



Mohee Fed 0297-17 Pad

(Mohee Fed 0297-17-8-1NH, Mohee Fed 0297-17-8-2NH,
Mohee Fed 0297-17-8-3NH, Mohee Fed 0297-17-29-15NH,
Mohee Fed 0297-17-29-15WNH, Mohee Fed 0297-17-29-14NH,
Mohee Fed 0297-17-29-16WNH, Mohee Fed 0297-17-29-16NH)

Lighting Mitigation Plan ECMC Rule 424.Lighting

Prepared for:



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INTRODUCTION

This lighting mitigation plan has been developed to address the requirements as set forth in the Energy Carbon Management Commission (ECMC) Rule 424.Lighting (400 Series) as required by ECMC Rule 304.c(3).

Description of Mohee Fed 0297-17 Pad

Anschutz Exploration Corporation (Operator No. 3104), to be referred to as Anschutz, is completing a Form 2A for an Oil and Gas Location Assessment permit in Rio Blanco County, Colorado. Please refer to the General Vicinity Map found as **Appendix A**. This project consists of the development of a pad with eight wells. These wells are the Mohee Fed 0297-17-8-1NH, Mohee Fed 0297-17-8-2NH, Mohee Fed 0297-17-8-3NH, Mohee Fed 0297-17-29-15NH, Mohee Fed 0297-17-29-15WNH, Mohee Fed 0297-17-29-14NH, Mohee Fed 0297-17-29-16WNH, Mohee Fed 0297-17-29-16NH. The Mohee Fed 0297-17 Pad will be a new location developed on land owned and managed by the Bureau of Land Management (BLM).

Location of Mohee Fed 0297-17 Pad

The site is located approximately 38.36 miles, by road, from Meeker, Colorado and is situated on federal surface.

Legal Description: SW¼ NE¼, Section 17, T02N-R97W, 6th P.M., Rio Blanco County, Colorado

Location Coordinates: 40.14322, -108.297264 (NAD 83)

Elevation: 5,988 feet

MOHEE FED 0297-17 PAD LIGHTING MITIGATION PLAN (RULE 424.a)

The Mohee Fed 0297-17 Pad Lighting Mitigation Plan (LMP) provides the proposed actions to meet the requirements of ECMC Rule 424.Lighting (400 Series) and Rule 304.c(3). The purpose of this plan is to assess and minimize potential impacts from lighting related to the Mohee Fed 0297-17 Pad project. Following this LMP, Anschutz will ensure adequate control of lighting from these activities, as well as comply with ECMC and local jurisdictional requirements. In addition, Anschutz has experience in applying these lighting control measures throughout their operations. Employees are trained to identify conditions and operate to minimize excessive lighting conditions.

STATEMENT OF EXPERTISE (RULE 424.a(1))

The Drilling Phase and Completions/Flowback Lighting Site Plans and Diagrams were completed by Mr. Clinton Beck, P.E. and Mr. Sam Sapkota, E.I.T. with Grouse Mountain Environmental Consultants LLC. Together they have sixteen years of experience with lighting plan reviews, including design.

This Mohee Fed 0297-17 LMP was developed in coordination with Anschutz's Drilling and Completions teams and Regulatory Analyst.

LIGHTING MITIGATION PLAN COMPONENTS (RULE 424.a(2))

Anschutz anticipates lighting will only be utilized during drilling, completions, and flowback activities and will result in an estimated maximum of 208 days of lighting split into two (2) occupations.

Table 1. Lighting Activity & Duration

Stage	Avg. Time Interval (days)
Drilling	25 to 30 Days (per well)
Completions/Flowback	7 to 21 Days (per well)
Production	N/A

During these operational phases, personnel will be continuously present onsite. Anschutz will minimize continuous on-site lighting if personnel are not onsite.

PRE-PRODUCTION FACILITY LIGHTING PLAN (RULE 424.a(2)(A))

Pre-production activities will consist of initial grading, drill rig mobilization, drilling, completions, and flowback. Initial grading and drill rig mobilization will be conducted during daylight hours. Pre-production lighting facility plan is detailed in Section 6 of this LMP.

ADEQUATE LIGHTING (RULE 424.a(2)(A)(i))

Adequate lighting will be provided during pre-production activities to ensure the safety of all personnel within the Mohee Fed 0297-17 Pad area. Safety procedures, including lighting, are detailed in the Anschutz Safety Management Program.

PRE-PRODUCTION LIGHTING SPECIFICS (RULE 424.a(2)(A)(ii))

Drilling and facilities construction phase activities may take an estimated maximum of 240 days for all eight wells. Cyclone Drilling, Inc. provided lighting details for a drill rig similar to the one to operate at the Mohee Fed 0297-17 Pad. Lighting utilized during drilling activities is located directly on the drill rig, therefore, the lighting is centered within the site perimeter and lighting is cast downward and outward. For safety reasons, lighting may extend slightly beyond the site perimeter. Where possible, lighting will be directed downward and inward to avoid excess lighting beyond the site boundary. The Drill Phase Lighting Site Plan and Diagram (**Appendix B**) was developed using photometric calculations to represent site-specific illumination levels for the Mohee Fed 0297-17 Pad.

Specifications on drill rig lighting fixtures detailing the anticipated location of the drill rig, lighting angles, types of fixtures, and height of application are provided in the Drill Phase Lighting Site Plan Diagram.

During completions and flowback phase activities, the site will be lit to provide adequate lighting for safety of personnel. The completions and flowback activities can take an estimated maximum of 168 days to complete all eight wells. While most completion activities occur during daylight, personnel may access the site throughout a 24-hour workday period during the flowback phase. All lighting for completions and flowback operations will be cast downward and inward towards the center of the site. Lighting will not extend past the perimeter of the working pad. Portable lighting, such as light plants, will be used during this phase. The Completions and Flowback Phase Lighting Figure, depicting the location of lighting equipment within the site perimeter, is provided in **Appendix C**. This includes the lighting equipment specifications.

TEMPORARY LIGHTING FOR SAFETY (RULE 424.a(2)(A)(iii))

In the event that temporary lighting is required, lighting will comply with the applicable standards and rules pursuant to this LMP and ECMC Rules 424.b through 424.f when allowable. In the event of an emergency, Anschutz will place a priority on personal safety and will adhere to Rule 424.a(2)(A)(i) to ensure safety to those both present and accessing the site. Lighting safety standards are stated in the Anschutz Safety Management Program.

PRODUCTION FACILITY LIGHTING PLAN (RULE 424.a(2)(B))

ECMC Rule 424.a(2)(B) is not applicable to the Mohee Fed 0297-17 Pad. This site will not have fixed lighting installed or utilized during the production phase. Production activities are conducted during daylight hours and do not require lighting.

ECMC rule 424.a(2)(B)(iv) is not applicable to the Mohee Fed 0297-17 Pad. A Building Unit, Residential Building Unit, and High Occupancy Building Unit is not within two thousand (2,000) feet of the proposed well pad.

LIGHTING STANDARDS (424.b)

Drilling, Completions, and Flowback activities will require lighting. Lighting is not required during the Production phase. Lighting standards will apply to all lighting usage, including temporary lighting.

DIRECTION OF LIGHTING (424.b(1))

During completions and flowback, lighting will be directed downward and inward to the center of the Mohee Fed 0297-17 Pad. Lighting during the drilling phase will be cast outwards only on necessary points for safety considerations. Where possible, lighting will be directed downward and inwards to avoid excess lighting beyond the working pad boundaries.

The Mohee Fed 0297-17 Pad is not located within two thousand (2,000) feet of a residential building. Drill rig lighting will illuminate the entire drill rig, which is required for a safe working environment.

Lighting will adhere to ECMC Rule 424.a(2)(A)(i). The drill rig lighting is pre-configured to direct lighting for these considerations.

LIGHTING BUFFERS (424.b(2))

Anschutz will utilize appropriate equipment to reduce light intensity outside the Mohee Fed 0297-17 Pad boundaries. For drilling activities, the lighting may be cast slightly along and outside the boundary of the proposed working pad surface for safety. Since the site will be graded along the perimeter it is vital for personnel accessing the site during drilling operations to be able to identify the edge of the pad. The extent of the lighting extending beyond the working pad boundary is illustrated in **Appendix B**. Light intensity outside of the pad boundary is minimal and reduces within a short distance from the Mohee Fed 0297-17 Pad boundary.

LIGHTING BMPs (424.b(3))

Anschutz will implement the following BMPs as allowed by ECMC Rule 424.b(3)(D). Lighting is required for drilling, completions, and flowback activities. As noted earlier, production activities will occur during daylight hours and will not require external lighting.

- Utilize low-glare or no-glare lighting wherever possible.
- Conduct lighting inspections to confirm the lighting fixtures are oriented according to this LMP and according to appropriate safety plans.

PRE-PRODUCTION FACILITY LIGHTING (424.c)

Anschutz will require lighting for pre-production activities, including the drilling, completions and flowback phases.

SAFETY (424.c(1))

Adequate lighting will be provided to ensure the safety of all personnel within the Mohee Fed 0297-17 Pad area. Safety procedures, including lighting, are detailed in the Anschutz Safety Management Program.

NOISE BARRIER (424.c(2))

A noise barrier is not proposed for the Mohee Fed 0297-17 Pad. The site is not within two thousand (2,000) feet of a High Occupancy Building Unit nor a Residential Building Unit.

LIGHTING IMPACTS (424.c(3))

This LMP addresses the lighting impacts to the applicable interests or units as defined by ECMC Rule 424.c(3). Anschutz will take all necessary and reasonable precautions to ensure that lighting from the Mohee Fed 0297-17 Pad activities do not unnecessarily impact the health, safety, and welfare of the interests under this rule.

LIGHTING IMPACTS ON RESIDENTIAL OCCUPANCY (424.c(3)(A))

ECMC Rule 424.c(3)(A) is not applicable. The Mohee Fed 0297-17 Pad is not within two thousand (2,000) feet of a High Occupancy Building Unit, Residential Building Unit, nor a Building Unit. No Residential Building Units or High Occupancy Building Units are located within a one-mile radius of the site boundary.

LIGHTING IMPACTS ON MOTORISTS (424.c(3)(B))

The Mohee Fed 0297-17 Pad is located more than a mile from a public road. The site is located approximately 1.98 miles from the nearest county road (CR-77). The entrance to this subject parcel and the Mohee Fed 0297-17 Pad is shown on the General Vicinity Map (**Appendix A**).

LIGHTING IMPACTS ON WILDLIFE (424.c(3)(C))

The Mohee Fed 0297-17 Pad is located within High Priority Habitat (HPH). Mule Deer Severe Winter Range and Mule Deer Winter Concentration HPH has been identified within two thousand (2,000) feet of the site. The surface disturbing activities are proposed to take place outside of the timing stipulation periods associated with these HPH areas. Construction of the facilities, drilling and completions is being proposed to take place outside of the big game stipulations. Therefore, very little to no impacts are expected to big game wildlife species present in the HPH area surrounding the Mohee Fed 0297-17 Pad. Regardless, BMPs and lighting specifications during pre-production activities may aid to further mitigate potential impacts to these species. Lighting will be cast inward and downward towards the center of the site during the completions phase and will not extend beyond the periphery of the pad location.

PRODUCTION PHASE LIGHTING (424.d)

Anschutz does not anticipate using lighting during the production phase at the Mohee Fed 0297-17 Pad. Lighting will only be located inside building structures with no external lighting. In the event of an emergency or unforeseen events, Anschutz will adhere to lighting standards as stated in ECMC Rule 424.d.

SAFETY DURING PRODUCTION (424.d(1))

Adequate lighting will be provided to ensure the safety of all personnel within the Mohee Fed 0297-17 Pad area. Production activities are conducted during daylight hours and will not require lighting. In the event of an emergency or unforeseen event, Anschutz will follow the lighting standards within this LMP and the Safety Management Program.

PRODUCTION LIGHTING ZONE (424.d(2))

Production activities are conducted during daylight hours and will not require lighting. In the event of an emergency or unforeseen event, Anschutz will follow the lighting standards within this LMP and the Anschutz Safety Management Program. Should lighting be required during production operation, lighting will not exceed the 1.25 Lumens per square foot of Working Pad Surface for Rural and HPH areas as specified in ECMC Rule 424.d(2).

LOCAL ZONING (424.d(3))

The Mohee Fed 0297-17 Pad is located in Rio Blanco County, Colorado. Rio Blanco County defines the subject parcel as exempt federal land. Adjacent parcels to the subject parcel are zoned grazing land-agricultural or as exempt federal land. The Rio Blanco County Zoning Map (**Appendix D**) provides zoning information and property boundaries for the subject and surrounding parcels.

DIRECTOR DECISION (424.d(3)(A); 424.d(3)(B); & 424.d(3)(C))

The Mohee Fed 0297-17 Pad will be a new location developed on federal land owned and managed by the Bureau of Land Management (Parcel 113536100002).

LIGHTING DURING NON-STAFFED HOURS (424.e)

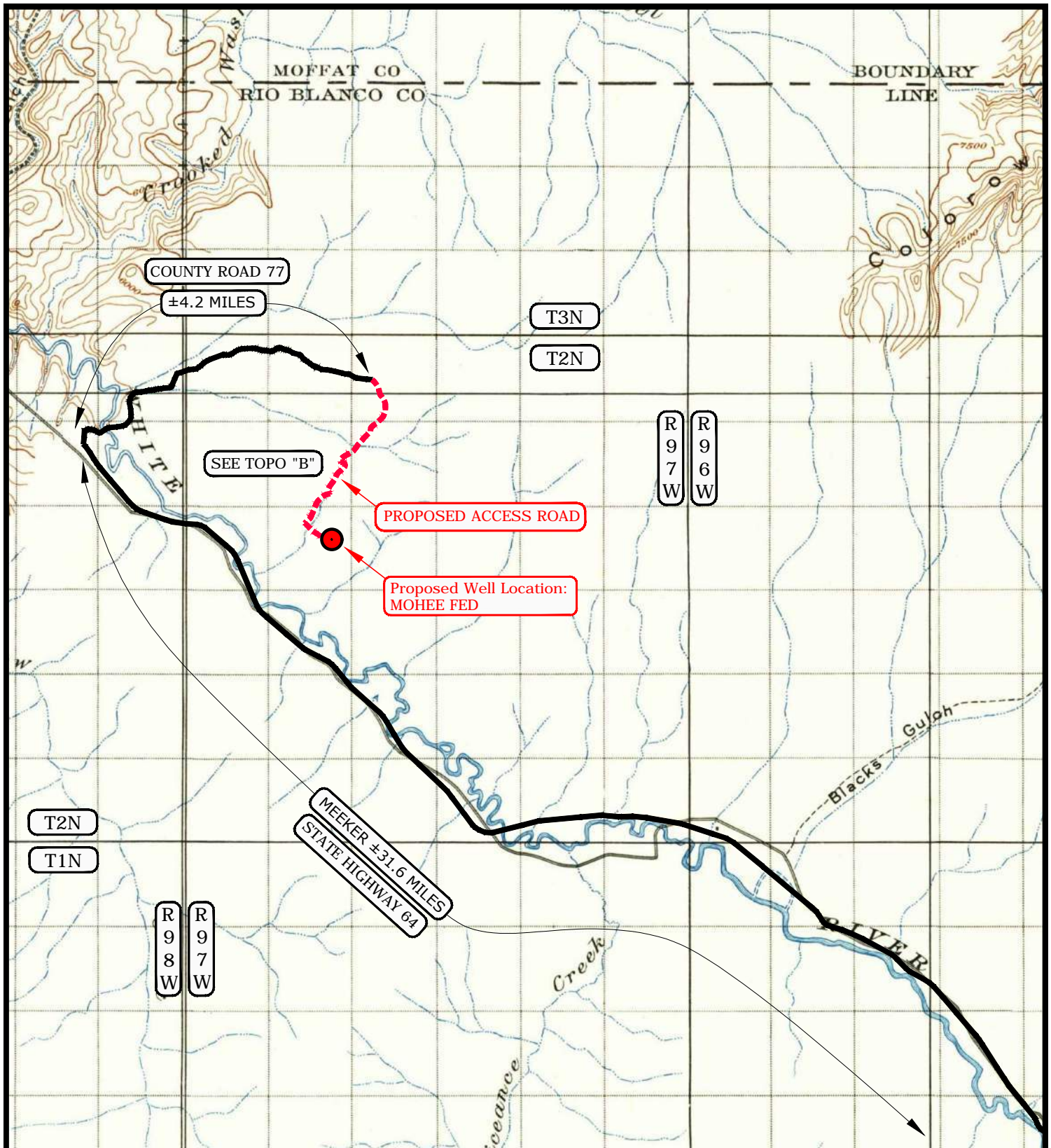
External lights will only be utilized during drilling, completions, and flowback activities. The stated activities will result in a maximum total of 420 days of lighting for the completion of all eight wells. During these operational phases, personnel will be present onsite. Anschutz will minimize continuous on-site lighting if personnel are not onsite. The production phase will not require lighting during routine operations. In the event of an emergency, temporary lighting may be used during the production phase.

CUMULATIVE IMPACT (424.f)

Impacts from cumulative lighting are not anticipated from the Mohee Fed 0297-17 Pad. The OGDG includes eight proposed wells (Mohee Fed 0297-17-8-1NH, Mohee Fed 0297-17-8-2NH, Mohee Fed 0297-17-8-3NH, Mohee Fed 0297-17-29-15NH, Mohee Fed 0297-17-29-15WNH, Mohee

Fed 0297-17-29-14NH, Mohee Fed 0297-17-29-16WNH, Mohee Fed 0297-17-29-16NH). The facility will not require external lighting during production operations and personnel will only access the site during daylight hours. Lighting at the proposed Mohee Fed 0297-17 Pad will only occur during drilling, completions, and flowback phases. These activities will not occur simultaneously at this location. The site is not within one mile of a Residential Building Unit nor a High Occupancy Building Unit.

APPENDIX A GENERAL VICINITY MAP



LEGEND

- PROPOSED ACCESS ROAD
 --- = SUBJECT WELL
 --- = OTHER WELLS
 --- = EXISTING ROAD
 --- = EXISTING ROAD (TO BE IMPROVED)
- B-5460 = COUNTY ROAD CLASS & NUMBER

TOPOGRAPHIC MAP "A"

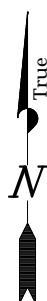
DATE SURVEYED: 7-11-23

DATE DRAWN: 8-28-23

SCALE: 1:100,000

DRAWN BY: S.A.

REVISED:



ANSCHUTZ EXPLORATION CORPORATION

555 17th Street, Suite 1800 - Denver, Colorado 80202

WELLS - MOHEE FED 0297-17-8-1NH, MOHEE FED 0297-17-29-16NH,
 MOHEE FED 0297-17-29-16 WNH, MOHEE FED 0297-17-8-3NH,
 MOHEE FED 0297-17-29-14NH, MOHEE FED 0297-17-29-15 WNH,
 MOHEE FED 0297-17-8-2NH, MOHEE FED 0297-17-29-15NH
 LOCATED IN SECTION 17, T2N, R97W, 6th P.M.,
 RIO BLANCO COUNTY, COLORADO

TIMBERLINE

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ENGINEERING & LAND SURVEYING, INC.
 209 NORTH 300 WEST - VERNAL, UTAH 84078

SHEET
20
 OF 39

APPENDIX B DRILLING PHASE LIGHTING SITE PLAN & DIAGRAM

A hand-drawn map of a village area, likely in Kerala, India, based on the Malayalam text. The map is drawn on a grid paper and includes several landmarks and place names. At the top, there is a river labeled 'P. 12'. Below the river, there are several small circles representing ponds or wells, labeled with numbers like 'P. 13', 'P. 14', 'P. 15', 'P. 16', 'P. 17', 'P. 18', 'P. 19', 'P. 20', 'P. 21', 'P. 22', 'P. 23', 'P. 24', 'P. 25', 'P. 26', 'P. 27', 'P. 28', 'P. 29', 'P. 30', 'P. 31', 'P. 32', 'P. 33', 'P. 34', 'P. 35', 'P. 36', 'P. 37', 'P. 38', 'P. 39', 'P. 40', 'P. 41', 'P. 42', 'P. 43', 'P. 44', 'P. 45', 'P. 46', 'P. 47', 'P. 48', 'P. 49', 'P. 50', 'P. 51', 'P. 52', 'P. 53', 'P. 54', 'P. 55', 'P. 56', 'P. 57', 'P. 58', 'P. 59', 'P. 60', 'P. 61', 'P. 62', 'P. 63', 'P. 64', 'P. 65', 'P. 66', 'P. 67', 'P. 68', 'P. 69', 'P. 70', 'P. 71', 'P. 72', 'P. 73', 'P. 74', 'P. 75', 'P. 76', 'P. 77', 'P. 78', 'P. 79', 'P. 80', 'P. 81', 'P. 82', 'P. 83', 'P. 84', 'P. 85', 'P. 86', 'P. 87', 'P. 88', 'P. 89', 'P. 90', 'P. 91', 'P. 92', 'P. 93', 'P. 94', 'P. 95', 'P. 96', 'P. 97', 'P. 98', 'P. 99', 'P. 100'. In the center, there is a large building labeled 'Sch' (School). To the right of the school, there is a temple labeled 'Temple'. Below the school, there is a small circle labeled 'P. 11'. To the left of the school, there is a small circle labeled 'P. 10'. At the bottom, there is a small circle labeled 'P. 9'. The map is drawn with black ink on a grid paper.

GMEC Project No. 2314760.00	Date 10/19/2023	Grouse Mountain 760 W. Fetterman St. Buffalo, WY 82834 TEL. 307.684.2112	B.1
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ANSCHUTZ EXPLORATION COMPANY

Grouse Mountain
Environmental Consultants LLC.

No.	Date	Revisions	By	Checked by
				CB
				CB
				SS
				Drawn by
				Designed by
				CB
				CB
				Project Mgr.
				CB

[illegible]

ALL LISTS PARALLEL TO THE HORIZONTAL DOWNWARD

ALL LISTS PARALLEL AT 30° TO THE HORIZONTAL DOWNWARD

Section	Length	Width	Weight
300-285 B	114.802 F	118.15 F	1
300-285 B	122.00 F	127.00 F	1
300-285 B	114.802 F	127.00 F	1

Professional Engineer Clinton D. Beck, P.E.	P.E.'s Number 0059532	State CO
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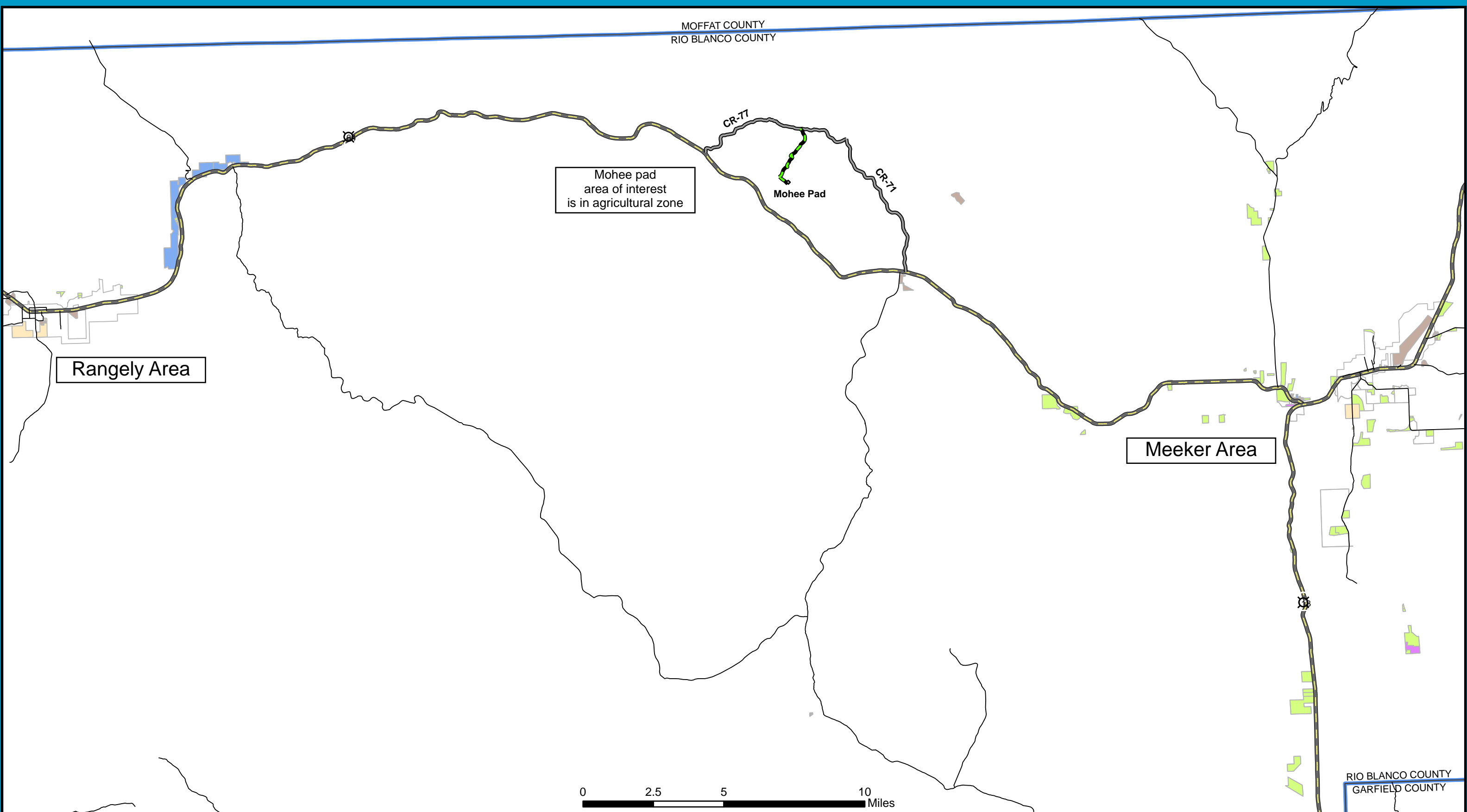
APPENDIX C


COMPLETIONS & FLOWBACK LIGHTING FIGURE AND LIGHTING SPECIFICATIONS

(Not To Scale)

APPENDIX D

RIO BLANCO COUNTY ZONING MAP





Rio Blanco County Zoning Map

Existing Access (Prop. Improve)	County Road	Rio Blanco County Zoning	LR
Proposed Oil Well Pad	Highway	A	PUD
County Road		C	RR
		I	

Coordinate System: NAD 1983 UTM Zone 12N
Projection: Transverse Mercator
Datum: North American 1983
Units: Meter
Scale: 1:200,000
Date: 10/12/2023
Created by: kmccartney
File Name: AEC-007_Mohee_RBC_Zoning_101223

