah-Shi-Sle-Pah Wilderness Study Area	25 – 26 miles
Aztec Ruins National Monument	55 - 56 miles
Bisti De-Na-Zin Wilderness Area	33 – 34 miles
Chaco Culture National Historical Park	24 – 25miles
Fossil Forest Research Natural Area	35 – 36 miles

4. The activities described in the proposed action do not involve effects on the human environment that are likely to be highly controversial (40 CFR 1508.27(b)(4)). Controversy in this context means disagreement about the nature of the effects, not expressions of opposition to the proposed action or preference among the alternatives (BLM 2008, page 71). Oil and gas development has occurred in the San Juan Basin for more than 60 years. While there may be controversy over the appropriateness of oil and gas development, there is not a high level of controversy or substantial scientific dispute over the impacts of that activity. The impacts of the proposed activities are described in Chapter 3 of the EA.

5. The activities described in the proposed action do not involve effects that are highly uncertain or involve unique or unknown risks (40 CFR 1508.27(b)(5)). As described under Context, oil and gas development has occurred in the San Juan Basin since the late 1940s and early 1950s. The field office has permitted over 30,000 wells and 16,000 rights-of-way. Hydraulic fracturing has occurred on nearly every well in the San Juan Basin since the 1950s. As such, the FFO has decades of experience and is knowledgeable about the impacts and risks associated with the proposed activities.

6. My decision to implement these activities does not establish a precedent for future actions with significant effects or represent a decision in principle about a future consideration (40 CFR 1508.27(b)(6)). Approval of these activities in no way assures approval of any future activities.

7. The effects of the proposed activities would not be significant, individually or cumulatively, when considered with the effects of other actions (40 CFR 1508.27(b)(7)). Direct, indirect, and cumulative impacts are described in Chapter 3 of the EA.

8. I have determined that the activities described in the proposed action will not adversely affect or cause loss or destruction of scientific, cultural, or historical resources, including those listed in or eligible for listing in the National Register of Historic Places (40 CFR 1508.27(b)(8)). The proposed activities are not located in an ACEC containing relevant and important cultural values. Cultural resource surveys). Cultural resource surveys were completed (BLM Report Numbers 2013 (III) 056 Fand (2012 (IV) 042.2 F). Cultural resources were identified within the project areas. The identified sites will be avoided in all cases and monitoring and installing site protection fencing will be required during construction, drilling and reclamation. **As discussed in the Cultural Resources section 3.8.1 (Page'(s) 43 and 44 of EA.)**

The BLM fulfills its responsibilities under the National Historic Preservation Act (NHPA) through a number of agreements. The National Programmatic Agreement (NPA; 2012) between the BLM, Advisory Council on Historic Preservation (ACHP), and the National Council of State Historic Preservation Officers (NCSHPO) allows the agency to fulfill its NHPA responsibilities according to the provisions of the NPA in lieu of 36 CFR 800.3 through 800.7 regulations. The NPA, which applies to all BLM activities below specified thresholds, provides among other things, regulatory relief in many instances from the requirement for case-by-case review by State Historic Preservation Officers (SHPOs) and the ACHP, in exchange for managers' maintenance of appropriate staff capability and observance of internal BLM standards as set out in the 8100 Manual series.

The New Mexico BLM has a two-party protocol with the New Mexico SHPO (2014) specifically encouraged by the NPA. This protocol details how the New Mexico BLM and SHPO will regulate their relationship and consult. Specifically, this document outlines among other things, how and when consultation will be

conducted between the BLM, SHPO, Tribes, and the public. The protocol also outlines when case-by-case SHPO consultation is or is not required for specific undertakings and the procedures for evaluating the effects of common types of undertakings and resolving adverse effects to historic properties. These common types of undertakings regularly include the common actions undertaken in the BLM FFO.

9. The proposed activities are not likely to adversely affect any endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act (40 CFR 1508.27(b)(9)).

These two BLM SSS could potentially utilize the proposed project area for foraging. Due to the mobility of adult birds and the lack of available nesting habitat in the immediate vicinity, it is unlikely that these raptors would be directly harmed by activities associated with the proposed project. Indirect effects associated with disturbance to foraging habitat are described in Section 3.5.2 (Wildlife – Direct and Indirect Impacts – Migratory Birds).

The project area does not contain suitable habitat for mountain plover, yellow-billed cuckoo, burrowing owl, or bald eagle.

The proposed action area is not within the BLM/FFO designated potential habitat area for Brack's hardwall cactus (*Sclerocactus cloveriae* var. *brackii*) and Aztec gilia *(Aliciella formosa*).

The proposed action would have a negligible impact on Special Status Species. There were no observations of Special Status Species, and very limited potential foraging habitat of several raptor species. Cumulative impacts would be negligible. **As discussed in section 3.7 Special Status Species page(s) 40 Thru 43.**

10. The proposed activities will not threaten any violation of Federal, State, or local law or requirements imposed for the protection of the environment (40 CFR 1508.27(b)(10)). Sections 1.4 and 1.5 of the EA describe the relationship of the proposed activities to relevant laws, policies, regulations, and plans.

REFERENCES

Barnes, Frank C., 1951. History of development and production of oil and gas in the San Juan Basin. In *The south and west sides of the San Juan Basin, New Mexico and Arizona*, Smith, C.T.; Silver, C. ed(s), New Mexico Geological Society, Guidebook, 2nd Field Conference, pp. 155-160.

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APPROVED:

Mark Kelly

JUN 29 2015

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Date

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