

UNITED STATES DEPARTMENT OF THE INTERIOR - BUREAU OF LAND MANAGEMENT  
 WILDLIFE CLEARANCE EVALUATION AND CONSULTATION FORM  
 LANDER FIELD OFFICE

To: Wildlife Biologist  
 From: Craig Bromley, Archeologist  
 Subject: Request for Wildlife Clearance and Evaluation

**Company Name and/or Project Name:** University of Wisconsin-Madison Dubois Popo Agie  
 Fm. Paleontological Excavation Permit Application — *last wk of July, 1st 2 wks of Aug.*  
**Legal Location:** Township 41 North, Range 106 West, Section 7 N1/2SW1/4SW1/4  
 Section 18 N1/2NE1/4NW1/4

**Description of Proposed Action:** Small-scale fossil bed excavations over 3 years  
**Quad:** Dubois 7.5'

Response: Data Review and Determination of Impact on Wildlife Habitat and Threatened or Endangered Species  
 To: Initiating Officer

This memo will become an appendix to the Environmental Documentation for this project. This proposal and relative data have been analyzed as to the impact of the proposed action.

\*\*Coordination with Wyoming Game and Fish Department (IS) (IS NOT) recommended. Coordination may be needed due to unusual or excessive negative effects on big game, sage-grouse, riparian areas, fisheries, other priority species or potentially controversial actions.

**Threatened, Endangered, and Proposed Species Clearance Form**

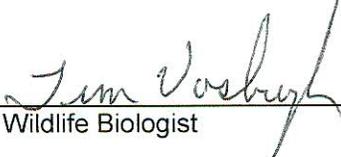
ENDANGERED, THREATENED, OR PROPOSED SPECIES	HABITAT DESCRIPTION	PROJECT EFFECT CALL	CONSULTATION REQUIRED	JUSTIFICATION FOR EFFECTS DETERMINATION
Canada lynx (Threatened)	Coniferous forests with abundant snowshoe hare populations.	<i>NE</i>	Yes   <input checked="" type="radio"/> No	<input type="checkbox"/> No suitable habitat present
Black-footed ferret (Endangered)	Large prairie dog complexes  <input type="checkbox"/> White-tailed Prairie Dog	<i>NE</i>	Yes   <input checked="" type="radio"/> No	<input type="checkbox"/> Area not suitable for reintroduction efforts <input type="checkbox"/> No habitat present or action is within a block cleared area <input type="checkbox"/> Within prairie dog town; not block-cleared; survey required
Grizzly Bear (Threatened)	Extensive forest cover interspersed with grasslands and meadows.	<i>NE</i>	Yes   <input checked="" type="radio"/> No	<input type="checkbox"/> No suitable habitat present
Blowout Penstemon (Endangered)	Active sand dunes	<i>NE</i>	Yes   <input checked="" type="radio"/> No	<input type="checkbox"/> No suitable habitat present <input type="checkbox"/> Suitable habitat present; survey required or presence assumed
Ute ladies'-tresses (Threatened)	Seasonally moist soils and wet meadows of drainages below 7,000 feet	<i>NE</i>	Yes   <input checked="" type="radio"/> No	<input type="checkbox"/> No suitable habitat present <input type="checkbox"/> Suitable habitat present; survey required or presence assumed

*EXHIBIT "D"*

Desert yellowhead (Threatened)	Barren slopes and ridges on outcrops of white silty clay or Miocene sandstones of the Split Rock Formation.	NE	Yes   No (No)	<input checked="" type="checkbox"/> No suitable habitat present
Critical Habitat for the Desert yellowhead	Only one known location in the Beaver Rim area of southern Fremont County.	NE	Yes   No (No)	<input checked="" type="checkbox"/> Not in critical habitat for Desert yellowhead.
Platte River Water Depletions  (5 listed species and designated critical habitat)	Downstream riparian and riverine habitat of the Platte River System  Whooping Crane – Endangered Interior Least Tern – Endangered Piping Plover – Threatened Pallid Sturgeon – Endangered Western Prairie Fringed Orchid –Threatened  Critical Habitat for: Whooping Crane	NE	Yes   No (No)	<input checked="" type="checkbox"/> Action will not deplete water from the Platte River System  <input type="checkbox"/> Action will cause depletion to the Platte River system; consultation required  <input type="checkbox"/> See comments for further restrictions and water source

\*\*Project effect determinations for T&E species are: no effect (NE); may affect (MA); not likely to adversely affect (NLAA); likely to adversely affect (LAA); Likely to jeopardize population (LJ); or not likely to jeopardize population (NLJ). Project effect determinations for candidate species are: will not contribute to the need to list (WNC); will contribute to the need to list (WC).

\*\*Initiation of (FORMAL) (INFORMAL) consultation with U. S. Fish and Wildlife Service (IS) (IS NOT) necessary.

  
 Wildlife Biologist

7/8/16  
 Date

<b>BLM Consultation Letter Sent</b>	<b>FWS Consultation Letter Reply</b>	<b>Wildlife Biologist Initial</b>
Date:	Date:	

<b>SEO Letter Sent</b>	<b>SEO Letter Reply</b>	<b>Wildlife Biologist Initial</b>
Date:	Date:	

<b>WILDLIFE / RESOURCE CONCERN</b>	<b>HABITAT</b>	<b>DESIGNATED OR SUITABLE HABITAT</b>	<b>COA STIPULATION APPLIES</b>	<b>COA STIPULATION TIMING RESTRICTION</b>
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Sage Grouse lek (Core Area)	Avoid disturbance or occupancy within 0.6 mile of perimeter of an occupied lek. No activity from 6PM to 8AM within a 0.6 mile of a lek	Yes   No	Yes   No	March 1 – May 15
Sage Grouse nesting /brood-rearing habitat (Core Area)	Surface disturbing and/or disruptive activities are prohibited or restricted in suitable sage-grouse nesting and early brood-rearing habitat.	Yes   No	Yes   No	March 15 – June 30
Sage Grouse Core	DDCT required and completed	Yes   No		
Sage Grouse lek (non-Core Area)	Avoid disturbance or occupancy within 0.25 mile of perimeter of an occupied lek. No activity from 6PM to 8AM within a 0.25 mile of a lek	Yes   No	Yes   No	March 1 – May 15
Sage Grouse nesting /brood-rearing habitat (non-Core Area)	Surface disturbing and/or disruptive activities are prohibited or restricted in suitable sage-grouse nesting and early brood-rearing habitat within mapped habitat important for connectivity or within 2 miles of any occupied or undetermined lek.	Yes   No	Yes   No	March 15 – June 30
Sage Grouse winter habitat	Surface disturbing and/or disruptive activities are prohibited or restricted in mapped or modeled winter habitats/concentration areas that support Core Area populations.	Yes   No	Yes   No	Nov 15 – March 1
Raptors (General)	Avoid surface disturbance or occupancy within a 0.75 mile buffer of raptor nests.	Yes   No	Yes   No	Feb 1 – July 31 Or until young have fledged.
Bald Eagle	Lakes, rivers and other large water bodies suitable for foraging with large trees for nesting and roosting	Yes   No	Yes   No	<input checked="" type="checkbox"/> No nest, roost, or feeding concentrations present. <input type="checkbox"/> Nest within 1 mile: Apply NSO Buffer <input type="checkbox"/> Roost within 1 mile: NSO and timing restrict. Nov 1 – Mar 31 <input type="checkbox"/> Other restrictions apply, see comments
Mountain Plover	Surface disturbing and/or disruptive activities are prohibited or restricted in suitable Mountain Plover nesting habitat.	Yes   No	Yes   No	April 10 – July 10
Big game crucial winter range and Elk winter range	Delineated by WGFD/BLM	Yes   No	Yes   No	N/A Nov 15 - April 30
Big Game parturition areas	Delineated by WGFD/BLM	Yes   No	Yes   No	May 1 - June 30
Riparian areas	Move Project > 500 feet from perennial streams/live water	Yes   No	Yes   No	Riparian Areas

COMMENTS:

Date of Field Visit: \_\_\_\_\_

Photos Attached: YES or NO

Jim Voshell 7/8/16  
Wildlife Biologist (DATE)

COMMENTS:

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BLM SENSITIVE SPECIES	HABITAT	POTENTIAL HABITAT	COA /TLS/ STIPULATION APPLIES	COA /TLS/ STIPULATION
<b>BIRDS OF PREY:</b>				
Northern Goshawk	Conifer and deciduous forests	Yes   <input checked="" type="radio"/> No	Yes   <input checked="" type="radio"/> No	
Ferruginous Hawk	Basin – prairie shrub, grassland, rock outcrops	Yes   <input checked="" type="radio"/> No	Yes   <input checked="" type="radio"/> No	
Burrowing Owl	Grasslands, basin-prairie shrub	Yes   <input checked="" type="radio"/> No	Yes   <input checked="" type="radio"/> No	
Peregrine Falcon	Tall Cliffs	Yes   <input checked="" type="radio"/> No	Yes   <input checked="" type="radio"/> No	
<b>BATS:</b>				
Long-eared Myotis	Conifer and deciduous forest, caves and mines	Yes   <input checked="" type="radio"/> No	Yes   <input checked="" type="radio"/> No	Avoid habitat where possible and minimize disturbance
Spotted bat	Cliffs over perennial water, basin-prairie shrub	Yes   <input checked="" type="radio"/> No	Yes   <input checked="" type="radio"/> No	See comments for additional restrictions
Townsend's Big-eared bat	Forests, basin-prairie shrub, caves and mines	Yes   <input checked="" type="radio"/> No	Yes   <input checked="" type="radio"/> No	
<b>PRAIRE DOGS:</b>				
White-tailed	Basin prairie shrub, grasslands	Yes   <input checked="" type="radio"/> No	Yes   <input checked="" type="radio"/> No	Avoid burrows and colonies where possible  See comments for additional restrictions
<b>GRASSLAND OBLIGATES:</b>				
Swift fox	Grasslands	Yes   <input checked="" type="radio"/> No	Yes   <input checked="" type="radio"/> No	Avoid habitat where possible and minimize disturbance
Long-billed Curlew	Grasslands, plains, foothills, wet meadows	Yes   <input checked="" type="radio"/> No	Yes   <input checked="" type="radio"/> No	See comments for additional restrictions
<b>SAGEBRUSH OBLIGATES:</b>				
Sage Thrasher	Basin-prairie shrub, mountain foothill shrub	Yes   <input checked="" type="radio"/> No	Yes   <input checked="" type="radio"/> No	Avoid habitat where possible and minimize disturbance
Loggerhead Shrike	Basin-prairie shrub, mountain foothill shrub	Yes   <input checked="" type="radio"/> No	Yes   <input checked="" type="radio"/> No	See Migratory Birds for additional restrictions
Sage Sparrow	Basin prairie shrub, mountain foothill shrub	Yes   <input checked="" type="radio"/> No	Yes   <input checked="" type="radio"/> No	
Brewer's Sparrow	Basin-prairie shrub	Yes   <input checked="" type="radio"/> No	Yes   <input checked="" type="radio"/> No	
Pygmy rabbit	Basin-prairie and riparian shrub	Yes   <input checked="" type="radio"/> No	Yes   <input checked="" type="radio"/> No	
<b>Migratory Birds</b>	Grasslands	<del>Yes</del>   <input checked="" type="radio"/> No	Yes   No	<b>Surface disturbing and/or disruptive activities that have the potential to cause destruction of nests, eggs or young of migratory birds will be prohibited during the period of May 1st to July 15th. A survey of the proposed disturbance area(s) may be conducted by the proponent to determine the presence/absence of nesting migratory birds. Nest surveys must be conducted no more than 7 days prior to surface disturbing and/or disruptive activities.</b>
	Grasslands, plains, foothills, wet meadows	Yes   <input checked="" type="radio"/> No	Yes   No	
	Basin-prairie shrub, mountain foothill shrub	Yes   <input checked="" type="radio"/> No	Yes   <input checked="" type="radio"/> No	
	Basin-prairie shrub	Yes   <input checked="" type="radio"/> No	Yes   <input checked="" type="radio"/> No	
	Conifer and deciduous forest	Yes   <input checked="" type="radio"/> No	Yes   No	

*Nest survey done 2/7/16*

**RIPARIAN/WETLAND OBLIGATES:**

Yellow-billed Cuckoo	Open woodlands, streamside willow and alder groves	Yes   <input checked="" type="radio"/> No	Yes   <input checked="" type="radio"/> No
White-faced Ibis	Marshes, wet meadows	Yes   <input checked="" type="radio"/> No	Yes   <input checked="" type="radio"/> No
Trumpeter Swan	Lakes, ponds, rivers	Yes   <input checked="" type="radio"/> No	Yes   <input checked="" type="radio"/> No
Northern Leopard frog	Beaver ponds, permanent water in plains and foothills	Yes   <input checked="" type="radio"/> No	Yes   <input checked="" type="radio"/> No
Great Basin spadefoot	Spring seeps, permanent and temporary waters	Yes   <input checked="" type="radio"/> No	Yes   <input checked="" type="radio"/> No
Boreal toad (Northern Rocky Mtn. population)	Pond margins, wet meadows, riparian areas.	Yes   <input checked="" type="radio"/> No	Yes   <input checked="" type="radio"/> No
Spotted frog	Ponds, sloughs, small streams	Yes   <input checked="" type="radio"/> No	Yes   <input checked="" type="radio"/> No
Yellowstone cutthroat trout	Yellowstone drainage, small mountain streams and large rivers	Yes   <input checked="" type="radio"/> No	Yes   <input checked="" type="radio"/> No

Avoid habitat where possible and minimize disturbance  
See comments for migratory birds above.

**PLANTS:**

Meadow Pussytoes	Moist, hummocky meadows, seeps or springs surrounded by sage/grasslands 4,950' – 7,900'	Yes   No	Yes   No
Porter's Sagebrush	Sparsely vegetated badlands of ashy or tuffaceous mudstone and clay slopes Elevation: 5,300 – 6,500 feet	Yes   No	Yes   No
Dubois Milkvetch	Barren shale, badlands, limestone, and redbed slopes and ridges 6,900' – 8,800"	<input checked="" type="radio"/> Yes   No	<input checked="" type="radio"/> Yes   No
Limber Pine	Timberline and at lower elevation with sagebrush. Associated species are Rocky Mountain lodgepole pine, Engelmann spruce, whitebark pine, Rocky Mountain Douglas-fir, subalpine fir, Rocky Mountain juniper, Mountain Mahogany, and common juniper.	Yes   No	Yes   No
Cedar Rim Thistle	Barren, chalky hills, gravelly slopes and fine-textured, sandy/shaley draws 6,700' – 7,200'	Yes   No	Yes   No
Owl Creek Miner's	Sandy-gravelly slopes on sandstone of the Wind River Formation 4,700' – 6,000'	Yes   No	Yes   No

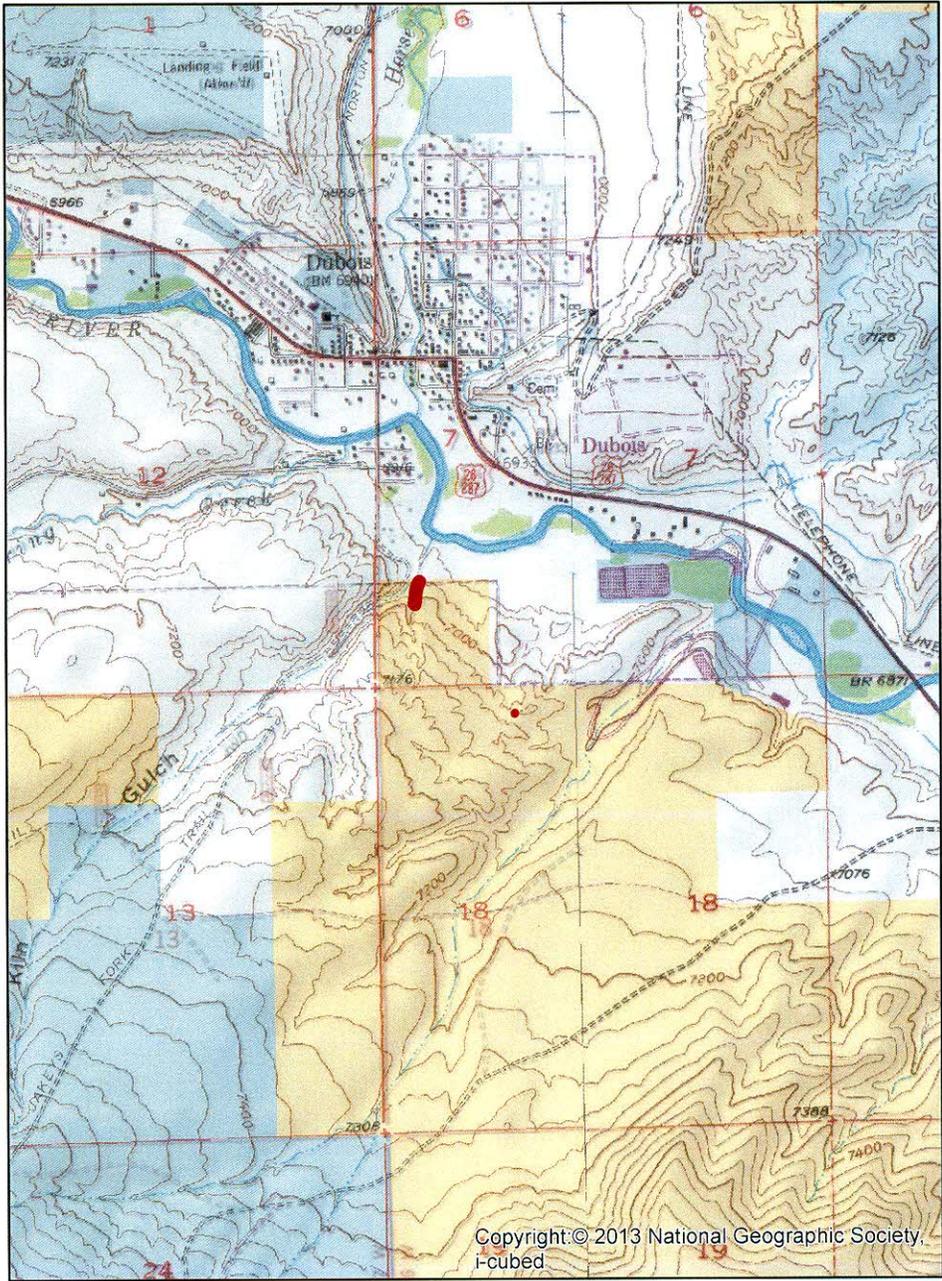
- survey done 2/8/16  
Potential plant species will be avoided  
Avoid habitat where possible and minimize disturbance  
See comments for additional restrictions

Fremont Bladderpod	Rocky limestone slopes and ridges 7,000' – 9,000'	Yes   No	Yes   No
Beaver Rim Phlox	Sparsely vegetated slopes on sandstone, siltstone, or limestone substrates 6,000' – 7,4000'	Yes   No	Yes   No
Rocky Mountain Twinpod	Sparsely vegetated, rocky slopes of limestone, sandstone or clay 5,600' – 8,300'	Yes   No	Yes   No
Persistent Sepal Yellowcress	Riverbanks and shorelines, usually on sandy soils near high water line.	Yes   No	Yes   No
Shoshonea	Shallow, stony calcareous soils of exposed limestone outcrops, ridgetops, and talus slopes 5,900' –	Yes   No	Yes   No

Barneby's Clover	9,200' Ledges, crevices and seams on reddish-cream Nugget Sandstone outcrops 5,600' – 6,700'	Yes   No	Yes   No	
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COMMENTS:

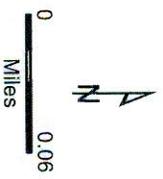
Wildlife Biologist:     JV





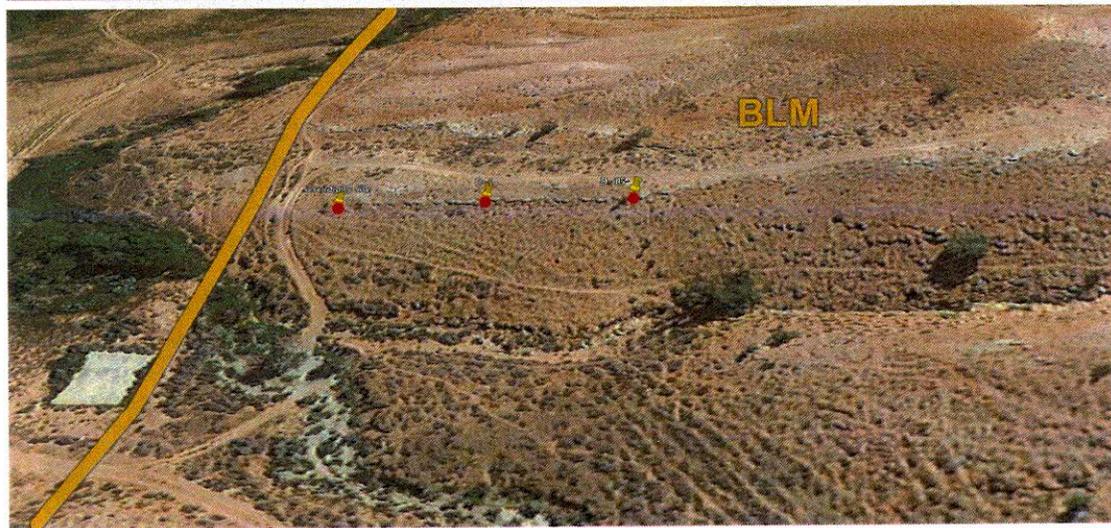
-  Serendipity Site
-  Nobby Knob

- SURFACE**
-  Bureau of Land Management
  -  Private
  -  Water



Date: 3/28/2016

No warranty is made by the Bureau of Land Management (BLM) for use of the data for purposes



SERENDIPITY  
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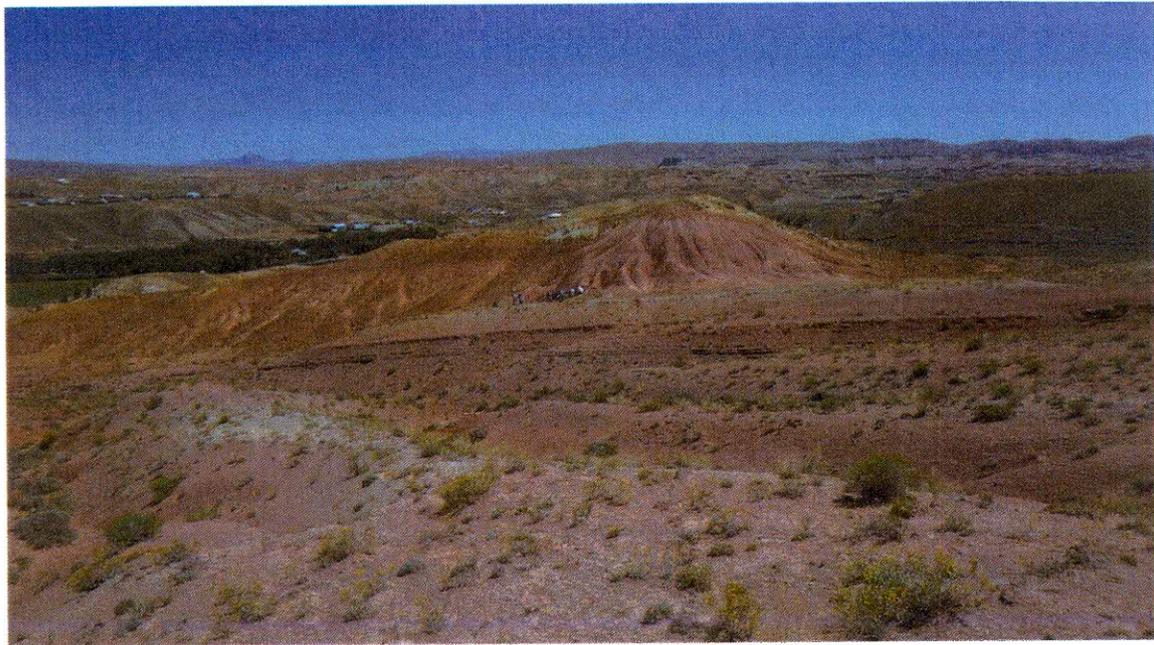
The above images demonstrate the location with respect to the town's edge, and the road that travels above the proposed site. The bed of interest (where the red dots are) is the red silty sandstone with abundant bioturbation. The minor ledge is the overlying sandstone. Lower image is oblique view facing east.

### Methods

The initial plan is to remove a section of the overlying sandstone (3x2 m) to expose the bed of interest in order to map out burrow density and size distribution. Depending on the success of the first pit, we would like to have the ability to do this at

this specific site. We returned in 2015 to investigate (image to right is 2015)

With a minor amount of disturbance we were able to isolate the layer from which many of the D-2 bones were collected, and were able to remove 4 much larger in-situ specimens (within the confines of a 1x1x1 m test pit), including the posterior skull roof of a medium sized metoposaurid temnospondyl, a complete interclavicle, and a number of vertebral bodies. There were several more elements continuing into the hill that were covered with plaster temporary jackets and reburied to overwinter. The lateral extent of the site is at minimum 3 meters, but likely extends beyond that. We observed at least three individuals; this seems to be a mixed bone bed as nothing appeared to be in articulation within the survey pit. These are the first medium sized temnospondyls from the Popo Agie.



The above image shows the mudstone prominent. the quarry is at the base of the hill on a flat ledge of more competent sandstone.

### Methods

Excavation would consist of at least 4 and up to 8 m of lateral excavation. The site is located at the bottom of the hill, and as such there is a reasonable limit to the depth into the hill we could go before the amount of overburden becomes excessive; this would likely be within three meters of depth. The parent matrix is a mudstone that has been (paleo)pedogenically modified and erodes at the surface into typical badlands topography. Natural erosion of the mudstone would help reclaim the site, and there is no vegetation that will be disturbed. Ingress and egress is simplified by the presence of a trail, initially part of the same road above the Serendipity Site, and then splits into smaller one track (motorcycle/cattle trail?) that leads to the base of the outcrop. Excavated matrix, removed by small hand tools, would be transported to a 'spoils pile' that would