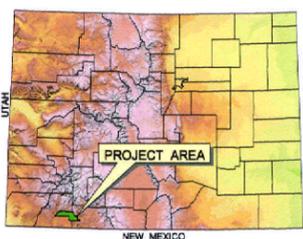


Legend

- Project Area Boundary
- Rural (35 Acres +)
- Rural Estates (10 - 34 Acres)
- Rural Residential (3 Acres +)
- Residential Large Lot (1 - 3 Acre Lots)
- Residential Low Density (1 - 5 DU/Acre)
- Residential Medium Density (5 - 12 DU/Acre)
- Residential High Density
- Commercial
- Local Commercial
- Mixed Use
- Mixed Commercial / Industrial
- Industrial
- Public
- Park
- Open Space / Conservation
- Urbanized Area
- Urbanizing
- Potential Urban Area
- ⊛ These areas are subject to specific policies affecting the type, density and location of authorized land uses.



LA PLATA COUNTY IMPACT REPORT

**FIGURE 3-4
CITY OF DURANGO PLANNING
AREA AND LAND USE**

ANALYSIS AREA: LA PLATA & ARCHULETA COUNTIES, COLORADO

DATE: 11/20/01

AUTOCAD FILE: 1023 LAND USES.dwg

SCALE: NTS

PREPARED BY: ETC

The Colorado Court of Appeals recently affirmed such an analysis of operations conflict under a full evidentiary record. The *Town of Frederick v. North American Resources Company* the court found operational conflicts were created by the local government's regulations in some areas of visual impacts, sound mitigation and set backs.

Surface Rights vs. Mineral Rights

Split estates occur when there is a difference in ownership between the surface land and the sub-surface minerals. For example, the surface may be privately owned, while the mineral estate is federally owned. Although COGCC regulations for oil and gas operations attempt to minimize surface damage and expedite a complete and satisfactory site reclamation, there is currently no similar requirement to establish a surface-use agreement between the owners of the split estate. Oil and gas operators are required to consult with surface owners (although not their tenants), about the siting of access roads, and well pads and final site reclamation. No compensation to the surface owner is required for reasonable use of the surface. However, agreements are often reached regarding the location of oil and gas facilities and the timing of operations to avoid acrimony and protracted litigation. Often operators voluntarily negotiate agreements with landowners and in some instances provide monitoring compensation to the landowners for use of their surface in the drilling, completion and production of wells. In order to address situations where surface owners incur significant damage to crops or the surface because of oil and gas operations, COGCC regulations require that oil and gas operators post a bond to cover the costs of remediation. Operators shall provide financial assurance to the Commission, prior to commencing any operations with heavy equipment, to protect surface owners who are not parties to a lease, surface use or other relevant agreement with the operator from unreasonable crop loss or land damage caused by such operations (COGCC Rule 703).

The Colorado Supreme Court, in *Gerrity v. Magness* (1997), addressed the competing interests and rights of the owners in a split estate. The court wrote that there is no absolute right held by either owner to exclude the other from surface use. The court also held that resolution of split estate conflicts should be guided by the principle of "due regard," whereby the mineral rights holder "accommodate[s] surface owners to the fullest extent possible consistent with their right to develop the mineral estate." The court went on to say that in instances where alternative methods of mineral resource extraction are available, the holders of oil and gas rights has an obligation, by the doctrine of reasonable surface use, to avoid methods that "preclude or impair uses by the surface owner."

3.1.3.1 La Plata County Oil and Gas Regulations

Specific requirements for oil and gas facilities in La Plata County are provided in Chapter 90 of the Code of La Plata County, Ordinance No. 2000-32 (La Plata County 1998a). A minor oil and gas facility is defined as "an individual well site built and operated to produce petroleum and/or natural gas (methane), including auxiliary equipment required for production, and other equipment located within the perimeter of the well site pad...". Gas gathering lines, water collection lines, facilities associated with gas gathering and water collection lines, motors or engines with a cumulative horsepower rating of less than 200 brake horsepower (bhp), pumping equipment, and storage yards are also include in the definition of minor oil and gas facility.

Setbacks. A setback of at least 400 feet is required between the site perimeter of a minor facility and the closest existing residential structure, unless written consent is obtained from the affected surface property owner to waive this requirement.

A setback of at least 200 feet is required between the site perimeter of a minor facility and the closest platted subdivision lot line, unless written consent is obtained from the affected property owner.

Where compliance with COGCC spacing regulations makes it impossible for the applicant to meet the 400-foot setback or the 200-foot setback and a waiver is not obtained from the affected property owner, the applicant is required to fully meet the setbacks described above. The applicant must, however, comply with the 400-foot or 200-foot setbacks to the maximum extent possible within the COGCC spacing regulations and may be required to implement special mitigation measures as described in the county code.

Setbacks between a major facility and the closest existing residence or platted subdivision lot line are established on a site-specific basis, based on the major facility review criteria identified in Section 90-43(c) and (d) of the code, as applicable.

Notification. La Plata County has established two distinct types of notification requirements. When land is subdivided and platted, subdivision applicants must include plat notices on the plat. Where the surface and mineral estates are severed, these notices serve as a mechanism for alerting actual or potential owners of land within the subdivision of the rights of mineral owners to make use of the surface to explore for and extract subsurface resources. Operators are required to notify all surface owners within ¼-mile of a minor and major oil and gas facility.

Surface Disturbance. The La Plata County land use code also contains provisions that reinforce state rules to minimize surface damage. To protect against loss of agricultural land, La Plata County specifically notes that facilities should be designed and sited that only as much land is used as is reasonably necessary to extract the resource. Operators whose facilities reduce or destroy surface plant life must submit a revegetation plan, subject to county approval. Operators are responsible for weed control on access roads and the well site throughout the producing life of the well. The county also requires the timely and appropriate disposal of construction-related material and any other debris.

Noise. La Plata County does not have specific regulations, that establish maximum permissible noise levels for oil and gas operations; however other ordinances are related to the noise impacts from oil and gas development. All oil and gas facilities that require a motorized engine must either use an electric motor or be equipped with a muffler to mitigate sound. When minimum setback requirements cannot be met and oil and gas operations are closer to occupied buildings and platted subdivisions, additional efforts must be undertaken to minimize noise. The degree of additional mitigation required depends on both the proximity of the facility to residential areas and the level of noise generated. The mitigation required may include sound insulation of the motor, a vegetative sound barrier, or a wall or building that contains acoustic insulation surrounding the facility.

Lighting. La Plata County regulations require that exterior lighting at oil and gas operations be directed away, or shielded, from residential areas. When they apply for the requisite permits from the county, operators must detail in a visual mitigation plan the type and direction of lighting that will be use at a well pad site.

Visual Obstruction/Degradation. To minimize the adverse visual impacts caused by oil and gas production facilities, La Plata County requires that, “to the maximum extent possible,” those facilities should not be located where they obstruct or detract from the aesthetic appeal of prominent natural features, and efforts should be taken to camouflage the facility and its impact, which includes: (a) using structures no larger than is needed to access the resource; (b) limiting the harm to existing trees and vegetation; (c) aligning access roads with existing grades, (d) minimizing well pad size; and (e) locating

facilities at the base of slopes so as to provide a visual background for the structure that does not accentuate its presence.

Florida Mesa Planning District Oil and Gas Requirements

Oil and gas development is addressed in the Goals, Objectives, Policies, and Actions portion of the Florida Mesa District Land Use Plan (La Plata County 1998b). Issues of concern were identified, such as groundwater contamination cause by extensive dewatering of coals, lights at night and noise from operations and equipment, objectionable heavy equipment and truck traffic, disposal of formation water, and downspacing of wells. Included in the land use plan were three objectives under the goal of “Minimize the adverse impacts of oil and gas development on other land use.” The three objectives are stated below:

- “Objective 1: Ensure that the county adequately regulates issues of local concern...”
- “Objective 2: If at some time additional targeted downspacing is approved, encourage the COGCC to regulate access to the resource via directional drilling from existing well pads.”
- “Objective 3: Support the Board of County Commissioners (BOCC) in their opposition to downspacing beyond that already approved.”

3.1.3.2 State Oil and Gas Regulations

COGCC statewide rules apply to drilling and operating of oil and gas wells in the State of Colorado, regardless of land ownership. Generally, no well to be drilled in excess of 2,500 feet can be located less than 600 feet from any lease line or 1,200 feet from any other producible oil or gas well unless authorized by order of COGCC. A well to be drilled less than 2,500 feet cannot be located less than 200 feet from any lease line or 300 feet from any other producible oil or gas well unless authorized by COGCC (COGCC 2001a). The setback requirements between producing gas wells in the same formation apply only in areas where a spacing order has not been applied. This allows multiple wells completed in different formation to be located on the same pad. The setbacks are from the 320-acre drilling and spacing unit. The setbacks from the spacing unit boundaries form the window.

COGCC safety regulations require wellhead locations in all areas of the state to be a minimum of 150 feet or 1½ times the height of the derrick, whichever is greater, from any occupied building, public road, major aboveground utility, or railroad. In addition, wells are to be a minimum distance of 150 feet from a surface property line (COGCC 2001a). High-density areas are generally defined as an average density of one occupied building unit per acres. In high-density areas, wellheads, production tanks, and associated equipment are to be not less than 350 feet from building units. Production tanks and associated equipment setback is 350 feet. If requested by the local government designee, production tanks shall be 500 feet from an educational facility, assembly building, hospital, nursing home, board and care facility, or jail.

COGCC requires setbacks between existing oil or gas wells and existing coal mines and drilling and operating additional natural gas wells. Oil and gas wells may not be located less than 200 feet from a mine shaft or entrance to a coal mine that has not been obviously abandoned or sealed; less than 100 feet from any mine shaft house, mine boiler house, mine engine house, or mine fan; or less than 15 feet from any mine haulage or airway (COGCC 2001a).

Notification

In addition to county regulation, the state also has established notification requirements. The Colorado Real Estate Commission requires that all contracts for real estate transactions contain a clause that

informs buyers that purchase of the surface rights does not necessarily entitle them to rights of underlying minerals, oil and gas, water, or geothermal energy. They are also notified that as part of this severance, owners of mineral interests have a right to enter and use the surface property. COGCC Rule 305(b) requires that an oil and gas operator must notify the surface owner at least 30 days before any drilling operations begin, although surface owners are responsible for notifying the tenants. New state law, enacted during the 2001 legislative session, requires title companies to inform property owners of the severance of surface ownership and mineral ownership. Under this new law, surface owners are also responsible for notifying mineral owners of pending changes in surface use.

Surface Owner Compensation/Protection

Colorado Oil and Gas Commission Rule 703 holds that operators are required to provide financial assurance to COGCC of \$2,000 per well on non-irrigated land and \$5,000 per well on irrigated land before any drilling operations with heavy equipment begin, to protect surface owners against unreasonable crop loss or land damage. Operators can also provide a statewide, blanket financial assurance to COGCC for \$25,000. However, in the absence of a surface-use agreement or unreasonable surface damages, surface owners are not entitled to compensation.

Noise

Colorado statute specifically delegates wholly to the state, authority to regulate the noise generated by machinery involved in oil and gas exploration and extraction, prohibiting any regulation by counties. COGCC Rule 802 addresses noise abatement by establishing four distinct zones (Residential, Commercial, Light Industrial, and Industrial) and setting maximum permissible noise levels for oil and gas operations in those zones. Oil and gas operations are subject to the established levels for the zone that encapsulates the predominant land use where the well is located, although “any operation involving pipeline installation or maintenance, the use of a drilling rig, completion rig, workover rig, or stimulation is subject to the maximum permissible noise levels for industrial zones.”

In an area that has been determined to be “high density” (600 series of COGCC rules), facilities must have either an electronic motor or be equipped with muffling devices.

The permissible levels are as follows:

<u>Zone</u>	<u>7 am –7pm</u>	<u>7 pm – 7am</u>
Residential	55 db(A)	50 db(A)
Commercial	60 db(A)	55 db(A)
Light Industrial	70 db(A)	65 db(A)
Industrial	80 db(A)	75 db(A)

Lighting

COGCC Rule 803 requires that, where feasible, the lighting of a well site should be”directed downward and internally in the interest of avoiding glare on public roads and occupied buildings within 700 feet of the pad.

Visual Obstruction/Degradation

The state also regulates the visual impact of oil and gas facilities. COGCC Rule 804 requires that facilities that have been erected or substantially repainted after May 30, 1992, and are visible from any public

highway must be “painted with uniform, non-contrasting, non-reflective color tones...and with colors matched to but slightly darker than the surrounding landscape.”

Recent Legislative Activity

During the most recent legislative session, the General Assembly considered three different pieces of legislation related to oil and gas development. In particular, these bills all addressed some aspect of the conflict between owners of the respective surface and mineral estates. Of the three bills initially proposed, only the “Property Owner Notification Statute,” (HB 01-1088) was signed into law. This statute addresses conflicts in severed estates in two ways. First, it requires title companies to notify property buyers of the severance of mineral rights. Where the estates are split, the buyers must be clearly informed of the rights of the mineral owner to enter and use the land for exploration and extraction without additional permission. The bill also contained a reciprocal provision designed to protect owners of mineral interests. It requires surface developers to inform the owners of mineral rights of all impending changes in land use (zoning classification, subdivision) prior to public hearings on these matters. This requirement will allow the owners of mineral rights to be involved in the hearing and public input process.

The second bill that was considered by the Colorado legislature but not enacted was referred to as the “Dormant Oil and Gas Interests Statute,” (HB 01-1068), which was aimed both at inducing the recording of oil and gas rights, as well as allowing surface owners to acquire title to abandoned oil and gas rights. The third bill, recently considered but also not enacted, would have addressed compensation to surface owners for damage resulting from oil and gas development on their property. Known as the “Surface Damage Statute” (HB 01-1062), this bill would have required the negotiation of a surface-use agreement between the owner of the surface estate and oil and gas operators before drilling could begin.

3.1.4 Land Use

This section discusses the existing ownership of the land surface and minerals and primary land uses within the study area.

3.1.4.1 Regional Characterization

The CIR Study Area contains 91,000 acres of land. Ownership of the land surface in the study area consists primarily of private lands intermingled with federal and state lands. Oil and gas mineral rights for the properties within the study area are predominantly federally owned. Agriculture/rangeland is the dominant land use for both public and private lands in the study area.

An issue that has been identified through the federal EIS process during public scoping meetings, and that may become a challenge to La Plata County staff and residents, is the effects of additional development of CBM resources on the existing agricultural and residential land use.

3.1.4.2 Land Ownership

The land surface ownership in the study area consists primarily of private lands, intermingled with federal and state lands, as shown on **Figure 1-2**. Approximately 60,500 acres are privately owned, 4,100 acres are owned by the state and almost 27,000 acres are in federal ownership.

There are 285 existing gas-related wells in the study area, of which 82 percent are located on private land.

3.1.4.3 Mineral Ownership

The mineral estate (mineral ownership) for oil and gas resources within the study area is depicted graphically on **Figure 3-5**. Under current federal rules, CBM mineral resources are managed by the federal government as oil and gas resources rather than as coal resources.

Many of the properties within the study area are “split estate,” meaning the surface owner is different from the owner of the mineral rights. For example, the surface may be privately owned while the mineral estate is federally owned. The federal government owns about 50 percent of the mineral estate for the properties within the study area.

3.1.4.4 Existing Land Uses

Existing land uses within the study area were compiled from the parcel maps for La Plata County. A generalized map of existing land uses within the study area is shown in **Figure 3-6**.

Agriculture/Rangeland

Agriculture/Rangeland is the dominant land use within the study area. The agricultural lands in the study area are primarily used for livestock operations and rangeland and grazing. Most of the agricultural land used for cropland in the study area is nonirrigated; however, irrigated cropland occurs in limited areas, primarily adjacent to drainageways. **Figure 3-7** identifies agricultural land use based on the county parcel designation according to type of irrigation within the study area.

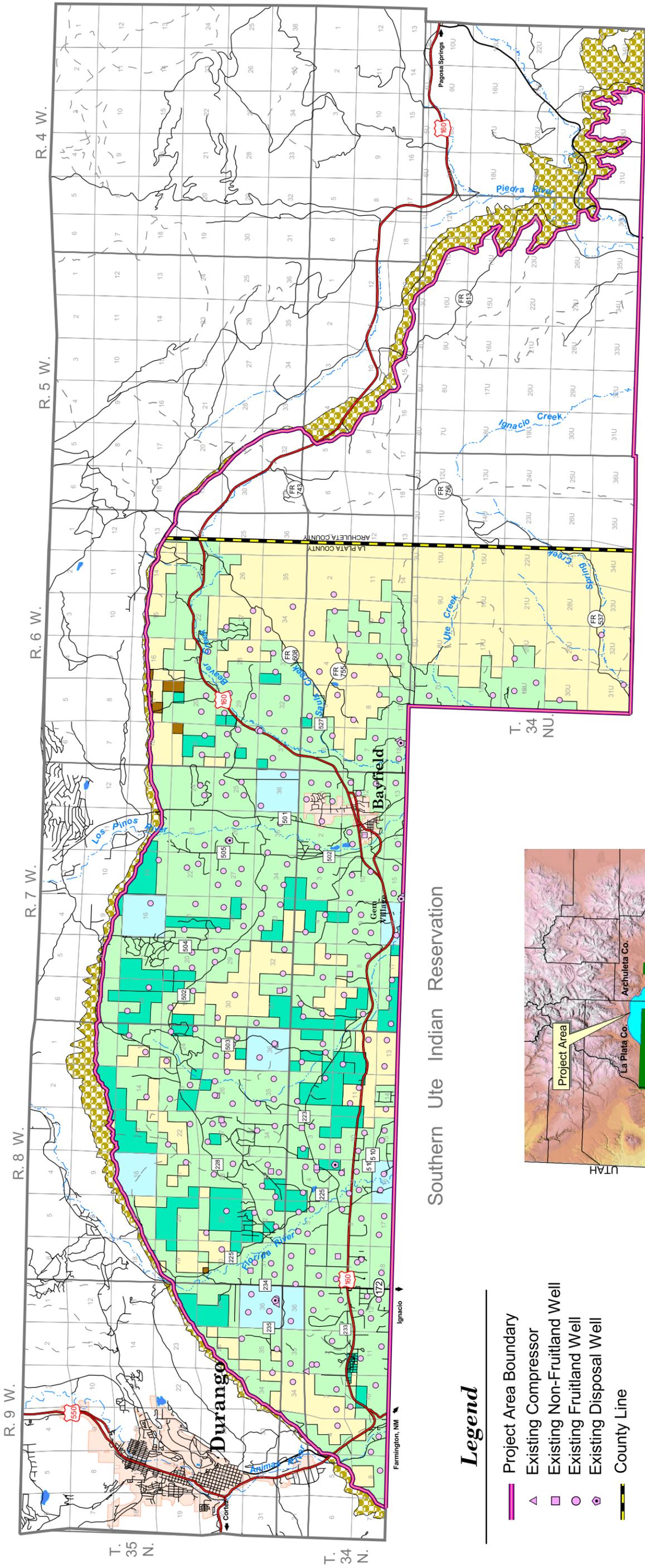
The Florida Mesa Planning District historically has been the largest and most productive agricultural area of La Plata County, and its rural character is derived from the large farms and ranch holdings. The Florida Water Conservation District serves Florida Mesa. However, there has been a recent trend toward residential development on formerly agricultural lands.

Farming and ranching are a historical and continuing land use in the rural area that surrounds the Town of Bayfield. The Pine River Irrigation District supplies irrigation water for production of hay in the Pine River bottomlands. Recently, agricultural developments in this area have also included commercial and specialty livestock operations, vegetable greenhouses, and registered horse breeders.

The predominant use for the lands administered by BLM and FS in the study area is also rangeland/grazing.

Residential

Residential land uses are scattered throughout the study area, but are primarily concentrated near the municipal areas located east of the City of Durango and near the Town of Bayfield. The study area also includes platted and at least partially built subdivisions. **Figure 3-8** identifies the platted subdivisions within the study area. As depicted, subdivisions are dispersed throughout the study area. Although subdivisions are primarily located along major roads and near major intersections, large and dispersed residential developments also occur throughout the study area. Residential land use is composed of single-family and multi-family dwellings including site-built structures, mobile homes, and manufactured homes.



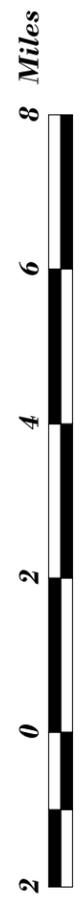
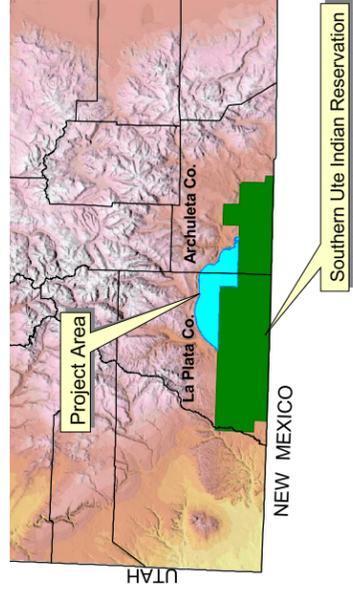
Southern Ute Indian Reservation

Southern Ute Indian Reservation

Legend

- Project Area Boundary
- Existing Compressor
- Existing Non-Fruitland Well
- Existing Fruitland Well
- Existing Disposal Well
- County Line
- U.S. Highway
- Primary Road
- Secondary Road
- Trail
- Lake/Reservoir
- Stream/River
- Municipal Area
- Fruitland Formation Outcrop
- Federal Surface/Private Mineral
- Private Surface/Federal Mineral
- Federal Surface/Federal Mineral
- Private Surface/Private Mineral
- State Surface/State Mineral

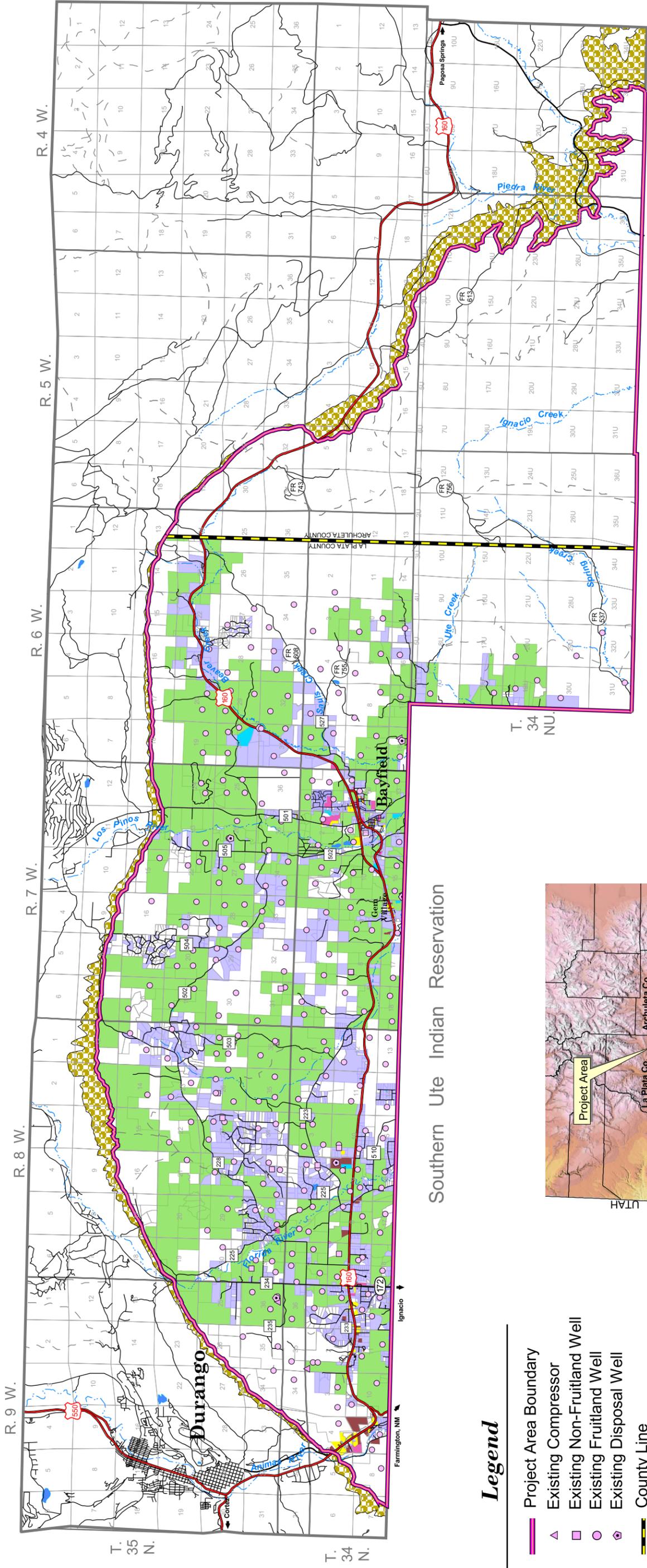
* Private ownership may be in split estate



La Plata County transportation data provided by the La Plata County Transportation Study, 1998. Hydrologic and Archuleta County transportation features extracted from 1:100,000 USGS SDTS data. Existing wells extracted from COGCC well database and edited by the BLM & USFS. Ownership data provided by the USFS.

*Transverse Mercator Projection
1927 North American Datum
Zone 13*

LA PLATA COUNTY IMPACT REPORT	
FIGURE 3-5	
MINERAL OWNERSHIP	
ANALYSIS AREA:	LA PLATA & ARCHULETA COUNTIES, COLORADO
Date:	10/15/02
ArcView File:	C:\994-sanjuan\CIF.apr
Prepared By:	JG

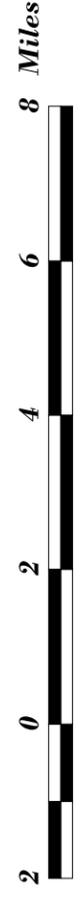
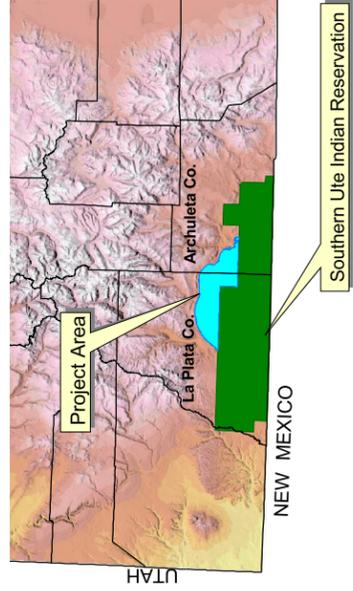


Southern Ute Indian Reservation

Southern Ute Indian Reservation

Legend

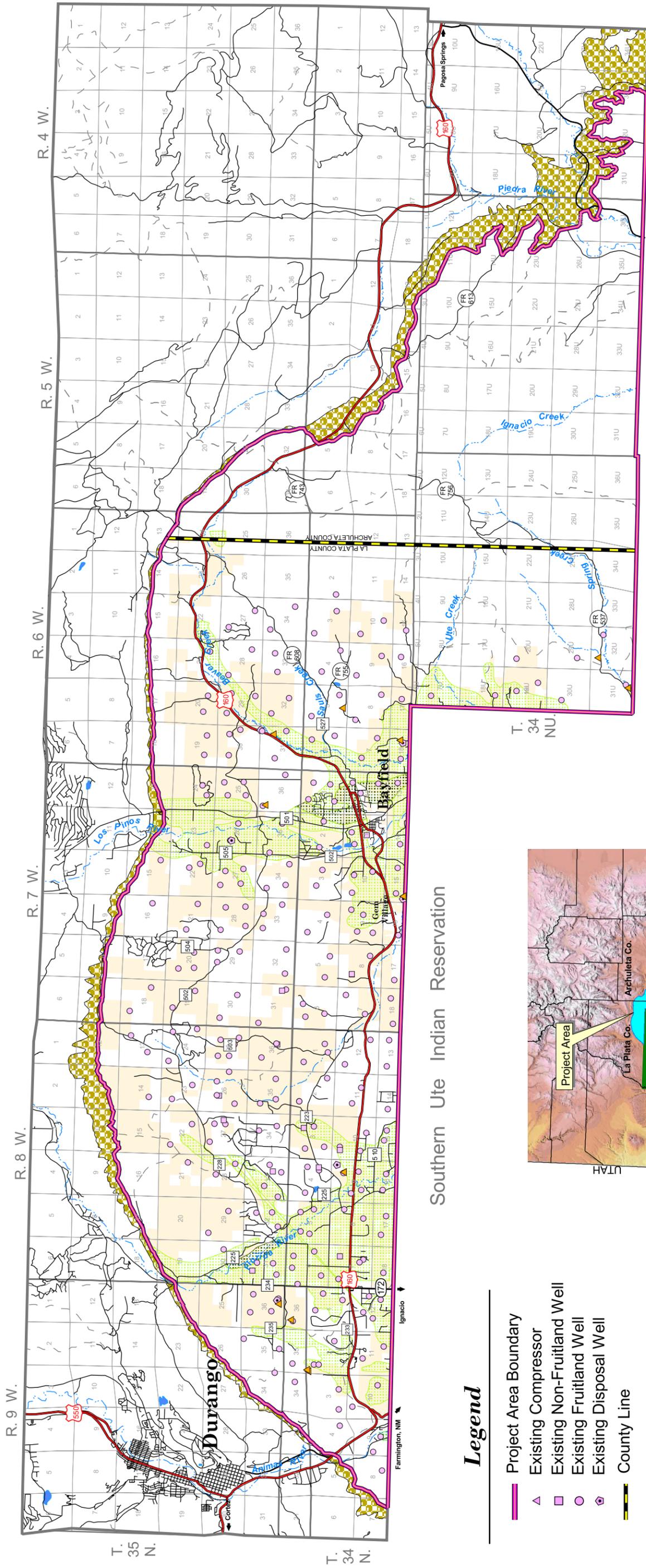
- Project Area Boundary
 - Existing Compressor
 - Existing Non-Fruitland Well
 - Existing Fruitland Well
 - Existing Disposal Well
 - County Line
 - U.S. Highway
 - Primary Road
 - Secondary Road
 - Trail
 - Lake/Reservoir
 - Stream/River
 - Fruitland Formation Outcrop
-
- County Land Parcels**
 - Agriculture/Rangeland
 - Commercial
 - Industrial
 - Public Facility
 - Residential
 - Institutional
 - Undeveloped



La Plata County transportation and parcel data provided by the La Plata County Transportation Study, 1998. Hydrologic and Archuleta County transportation features extracted from 1:100,000 USGS SDTS data. Existing wells extracted from COGCC well database and edited by the BLM & USFS.

*Transverse Mercator Projection
1927 North American Datum
Zone 13*

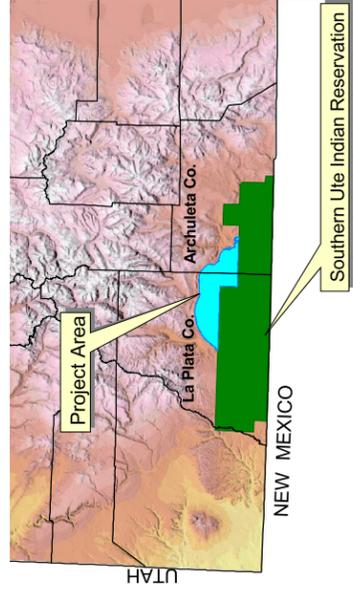
LA PLATA COUNTY IMPACT REPORT	
FIGURE 3-6	
EXISTING LAND USE	
ANALYSIS AREA:	LA PLATA & ARCHULETA COUNTIES, COLORADO
Date:	06/15/02
ArcView File:	C:\994-sanjuan\CIF.apr
Prepared By:	JG



Southern Ute Indian Reservation

Legend

- Project Area Boundary
- Existing Compressor
- Existing Non-Fruitland Well
- Existing Fruitland Well
- Existing Disposal Well
- County Line
- U.S. Highway
- Primary Road
- Secondary Road
- Trail
- Lake/Reservoir
- Stream/River
- Fruitland Formation Outcrop
- Agriculture/Rangeland
- Farmlands
- High Potential
- Irrigated (not prime)
- Prime Irrigated



La Plata County transportation data provided by the La Plata County Transportation Study, 1998. Hydrologic and Archuleta County transportation features extracted from 1:100,000 USGS SDTS data. Existing wells extracted from COGCC well database and edited by the BLM & USFS. Farmland data digitized from USDA prime farmlands map, 1980.

Transverse Mercator Projection
1927 North American Datum
Zone 13

LA PLATA COUNTY IMPACT REPORT	
FIGURE 3-7	
AGRICULTURE BY CULTIVATION TYPE	
ANALYSIS AREA:	LA PLATA & ARCHULETA COUNTIES, COLORADO
Date:	06/15/02
ArcView File:	C:\994-sanjuan\CIF.apr
Prepared By:	JG