

Sensitive viewpoints within the study area include the residential areas of:

Bayfield

Bayfield Industrial Park

Mountain View

Cedar Hills

Yucca Wilber Farms

Gosney

Riverside

Rainbow (represented by Polygon H on **Figure 3-15**) and Mountain Valley Ranch

Country Air Estates

Alpine Shadows

Culhane Hills

Mountain

Meadow

Rincon Ridge

Rancho Mira Sol

Spring Valley Ranch

Carl Hanson

Fantango

D Bark (represented by Polygon B on **Figure 3-15**).

Sensitive viewpoints in rural residential areas include Fox Fire Ranch, Dream Catcher Ranch, Sunrise Village, Holman Heights (represented in Polygon D on **Figure 3-15**). Sensitive viewpoints in dispersed residential (agricultural) areas include agricultural land off County Road 205. Travel routes identified as sensitive viewpoints include U.S. 160 and La Plata County Road 228. Recreation areas identified as sensitive viewpoints within the study area include the Grandview Ridge Trails (Speegle 2001).

3.4.5.2 Results of the Evaluation of Landscape Viewsheds

The distance zones from these sensitive viewpoints were assessed, as shown in **Figure 3-16** (Photographs 1 through 19). Distance zones indicate the level of detail that is perceived visually in natural and developed features of the landscape. As shown in **Table 3-44**, the polygons in **Figure 3-15** indicate sensitive viewpoints where representative photographs were taken of existing oil and gas development in various distance zones.

Residential areas are not typically assessed when visual impact are considered however, they are regarded as use areas for this analysis. These areas likely range from Level 1, high sensitivity, to Level 2, average sensitivity, based on the long duration of use, the volume of residents within an area, and local perception of importance. Rural residential and dispersed residential areas vary from Level 1, highest sensitivity, to Level 3, lowest sensitivity, according to their location within the study area.

Recreation areas within the study area are primarily Level 2, average sensitivity. The Grandview Ridge area is a frequent-use recreation area; however, it is not considered to exhibit national importance. The Grandview Ridge Trails area experiences significantly more users because they are near an urban area (Durango) and as a result of type of use (typically mountain bikers and hikers).

Travel routes within the study area range from high to low sensitivity. The volume of use along U.S. 160 is high, but the road would be assigned Level 2, average sensitivity, in the western portion of the study area based on the existing residential and commercial development in the corridor. The eastern portion of the study area along U.S. 160 would be considered Level 1, high sensitivity, because of its high volume of use and forest access along the corridors. County Road 228 likely is mixed between Level 1, high

importance, and Level 2, average importance, because of the high volume of use, long length of view, and access to the forest. Most of the county roads within the study area would meet the same criteria, and therefore, would be assigned similar sensitivity levels.

A large portion of the study area is visible from these locations according to the viewshed analysis from sensitive viewpoints (as shown in **Figure 3-17**). The methodology used in generating the map consisted of identifying sensitive viewpoints, primarily along transportation corridors and county roads in or near residential areas. Then, the viewshed as seen by an observer at these locations was modeled based on topography. This methodology does not incorporate or address the presence of vegetation, structures, or mitigation measures (such as berms or painting). Field observations indicate that the presence of vegetation and mitigation measures considerably reduce the visual impact of existing wells.

3.4.5.2.1 Characteristics of Existing Development

A variety of existing developments in the study area already alter visual quality. These developments include oil and gas development, semi-urban and rural residential development, transportation corridors, and agriculture.

For this analysis, the existing visual impact of oil and gas development was considered to include each component of a facility associated with CBM. Well heads, separators, meter houses, pump jacks, dehydrators, condensate tanks, on-site water storage tanks, uncovered produced water pits, covered produced water pits, cathodic protection wells, water disposal facilities, compressor stations, gas plants, access roads, gathering pipelines, pipelines, and well pads are all included.

3.4.5.2.2 Frequency of Existing Well Development and Associated Facilities

The foreground, middleground, background, and aerial perspectives of the components of the existing oil and gas development were analyzed for receptors in three representative land use categories: recreation/open space, transportation corridors, and residential, as shown in **Figure 3-15**. In addition to the visible equipment, dust is raised during well construction and as a result of CBM-related traffic on unpaved roads.

Figure 3-16 (Photographs 1 through 19) depicts the existing visual environment at these distance zones and provides views of typical facilities within the predetermined land use designations. The visual characteristics of existing CBM development and associated facilities are shown in **Table 3-45** by frequency of occurrence and from immediate foreground, foreground, middleground, background distances, and aerial view.

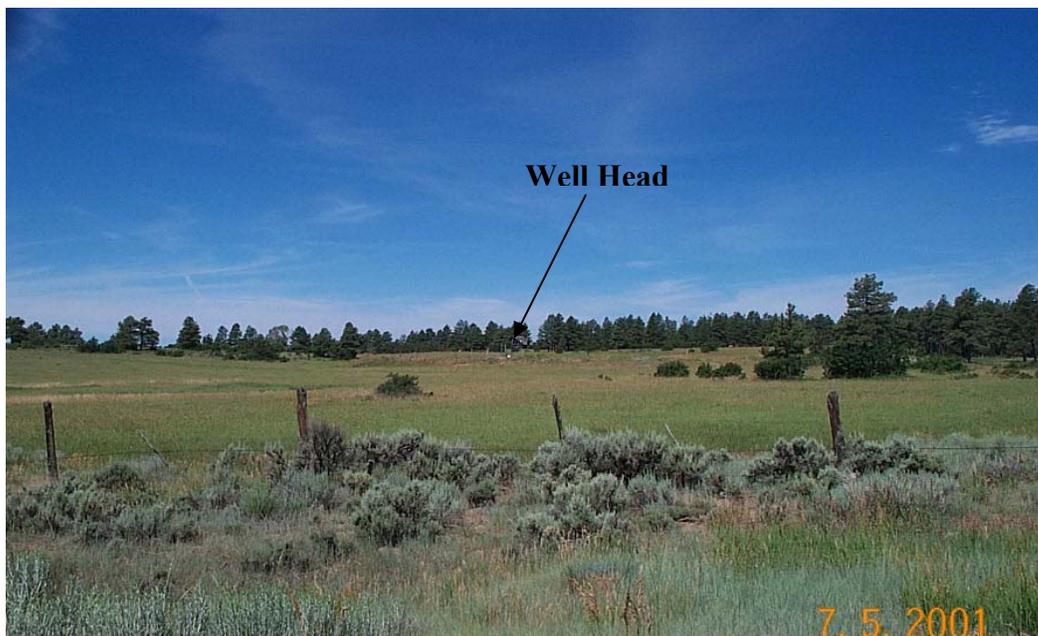
It was not feasible to obtain photographs in all land use categories for the middleground and background views because of the existing topography and vegetation. Solid geometric features, such as meter houses, pump jacks, condensate tanks, on-site storage tanks, and covered produced water pits, are prominent in the immediate foreground and often are noticeable in foreground views by the casual observer. However, they are generally unnoticed by the casual observer in the middleground and background views when these features are mitigated appropriately with existing landscape features using paint, reclamation techniques, or siting modifications.

Although support facilities, such as water disposal wells and compressor stations, occur less frequently than wells, they often are more noticeable to the casual observer because of their size. Five disposal wells and four compressor stations are located within the study area. Components of these facilities can be up to 25 feet tall and 15 feet wide. Both types of facilities are prominent in the foreground and middleground views and are often sporadic in background views.

Figure 3-16. Photographs of Existing Facilities by Land Use and Distance Zone



Photograph 1: A view of a well head approximately 150 feet away (foreground view), within a low-density subdivision (NE portion of Polygon B in the Ticolote Subdivision).



Photograph 2: A view of a well head approximately 0.30 miles away (middleground view), within a low-density subdivision (NE portion of Polygon B in the Ticolote Subdivision).



Photograph 3: A view of a well head over one mile away (background view), within a low-density subdivision (NE portion of Polygon B in the Ticolote Subdivision).



Photograph 4: A view approximately 150 feet (foreground view) from a proposed well location in a high-density subdivision (Polygon H, Mountain View Subdivision).



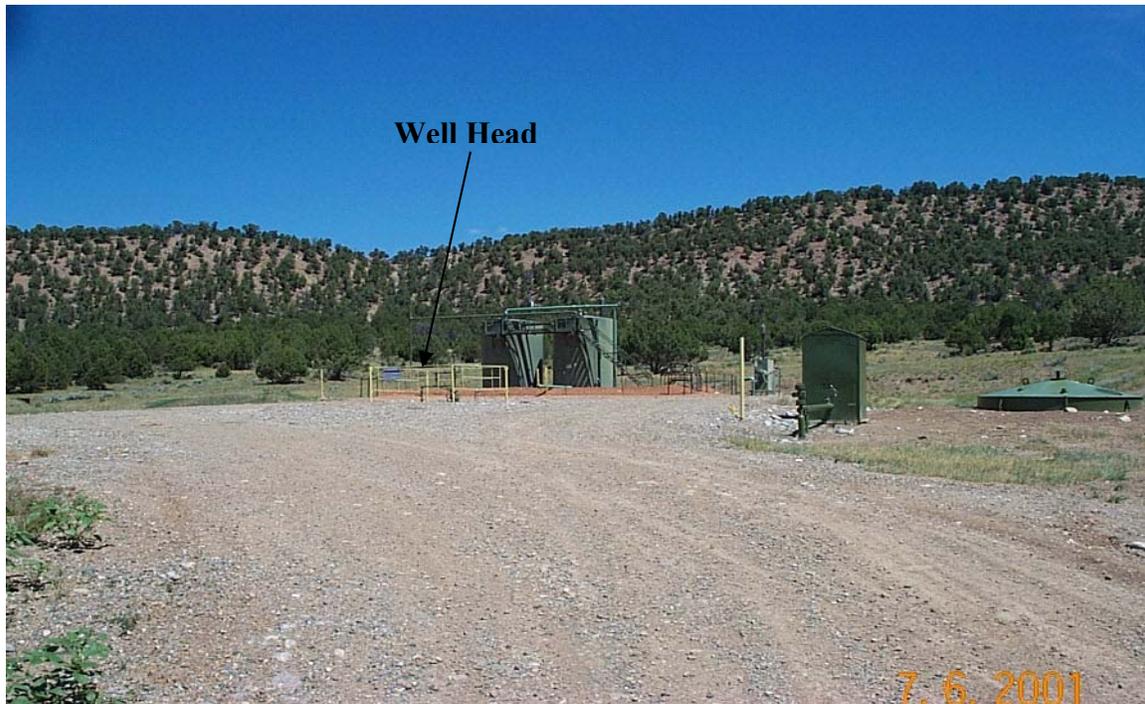
Photograph 5: A view 150 feet west of a well head (foreground view) in a high use recreation area (Grandview Ridge Trails Area).



Photograph 6: A view 150 feet South of a (foreground view) in a high use recreation area (Grandview Ridge Trails Area).



Photograph 7: A view of a gravel operation on the Southwest side of the Grandview Ridge Trails Area.



Photograph 8: A view 150 feet from a well head (foreground view) in a low use recreation area (HD Mountains).



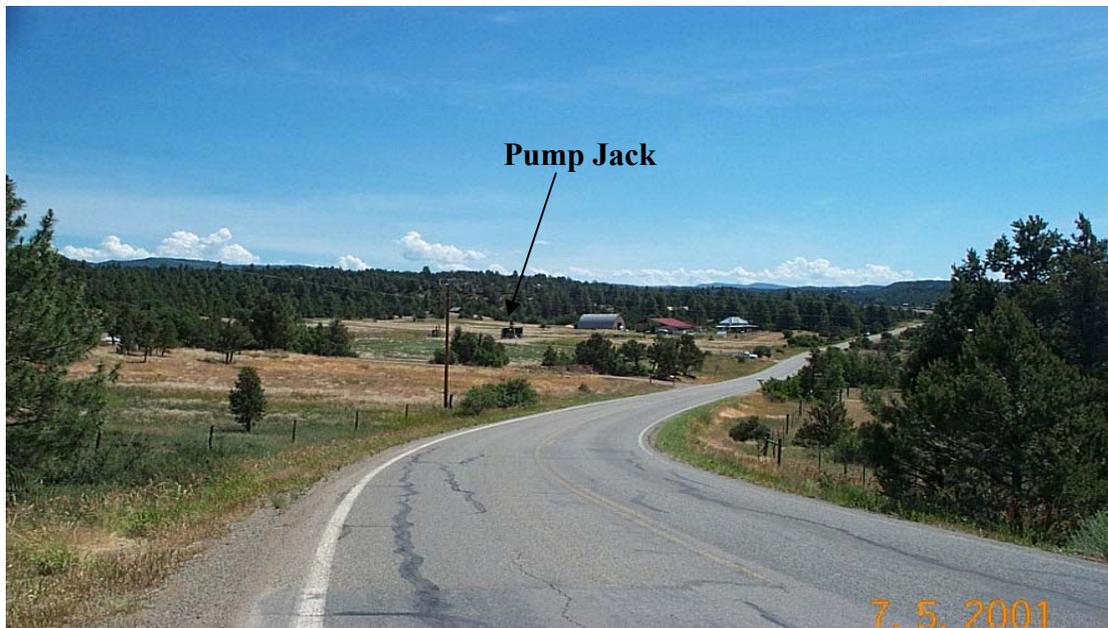
Photograph 9: A view approximately .66 miles from a well head (middleground view) in a low use recreation area (HD Mountains).



Photograph 10: A view approximately one mile from a well head (background view) in a low use recreation area (HD Mountains).



Photograph 11: A view 150 feet from a pump jack, along a collector road (La Plata County Road 228).



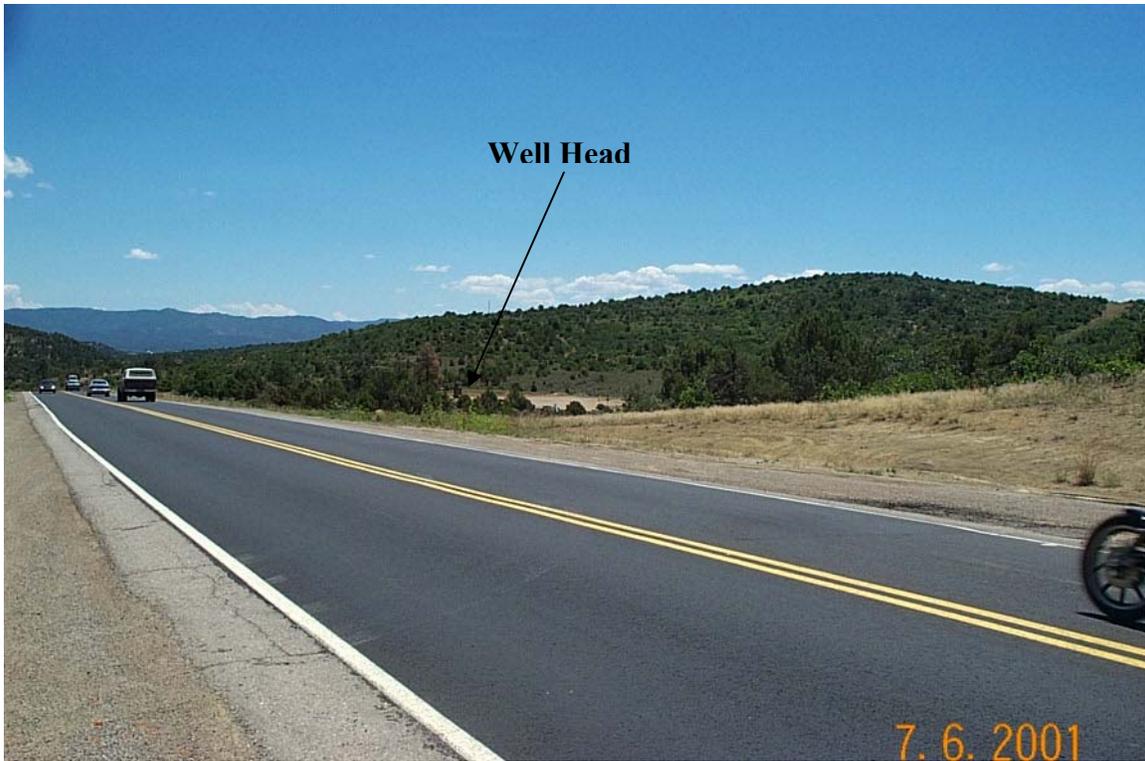
Photograph 12: A view approximately 0.5 miles from a pump jack (middleground view) along a collector road (North side of La Plata County Road 228).



Photograph 13: A view approximately 0.30 miles from a pump jack (middleground view) along a collector road (South side of La Plata County Road 228).



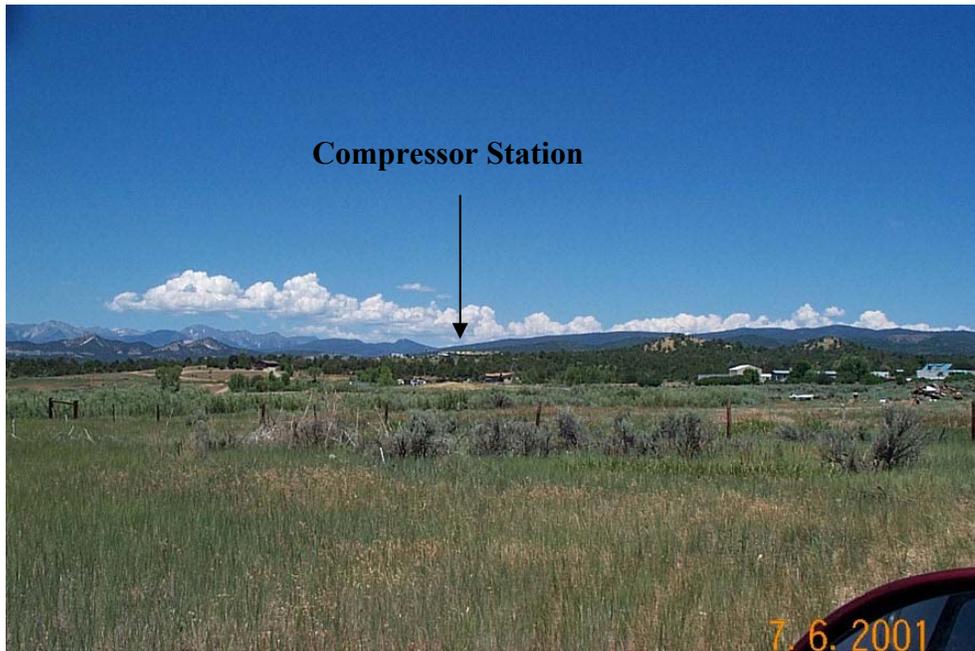
Photograph 14: A view approximately 0.30 miles from a pump jack (middleground view) along a collector road (South side of La Plata County Road 228).



Photograph 15: A view approximately .30 miles (middleground view) of a well head along a major transportation arterial (Highway 160).



Photograph 16: A view approximately 150 feet (foreground view) from a well head along a major transportation arterial (Highway 160).



Photograph 17: A view of a compressor station approximately one mile (background view) North of a major transportation arterial (Highway 160).



Photograph 18: A view of a well head approximately 0.75 miles (middleground view) South of a major transportation arterial (Highway 160).

Table 3-44 Representative Receptors for Analysis of Visual Impacts

General Land Use Categories		Residential		Transportation		Recreation/ Open Space		Other Land Use Designations	
Sensitive Viewpoints		Subdivision High Density	Subdivision Low Density	Major Arterial	Collector Road	High Use Area	Low Use Area	Rural Residential	Agriculture
Foreground	150 Feet to 0.25 Mile	Polygon H	Polygon B	U.S. 160	CR 228	Grandview Ridge	Forest Service Road in HD Mountain Roadless Area	Polygon D	Near CR 205
Middle-ground	0.25 to 1 Mile	Polygon H	Polygon B	U.S. 160	CR 228	Grandview Ridge	Forest Service Road in HD Mountain Roadless Area	Polygon D	Near CR 205
Background	1 to 5 Miles	Polygon H	Polygon B	U.S. 160	CR 228	Grandview Ridge	Forest Service Road in HD Mountain Roadless Area	Polygon D	Near CR 205

Notes: Polygon H includes: Bayfield, Bayfield Industrial Park, Mountain View, Cedar Hills, Yucca Wilber Farms, Gosney, Riverside, Rainbow
 Polygon B includes: Mountain Valley Ranch, Country Air Estates, Alpine Shadows, Culhane Hills, Mountain Meadow, Rincon Ridge Rancho Mira Sol, Spring Valley, Ranch Carl Hanson, Fantango, D. Bark, Ticolote
 Polygon D includes: Fox Fire Ranch, Dream Catcher Ranch, Sunrise Village, Holman Heights