

**United States Department of the Interior
Bureau of Land Management
Royal Gorge Field Office
3028 E. Main Street
Cañon City, CO 81212**

Environmental Assessment

Project Title

DOI-BLM-CO-F02-2014-0039 EA

March, 2014



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CHAPTER 1 - INTRODUCTION

1.1 IDENTIFYING INFORMATION

CASEFILE/PROJECT NUMBER (optional):

PROJECT TITLE: Paleontological Resources Use

PLANNING UNIT: Royal Gorge Resource Area, Sub region #1-Arkansas River

LEGAL DESCRIPTION: 23rd PM, T49N, R10E, Section 22

APPLICANT: University of Utah

1.2 INTRODUCTION AND BACKGROUND

BACKGROUND: This EA has been prepared by the BLM to analyze any surface disturbance associated with the excavation of paleontological resources from Public Lands.

1.3 PURPOSE AND NEED

The Paleontological Resources Preservation Act passed in 2009 (PL 111-11) mandates that the BLM manage and protect paleontologic resources on Federal Land using scientific principals and expertise. Collaboration with the scientific community is also recommended. The BLM issuing a paleontological resources excavation permit to the University of Utah to research vertebrate and plant material will broaden our understanding of the local fauna and flora and the changing environment of some of the first terrestrial faunas and help us better understand the timing of changes.

1.4 DECISION TO BE MADE

The BLM will decide whether to approve the proposed Paleontological Resources excavation based on the analysis contained in this Environmental Assessment (EA). This EA will analyze impacts associated with excavation of paleontological resources.

The BLM may choose to: a) accept the project as proposed, b) accept the project with modifications/mitigation, c) accept an alternative to the proposed action, or d) not authorize the project at this time. The finding associated with this EA may not constitute the final approval for the proposed action.

1.5 PLAN CONFORMANCE REVIEW

PLAN CONFORMANCE REVIEW: The Proposed Action is subject to and has been reviewed for conformance with the following plan (43 CFR 1610.5, BLM 1617.3):

Name of Plan: Royal Gorge Resource Area, Record of Decision and Resource Management Plan

Date Approved: May 1996

Decision Number/Page: C-92, Paleontological Resources Management

Decision Language: Manage paleontological resources in accordance with existing BLM manual and other guidance, requiring clearances (in Class I filtered areas) and necessary mitigation in Class I and other areas identified as having specific indications of scientifically significant fossils. Guidance also outlines procedures required for paleontological permitting.

In January 1997, the Colorado State Office of the BLM approved the Standards for Public Land Health and amended all RMPs in the State. Standards describe the conditions needed to sustain public land health and apply to all uses of public lands.

Standard 1: Upland soils exhibit infiltration and permeability rates that are appropriate to soil type, climate, land form, and geologic processes.

Standard 2: Riparian systems associated with both running and standing water function properly and have the ability to recover from major disturbance such as fire, severe grazing, or 100-year floods.

Standard 3: Healthy, productive plant and animal communities of native and other desirable species are maintained at viable population levels commensurate with the species and habitat's potential.

Standard 4: Special status, threatened and endangered species (federal and state), and other plants and animals officially designated by the BLM, and their habitats are maintained or enhanced by sustaining healthy, native plant and animal communities.

Standard 5: The water quality of all water bodies, including ground water where applicable, located on or influenced by BLM lands will achieve or exceed the Water Quality Standards established by the State of Colorado.

Because standards exist for each of these five categories, a finding must be made for each of them in an environmental analysis. These findings are located in Chapter 3 of this document.

1.6 SCOPING, PUBLIC INVOLVEMENT AND ISSUES

1.5.1 Scoping: NEPA regulations (40 CFR §1500-1508) require that the BLM use a scoping process to identify potential significant issues in preparation for impact analysis. The principal goals of scoping are to allow public participation to identify issues, concerns, and potential impacts that require detailed analysis.

Persons/Public/Agencies Consulted: Scoping, by posting this project on the Royal Gorge Field Office NEPA website, was the primary mechanism used by the BLM to initially identify issues. No comments were received.

Issues Identified: No issues were identified during public scoping.

CHAPTER 2 - PROPOSED ACTION AND ALTERNATIVES

2.1 INTRODUCTION

The purpose of this chapter is to provide information on the Proposed Action and Alternatives. Alternatives considered but not analyzed in detail are also discussed.

2.2 ALTERNATIVES ANALYZED IN DETAIL

2.2.1 Proposed Action

The proposal is to reopen a paleontological resources quarry in Fremont County to better document the vertebrate and plant material at this site. Widening of the quarry area will take place along a 1 foot thick, 15-foot strike perpendicular to the bank of the streambed. The excavation will require the use of jack hammers to break apart hard rock. Surface collection will also take place (including plants, tracks/traces, bone, and hand samples for detrital zircons for U-Pb dating) and prospecting farther up the tributary in plant-bearing horizons and in similar rock units that may preserve bone. A small crew will be working in the quarry area for 2 weeks in June 2014.

Soil and rock from the quarry shall not be placed in the drainage; this will prevent sediment from being transported to the Arkansas River.

Upon completion of work in the quarry, the quarry will be returned to a state that prevents degradation of the fossil bearing layer. Typically this is done by re-covering the quarry with waste rock material and/or leaving the face of the quarry at a grade that will minimize surface runoff velocities. The quarry should be left in a state that will not attract attention from other users of public lands. Preparation of some materials will take place at University of Utah and later at the Carnegie Museum of Natural History, their current designated repository. The Carnegie Museum houses a large collection of Paleozoic vertebrates from the western US and Colorado, including some of Peter Vaughn's original material. The results of this fieldwork will broaden our understanding not only of the local fauna and flora, but also of the changing environments of some of the first terrestrial faunas, as well as the timing of these changes in order to help understand the Late Paleozoic-Early Mesozoic climate change.

2.2.2 No Action Alternative

Under the no action alternative the Paleontological Resources Use permit for excavation would not be granted and the proponent may choose to dispute and appeal the decision.

CHAPTER 3 - AFFECTED ENVIRONMENT AND EFFECTS

3.1 INTRODUCTION

This section provides a description of the human and natural environmental resources that could be affected by the Proposed Action and presents comparative analyses of the direct, indirect and cumulative effects on the affected environment stemming from the implementation of the actions under the Proposed Action and other alternatives analyzed.

3.1.1 Interdisciplinary Team Review

The following table is provided as a mechanism for resource staff review, to identify those resource values with issues or potential impacts from the proposed action and/or alternatives. Those resources identified in the table as impacted or potentially impacted will be brought forward for analysis.

<u>Resource</u>	<u>Initial and date</u>	<u>Comment or Reason for Dismissal from Analysis</u>
<u>Air Quality</u> <i>Ty Webb, Chad Meister, Melissa Hovey</i>	TW, 3/21/14	This action will not result in significant impacts to air quality within the region.
<u>Geology/Minerals</u> <i>Stephanie Carter, Melissa Smeins</i>	MJS, 4/07/2014	The small size and limited duration of this proposal will not affect geologic resources.
<u>Soils</u> <i>John Smeins</i>	JS, 3/21/14	The proposal would excavate a 15 foot wide section of mainly weathered bedrock that has little to no vegetation. Due to the small size and soil type, no significant impact to soils is expected.
<u>Water Quality</u> <u>Surface and Ground</u> <i>John Smeins</i>	JS, 3/21/14	The proposal would be along a dry ephemeral channel approximately 200 yards from Badger Creek. Due to the small size and location of the project, no significant impact to water quality is expected; however, care should be taken to not place excavated material into the channel where it can wash downstream.
<u>Invasive Plants</u> <i>John Lamman</i>	JL, 04/29/2014	The proposal would excavate a 15 foot wide section of mainly weathered bedrock that has little to no vegetation. Due to the small size, soil type, and no significant impact to soils expected, establishment of invasive plants is a minimal concern.
<u>T&E and Sensitive Species</u> <i>Matt Rustand</i>	MR, 3/24/14	There are no known locations or habitat present for of threatened, endangered, or sensitive species within the action area. No impacts to threatened, endangered, or sensitive species is expected as a result of the proposed action.
<u>Vegetation</u> <i>Jeff Williams, Chris Cloninger, John Lamman</i>	JW 3/26/14	Vegetation is very sparse within the proposed excavation area and therefor would not have any significant impacts to this resource.
<u>Wetlands and Riparian</u> <i>Dave Gilbert</i>	DG 4/14/14	The drainage of proposed work is an ephemeral channel subject to very high but infrequent flow events. No wetlands are present that will be affected by the proposed action.
<u>Wildlife Aquatic</u> <i>Dave Gilbert</i>	DG 14/14/14	No aquatic habitat is present.

<u>Resource</u>	<u>Initial and date</u>	<u>Comment or Reason for Dismissal from Analysis</u>
<u>Wildlife Terrestrial</u> <i>Matt Rustand</i>	MR, 3/24/14	The quarry has been previously disturbed. The short duration of the project will result in a negligible impact to terrestrial wildlife species.
<u>Migratory Birds</u> <i>Matt Rustand</i>	MR, 3/24/14	The quarry has been previously disturbed. The short duration, small action area, and lack of vegetation disturbance will result in an insignificant impact to migratory bird species.
<u>Cultural Resources</u> <i>Monica Weimer, Michael Troyer</i>	MMW, 5/20/14	A single site is present in the area of potential effect (5FN2841), but is not eligible for the NRHP. Therefore, there will be no historic properties affected.
<u>Native American Religious Concerns</u> <i>Monica Weimer, Michael Troyer</i>	MMW, 5/20/14	No concerns.
<u>Economics</u> <i>Martin Weiner</i>	mw, 3/18/14	This action will not result in significant impacts to the socio economics of individuals or the region the region.
<u>Paleontology</u> <i>Melissa Smeins, Stephanie Carter</i>	MJS, 5/02/2014	This action is beneficial to the science of paleontology and will provide a better understanding of paleontologic resources in our Field Area.
<u>Visual Resources</u> <i>Kalem Lenard</i>	KL, 3/17/2014	Visual resources would not be impacted by this action.
<u>Environmental Justice</u> <i>Martin Weiner</i>	mw, 3/18/14	The proposed action affects areas that are rural in nature. The land adjacent to these parcels is open rangeland, as a result, there are no minority or low-income populations in or near the project area. As such, the proposal will not have a disproportionately high or adverse environmental effect on minority or low-income populations.
<u>Wastes Hazardous or Solid</u> <i>Stephanie Carter</i>	MJS, 5/02/2014	If the project involves oil or fuel usage, transfer or storage, an adequate spill kit and shovels are required to be onsite during project implementation. The project proponent will be responsible for adhering to all applicable local, State and Federal regulations in the event of a spill, which includes following the proper notification procedures in BLM's Spill Contingency Plan.
<u>Recreation</u> <i>Kalem Lenard</i>	KL, 3/17/2014	Recreation resources would not be impacted by this action.
<u>Farmlands Prime and Unique</u> <i>John Smeins</i>	JS, 3/21/14	Resource not present.
<u>Lands and Realty</u> <i>Greg Valladares</i>	GV, 5/21/2014	There are no authorized lands actions in this area.
<u>Wilderness, WSAs, ACECs, Wild & Scenic Rivers</u> <i>Kalem Lenard</i>	KL, 3/17/2014	Not present.
<u>Wilderness Characteristics</u> <i>Kalem Lenard</i>	KL, 3/17/2014	The inventory for lands with wilderness characteristics was updated in 2013. The lands affected by the proposed action were found to not possess wilderness characteristics therefore this resource would not be affected.
<u>Range Management</u> <i>Jeff Williams, Chris Cloninger, John</i>	JW 3/26/14	This action will not result in significant impacts to range management within the proposed area and limited timeframe.

<u>Resource</u>	<u>Initial and date</u>	<u>Comment or Reason for Dismissal from Analysis</u>
<i>Lamman</i>		
<u>Forest Management</u> <i>Ken Reed</i>	KR 3/17/14	No cutting or removing trees without BLM authorization. Due to the pinyon IPS beetle activity in this area no cutting or pruning trees between April 1 and October 1, which is the beetle's flight period.
<u>Cadastral Survey</u> <i>Jeff Covington</i>	JC 4/14/14	If the proposed action is near any PLSS corner, the corner will need to be located and properly protected.
<u>Noise</u> <i>Martin Weimer</i>	mw, 3/18/14	This action will not result in any significant impacts due to noise or result in any increased noise levels.
<u>Fire</u> <i>Ty Webb</i>	TW, 5/22/14	There are no fire issues associated with this action.
<u>Law Enforcement</u> <i>Steve Cunningham</i>	SC, 5/21/2014	There are no law enforcement issues associated with this action.

Due to none or insignificant impacts to any of the above listed resource values no detailed analysis is required.

3.3 CUMULATIVE IMPACTS SUMMARY

This action is beneficial to the science of paleontology and will provide a better understanding of paleontologic resources in our Field Area. This action will not result in significant cumulative impacts to any resources.

CHAPTER 4 - CONSULTATION AND COORDINATION

4.1 LIST OF PREPARERS AND PARTICIPANTS

Please see Interdisciplinary Team Review list for BLM Participants

4.2 TRIBES, INDIVIDUALS, ORGANIZATIONS, OR AGENCIES CONSULTED

Harley Armstrong, BLM Colorado Paleontologist

CHAPTER 5 - REFERENCES

Bureau of Land Management., 1996. Royal Gorge Resource Area Resource Management Plan and Record of Decision. Front Range District. Canon City, Colorado.

Bureau of Land Management., 2008 H-1790-1 National Environmental Policy Handbook. Washington, D.C.

Brill, Kenneth G. Jr., 1952, Bulletin of the Geological Society of America, Vol. 83, pp. 809-880, Stratigraphy of the Permo-Pennsylvanian Zeugogeosyncline of Colorado and Northern New Mexico

Vaughn, Peter Paul., 1969, Los Angeles County Museum of Natural History, Contributions in Science, Vol. 164, pp 1-27, Upper Pennsylvanian Vertebrates from the Sangre de Cristo Formation of Central Colorado.

**Finding Of No Significant Impact
(FONSI)
DOI-BLM-CO-200-20XX-0000 EA**

Based on review of the EA and the supporting documents, I have determined that the project is not a major federal action and will not have a significant effect on the quality of the human environment, individually or cumulatively with other actions in the general area. No environmental effects from any alternative assessed or evaluated meet the definition of significance in context or intensity, as defined by 43 CFR 1508.27. Therefore, an environmental impact statement is not required. This finding is based on the context and intensity of the project as described below:

RATIONALE:

Context: The project is situated in the upper Arkansas River valley in Fremont County, Colorado. The University of Utah is applying for a permit to reopen a paleontological resources quarry to better document the vertebrate and plant material at the site. The proposal will widen an existing quarry area along a 1 foot thick, 15-foot strike perpendicular to the bank of the streambed.

Preparation of some materials will take place at University of Utah and later at the Carnegie Museum of Natural History, their current designated repository. The Carnegie Museum houses a large collection of Paleozoic vertebrates from the western US and Colorado, including some of Peter Vaughn's original material.

The results of this fieldwork will broaden our understanding not only of the local fauna and flora, but also of the changing environments of some of the first terrestrial faunas, as well as the timing of these changes in order to help understand the Late Paleozoic-Early Mesozoic climate change.

Intensity:

I have considered the potential intensity/severity of the impacts anticipated from the University of Utah paleontological excavation decision relative to each of the ten areas suggested for consideration by the CEQ. With regard to each:

Impacts that may be beneficial and adverse:

This action is beneficial to the science of paleontology and will provide a better understanding of paleontologic resources in our Field Area. The results of this fieldwork will broaden our understanding not only of the local fauna and flora, but also of the changing environments of some of the first terrestrial faunas, as well as the timing of these changes in order to help understand the Late Paleozoic-Early Mesozoic climate change.

Public health and safety:

None

Unique characteristics of the geographic area:

None present

Degree to which effects are likely to be highly controversial:

The ID team review of this action indicates that agree that this action will not result in a significant impact on resources.

Degree to which effects are highly uncertain or involve unique or unknown risks:

No uncertain or unknown risks.

Consideration of whether the action may establish a precedent for future actions with significant impacts:

The decision is within the scope of the Resource Management Plan and is not expected to establish a precedent for future actions. The decision does not represent a decision in principle about a future consideration.

Consideration of whether the action is related to other actions with cumulatively significant impacts:

No Cumulative Affects

Scientific, cultural or historical resources, including those listed in or eligible for listing in the National Register of Historic Places:

A single site is present in the area of potential effect (5FN2841), but is not eligible for the NRHP. Therefore, there will be no historic properties affected.

Threatened and endangered species and their critical habitat:

There are no known locations or habitat present for threatened, endangered, or sensitive species within the action area. No impacts to threatened, endangered, or sensitive species is expected as a result of the proposed action.

Any effects that threaten a violation of Federal, State or local law or requirements imposed for the protection of the environment: The proposed action conforms with the provisions of NEPA (U.S.C. 4321-4346) and FLPMA (43 U.S.C. 1701 et seq.) and is compliant with the Clean Water Act and The Clean Air Act, the National Historic Preservation Act, Migratory Bird Treaty Act (MBTA) and the Endangered Species Act.

NAME OF PREPARER: Melissa Smeins

SUPERVISORY REVIEW: Jay Raiford

NAME OF ENVIRONMENTAL COORDINATOR: /s/ Martin Weimer

DATE: 5/30/14

SIGNATURE OF AUTHORIZED OFFICIAL:

/s/ Keith E. Berger
Keith E. Berger, Field Manager

DATE SIGNED: 5/30/14

**UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
ROYAL GORGE FIELD OFFICE**

DECISION RECORD
Paleontological Resources Use
DOI-BLM-CO-F02-2014-0039 EA

DECISION: It is my decision to authorize the Proposed Action as described in the attached EA. The proposal is to reopen a paleontological resources quarry in Fremont County to collect vertebrate fossils and plant material and to prepare and study the fossils to better document the vertebrate and plant material at this site. Widening of the quarry area will take place along a one foot thick, 15-foot strike perpendicular to the bank of the streambed. The excavation will require the use of jack hammers to break apart hard rock. Surface collection will also take place (including plants, tracks/traces, bone, and hand samples for detrital zircons for U-Pb dating) and prospecting farther up the tributary in plant-bearing horizons and in similar rock units that may preserve bone. A small crew will be working in the quarry area for 2 weeks in June 2014. Preparation of some materials will take place at University of Utah and later at the Carnegie Museum of Natural History, their current designated repository. The Carnegie Museum houses a large collection of Paleozoic vertebrates from the western US and Colorado, including some of Peter Vaughn's original material. This office completed an Environmental Assessment of the proposed action and reached a Finding of No Significant Impact.

This decision is contingent on meeting all mitigation measures and monitoring requirements listed below.

RATIONALE: The decision to approve the proposed paleontological resources excavation was based on the BLM's mandate to manage and protect paleontologic resources on Federal Land using scientific principals and expertise via collaboration with the scientific community. (Paleontological Resources Preservation Act passed in 2009 (PL 111-11)).

The results of action will broaden our understanding not only of the local fauna and flora, but also of the changing environments of some of the first terrestrial faunas, as well as the timing of these changes in order to help understand the Late Paleozoic-Early Mesozoic climate change.

MITIGATION MEASURES\MONITORING:

- Soil and rock from the quarry shall not be placed in the drainage to prevent sediment from being transported to the Arkansas River.
- Upon completion of work in the quarry, the quarry should be returned to a state that prevents degradation of the fossil bearing layer. Typically this is done by re-covering the quarry with waste rock material and/or leaving the face of the quarry at a grade that will minimize surface runoff velocities.
- The quarry will be left in a state that will not attract attention from other users of public lands.

- If the project involves oil or fuel usage, transfer or storage, an adequate spill kit and shovels are required to be onsite during project implementation. The project proponent will be responsible for adhering to all applicable local, State and Federal regulations in the event of a spill, which includes following the proper notification procedures in BLM's Spill Contingency Plan.
- No cutting or removing trees without BLM authorization. Due to the pinyon IPS beetle activity in this area no cutting or pruning trees between April 1 and October 1, which is the beetle's flight period.

PROTEST/APPEALS: This decision shall take effect immediately upon the date it is signed by the Authorized Officer, and shall remain in effect while any appeal is pending unless the Interior Board of Land Appeals issues a stay (43 CFR 2801.10(b)). Any appeal of this decision must follow the procedures set forth in 43 CFR Part 4. Within 30 days of the decision, a notice of appeal must be filed in the office of the Authorized Officer at the Royal Gorge Field Office, 3028 East Main Street, Canon City, Colorado, 81212. If a statement of reasons for the appeal is not included with the notice, it must be filed with the Interior Board of Land Appeals, Office of Hearings and Appeals, U.S. Department of the Interior, 801 North Quincy St., Suite 300, Arlington, VA 22203 within 30 days after the notice of appeal is filed with the Authorized Officer.

Any applicant or permittee may question the decision of the Authorized Officer (i.e., State Director or Field Office Manager, as applicable) with respect to the denial of a permit application, the inclusion of specific terms and conditions in a permit, or the modification, suspension, revocation or non-renewal of a permit. The disputant may file a written request in accordance with H-8270-1 General Procedural Guidance for Paleontological Resource Management.

SIGNATURE OF AUTHORIZED OFFICIAL:

/s/ Keith E. Berger
Keith E. Berger, Field Manager

DATE SIGNED: 5/30/14