

CHECKLIST ENVIRONMENTAL ASSESSMENT

Project Name:	Star Coulee Development
Proposed Implementation Date:	August/September 2016
Proponent:	Kraken Operating, LLC Matt Bauerschlag 9821 Katy Freeway Suite 460 Houston, TX 77024
Location:	Section 27 T27N-R57E (Capitol Buildings Trust)
County:	Roosevelt

I. TYPE AND PURPOSE OF ACTION

Kraken Operating, LLC has requested permission to drill three new wells on state land in Sec. 27 T27N-57E. The drill pad for these wells will be located in SE¹/₄SE¹/₄ of Section 27. These wells will be drilled into the Bakken/Three Forks Formation to a vertical depth of approximately 9,949 (with total measured depth of 20,233). A drilling pad 430 feet long by 500 feet wide (approximately 5 acres) will be constructed and a rig will drill the wells. The Farrah 35-36 1H well would go east into sections 35 and 36 piercing state minerals in section 36. The Fallon 27-28 1H well would go west into sections 27 and 28, piercing federal minerals in section 28 and state minerals in both sections. The Shayla 34-33 1H well would go west into sections 33 and 34, piercing state minerals in section 34 and federal minerals in section 33.

If the wells are commercially viable; pump jacks, a tank battery, and heater treaters will be installed. If tests indicate that the commercial quantities of recoverable oil are not present then the well will be plugged in conformance with standards approved by the Montana Board of Oil & Gas Conservation.

If the wells are not commercially viable, the disturbed areas will be reclaimed. The area will be contoured back to the natural slopes and the topsoil redistributed over the area. The site will be returned to native rangeland.

II. PROJECT DEVELOPMENT

1. PUBLIC INVOLVEMENT, AGENCIES, GROUPS OR INDIVIDUALS CONTACTED:

Provide a brief chronology of the scoping and ongoing involvement for this project.

Kraken Oil & Gas LLC – Oil and Gas lessee OG-37458-07 and OG-37459-07

State of Montana, Department of Natural Resources and Conservation (DNRC) - Surface and Mineral Owner. Heidi Crum, Mineral Resource Specialist for Minerals Management Bureau, along with Matt Poole, Glasgow Unit Manager and Jack Medlicott, Land Use Specialist from the Glasgow Unit met with Kraken Operating representatives on-site and completed a field evaluation on October 21, 2015.

Star Coulee Ranch, Inc. – Surface Lessee, DNRC Ag and Grazing Lease #2045

Montana Board of Oil & Gas Conservation

Bureau of Land Management – Mineral owner in Sections 28 and 33 of the proposed plan.

2. OTHER GOVERNMENTAL AGENCIES WITH JURISDICTION, LIST OF PERMITS NEEDED:

Kraken Operating LLC has submitted permit form 22 to the Montana Board of Oil and Gas Conservation and has been approved to drill the Farrah 35-36 1H. The Fallon 27-28 1 H and Shayla 34-33 1H are still in the process of approval.

Kraken Operating LLC has submitted an Application for Permit to Drill (APD) to the Bureau of Land Management for the Fallon 27-28 1 H and Shayla 34-33 1H wells that will penetrate federal minerals. BLM is still reviewing the applications as of 8/1/16.

3. ALTERNATIVES CONSIDERED:

No Action Alternative: The proposed wells would not be drilled. Current non-motorized recreational use and grazing leasing would continue.

Action Alternative: Kraken Operating LLC would have permission to construct a well pad site and drill three horizontal Bakken/Three forks formation wells in the SE¹/₄SE¹/₄ of Section 27 in T27N-R57E. Current non-motorized recreational use would continue, and the current grazing lease would be modified for the loss of 5 acres in grazing land.

III. IMPACTS ON THE PHYSICAL ENVIRONMENT

- *RESOURCES potentially impacted are listed on the form, followed by common issues that would be considered.*
- *Explain POTENTIAL IMPACTS AND MITIGATIONS following each resource heading.*
- *Enter "NONE" if no impacts are identified or the resource is not present.*

4. GEOLOGY AND SOIL QUALITY, STABILITY AND MOISTURE:

Consider the presence of fragile, compactable or unstable soils. Identify unusual geologic features. Specify any special reclamation considerations. Identify any cumulative impacts to soils.

The southern half of Section 27, T27N-R57E is made up of alluvium of modern channels and floodplains with deposits of gravel, sand, silt or clay.

Soils on this alluvium parent material include silt loams, silty clay, fine sandy loam and complexes. The proposed well pad site will be 430 feet long and 500 feet wide constructed on silt loam in the SE¹/₄SE¹/₄ of Section 27. The access road will follow the boundary line between sections 27 and 26; however the road will be on the side of section 26, which is privately owned surface and minerals. The proponent has an agreement with the surface owner to improve this road for access to the proposed well pad site. The soils at the proposed well pad site are silt loam with soil characteristics that include; slight erosion hazard, low resistance to soil compaction, and high potential for soil restoration. Negative impacts to the soil resources are expected in the short-term. Long-term, cumulative, and/or irreversible impacts to the ecosystem are not expected.

Any topsoil and subsoil shall be stripped and stockpiled for use in reclamation. Reclamation will require the slopes of the area be put back to a natural contour with erosion control techniques.

5. WATER QUALITY, QUANTITY AND DISTRIBUTION:

Identify important surface or groundwater resources. Consider the potential for violation of ambient water quality standards, drinking water maximum contaminant levels, or degradation of water quality. Identify cumulative effects to water resources.

The Missouri River runs through Section 28 to the west, and through Sections 34 & 35 to the south of the proposed well pad site in Section 27. A 2007 hydrologist report of Section 27 states that the Missouri River flood plain is in much of this tract. According to the Roosevelt County Floodplain maps, only the SW¼ of Section 27 is in the 100 year flood plain boundary. The proposed well pad site is in the SE¼ of the section and is outside of the 100 year flood plain boundary. DNRC Oil and Gas Lease OG-37458-07 for Section 27 does not have any floodplain stipulations. The proposed pad site is approximately 0.5 mile north and 1 mile east of the mean high water mark of the Missouri River (a navigable waterway), which is over the required 0.5 mile requirement for DNRC Oil and Gas leases.

A search on the Ground Water Information Center website found there are two wells with in one mile of the proposed well pad site. One stock water well is 68 feet deep with a static water level of 33 feet, and is located in the NE¼ of Section 27, approximately 0.78 mile north from the proposed well pad site. The other well is 210 feet deep and located in the SE¼ of Section 26, approximately 0.6 mile east of the proposed well pad site. This well is mostly likely used for the center pivot, which irrigates approximately 300 acres of cropland. This center pivot is located directly to the east and next to the proposed well pad site, on privately owned surface in the S½ of Section 26 and N½ of Section 35.

6. AIR QUALITY:

What pollutants or particulate would be produced? Identify air quality regulations or zones (e.g. Class I air shed) the project would influence. Identify cumulative effects to air quality.

A short duration increase in airborne pollutants and particulates would occur from machinery exhaust and dust during proposed well pad construction and drilling activities. Minimal short-term impacts to air quality are expected. If commercial quantities of hydrocarbons are found, associated natural gas may likely be produced along with the oil. Depending on proximity of gas lines, natural gas flaring are allowed on a temporary basis as is permitted by the Board of Oil and Gas Conservation. The products of natural gas flaring are carbon dioxide and water.

7. VEGETATION COVER, QUANTITY AND QUALITY:

What changes would the action cause to vegetative communities? Consider rare plants or cover types that would be affected. Identify cumulative effects to vegetation.

Vegetation in Section 27 at the proposed well pad site are grasslands with mixed grass prairie and floodplain. This site had been cultivated in the past and currently produces native and introduced species including sagebrush, snowberry, crested wheatgrass and Kentucky bluegrass.

8. TERRESTRIAL, AVIAN AND AQUATIC LIFE AND HABITATS:

Consider substantial habitat values and use of the area by wildlife, birds or fish. Identify cumulative effects to fish and wildlife.

A hydrologists report in OG 37458-07 noted that Section 27 was determined by Montana Fish, Wildlife & Parks to be critical mule deer winter range. Mule deer is not a special status species. This site is in the floodplain and is habitat for pheasants, sharp-tail grouse, white-tail and mule deer.

9. UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES:

Consider any federally listed threatened or endangered species or habitat identified in the project area. Determine effects to wetlands. Consider Sensitive Species or Species of special concern. Identify cumulative effects to these species and their habitat.

A search was conducted using the Montana Natural Heritage Program database to identify point observations of species of concern in the section of the proposed activity. Many bird species have been documented in the last 10 years including Golden Eagle, Least Tern, Piping Plover, Red-headed Woodpecker, and Whooping Crane. Many fish species of concern have been documented on the nearby Missouri River including Blue Sucker, Iowa Darter, Northern Redbelly Dace, Paddlefish, Pallid Sturgeon, Sauger, Shortnose Gar, Sicklefin Chub, and Sturgeon Chub.

This section is not in the Greater Sage Grouse core or general habitat area.

10. HISTORICAL AND ARCHAEOLOGICAL SITES:

Identify and determine effects to historical, archaeological or paleontological resources.

DNRC Archaeologist, Patrick Rennie was consulted regarding the nature of the proposed action and the potential to impact historical and archaeological resources. No cultural resources are documented on this tract. This tract has been previously cultivated.

Mineral Resource Specialist, Heidi Crum, Glasgow Unit Manager, Matt Poole, and Land Use Specialist, Jack Medlicott, conducted a site visit on October 21, 2015 and found no cultural resources on this proposed site.

11. AESTHETICS:

Determine if the project is located on a prominent topographic feature, or may be visible from populated or scenic areas. What level of noise, light or visual change would be produced? Identify cumulative effects to aesthetics.

Some minor impacts to aesthetics are expected during the scope of this project. There will be increased noise and the drilling rig will be visible for a distance up and downstream in the river corridor during the construction of the well pad and drilling of the wells. However, after those activities are completed, aesthetics will only be changed on five acres of this section. A well pad will be in place and vehicles will be traveling to the site for regular maintenance and operation. Depending on the production of the proposed wells, there could be increased vehicle traffic for maintenance and operation of the wells.

12. DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AIR OR ENERGY:

Determine the amount of limited resources the project would require. Identify other activities nearby that the project would affect. Identify cumulative effects to environmental resources.

None.

13. OTHER ENVIRONMENTAL DOCUMENTS PERTINENT TO THE AREA:

List other studies, plans or projects on this tract. Determine cumulative impacts likely to occur as a result of current private, state or federal actions in the analysis area, and from future proposed state actions in the analysis area that are under MEPA review (scoped) or permitting review by any state agency.

None.

IV. IMPACTS ON THE HUMAN POPULATION

- *RESOURCES potentially impacted are listed on the form, followed by common issues that would be considered.*
- *Explain POTENTIAL IMPACTS AND MITIGATIONS following each resource heading.*
- *Enter "NONE" if no impacts are identified or the resource is not present.*

14. HUMAN HEALTH AND SAFETY:

Identify any health and safety risks posed by the project.

No human and health safety risks were identified as a result of the proposed project other than the typical occupational hazards that coincide with drilling operations.

15. INDUSTRIAL, COMMERCIAL AND AGRICULTURE ACTIVITIES AND PRODUCTION:

Identify how the project would add to or alter these activities.

The proposed project is not expected to alter current or future industrial, commercial, and agricultural activities and production.

16. QUANTITY AND DISTRIBUTION OF EMPLOYMENT:

Estimate the number of jobs the project would create, move or eliminate. Identify cumulative effects to the employment market.

The proposed project would not create, move, or eliminate jobs.

17. LOCAL AND STATE TAX BASE AND TAX REVENUES:

Estimate tax revenue the project would create or eliminate. Identify cumulative effects to taxes and revenue.

No impact.

18. DEMAND FOR GOVERNMENT SERVICES:

Estimate increases in traffic and changes to traffic patterns. What changes would be needed to fire protection, police, schools, etc.? Identify cumulative effects of this and other projects on government services.

No impact.

19. LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS:

List State, County, City, USFS, BLM, Tribal, and other zoning or management plans, and identify how they would affect this project.

No known zoning or management plans exist for this area.

20. ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES:

Identify any wilderness or recreational areas nearby or access routes through this tract. Determine the effects of the project on recreational potential within the tract. Identify cumulative effects to recreational and wilderness activities.

No impact.

21. DENSITY AND DISTRIBUTION OF POPULATION AND HOUSING:

Estimate population changes and additional housing the project would require. Identify cumulative effects to population and housing.

No impact.

22. SOCIAL STRUCTURES AND MORES:

Identify potential disruption of native or traditional lifestyles or communities.

No impact.

23. CULTURAL UNIQUENESS AND DIVERSITY:

How would the action affect any unique quality of the area?

No impact.

24. OTHER APPROPRIATE SOCIAL AND ECONOMIC CIRCUMSTANCES:

Estimate the return to the trust. Include appropriate economic analysis. Identify potential future uses for the analysis area other than existing management. Identify cumulative economic and social effects likely to occur as a result of the proposed action.

The existing oil and gas lease provides approximately \$1,760, and the existing grazing leases provide approximately \$5,694 in annual revenue from Section 27, T27N-R57E that goes to Capital Buildings. If wells are drilled and oil is extracted from state land, the amount of royalties would benefit the trust for Capital Buildings.

EA Checklist Prepared By:	Name: Heidi Crum	Date: 8/1/16
	Title: Mineral Resource Specialist	

V. FINDING

25. ALTERNATIVE SELECTED:

After reviewing the Environmental Assessment, I have selected the Action Alternative, to issue a new well permit. I believe this alternative can be implemented in a manner that is consistent with the long-term sustainable natural resource management of the area and generate revenue for the common school trust.

26. SIGNIFICANCE OF POTENTIAL IMPACTS:

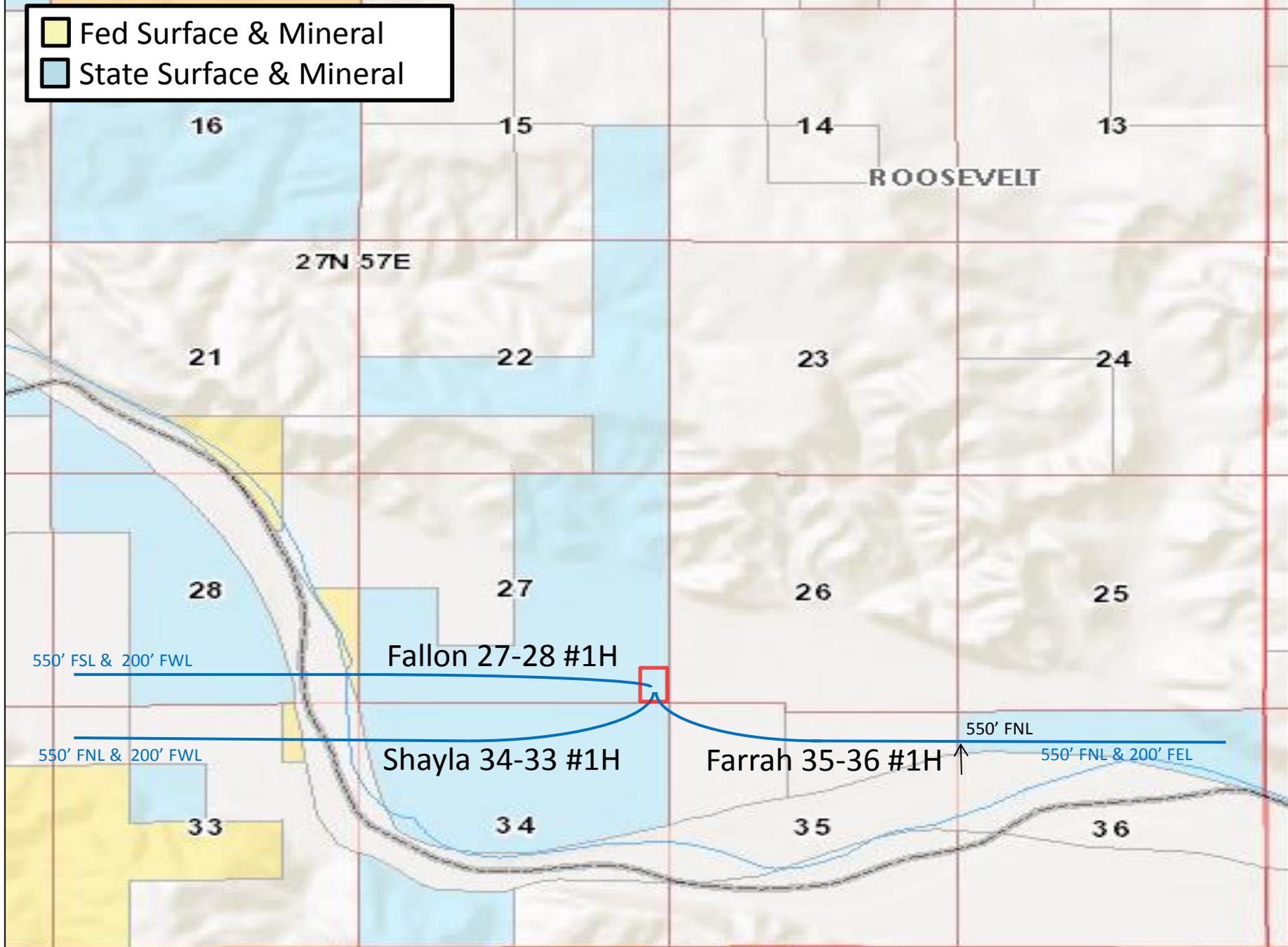
I conclude all identified potential impacts will be mitigated by utilizing the stipulations listed below and no significant impacts will occur as a result of implementing the selected alternative.

27. NEED FOR FURTHER ENVIRONMENTAL ANALYSIS:

EIS More Detailed EA No Further Analysis

EA Checklist Approved By:	Name: Monte Mason
	Title: MMB Bureau Chief
Signature: /s/ Monte Mason	Date: 8/1/16

 Fed Surface & Mineral
 State Surface & Mineral



550' FSL & 200' FWL

Fallon 27-28 #1H

550' FNL & 200' FWL

Shayla 34-33 #1H

550' FNL

Farrah 35-36 #1H

550' FNL & 200' FEL