U.S. Department of the Interior
Bureau of Land Management
Colorado River Valley Field Office
2300 River Frontage Road
Silt, Colorado 81652

Section 390 Categorical Exclusions for Oil and Gas Development, Exclusion No. 1

NEPA LOG NUMBER: DOI-BLM-CO-N040-2015-0001-CX (390)

A. Background

Bureau of Land Management (BLM) Office: Colorado River Valley Field Office

CASEFILE/PROJECT NUMBER: COC24603 for Federal Lease.

PROPOSED ACTION TITLE/TYPE: Drill 11 Federal Wells from the Existing but Expanded GM 34-4 Pad Located on BLM Land Northwest of Parachute, Colorado, Authorized by Applications for Permit to Drill.

LOCATION OF THE PROPOSED ACTION Township 7 South (T7S), Range 96 West (R96W), Section 4, SW¼SE¼, Sixth Principal Meridian. The project area is located entirely on BLM land approximately 4 air-miles west of Parachute, Garfield County, Colorado (Figure 1). The elevation of the project area is approximately 6,025 feet.

DESCRIPTION OF THE PROPOSED ACTION: The existing GM 34-4 well pad, which supports five producing Federal oil and gas wells, has been in a state of interim reclamation since 2010. The pad has undergone three drilling visits, including 2000 (one well), 2001 (one well), and 2008 (three wells). Expanding the GM 34-4 pad to accommodate 11 new Federal directional wells would result in a reconstruction disturbance of 4.94 acres, with 1.94 acres representing redisturbance of the reclaimed areas around the working area of the pad. The new wells would accomplish full development of the Williams Fork formation from this pad based on 10-acre spacing. No private (fee) wells are associated with this development.

The existing Red Tank private field development road provides serviceable access to the pad in its present condition and alignment. The pad lies on a north-facing slope below steep sandstone bands. The access road across BLM has some steep pitches that will require continual maintenance to keep the road serviceable during the rig move. To safely get the drill rig, delivery transport trucks, and support vehicles to the pad, a dozer or motor patrol grader will have to chain up and pull oversized or loaded vehicles up and down these steep road sections for the duration of the planned drilling and completion work. Priority would be given to daily road maintenance reviews, periodic spot graveling and blading, and constant attention to safely moving vehicles up and down the steep road grades.

The GM 34-4 project would involve reconstructing the pad primarily within the previous disturbance footprint with the exception of the separator pad and the northern pad edge, which would be extended (Figure 1). The production equipment (separators, blowdown tank, and condensate storage tanks) would continue to be staged offsite along the access road northeast of the pad. The existing buried gas-gathering pipeline is adequate to serve the new wells. A new 4-inch water line would be buried for 8,830 feet from

Table 1A. Surface and Bottomhole Locations of Proposed Federal Wells			
Proposed Wells	***Federal Lease***	***Surface Locations (T7S, R96W, Section 4)***	***Bottomhole Locations (T7S R96W)***
GM 314-4 (GM 34-4 pad)	COC24603	SWSE 1137 feet FSL, 1338 feet FEL	Section 4, NWSW 1864 feet FSL, 971 feet FWL
GM 323-4 (GM 34-4 pad)	COC24603	SWSE 1138 feet FSL, 1326 feet FEL	Section 4, NESW 1669 FSL feet, 1661 feet FWL
GM 413-4 (GM 34-4 pad)	COC24603	SWSE 1143 feet FSL, 1335 feet FEL	Section 4, NWSW 2193 feet FSL, 212 feet FWL
GM 414-4 (GM 34-4 pad)	COC24603	SWSE 1112 feet FSL, 1353 feet FEL	Section 4, SESW 1195 feet FSL, 1318 feet FWL
GM 423-4 (GM 34-4 pad)	COC24603	SWSE 1149 feet FSL, 1332 feet FEL	Section 4, NESW 2148 feet FSL, 1459 feet FWL
GM 424-4 (GM 34-4 pad)	COC24603	SWSE 1106 feet FSL, 1357 feet FEL	Section 4, SESW 664 feet FSL, 1409 feet FWL
GM 31-9 (GM 34-4 pad)	COC24603	SWSE 1088 feet FSL, 1355 feet FEL	Section 9, NWNE 462 feet FNL, 1553 feet FEL
GM 41-9 (GM 34-4 pad)	COC24603	SWSE 1101 feet FSL, 1348 feet FEL	Section 9, NENE 170 feet FNL, 1195 feet FEL
GM 331-9 (GM 34-4 pad)	COC24603	SWSE 1094 feet FSL, 1364 feet FEL	Section 9, NWNE 768 feet FNL, 1762 feet FEL
GM 332-9 (GM 34-4 pad)	COC24603	SWSE 1082 feet FSL, 1359 feet FEL	Section 9, SWNE 1644 feet FNL, 1572 feet FEL
GM 431-9 (GM 34-4 pad)	COC24603	SWSE 1088 FSL feet, 1368 feet FEL	Section 9, NWNE 1038 feet FNL, 1874 feet FEL

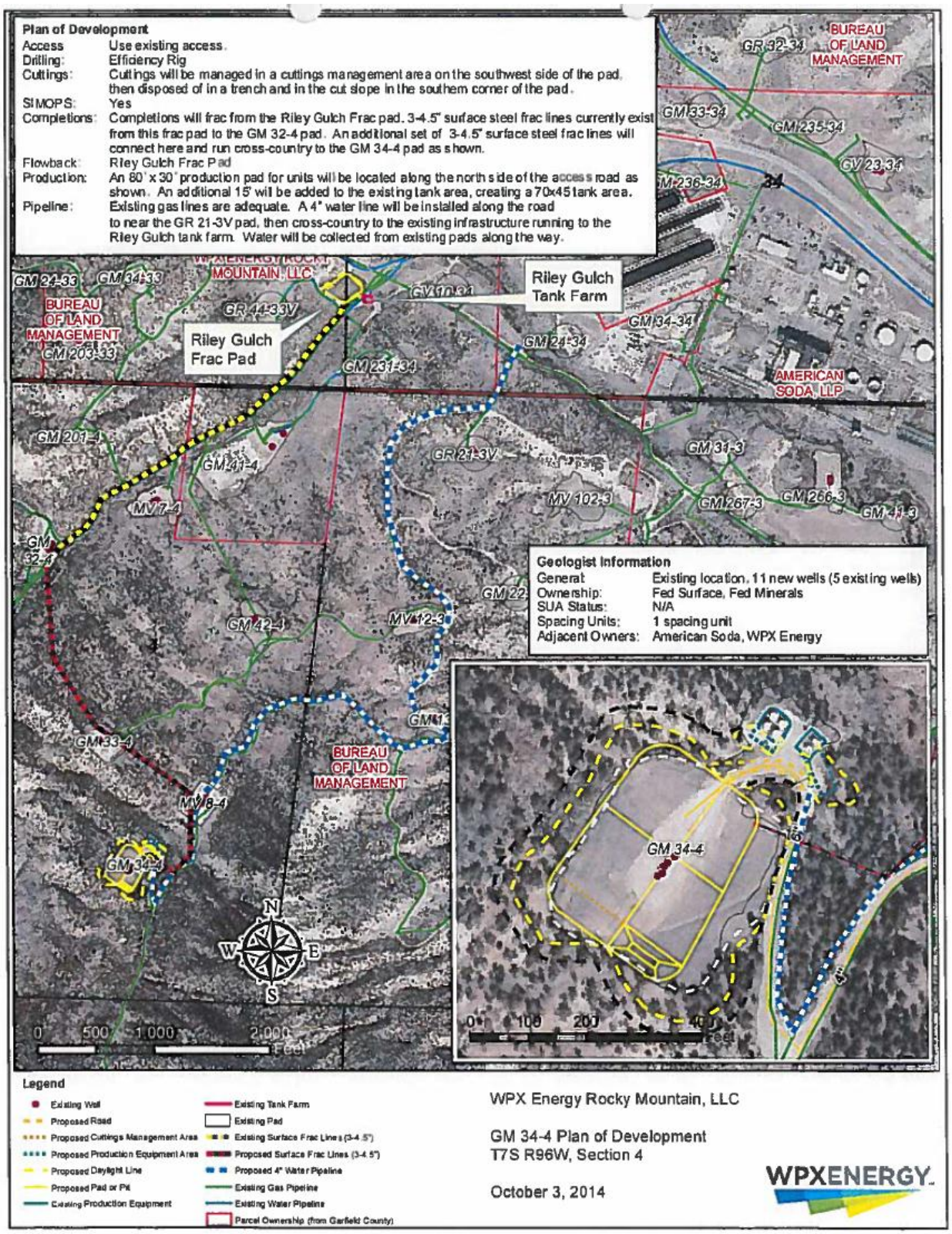

Figure 1. GM 34-4 Plan of Development

the pad along existing roads and pipeline corridors to an existing water line connection on the valley floor. The water line would require a 50-foot disturbance width, including the existing road.

Well drilling would be scheduled for spring 2015, with "simops" (simultaneous operations of drilling and well completions) planned. As shown on Figure 1, the existing Riley Gulch Frac Pad would be the remote frac site to support completions for the new wells. Three 4½-inch-diameter welded steel surface lines providing water for the frac operations would connect with the existing surface frac lines supporting the MV 28-4 completions and be laid cross-country between the GM 32-4 and the MV 8-4 pads. From the MV 8-4 pad, the steel frac lines would be laid alongside the existing road to the GM 32-4 pad, with the last segment laid through the trees above the GM 34-4 pad. The new surface frac lines would be 3,445 feet in length. The surface frac lines would eliminate the need for truck transports to deliver or collect water for the frac operations.

The GM 34-4 pad would be expanded primarily within the previous disturbance footprint avoiding the westerly ephemeral drainage and the access road above the pad cutslope. The majority of the nearly 2 acres of new disturbance would occur on the northern side of the pad footprint. A maximum cut of 29.4 feet would occur at the southwest pad corner with the largest fill of 28.0 feet being at the western pad corner. The earthwork from the pad would yield a deficit of 8,000 cubic yards (cy) which would be made up with the material to be excavated from the Cuttings Trench at the southern end of the pad (Figure 2).

Before the pad excavation begins, juniper trees and brush would be mowed with a hydro-axe machine to reduce the amount of fuel loading and slash generated and augment the topsoil windrows with organic matter. The topsoil would be stripped and placed in a continuous windrow around the outer edge of the pad footprint, with the allowance of a gap in the windrow along the access road edge at the top of the cutslope. This perimeter windrow of topsoil would serve as the primary stormwater control around the pad, with catchments installed at the various release points along the pad edges.

A closed-loop drilling system would be used, eliminating the need for a reserve pit to contain fluids. Recovered drilling fluid would be stored on location in steel tanks for reuse. Drill cuttings would be collected from the rig's shaker system and would be placed in a cuttings management with a constructed perimeter berm along the cutslope side of the pad. After the drilling is finished, the cuttings would be tested to ensure compliance with COGCC standards, would be blended with the excess material against the south-side cutslope, and would be buried during the earthwork stage of interim reclamation. The drilling plan includes the use of a self-contained flare unit to restrict venting.

The new 8,830-foot water line would connect and gather the produced water developed from the four pads (MV 8-4, MV 13-3, MV 12-3, and GR 21-3V pads) that the new line passes through or alongside between the GM 34-4 pad and the valley floor. The new water line work would occur within a 50-foot disturbance corridor, which generally includes the existing GM 34-4 access road. About 7,830 feet of the new water line would be located within or alongside existing roads with an average 15-foot swath of new disturbance needed along the road typically on the uphill side. Approximately 1,000 feet of line would be buried within a 50-foot swath of the existing pipeline corridor classed as redisturbance. This new water line would eliminate the need for water truck transports for the collection of production water. Oil truck transports would periodically haul condensate developed from the wells and stored in the tanks.

The reconstructed GM 34-4 pad would involve 4.94 acres of interim surface disturbance and create 0.97 acre of long-term disturbance (Table 1). The new water line installation would occur within a 15-foot right-of-way alongside the existing road resulting in 2.70 acres of new disturbance. The existing road would be used as a construction corridor for placement of trenched materials while the line is installed. Two segments of the water line would be buried within existing pipeline corridors below the MV 12-3

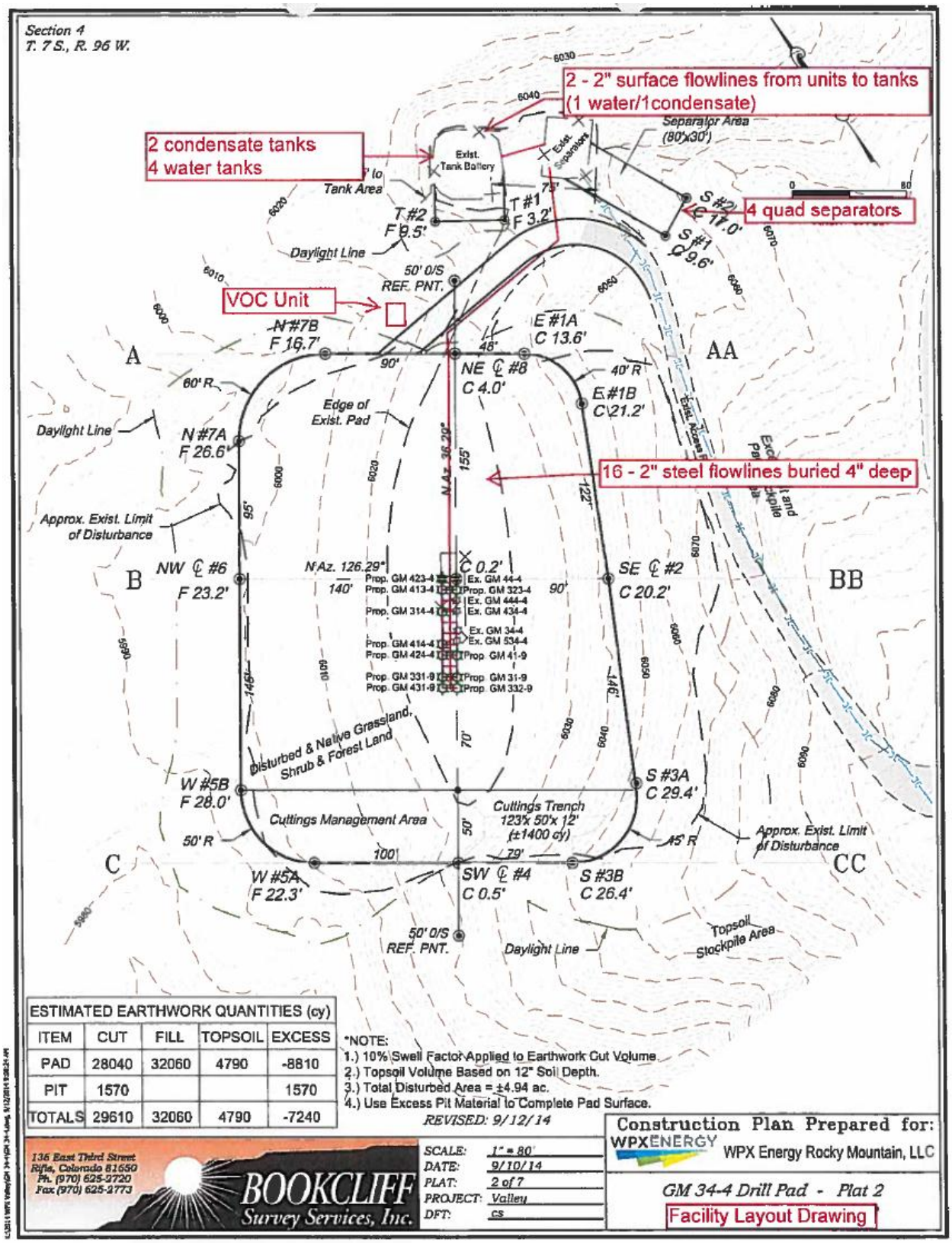

Figure 2. GM 34-4 Construction Layout.

pad and below the GR 21-3V pad. This redisturbance within the existing pipeline corridors would amount to 1.15 acres.

All surface disturbance for this project would occur on BLM totaling 8.79 acres. The disturbance breakdown is outlined in Table 1 with 1.18 acres of existing disturbance, 3.25 acres of redisturbance, and 4.64 acres of new disturbance for the Proposed Action. The new disturbance estimate falls under the 5-acre threshold required for the use of this Statutory Categorical Exclusion. After interim reclamation, the long-term disturbance would be reduced to 0.97 acres on BLM

Project Surface Disturbance – GM 34-4						
	Private		***BLM***		***Totals***	
New Disturbance	***Initial***	***Long-Term***	***Initial***	***Long-Term***	***Initial***	***Total Long-Term***
GM 34-4 Pad	0.00	0.00	1.94	0.07	1.94	0.07
Water Line 15 feet Along Road	0.00	0.00	2.70	0.00	2.70	0.00
Subtotal	**0.00**	**0.00**	**4.64**	**0.07**	**4.64**	**0.07**
Existing Disturbance	***Initial***	***Long-Term***	***Initial***	***Long-Term***	***Initial***	***Total Long-Term***
GM 34-4 Pad	0.00	0.00	0.90	0.78	0.90	0.78
Subtotal	**0.00**	**0.00**	**0.90**	**0.78**	**0.90**	**0.78**
Redisturbance	***Initial***	***Long-Term***	***Initial***	***Long-Term***	***Initial***	***Total Long-Term***
GM 34-4 Pad	0.00	0.00	2.10	0.12	2.10	0.12
Water Line w/in PL Corridor	0.00	0.00	1.15	0.00	1.15	0.00
Subtotal	**0.00**	**0.00**	**3.25**	**0.12**	**3.25**	**0.12**
TOTAL DISTURBANCE	**0.00**	**0.00**	**8.79**	**0.97**	**8.79**	**0.97**

The GM 34-4 project would include the following components:

(1) Redisturbing the existing GM 34-4 pad to a 4.94-acre disturbance footprint to provide working space for drilling, completion and well production operations and to provide storage space for drill cuttings.
(2) Drilling 11 Federal wells directionally into the nearby Federal lease.
(3) Conducting "simops" well completion operations from the existing Riley Gulch Frac Pad during the drilling process.
(4) Burying 8,830 feet of 4-inch Flexsteel produced waterline between the GM 34-4 pad and a connection point with the existing water collection system near the valley floor.
(5) Laying three 4½-inch welded steel surface frac lines (3,445 feet in length) cross-country from the GM 32-4 pad to the MV 8-4 pad and then alongside the access road to deliver recycled water and collect flowback fluids for well completions.
(6) Reclaiming (interim) the GM 34-4 pad to a working area footprint of 0.97 acres and establishing desirable vegetative cover on the reshaped pad.

The Proposed Action would include well drilling and well completion, production of natural gas and associated liquid condensate, proper handling and disposal of produced water, and interim and final reclamation.

Construction of the pad and pipeline spur would follow the guidelines established in the BLM Gold Book, *Surface Operating Standards for Oil and Gas Exploration and Development* (USDI and USDA 2007). The existing Red Tank access road would be graveled to ensure all-weather accessibility to the pad site. A road maintenance program would be required during the production phase of the well. This program would include, but not be limited to blading, ditching, culvert installation and cleanout, weed control, and gravel surfacing where excessive rutting or erosion may occur. Roads would be maintained in a safe and usable condition.

The Proposed Action would be implemented consistent with the Federal oil and gas lease, Federal regulations (43 CFR 3100), and the operational measures included in the Applications for Permit to Drill (APDs). Appendix A lists the specific Surface Use Conditions of Approval (COAs) to be implemented as mitigation measures for this project. The operator would be responsible for continuous inspection and maintenance of the access roads, pads, and pipelines.

WestWater Engineering conducted botanical surveys for special status plants from May 14 through July 1, 2014 (WWE 2014). Five areas of marginally suitable habitat for the Federally threatened species, DeBeque phacelia, were identified within 100 meters of the proposed buried waterline. Two of these are located within 20 meters from the edge of disturbance. No DeBeque phacelia plants were found in any of these marginally suitable habitat areas, but since 2014 was not considered a good year for this species in its known locations, presence or absence could not be determined. Therefore, for purposes of analysis, the potential for occupancy is assumed at these sites. To protect these areas from impacts during project implementation, temporary fencing would be placed along the edge of disturbance where the waterline passes by the two closest habitat areas. Dust control, limited to water only, would be required during waterline construction. Noxious weed control would be required, and herbicide use would be restricted within 20 meters of habitat areas. These protections would be outlined in the Conditions of Approval for the APD. With implementation of these protections, the project would have No Effect on DeBeque phacelia.

Suitable habitat for the Federally threatened Colorado hookless cactus exists within the project area, as well as the BLM sensitive DeBeque milkvetch, but no plants were found for either species. No suitable habitat is present for any other Federally list or BLM sensitive species. Therefore, the project would have No Effect on any other Federally listed species or BLM sensitive species.

The directional wells would be drilled into Federal lease COC24603 which does not include a big game winter timing limitation. Therefore, a 60-day Condition of Approval (COA) would be included on the Application for Permit to Drill (APD) restricting any construction, drilling, or completion work from January 1 through March 1.

B. Land Use Plan Conformance

Land Use Plan (LUP) Name: The current land use plan is the *Glenwood Springs Resource Management Plan* (RMP) (BLM 1984, revised 1988). Relevant amendments include the *Oil and Gas Plan Amendment to the Glenwood Springs Resource Management Plan* (BLM 1991) and the *Oil &Gas Leasing & Development Record of Decision and Resource Management Plan Amendment (*BLM 1999).

Date Approved/Amended: *Oil and Gas Plan Amendment to the Glenwood Springs Resource Management Plan* (BLM 1991) – approved November 27, 1991; Oil *&Gas Leasing & Development Record of Decision and Resource Management Plan Amendment (*BLM 1999) – approved March 24, 1999.

Determination of Conformance: The Proposed Action is in conformance with the 1991 and 1999 RMP amendments cited above because the Federal mineral estate proposed for development was designated as open to oil and gas leasing and development, and Federal lease COC24603 was duly leased pursuant to the 1999 RMP amendment. The proposed project is of a type specifically contemplated and analyzed in the 1999 RMP amendment and that it is in conformance because the stipulations specified in the 1999 RMP amendment were attached to the lease and incorporated into project design. The Proposed Action is therefore in conformance with the current land use plan, as amended.

C. Compliance with NEPA

Consistency with CX Category #1: *Individual surface disturbances of less than 5 acres so long as the total surface disturbance on the lease is not greater than 150 acres and site-specific analysis in a document prepared pursuant to NEPA has been previously completed.* All questions listed in Table 2 must be answered "Yes" to use this Section 390 CX.

NEPA Document Name: The South Grand Valley Geographic Area Plan (EA #CO140-2004-0034, approved on April 13, 2004) identified the existing well pads, roads and various pipeline connections serving the affected pads. That EA satisfies the criteria of being an activity-level or project-level EIS or EA that is applicable to the Proposed Action.

Table 2. Project Screening Questions	Yes	No
1. Would the proposed action disturb less than 5 acres?	**Yes**	
2. Is the current amount of surface disturbance on the entire leasehold, plus the proposed action, less than 150 acres? (See Figure 3)	**Yes**	
3. Was the proposed action adequately analyzed in an existing site-specific National Environmental Policy Act (NEPA) document?	**Yes**	

Persons and/or Agencies Consulted:

WPX: April Mestas, Mike Reynolds, Kris Meil, Wayne Gallahan, Wally Hammer, Porter Cooley.

Interdisciplinary Review: BLM staff from the CRVFO listed in Table 3 participated in the preparation of this Section 390 CX, including review of resource survey results submitted by the Operator's consultants, evaluation of impacts likely to occur from implementation of the proposed action, and identification of appropriate COAs.

The Proposed Action was presented to the Colorado River Valley Field Office interdisciplinary team for SCX review on October 17, 2014.

Mitigation: Conditions of Approval to be attached to the BLM Applications for Permit to Drill (APDs) for the 11 Federal Wells Drilled on the Expanded GM 34-4 Pad are listed in this Section 390 CX.

Name of Preparers: Jim Byers, Natural Resource Specialist Date Prepared: October 22, 2014

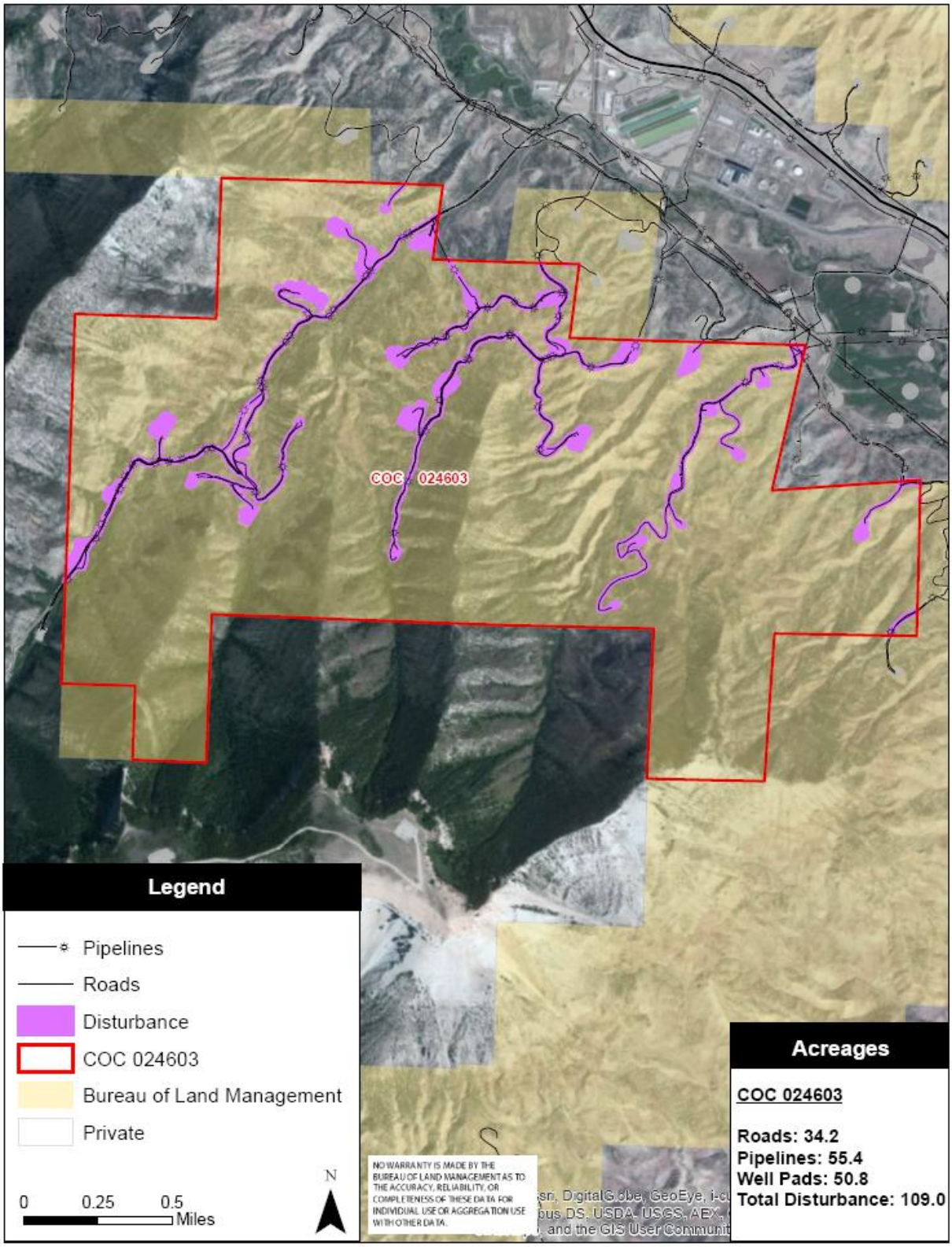

Figure 3. Disturbance Acreage for Federal Lease COC24603

Table 3. BLM Interdisciplinary Team Authors and Reviewers

Name	*Title*	*Areas of Participation*
John Brogan	Archaeologist	Cultural Resources, Native American Religious Concerns
Jim Byers	Natural Resource Specialist	EA Project Lead, Access & Transportation, Socioeconomics, Wastes-Hazardous or Solid, Air Quality, Noise, Soils, Surface Water, Waters of the U.S.
Allen Crockett, Ph.D., J.D.	Supervisory NRS	NEPA Review
Bob Hartman	Petroleum Engineer	Downhole Reviews and Conditions of Approval
Julie McGrew	Natural Resource Specialist	Visual Resources
Judy Perkins, Ph.D.	Botanist	Invasive Non-native Species, Special-status Species (Plants), Vegetation
Sylvia Ringer	Wildlife Biologist	Migratory Birds, Special-status Species (Animals), Wildlife, Aquatic and Terrestrial

D. Signature

The Proposed Action is statutorily categorically excluded from further NEPA documentation in accordance with Section 390 (b)(1) of the Energy Policy Act of 2005, which provides for such exclusion of individual surface disturbances of less than 5 acres so long as the total surface disturbance on the lease is not greater than 150 acres and site-specific analysis in a document prepared pursuant to NEPA has been previously completed. Acres of surface disturbance on Federal lease COC24603 are shown on Figure 3.

Authorizing Official: Allen Crockett Date: 11-17-14

E. Decision and Rationale for Action

I have decided to approve the BLM Applications for Permit to Drill (APDs) for the 11 Federal Wells Drilled on the Expanded GM 34-4 Pad with the attached Conditions of Approval (COAs). The COAs are required by this decision, and variance from these COAs during project implementation may require further NEPA review. I have reviewed Section C, Land Use Plan Conformance and Compliance with NEPA, and have determined that the proposed activity is in conformance with the applicable land use plan(s) and referenced NEPA documents. I have also evaluated the proposal to ensure the appropriate exclusion category as described in Section 390 of the Energy Policy Act of 2005 has been correctly applied and that no further environmental analysis is required.

Allen Crockett

Allen Crockett, Ph.D.
Supervisory Natural Resource Specialist

11-17-14
Date

F. Administrative Review or Appeal Opportunities

Applications for Permit to Drill and Sundry Notices

Under BLM regulations addressed in 43 CFR 3165, the decision to approve this Sundry Notice is subject to appeal and administrative review. An administrative review must be conducted in accordance with 43 CFR 3165.3, and must take place prior to pursuing an appeal to the Interior Board of Land Appeals.

Any adversely affected party may request an administrative review, before the State Director, either with or without oral presentation. Such a request must include information required under 43 CFR 3165.3(b) (State Director Review (SDR)), including all supporting documentation. Such a request must be filed in writing with the *BLM Colorado State Director, 2850 Youngfield Street, Lakewood, CO 80215* within 20 business days of the date the decision is received, or considered to have been received. Upon request and showing of good cause, an extension for submitting supporting/additional data may be granted by the State Director.

Any party who is adversely affected by the State Director's decision may appeal that decision to the Interior Board of Land Appeals in accordance with 43 CFR 3165.4.

References Cited:

U.S. Department of the Interior and U.S. Department of Agriculture (USDI and USDA). 2007. Surface operating standards and guidelines for oil and gas exploration and development. The Gold Book.

WestWater Engineering. 2014. WPX Energy, Mt. Callahan Project, MV 16-9, MV 5-10, MV 11-11, GM 33-10, GM 34-4, GM 13-2 Frac Pad, GM 42-11 Frac Pad, GR 23-11V, and the Mega Pad Biological Survey Report, Grand Junction, CO.

Conditions of Approval
WPX Energy Rocky Mountain LLC
11 Federal Wells Drilled on the Expanded GM 34-4 Pad

1. Administrative Notification. WPX Energy Rocky Mountain LLC ("WPX") shall notify the BLM Authorized Officer (AO) at least 48 hours prior to initiation of construction. If requested by the BLM, the operator shall first schedule a preconstruction meeting, including key operator and contractor personnel, to ensure that any unresolved issues are fully addressed prior to initiation of project work and review the COAs of the Sundry Notice as well as required safety regulations, if appropriate.

2. Project Construction Details. In addition to the standard topsoil windrowing practice, topsoil shall be stripped from areas where the facilities will be placed and then redistributed across the finish cutslopes and fillslopes in proximity to the separator pad and tank pad.

   In lieu of a steep cutslope behind the separator units, the new separator pad shall be daylighted to the east, if needed.

   The trees to be cleared within the new pad expansion footprint shall be accomplished with a hydro-axe machine to reduce the amount of fuel loading and slash generated at the site and augment topsoil windrows with organic matter.

   A ditch shall be installed along portions of the south-side cutslope not in proximity to the access road to direct storm water away from the cutslope and pad working area. A realigned ditch shall be constructed along the northeast pad edge below the road entrance to direct overland flow around the newly constructed fillslope and into the ephemeral drainage below Corner N #7A as shown on Plat 2.

   Sediment pond(s) collecting storm water runoff from the pad shall be constructed at the cut-fill balance points along either side of the pad instead of using black poly pipe to drain sediment catches at the pad corners.

   Locations of culvert(s) or ditch releases with sediment ponds to drain the access road ditch above the pad, near the separators, and at the pad entrance shall be determined by BLM and WPX personnel during the pad preconstruction meeting. The existing culvert located at the current road entrance to the GM 34-4 pad shall be re-positioned and used at the new pad entrance. Furthermore a new culvert shall be installed in the pad access road directly above and west of the GM 13-3 pad to relieve the long road ditch that runs down the steep grade pitch.

   New steel-walled, lined secondary containment structure shall be installed around the perimeter of the storage and/or blowdown tank(s) at this site. Where feasible, the tank pad shall be lowered in elevation along the new road entrance in a manner that allows the tank pad to be constructed primarily on cut material.

   Dozer or grader with chains shall be used as needed to assist heavy truck transports and equipment in gaining ingress and egress to the GM 34-4 pad across the steeper road pitches along the Red Tank road. Graveling of the existing Red Tank access road from the valley floor to the GM 34-4 pads shall be accomplished as directed by the Authorized Officer. Consideration shall be made to delaying the road surfacing on the steeper road pitches until after the rig has moved off the pad.

If storage space for cuttings developed from the wells drilled on this pad becomes scarce, the cuttings shall be transported and stored in a segregated, bermed area on the nearby MV 8-4 pad.
Prior to installation of the cross-country surface frac lines between the MV 8-4 pad and the GM 32-4 pad, a pre-work meeting will be held with WPX and BLM representatives to discuss the plan to accomplish this task while minimizing impacts to vegetation and present details on crossing Riley Gulch with the surface lines.

3. Saturated Soil Conditions. When saturated soil conditions occur on or along the proposed right-of-way, the construction work shall be halted until soil material dries out or is frozen sufficiently for construction to proceed without undue damage and erosion to soils.

4. Dust Abatement. The operator shall implement dust abatement measures as needed to prevent fugitive dust from vehicular traffic, equipment operations, or wind events. The BLM may direct the operator to change the level and type of treatment (watering or application of various dust agents, surfactants, and road surfacing material) if dust abatement measures are observed to be insufficient to prevent fugitive dust.

5. Drainage Crossings and Culverts. Construction activities at perennial, intermittent, and ephemeral drainage crossings (e.g. burying pipelines, installing culverts) shall be timed to avoid high flow conditions. Construction that disturbs any flowing stream shall utilize either a piped stream diversion or a cofferdam and pump to divert flow around the disturbed area.

   Culverts at drainage crossings shall be designed and installed to pass a 25-year or greater storm event. On perennial and intermittent streams, culverts shall be designed to allow for passage of aquatic biota. The minimum culvert diameter in any installation for a drainage crossing or road drainage shall be 24 inches. Crossings of drainages deemed jurisdictional waters of the U.S. pursuant to Section 404 of the Clean Water Act may require additional culvert design capacity. Due to the flashy nature of area drainages and anticipated culvert maintenance, the U.S. Army Corps of Engineers (USACE) recommends designing drainage crossings for the 100-year event. Contact the USACE Colorado West Regulatory Branch at 970-243-1199 ext. 12.

   Pipelines installed beneath stream crossings shall be buried at a minimum depth of 4 feet below the channel substrate to avoid exposure by channel scour and degradation. Following burial, the channel grade and substrate composition shall be returned to pre-construction conditions.

6. Jurisdictional Waters of the U.S. The operator shall obtain appropriate permits from the U.S. Army Corps of Engineers (USACE) prior to discharging fill material into Waters of the U.S. in accordance with Section 404 of the Clean Water Act. Waters of the U.S. are defined in 33 CFR Section 328.3 and may include wetlands as well as perennial, intermittent, and ephemeral streams. Permanent impacts to jurisdictional waters may require mitigation. Contact the USACE Colorado West Regulatory Branch at 970-243-1199 ext. 12. Copies of any printed or emailed approved USACE permits or verification letters shall be forwarded to the BLM.

7. Reclamation. The goals, objectives, timelines, measures, and monitoring methods for final reclamation of oil and gas disturbances are described in Appendix I (Surface Reclamation) of the 1998 Draft Supplemental EIS (DSEIS). Specific measures to follow during interim reclamation are described below.

   a. Reclamation Plans. In areas that have low reclamation potential or are especially challenging to restore, reclamation plans will be required prior to APD approval. The plan shall contain the

following components: detailed reclamation plats, which include contours and indicate irregular rather than smooth contours as appropriate for visual and ecological benefit; timeline for drilling completion, interim reclamation earthwork, and seeding; soil test results and/or a soil profile description; amendments to be used; soil treatment techniques such as roughening, pocking, and terracing; erosion control techniques such as hydromulch, blankets/matting, and wattles; and visual mitigations if in a sensitive VRM area.

b. Deadline for Interim Reclamation Earthwork and Seeding. Interim reclamation to reduce a well pad to the maximum size needed for production, including earthwork and seeding of the interim reclaimed areas, shall be completed within 6 months following completion of the last well planned to be drilled on that pad as part of a continuous operation. If a period of greater than one year is expected to occur between drilling episodes, BLM may require implementation of all or part of the interim reclamation program.

   Reclamation, including seeding, of temporarily disturbed areas along roads and pipelines, and of topsoil piles and berms, shall be completed within 30 days following completion of construction. Any such area on which construction is completed prior to December 1 shall be seeded during the remainder of the early winter season instead of during the following spring, unless BLM approves otherwise based on weather. If road or pipeline construction occurs discontinuously (e.g., new segments installed as new pads are built) or continuously but with a total duration greater than 30 days, reclamation, including seeding, shall be phased such that no portion of the temporarily disturbed area remains in an unreclaimed condition for longer than 30 days. BLM may authorize deviation from this requirement based on the season and the amount of work remaining on the entirety of the road or pipeline when the 30-day period has expired.

   If requested by the project lead NRS for a specific pad or group of pads, the operator shall contact the NRS by telephone or email approximately 72 hours before reclamation and reseeding begin. This will allow the NRS to schedule a pre-reclamation field visit if needed to ensure that all parties are in agreement and provide time for adjustments to the plan before work is initiated.

   The deadlines for seeding described above are subject to extension upon approval of the BLM based on season, timing limitations, or other constraints on a case-by-case basis. If the BLM approves an extension for seeding, the operator may be required to stabilize the reclaimed surfaces using hydromulch, erosion matting, or other method until seeding is implemented.

c. Topsoil Stripping, Storage, and Replacement. *All* topsoil shall be stripped following removal of vegetation during construction of well pads, pipelines, roads, or other surface facilities. In areas of thin soil, a minimum of the upper 6 inches of surficial material shall be stripped. The BLM may specify a stripping depth during the onsite visit or based on subsequent information regarding soil thickness and suitability. The stripped topsoil shall be stored separately from subsoil or other excavated material and replaced prior to final seedbed preparation. The BLM best management practice (BMP) for the Windrowing of Topsoil shall be implemented for well pad construction whenever topography allows.

d. Seedbed Preparation. For cut-and-fill slopes, initial seedbed preparation shall consist of backfilling and recontouring to achieve the configuration specified in the reclamation plan. For compacted areas, initial seedbed preparation shall include ripping to a minimum depth of 18 inches, with a maximum furrow spacing of 2 feet. Where practicable, ripping shall be conducted in two passes at perpendicular directions. Following final contouring, the backfilled or ripped surfaces shall be covered evenly with topsoil.

Final seedbed preparation shall consist of scarifying (raking or harrowing) the spread topsoil prior to seeding. If more than one season has elapsed between final seedbed preparation and seeding, and if the area is to be broadcast-seeded or hydroseeded, this step shall be repeated no more than 1 day prior to seeding to break up any crust that has formed.

If directed by the BLM, the operator shall implement measures following seedbed preparation (when broadcast-seeding or hydroseeding is to be used) to create small depressions to enhance capture of moisture and establishment of seeded species. Depressions shall be no deeper than 1 to 2 inches and shall not result in piles or mounds of displaced soil. Excavated depressions shall not be used unless approved by the BLM for the purpose of erosion control on slopes. Where excavated depressions are approved by the BLM, the excavated soil shall be placed only on the downslope side of the depression.

If directed by the BLM, the operator shall conduct soil testing prior to reseeding to identify if and what type of soil amendments may be required to enhance revegetation success. At a minimum, the soil tests shall include texture, pH, organic matter, sodium adsorption ratio (SAR), cation exchange capacity (CEC), alkalinity/salinity, and basic nutrients (nitrogen, phosphorus, potassium [NPK]). Depending on the outcome of the soil testing, the BLM may require the operator to submit a plan for soil amendment. Any requests to use soil amendments not directed by the BLM shall be submitted to the CRVFO for approval.

e. Seed Mixes. A seed mix consistent with BLM standards in terms of species and seeding rate for the specific habitat type shall be used on all BLM lands affected by the project (see Attachment 1 of the letter provided to operators dated October 24, 2014).

For private surfaces, the menu-based seed mixes are recommended, but the surface landowner has ultimate authority over the seed mix to be used in reclamation. The seed shall contain no prohibited or restricted noxious weed seeds and shall contain no more than 0.5 percent by weight of other weed seeds. Seed may contain up to 2.0 percent of "other crop" seed by weight, including the seed of other agronomic crops and native plants; however, a lower percentage of other crop seed is recommended. Seed tags or other official documentation shall be submitted to BLM at least 14 days before the date of proposed seeding for acceptance. Seed that does not meet the above criteria shall not be applied to public lands.

f. Seeding Procedures. Seeding shall be conducted no more than 24 hours following completion of final seedbed preparation.

Where practicable, seed shall be installed by drill-seeding to a depth of 0.25 to 0.5 inch. Where drill-seeding is impracticable, seed may be installed by broadcast-seeding at twice the drill-seeding rate, followed by raking or harrowing to provide 0.25 to 0.5 inch of soil cover or by hydroseeding and hydromulching. Hydroseeding and hydromulching shall be conducted in two separate applications to ensure adequate contact of seeds with the soil.

An exception to these seeding requirements shall be made for seeding of sagebrush. Sagebrush seeding shall occur prior to winter snowfall, or on top of snow. Sagebrush may be sown either by broadcast seeding, or, if not on snowpack, by placing the seed in the fluffy seed box of a seed drill, with the drop tube left open to allow seed to fall out on the ground surface.

If interim revegetation is unsuccessful, the operator shall implement subsequent reseedings until interim reclamation standards are met.

g. Mulch. Mulch shall be applied within 24 hours following completion of seeding in project areas within pinyon-juniper, sagebrush shrubland, and/or salt desert shrub habitat types. Mulch may consist of either hydromulch or of certified weed-free straw or certified weed-free native grass hay crimped into the soil. Mulch shall not be used within mountain shrub or spruce-fir forest habitat types, unless requested or approved by the BLM.

NOTE: Mulch is not required in areas where erosion potential mandates use of a biodegradable erosion-control blanket (straw matting).

h. Erosion Control. Cut-and-fill slopes shall be protected against erosion with the use of water bars, lateral furrows, or other BMPs approved by the BLM. Additional BMPs such as biodegradable wattles, weed-free straw bales, or silt fences shall have be employed as necessary to reduce transport of sediments into the drainages. The BLM may, in areas with high erosion potential, require use of hydromulch or biodegradable blankets/matting to ensure adequate protection from slope erosion and offsite transport of sediments and to improve reclamation success.

i. Site Protection. The pad shall be fenced to BLM standards to exclude livestock grazing for the first two growing seasons or until seeded species are firmly established, whichever comes later. The seeded species will be considered firmly established when at least 50 percent of the new plants are producing seed. The BLM will approve the type of fencing.

j. Monitoring. The operator shall conduct annual monitoring surveys of all sites categorized as "operator reclamation in progress" and shall submit an annual monitoring report of these sites, including a description of the monitoring methods used, to the BLM by **December 31** of each year. The monitoring program shall use the four Reclamation Categories defined in Appendix I of the 1998 DSEIS to assess progress toward reclamation objectives. The annual report shall document whether attainment of reclamation objectives appears likely. If one or more objectives appear unlikely to be achieved, the report shall identify appropriate corrective actions. Upon review and approval of the report by the BLM, the operator shall be responsible for implementing the corrective actions or other measures specified by the BLM.

8. Weed Control. The operator shall regularly monitor and promptly control noxious weeds or other undesirable plant species as set forth in the Glenwood Springs Field Office *Noxious and Invasive Weed Management Plan for Oil and Gas Operators*, dated March 2007. A Pesticide Use Proposal (PUP) must be approved by the BLM prior to the use of herbicides. Annual weed monitoring reports, including GPS shapefiles of treatment areas and Pesticide Application Records (PARs) (see the letter provided to operators dated February 27, 2014), shall be submitted to BLM by **December 1**.

9. Big Game Winter Range Timing Limitation. **Lease COC24603 has no winter TL stipulation.** However, under BLM's regulatory authority, this COA prohibits construction, drilling, or completion activities in mapped big game winter range, which encompasses the entire project site, during a 60-day Timing Limitation (TL) period from **January 1 through March 1.**

10. Bald and Golden Eagles. It shall be the responsibility of the operator to comply with the Bald and Golden Eagle Protection Act (Eagle Act) with respect to "take" of either eagle species. Under the Eagle Act, "take" includes to pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest and disturb. "Disturb" means to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, (1) injury to an eagle; (2) a decrease in its productivity by substantially interfering with normal breeding, feeding, or sheltering behavior; or (3) nest abandonment by substantially interfering with normal breeding, feeding, or sheltering

behavior. Avoidance of eagle nest sites, particularly during the nesting season, is the primary and preferred method to avoid a take. Any oil or gas construction, drilling, or completion activities planned within 0.5 mile of a bald or golden eagle nest, or other associated activities greater than 0.5 miles from a nest that may disturb eagles, should be coordinated with the BLM project lead and BLM wildlife biologist and the USFWS representative to the BLM Field Office (970-876-9051).

11. Raptor Nesting. To protect nesting raptors, a survey shall be conducted prior to construction, drilling, or completion activities that are to begin during the raptor nesting season (February 1 to August 15). The survey shall include all potential nesting habitat within 0.25 mile of a well pad or 0.125 mile of an access road, pipeline, or other surface facility. Results of the survey shall be submitted to the BLM. If a raptor nest is located within the buffer widths specified above, a 60-day raptor nesting TL will be applied by the BLM to preclude initiation of construction, drilling, and completion activities during the period of **April 1 to June 1**. The operator is responsible for complying with the MBTA, which prohibits the "take" of birds or of active nests (those containing eggs or young), including nest failure caused by human activity (see COA for Migratory Birds).

12. Migratory Birds – Birds of Conservation Concern. Pursuant to BLM Instruction Memorandum 2008-050, all vegetation removal or surface disturbance in previously undisturbed lands providing potential nesting habitat for Birds of Conservation Concern (BCC) is prohibited from **May 1 to July 1**. An exception to this TL may be granted if nesting surveys conducted no more than one week prior to surface-disturbing activities indicate that no BCC species are nesting within 30 meters (100 feet) of the area to be disturbed. Nesting shall be deemed to be occurring if a territorial (singing) male is present within the distance specified above. Nesting surveys shall include an audial survey for diagnostic vocalizations in conjunction with a visual survey for adults and nests. Surveys shall be conducted by a qualified breeding bird surveyor between sunrise and 10:00 AM under favorable conditions for detecting and identifying a BCC species. This provision does not apply to ongoing construction, drilling, or completion activities that are initiated prior to May 1 and continue into the 60-day period at the same location.

13. Range Management. Range improvements (fences, gates, reservoirs, pipelines, etc.) shall be avoided during development of natural gas resources to the maximum extent possible. If range improvements are damaged during exploration and development, the operator will be responsible for repairing or replacing the damaged range improvements. If a new or improved access road bisects an existing livestock fence, steel frame gate(s) or a cattleguard with associated bypass gate shall be installed across the roadway to control grazing livestock.

14. Fossil Resources. All persons associated with operations under this authorization shall be informed that any objects or sites of paleontological or scientific value, such as vertebrate or scientifically important invertebrate fossils, shall not be damaged, destroyed, removed, moved, or disturbed. If in connection with operations under this authorization any of the above resources are encountered the operator shall immediately suspend all activities in the immediate vicinity of the discovery that might further disturb such materials and notify the BLM of the findings. The discovery must be protected until notified to proceed by the BLM.

    Where feasible, the operator shall suspend ground-disturbing activities at the discovery site and immediately notify the BLM of any finds. The BLM will, as soon as feasible, have a BLM-permitted paleontologist check out the find and record and collect it if warranted. If ground-disturbing activities cannot be immediately suspended, the operator shall work around or set the discovery aside in a safe place to be accessed by the BLM-permitted paleontologist.

15. Cultural Education/Discovery. All persons in the area who are associated with this project shall be informed that if anyone is found disturbing historic, archaeological, or scientific resources, including collecting artifacts, the person or persons would be subject to prosecution.

    If subsurface cultural values are uncovered during operations, all work in the vicinity of the resource will cease and the Authorized Officer with the BLM notified immediately. The operator shall take any additional measures requested by the BLM to protect discoveries until they can be adequately evaluated by the permitted archaeologist. Within 48 hours of the discovery, the SHPO and consulting parties will be notified of the discovery and consultation will begin to determine an appropriate mitigation measure. BLM in cooperation with the operator will ensure that the discovery is protected from further disturbance until mitigation is completed. Operations may resume at the discovery site upon receipt of written instructions and authorization by the authorized officer.

    Pursuant to 43 CFR 10.4(g), the holder must notify the authorized officer, by telephone, with written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony on Federal land. Further, pursuant to 43 CFR 10.4 (c) and (d), the holder must stop activities in the vicinity of the discovery that could adversely affect the discovery. The holder shall make a reasonable effort to protect the human remains, funerary items, sacred objects, or objects of cultural patrimony for a period of thirty days after written notice is provided to the authorized officer, or until the authorized officer has issued a written notice to proceed, whichever occurs first.

    Antiquities, historic ruins, prehistoric ruins, and other cultural or paleontological objects of scientific interest that are outside the authorization boundaries but potentially affected, either directly or indirectly, by the Proposed Action shall also be included in this evaluation or mitigation. Impacts that occur to such resources as a result of the authorized activities shall be mitigated at the operator's cost, including the cost of consultation with Native American groups.

    Any person who, without a permit, injures, destroys, excavates, appropriates or removes any historic or prehistoric ruin, artifact, object of antiquity, Native American remains, Native American cultural item, or archaeological resources on public lands is subject to arrest and penalty of law (16 USC 433, 16 USC 470, 18 USC 641, 18 USC 1170, and 18 USC 1361).

16. Visual Resources. Production facilities shall be placed to avoid or minimize visibility from travel corridors, residential areas, and other sensitive observation points—unless directed otherwise by the BLM due to other resource concerns—and shall be placed to maximize reshaping of cut-and-fill slopes and interim reclamation of the pad.

    To the extent practicable, existing vegetation shall be preserved when clearing and grading for pipelines. The BLM may direct that cleared trees and rocks be salvaged and redistributed over reshaped cut-and-fill slopes or along linear features.

    Above-ground facilities including valve risers and welded pipe protection cages shall be painted **Shadow Gray** to minimize contrast with adjacent vegetation or rock outcrops.

17. Soils. Cuts and fills shall be minimized when working on erosive soils and slopes in excess of 30 percent. Cut-and-fill slopes shall be stabilized through revegetation practices with an approved seed mix shortly following construction activities to minimize the potential for slope failures and excessive erosion. Fill slopes adjacent to drainages shall be protected with well-anchored silt fences, straw wattles, or other acceptable BMPs designed to minimize the potential for sediment transport. On

slopes greater than 50 percent, BLM personnel may request a professional geotechnical analysis prior to construction.

SITE-SPECIFIC CONDITIONS OF APPROVAL

The following site-specific surface use COAs are in addition to the general COAs listed above and all relevant stipulations attached to the respective Federal leases.

Special Status Plants. If project construction for the GM 34-4 buried waterlines is delayed until the 2015 growing season, DeBeque phacelia surveys shall be performed in accordance with standard survey protocols. If plants are detected, consultation with USFWS shall be reinitiated, which could result in changes to the project construction area and recommended conservation measures outlined below.

If construction occurs prior to the next DeBeque phacelia growing season, the following conservation measures shall be applied to project construction.

The Operator shall incorporate the following steps to avoid and minimize impacts to DeBeque phacelia:

(1) To prevent accidental trampling or vehicle impacts, a temporary plastic fence (a minimum of 42 inches in height) or flagged wooden lath, or other marking systems acceptable to the BLM shall be installed along the edge of disturbed areas where mapped potential (suitable) habitat is within 20 meters of disturbance or at locations designated by the BLM to restrict foot traffic or equipment use.

(2) WPX shall restrict all personnel to areas within the boundary of project disturbance on all BLM lands. Exception shall be made only if approved by the BLM botanist.

(3) The proposed construction within a 100-meter buffer of mapped potential habitat shall only occur outside of the plant growth period of DeBeque phacelia of April through June (Spackman et al. 1997) during flowering years. Determination of a non-flowering year shall be made by the BLM botanist, in conjunction with the USFWS.

(4) Surface disturbing activities located within 100 meters of mapped delineated DeBeque phacelia habitats (suitable and marginal) shall have dust control measures implemented. Dust abatement applications shall be limited to water only to prevent negative impacts from additives.

(5) To prevent impacts from herbicide drift and from noxious weeds, no herbicide shall be applied within 20 meters of any mapped DeBeque phacelia habitat. Within these herbicide prohibition buffers, noxious weeds in these areas shall be controlled by manual treatments. In areas between 20 meters and 100 meters of mapped DeBeque phacelia habitat, spot treatments of noxious weeds may be made using herbicide, only when no DeBeque phacelia plants are present within mapped habitat areas. A BLM approved Pesticide Use Proposal (PUP) noting this sensitive area restriction must be obtained prior to any herbicide use. All mapped habitat areas within 100 meters of planned herbicide use shall be surveyed for DeBeque phacelia plants by a BLM approved botanist prior to any herbicide application. If DeBeque phacelia plants are found, the BLM botanist shall be notified immediately, and consultation with USFWS shall be reopened.

(6) If botanical surveys are conducted at the appropriate time of year, in a year when DeBeque phacelia plants are present at known sites of similar elevation and moisture conditions, and no DeBeque phacelia plants are found within the mapped habitat areas, the protections listed above shall no longer be necessary.

BUREAU OF LAND MANAGEMENT

Colorado River Valley Field Office
2300 River Frontage Road
Silt, CO 81652

DOWNHOLE CONDITIONS OF APPROVAL
Applications for Permit to Drill

Operator:	WPX Energy Rocky Mountain LLC
Lease Number:	COC24603
Pad(s):	GM 34-4
Engineer:	Bob Hartman
Surface Location:	Garfield County; SW SE, Sec. 4, T7S R96W

See list of wells following the COAs.

1. Twenty-four hours *prior* to (a) spudding, (b) conducting BOPE tests, (c) cementing/running casing strings, and (d) within 24 hours *after* spudding, the CRVFO shall be notified. One of the following CRVFO inspectors shall be notified by phone. The contact number for all notifications is 970-876-9064. The BLM CRVFO inspectors are Julie King, Lead PET; David Giboo, PET; Greg Rios, PET; Tim Barrett, PET; Alex Provstgaard, PET; Brandon Jamison, PET.

2. A CRVFO petroleum engineer shall be contacted for a verbal approval prior to commencing remedial work, plugging operations on newly drilled boreholes, changes within the drilling plan, sidetracks, changes or variances to the BOPE, deviating from conditions of approval, and conducting other operations not specified within the APD. Contact the petroleum engineer for verbal approvals (contact information below).

3. If a well control issue or failed test (e.g. kick, blowout, water flow, casing failure, or a bradenhead pressure increase) arises during drilling or completions operations, the petroleum engineer shall be notified within 24 hours from the time of the event. IADC/Driller's Logs and Pason Logs (mud logs) shall be forwarded to CRVFO – Petroleum Engineer, 2300 River Frontage Road, Silt, CO 81652 within 24 hours of a well control event.

4. The BOPE shall be tested and conform to Onshore Order No. 2 for a **3M** system and recorded in the IADC/Driller's log. A casing head rated to 30,000 psi or greater shall be used.

5. Flexible choke lines shall meet or exceed the API SPEC 16C requirements. Flexible choke lines shall have flanged connections and configured to the manufacturer's specifications. The flexible choke lines shall be anchored in a safe and workmanlike manner. At minimum, all connections shall be effectively anchored in place for safety of the personal on location. Manufacturer specifications shall be kept with the drilling rig at all times and immediately supplied to the authorized officer/inspector upon request. Specifications at a minimum shall include acceptable bend radius, heat range, anchoring, and the working pressure. All flexible choke lines shall be free of gouges, deformations, and as straight/short as possible.

6. An electrical/mechanical mud monitoring equipment shall be function tested prior to drilling out the surface casing shoe. As a minimum, this equipment shall include a pit volume totalizer, stroke counter, and flow sensor.

7. Prior to drilling out the surface casing shoe, gas detecting equipment shall be installed in the mud return system. The mud system shall be monitored for hydrocarbon gas/pore pressure changes, rate of penetration, and fluid loss.

8. A gas buster shall be functional and all flare lines effectively anchored in place, prior to drilling out the surface casing shoe. The discharge of the flare lines shall be a minimum of 100 feet from the wellhead and targeted at bends. The panic line shall be a separate line (not open inside the buffer tank) and effectively anchored. All lines shall be downwind of the prevailing wind direction and directed into a flare pit, which cannot be the reserve pit. The flare system shall use an automatic ignition. Where noncombustible gas is likely or expected to be vented, the system shall be provided supplemental fuel for ignition and maintain a continuous flare.

9. After the surface/intermediate casing is cemented, a Pressure Integrity Test/Mud Equivalency Test/FIT shall be performed on the first well drilled in accordance with OOGO No. 2; Sec. III, B.1.i. to ensure that the surface/intermediate casing is set in a competent formation. This is not a Leak-off Test, but a formation competency test, insuring the formation at the shoe is tested to the highest anticipated mud weight equivalent necessary to control the formation pressure to the next casing shoe depth or TD. Submit the results from the test via email to the petroleum engineer on the first well drilled on the pad or any horizontal well and record results in the IADC log. A failed pressure integrity test is more than 10% pressure bleed off in 15 minutes. Report failed test to the petroleum engineer.

10. As a minimum, cement shall be brought to 200 feet above the Mesaverde. After WOC for the production casing, a CBL shall be run to verify the TOC and an electronic copy in .las and .pdf format shall be submitted to CRVFO – Petroleum Engineer, 2300 River Frontage Road, Silt, CO 81652 within 48 hours. If the TOC is lower than required or the cement sheath of poor quality, a CRVFO petroleum engineer shall be notified for remedial operations within 48 hours from running the CBL and prior to commencing fracturing operations.

    A greater volume of cement may be required to meet the 200-foot cement coverage requirement for the Williams Fork Formation /Mesaverde Group. Evaluate the top of cement on the first cement job on the pad (Temperature Log). If cement is below 200-foot cement coverage requirement, adjust cement volume to compensate for low TOC/cement coverage.

11. On the first well drilled on this pad, a triple combo open-hole log shall be run from the base of the surface borehole to surface and from TD to bottom of surface casing shoe. This log shall be in submitted within 48 hours in .las and .pdf format to: CRVFO – Petroleum Engineer, 2300 River Frontage Road, Silt, CO 81652. Contact 970-876-9000 for clarification.

12. Submit the (a) mud/drilling log (e.g. Pason disc), (b) driller's event log/operations summary report, (c) production test volumes, (d) directional survey, and (e) Pressure Integrity Test results within 30 days of completed operations (i.e. landing tubing) per 43 CRF 3160-9 (a).

13. Prior to commencing fracturing operations, the production casing shall be tested to the maximum anticipated surface treating/fracture pressure and held for 15 minutes without a 2% leak-off. If leak-off is found, the petroleum engineer shall be notified within 24 hours of the failed test, but prior to proceeding with fracturing operations. The test shall be charted and set to a time increment as to take up no less than a quarter of the chart per test. The chart shall be submitted with the well completion report.

14. During hydraulic frac operations, monitor the bradenhead/casing head pressures throughout the frac job. Frac operations shall be terminated upon any sharp rise in annular pressure (+/- 40 psi or greater) in order to determine well/wellbore integrity. Notify the petroleum engineer immediately.

15. Per 43 CFR 3162.4-1(c), no later than the 5th business day after any well begins production on which royalty is due anywhere on a lease site or allocated to a lease site, or resumes production in a case of a well which has been off production for more than 90 days, the operator shall notify the authorized

officer by letter or sundry notice, Form 3160-5, or orally to be followed by a letter or sundry notice, of the date on which such production has begun or resumed.

Contact Information

Colorado River Valley Field Office
Petroleum Engineer

Office: (970) 876-9000
CRVFO_PE@blm.gov

Bob Hartman
Petroleum Engineer

Office: (970) 244-3041
Cell: (970) 589-6735
bhartman@blm.gov

List of Wells			
Proposed Pads	***Proposed Wells***	***Surface Location***	***Bottom Hole Locations***
GM 34-4 (BLM Surface)	GM 314-4	**T7S R96W, Sect. 4, SWSE**	T7S R96W, Sect. 4, NW SW
	GM 323-4		T7S R96W, Sect. 4, NE SW
	GM 413-4		T7S R96W, Sect. 4, NW SW
	GM 414-4		T7S R96W, Sect. 4, NE SW
	GM 423-4		T7S R96W, Sect. 4, NE SW
	GM 424-4		T7S R96W, Sect. 4, SE SW
	GM 31-9		T7S R96W, Sect. 9, NW NE
	GM 41-9		T7S R96W, Sect. 9, NE NE
	GM 331-9		T7S R96W, Sect. 9, NW NE
	GM 332-9		T7S R96W, Sect. 9, SW NE
	GM 431-9		T7S R96W, Sect. 9, NW NE