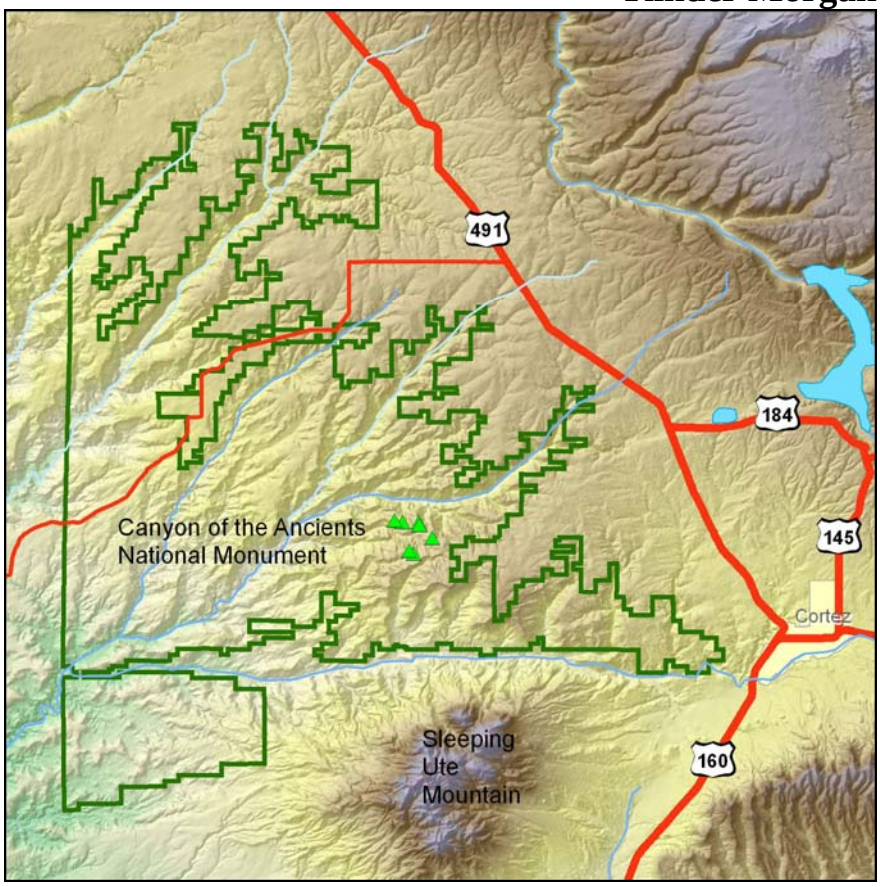
GOODMAN POINT DEVELOPMENT PROJECT

VISUAL RESOURCES ASSESSMENT REPORT

Canyon of the Ancients National Monument
Montezuma County, Colorado

Prepared for

Kinder Morgan



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February 2008

1.0 INTRODUCTION

This document assesses the visual impact of seven proposed carbon dioxide (CO_2) production wells and associated pipeline and access road facilities that would be constructed on a mesa top area near the eastern boundary of Canyons of the Ancients National Monument (CANM) known as Burro Point. Under the tenants that established CANM, oil and gas leasing and development activities are allowed "provided, the Secretary of the Interior shall manage the development, subject to valid existing rights, so as not to create any new impacts that interfere with the proper care and management of the objects [archeological and historic] protected by this proclamation" (BLM 2000). Existing oil and gas access roads, leases, and pipeline right-of-ways (ROWs) located in the area where the proposed wells are planned was previously analyzed under an Environmental Impact Statement (EIS) completed in 1991 (BLM 1991).

As proposed, the project would include, within the boundaries of CANM, the construction of seven well pads and 2,496 feet/0.47 miles of 30-foot wide access roads and flow lines, with a total disturbance acreage of 70 acres, and 24,018 feet (4.54 miles) of production lines within a 50-foot wide right-of-way (ROW) with a disturbance acreage of 27.55 acres. Gas flow lines would be constructed parallel to existing access roads within a 50-foot wide ROW area. An approximately 130-foot tall drill rig would be stationed at each well site for a period of approximately 4 to 5 weeks, or until a well is determined to be productive or not. If the well proves productive, production casing and associated piping approximately 5 feet tall would be completed at the well pad to connect the well to flowlines as identified in Figure 3. The total surface disturbance within the CANM for the proposed project would be approximately 98 acres. A complete project description is available in the Goodman Point Development Project Environmental Assessment (Kinder Morgan 2008). Surface Use Plan permitting has been completed and adopted for the well sites analyzed in this report and stipulations identified in those permits were considered in this evaluation (Havens 2006).

This visual analysis report includes two components; a computerized viewshed analysis modeling exercise to determine areas within the CANM where proposed well pad locations may be visible, and a visual contrast rating and Visual Resource Inventory Class (VRI) evaluation at select Key Observation Point (KOP) locations within the project area.

1.1 Viewshed Analysis

The viewshed analysis considered the potential visibility of the proposed well pad sites at 21 sensitive viewshed locations within the CANM, as shown in Figure 1. The visual impact of development of the well facilities was considered for the short term (2-8 weeks), when a 132-foot high drill rig would complete the well, and for the long term (greater than 8 weeks) when the completed well head would extend approximately 6 feet above the ground surface at the well pad sites.

In viewshed analysis, a number of factors besides topographic line of sight can determine whether an object will be visible from a given location. These factors include: localized screening or obstructions (trees, boulders, etc.), air quality, atmospheric refractivity, and time of day (shadows, reflection). The viewshed analysis completed for this project considered whether locations would be in topographic line of sight of the 132-foot tall apex of the drill rig during the short term and within line of sight of the 6-foot tall well head for the long term.

Sensitive viewshed locations were provided by staff of the CANM for consideration in the viewshed modeling analysis and are identified in Table 1 and Figure 1 (BLM 2006). The viewshed analysis performed for this project considered line of sight of the proposed well pads to all lands located within 8 miles of the CANM boundary so that any location within this study area could be considered in the model if sensitive viewshed locations changed. Sensitive viewshed locations located within line of sight of at least one of the proposed well sites were classified into distance zones as prescribed in the BLM Visual Resources Management (VRM) Design Techniques Manual and are provided in Table 1 (BLM 2007a). These initial distance zone determinations did not take into account vegetative screening. Subsequent on-site reconnaissance at several of the viewshed locations by Ecosphere resulted in modifications to the distance zones as noted on Table 1.

1.2 Visual Resource Management and Visual Resource Inventory Analysis

Although there is currently oil and gas development in the project vicinity, the proposed project has been inventoried as a VRM Inventory Class II management area (BLM 2005). Under this classification; management objectives are to retain the existing character of the landscape. The level of change to the characteristic landscape should be low and management activities may be seen, but not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape (BLM 2007a). The proposed project also has been identified as lying within Scenic Quality Rating Units (SQRU) 2, 3, and 4. SQRU 2 and 4 have been given SQRU ratings of "B+"; SQRU 3 has been previously rated as "A" by the BLM (BLM 2007b).

To assist the BLM in confirming if the interim VRM Class objectives identified for the proposed project area coincide with existing scenic conditions on the ground, data for a visual resource inventory analysis was collected by Ecosphere at select locations within view of the proposed action.

In addition, KOP sites, as identified in consultation with the BLM were evaluated for potential effects to their viewsheds from the proposed action. The rationale behind selection of those sites and those evaluated as part of the visual resource inventory analysis are identified in Table 2 and Figure 2.

2.0 METHODS

2.1 Viewshed Analysis

A viewshed analysis routine program was employed within a Geographic Information System (GIS) to determine line of sight locations from the 132-foot tall apex of a drill rig and 6-foot tall apex of a completed well head. A 30-meter grid size Digital Elevation Model (DEM) was extracted and cast into the UTM projection. The viewshed analysis routine analyzed whether each cell in the DEM grid would be in line of sight of the 132-foot high drill rig or 6-foot high well head. In the program, the drill rig was given a height offset of 132 feet from the ground elevation of the location on the DEM and all other cells were given a 6-foot offset to simulate the view from a standing adult (shown as Offset A and Offset B above). The viewshed

Line of Sight Analysis

analysis routine took into account topography between the drill rig and view points as well as the curvature of the earth. It did not include vegetative screening. The results of the analysis can be useful for determining the locations in the CANM where it may be possible to see drill rigs or finished well heads. However, the analysis cannot fully determine whether the well sites will actually be visible from the sensitive viewshed locations at any given time. Local factors such as vegetation height, micro-topographic features not represented in the DEM, atmospheric conditions, and distance from the well site will determine whether the well site would actually be viewable from a location within the modeled line of sight.

For this analysis, CANM staff identified line of sight in GIS layers to sensitive viewing locations. Sensitive locations within line of sight to the well sites were classified into BLM "distance zones" and entered on Table 1 to provide an assessment of visual impact to these locations.

These distance zones are utilized for the purposes of classifying relative visibility based on distance. The three zones are: foreground-middleground, background, and seldom seen. The BLM VRM Manual (BLM 2007a) describes these zones as follows:

- **Foreground-Middleground Zone** - This is the area that is less than 3 to 5 miles away that can be seen from each travel route or location and where management activities might be viewed in detail. The outer boundary of this distance zone is defined as the point where the texture and form of individual plants are no longer apparent in the landscape. In some areas, atmospheric conditions can reduce visibility and shorten the distance normally covered by each zone. Where the foreground-middleground zone from one travel route overlapped the background from another route, the analysis used only the foreground-middleground designation.
- **Background Zone** - This is the remaining area between approximately 5 to 15 miles away that can be seen from each travel route or location. It does not include areas in the background that are so far distant that the only thing discernible is the form or outline. In order to be included within this distance zone, vegetation is visible at least as patterns of light and dark.**Seldom-Seen Zone** - These are areas that are not visible within the foreground-middleground and background zones (i.e. hidden from view). This may be due to vegetative screening or topographic relief.

2.2 Visual Resource Management and Visual Resource Inventory Analysis

Sensitive viewshed locations as identified on Table 1 were visited and evaluated for potential effects. In addition to other locations, all sensitive sites that had been identified in the viewshed analysis as occurring within the foreground-middleground distance zones were visited on September 26, 2007 by Ecosphere staff. In total, 12 KOP locations were evaluated during the field reconnaissance (Table 2), including 9 locations as identified on Table 1 and several new locations on County Road "U", and the north and south sections of County Road "N." Visual Contrast Rating Worksheets were completed in accordance with techniques described in the BLM VRM Guidance Manual 8431 (BLM 2007a) at 6 of the KOPs that provided the most representative cross-section of views within the project area. These KOPs included:

- KOP 1 – Moqui Lake

- KOP 3 – Big Point Dispersed Camping
- KOP 5 – County Road "U" Rock Climbing Site
- KOP 10A – County Road "N" – North Fork
- KOP 11 – County Road "N" – South Fork
- KOP 12 County Road "U"

Completed Visual Contrast Rating forms for these KOPs are included in Appendix A of this document. Visual Resource Inventory (VRI) datasheets were also completed for these sites using protocol established by the BLM in VRM Manual 8410 (BLM 2007a) and included a Sensitivity Level Rating Sheet, a Scenic Quality Rating Summary, and Scenic Quality Field Inventory forms (Appendix A). These data sets collectively provided information to make site specific VRI determinations for comparison with existing BLM project area determinations.

Photographs were taken at each KOP site and are included in Appendix B of this document. Distance zones were also confirmed in the field for each of the 6 locations in relation to the proposed action and all 6 locations were assigned foreground-middleground distance zone designations.

Using the information collected during the VRI analysis, a VRI Class was identified for each of the 6 KOP locations using the chart provided in VRM Manual 8410 (BLM 2007a) (A copy of the chart is provided in Appendix C). These determinations have been identified in Table 3.

VRI classes portray the relative value of visual resources in a select area and provide a management tool that describes visual management objectives. They do not establish management direction. The four VRI Classes (I, II, III, and IV) generally mirror VRM classes and include:

- **Class I**. The objective of this class is to preserve the existing character of the landscape. This class provides for natural ecological changes; however, it does not preclude very limited management activity. The level of change to the characteristic landscape should be very low and must not attract attention.

- **Class II**. The objective of this class is to retain the existing character of the landscape. The level of change to the characteristic landscape should be low. Management activities may be seen, but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape. This class is the one currently identified for the project area.

- **Class III**. The objective of this class is to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape.

- **Class IV**. The objective of this class is to provide for management activities which require major modifications of the existing character of the landscape. The level of change to the characteristic landscape can be high. These management activities may dominate the view and be the major focus of viewer attention. However, every attempt

should be made to minimize the impact of these activities through careful location, minimal disturbance, and repeating the basic elements (BLM 2007a).

3.0 RESULTS

3.1 Viewshed Analysis

Modeling indicated that at least one proposed well location would be likely be temporarily visible from approximately 18 percent of the CANM during drilling operations, independent of vegetative screening or atmospheric effects. At least one proposed well location would potentially be visible in approximately 10 percent of the CANM in the long term (Figure 2). Table 1 indicates whether identified sensitive locations in the Monument would be within line of sight to short-term drilling operations or long-term extraction operations. Approximately 11 sensitive view locations analyzed in the modeling would be expected to see at least one well site in the short term, exclusive of vegetation or other screening conditions. Seven locations would be expected to see at least one well site in the long term; with 3 of those locations observing the wells in the foreground-middleground (Table 1).

3.2 Visual Resource Management and Visual Resource Inventory Analysis

Data collected during the site visits resulted in visual resource inventory classifications and contrast rating results as summarized in Table 3. Details are provided in the datasheets in Appendix A. Site specific VRI classes were identified for each of the KOPs (Table 3) and compared to the current BLM VRI classification of Class II for the Project Area. Through field studies completed by Ecosphere, all KOP locations identified for this project were confirmed as lying in areas that currently meet VRI Class II management objectives. Changes expected under the proposed action and anticipated VRI Class objectives that are expected to be met by the proposed action, based on the Visual Contrast Rating analysis, are summarized in Table 3. For the purposes of this analysis, short term was defined as 0 to 5 years, and long term was defined as 6 to 20 years.

If well sites are productive and a flowline is constructed in the existing ROW in the immediate vicinity of KOP 1 (Moqui Lake), VRI Class II management objectives for this area will likely not be met in the short term. Views of flowline ROW clearing associated with the project would be dominant immediately adjacent to the roadway and the existing vegetation and soil texture would be modified. VRI Class IV objectives; however, should be met in the short term, as the change in vegetation textures and lines would be mitigated through the use of uneven edge effects and “neck down” areas along the ROW boundaries. Following completion of reclamation and as vegetation on the ROW matures beyond 3 years and into the long term, vegetative conditions are expected to return to conditions similar to original and Class II objectives should ultimately be met.

VRI Class III objectives would be met at KOP 3 (Big Point Dispersed Camping site) in the short term as the vertical lines of drill rigs would be temporarily visible to the north for several months and could attract attention, but not dominate. After drilling is completed, the proposed action, including clearing of well pads and ROWs, should not be visible from KOP 3 due to topographic relief and vegetative screening and VRI Class II objectives should be met.

VRI Class III objectives are also expected to be met in the short term at KOP 5 (County Road U Rock Climbing Site) and KOP 12 (County Road U), since project effects, particularly the vertical lines and lighting of drill rigs, should be temporarily visible for several months at these sites only

in the distant middle ground and should not dominate the view of casual observers. Views of well pad and ROW clearing should be limited or not seen due to topographic and vegetative screening, and after drilling is completed, VRI Class II objectives should be met.

VRI Class II objectives are not likely to be met in the short term at KOP 10A (County Road N – North Fork) and KOP 11 (Country Road N – South Fork) since project work, including ROW and well pad clearing, would be occurring immediately adjacent to these locations and would likely attract the attention of a casual observer. Although the area around KOP 10A was "chained" approximately 20 years ago, removal of vegetation in this area would be apparent and expected to attract the attention of casual observers along the existing roadway. In the short term, VRI Class IV objectives would be met at KOP 10A and 11, since proposed project changes would be dominant, but should be mitigated through the use of uneven edge effects and "neck down zones" during clearing and the use of appropriate paint colors on structures to minimize contrast. Following completion of reclamation and as vegetation on the ROW and well pads matures beyond 3 years and into the long term, vegetative conditions are expected to slowly return to pre-activity conditions and Class II objectives should ultimately be met.

3.3 Recommendations and Suggested Design Guidelines

It is anticipated that VRI Class II objectives would ultimately be met in the long term for each of the proposed well sites if design criteria and recommendations as outlined below are implemented. Specific designs relating to the location of "neck down" areas, uneven edges on the ROWs and well pads, and other site development planning are expected to be identified in the Conditions of Approval following a final project decision from the BLM. APD Surface Use Plan construction design and mitigation has previously been approved for each well site (Havens 2006). Design criteria from the Surface Use Plans have been incorporated into the recommendations identified below as appropriate. Recommendations and design criteria may be repeated under the Surface Use Plans, applicant-committed measures, and COAs, but are mentioned only once in the summary provided below. Additional details are outlined in the project EA. Base sources for the recommendations are identified where appropriate.

APD Surface Use Plans (Havens 2006) and Draft Conditions of Approval:

1. Soil should not be scraped from the surface where topsoil stockpiles are to be placed. Suitable topsoil material should be conserved in stockpiles along the ROWs, access roads, and at the well pads. Topsoil should be stripped to an average depth of 6 inches, stockpiled, and segregated from areas where subsoil materials are stored. Any stockpile not used within six months should be seeded to insure topsoil integrity and prevent erosion.
2. If production is established, unused portions of the well pad should be recontoured, topsoil spread, and reseeded per BLM requirements.
3. All disturbed areas should be recontoured to blend as nearly as possible with the natural topography. This includes removing all berms and refilling all cuts.
4. Stockpiled topsoil should be spread evenly over the areas designated for restoration. Enough topsoil should be kept to reclaim at a later date the portion of the well pad and access road needed for production operations. This remaining topsoil stockpile should be seeded in place using prescribed seed mixtures as approved by the BLM. A suggested seed mix is provided below.
5. Kinder Morgan CO2 Company (or contractor) will contact the BLM's San Juan Resource Area office in Durango, CO (970) 247-4082, at least 48 hours prior to starting reclamation work and upon completion of restoration measures.

6. Seed should be broadcast between September 1 and December 1 (prior to ground frost). Seed may be drilled at half the rate of broadcast seeding. Seed depth = ½ inch. All seeding rates would be in pounds of pure live (adapted varieties) seed.
7. Reclamation should be considered successful when the desired vegetative species are re-established, erosion is controlled, weeds are considered a minimum threat, and it is likely that ground cover will return to its pre-disturbance condition. Revegetation efforts will continue until this standard is met. Monitoring of reclamation success would be conducted on a yearly basis until revegetation requirements are satisfied or as identified by the BLM.
8. Reclamation operations should start immediately after drilling or completion operations cease and should be completed as soon as weather conditions allow.
9. Measures should be taken to control noxious weeds adjacent to disturbed areas throughout the course of operations (including production phase). Noxious weeds, which may be introduced due to soil disturbance or reclamation, should be treated by methods to be approved by the Authorized Officer. These methods may include biological, mechanical or chemical treatments. Should chemical or biological treatment be requested, Kinder Morgan CO2 Company will submit a Use Proposal to the Authorized Officer 60 days prior to the planned application date.

Proposed Applicant-Committed Design Criteria:

1. Areas disturbed by earth-moving operations and vegetative clearing, including well pads, flowline ROWs, and access roads, should have edge modification treatments implemented to create a varied organic, irregular shape along the linear aspects of the project and to increase the number of more 'naturally'- shaped openings. Specific locations for these treatments are expected to be identified in the final Conditions of Approval in coordination with the BLM. Locations should avoid known cultural sites. Work could be completed by hand (no ground disturbance) in sensitive locations to avoid effects to cultural sites and other resources. Slash from cut trees should be left in place, or stored outside the well pad perimeter and used for restoration of replanted/seeded areas.
2. The overall amount of ground disturbance should be limited to minimize impacts to visual resources. Access road and flow line routes should be kept to the 50-foot wide maximum width of the disturbance ROW necessary to complete the proposed project development activities and within previously disturbed areas co-located with proposed project activities. Pipeline routes should be installed immediately adjacent to existing roads (within existing ditch areas if possible) with trench spoil piles kept within 10 feet of the trench edges to allow for safe driving on the access roads while construction activities occur.
3. During construction activities, the construction contractor should periodically 'neck down' access road and pipeline ROW area widths. Representatives from the BLM and Kinder Morgan and/or Ecosphere should identify and flag neck down locations along each access road, pipeline right-of-way, and well pad prior to construction.. Attempts should be made to disturb less than 15 percent of the ROW area to partially retain inventory class objectives. Necking down should involve leaving clumps of trees and shrubs that would provide visual buffers or breaks in ground disturbance. Buffer areas could be developed in locations where excavation activities could be performed from both sides of the 'buffer' while keeping the 'buffer' area free of spoil piles and vehicle access. The preservation of trees should not be done in a manner that would cause any equipment to be operated in an unsafe manner.
4. The existing roadway along the proposed northern flowline should be managed to prevent it from becoming a more developed travel route. This can be achieved partially by

reclaiming the existing road to its original width after flow line construction activities are completed.

5. Interim reclamation of non-used portions of the well pad areas and the pipeline routes should be initiated as soon as possible after project construction activities are completed. Reclamation of areas adjacent to roads and right of way corridors should take priority and should be implemented at the completion of development activities. Interim and final project reclamation activities should be completed in accordance with Surface Use Plan and COAs.
6. As part of short term reclamation activities, cactus and yucca that could be destroyed during ground clearing activities should be removed and stockpiled, using appropriate methodology as identified and approved by the BLM, prior to ground-clearing activities. The stockpiled plants would be re-planted (typically within 60 days) in areas that would be immediately reclaimed after well drilling activities are completed.
7. All disturbed areas should be re-contoured to blend as closely as possible with the natural topography. This should include removing all berms, refilling all cuts, and removal or recontouring of gravel well pads.
8. All surface equipment, including pipe guards, and permanent structures (onsite for six months or longer) constructed or installed should be painted a flat, non-reflective earth-tone color, typically Shale Green (5Y 4/2), that best matches the surrounding environment as specified by the BLM from the list of 10 standard environmental colors designated by the Rocky Mountain Regional Coordinating Committee (RMRCC), and the PANTONE Architecture and Interiors Color Guide (2003).

Draft Conditions of Approval:

1. Portions of the well pads deemed unnecessary for production should be shaped to conform to the natural terrain. Topsoil stockpiled during construction should be spread back over the recontoured areas. Portions of the access roads and pipeline routes deemed unnecessary for production should also be reseeded. The seed mixture shown in the table below should be used as a base for reclamation seeding. Native shrub and forb seeds, such as penstemon, fourwing saltbush, ephedra, mountain mahogany, serviceberry, cliff rose, and desert bitterbrush, should also be considered for addition to the reclamation seed mix in appropriate locations as identified by the BLM. The seed should be distributed by drilling and broadcasting if a drill cannot access the reclamation area. The woody materials stockpiled during construction are to be spread evenly back over the reclaimed and seeded areas. This organic debris will provide cover and stabilizing material for the soil, seed mix, and young plants

Kinder Morgan Burro Point Seed mix			**Drilled rate**		**Broadcast rate**	
Common Name	**Species Name**	**Variety**	**Pounds/ acre**	**Pure live seed/ ft^2**	**Pounds/ acre**	**Pure live seed/ ft^2**
Indian ricegrass	Achnatherum hymenoides	Rimrock	6.2	20	11.7	38
Squirrel tail	Elymus elymoides	Bottlebrush	1.1	5	2.2	10
Blue grama	Chondrosum gracile	Alma	0.3	5	0.5	10
Mutton grass	Poa fendleriana	VNS	0.4	10	0.8	19
Needle and Thread	Hesperostipa comata	VNS	1.9	5	3.6	10
Galleta	Hilaria jamesii	Viva, florets	1.4	5	2.6	10
		Total	**11.3**	50	**21.4**	95

2. If the seed is broadcast, application rates should be twice the drilled rate and a rake or harrow should be used to incorporate the seed into the soil. Certified weed-free mulch may be required on locations with an inadequate supply of removed vegetation.

3. The seed mixture used must be certified weed free. There should be no primary or secondary noxious weeds in the seed mixture. Seed labels from each bag should be available for inspection while seeding is being accomplished. The seeding contractor should keep a record of the dates seeding was accomplished for each site and should send that information along with the seed labels from each bag to Eric LaPrice or Leslie Stewart at the Dolores Public Lands Office (29211 Highway 184, Dolores, CO 81323). The Surface Managing Agency representative (Eric LaPrice at 970-882-6845) should be notified seven (7) days prior to seeding so that they may be present to witness reseeding activities. If grasses and native vegetation are not established after the first seeding application, subsequent applications should be required until grasses and/or native vegetation are established.

4. The Permit Holder (Holder) should be responsible for control of all State-listed noxious weed species on all disturbed areas. The Holder is responsible for consultation with the Authorized Officer and local authorities for acceptable weed control methods.

5. Upon final reclamation, all compacted areas and areas devoid of vegetation on location should be ripped, along the contour, to a minimum of 6 inches in depth, unless located on solid rock, before the re-spread of topsoil and subsequent reseeding.

6. The following standards should be applied to determine the success of reclamation efforts. The operator should continue re-vegetation efforts, at the direction of BLM, until these standards are met. Reclamation should be considered successful when the desired vegetative species are established, erosion is controlled, weeds are considered a minimal threat, and it is likely that ground cover will return to a desirable condition. The following parameters should be used to determine the success of re-vegetation efforts.

a) Successful onsite establishment of species included in the planting mixture or other desirable species.

b) Evidence of vegetation reproduction, either spreading by rhizomatous species or seed production.

7. The period of liability under the bond of record should not be terminated until each well is inspected and the surface rehabilitation approved.

4.0 REFERENCES

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Table 1: **Sensitive Viewshed Analysis Model Locations and Results**

Sensitive Viewshed Location	Number of Gas Wells in Line of Sight Long Term	Number of Gas Wells in Line of Sight Short Term	Miles to Nearest Well	Distance Zone
Moqui Lake	4	7	0.5	foreground-middleground
County Road N - Bouldering Site	0	3	0.9	seldom-seen**
Big Point Dispersed Camping	6	7	1.4	foreground-middleground
Sand Canyon Pueblo	0	0	2.1	not visible
County Road U - Rock Climbing Site	7	7	2.8	foreground-middleground
Sand Canyon Trailhead	0	0	4.3	not visible
Hovenweep NM Goodman Pt	0	0	4.7	not visible
Painted Hand Pueblo	0	2	7.6	background
Painted Hand Dispersed Camping	6	7	7.6	background
Cutthroat Castle Trailhead	6	7	7.7	background
Hovenweep NM Cutthroat Group	0	0	8.2	not visible
Cannonball Pueblo	0	0	9.0	not visible
McClean Basin Towers	0	0	10.4	not visible
Hovenweep NM Hackberry Canyon	0	0	10.6	not visible
Cahone Lake	0	0	10.8	not visible
Hovenweep NM Holly	0	0	11.5	not visible
Lowry Pueblo & North Great House	2	6	12.0	background
Bridge Canyon - RNA	0	0	12.1	not visible
County Road 4 between Papoose and Squaw Canyon	7	7	13.5	background
Hovenweep NM Square Tower	0	3	13.7	background
Anasazi Heritage Center	0	7	15.2	seldom-seen

** Modified based on on-site observation of vegetation or other screening factors.
Site Source: BLM 2006

Table 2: Key Observation Point Analysis Locations

Identification Number	Key Observation Points (KOPs)	Type of User[1]	Amount of Use[2]	Public Interest[3]	Probability of Project Visibility[4]	Other Factors
1	Moqui Lake	All and campers	Med.	High	High; well pads 1 and 2 drill rigs may be partially visible in the short term.	Flowline ROW may be placed near K OP if wells are productive.
2	County Road N – Bouldering Site	Climbers/ Hikers	Med.	High	None; project area is blocked from view by ridgeline and trees.	
3	Big Point Dispersed Camping	All and campers	Med.	High	High - mainly of drill rigs at pad sites 1 and 2 in short term, clearing at 1,2, 4,5,7 may be screened by vegetation	Some camp sites may have different views and more vegetative screening.
4	Sand Canyon Pueblo	All	High	High	None - trees and mesa top blocks view to west.	Many visitors of all types, easily accessible,.
5	County Road U – Rock Climbing Site	Climbers/ Hikers	Med.	High	High - mainly drill rigs in short term and roadcuts associated with well pad at some sites.	Views of project would be in distant middle ground.
6	Sand Canyon Trailhead	Hikers	High	High	None to Low; trees, canyon walls, and mesa top blocks view to west. May be able to see drill rigs at 1,2 temporarily at some points near the top of the mesa.	Used by many hikers. Though the project may not be seen from trailhead, some places along the trail may view the project.
7	Hovenweep NM Goodman Point	All	High	High	None; trees and intervening topography block view to the west.	
8	Painted Hand Pueblo	All	High	High	None to Low; topography blocks view of project area. Lights of drill rigs may be visible in the short term.	Popular site, easily accessible to all users.
9	Painted Hand Dispersed Camping	All and campers	Med.	High	None to Low; topography blocks view of project area. Lights of drill rigs may be visible in the short term.	Project might be seen from some camp sites.
10-A 10-B 10-C	County Road N (north fork)	All	High	High	High; Well pads, drill rigs, and roads for 6,7; drill rigs for 1,2,3, 4,5	10-A is located near Drill site 7, 10-B near Drill sites 4 and 5, 10-C near Drill site 3
11	County Road N (south fork)	All	High	High	High; well pads, roads, rigs for sites 3,4,5 in short term. Drill rigs for 1,2,6,7.	KOP is high point on road looking toward Drill sites 1 and 2.
12	County Road U	All	High	High	High; drill rigs for sites 1,2 in short term; rigs, pads, roadways for 4,5,6,7.	Located to east of rock climbing site at high point in road. Views in distant middle ground.

[1]"All" stands for all types of day users, including motorized and non-motorized, locals, tourists, hikers, mountain bikers, picnickers, horseback riders.

[2] Measured relative to overall use within the Monument.

[3]High interest in scenery equates to high expectation of viewing high quality scenery primarily due to special Congressional designation for the CANM.

[4]Verified through on-site observation or computer model.

Table 3. Visual Resource Inventory and Visual Contrast Rating Analysis Results

Location	Coordinates/ View Compass Bearing Angles/ Observer Position	Distance Zone/ Duration of Visibility	Scenic Quality Rating Unit (SCRU)	Current SCRU Rating[1]	Proposed SCRU Rating[2]	Sensitivity Level Rating[3]	Visual Resource Inventory Class (Existing/ Proposed)[4]	Visual Contrast Rating Results/ Anticipated VRI Classes[5]
KOP 1 – Moqui Lake	N37.40142 W108.81618 330 to 30 degrees Car on access road	Foreground/ middleground Approximately 1-2 minutes	2	18/B+	14/B	High	II/II	Flowline ROW clearing would be visible in foreground from KOP and roadway, changing vegetative texture, color, and lines and dominating view. VRI Class IV objectives met in short term; effects mitigated thru neckdowns and uneven edge effects on ROW. VRI Class II objectives are expected to be met in long term as reclaimed vegetation matures and returns to pre-construction levels.
KOP 3 – Big Point Dispersed Camping	N37.38361 W108.80397 330 to 45 degrees Standing at campsite	Foreground/ middleground Variable; over 5 minutes	4	17/B+	15/B	High	II/II	Vertical lines of drill rigs and lights temporarily visible in middleground from KOP. Well pads and ROW clearing should not be visible due to topographic and vegetative screening. VRI Class III objectives would be met in the short term (several months). After completion of drilling, project should not be visible and VRI Class II objectives should be met.
KOP 5- County Rd U Rock Climbing Site	N 37.45652 W 108.82809 135 to 225 degrees Standing at rim	Foreground/ middleground Variable; over 5 minutes	2	18/B+	19/A	High	II/II	Vertical lines and lighting of drill rigs should be temporarily visible for several months in distant middleground. Well pad and ROW clearing may attract attention in distant middleground, though should not dominate the landscape. VRI Class III objectives would be met in short term until drilling is completed. VRI Class II objectives would be met in long term.
KOP 10A – North Fork County Road N	N37.42359 W108.83516 360 to 180 degrees Car on road	Foreground/ middleground Approximately 1-2 minutes	2	18/B+	12/B	High	II/II	Well pad and ROW clearing would occur immediately adjacent, changing vegetation line, texture, and color. Action would dominate view and be major focus. VRI Class IV objectives would be met in short term; effects should be mitigated through neckdowns and uneven edge effects on ROWs and pads. VRI Class II objectives are expected to be met in long term as reclaimed vegetation matures and returns to pre-construction levels.

Location	Coordinates/ View Compass Bearing Angles/ Observer Position	Distance Zone/ Duration of Visibility	Scenic Quality Rating Unit (SCRU)	Current SCRU Rating[1]	Proposed SCRU Rating[2]	Sensitivity Level Rating[3]	Visual Resource Inventory Class (Existing/ Proposed)[4]	Visual Contrast Rating Results/ Anticipated VRI Classes[5]
KOP 11 – South Fork County Road N	N37.40190 W108.82319 225 to 360 degrees Car on road	Foreground/ middleground Approximately 1-2 minutes	2	18/B+	13/B	High	II/II	Well pad and ROW clearing would occur immediately adjacent, changing vegetation line, texture, and color. Action would dominate view and be major focus. VRI Class IV objectives would be met in short term; effects should be mitigated through neckdowns and uneven edge effects on ROWs and pads. VRI Class II objectives are expected to be met in long term as reclaimed vegetation matures and returns to pre-construction levels.
KOP 12 – County Road U	N 37.45816 W108.82745 180 to 225 degrees Car on road	Foreground/ middleground Approximately 2-5 minutes	2	18/B+	18/B	High	II/II	Vertical lines and lighting of drill rigs should be temporarily visible for several months in distant middleground. Well pad and ROW clearing may attract attention in distant middleground, though should not dominate the landscape. VRI Class III objectives would be met in short term until drilling is completed. VRI Class II objectives would be met in long term.

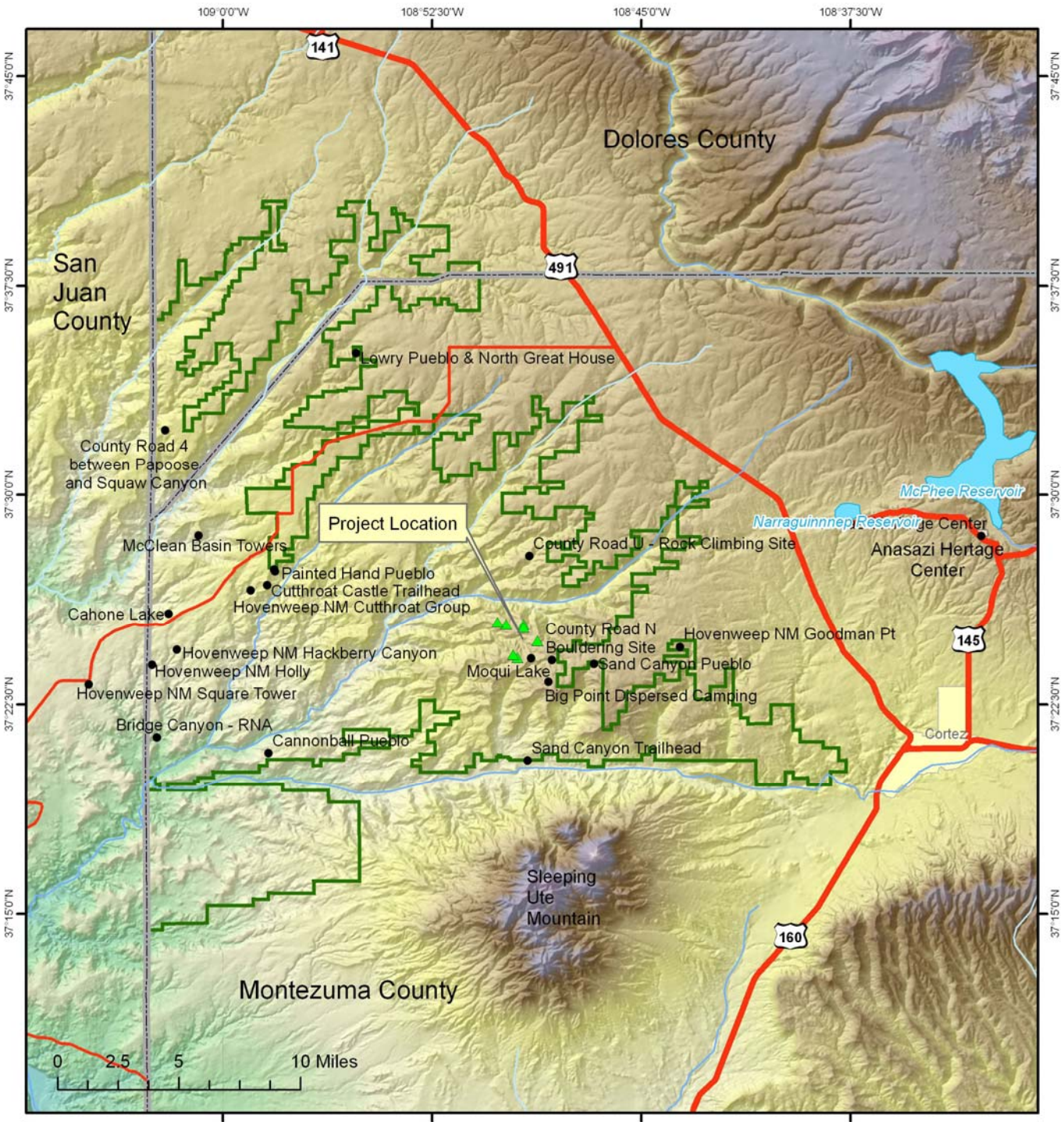
[1]Scenic quality rating: A = 19 or more, B = 12-18, C = 11 or less. Agency ratings are for the entire Unit, and are not specific to the KOP point

[2]Ratings are for the specific KOP. Ecosphere's average rating for SQRU 2 is 15/B.

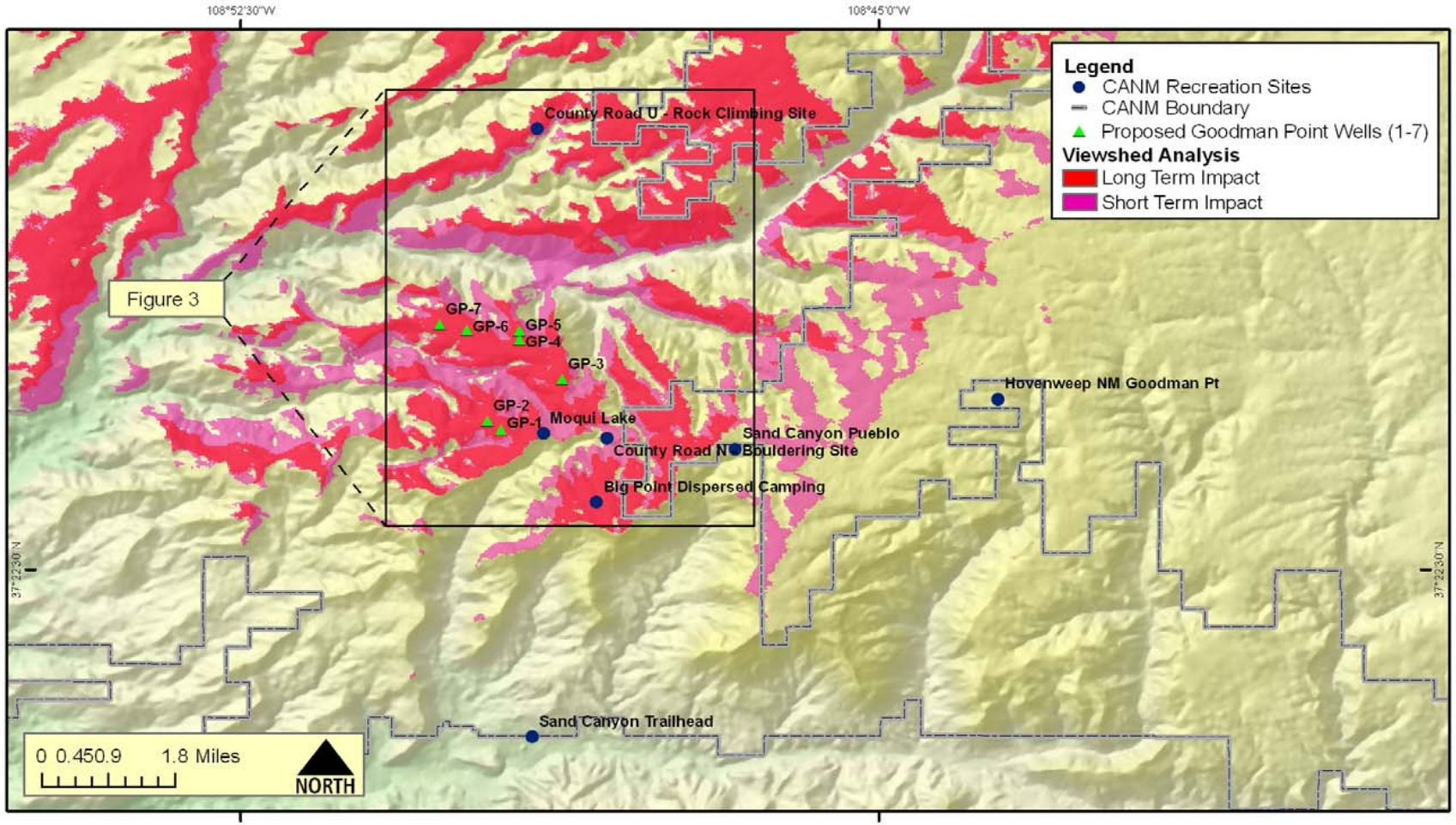
[3]The entire CANM has been designated by the BLM as "High" sensitivity due to Congressional designation (Burns 2007).

[4]VRI Class II = Change visible, but does not attract attention; Class III = Change attracts attention, but is not dominant; Class IV = Change is dominant, but mitigated. Existing VRI classes = current BLM rating, Proposed VRI classes = classes identified during project-related analysis.

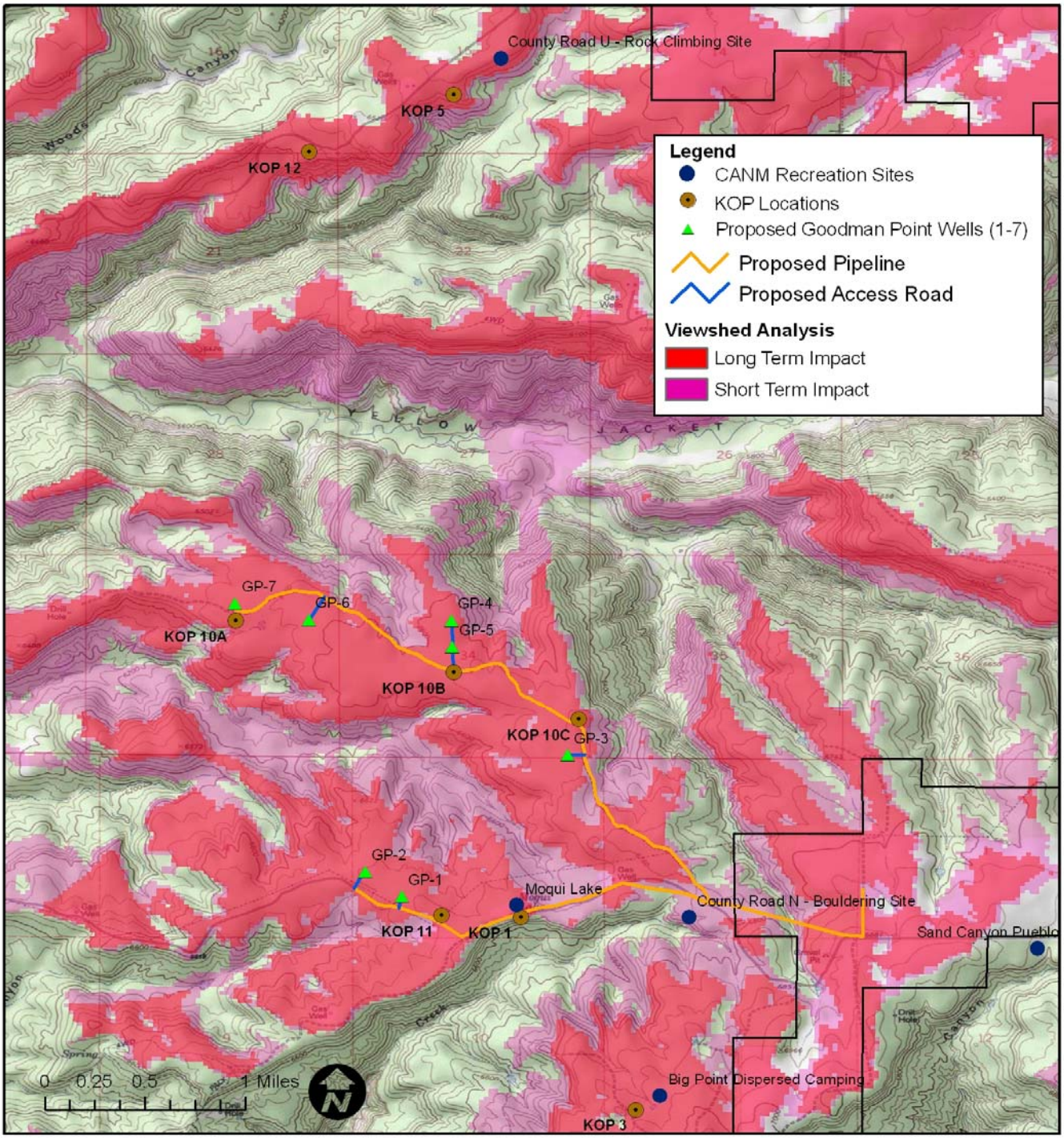
[5]Visual contrast rating analysis considered proposed mitigation and applicant-committed protection measures in determining the VRM classes expected to be achieved. Short term = 0-5 years, long term = 6-20 years.



ECOSPHERE ENVIRONMENTAL SERVICES	**KINDER MORGAN**
	GOODMAN POINT VIEWSHED ANALYSIS
PROJECT VICINITY MAP	FIGURE 1
TOWNSHIP 36N RANGE 18W, SECTIONS 2,3,33 & 34	MONTEZUMA COUNTY, CO
	3/2007



ECOSPHERE ENVIRONMENTAL SERVICES	**KINDER MORGAN** GOODMAN POINT VIEWSHED ANALYSIS	COLORADO
	PROJECT AREA MAP / FIGURE 2	
	TOWNSHIP 37N RANGE 18W, SECTIONS 34 & 35 / MONTEZUMA COUNTY, CO	
	10/2007	



ECOSPHERE
ENVIRONMENTAL SERVICES

KINDER MORGAN

GOODMAN POINT VIEWSHED ANALYSIS

LOCAL VIEWSHED	FIGURE 3
TOWNSHIP 37N RANGE 18W, SECTIONS 34 & 35	MONTEZUMA COUNTY, CO
TOWNSHIP 36N RANGE 18W, SECTIONS 2 & 3	2/6/2008

APPENDIX A
KEY OBSERVATION POINT AND VISUAL RESOURCE INVENTORY DATASHEETS

Form 8400-6
(September 1985)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SENSITIVITY LEVEL RATING SHEET

Date 9/26/07

District Canyons of the Ancients National Monument

Resource Area San Juan/San Miguel

1. Evaluators (*names*)

Karen Caddis - Ecosphere Environmental Services, Inc.

SENSITIVITY LEVEL RATING UNIT (1)	Type of User (2)	Amount of Use (3)	Public Interest (4)	Adjacent Land Uses (5)	Special Areas (6)	Other Factors (7)	Overall Rating (8)	EXPLANATION (9)
KOP 1	H	M	H	H	H	-	H	Moqui Lake looking N/NW to wards well sites 1, 2, 4, 5, and 7.
KOP 2	H	M	H	H	H	-	H	Big Point dispersed camping looking N/NW to Well Sites 1-7.
KOP 5	H	M	H	H	H	-	H	County Road "U" Rock Climbing site.
KOP 10A	M-H **	H	H	H	H	-	H	County Road "N"- North Fork, adjacent to proposed Kinder Morgan CO2 well pad 7.
KOP 11	H	H	H	H	H	-	H	County Road "N" - South Fork. View to north towards proposed Kinder Morgan CO2 well site 1&2
KOP 12	H	H	H	H	H	-	H	County Road "U". East of rock climbing location.

** Trail at end of road increases recreational user traffic on north fork of "N" road.

(Instructions on reverse)

Form 8400-5
(May 1984)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SCENIC QUALITY RATING SUMMARY

Date 9/26/07

District Canyons of the Ancients National Monument

Resource Area San Juan/San Miguel

1. Evaluators (*names*)

Karen Caddis - Ecosphere Environmental Services, Inc.

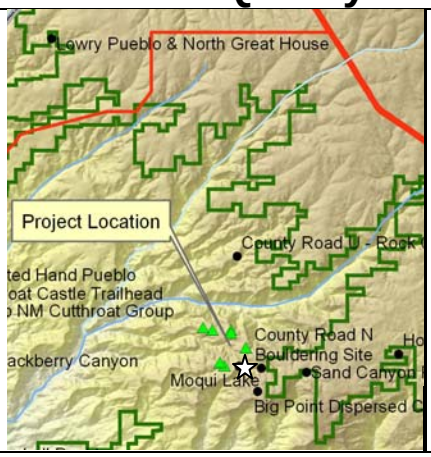
SCENIC QUALITY RATING UNITS (1)	Landform (2)	Vegetation (3)	Water (4)	Color (5)	Adjacent Scenery (6)	Scarcity (7)	Cultural Modification (8)	Total Score (9)	Scenic Quality Rating (10)	EXPLANATION (11)
KOP 1 SQRU 2	3	3	0	3	4	3	-2	14	B	Moqui Lake (Transmission line and roadway are visible.
KOP 3 SQRU 4	3	3	0	3	4	3	-1	15	B	Big Point dispersed camping.
KOP 5 SQRU 2	5	3	0	4	5	4	-2	19	A	County Road "U" rock climbing site.
KOP 10A SQRU 2	2	3	0	3	4	1	-1	12	B	County Road "N" - North Fork. Adjacent to proposed Kinder Morgan site 7.
KOP 11 SQRU 2	3	3	0	3	4	3	-3	13	B	County Road "N" - South Fork. View towards proposed Kinder Morgan sites 1&2.
KOP 12 SQRU 2	5	3	0	3	5	4	-2	18	B	County Road "U". East of rock climbing location on Yellow Jacket Canyon.

INSTRUCTIONS

Form is used in conjunction with the Scenic Quality Inventory and Evaluation Chart.

United States Department of the Interior Bureau of Land Management

Scenic Quality Field Inventory

Date **September 26, 2007**	
District **Canyon of the Ancients National Monument**	
Field Office **San Juan/San Miguel**	
Scenic Quality Rating Unit 2	
Viewpoint **KOP 1 – Moqui Lake**	
Evaluator(s) **Karen Caddis - Ecosphere**	

LANDSCAPE CHARACTER

	LANDFORM/WATER	VEGETATION	STRUCTURES
Form	Flat to slightly rolling terrain in fore and middle ground, flat mesas and triangular mountains in distance background	Rounded, rough in foreground, smooth in background	rectangular and linear transmission line, linear roadway in foreground. Rectangular building in distant background.
Line	Horizontal and continuous in foreground, Horizontal and diagonal and rugged in background	Curving in foreground trees; horizontal in background.	Regular, vertical, and parallel transmission line, horizontal roadway.
Color	Chalk and tan soils in foreground. Blue gray mountains and mesa in background.	Dark-green PJ and sage-green/yellow rabbitbrush in foreground, dark-green PJ in background	Dark brown of transmission line and gray roadway in foreground.Gray distant building.
Texture	rough and random in foreground, fine mesa and mountains in background	coarse and medium density in foreground. Smooth and dense in background.	Fine and sparse in background, ordered and even transmission line and roadway in foreground.

Narrative: The Moqui Lake viewpoint is representative of general plateau views within SQRU 2. The generally horizontal terrain in the foreground accentuates the distant views of the Manti-La Sal mountain range. Clumps of dark green pinyon-juniper contrast with the lighter soils in the foreground and gradate into the dark blue gray of the mountains. A transmission line bisects the boundary between the foreground and background and a linear gravel roadway and manmade earthern berm dominate the immediate foreground. Manmade features attract attention, and detract somewhat from the overall natural appearing landscape, but are not generally domnate.

SCORE

	High	Medium	Low	Explanation or Rationale
a. Landform		3		
b. Vegetation		3		
c. Water			0	Pond empty at time of survey
d. Color		3		
e. Adjacent Scenery	4			
f. Scarcity		3		
g. Cultural Modifications			-3	T-line, roadway, pond berming
TOTALS	4	12	-3	13

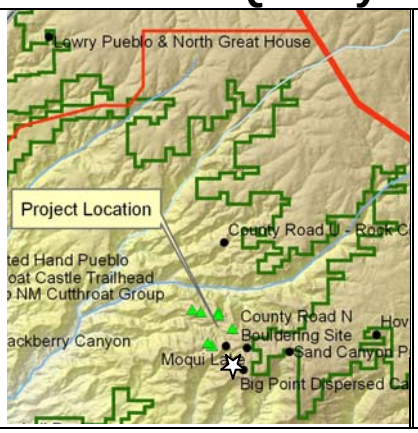
SCENIC QUALITY CLASSIFICATION

- [ ] **A 19 or more**
- [X] **B 12 - 18**
- [ ] **C 11 or less**

United States Department of the Interior Bureau of Land Management

Scenic Quality Field Inventory

Date **September 26, 2007**
District **Canyon of the Ancients National Monument**
Field Office **San Juan/San Miguel**
Scenic Quality Rating Unit **4**
Viewpoint **KOP 3 – Big Point Dispersed Camping**
Evaluator(s) **Karen Caddis - Ecosphere**



LANDSCAPE CHARACTER

	LANDFORM/WATER	VEGETATION	STRUCTURES
Form	Flat to slightly rolling terrain in fore and middle ground, flat mesas and rounded mountains in distant background	Rounded, rough in foreground, smooth in background.	Linear dirt roadway in foreground. Linear transmission line and farm buildings faintly visible in distance.
Line	Horizontal and continuous in foreground, Horizontal and curving in background	Curving in foreground vegetation; horizontal in background.	Diagonal dirt roadway. Horizontal transmission line faintly visible in distance.
Color	Tan soils in foreground. Blue gray mountains and mesa in background.	Dark-green PJ and sage-green veg in foreground, dark-green PJ in distance with beige farmland.	Light brown dirt roadway in foreground.
Texture	rough and random in foreground, fine mesa and mountains in background	coarse and medium density in foreground. Smooth and dense in background.	Fine and sparse in background, even roadway in foreground.

Narrative: The Big Point Dispersed Camping viewpoint is representative of general plateau views within SQRU 4. The generally horizontal terrain in the foreground accentuates the distant views of the Manti-La Sal mountain range. Clumps of dark green pinyon-juniper contrast with the lighter soils and vegetation in the foreground and gradate into the dark blue gray of the mountains. A transmission line and widely scattered farm buildings are faintly visible in the middleground and background and a linear dirt roadway dominates the immediate foreground. Camp litter and compacted tracked soils visible at the site detract somewhat from the overall natural appearing landscape. Manmade features slightly attract attention, but do not dominate the landscape.

SCORE

	High	Medium	Low	Explanation or Rationale
a. Landform		3		
b. Vegetation		3		
c. Water			0	
d. Color		3		
e. Adjacent Scenery	4			Site overlooks McElmo Canyon
f. Scarcity		3		
g. Cultural Modifications			-1	Roadway
TOTALS	4	12	-1	15

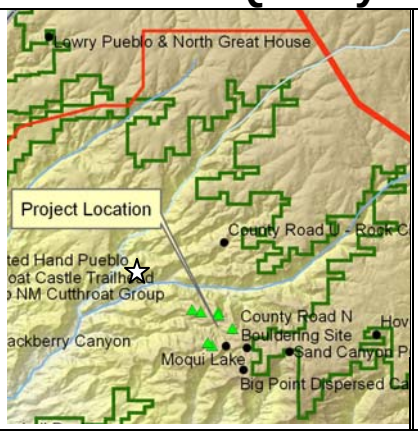
SCENIC QUALITY CLASSIFICATION

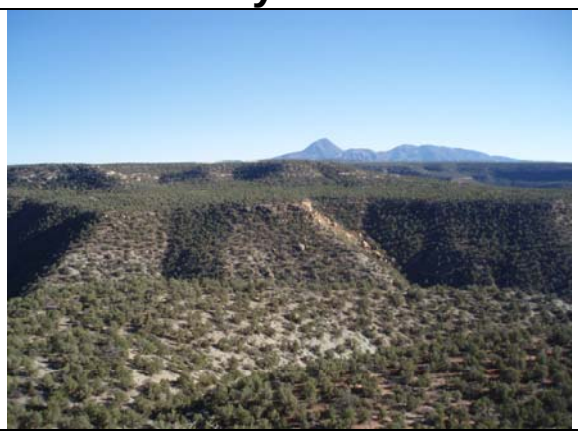
- ☐ **A 19 or more**
- ☒ **B 12 - 18**
- ☐ **C 11 or less**

United States Department of the Interior Bureau of Land Management

Scenic Quality Field Inventory

Date **September 26, 2007**	
District **Canyon of the Ancients National Monument**	
Field Office **San Juan/San Miguel**	
Scenic Quality Rating Unit **2**	
Viewpoint **KOP 5-County Road U Rock Climbing Site**	
Evaluator(s) **Karen Caddis - Ecosphere**	





LANDSCAPE CHARACTER

	LANDFORM/WATER	VEGETATION	STRUCTURES
Form	steep, rugged cliffs fore and middle ground, flat mesas and rounded mountains in distance.	Rounded, rough in foreground, smooth in background	Linear transmission line faintly visible at interface with middle/background. Rectangular compressor to east.
Line	Vertical in foreground, Horizontal and curving in background	Curving in foreground vegetation; horizontal in background.	Horizontal transmission line faintly visible in distance. Angular compressor station on east horizon
Color	Tan and salmon soils/rock in foreground. Blue green mountains and mesa in background.	Dark-green PJ in foreground, dark-green PJ in distance intermingled with beige soils.	Tan compressor station, dark brown transmission line.
Texture	rough and striated in foreground, fine texture mesa and mountains in background	coarse and medium density in foreground. Smooth and dense in background.	Fine and sparse in background, ordered and uniform transmission line and compressor in background.

Narrative: The County Road "U" Rock Climbing Site viewpoint is likely one of the more dramatic locations in SQRU 2. The site is located on the north rim of Yellow Jacket Canyon and has 180 degree views of Sleeping Ute Mountain to the south. Vertical sandstone cliffs and large boulders dominate the foreground views. Horizontal mesas vegetated in pinyon/juniper slope to the canyon bottom. The distinct form of Sleeping Ute Mountain dominates the background. A compressor station lies in a saddle area to the east of the site and a transmission line is faintly visible at the interface between the middle and background. The manmade structures currently can be seen, but do not dominate the landscape. Actual site is to west of originally mapped location.

SCORE

	High	Medium	Low	Explanation or Rationale
a. Landform	**5**			**Vertical sandstone cliffs**
b. Vegetation		**3**		
c. Water			**0**	
d. Color		**4**		
e. Adjacent Scenery	**5**			**Yellow Jacket Canyon**
f. Scarcity		**4**		
g. Cultural Modifications			**-2**	**Transmission line, compressor station**
TOTALS	**10**	**11**	**-2**	**19**

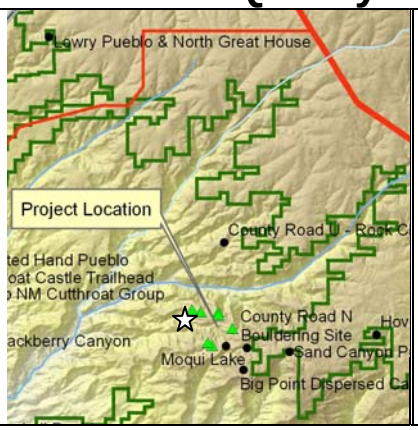
SCENIC QUALITY CLASSIFICATION

- [X] **A 19 or more**
- [ ] **B 12 - 18**
- [ ] **C 11 or less**

United States Department of the Interior Bureau of Land Management

Scenic Quality Field Inventory

Date **September 26, 2007**	
District **Canyon of the Ancients National Monument**	
Field Office **San Juan/San Miguel**	
Scenic Quality Rating Unit **2**	
Viewpoint **KOP 10A – County Rd. N, north fork**	
Evaluator(s) **Karen Caddis - Ecosphere**	



LANDSCAPE CHARACTER

	LANDFORM/WATER	VEGETATION	STRUCTURES
Form	Flat terrain in fore and middle ground, flat mesas and rounded mountains in distance background	Rounded, rough in foreground, smooth in background	Linear dirt roadway in foreground. Linear transmission line and farm buildings faintly visible in distance
Line	Horizontal and continuous in foreground, Horizontal and curving in background	Curving in foreground vegetation; horizontal in background.	Horizontal dirt roadway. Horizontal transmission line faintly visible in distance.
Color	Red-brown soils in foreground. Blue gray mountains and mesa in background.	Dark-green PJ, sage-green/tan veg in foreground, dark-green PJ in distance intermingled with beige farmland.	Light brown dirt roadway.
Texture	rough and random in foreground, fine textured mesa/mountains.	coarse and medium density in foreground. Smooth and dense in background.	Fine and sparse in background, even textured roadway in foreground.

Narrative: KOP 10A lies on County Road N – North fork, adjacent to the proposed Kinder Morgan CO2 well pad 7, with views of this pad and site 6. Site views are currently dominated by the existing roadway, Sleeping Ute Mountain to the south, and level, contiguous, pinyon/juniper communities on the mesa top sloping to the north into Yellow Jacket Canyon. Visibility is limited by vegetation. A Transmission line is faintly seen at the boundary between the middle and background, but does not dominate the setting. This site is typical of mesa top views in SQRU 2.

SCORE

	High	Medium	Low	Explanation or Rationale
a. Landform			**1**	**Limited views,**
b. Vegetation		**3**		
c. Water			**0**	
d. Color		**3**		
e. Adjacent Scenery		**4**		
f. Scarcity			**2**	**Common community type**
g. Cultural Modifications			**-1**	**Existing roadway**
TOTALS	**0**	**10**	**2**	**12**

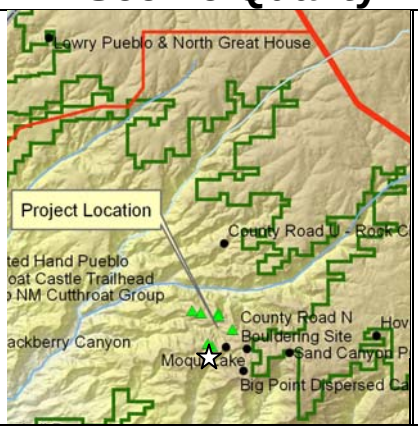
SCENIC QUALITY CLASSIFICATION

- [ ] **A 19 or more**
- [X] **B 12 - 18**
- [ ] **C 11 or less**

United States Department of the Interior Bureau of Land Management

Scenic Quality Field Inventory

Date **September 26, 2007**
District **Canyon of the Ancients National Monument**
Field Office **San Juan/San Miguel**
Scenic Quality Rating Unit **2**
Viewpoint **KOP 11 – County Road "N"- South Fork**
Evaluator(s) **Karen Caddis - Ecosphere**



LANDSCAPE CHARACTER

	LANDFORM/WATER	VEGETATION	STRUCTURES
Form	Flat terrain in fore and middle ground, flat mesas and rounded mountains in distant background	Rounded, rough in foreground/middleground, smooth in background	Linear dirt roadway, pipeline ROW and transmission line in foreground/middleground.
Line	Horizontal and continuous in foreground, Horizontal and curving in background	Curving in foreground vegetation; horizontal in background.	Diagonal, symmetrical dirt roadway, transmission line and pipeline ROW.
Color	Red-brown soils in foreground. Blue gray mountains and mesa in background.	Dark-green PJ, sage-green/tan veg in foreground, dark-green PJ in distance. Gray-brown vegetation in pipeline ROW.	Light gray gravel roadway, medium brown transmission line.
Texture	rough and random in foreground, fine textured mesa/mountains.	coarse and medium density in foreground. Smooth and dense in background.	Even textured roadway in foreground, rough ROW.

Narrative: KOP 11 is located on County Road N –South Fork, with a view towards the proposed Kinder Morgan CO2 well pads 1 and 2. The site views are currently dominated in the fore and middleground by the existing roadway, a transmission line, and an existing pipeline ROW scar. Mesa tops and mountains dominate the distant background. Vegetation on either side of the road and pipeline ROWs is contiguous and similar in variety and density to that found at KOP site 10A. The land slopes to the northwest towards the Manti-La Sal mountain range.

SCORE

	High	Medium	Low	Explanation or Rationale
a. Landform		**3**		
b. Vegetation		**3**		
c. Water			**0**	
d. Color		**3**		
e. Adjacent Scenery		**4**		
f. Scarcity			**2**	**Common community type**
g. Cultural Modifications			**-3**	**Existing roadway, T-line, pipeline**
TOTALS	**0**	**13**	**-1**	**12**

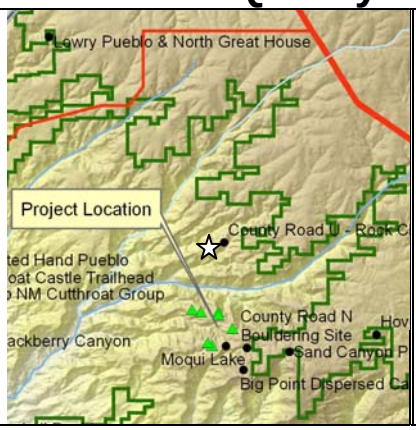
SCENIC QUALITY CLASSIFICATION

- [ ] **A 19 or more**
- [x] **B 12 - 18**
- [ ] **C 11 or less**

United States Department of the Interior Bureau of Land Management

Scenic Quality Field Inventory

Date **September 26, 2007**	
District **Canyon of the Ancients National Monument**	
Field Office **San Juan/San Miguel**	
Scenic Quality Rating Unit **2**	
Viewpoint **KOP 12-County Road U**	
Evaluator(s) **Karen Caddis - Ecosphere**	



LANDSCAPE CHARACTER

	LANDFORM/WATER	VEGETATION	STRUCTURES
Form	steep, rugged slopes fore and middle ground, flat mesas and rounded mountains in distance.	Rounded, rough in foreground, smooth in background	Linear transmission line faintly visible at interface with middle/background. Linear roadway.
Line	Curved in foreground, Pyramidal gradating to horizontal and curving in background	Curving in foreground vegetation; horizontal in background.	Horizontal transmission line faintly visible in distance. Curved roadway.
Color	Tan and dark brown soils with white rock in foreground. Blue green mountains and mesa in background.	Dark-green PJ/ yellow and sage-green shrubs in foreground, dark-green PJ in distance.	Dark brown transmission line, light gray gravel road.
Texture	rough and randome in foreground, fine texture mesa and mountains in background	coarse and medium density in foreground. Smooth and dense in background.	Fine and sparse in background, ordered and uniform road in foreground and transmission line in background.

Narrative: The County Road "U" Site viewpoint is located on the north rim of Yellow Jacket Canyon, east of the Rock Climbing Area and has 180 degree views of Sleeping Ute Mountain, tablelands, and Yellow Jacket Canyon to the south. Horizontal mesas vegetated in pinyon/juniper slope to the canyon bottom. The distinct form of Sleeping Ute Mountain dominates the background. A transmission line is faintly visible at the interface between the middle and background. The manmade structures currently can be seen, but do not dominate the landscape. KOP site is typical of high point views along County Road U in SQRU 2.

SCORE

	High	Medium	Low	Explanation or Rationale
a. Landform	**5**			**Mesas and steep canyons**
b. Vegetation		**3**		
c. Water			**0**	
d. Color		**3**		
e. Adjacent Scenery	**5**			**Yellow Jacket Canyon**
f. Scarcity		**4**		
g. Cultural Modifications			**-2**	**Transmission line in background**
TOTALS	**10**	**10**	**-2**	**18**

SCENIC QUALITY CLASSIFICATION

- ☐ **A 19 or more**
- ☒ **B 12 - 18**
- ☐ **C 11 or less**

Form 8400-4
(September 1985)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

Date 10/5/07

District Canyon of the Ancients National Monument-

Resource Area San Juan/San Miguel

Activity (program) Oil and gas development

SECTION A. PROJECT INFORMATION

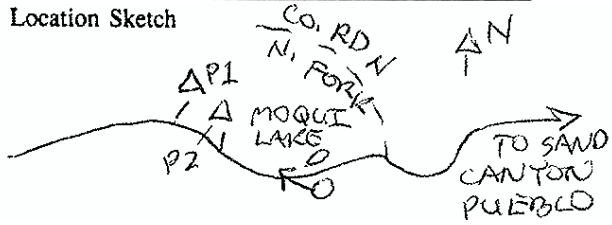
1. Project Name
Kinder-Morgan Goodman Point CO_2 Wells 1 to 7

2. Key Observation Point
#1 - Moqui Lake

3. VRM Class
Class II (interim)

4. Location
Township 36N
Range 18W
Section 3

5. Location Sketch



SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Flat to slightly rolling terrain in fore and middle ground, flat mesas and triangular mountains in distance background	Rounded, rough in foreground, smooth in background	Retangular and inear transmission line, linear roadway in foreground. Rectangular buildings in background.
LINE	Horizontal and continuous in foreground, Horizontal and diagonal in background	Curving in foreground vegetation; horizontal in background.	Regular, vertical, and parallel transmission line, horizontal roadway.
COLOR	Chalk and tan soils in foreground. Blue gray mountains and mesa in background.	Dark-green PJ, sage-green/yellow rabbitbrush in foreground, dark-green PJ in distance.	Dark brown transmission line and gray roadway in foreground. Gray distant building.
TEX-TURE	rough and random in foreground, fine mesa and mountains in background	coarse and medium density in foreground. Smooth and dense in background.	Fine and sparse in background, ordered and even transmission line and roadway in foreground.

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Temporary vertical addition to foreground horizon from drill rigs. Expansion of flowline ROW width adjacent to road.	Vegetation should screen pad clearing from view. Flowline ROW clearing would remove vegetation.	Tall , linear drill rig structures and equipment associated with ROW clearing temporarily evident.
LINE	Temporarily vertical drill rigs on horizon. Curve of newly cleared flowline ROW adjacent to roadway.	Vegetation clearing on ROW should continue curving form with proposed mitigation.	Temporary verticular and angular drill rigs and ROW clearing equipment.
COLOR	Tan soil colors in foreground may be more evident in new clearings on existing ROW until reclamation complete	Some removal of vegetation on ROW would reduce amount of green and more soil colors would be evident.	Temporary dark brown drill rigs and ROW clearing equipment with bright white-yellow lighting at night on drill rigs.
TEX-TURE	Some smoothing of ROW with existing vegetation removal.	Smooth along cleared ROW areas until reclamation is successful.	Temporarily directional with strong light intensity at night.

SECTION D. CONTRAST RATING ☐ SHORT TERM ☒ LONG TERM

1. DEGREE OF CONTRAST

ELEMENTS	FEATURES: LAND/WATER BODY (1) Strong	Moderate	Weak	None	VEGETATION (2) Strong	Moderate	Weak	None	STRUCTURES (3) Strong	Moderate	Weak	None
Form		X				X					X	
Line		X					X				X	
Color		X				X					X	
Texture		X				X					X	

2. Does project design meet visual resource management objectives? ☐ Yes ☒ No (Explain on reverse side)

3. Additional mitigating measures recommended ☒ Yes ☐ No (Explain on reverse side)

Evaluator's Names — Date

Karen Caddis - Ecosphere Environmental Services — 9/26/07

SECTION D. (Continued)

Comments from item 2.

The strong lines and night-lighting created by drill rig towers would temporarily create contrasts that would attract attention. Effects may last 2 to 8 weeks. Access road and well pad clearings would not be visible from KOP 1due to the screening effects of existing vegetation and topography. Widening of the existing ROW to accomodate the flowline would remove vegetation and modify texture, color and line until reclamation is complete. Implemention of proposed neck down and edge effect migitation should reduce changes in form and line; however, in the short term, VRI Class II conditions are not expected to be met along the ROW. Changes would be evident to the casual observer. With successful reclamation, conditions should return to existing levels in the long term.

Note. Moqui Lake is an old stock pond with manmade berming. No water was identified in the pond during the site visit. KOP view is south of Moqui Lake on roadway looking north and northwest towards proposed drill sites 1, 2, 4,5,6,7.

Additional Mitigating Measures (See item 3)

No additional mitigation measures identified for temporarily effects related to drill rig towers. No well pads or road cuts should be visible from the Moqui Lake KOP due to existing vegetative and topographic screening. Proposed mitigation on the ROW for neck down areas and edge effect modification should reduce form and line contrasts on the ROW, but not eliminate them. Once reclamation is complete, changes in texture and color should be minimal and similar to existing conditions. Recommend adding shrubs to the reclamation seed mix and having operators reclaim the ROW with trimmed vegetation and rocks (where available) distributed on the surface of the ROW to create a more natural look. Avoid linear features.

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(September 1985)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

Date 10/5/07

District Canyon of the Ancients National Monument-

Resource Area San Juan/San Miguel

Activity (program) Oil and gas development

SECTION A. PROJECT INFORMATION

1. Project Name
Kinder-Morgan Goodman Point CO_2 Wells 1 to 7

2. Key Observation Point
#3- Big Point Dispersed Camping

3. VRM Class
Class II (interim)

4. Location
Township 36N
Range 18W
Section 11

5. Location Sketch

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Flat to slightly rolling terrain in fore and middle ground, flat mesas and rounded mountains in distance background	Rounded, rough in foreground, smooth in background	Linear dirt roadway in foreground. Linear transmission line and farm buildings faintly visible in distance
LINE	Horizontal and continuous in foreground, Horizontal and curving in background	Curving in foreground vegetation; horizontal in background.	Diagonal dirt roadway. Horizontal transmission line faintly visible in distance.
COLOR	Tan soils in foreground. Blue gray mountains and mesa in background.	Dark-green PJ, sage-green/tan veg in foreground, dark-green PJ in distance intermingled with beige farmland.	Light brown dirt roadway.
TEX-TURE	rough and random in foreground, fine mesa and mountains in background	coarse and medium density in foreground. Smooth and dense in background.	Fine and sparse in background, even roadway in foreground.

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Temporary vertical addition to foreground horizon from drill rigs.	Limited geometric shapes from vegetation clearing.	Tall , linear drill rig structures temporarily evident.
LINE	Temporarily vertical drill rigs on horizon.	Moderately irregular lines created by vegetation clearing for pad sites.	Temporary verticular and angular drill rigs
COLOR	No change	Addition of small tan and brown areas in middleground from pad clearing	Temporary dark brown drill rigs with bright white-yellow lighting at night
TEX-TURE	No change	Scattered indistinct patches	Temporarily directional with strong light intensity at night.

SECTION D. CONTRAST RATING ☐ SHORT TERM ☒ LONG TERM

1. DEGREE OF CONTRAST

	FEATURES											
	LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)			
	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
ELEMENTS Form			X				X				X	
Line			X				X				X	
Color			X				X				X	
Texture			X				X				X	

2. Does project design meet visual resource management objectives? ☒ Yes ☐ No (Explain on reverse side)

3. Additional mitigating measures recommended ☒ Yes ☐ No (Explain on reverse side)

Evaluator's Names: Karen Caddis - Ecosphere Environmental Services

Date: 9/26/07

SECTION D. (Continued)

Comments from item 2.

The strong lines and night-lighting created by drill rig towers would temporarily create contrasts that would attract attention. Effects may last 2 to 8 weeks. Access road and well pad clearings may be faintly visible from KOP 3, but should be limited due to the screening effects of existing vegetation and topography. After completion of drilling, the well pads should not be visible to the casual observer and VRI Class II objectives should be met in the long term.

Note. KOP view is on rim of Big Point looking north and northwest towards proposed drill sites 1, 2, 4,5,6,7.

Additional Mitigating Measures (See item 3)

No additional mitigation measures identified for temporarily effects related to drill rig towers. Visibility of drill pad and access road clearings will be limited due to existing vegetative and topographic screening; however, clearing edges should be varied at drill pad sites 4,5,6,7 as stipulated in the Conditions of Approval. Recommend using dark green coloring on long term equipment placed on pads or pipeline ROWs.

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VISUAL CONTRAST RATING WORKSHEET

Date 10/5/07

District Canyon of the Ancients National Monument-

Resource Area San Juan/San Miguel

Activity (program) Oil and gas development

SECTION A. PROJECT INFORMATION

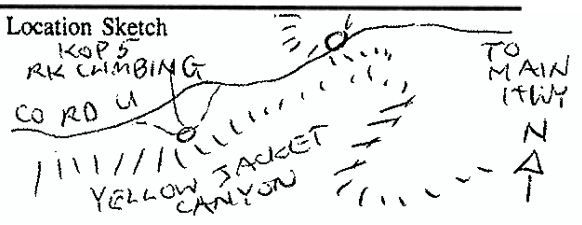
1. Project Name
Kinder-Morgan Goodman Point CO_2 Wells 1 to 7

2. Key Observation Point
#5 - County Road "U" - Rock Climbing Site

3. VRM Class
Class II (interim)

4. Location
Township 37N
Range 18W
Section 21

5. Location Sketch



SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	steep, rugged cliffs fore and middle ground, flat mesas and rounded mountains in distant background	Rounded, rough in foreground, smooth in background	Linear transmission line faintly visible at interface with middle/background. Rectangular compressor to east.
LINE	Vertical in foreground, Horizontal and curving in background	Curving in foreground vegetation; horizontal in background.	Horizontal transmission line faintly visible in distance. Angular compressor station on east horizon.
COLOR	Tan and salmon soils/rock in foreground. Blue green mountains and mesa in background.	Dark-green PJ in foreground, dark-green PJ in distance intermingled with beige soils.	Tan compressor station, dark brown transmission line.
TEXTURE	rough and striated in foreground, fine texture mesa and mountains in background	coarse and medium density in foreground. Smooth and dense in background.	Fine and sparse in background, ordered and uniform transmission line and compressor in background.

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Temporary vertical addition to background from drill rigs. Flat geometric shapes from roadways and pad clearing	Geometric and linear shapes from vegetation clearing.	Tall , linear drill rig structures temporarily evident.
LINE	Temporarily vertical drill rigs on horizon. Horizontal pads and curved roadways and pipelines.	Moderately irregular lines created by vegetation clearing for pad sites. Some horizontal shapes from ROWs.	Temporary vertical and angular drill rigs
COLOR	Tan from vegetation clearing	Addition of tan and brown areas in background from pad clearing	Temporary dark brown drill rigs with bright white-yellow lighting at night
TEXTURE	Smooth patches from clearing	Scattered patches	Temporarily directional with strong light intensity at night.

SECTION D. CONTRAST RATING ☐ SHORT TERM ☒ LONG TERM

1. DEGREE OF CONTRAST

ELEMENTS	FEATURES: LAND/WATER BODY (1) Strong	Moderate	Weak	None	VEGETATION (2) Strong	Moderate	Weak	None	STRUCTURES (3) Strong	Moderate	Weak	None
Form		X				X					X	
Line			X			X					X	
Color		X				X					X	
Texture			X				X				X	

2. Does project design meet visual resource management objectives? ☒ Yes ☐ No (Explain on reverse side)

3. Additional mitigating measures recommended ☒ Yes ☐ No (Explain on reverse side)

Evaluator's Names: Karen Caddis - Ecosphere Environmental Services

Date: 9/26/07

Comments from item 2.

The strong lines and night-lighting created by drill rig towers would temporarily create contrasts that would attract attention. Effects may last 2 to 8 weeks. Access road, pipeline, and well pad clearings may be moderately visible to the southwest from KOP 5 and will begin to attract attention, though will not likely dominate the characteristic landscape. Changes will not all repeat the basic elements of the natural characteristics of the landscape in the short term. In the long term, when reclamation is complete and successful, changes would not be evident and VRI Class II conditions are expected to be met.

Note. KOP view is on rim of Yellow Jacket Canyon looking south and southwest towards proposed drill sites 1 to 7.

Additional Mitigating Measures (See item 3)

No additional mitigation measures identified for temporarily effects related to drill rig towers. Visibility of drill pad and access road and pipeline ROW clearings will be evident. Clearing edges should be varied at drill pad sites 3-,7 as stipulated in the Conditions of Approval. Recommend using dark green coloring (Yuma Green) on long term equipment placed on pads or pipeline ROWs and minimizing pad disturbance areas and ROW widths to less than 30 feet. Reclaim disturbance as soon as possible following construction; add shrubby vegetation to seed mix. Consider co-locating well pads 6 and 7, 4 and 5, and 1 and 2. Excavate soils only on pit locations and/or for leveling drill rig. Use existing roadways for pipeline ROWs wherever safely feasible.

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UNITED STATES
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BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

Date 10/5/07

District Canyon of the Ancients National Monument-

Resource Area San Juan/San Miguel

Activity (program) Oil and gas development

SECTION A. PROJECT INFORMATION

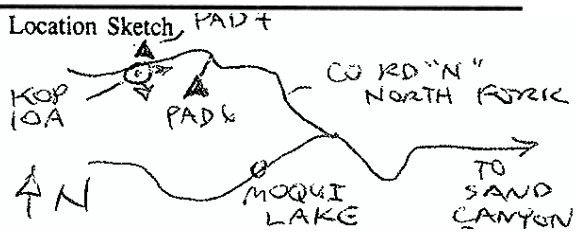
1. Project Name
Kinder-Morgan Goodman Point CO_2 Wells 1 to 7

2. Key Observation Point
#10A - County Road "N", North Fork

3. VRM Class
Class II (interim)

4. Location
Township 37N
Range 18W
Section 33

5. Location Sketch



SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Flat terrain in fore and middle ground, flat mesas and rounded mountains in distance background	Rounded, rough in foreground, smooth in background	Linear dirt roadway in foreground. Linear transmission line and farm buildings faintly visible in distance
LINE	Horizontal and continuous in foreground, Horizontal and curving in background	Curving in foreground vegetation; horizontal in background.	Horizontal dirt roadway. Horizontal transmission line faintly visible in distance.
COLOR	Red-brown soils in foreground. Blue gray mountains and mesa in background.	Dark-green PJ, sage-green/tan veg in foreground, dark-green PJ in distance intermingled with beige farmland.	Light brown dirt roadway.
TEX-TURE	rough and random in foreground, fine mesa and mountains in background	coarse and medium density in foreground. Smooth and dense in background.	Fine and sparse in background, even roadway in foreground.

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Temporary vertical addition to foreground horizon from drill rigs.	Geometric shapes from vegetation clearing.	Tall , linear drill rig structures temporarily evident. Linear piping visible for long term.
LINE	Temporarily vertical drill rigs in foreground. Angular lines from vegetation clearing	Moderately irregular lines created by vegetation clearing for pad sites.	Temporary vertical and angular drill rigs. Perdendicular well equipment.
COLOR	Tan, light brown area in foreground from pad clearing.	Addition of small tan and brown areas in foreground from pad clearing	Temporary dark brown drill rigs with bright white-yellow lighting at night
TEX-TURE	Sparse and moderately uniform	Sparse	Temporarily directional with strong light intensity at night.

SECTION D. CONTRAST RATING ☐ SHORT TERM ☒ LONG TERM

1. DEGREE OF CONTRAST

ELEMENTS	FEATURES: LAND/WATER BODY (1) Strong	Moderate	Weak	None	VEGETATION (2) Strong	Moderate	Weak	None	STRUCTURES (3) Strong	Moderate	Weak	None
Form	X				X					X		
Line	X				X					X		
Color	X				X					X		
Texture	X				X					X		

2. Does project design meet visual resource management objectives? ☒ Yes ☐ No (Explain on reverse side)

3. Additional mitigating measures recommended ☒ Yes ☐ No (Explain on reverse side)

Evaluator's Names: Karen Caddis - Ecosphere Environmental Services

Date: 9/26/07

Comments from item 2.

The strong lines and night-lighting created by drill rig towers would temporarily create contrasts that would attract attention. Effects may last 2 to 8 weeks. Access road and well pad clearings for Well sites 7 and 6, to a lesser extent, will attract attention and will be visibly dominant from KOP 10A, which lies adjacent to pad site 7 on the north fork of County Road "N". VRI Class II conditions are not expected to be met in the short term due to the contrast created immediately adjacent to the roadway by well pad construction. With successful reclamation, VRI Class II conditions should be met in the long term.

Views from KOP 10A are similar to those identified at KOP 10B and 10C on County Road "N" - North fork.

Additional Mitigating Measures (See item 3)

No additional mitigation measures identified for temporarily effects related to drill rig towers. Visibility of drill pad 7,access road and pipeline ROW clearings will be evident and dominant and changes may not completely repeat form, line, etc. of natural features. Clearing edges should be varied at drill pad sites 6-7 as stipulated in the Conditions of Approval. Vegetation, including trees, should not be removed unless a safety issue. Recommend using dark green coloring (Yuma Green) on long term equipment placed on pads or pipeline ROWs and minimizing pad disturbance areas and ROW widths to less than 30 feet. Reclaim disturbance as soon as possible following construction; add shrubby vegetation to seed mix. Consider co-locating well pads 6 and 7. Excavate soils only on pit location and for leveling drill rig. Use existing roadway for pipeline ROW wherever safely feasible.

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DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

Date 10/5/07

District Canyon of the Ancients National Monument-

Resource Area San Juan/San Miguel

Activity (program) Oil and gas development

SECTION A. PROJECT INFORMATION

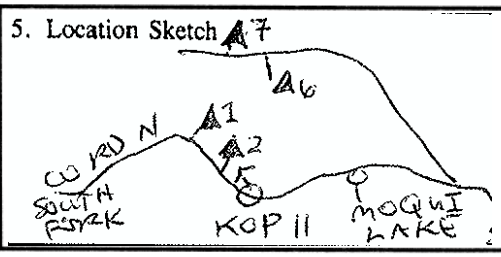
1. Project Name
Kinder-Morgan Goodman Point CO_2 Wells 1 to 7

2. Key Observation Point
#11 - County Road "N" - South Fork

3. VRM Class
Class II (interim)

4. Location
Township 36N
Range 18W
Section 3

5. Location Sketch



SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Flat road/ROW fore/middle ground, flat mesas and rounded mountains in distant background	Rounded, rough in foreground/ middleground, smooth in background	Linear dirt roadway, pipeline ROW and transmission line in foreground/middleground.
LINE	Horizontal and continuous in foreground, Horizontal and curving in background	Curving in foreground vegetation; horizontal in background.	Diagonal, symmetrical dirt roadway, transmission line and pipeline ROW.
COLOR	Red-brown soils in foreground. Blue gray mountains and mesa in background.	Dark-green PJ. Gray-brown vegetation in pipeline ROW. Dark-green PJ in distance.	Light gray gravel roadway, medium brown transmission line.
TEX-TURE	rough and random in foreground, fine textured mesa/mountains.	coarse and medium density in foreground. Smooth and dense in background.	.Even textured roadway in foreground, rough ROW.

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Temporary vertical addition to middleground horizon from drill rigs. Additional flat, linear ROW reworking.	Limited geometric shapes from vegetation clearing.	Tall , linear drill rig structures temporarily evident. Linear addition to existing pipeline ROW.
LINE	Temporarily vertical drill rigs in foreground. Angular lines from ROW clearing.	Regular lines created by vegetation clearing for pipeline ROW.	Temporary vertical and angular drill rigs. Angular, diagonal attention to ROW lines.
COLOR	Tan to red-brown area in foreground from pipeline ROW clearing.	Addition of red-brown areas in foreground from ROW clearing and some shrub removal.	Temporary dark brown drill rigs with bright white-yellow lighting at night.
TEX-TURE	Sparse and moderately uniform until revegetated.	Sparse due to vegetation removal.	Temporarily directional with strong light intensity at night. Smoother texture in reworked ROW.

SECTION D. CONTRAST RATING ☐ SHORT TERM ☒ LONG TERM

1. DEGREE OF CONTRAST

	FEATURES											
	LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)			
	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
ELEMENTS Form		X				X				X		
Line		X				X				X		
Color		X			X					X		
Texture		X			X					X		

2. Does project design meet visual resource management objectives? ☒ Yes ☐ No (Explain on reverse side)

3. Additional mitigating measures recommended ☒ Yes ☐ No (Explain on reverse side)

Evaluator's Names: Karen Caddis - Ecosphere Environmental Services

Date: 9/26/07

Comments from item 2.

The strong lines and night-lighting created by drill rig towers would temporarily create contrasts that would attract attention. Effects may last 2 to 8 weeks. ROW reclearing adjacent to the existing roadway will attract attention and be visibly dominant from KOP 11, which lies on the south fork of County Road "N", east of proposed Kinder-Morgan CO2 well sites 1 and 2.

Significant amount of existing disturbance currently dominates the fore and middleground. Reclearing of the existing ROW to accomodate new pipeline would attract additional attention. Current VRM interim classification of Class II for this area may not be valid given that oil and gas, and utility activities currently dominate the view of the causal observer and do not repeat the predominant natural features in the area. Implementation of proposed action would largely retain the existing character of the area (ROWs), but would not meet Class II objectives. It is anticipated that Class IV objectives would be met by the proposed action in the short term. With successful reclamation and as vegetation matures to pre-project conditions, Class II or III conditions could be met in the long term.

Additional Mitigating Measures (See item 3)

No additional mitigation measures identified for temporarily effects related to drill rig towers. Pipeline ROW clearing will be evident and dominant. Clearing edges along the ROW should be varied as stipulated in the Conditions of Approval for pad sites. Vegetation, including trees, should not be removed unless a safety issue. Recommend using dark green coloring (Yuma Green) on long term equipment placed on pipeline ROWs. Minimize disturbance areas. ROW widths should be reduced as much as possible, preferably to less than 30 feet and the existing roadway should be used as a working surface. Reclaim disturbance as soon as possible following construction; add shrubby vegetation to seed mix. Consider co-locating well pads 1 and 2 to reduce view of clearings, which may be slightly evident from this KOP. Excavate soils only on pit and pipeline trench locations and for leveling drill rig. Use existing roadway for pipeline ROW access wherever safely feasible.

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VISUAL CONTRAST RATING WORKSHEET

Date 10/5/07

District Canyon of the Ancients National Monument-

Resource Area San Juan/San Miguel

Activity (program) Oil and gas development

SECTION A. PROJECT INFORMATION

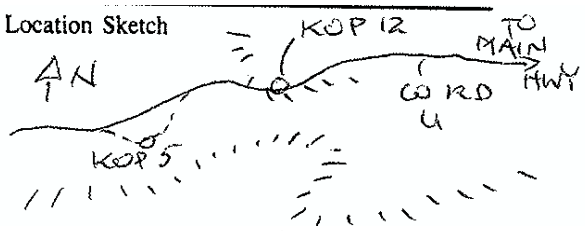
1. Project Name
Kinder-Morgan Goodman Point CO_2 Wells 1 to 7

2. Key Observation Point
#12 - County Road "U"

3. VRM Class
Class II (interim)

4. Location
Township 37N
Range 18W
Section 16

5. Location Sketch



SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	steep, rugged cliffs fore and middle ground, flat mesas and rounded mountains in distant background	Rounded, rough in foreground, smooth in background	Linear transmission line faintly visible at interface with middle/background. Linear roadway.
LINE	Curved in foreground. Pyramidal gradating to horizontal and curving in background	Curving in foreground vegetation; horizontal in background.	Horizontal transmission line faintly visible in distance. Curved roadway.
COLOR	Tan and dark brown soils with white rock in foreground. Blue green mountains and mesa in background.	Dark-green PJ/yellow and sage-green shrubs in foreground, dark-green PJ in distance.	Dark brown transmission line. Light gray gravel road.
TEXTURE	rough and random in foreground, fine texture mesa and mountains in background	coarse and medium density in foreground. Smooth and dense in background.	Fine and sparse in background, ordered and uniform transmission line and roadway.

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Temporary vertical addition to background from drill rigs. Flat geometric shapes from roadways and pad clearing	Geometric and linear shapes from vegetation clearing.	Tall , linear drill rig structures temporarily evident.
LINE	Temporarily vertical drill rigs on horizon. Horizontal pads and curved roadways and pipelines.	Moderately irregular lines created by vegetation clearing for pad sites. Some horizontal shapes from ROWs.	Temporary vertical and angular drill rigs
COLOR	Tan from vegetation clearing	Addition of tan and brown areas in background from pad clearing	Temporary dark brown drill rigs with bright white-yellow lighting at night
TEXTURE	Smooth patches from clearing	Scattered patches	Temporarily directional with strong light intensity at night.

SECTION D. CONTRAST RATING ☐ SHORT TERM ☒ LONG TERM

1. DEGREE OF CONTRAST

ELEMENTS	FEATURES: LAND/WATER BODY (1) Strong	Moderate	Weak	None	VEGETATION (2) Strong	Moderate	Weak	None	STRUCTURES (3) Strong	Moderate	Weak	None
Form		X				X					X	
Line			X			X				X		
Color		X				X				X		
Texture			X				X				X	

2. Does project design meet visual resource management objectives? ☒ Yes ☐ No (Explain on reverse side)

3. Additional mitigating measures recommended ☒ Yes ☐ No (Explain on reverse side)

Evaluator's Names: Karen Caddis - Ecosphere Environmental Services

Date: 9/26/07

SECTION D. (Continued)

Comments from item 2.

The strong lines and night-lighting created by drill rig towers would temporarily create contrasts that would attract attention. Effects may last 2 to 8 weeks. Access road, pipeline, and well pad clearings may be moderately visible to the southwest from KOP 12 and will begin to attract attention, though will not likely dominate the characteristic landscape. Changes will not all repeat the basic elements of the natural characteristics of the landscape, but should not be the major focus in the short term. In the long term, with successful reclamation and the maturation of vegetation to pre-project conditions, Class II conditions should ultimately be met.

Note. KOP view is on rim of Yellow Jacket Canyon looking south and southwest towards proposed drill sites 1 to 7.

Additional Mitigating Measures (See item 3)

No additional mitigation measures identified for temporarily effects related to drill rig towers. Visibility of drill pad and access road and pipeline ROW clearings will be evident. Clearing edges should be varied at drill pad sites 3-,7 as stipulated in the Conditions of Approval. Recommend using dark green coloring (Yuma Green) on long term equipment placed on pads or pipeline ROWs and minimizing pad disturbance areas and ROW widths to less than 30 feet. Reclaim disturbance as soon as possible following construction; add shrubby vegetation to seed mix. Consider co-locating well pads 6 and 7, 4 and 5, and 1 and 2. Excavate soils only on pit locations and or for leveling drill rig. Use existing roadways for pipeline ROWs wherever safely feasible.

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APPENDIX B
KEY OBSERVATION POINT PHOTOGRAPHS

KOP 1 – Moqui Lake. Looking North/Northwest to Drill Sites 1,2,6,7

KOP 2 – County Road N Bouldering Site. Looking to South/southwest

KOP 3 – Big Point Dispersed Camping. Looking North/Northwest to Drill Sites 1 to 7

KOP 4 – Sand Canyon Pueblo and Sand Canyon. Looking West/Southwest to Drill Sites 1 and 2

KOP 5 – County Road U – Rock Climbing Site. Looking South to Drill Sites 1 to 7.

KOP Sites 6, 7, 8, and 9 are not represented photographically as the proposed drill pads will not be visible from those locations due to topographic and vegetative screening

KOP 10A – County Road N, North Fork. Looking North/Northeast to Drill Site 7

KOP 10A – County Road N, North Fork. Looking South/Southeast to Drill Site 6

KOP 10B– County Road N, North Fork. Looking North/Northwest to Drill Sites 4, 5, and 7

KOP 10B – County Road N, North Fork. Looking North/Northeast to Drill Site 4,5, 7

KOP 11 – County Road N South Fork. Looking Northwest towards proposed drill sites 1 and 2

KOP 12 – County Road U. East of Rock Climbing Site Looking South/Southwest towards proposed drill sites 6 and 7

KOP 10C – County Road N. Looking East/Southeast towards proposed drill site 3.

APPENDIX C
VISUAL RESOURCE INVENTORY CLASS DETERMINATION CHART

Determining Visual Resource Inventory Classes

I. Basis for Determining Visual Resource Inventory Classes

1. Class I. Class I is assigned to all special areas where the current management situations requires maintaining a natural environment essentially unaltered by man.

2. Classes II, III, and IV. These classes are assigned based on combinations of scenic quality, sensitivity levels, and distance zones as shown in the following matrix:

		VISUAL SENSITIVITY LEVELS						
		High			**Medium**			**Low**
SPECIAL AREAS		I	I	I	I	I	I	I
SCENIC QUALITY	**A**	II	II	II	II	II	II	II
	B	II	III	III* IV*	III	IV	IV	IV
	C	III	IV	IV	IV	IV	IV	IV
		f/m	**b**	**s/s**	**f/m**	**b**	**s/s**	**s/s**
		DISTANCE ZONES[1]						

*If adjacent areas is Class III or lower assign Class III, if higher assign Class IV

[1]Distance zones: f/m = foreground-middleground, b = background, s/s = seldom seen.

Source: BLM 2007a