

State Antelope B-2 Alternative Location Analysis Summary

Date: 7.12.2021

Colorado Oil and Gas Conservation Commission
Attn: Director Julie Murphy
1120 Lincoln Street, Suite 801
Denver, CO 80203

ALA Timeline of events:

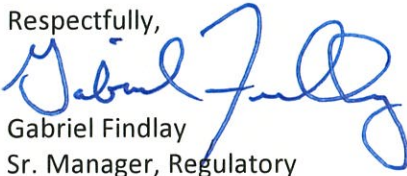
- State Antelope Location Pre-Application meeting with Weld County – April 14th, 2021
 - Site Analysis outcome during the meeting– The proposed State Antelope D-2 location was identified as the preferred location.
- BCEI Ownership Addition Attempt – Was negotiating a deal with an outside entity that was not executed. There were 3 wells originally in the plan that were no longer able to be drilled due to lack of ownership, and therefore the decision to move to the existing State Antelope B-2 location made more sense to take advantage of an existing location and the associated existing infrastructure and minimize overall surface impacts as a result.
- Communicated change of proposed location from a new oil and gas location to an expansion of the existing State Antelope B-2 Location to Weld County – As a result of the Alternative Location Analysis discussion with the County, an expansion of an existing location identified as an alternative location in the pre-application meeting was identified as the preferred location.
 - Communicated the change in location to Bryant Knigge, Weld County Oil and Gas Permit and Enforcement Specialist, and he agreed the change was consistent with the County directive of limiting disturbance and consolidating oil and gas locations.
- Weld County 1041Notice was submitted on July 7th, 2021, and the proposed State Antelope B-2 Location was assigned case number 1041WOGLA21-0010.

ALA Weld County Site Analysis Assessment Outcome:

All documentation provided to Weld County, attached hereto, during the Weld County Oil and Gas Location Assessment pre application meeting, will show that we originally proposed a new oil and gas location, being the State Antelope D-2. However, due to the events described above, and the ALA discussions held with County Staff, it was determined that there was a better existing location alternative, and that is what we are attempting to permit in this Form 2A now.

If you have any questions please contact me by email at gfindlay@bonanzacrk.com, or by phone at (720 440-6163).

Respectfully,



Gabriel Findlay
Sr. Manager, Regulatory

Enclosures: (1) Dev. Drawing; (2) Haul Road Map; (3) Notification Zone Drawing; (4) ALA Support

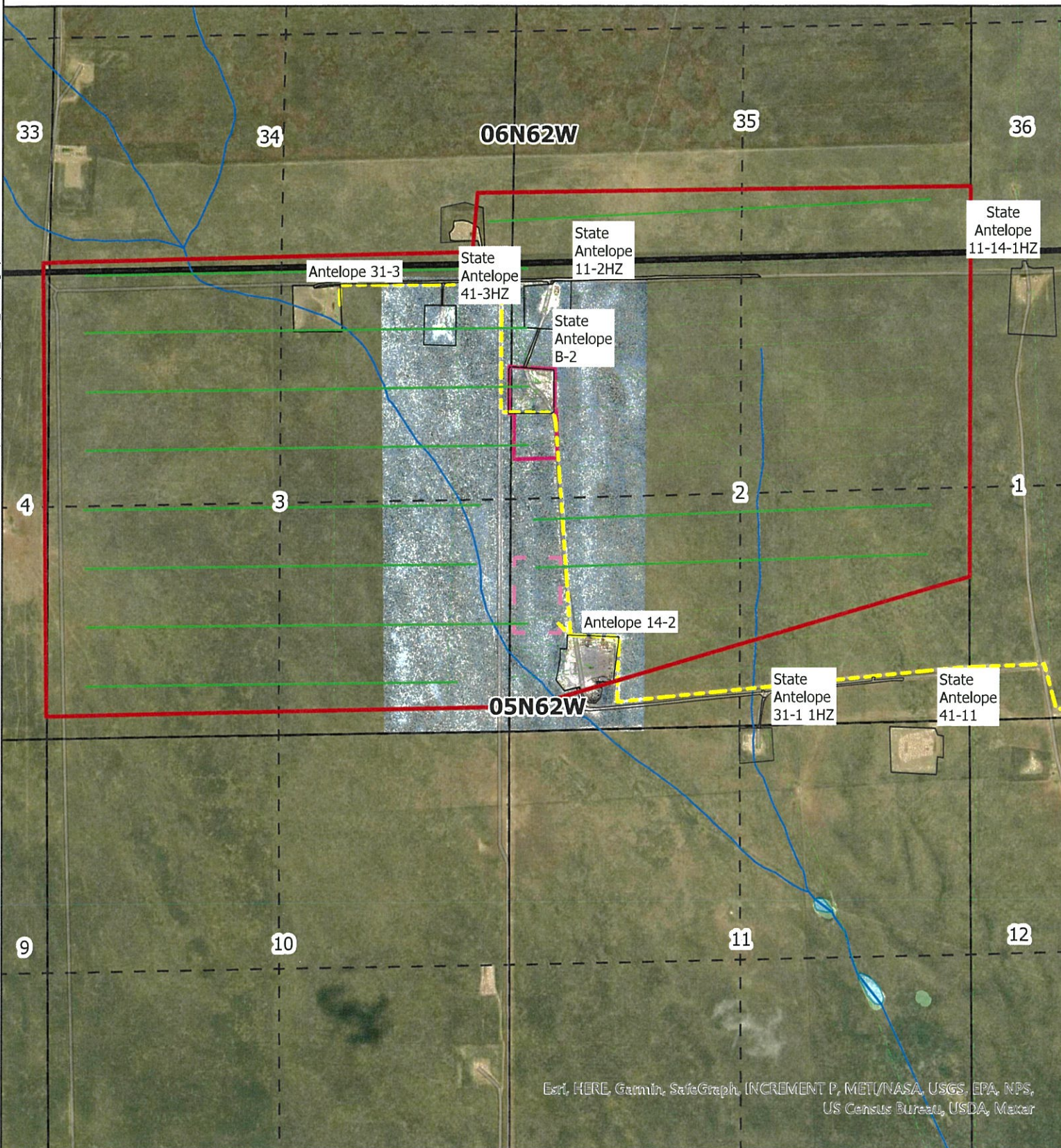
BONANZA CREEK ENERGY OPERATING COMPANY, LLC
 STATE ANTELOPE B2 - PROPOSED LOCATION
 W 1/2 NW 1/4 SECTION 2, T5N, R62W, 6th P.M.
 WELD COUNTY, COLORADO

Prepared For:

Prepared By:



Map Location: C:\Users\beam\Documents\ArcGIS\Projects\Bonanza Creek\Asset Development\State Antelope B2_Pad Expansion\State Antelope B2_Development_Area_Drawing.aprx

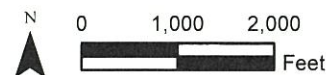


Esri, HERE, Garmin, SafeGraph, INCREMENT P, METI/NASA, USGS, EPA, NPS,
 US Census Bureau, USDA, Maxar

**FIGURE 1
 DEVELOPMENT
 AREA
 DRAWING**

- | | |
|----------------------------------|---------------------------|
| SA B2 - LOD | Existing Locations |
| SA D-2 - Alternative Location | Existing Pipeline |
| National Wetland Inventory (NWI) | Existing Wellbores |
| CO_Wetlands | Proposed_Wellbores_210712 |
| NHD Water Feature | Development_Area_210712 |
| NHD Waterbody | |

Projection: NAD 83 UTM 13N
 Date: 7/12/2021
 Drafted by: RDB
 Revised:



1 inch equals 2,000 feet

BONANZA CREEK ENERGY OPERATING COMPANY, LLC
 STATE ANTELOPE B2 - PROPOSED LOCATION
 W 1/2 SW 1/4 SECTION 2, T5N, R62W, 6th P.M.
 WELD COUNTY, COLORADO



Map Location: C:\Users\rbeam\Documents\ArcGIS\Projects\Bonanza Creek\Asset Development\State Antelope B2 Pad Expansion\Notification Zone Drawing.aprx

Land Owners w/in 1000 feet of the LOD:
 State of Colorado
 1127 N Sherman St Suite 300
 Denver, CO 80202

*There are no buildings, School Facilities,
 Future School Facilities or Child Care Centers
 within 1,000 feet of the proposed location.



Esri Community Maps Contributors, Esri, HERE, Garmin, SwgGraph,
 INCREMENT P, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, Maxar

FIGURE 1
 NOTIFICATION
 ZONE DRAWING

- Existing Locations
- 1041 WOGLA Zone
- SA B-2 Pad Expansion
- SA B-2 - Section Line
- Parcels_210706_Clippped

Projection: NAD 83 UTM 13N
 Date: 6/21/2021
 Drafted by: RDB
 Revised:



1 inch equals 600 feet

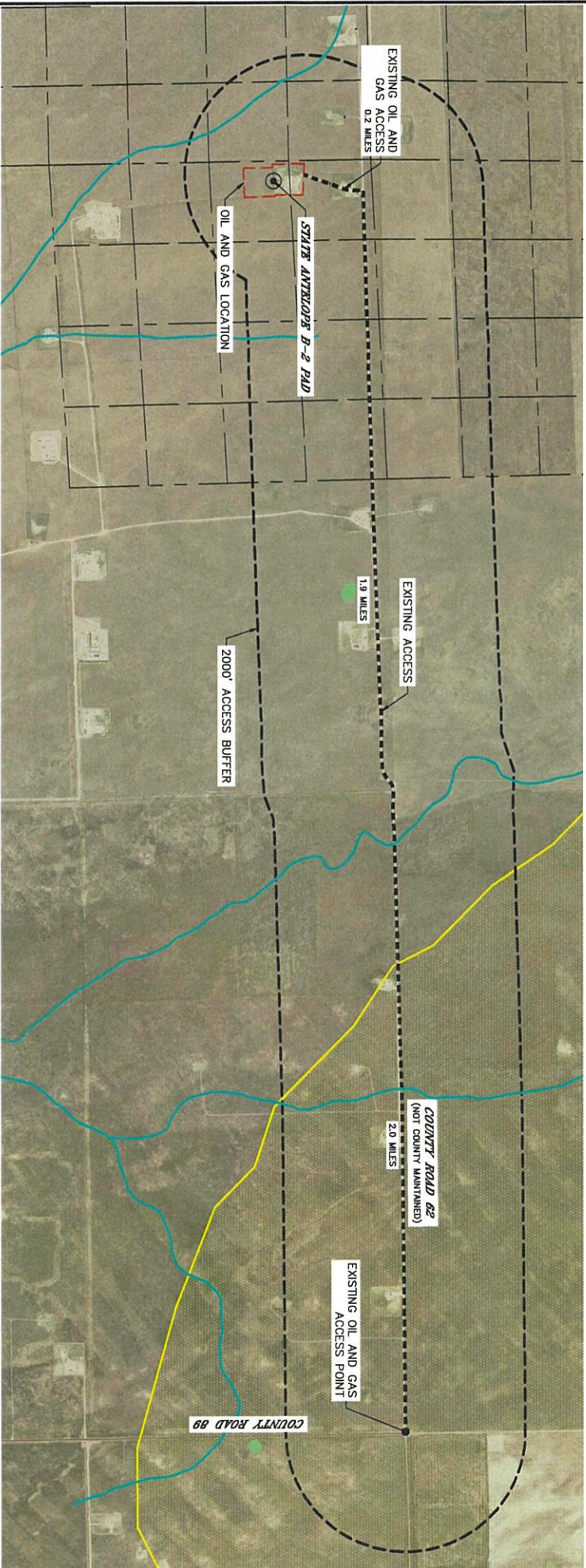
Lat40°, Inc. 6250 W. 10th Street, Unit 2, Greeley, CO 970-515-5294

ACCESS ROAD MAP

STATE ANTELOPE B-2 PAD

BONANZA CREEK ENERGY

SECTION: 2
TOWNSHIP: 5N
RANGE: 62W
6TH, P.M.
WELD COUNTY, CO



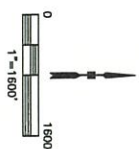
DRIVING DIRECTIONS TO STATE ANTELOPE B-2 PAD
FROM THE INTERSECTION OF COUNTY ROAD 89 AND NON-MAINTAINED COUNTY ROAD 62 DRIVE WEST ON NON-MAINTAINED COUNTY ROAD 62 FOR 2.0 MILES UNTIL THE ROAD YIELDS SOUTHWEST TO AN EXISTING ACCESS ROAD THEN CONTINUE DRIVING WEST ON EXISTING ACCESS ROAD FOR 0.8 MILES. TURN SOUTH ONTO EXISTING ACCESS ROAD AND DRIVE FOR 1.9 MILES TO AN EXISTING ACCESS ROAD ON THE SOUTH SIDE OF ROAD. TURN ONTO EXISTING ACCESS ROAD AND DRIVE SOUTHWEST FOR 0.2 MILES TO THE PROPOSED LOCATION.

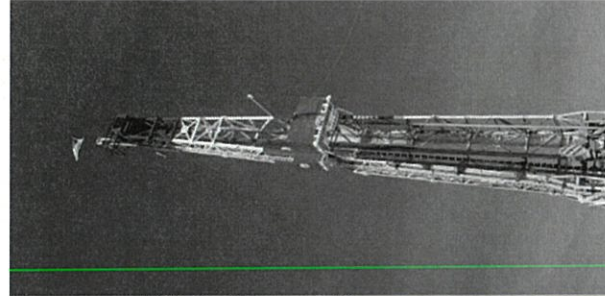
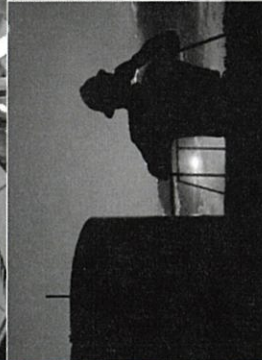
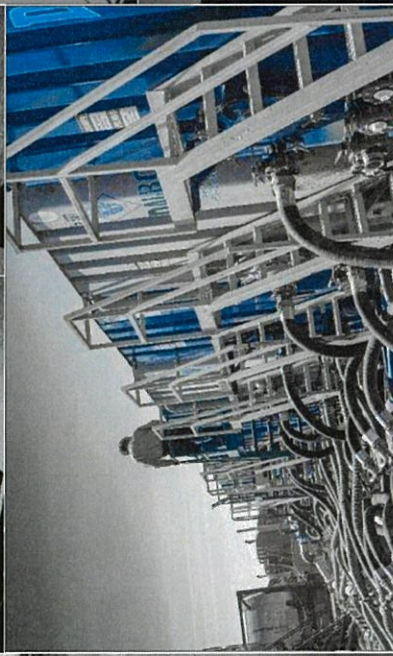
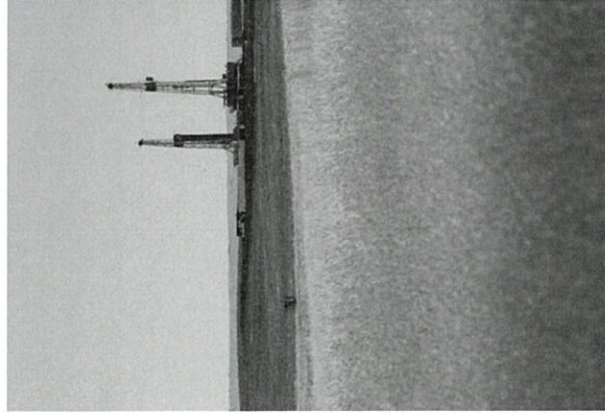
WELD COUNTY PERMIT NO. JTB
PERMIT STATUS TO BE SUBMITTED

- LEGEND**
- OIL AND GAS LOCATION
 - 2000' ACCESS BUFFER
 - PUBLIC ROAD
 - EXISTING OIL AND GAS ACCESS
 - PROPOSED OIL AND GAS ACCESS ROAD
 - PROPOSED REFERENCE POINT
 - BUILDING UNIT
 - RESIDENTIAL BUILDING UNIT
 - HIGH OCCUPANCY BUILDING UNIT
 - VEHICLE TRACKING BMP
 - TRAFFIC CONTROL FEATURE
 - CATTLE GUARD
 - CULVERT
 - REPAIRMAN
 - FRESHWATER POND
 - RIVERINE
 - FRESHWATER EMERGENT WETLAND
 - FRESHWATER FORESTED SHRUB WETLAND
 - RULE 411.a(1)
 - HIGH PRIORITY HABITAT

(SEE STORMWATER MANAGEMENT PLAN FOR STORMWATER DETAILS)
DATA SOURCE: CNHP, COGOC, USFSW, ECOS, CPW, WELD COUNTY ASSESSOR

DATE: 7/9/2021
PROJECT#: 2021025





ALA STATE ANTELOPE B-2

7/12/2021

Surface Development Review – Alternative Location Analysis

Site A – State Antelope 31-3 Pad (Existing) – 70 Ranch LLC (Rank 4th)

- Pros -
 - Existing Location, Infrastructure, Roads
 - Minimal Pad DA Expansion
- Cons -
 - Increased Access Road Route Exposure
 - Increased Pipeline Length Contracting

Site C – State Antelope 14-2 Pad (Existing) - CO SLB (Rank 3rd)

- Pros -
 - Existing Location, Infrastructure, Roads
 - Existing Facility Utilization
 - Shorter Access Road
- Cons -
 - Exponential Pad DA Expansion
 - Significant construction cut/fill to provide level drill site
 - Safety Concerns working within existing above and underground infrastructure
 - Topography
 - Expansion within significantly close to intermittent water course.

Site B – State Antelope B-2 Pad (Existing) – CO SLB (Rank 1st)

- Pros -
 - Existing Location, Infrastructure, Roads
 - Mildly sloping terrain
 - Able to reduce disturbance by connecting to existing pad
- Cons -
 - Increased Access Road Route Exposure
 - Road Improvements / Widening
 - Increased Pipeline Length Contracting
 - Increased Construction and Surface Disturbance
 - Expansion of pad DA – Size constraints with Pipelines.
 - Off site Drainage

Site D – State Antelope D-2 (New) – CO SLB (Rank 2nd)

- Pros -
 - Pre screen approval with SLB
 - Surface Owner is Mineral Owner – BCEOC Lessee
 - Utilization of EXISTING Bonanza Infrastructure
 - Existing Location, Infrastructure, Roads
 - Existing Facility Utilization
- Cons -
 - **New Disturbance**
 - Proximity to intermittent water course
 - Proximity to Water Well Permit (need field confirmation)

Drilling – Alternate Siting Analysis

- Site A
 - Pro:
 - Utilizes existing location
 - Con:
 - Would not drill wells as currently planned
 - Very difficult to drill Section 2 wells
 - Pad size and presence of existing well on location
- Site B
 - Pro:
 - Utilizes existing location
 - Could drill all Section 2 and 3 wells as planned
 - Central Location to all wells planned minimizing step outs
 - Con:
 - Anti-collision issues with existing wells would need evaluation
 - Pad size and presence of existing equipment and wells on location
- Site C
 - Pro:
 - Utilizes existing location
 - Could drill all wells as planned
 - Con:
 - Anti-collision issues with existing wells would need evaluation
 - Pad size and presence of existing equipment and wells on location
- Site D
 - Pro:
 - New location adequate for drilling operations
 - Minimize anti-collision concerns
 - Con:
 - New pad construction

Completions – Alternate Siting Analysis

- Site A
 - Pro:
 - Utilizes existing location
 - Con:
 - Pad size and presence of existing well on location
- Site B
 - Pro:
 - Utilizes existing location
 - Con:
 - Section 10 wells high risk for plug drill out operations
 - Pad size and presence of existing equipment and wells on location
- Site C
 - Pro:
 - Utilizes existing location
 - Con:
 - Pad size and presence of existing equipment and wells on location
- Site D
 - Pro:
 - New location adequate for completions operations
 - Minimizing plug drill out risk
 - Con:
 - New pad construction