

#### SUPPLEMENTARY INFORMATION ON THE AFFECTED ENVIRONMENT IN THE GENERAL ANALYSIS AREA FOR THE EAGLE BUTTE WEST COAL LEASE APPLICATION DRAFT ENVIROMENTAL IMPACT STATEMENT

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Under the Direction of

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and

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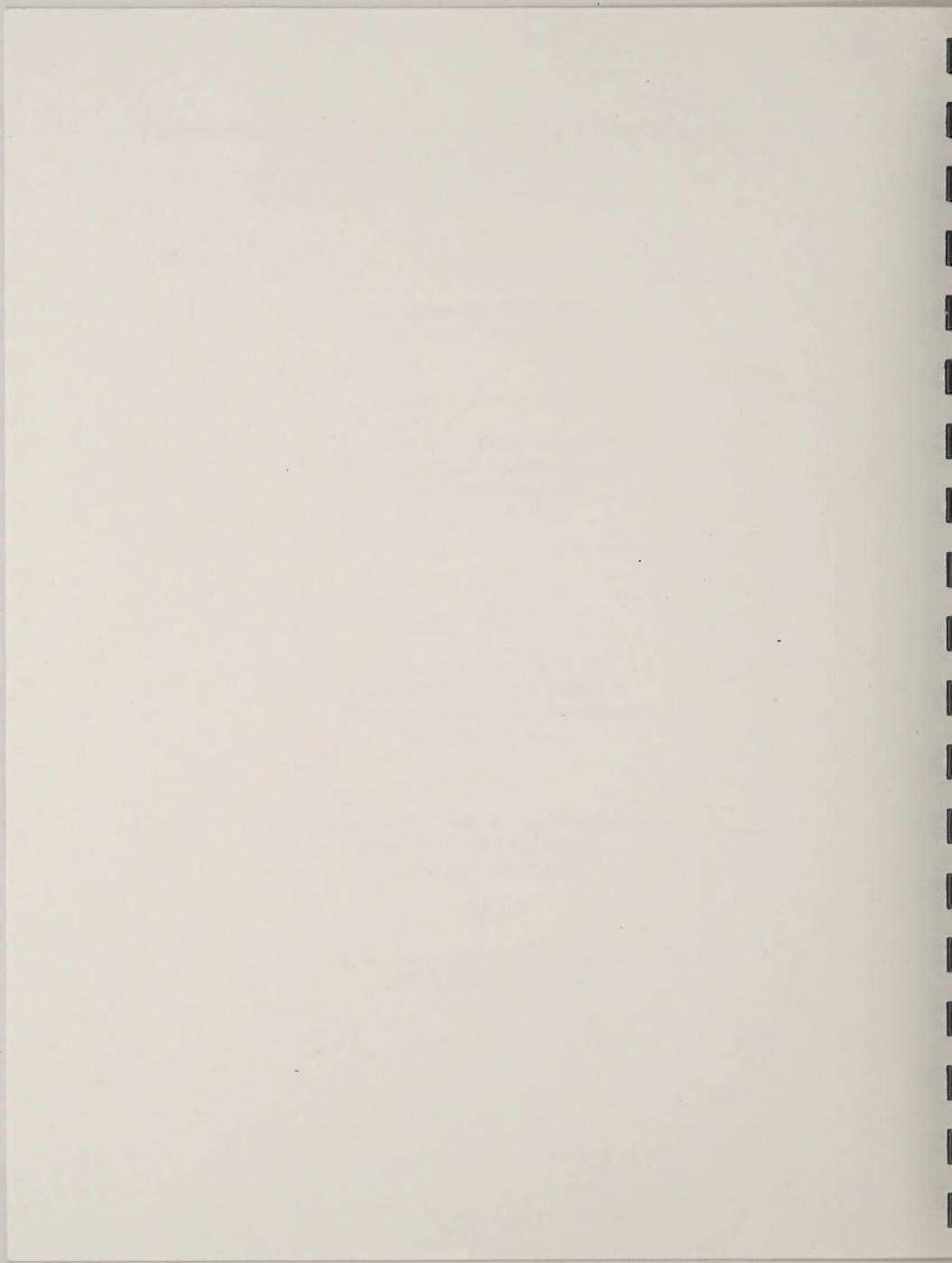
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#### INTRODUCTION

This document has been prepared to supplement the information provided in Chapter 3 of the Eagle Butte West Coal Lease Application EIS<sup>1</sup> (BLM 2006), herein referred to as the Eagle Butte West EIS document. It is a compilation of detailed information about the existing environmental elements within the general analysis area associated with a tract of federal coal reserves adjacent to the Eagle Butte Mine, an operating mine in the east-central portion of the PRB in Wyoming. BLM received an application from RAG, operator of the Eagle Butte Mine in Campbell County, Wyoming, to lease the federal coal included in a maintenance coal tract under the regulations at 43 CFR 3425, Leasing On Application. FCW subsequently purchased the Eagle Butte Mine from RAG. The tract is referred to as the Eagle Butte West LBA Tract.

The Proposed Action that BLM is considering in the Eagle Butte West EIS document is to hold a separate competitive coal lease sale and issue a lease for the federal coal lands included in the Eagle Butte West LBA Tract as applied for by FCW. The EIS also evaluates an alternative tract configuration identified by BLM for consideration for leasing. BLM is evaluating adding lands to the tract in order to avoid bypassing coal and to increase the potential for competition for the tract.

The general analysis area for the tract includes the tract as applied for and the adjacent lands that BLM is considering adding to the tract, which is identified as the "Area Added Under Alternative 1" in Figure 1. Portions of the Eagle Butte West LBA Tract as applied for are contained within the Eagle Butte Mine's current mine permit area. The study area for most environmental resources is generally defined as those lands adjacent to and outside of Eagle Butte Mine's current permit area that the applicant anticipates would be contained within the amended mine permit area if they acquire the tract.

The Data Adequacy Standards for the Powder River Coal Region (BLM 1989) provided the basis for describing the individual resources and critical elements of the human environment (BLM 1988) that could potentially be affected if this tract is leased and mined as proposed. This document includes more detailed information about the existing conditions of the physical, biological, and cultural resources in the LBA tract as a supplement to the discussions on corresponding elements of the affected environment that are summarized more briefly in Chapter 3 of the Eagle Butte West EIS document.

<sup>&</sup>lt;sup>1</sup> Refer to page xv of the Eagle Butte West EIS document for a list of abbreviations and acronyms used in this supplementary information document.

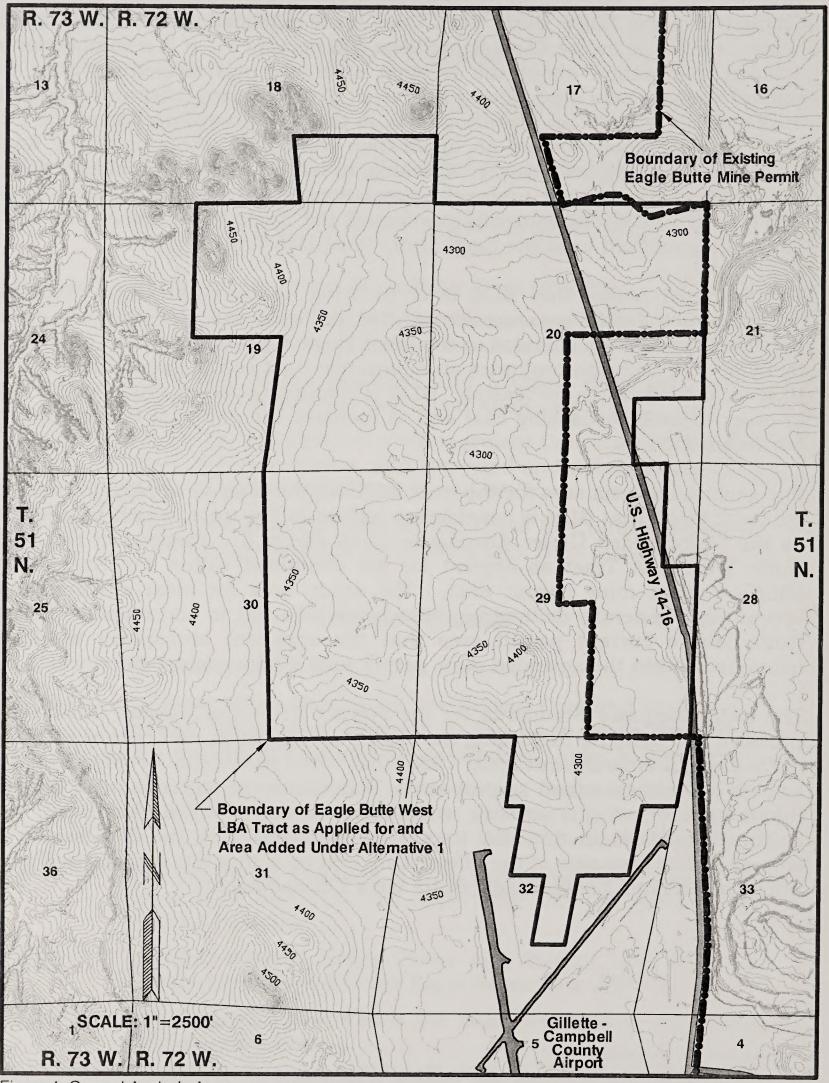


Figure 1. General Analysis Area.

#### **TOPOGRAPHY AND PHYSIOGRAPHY**

The Eagle Butte West LBA Tract is in an area of gently rolling terrain of moderate relief influenced by Little Rawhide Creek and its tributary, Prong Draw. Elevations range from 4,260 to 4,420 ft within the LBA tract and from 4,240 to 4,560 ft within the area added under Alternative 1. Within the LBA tract and the area added under Alternative 1, slopes range from flat to over 40 percent in the extreme northwest corner of the tract along the prominent ridgeline that lies immediately to the west. The slopes of the gently rolling uplands, which comprise most (about 73 percent) of the LBA tract, seldom exceed four percent. A slope analysis would be done for the LBA tract if a lease sale is held and it is proposed for mining.

#### GEOLOGY

Surficial deposits in the general analysis area include alluvial and eolian deposits and weathered Wasatch Formation. Alluvial deposits occupy the Little Rawhide Creek valley and the lower most section of a tributary, Prong Draw, where it joins the mainstem of Little Rawhide Creek.

The Eocene Wasatch Formation forms most of the overburden in the general analysis area. The boundary between the Wasatch Formation and the underlying Paleocene Fort Union Formation is not distinct. From a practical standpoint, the top of the mineable coal zone is considered as the contact between the two formations. Overburden thicknesses in the Eagle Butte West LBA Tract as applied for average about 325 feet. The Wasatch overburden in the general analysis area consists of interbedded sand, clay, silty claystone, and thin coal laminations. Thick sand layers up to 200 ft thick were encountered during exploration drilling in the area. As discussed in Section 3.2.1, the regional dip in this area is to the west; as a result, the overburden thickness is generally thinner to the east and increases to the west. Within the general analysis area, overburden thickness ranges from about 183 ft to 460 ft.

The Fort Union Formation is divided into three members: the Tongue River, the Lebo, and the Tullock, in descending order (refer to Figure 3-2 in the Eagle Butte West EIS document).

The mineable coal seams in the PRB are part of the Tongue River Member of the Fort Union Formation. At the Eagle Butte Mine and within the Eagle Butte West LBA Tract, there are two mineable coal seams. Locally, these coal seams are referred to as the Roland (upper seam) and Smith (lower seam), separated by a shale parting of variable thickness (Figures 2 and 3). This coal zone is referred to as the Anderson and Canyon, Wyodak-Anderson, and Wyodak coal beds at other localities in the eastern PRB. On the Eagle Butte West LBA Tract as applied for and the area added by Alternative 1, the combined thickness of the two coal seams averages about 110 ft. However, the Roland seam is not present in all areas within the general analysis area, causing a decrease in the

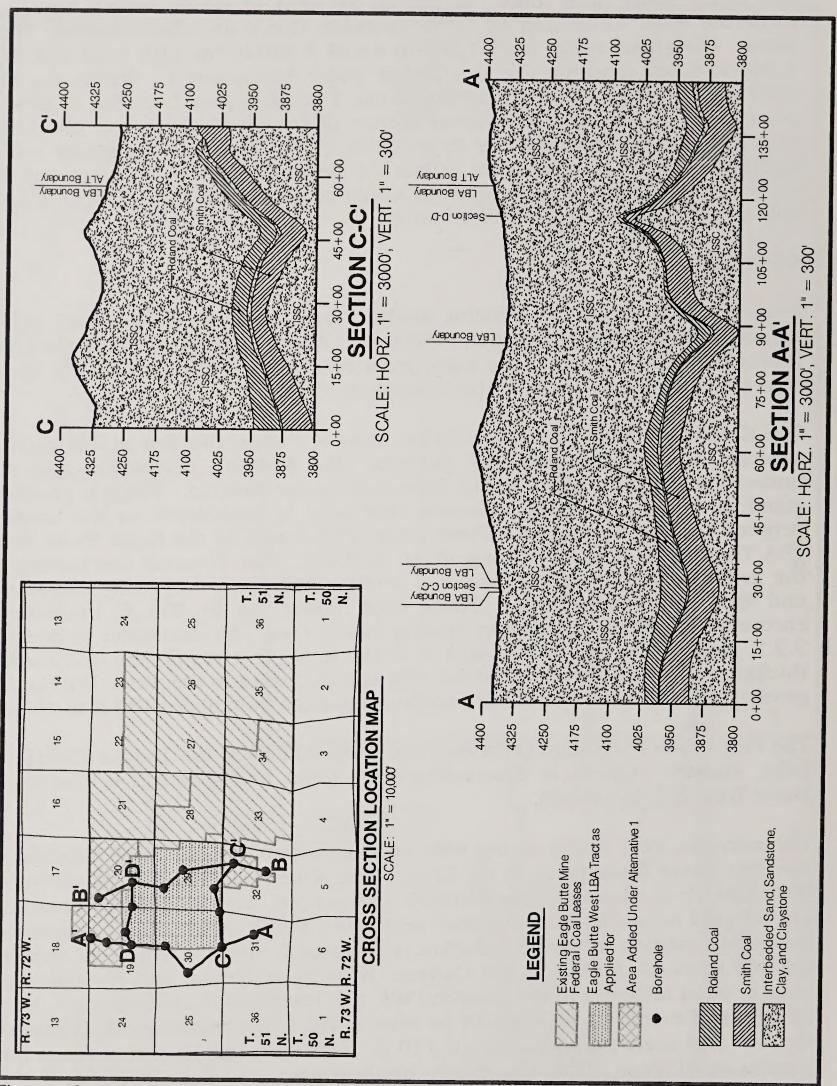
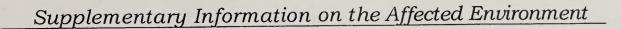
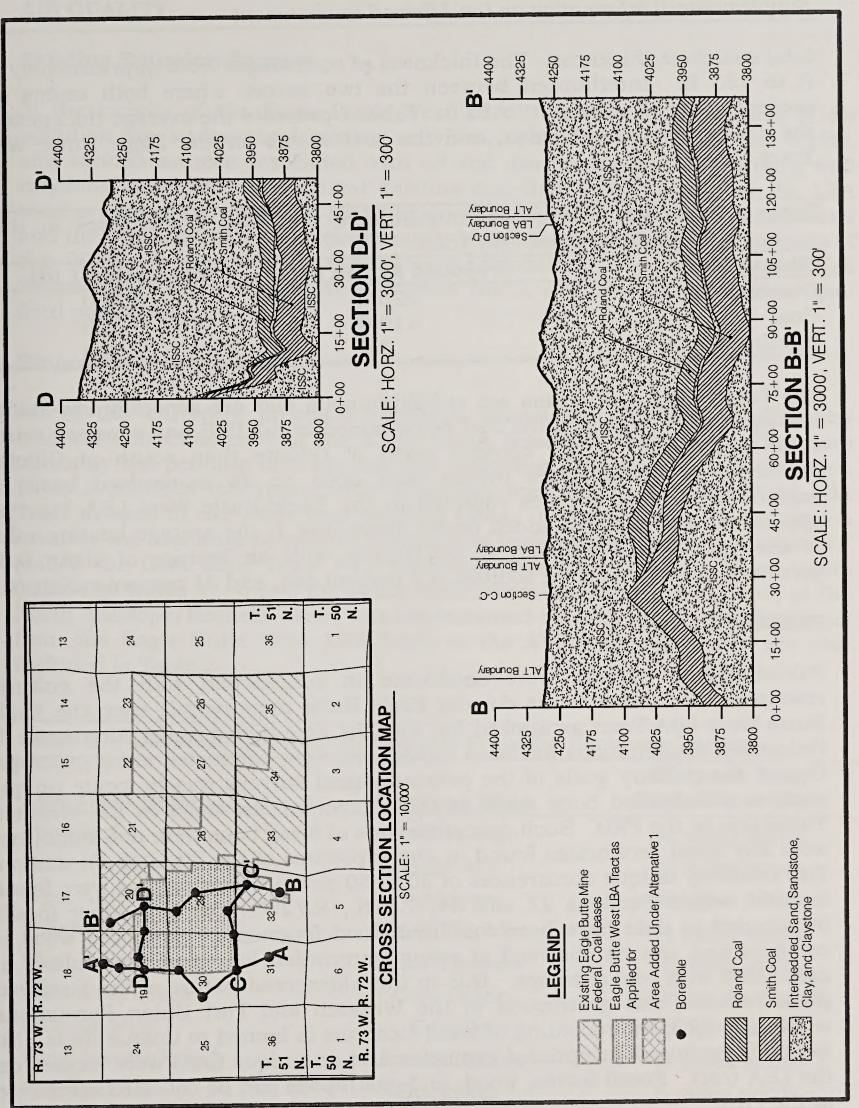
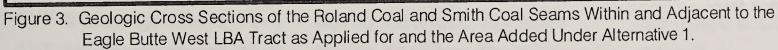


Figure 2. Geologic Cross Sections of the Roland Coal and Smith Coal Seams Within and Adjacent to the Eagle Butte West LBA Tract as Applied for and the Area Added Under Alternative 1.







#### Supplementary Information on the Affected Environment

total coal zone thickness. The thickness of coal ranges from approximately 33 ft to 133 ft. Interburden between the two seams, where both seams are present, varies from one ft to 13 ft. Table 1 presents the average thickness of the overburden, interburden, and the coal seams for the Eagle Butte West Tract.

Table 1.	Average	Overburden,	Interburden,	and	Coal	Thicknesses	in	the
	Eagle Bu	atte West LBA	Tract.					

Mining Unit	<b>Proposed Action (ft)</b>	Alternative 1 (ft)
Overburden	325.0	325.0
Coal	110.0	110.0
Interburden	8.0	8.0

The Fort Union coal seams are subbituminous and are generally low-sulfur, low-ash coals. Typically, the coal being mined in the PRB has a lower heating value and higher sulfur content north of Gillette than south of Gillette. According to the analyses (which were done on an as-received basis) of exploration drilling samples collected in the Eagle Butte West LBA Tract as applied for and the area added under Alternative 1, the average heating value of the coal is approximately 8,350 Btu/lb, with an average of about 0.35 percent sulfur, 1.9 percent sodium, 4.7 percent ash, and 31 percent moisture.

#### PALEONTOLOGY

Paleontological surveys were conducted in conjunction with the cultural resources inventories of the current Eagle Butte mine permit area, the Eagle Butte West LBA Tract as applied for, and the area added under Alternative 1. Pedestrian examinations for fossil indications were conducted along outcrops. One of the primary goals of the paleontological surveys was to locate unique pockets of fossilized bone such as those reported elsewhere in the Wasatch Formation in the PRB. Such concentrations of fossil bone were not found, nor were any fossil vertebrates found in any exposures of the Wasatch Formation. Two relatively unique occurrences of 30 to 50 petrified tree stumps were found in 1974 within Sections 27 and 34, T.51N., R.72W. The only other fossils inventoried to date have been fossilized wood fragments. Fossilized wood is common and can be observed at many unrecorded locations, particularly in associated with coal outcrops. Due to the widespread nature of the fossilized plant remains and gastropods in the Wasatch and Fort Union Formations within the PRB, the recording of fossil locations is limited to unique finds. No localities produced exceptional examples and no unique finds were located on the LBA tract. Fossil leaves, wood, and gastropods can be collected elsewhere in the PRB.

#### AIR QUALITY

#### **Existing Emission Sources**

In the vicinity of the Eagle Butte West LBA Tract, the main sources of air pollution are surface coal mining activities, vehicular traffic, railroad traffic, and various sources associated with oil and gas production and farming and ranching activities. The closest existing coal-fired power plants to the LBA tract are the Dave Johnston plant (approximately 100 miles south-southwest) and the Wyodak Complex (approximately 10 miles southeast), which consists of the 90-Mw WyGen No. 1, the 335-Mw Wyodak No. 1, the 21.8-Mw Neil Simpson No. 1, the 80-Mw Neil Simpson No. 2, and two 40-Mw natural gas-fired power plants.

#### **Proposed Emission Sources**

All of the currently proposed emission sources in the eastern PRB are discussed in Chapter 4 of the Eagle Butte West EIS document. There are currently ten pending LBA applications including the Eagle Butte West tract. Table 2 provides the approximate distances from the Eagle Butte West LBA Tract to each of the other nine pending LBAs. A coal lease exchange, which involves the exchange of existing federal coal leases underlying a declared AVF (called the Gold Mine Draw AVF Exchange Tract) for the East Burn tracts (exchange tracts #1-4) and the South Spur tracts (exchange tracts #5-6) at the North Antelope/Rochelle Mine, was implemented in June 2006. The distances from the Eagle Butte West LBA Tract to the AVF exchange tracts are also included in Table 2.

LBA Tract Name	Adjacent Mine	Distance from Eagle Butte West
Maysdorf	Cordero Rojo	21 miles south
Belle Ayr North	Belle Ayr	17 miles south
West Antelope II	Antelope	59 miles south
Hilight Field	Black Thunder	41 miles south
West Hilight Field	Black Thunder	45 miles south
West Coal Creek	Coal Creek	30 miles southeast
Caballo West	Caballo	16 miles south
West Jacobs Ranch	Jacobs Ranch	41 miles south
Hay Creek II	Buckskin	6 miles north
AVF exchange tracts #1-4	North Antelope Rochelle	56 miles south
AVF exchange tracts #5-6	North Antelope Rochelle	61 miles south

Table 2. Distances to Pending LBAs and Proposed Exchange Tracts.

Draft EIS, Eagle Butte West Coal Lease Application

#### Historical Ambient Air Quality

#### Particulate Emissions

#### **Emission Producing Activities**

Fugitive particulate (dust) emissions are produced within the mine areas by activities such as coal and overburden blasting, excavating, loading and hauling, and large areas of disturbed land. Stationary or point sources of particulate emissions produced within the mine areas include coal crushing, handling/conveying, and storage facilities.

#### Monitoring Results

WDEQ/AQD requires the collection of information documenting the quality of the air resource at each of the PRB surface coal mines. Each mine was required to monitor air quality for a 24-hour period every six days at multiple monitoring sites through the end of 2001. All  $PM_{10}$  monitors located at the active mines are now required by WDEQ/AQD to sample air quality for a 24-hour period every three days beginning in 2002.

In accordance with the Ambient Air Quality Assurance Project Plan, Eagle Butte Mine operates a particulate and meteorological monitoring network. Figure 3-4 in the Eagle Butte West EIS document shows the locations of the particulate ( $PM_{10}$  and TSP) air quality sampling sites and the meteorological stations at the Eagle Butte Mine. Ambient particulate data are currently collected at three sites: EB-2, EB-3, and EB-5. Sites EB-2 and EB-3 were originally established as high-volume TSP samplers, but FCW began reporting particulate emissions using low-volume  $PM_{10}$  samplers at sites EB-2 and EB-3 in 2001 and 2002, respectively. The State of Wyoming added  $PM_{10}$ -based standards in 1989 and retained the TSP standards until March 2000; therefore, the TSP standard is no longer being enforced. Eagle Butte Mine discontinued reporting TSP at sites EB-2 in 2001, EB-3 in 2002, and EB-1 in 2004.

There were five exceedances of the 24-hour TSP standard at the Eagle Butte Mine between 1996 and 2001, and there have been no exceedances of the 24hour and annual average PM<sub>10</sub>-based standards at the Eagle Butte Mine since PM<sub>10</sub> became the federally regulated pollutant. Table 3 presents the average annual particulate emissions measured at the mine's three currently active air quality monitoring sites from 1996 through 2005. In effort to relate measured particulate emissions to mine activity, Eagle Butte Mine's annual coal and overburden production are included in Table 3.

Table 3.	Summary	of Ea	agle B	utte	Mine	Annu	al Coal	an	d Ove	rburden	
	Production	and	Partic	ulate	Emis	sions	Monitor	ing	Data,	1995 -	
	2004.										

				Emissions*
Coal Produced (mmtpy)	Overburden Yards Moved (mmbcy)	EB-2	EB-3	EB-5
15.6	28.0	24.0	21.0	(10.0)
17.9	31.6	23.0	39.0	(11.0)
18.1	30.1	20.0	39.0	(12.0)
17.4	32.8	25.0	45.0	(11.0)
18.6	37.1	38.0	54.0	(15.0)
24.8	50.5	48.0 (36.0)	52.0	(15.0)
24.9	53.3	(20.5)	(19.6)	(12.8)
24.5	52.2	(20.8)	(20.8)	(13.0)
23.0	56.3	(18.9)	(18.9)	(11.4)
24.1	53.8	(16.0)	(19.0)	(10.0)
	Produced (mmtpy) 15.6 17.9 18.1 17.4 18.6 24.8 24.9 24.5 23.0	Produced (mmtpy)Yards Moved (mmbcy)15.628.017.931.618.130.117.432.818.637.124.850.524.953.324.552.223.056.324.153.8	Produced (mmtpy)Yards Moved (mmbcy)EB-215.628.024.017.931.623.018.130.120.017.432.825.018.637.138.024.850.548.0 (36.0)24.953.3(20.5)24.552.2(20.8)23.056.3(18.9)24.153.8(16.0)	Produced (mmtpy)Yards Moved (mmbcy)EB-2EB-315.628.024.021.017.931.623.039.018.130.120.039.017.432.825.045.018.637.138.054.024.850.548.0 (36.0)52.024.953.3(20.5)(19.6)24.552.2(20.8)(20.8)23.056.3(18.9)(18.9)24.153.8(16.0)(19.0)

#### Control Measures

The WDEQ/AQD requires the use of BACT on all sources of emissions in the State of Wyoming. FCW practices control measures that are applicable to surface mining operations, which are outlined in Section 14 of the WAQSR.

Fugitive emissions are controlled with a variety of methods that the agency considers BACT. Water trucks are used to apply water and chemical dust suppressants on the mine access road and all haul roads used by trucks and/or scrapers. Haul truck speed limits are imposed to further help reduce fugitive emissions from roads. Emissions are further reduced by the assumption of 100 days of precipitation per year. Limiting the drop height between the shovel bucket and truck bed controls emissions from overburden and coal loading. Best mining practices are used to limit the number and areal extent of overburden blasts. Soil is revegetated, either temporarily or permanently, in a timely manner to help minimize emissions from wind erosion. Fugitive emissions from the coal truck dump are controlled with a PEC dust control system (stilling shed). Mine-wide emissions are further reduced by the use of pavement where possible.

Emissions at point sources (i.e., coal crushing, storage, and handling facilities) are controlled with baghouse dust collection systems, PECs, or water sprayers/atomizers/foggers. These are all considered BACT controls by

#### Supplementary Information on the Affected Environment

WDEQ/AQD. When the Eagle Butte Mine's air quality permit was first issued, the BACT on emissions from the mine's point sources included covered conveyors, telescoping loadout chutes, enclosed storage devices (silos), and water spray dust controls at all coal transfer points. In 2005, WDEQ/AQD issued air quality permit MD-1251 to modify operations at the Eagle Butte Mine with the addition of a PEC dust control system (stilling shed) at the coal truck dump that replaced the existing water spray dust controls.

#### NO<sub>2</sub> Emissions

#### Emission Producing Activities

Vehicular traffic, both inside and outside the areas of mining, is responsible for tailpipe emissions. Exhaust emissions from large-scale mining equipment, emissions from compressor engines used in the production of natural gas, emissions from railroad locomotives, and coal-fired power plant emissions all contain oxides of nitrogen (NO<sub>x</sub>). Tailpipe emissions consist primarily of NO<sub>2</sub>, CO, and VOCs, but may also include SO<sub>2</sub> and other trace constituents. Overburden blasting also sometimes produces gaseous orange-colored clouds that contain NO<sub>2</sub>. NO<sub>2</sub> is one of several products resulting from the incomplete combustion of the explosives used in the blast.

#### Monitoring Results

NO<sub>2</sub> monitoring results are available from several currently-active air quality monitoring stations in the eastern PRB, including the Thunder Basin National Grasslands Site, located approximately 30 miles north-northeast of the LBAtract; the Campbell County Site, located approximately 18 miles southsouthwest of the LBA tract; the Belle Ayr Mine Site, located approximately 20 miles south-southeast of the LBA tract; and the Antelope Mine Site, located approximately 60 miles south of the LBA tract. WDEQ/AQD and respective mines maintain these air quality monitoring stations. The monitoring data that have been gathered from these sites, as well as other sites that no longer monitor NO<sub>2</sub> concentration, are included in Section 3.4.3 of the Eagle Butte West EIS document.

#### **Control Measures**

To date, there have been no reported events of public exposure to  $NO_2$  from blasting activities at the Eagle Butte Mine. Residents in the area have, however, reported observing blasting clouds coming off of blasts at the mine. Control measures to limit both emissions and public exposure to  $NO_x$  from blasting are presently being instituted at the Eagle Butte Mine. These control measures that are defined, in part, by conditions in the WDEQ/LQD Mine Permit No. 428-T5 and the provisions of the Wyoming EQC ruling of June 26, 2003 include such procedures as limiting blast size, using low-NO<sub>x</sub> blasting techniques, consideration of wind conditions, and establishment of safe setback distances as effective methods for mitigating exposure to NO<sub>2</sub>.

#### WATER RESOURCES

#### Groundwater

The Eagle Butte West LBA Tract overlies three geologic water-bearing strata that have been or would be directly affected by mining. In descending order, these units are the recent alluvium, the Wasatch Formation overburden, and the mineable coal seams in the Tongue River Member of the Fort Union Formation, which are referred to as the Roland and Smith by the Eagle Butte Mine. The underlying, subcoal Fort Union Formation and the Fox Hills Sandstone are utilized for municipal, industrial, and domestic water supply by the city of Gillette, residential subdivisions, Eagle Butte Mine, and other nearby coal mines, but these units are not physically disturbed by mining activities. Both regional and site-specific baseline hydrogeologic environments within and around the Eagle Butte Mine are extensively characterized in the WDEQ/LQD mine permit (FCW 2005a), which also provides groundwater monitoring data.

#### Recent Alluvium

Within the Eagle Butte West LBA Tract, alluvial (unconsolidated, stream laid) deposits primarily occupy the Little Rawhide Creek valley and the lower-most portion of a tributary, Prong Draw, where it joins the main stem of Little The Little Rawhide Creek alluvium overlies the Wasatch Rawhide Creek. Formation bedrock and the lithologies are very similar at the contact. The thickness of alluvial deposits varies from less than one ft to 22 ft, and is typically around 15 ft. The lithologic composition of Little Rawhide Creek alluvium varies with respect to the lithology of the underlying Wasatch Formation bedrock. The lithology of the alluvium is such that it appears to be Wasatch Formation that has been reworked by fluvial processes. Certain finite reaches of Little Rawhide Creek alluvial deposits are nearly impermeable and do not readily transmit groundwater due to their clayey nature. These reaches generally overlie bedrock strata comprised of shales, claystones, and siltstones. Conversely, certain finite reaches of the valley fill deposits readily transmit groundwater due to their sandy nature and these deposits generally overlie bedrock strata comprised of sands and sandstones (FCW 2005a).

Data from Eagle Butte Mine's Little Rawhide Creek alluvial monitor wells indicate that alluvial groundwater flow is down-valley. Recharge to the alluvium comes primarily from the underlying bedrock aquifer and precipitation and streamflow infiltration, depending upon the season the extent of alluvial saturation. Groundwater elevations fluctuate seasonally, increasing in the spring in response to snowmelt and precipitation runoff, and then decreasing throughout the remainder of the year (FCW 2005a). Aquifer pump testing within the current Eagle Butte Mine permit area downstream/downgradient of the Eagle Butte West LBA Tract indicate that Little Rawhide Creek alluvium has a very low hydraulic conductivity and, therefore, cannot be described as an aquifer in that area. Aquifer tests conducted within and upgradient of the LBA tract indicate that the Little Rawhide Creek alluvium has a low hydraulic conductivity, ranging from 0.4 ft/day to 7.2 ft/day, with a mean value of 4.4 ft/day, which is representative of fine sands and persistence of silt and clay (FCW 2005a).

Very little alluvium is present along Prong Draw, with the majority of the valley fill consisting of buried, ancestral playa deposits that are overlain by a thin deposit of fine-grained eolian materials. Groundwater was found to occur within these deposits at a depth between seven and 18 ft below ground level. Aquifer tests were conducted to determine the hydraulic conductivity of these deposits and found to be very low, ranging from 0.02 ft/day to 0.18 ft/day. Given the predominance of clay, the very low permeability, and the limited areal extent of these unconsolidated materials associated with Prong Draw, these deposits are not considered to be an aquifer.

Little Rawhide Creek alluvial groundwater quality varies greatly. TDS concentrations range from around 2,000 mg/L to 20,000 mg/L. The alluvial water type is generally a magnesium/sodium-sulfate or a magnesium/calcium-sulfate. The sodium adsorption ratio (SAR) values range from 0.94 to 5.48, and have a mean value of 3.29. In general, the groundwater in the saturated Little Rawhide Creek alluvium is poor quality and unsuitable for domestic consumption or irrigation, and it is considered marginal to unsuitable for livestock use. These poor water quality characteristics are indicative of limited groundwater circulation due to the low permeability of the fine-grained alluvial deposits (FCW 2005a).

The shallow groundwater that occurs beneath Prong Draw is also of poor quality. In the upper reaches of the drainage, the TDS concentration is over 3,000 mg/L and is a calcium-sulfate type water, which seems to reflect the gypsum-rich valley fill materials. While in the lower reaches of the drainage, the groundwater quality has characteristics of CBNG-produced, sodium-bicarbonate type water (refer to Section 3.6 in the Eagle Butte West EIS document).

The low hydraulic conductivities, limited areal extent of saturation, and poor water quality indicate that the alluvium does not exhibit aquifer characteristics adequate for agriculture or domestic use. There is currently no known use of alluvial groundwater in or near the Eagle Butte West LBA Tract. Within the Eagle Butte West LBA Tract, Little Rawhide Creek and its alluvial aquifer have not been disturbed or impacted by surface coal mining activities at the adjacent Eagle Butte Mine to date.

#### Wasatch Formation

Within the PRB, the Wasatch Formation (the strata lying above the mineable coal seams, or overburden) consists of interbedded sands, silts, and clays with occasional discontinuous deposits of coal and carbonaceous material. This description basically holds true for the area within and around the Eagle Butte West LBA Tract. The Wasatch strata range in cohesion from unconsolidated (i.e., loose sands and silts) to lithified (i.e., sandstones, siltstones, shales, and coal stringers). Any of the deposits may be water bearing, although the sands and sandstones possess a greater, but laterally limited, potential for groundwater yield. These sands and sandstones are generally discontinuous and separated laterally and vertically by finer-grained siltstone and shale deposits. The discontinuous nature of the deposits produces considerable variability in groundwater elevations both laterally and vertically. The hydraulic connection between sandstone lenses is tenuous due to intervening shale aguitards; thus, groundwater movement through the Wasatch Formation overburden is limited. Because the water-bearing units within the Wasatch Formation are not continuous, the Wasatch is not considered to be a regional However, Wasatch sandstones do provide limited amounts of aquifer. groundwater for livestock and domestic uses on a local scale, provided the water quality is suitable.

Another geologic unit that may be considered a part of the Wasatch Formation is scoria, also called clinker or burn. It consists of sediments that were baked, fused, and melted in place when the underlying coal burned spontaneously. These burned sediments collapsed into the void left by the burned coal. Scoria deposits can be a very permeable aquifer and can extend laterally for miles in the eastern PRB. The occurrence of scoria is site specific, typically occurring in areas where coal seams crop out at the surface. The hydrologic function of scoria is to provide infiltration of precipitation and recharge to laterally contiguous overburden and coal beds. Scoria outcrop areas occur within the northern portion of the Eagle Butte Mine's current permit area. No scoria deposits are present within the Eagle Butte West LBA Tract, although small, localized deposits do occur in the extreme northwest corner of the area added under Alternative 1.

Recharge to the Wasatch Formation in the PRB is predominantly from the infiltration of precipitation and lateral movement of water from adjacent scoria bodies. Regionally, groundwater is discharged from the Wasatch Formation by evaporation and transpiration, pumping wells, drainage into mine excavations, vertical leakage into underlying coal seams, and seepage into the overlying alluvium along stream courses. Overburden in the vicinity of the Eagle Butte West LBA Tract is recharged naturally by precipitation infiltration into exposed sand and sandstone outcrop areas and infiltration of surface water runoff beneath drainages. Additional, artificial recharge occurs where reservoirs have been constructed for ranching operations and for storage of CBNG discharge water.

For the Wasatch Formation as a whole in the PRB, the discontinuous nature of the water bearing units results in low overall hydraulic conductivity and low groundwater flow rates. Martin et al. (1988) reported that hydraulic conductivities within the Wasatch range from  $10^{-4}$  ft/day to  $10^{2}$  ft/day, and the mean value based on 203 tests was 0.2 ft/day. The mean hydraulic conductivity from 70 aquifer tests using wells completed in sandstone in the Wasatch overburden was 0.35 ft/day, while that from 63 aquifer tests using wells completed in siltstone and claystone in the Wasatch was 0.007 ft/day (Rehm et al. 1980).

Thick sand layers were encountered in the Wasatch Formation overburden during exploration drilling conducted in 2002 and 2004 by the Eagle Butte Mine in the general analysis area (refer to Section 3.3 in the Eagle Butte West EIS document). These discontinuous sand bodies are generally saturated. Five overburden monitoring wells (numbers 3453980W, 3444030W, 3503950W, 3573980W, and 3574020W) were completed in the saturated overburden sands at that time. During drilling, the open-hole, airlift water production from these five monitoring wells ranged from 25 gpm to 225 gpm. The overburden sand bodies appear to be relatively extensive and influential aquifers within the general analysis area. It does not appear that the saturated overburden sand bodies are in hydraulic communication with the mineable coal zone (Roland and Smith seams), but rather, are perched above a shale/claystone layer that overlies the coal, effectively separating the two aquifers in the general analysis area.

Locally, groundwater flow in the Wasatch Formation is generally from the west and south toward the north where the water discharges into the Little Rawhide Creek alluvial groundwater system (FCW 2005a).

Overburden sand bodies provide the most extensive recharge areas for the coal and discharge significant amounts of water to Little Rawhide Creek (FCW 2005a). Aquifer pumping tests were conducted in 1980, 1986, and 1998 to help determine the aquifer characteristics of the overburden sands in the Eagle Butte Mine area. The test results indicate that the hydraulic characteristics of the Wasatch sands are highly variable. Hydraulic conductivity values range from approximately 0.02 ft/day to 3.3 ft/day and storage coefficients indicate the sands are predominately unconfined aquifers (FCW 2005a). In 2005, aquifer pumping tests were conducted on the five overburden monitoring wells that were recently installed in the general analysis area. Like the lithology of the overburden in the LBA tract, the hydraulic characteristics of the saturated sands are areally inconsistent. The hydraulic conductivity values ranged from approximately 0.1 ft/day to 100 ft/day.

The overburden aquifer's saturated thickness is also highly variable, ranging from just a few feet in the Eagle Butte Mine's current permit area to over 200 ft in the western portion of the Eagle Butte West LBA Tract. Due to the discontinuous nature of the deposits, premine overburden groundwater flow in the vicinity of the Eagle Butte Mine generally followed the topography, which was basically to the north. Groundwater discharge would then occur wherever saturated overburden sands were in hydraulic communication with the overlying Little Rawhide Creek alluvial deposits. Groundwater movement in the overburden has since been affected locally by the mining operations in the area. Current monitoring well data indicate that overburden groundwater in the Eagle Butte Mine area still flows from south to north and discharges into the mine's open pits and the Little Rawhide Creek alluvial system (FCW 2005b and Hydro-Engineering 2006). Groundwater levels measured in 2005 in the five recently installed overburden monitoring wells located immediately north, west, and south of the proposed lease area (refer to Figures 3-10 and 3-11 in the Eagle Butte West EIS document) varied from about 25 ft to 120 ft below land surface.

The quality of groundwater in the Wasatch Formation aquifer in the Eagle Butte Mine area is somewhat variable, although generally poor (FCW 2005a). Baseline groundwater samples were collected in 2004 and 2005 from the five recently installed overburden monitoring wells. The water quality at all five sites is characterized as a calcium-sulfate type and the average TDS concentrations range from 1,390 mg/L (at well 3573980W) to 4,121 mg/L (at well 3444040W). Groundwater from all five overburden monitoring wells in the general analysis area meets only WDEQ/Water Quality Division's (WQD's) Class III use suitability classification (suitable for livestock and wildlife use) due to excessive concentrations of TDS, sulfate, and/or iron. The groundwater quality observed in the overburden sand aquifer in the Eagle Butte West LBA Tract area is typical of that observed in the overburden throughout the existing Eagle Butte Mine area.

## Roland-Smith/Wyodak-Anderson Coal

The Tongue River Member of the Fort Union Formation contains the mineable coal zone, which is often divided by partings that separate it into two or more units. The mineable coal zone is variously referred to as the Anderson and Canyon, Wyodak-Anderson, and Wyodak coal beds in the eastern PRB. At the Eagle Butte Mine they are referred to as the Roland and Smith seams. In the Eagle Butte Mine area, the Roland Coal seam ranges from zero to 70 ft thick, with an average thickness of 40 ft. The Smith Coal seam in places reaches thicknesses of over 100 ft, with an average thickness of 70 ft.

The Roland and Smith seams are generally present within the Eagle Butte West LBA Tract; however, the Roland seam is not present in all areas. The thickness of coal ranges from 33.4 ft to 133.1 ft, with overburden thickness ranging from 182.9 to 459.2 ft. in the proposed lease area. The parting (dark brown to black carbonaceous clay and clayey coal) between the Roland and Smith seams ranges from one ft to 13 ft thick, where both seams are present. In general, exploration drill holes in the Eagle Butte West LBA Tract as proposed had a

total of more than 100 ft of coal present. A general description of the coal seam aquifer is presented as follows.

The Fort Union coal seams are considered regional aquifers because they are water bearing and laterally continuous throughout large areas. Historically, the Fort Union coal seams have been a source of groundwater for domestic and livestock uses in the eastern PRB. However, due to the one to three degree west-northwest dip of the coal beds, within a couple of miles west of the PRB surface coal mines, including Eagle Butte Mine, the coal seams become too deep to be an economical source of water.

Hydraulic conductivity within the coal seams is highly variable and reflective of the amount of fracturing the coal has undergone, as unfractured coal is virtually impermeable. Field tests indicate that the coal has a low to moderate transmissivity with a range of roughly three orders of magnitude, with localized zones of moderately high transmissivity due to increased fracturing. The yield of groundwater to wells and mine pits is smallest where the permeability of the coal is derived primarily from localized unloading fractures. The highest permeability is imparted to the coal by tectonic fractures. Due to their pronounced surface expression, these tectonic fractures are often referred to as "lineaments". Coal permeability along lineaments can be increased by orders of magnitude over that in the coal fractured by unloading only. Hydraulic conductivity values, using a mean saturated thickness of 100 ft, range from 0.1 to 9.0 ft/day in the Eagle Butte Mine area (FCW 2005a).

Recharge occurs principally by infiltration in the clinker outcrop areas along the eastern flank of the PRB. Secondary vertical recharge from the overburden also occurs. Prior to mining in the Eagle Butte Mine area, groundwater in the areally continuous coal seams flowed down dip to the northwest, with local variations caused by hydrologically significant lithologic features such as a "no coal zone" and a paleo-erosional cut-out within the overlying Wasatch Formation. The no coal zone, which is in the northern portion of the existing Eagle Butte Mine permit area (in Sections 16 and 21, T.51N., R.72W.), is an area where the coal was replaced with a dominantly claystone/shale material of very low permeability that acts as a groundwater dam. Groundwater in the coal seams flow around and over the feature, thus causing groundwater to discharge upward into the Little Rawhide Creek alluvial aquifer system. The Wasatch cut-out feature is basically where a sand paleo-channel was deposited directly over the coal, permitting direct hydraulic communication between the coal and overburden aquifers with the Little Rawhide Creek alluvial deposits. These local variations play a significant part in the groundwater and surface water regimes for Little Rawhide Creek in the Eagle Butte Mine area. Except for the limited areas where the coal zone's premining potentiometric surface indicated recharge upward to Little Rawhide Creek, the movement of groundwater in the Fort Union Formation coal zone and the Wasatch Formation overburden was primarily down dip (FCW 2005a).

Site-specific water-level data collected from monitoring wells by Eagle Butte Mine and other Gillette area coal mining companies and presented in the 20-year report (Hydro-Engineering 2001) indicate that the GAGMO groundwater flow directions in the mineable coal zone (Roland-Smith/Wyodak-Anderson) have been greatly influenced by surface mine dewatering and groundwater discharge associated with CBNG development. Groundwater level declines observed near active mining areas prior to 1994 were likely due to mine dewatering alone and the direction of groundwater flow as toward the By year 2000, groundwater level decline rates had mine excavations. dramatically increased because drawdown caused by widespread CBNG development west of the mines was overlapping with drawdowns caused by The extent of drawdown west of the mines that is mining operations. attributable to mine dewatering can no longer be defined due to much greater CBNG development (Hydro-Engineering 2001). The coal seam water level contours presented in the GAGMO 2005 Annual Report (Hydro-Engineering 2006) depict the groundwater flow direction in the Eagle Butte Mine area to be entirely west-northwest, away from the open pits. Roughly 30 years of surface mining and CBNG development has resulted in complete dewatering of the coal seams in localized areas, particularly near the mines' open pits and where the coal seams are structurally highest.

Coal groundwater commonly exceeds many suitability criteria for domestic uses and has a high salinity and sodium hazard, which makes it unsuitable for agricultural uses. Therefore, coal groundwater is typically only suitable for livestock and wildlife watering purposes. Groundwater samples collected from monitoring wells within and around the existing Eagle Butte Mine permit area (refer to Figure 3-10 in the Eagle Butte West EIS document) indicate that the coal seam water quality generally exhibits lower TDS concentrations than alluvial or overburden groundwater. The composition of groundwater in the coal is fairly uniform and there are no seasonal or long-term trends. The predominant cation is sodium, while the predominant anion is bicarbonate. Those wells located closer to the coal-scoria contact have much higher sulfate concentrations. In the general analysis area, TDS concentrations range 874 mg/L to 3,316 mg/L, and average approximately 1,700 mg/L.

## Subcoal Fort Union Formation

The Fort Union Formation is divided into three members: The Tongue River Member, the Lebo Member, and the Tullock Member. The mineable coal seams occur within the Tongue River Member. The subcoal Fort Union Formation consists primarily of lithified sands and shales, and is divided into three hydrogeologic units: the upper Tongue River aquifer, the Lebo confining layer, and the Tullock aquifer (Law 1976). Of the three units, the Tullock is the most prolific in terms of groundwater yield.

Mining does not directly disturb the hydrogeologic units below the mineable coal zone, but many PRB mines use them for industrial water supply wells. In

a few cases there have been drawdowns in the subcoal aquifer due to leakage into mine pits, dewatering, and CBNG development (BLM 2001a).

Transmissivities are generally higher in the deeper Tullock aquifer than in the upper Tongue River aquifer, and many mines in the PRB have water-supply wells completed in this interval (Martin et al. 1988). The average transmissivity for the Tullock, as reported by OSM (1984), is 290 ft<sup>2</sup>/day.

Data from drilling water supply wells at the Eagle Butte Mine indicate that the character of the subcoal Fort Union Formation is rather impermeable above a depth of about 670 ft below ground level. The Eagle Butte Mine uses two wells completed in the Tullock aquifer (NSERV1 and NSERV2) at depths of 900 to 1,000 ft for its water supply (refer to Figure 3-10 in the Eagle Butte West EIS document). The Tullock aquifer is an important source of water for the nearby city of Gillette, residential subdivisions, and other surface coal mines.

The water quality of the subcoal Fort Union Formation is generally good. TDS concentrations measured in various subcoal Fort Union Formation water supply wells in the eastern PRB range from 230 mg/L to 520 mg/L. This water is generally suitable for domestic use and may be suitable for irrigation, depending upon TDS concentrations and site-specific SAR values. Well NSERV1 is sampled periodically and the water quality meets WDEQ/AQD Class I standards (WDEQ 2005), having TDS concentrations of approximately 280 mg/L, a pH of 8.0, and it is a sodium bicarbonate type (FCW 2004b and 2005b).

#### Surface Water

The existing Eagle Butte Mine permit area and the adjacent Eagle Butte West LBA Tract are located within the Little Rawhide Creek and Dry Fork Little Powder River watersheds. The majority of the mine's permit area lies within the Little Rawhide Creek drainage basin and only the extreme eastern portion of the permit area is drained by the Dry Fork Little Powder River. Little Rawhide Creek and its tributary, Prong Draw, drain the entire Eagle Butte West general analysis area. Little Rawhide Creek flows from south to north and empties into Rawhide Creek about three miles north of the LBA tract. Rawhide Creek is tributary to the Little Powder River, which joins the Powder River near Broadus, Montana. Surface water features in the Eagle Butte West LBA Tract and the surrounding areas prior to all mining disturbance are displayed in Figure 4.

The main channel of Little Rawhide Creek is within the eastern portion of the Eagle Butte West LBA Tract, which is inside the current Eagle Butte Mine permit area. Little Rawhide Creek is currently diverted from its natural channel by Diversion No. 6 to facilitate mining within the current Eagle Butte Mine permit area. Little Rawhide Creek Diversion No. 6 was constructed in 1981. The diversion channel begins inside the LBA tract area immediately

## Supplementary Information on the Affected Environment

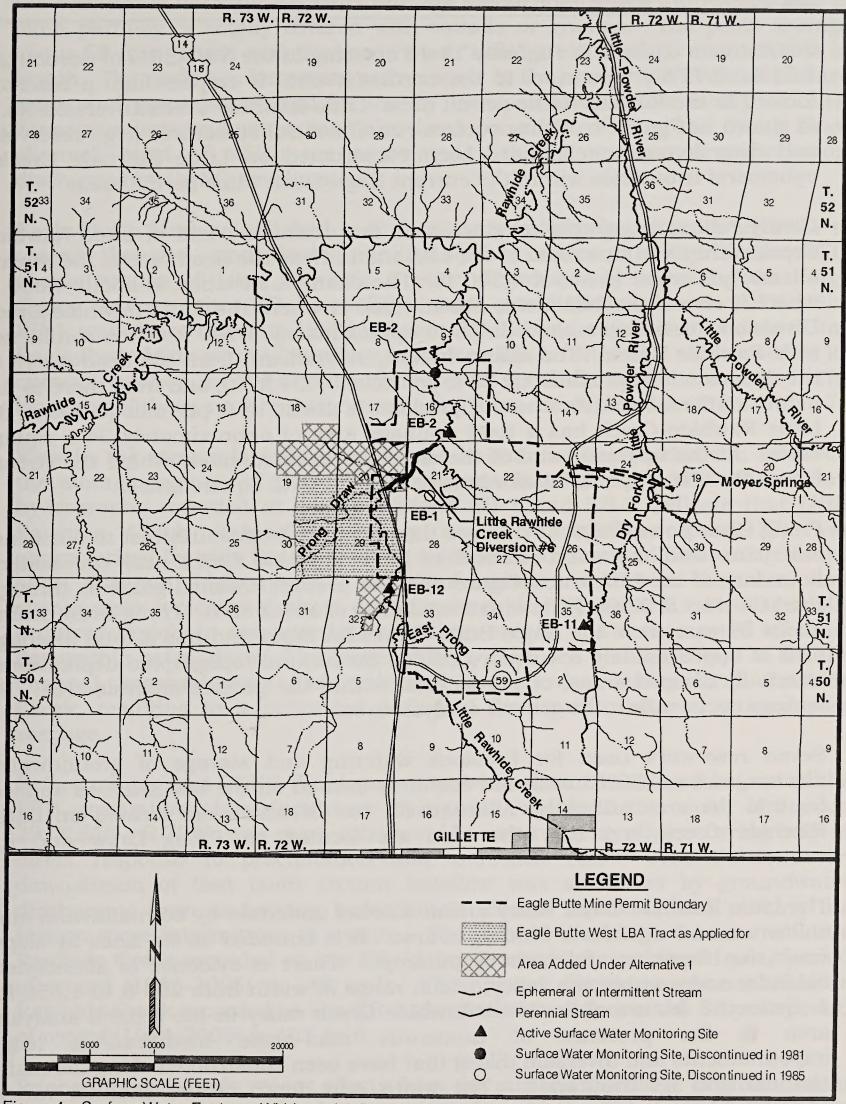


Figure 4. Surface Water Features Within and Adjacent to the Eagle Butte West LBA Tract as Applied for and the Area Added Under Alternative 1.

## Supplementary Information on the Affected Environment

downstream of the U.S. Highway 14-16 crossing in the NW¼SE¼ of Section 20, T.51N., R.72W., then runs to the northeast until it empties into a reservoir located in the Rawhide Mine permit area. Little Rawhide Creek Diversion No. 6 is shown in Figure 4. Other surface runoff control structures (e.g., reservoirs and diversion channels) have been constructed on Little Rawhide Creek's ephemeral tributaries within the current Eagle Butte Mine permit area.

Gently rolling topography characterizes the drainage basin of Little Rawhide Creek within and upstream of the LBA tract. Near the headwaters, the stream channel elevation is about 4,500 ft. The channel elevation is about 4,300 ft where it enters the LBA tract, about 4,260 ft where the Little Rawhide Creek Diversion No. 6 begins, and drops to approximately 4,100 ft at the confluence with Rawhide Creek. The channel slope, or gradient, from the headwaters to the diversion is approximately 23 ft per mile (0.004 ft/ft), and from there to the mouth of the stream the channel gradient is about 15 ft per mile (0.003 ft/ft). Little Rawhide Creek has a total drainage area of approximately 34.1 square miles. At the upstream end of the diversion, approximately where the stream leaves the LBA tract, the drainage area is about 21.2 square miles.

Prong Draw flows diagonally across the LBA tract from southwest to northeast and joins with the main channel of Little Rawhide Creek near the eastern boundary of the LBA tract (Figure 4). The average channel gradient through the LBA tract is 0.006 ft/ft, with a total drop of about 85 ft. Prong Draw drains about 59 percent of the Eagle Butte West LBA Tract and has a total drainage area of approximately 3.4 square miles. No natural topographic depressions, internally drained areas, or playas exist within the general analysis area. No springs occur within the general analysis area.

Seven reservoirs used for livestock watering and storage of groundwater discharged from CBNG wells are currently located on the LBA tract as applied for and the area added by Alternative1, two of which are located on Little Rawhide Creek and the other five are located on Prong Draw and its tributaries.

The Little Rawhide Creek valley includes areas underlain by both alluvium and colluvium and exhibits a winding course. It is bounded on its sides by slope wash, fan deposits, and bedrock outcrops. There is evidence of abandoned meander scars within the valley, which range in width from 250 ft to 1,350 ft. A distinctive feature of the Little Rawhide Creek valley in the general analysis presence of numerous man-made area is the modifications (e.g., impoundments and diversion dikes) that have been constructed along the main channel and its tributaries. The width and depth of the channel varies considerably, primarily due to the effects of these channel modifications. The stream alternately forms pools and constrictions along its length. Upstream from the impoundments and diversions the channel is as much as 20 ft wide and filled with soft silts and clays high in organic matter that obscure the natural channel geometry. In areas well upstream of the channel modifications

the channel is normally about two to six ft wide and about 1.5 ft deep and is often partially or totally covered with cattails or grasses. The pools average about 50 ft in length and the constricted "riffle" areas average about 200 ft in length. The pools are important with respect to the interaction between surface water and groundwater and for use by livestock and wildlife in dry months. Numerous impoundments have also been constructed along the Prong Draw channel, most of which are associated with the storage of groundwater discharged by CBNG development.

Eagle Butte Mine established a surface water monitoring network in 1974 to assess the pre- and during-mining surface water quantity and quality characteristics of Little Rawhide Creek. Continuously recording discharge gaging stations, sites EB-1 and EB-2, were established in March 1974. Site EB-1 was deactivated in 1985 and site EB-12 was established south of the Eagle Butte Mine permit boundary to replace EB-1. Site EB-2 was moved to its current location in 1990 to accommodate Rawhide Mine advances. The locations of these surface water monitoring sites are depicted on Figure 4.

Flow in the stream is influenced by the in-channel impoundments; however, the storage capacity of those impoundments is relatively small. Streamflow hydrographs recorded at gaging stations EB-1 and EB-2 indicate that Little Rawhide Creek streamflow during baseline conditions (pre-1977) was characterized by wide fluctuations on a seasonal and annual basis. Due to the short duration, high intensity nature of summer storms in this area, flow events were typically of short duration and sharply peaked. Flow typically occurred rapidly in response to large storm events, and then tapered off to no flow within a few days. The larger storms produced enough runoff to fill the channel impoundments and recharged the alluvium along Little Rawhide Creek, resulting in a prolonged period of flow due to alluvial groundwater seepage.

Before mining and CBNG development activities commenced in this part of the PRB, streamflow above (upstream of) a point roughly in the center of Section 29, T.51N., R.72W. was more ephemeral in nature, generally occurring only in direct response to precipitation and snowmelt runoff events. However, downstream of that point stream baseflow was sustained by groundwater discharging from underlying bedrock and alluvial aquifers, thus making the stream more intermittent in nature. The annual discharge volumes of Little Rawhide Creek recorded at site EB-12 (upstream site) over the 21-year period of record (1985-2005) is 148 ac-ft. The annual discharge volumes of Little Rawhide Creek recorded at site EB-2 (downstream site) over the 32-year period of record (1974-2005) is 403 ac-ft.

Prior to the relatively recent effects from the surface discharge of groundwater associated with CBNG development and drought conditions in northeastern Wyoming (Curtis 2004), streamflow in Little Rawhide Creek was of short duration and exhibited temporal patterns similar to precipitation events.

# Supplementary Information on the Affected Environment

Under current conditions, discharges from CBNG development in the Little Rawhide Creek drainage basin has altered the frequency and duration of streamflow events in the main stream and most of its tributaries. Annual streamflow at site EB-2 from 2001 through 2005 is 28.6 ac-ft; only 9.6 percent of the 32-year mean. Annual precipitation amounts have been considerably below normal since the spring of 2000 (Curtis 2004), which has resulted in below normal streamflows. In 2004, Eagle Butte Mine's meteorological monitoring station recorded only 8.1 inches of precipitation, which was 47 percent of the annual average. Concurrently, streamflow recorded at site EB-12 has been considerably higher than at site EB-2 six of the last seven years, which is the reverse of baseline/natural conditions. The mean annual discharge at site EB-12 from 2001 through 2005 is 101 ac-ft; 68 percent of the 21-year mean. This anomalous streamflow condition is attributable to the augmentation from CBNG groundwater discharge outfalls that are located relatively near site EB-12. In addition, streamflow between these two gaging stations is being lost by discharge to the alluvium and underlying overburden aquifers. Shallow impoundments along the stream channel that are located immediately upstream and downstream of site EB-12 presently hold water year-round, although water does not flow continuously within the channel downstream. From October 2000 through August 2005, flow occurred at site EB-12 on approximately 67 percent of the days that the site was operational, compared to approximately 32 percent of the days that site EB-2 was operational.

Eagle Butte Mine has not monitored the streamflow of Prong Draw; however, surface runoff flood estimates for the drainage were computed and are included in the mine permit (FCW 2005a).

Little Rawhide Creek is listed in the WDEQ/WQD Surface Water Classification List as a Class 3B stream that is not protected for drinking water or as a fishery, but is protected for other aquatic life, recreation, wildlife, agriculture, industry, and scenic value. All other ephemeral streams draining the existing Eagle Butte Mine permit area and LBA general analysis area are categorized as Class 4 streams (where it has been determined that aquatic life uses are not attainable)(WDEQ/WQD 2005).

Eagle Butte Mine has monitored the water quality of Little Rawhide Creek in the vicinity of the mine since 1972. Eagle Butte Mine, in compliance with WDEQ/LQD permit requirements, currently collects water quality samples from Little Rawhide Creek at sites EB-2 and EB-12 (Figure 4) on a quarterly frequency and includes the analyses in the mine's annual reports. Based on these historical water quality analyses, water from Little Rawhide Creek varies temporally, but is generally not suitable for domestic or agricultural uses. An improvement in quality is generally noted in the spring, which can be attributed to the flushing and dilution effect from snowmelt and rainfall runoff. Water from Little Rawhide Creek is usually unsuitable for domestic or irrigation uses due to excessive concentrations of TDS and sulfate, but suitable for livestock and wildlife use. The TSS concentration is typically less than 30 mg/L, which is relatively low for an ephemeral/intermittent stream, but may be due to low-flow conditions at the time of sampling and the numerous impoundments along the stream channel upstream of the monitoring stations that act to trap suspended solids. High TSS concentrations can be expected from floods caused by large thunderstorms.

Prior to 1982, water quality samples collected downstream of the Eagle Butte West LBA Tract at Sites EB-1 and EB-2 had TDS concentrations that averaged around 6,000 mg/L and the predominant ions were calcium, magnesium, and sulfate. The average TDS concentration of all water samples collected in recent years (between 1999 and 2005) decreased to approximately 3,300 mg/L and the sodium and bicarbonate ion concentrations, in general, increased relative to the calcium, magnesium, and sulfate ion concentrations. This shift in water quality may be attributed to the fact that water sampled at site EB-2 is a blend of natural surface flow, treated mine discharge water, and CBNG discharge water.

Water quality samples were collected monthly at station EB-12 in 1985 when that monitoring station was first established. During that year, the water was consistently a magnesium-sulfate type and the TDS concentration ranged from 4,650 to 8,330 mg/L. The TDS concentration of all water samples collected at this location in recent years (between 1999 and 2005) has ranged from 1,505 to 12,724 mg/L and averaged 2,930 mg/L. Not only does the TDS concentration vary seasonally and with flow, the chemical composition of the water has been relatively inconsistent over this period of time. For example, the predominant anions are sulfate or bicarbonate, the former being the predominant anion of most samples; however, the concentration of bicarbonate relative to sulfate has generally increased over time. The predominant cations were typically magnesium or sodium, with the ionic concentration of sodium increasing over time. The surface discharge of coal seam groundwater, which is rich in sodium and bicarbonate, from CBNG development in the area is apparently affecting the stream's natural water quality.

Because of the lack of regular natural streamflow in Prong Draw, water quality data are not available. Surface water samples were collected from a similar tributary, East Prong Little Rawhide Creek, as part of Eagle Butte Mine's Southwest Extension permit amendment application, and it is likely that the surface water quality in Prong Draw would be similar to that in this tributary of Little Rawhide Creek. The natural surface flow in East Prong is magnesium-sulfate type water, with TDS concentrations ranging from under 100 mg/L to approximately 600 mg/L. The lower TDS value reflects water quality during major runoff events, which would be of suitable chemical quality for irrigation.

#### Water Rights

Currently, mining companies and CBNG development companies hold the majority of the water rights in the general analysis area. Wyoming SEO data indicate that, as of October 2004, there are 1,312 permitted water wells within three miles of the tract, of which, 300 are owned by coal mining companies. The other 1,012 non-coal mine related, permitted water wells, which include 788 wells permitted for uses related to CBNG development, are permitted for the following uses:

- 393 stock and CBNG
- 296 CBNG only
- 69 monitoring
- 63 miscellaneous, stock, and CBNG
- 52 miscellaneous
- 41 stock only
- 39 domestic only
- 24 miscellaneous and CBNG
- 14 domestic and stock
- 5 stock, CBNG, and reservoir supply
- 3 industrial
- 2 CBNG and reservoir supply
- 2 industrial and miscellaneous
- 2 stock, miscellaneous, dewatering, and CBNG
- 1 irrigation and domestic
- 1 miscellaneous and dewatering
- 1 miscellaneous, dewatering, stock, wildlife, and CBNG
- 1 miscellaneous and domestic
- 1 stock, CBNG, and monitoring
- 1 stock and miscellaneous
- 1 stock, miscellaneous, monitoring, and CBNG

Of the non-coal mine related wells within the search area, approximately 78 percent have permits related to CBNG development; 58 percent have permits related to livestock use; 15 percent have permits related to miscellaneous use; seven percent have permits related to monitoring; and five percent have permits related to domestic uses. As the above numbers indicate, most of these 1,012 wells are permitted for multiple uses.

For the Eagle Butte West LBA Tract, SEO records indicate that as of October 2004, there are 16 non-coal mine related, permitted surface water rights within the search area. These surface water rights are permitted for the following uses:

- 8 miscellaneous
- 7 stock
- 1 miscellaneous and industrial

A listing of the non-coal mine related groundwater and surface water rights as of October 2004 is presented in Table 4.

#### ALLUVIAL VALLEY FLOORS

The reach of Little Rawhide Creek within and adjacent to the existing Eagle Butte Mine permit area has been investigated for the presence of AVFs. These AVF studies were conducted as part of the WDEQ/LQD mine permitting process for the purpose of recovering coal in the mine's exiting leases (FCW 2005a). As a result of these studies, Little Rawhide Creek and a small portion of Prong Draw at its confluence with Little Rawhide Creek were declared an AVF non-significant to farming by the WDEQ/LQD (Figure 5).

Little Rawhide Creek and its alluvial valley lie within the eastern portion of the Eagle Butte West LBA Tract, which is inside Eagle Butte Mine's existing permit area. Therefore, the entire reach of Little Rawhide Creek within the LBA tract as applied for and the area added by Alternative 1 has been declared an AVF non-significant to farming by the WDEQ/LQD. Approximately 83 acres of declared AVF lie within the Eagle Butte West LBA Tract as applied for, and an additional 45 acres of declared AVF lie within the area added AVF lie within the area added area added at the area added area added and the area added herea.

Eagle Butte Mine conducted AVF investigations on the undeclared portion of Prong Draw within and adjacent to the LBA tract in the summer of 2004. These studies, which would be part of the mine permitting process if the Eagle Butte West LBA Tract is leased, included the identification and mapping of stream laid deposits, assessing the extent of subirrigation, evaluating alluvial groundwater availability and quality, evaluating natural and artificial flood irrigation, and identification of the stream's essential hydrologic functions. These studies concluded that the AVF characteristics of Prong Draw are negligible and it does not meet the regulatory definition of an AVF by virtue of the fact that stream laid deposits are very limited in areal extent and support little or no natural subirrigation or flood irrigation activities, and the quality of groundwater that occurs in the alluvial deposits is unsuitable for agricultural use. Surface water quantity is insufficient to support agricultural activities, further supporting the contention that the portion of Prong Draw within the LBA tract is not an AVF. Formal declarations of the presence or absence of an AVF, its significance to agriculture, and the appropriate perimeter (areal extent) will be made by the WDEQ/LQD as part of the mine permitting process if the LBA tract is leased and proposed for mining.

#### WETLANDS

A preliminary wetlands inventory, based on USFWS NWI mapping and vegetation mapping in the field, was conducted in 2004. The wetland analysis area includes the Eagle Butte West LBA Tract as applied for, the area added by Alternative 1, and a ¼-mile disturbance buffer sufficient to mine and reclaim

Permit	Priority				Applicant	Facility Name	Status	Uses	Yld	T.D.
P22623P					FLORA M. RAITT	RAITT #3	PUW	STO	5	220
P81649W	1/16/1990	46 7	0 5	SWNW	UNION OIL COMPANY OF CALIFORNIA	AM KIRK FEDERAL D 3 TANK BATTERY	UNA	IND	1.2	1027
P81647W					UNION OIL COMPANY OF CALIFORNIA	BIG HAND FEDERAL 32 1 TANK BATTERY	UNA	IND	7.5	10300
P81649W	1/16/1990	46 7	0 6	NESE	UNION OIL COMPANY OF CALIFORNIA	AM KIRK FEDERAL D 3 TANK BATTERY	UNA	IND	1.2	10275
P81650W	1/16/1990	46 7	0 6	SESE	UNION OIL COMPANY OF CALIFORNIA	AM KIRK UNIT TANK BATTERYAND INJECTION STATION	UNA	IND	0.2	-6
P81650W					UNION OIL COMPANY OF CALIFORNIA	AM KIRK UNIT TANK BATTERYAND INJECTION STATION	UNA	IND	0.2	-6
P84505W	2/14/1991				UNION OIL COMPANY OF CALIFORNIA	DAWN FEDERAL #1-41	UNA	IND	8	10550
P93068W					QUICKSILVER RESOURCES	BIG HAND 1-N19	GST	IND	60	8707
P93068W	10/11/1993	46 7	0 6	NWSE	QUICKSILVER RESOURCES	BIG HAND 1-N19	GST	IND	60	8707
P94245W	1/1/1993	46 7	0 6	NESE	WYO BOARD OF LAND COMMISSIONERS** UNION OIL COMPANY OF CALIFORNIA		UNA	IND	15	
P94245W	1/1/1993		-		WYO BOARD OF LAND COMMISSIONERS** UNION OIL COMPANY OF CALIFORNIA	36-15 (STATE)	UNA	IND	15	
CU6/096A	11/2/1977				ATLANTIC RICHFIELD COMPANY	STATE 16 46 70	PU	MIS,STO		
CU6/096A	11/2/1977			1	ATLANTIC RICHFIELD COMPANY	STATE 16 46 70	PU	MIS,STO	1	
CU6/096A	11/2/1977				ATLANTIC RICHFIELD COMPANY	STATE 16 46 70	PU	MIS,STO		
CU6/096A	11/2/1977	46 70	) 7			STATE 16 46 70	PU	MIS,STO	-	
P42470W	11/2/1977	46 70	7	SESW		STATE 10 40 70	ADJ	STO,MIS	170	887
P42470W	11/2/1977	46 70	7	NESE	GAME & FISH COMM., STATE OF WYOMING**ATLANTIC RICHFIELD COMPANY	STATE 16 46 70	ADJ	STO,MIS	170	887
P42470W	11/2/1977	46 70	7	SWSE	GAME & FISH COMM., STATE OF WYOMING**ATLANTIC RICHFIELD COMPANY	STATE 16 46 70	ADJ	STO,MIS	170	887
P42470W	11/2/1977				GAME & FISH COMM., STATE OF WYOMING**ATLANTIC RICHFIELD COMPANY	STATE 16 46 70	ADJ	STO,MIS	170	887
P46399W	1/18/1979				ATLANTIC RICHFIELD COMPANY	CC FU 17 1	ADJ	MIS	275	2654
P46399W	1/18/1979			NESE	ATLANTIC RICHFIELD COMPANY	CC FU 17 1	ADJ	MIS		2654
P46399W	1/18/1979			SWSE	ATLANTIC RICHFIELD COMPANY	CC FU 17 1	ADJ	MIS		2654
P46399W	1/18/1979		_	SESE	ATLANTIC RICHFIELD COMPANY	CC FU 17 1	ADJ	MIS	275	2654
P46400W	1/18/1979		-	SESW	ATLANTIC RICHFIELD COMPANY	CCR 17A	PU	MIS	60	1001
P46400W	1/18/1979		-	NESE	ATLANTIC RICHFIELD COMPANY	CCR 17A	PU	MIS	60	
P46400W	1/18/1979	46 70	) 7	SWSE	ATLANTIC RICHFIELD COMPANY	CCR 17A	PU	MIS	60	
P46400W	1/18/1979	46 70	) 7	SESE	ATLANTIC RICHFIELD COMPANY	CCR 17A	PU	MIS	60	
CU6/096A	11/2/1977		-		ATLANTIC RICHFIELD COMPANY	STATE 16 46 70	PU	MIS,STO	00	
CU6/096A		46 70	8	NWSW	ATLANTIC RICHFIELD COMPANY	STATE 16 46 70	PU	MIS,STO		
CU6/096A	11/2/1977	46 70	8	SWSW		STATE 16 46 70	PU	MIS,STO		
CU6/096A	11/2/1977	46 70	8			STATE 16 46 70	PU	MIS,STO MIS,STO		
CU6/096A	11/2/1977	46 70	8			STATE 16 46 70	PU	MIS,STO MIS,STO		

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Table 4.			Rights for the Eagle Butte West LBA Tract (Co					
CU6/096A			E ATLANTIC RICHFIELD COMPANY	STATE 16 46 70	PU	MIS,STO		
CU6/096A			E ATLANTIC RICHFIELD COMPANY	STATE 16 46 70	PU	MIS,STO		ļ
CU6/096A	11/2/1977 46 70	8 SES	E ATLANTIC RICHFIELD COMPANY	STATE 16 46 70	PU	MIS,STO		
P42470W	11/2/1977 46 70	8 NES			ADJ	STO,MIS	170	887
P42470W	11/2/1977 46 70	8 NWS		and the last of the second	ADJ	STO,MIS	170	887
P42470W	11/2/1977 46 70	8 SWS			ADJ	STO,MIS	170	88
P42470W	11/2/1977 46 70		KICHFIELD COMPANY		ADJ	STO,MIS	170	88'
P42470W	11/2/1977 46 70	8 NES	E GAME & FISH COMM., STATE OF WYOMING**ATLANTIC RICHFIELD COMPANY		ADJ	STO,MIS	170	88
P42470W	11/2/1977 46 70	8 NWS	E GAME & FISH COMM., STATE OF WYOMING**ATLANTIC RICHFIELD COMPANY		ADJ	STO,MIS	170	88
P42470W	11/2/1977 46 70	8 SWS	E GAME & FISH COMM., STATE OF WYOMING**ATLANTIC	STATE 16 46 70	ADJ	STO,MIS	170	88
P42470W	11/2/1977 46 70	8 SES	E GAME & FISH COMM., STATE OF WYOMING**ATLANTIC RICHFIELD COMPANY	STATE 16 46 70	ADJ	STO,MIS	170	88
P46399W	1/18/1979 46 70	8 NES	W ATLANTIC RICHFIELD COMPANY	CC FU 17 1	ADJ	MIS	275	26
P46399W	1/18/1979 46 70	8 NWS	W ATLANTIC RICHFIELD COMPANY	CC FU 17 1	ADJ	MIS	275	26
P46399W	1/18/1979 46 70	8 SWS	W ATLANTIC RICHFIELD COMPANY	CC FU 17 1	ADJ	MIS	275	26
P46399W	1/18/1979 46 70	8 SES	W ATLANTIC RICHFIELD COMPANY	CC FU 17 1	ADJ	MIS	275	26
P46399W	1/18/1979 46 70	8 NES	E ATLANTIC RICHFIELD COMPANY	CC FU 17 1	ADJ	MIS	275	26
P46399W	1/18/1979 46 70	8 NWS	E ATLANTIC RICHFIELD COMPANY	CC FU 17 1	ADJ	MIS	275	26
P46399W	1/18/1979 46 70	8 SWS	E ATLANTIC RICHFIELD COMPANY	CC FU 17 1	ADJ	MIS	275	2
P46399W	1/18/1979 46 70	8 SES	E ATLANTIC RICHFIELD COMPANY	CC FU 17 1	ADJ	MIS	275	2
P46400W	1/18/1979 46 70	8 NES	W ATLANTIC RICHFIELD COMPANY	CCR 17A	PU	MIS	60	
P46400W	1/18/1979 46 70	8 NWS	W ATLANTIC RICHFIELD COMPANY	CCR 17A	PU	MIS	60	
P46400W	1/18/1979 46 70	8 SWS	W ATLANTIC RICHFIELD COMPANY	CCR 17A	PU	MIS	60	
P46400W			W ATLANTIC RICHFIELD COMPANY	CCR 17A	PU	MIS	60	
P46400W			E ATLANTIC RICHFIELD COMPANY	CCR 17A	PU	MIS	60	
P46400W			E ATLANTIC RICHFIELD COMPANY	CCR 17A	PU	MIS	60	
P46400W	· · · · · · · · · · · · · · · · · · ·		E ATLANTIC RICHFIELD COMPANY	CCR 17A	PU	MIS	60	
P46400W			E ATLANTIC RICHFIELD COMPANY	CCR 17A	PU	MIS	60	
P19832P	12/31/1946 46 70			PARDNER #1	UNA	STO	3	1
P42470W	11/2/1977 46 70		E GAME & FISH COMM., STATE OF WYOMING**ATLANTIC RICHFIELD COMPANY	STATE 16 46 70	ADJ	STO,MIS	170	8
P42470W	11/2/1977 46 70	17 NW	NE GAME & FISH COMM., STATE OF WYOMING**ATLANTIC		ADJ	STO,MIS	170	8
P42470W	11/2/1977 46 70	17 SW	CAME & FISH COMM STATE OF WYOMING**ATIANTI	C STATE 16 46 70	ADJ	STO,MIS	170	8

Fable 4.	1				ghts for the Eagle Butte West LBA Tract (C GAME & FISH COMM., STATE OF WYOMING**ATLANTIC RICHFIELD COMPANY					
P42470W	11/2/1977	46 70	17	SENE	RICHFIELD COMPANY	STATE 16 46 70	ADJ	STO,MIS	170	887
P42470W	11/2/1977	46 70	17	NENW	GAME & FISH COMM., STATE OF WYOMING**ATLANTIC RICHFIELD COMPANY	STATE 16 46 70	ADJ	STO,MIS	170	887
P42470W	11/2/1977	46 70	17	NWNW	GAME & FISH COMM., STATE OF WYOMING**ATLANTIC RICHFIELD COMPANY	STATE 16 46 70	ADJ	STO,MIS	170	887
P42470W	11/2/1977	46 70	17	SWNW	GAME & FISH COMM., STATE OF WYOMING**ATLANTIC RICHFIELD COMPANY	STATE 16 46 70	ADJ	STO,MIS	170	887
P42470W	11/2/1977	46 70	17	SENW	GAME & FISH COMM., STATE OF WYOMING**ATLANTIC RICHFIELD COMPANY	STATE 16 46 70	ADJ	STO,MIS	170	887
P42470W	11/2/1977				GAME & FISH COMM., STATE OF WYOMING**ATLANTIC RICHFIELD COMPANY		ADJ	STO,MIS	170	887
P42470W	11/2/1977	46 70	17	NWSW	GAME & FISH COMM., STATE OF WYOMING**ATLANTIC RICHFIELD COMPANY	STATE 16 46 70	ADJ	STO,MIS	170	887
P42470W	11/2/1977	46 70	17	swsw	GAME & FISH COMM., STATE OF WYOMING**ATLANTIC RICHFIELD COMPANY	STATE 16 46 70	ADJ	STO,MIS	170	887
P42470W	11/2/1977	46 70	17	SESW	GAME & FISH COMM., STATE OF WYOMING**ATLANTIC RICHFIELD COMPANY	STATE 16 46 70	ADJ	STO,MIS	170	887
P42470W	11/2/1977	16 70	17	NESE	GAME & FISH COMM., STATE OF WYOMING**ATLANTIC RICHFIELD COMPANY	STATE 16 46 70	ADJ	STO,MIS	170	88
P42470W	11/2/1977	-			GAME & FISH COMM., STATE OF WYOMING**ATLANTIC RICHFIELD COMPANY		ADJ	STO,MIS	170	88'
P42470W	11/2/1977 4	16 70	17	SWSE	GAME & FISH COMM., STATE OF WYOMING**ATLANTIC RICHFIELD COMPANY	STATE 16 46 70	ADJ	STO,MIS	170	88
P42470W	11/2/1977 4	6 70	17	SESE	GAME & FISH COMM., STATE OF WYOMING**ATLANTIC RICHFIELD COMPANY	STATE 16 46 70	ADJ	STO,MIS	170	887
P46399W	1/18/1979 4	6 70	17	SWNE	ATLANTIC RICHFIELD COMPANY	CC FU 17 1	ADJ	MIS	275	265
P46400W					ATLANTIC RICHFIELD COMPANY	CCR 17A	PU	MIS	60	200
P46400W					ATLANTIC RICHFIELD COMPANY	CCR 17A	PU	MIS	60	
P46400W					ATLANTIC RICHFIELD COMPANY	CCR 17A	PU	MIS	60	
P46400W	1/18/1979 4	6 70	17	SENE	ATLANTIC RICHFIELD COMPANY	CCR 17A	PU	MIS	60	
P46400W	1/18/1979 4	6 70	17	NENW	ATLANTIC RICHFIELD COMPANY	CCR 17A	PU	MIS		
P46400W	1/18/1979 4	6 70	17	NWNW		CCR 17A	PU	MIS	60	
P46400W	1/18/1979 4	6 70	17	SWNW		CCR 17A	PU		60	
P46400W	1/18/1979 4	6 70	17	SENW		CCR 17A	PU	MIS	60	
P46400W	1/18/1979 4	6 70	17	NESW		CCR 17A		MIS	60	
P46400W					ATLANTIC RICHFIELD COMPANY	CCR 17A	PU	MIS	60	
P46400W							PU	MIS	60	
P46400W						CCR 17A	PU	MIS	60	
P46400W						CCR 17A	PU	MIS	60	
P46400W	1/18/1979 4	6 70	17	NWSE		CCR 17A	PU	MIS	60	
P46400W						CCR 17A	PU	MIS	60	
P46400W						CCR 17A	PU	MIS	60	-
P52438W						CCR 17A	PU	MIS	60	
		51.01	*'			ENL USA-W0310356 #1-0-14	PU	MIS	100	85

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P27409W	Grou	46 70	va 110	NENE	ghts for the Eagle Butte West LBA Tract (C					
P27409W	7/15/1974	46 70	18	NENE	ATLANTIC RICHFIELD COMPANY	CC-W-10	PUW	MIS	0	
P27411W	7/15/1974	46 70	10	NWSE	ATLANTIC RICHFIELD COMPANY	CC-W-9	PUW	MIS	0	
P29917W	5/5/1075	46 70	10	SESE NULLER	ATLANTIC RICHFIELD COMPANY	CC-W-8	PUW	MIS	0	1
				NWSE	ATLANTIC RICHFIELD COMPANY	CCFU #1	PUW	MIS	0	38
P42470W	11/2/1977			NENE		STATE 16 46 70	ADJ	STO,MIS	170	88
P42470W	11/2/1977		1	NWNE	IRICHFIELD COMPANY	STATE 16 46 70	ADJ	STO,MIS	170	88
P42470W	11/2/1977	46 70	18	SWNE	GAME & FISH COMM., STATE OF WYOMING**ATLANTIC RICHFIELD COMPANY	STATE 16 46 70	ADJ	STO,MIS	170	88
P42470W	11/2/1977	46 70	18	SENE	GAME & FISH COMM., STATE OF WYOMING**ATLANTIC	STATE 16 46 70	ADJ	STO,MIS	170	
P42470W	11/2/1977	46 70	18	NENW	GAME & FISH COMM., STATE OF WYOMING**ATLANTIC RICHFIELD COMPANY	STATE 16 46 70	ADJ			
P42470W	11/2/1977	46 70	18	NWNW	GAME & FISH COMM., STATE OF WYOMING**ATLANTIC RICHFIELD COMPANY	STATE 16 46 70	_	STO,MIS	170	
P42470W	11/2/1977			SWNW	GAME & FISH COMM., STATE OF WYOMING**ATLANTIC		ADJ	STO,MIS	170	88'
P42470W	11/2/1977			SENW	GAME & FISH COMM., STATE OF WYOMING**ATLANTIC	STATE 16 46 70	ADJ	STO,MIS	170	88'
P42470W	11/2/1977			NEOW	RICHFIELD COMPANY GAME & FISH COMM., STATE OF WYOMING**ATLANTIC RICHFIELD COMPANY	STATE 16 46 70	ADJ	STO,MIS	170	88
				NESW	RICHFIELD COMPANY GAME & FISH COMM STATE OF WHOMING ATLANTIC	STATE 16 46 70	ADJ	STO,MIS	170	88
P42470W	11/2/1977			NWSW	GAME & FISH COMM., STATE OF WYOMING**ATLANTIC RICHFIELD COMPANY	STATE 16 46 70	ADJ	STO,MIS	170	88
P42470W	11/2/1977			SWSW	GAME & FISH COMM., STATE OF WYOMING**ATLANTIC RICHFIELD COMPANY	STATE 16 46 70	ADJ	STO,MIS	170	88
P42470W	11/2/1977	16 70	18	SESW	GAME & FISH COMM., STATE OF WYOMING**ATLANTIC RICHFIELD COMPANY	STATE 16 46 70	ADJ	STO,MIS	170	88
P42470W	11/2/1977	16 70	18	NESE	GAME & FISH COMM., STATE OF WYOMING**ATLANTIC RICHFIELD COMPANY	STATE 16 46 70	ADJ	STO,MIS	170	88
P42470W	11/2/1977			NWSE	GAME & FISH COMM., STATE OF WYOMING**ATLANTIC RICHFIELD COMPANY	STATE 16 46 70	ADJ	STO,MIS	170	
P42470W	11/2/1977	6 70	18	SWSE	GAME & FISH COMM., STATE OF WYOMING**ATLANTIC RICHFIELD COMPANY	STATE 16 46 70	ADJ	STO,MIS	170	887
P42470W	11/2/1977 4			SESE	GAME & FISH COMM., STATE OF WYOMING**ATLANTIC RICHFIELD COMPANY	STATE 16 46 70	ADJ	STO,MIS	170	887
P46399W	1/18/1979 4	6 70	18	NENE	ATLANTIC RICHFIELD COMPANY	CC FU 17 1			_	
P46399W	1/18/1979 4	6 70	18	NWNE	ATLANTIC RICHFIELD COMPANY	CC FU 17 1	ADJ	MIS	275	265
P46399W	1/18/1979 4	6 70	18	SWNE	ATLANTIC RICHFIELD COMPANY	CC FU 17 1	ADJ	MIS	275	265
P46399W	1/18/1979 4	6 70	18	SENE	ATLANTIC RICHFIELD COMPANY	CC FU 17 1	ADJ	MIS		265
P46399W	1/18/1979 4	6 70	18	NENW	ATLANTIC RICHFIELD COMPANY	CC FU 17 1	ADJ	MIS		265
P46399W	1/18/1979 4	6 70	18	NWNW	ATLANTIC RICHFIELD COMPANY	CC FU 17 1	ADJ	MIS		265
P46399W	1/18/1979 4	6 70	18	SWNW	ATLANTIC RICHFIELD COMPANY		ADJ	MIS	275	265
P46399W	1/18/1979 4	6 70	18	SENW	ATLANTIC RICHFIELD COMPANY	CC FU 17 1	ADJ	MIS	275	265
P46399W	1/10/1070	0 70	10	MEQUI	ATLANTIC RICHFIELD COMPANY	CC FU 17 1	ADJ	MIS	275	265

Table 4. * P46399W	Groundwater Rights for the Eagle Butte West LBA Tract (C					
* P46399W * P46399W	1/18/1979 46 70 18 NWSW ATLANTIC RICHFIELD COMPANY	CC FU 17 1	ADJ	MIS	275	2654
	1/18/1979 46 70 18 SWSW ATLANTIC RICHFIELD COMPANY	CC FU 17 1	ADJ	MIS	275	2654
* P46399W * P46399W	1/18/1979 46 70 18 SESW ATLANTIC RICHFIELD COMPANY	CC FU 17 1	ADJ	MIS	275	2654
	1/18/1979 46 70 18 NESE ATLANTIC RICHFIELD COMPANY	CC FU 17 1	ADJ	MIS	275	2654
* P46399W * P46399W	1/18/1979 46 70 18 NWSE ATLANTIC RICHFIELD COMPANY	CC FU 17 1	ADJ	MIS	275	2654
* P46399W	1/18/1979 46 70 18 SWSE ATLANTIC RICHFIELD COMPANY	CC FU 17 1	ADJ	MIS	275	2654
* P46400W	1/18/1979 46 70 18 SESE ATLANTIC RICHFIELD COMPANY	CC FU 17 1	ADJ	MIS	275	2654
* P46400W	1/18/1979 46 70 18 NENE ATLANTIC RICHFIELD COMPANY	CCR 17A	PU	MIS	60	
	1/18/1979 46 70 18 NWNE ATLANTIC RICHFIELD COMPANY	CCR 17A	PU	MIS	60	
* P46400W	1/18/1979 46 70 18 SWNE ATLANTIC RICHFIELD COMPANY	CCR 17A	PU	MIS	60	
* P46400W	1/18/1979 46 70 18 SENE ATLANTIC RICHFIELD COMPANY	CCR 17A	PU	MIS	60	
* P46400W	1/18/1979 46 70 18 NENW ATLANTIC RICHFIELD COMPANY	CCR 17A	PU	MIS	60	
* P46400W	1/18/1979 46 70 18 NWNW ATLANTIC RICHFIELD COMPANY	CCR 17A	PU	MIS	60	
* P46400W	1/18/1979 46 70 18 SWNW ATLANTIC RICHFIELD COMPANY	CCR 17A	PU	MIS	60	
* P46400W	1/18/1979 46 70 18 SENW ATLANTIC RICHFIELD COMPANY	CCR 17A	PU	MIS	60	
* P46400W	1/18/1979 46 70 18 NESW ATLANTIC RICHFIELD COMPANY	CCR 17A	PU	MIS	60	
* P46400W	1/18/1979 46 70 18 NWSW ATLANTIC RICHFIELD COMPANY	CCR 17A	PU	MIS	60	
* P46400W	1/18/1979 46 70 18 SWSW ATLANTIC RICHFIELD COMPANY	CCR 17A	PU	MIS	60	
* P46400W	1/18/1979 46 70 18 SESW ATLANTIC RICHFIELD COMPANY	CCR 17A	PU	MIS	60	
* P46400W	1/18/1979 46 70 18 NESE ATLANTIC RICHFIELD COMPANY	CCR 17A	PU	MIS	60	
* P46400W	1/18/1979 46 70 18 NWSE ATLANTIC RICHFIELD COMPANY	CCR 17A	PU	MIS	60	
* P46400W	1/18/1979 46 70 18 SWSE ATLANTIC RICHFIELD COMPANY	CCR 17A	PU	MIS	60	
* P46400W	1/18/1979 46 70 18 SESE ATLANTIC RICHFIELD COMPANY	CCR 17A	PU	MIS	60	
P27413W	7/15/1974 46 70 19 SWNE ATLANTIC RICHFIELD COMPANY	CC-W-6	PUW	MIS	0	
* P42470W	11/2/1977 46 70 19 NENE GAME & FISH COMM., STATE OF WYOMING**ATLANTIC	STATE 16 46 70	ADJ	STO,MIS	170	887
* P42470W	11/2/1977 46 70 19 NWNE GAME & FISH COMM., STATE OF WYOMING**ATLANTIC RICHFIELD COMPANY	STATE 16 46 70	ADJ	STO,MIS	170	887
* P42470W	RICHFIELD COMPANY	STATE 16 46 70	ADJ	STO,MIS	170	887
* P42470W	11/2/1977 46 70 19 SENE GAME & FISH COMM., STATE OF WYOMING**ATLANTIC RICHFIELD COMPANY	STATE 16 46 70	ADJ	STO,MIS	170	887
* P42470W	11/2/1977 46 70 19 NENW GAME & FISH COMM., STATE OF WYOMING**ATLANTIC RICHFIELD COMPANY	STATE 16 46 70	ADJ	STO,MIS	170	887
* P42470W	11/2/1977 46 70 19 NWNW GAME & FISH COMM., STATE OF WYOMING**ATLANTIC RICHFIELD COMPANY	STATE 16 46 70	ADJ	STO,MIS	170	887
P42470W	11/2/1977 46 70 19 SENW GAME & FISH COMM., STATE OF WYOMING**ATLANTIC RICHFIELD COMPANY	STATE 16 46 70	ADJ	STO,MIS	170	887
* P42470W	11/2/1977 46 70 19 NESW GAME & FISH COMM., STATE OF WYOMING**ATLANTIC RICHFIELD COMPANY	STATE 16 46 70	ADJ	STO,MIS	170	887
P42470W	11/2/1977 46 70 19 SESW GAME & FISH COMM., STATE OF WYOMING**ATLANTIC RICHFIELD COMPANY	STATE 16 46 70	ADJ	STO,MIS	170	887

Table 4.	Groundwater Rights for the Eagle Butte West LBA Tract (Co	ontinued).				
* P42470W	11/2/1977 46 70 19 NESE GAME & FISH COMM., STATE OF WYOMING**ATLANTIC RICHFIELD COMPANY	STATE 16 46 70	ADJ	STO,MIS	170	887
* P42470W	11/2/1977 46 70 19 NWSE GAME & FISH COMM., STATE OF WYOMING**ATLANTIC RICHFIELD COMPANY		ADJ	STO,MIS	170	887
* P42470W	11/2/1977 46 70 19 SWSE GAME & FISH COMM., STATE OF WYOMING**ATLANTIC RICHFIELD COMPANY		ADJ	STO,MIS	170	887
* P42470W	11/2/1977 46 70 19 SESE GAME & FISH COMM., STATE OF WYOMING**ATLANTIC RICHFIELD COMPANY	STATE 16 46 70	ADJ	STO,MIS	170	887
* P46399W		CC FU 17 1	ADJ	MIS	275	2654
P46399W	1/18/1979 46 70 19 NWNE ATLANTIC RICHFIELD COMPANY	CC FU 17 1	ADJ	MIS	275	2654
* P46399W	1/18/1979 46 70 19 SWNE ATLANTIC RICHFIELD COMPANY	CC FU 17 1	ADJ	MIS	275	2654
* P46399W		CC FU 17 1	ADJ	MIS	275	2654
* P46399W	1/18/1979 46 70 19 NENW ATLANTIC RICHFIELD COMPANY	CC FU 17 1	ADJ	MIS	275	
* P46399W	1/18/1979 46 70 19 NWNW ATLANTIC RICHFIELD COMPANY	CC FU 17 1	ADJ	MIS	275	2654
* P46399W	1/18/1979 46 70 19 SENW ATLANTIC RICHFIELD COMPANY	CC FU 17 1	ADJ	MIS	275	
* P46399W	1/18/1979 46 70 19 NESW ATLANTIC RICHFIELD COMPANY	CC FU 17 1	ADJ	MIS	275	2654
* P46399W	1/18/1979 46 70 19 SESW ATLANTIC RICHFIELD COMPANY	CC FU 17 1	ADJ	MIS	275	
* P46399W	1/18/1979 46 70 19 NESE ATLANTIC RICHFIELD COMPANY	CC FU 17 1	ADJ	MIS	275	2654
P46399W	1/18/1979 46 70 19 NWSE ATLANTIC RICHFIELD COMPANY	CC FU 17 1	ADJ	MIS	275	2654
P46399W	1/18/1979 46 70 19 SWSE ATLANTIC RICHFIELD COMPANY	CC FU 17 1	ADJ	MIS	275	2654
P46399W	1/18/1979 46 70 19 SESE ATLANTIC RICHFIELD COMPANY	CC FU 17 1	ADJ	MIS	275	2654
* P46400W	1/18/1979 46 70 19 SWNE ATLANTIC RICHFIELD COMPANY	CCR 17A	PUW	MIS	60	200
* P46400W	1/18/1979 46 70 19 NENE ATLANTIC RICHFIELD COMPANY	CCR 17A	PU	MIS	60	
P46400W	1/18/1979 46 70 19 NWNE ATLANTIC RICHFIELD COMPANY	CCR 17A	PU	MIS	60	
* P46400W		CCR 17A	PU	MIS	60	
P46400W		CCR 17A	PU	MIS	60	
P46400W		CCR 17A	PU	MIS	60	
P46400W		CCR 17A	PU	MIS	60	
P46400W		CCR 17A	PU	MIS	60	
P46400W		CCR 17A	PU	MIS	60	
P46400W		CCR 17A	PU	MIS	60	
* P46400W		CCR 17A	PU	MIS	60	
P46400W		CCR 17A	PU	MIS	60	
P46400W		CCR 17A	PU	MIS		
P46400W		CCR 17A	PU		60 60	
P19834P		CRICK #1		MIS		0.00
P27412W		CC-W-7	UNA	STO	10	800
P42470W	11/2/1977 46 70 20 NWNE GAME & FISH COMM., STATE OF WYOMING**ATLANTIC	STATE 16 46 70	PUW ADJ	MIS STO,MIS	0 170	887
* P42470W	11/2/1977 46 70 20 SWNE GAME & FISH COMM., STATE OF WYOMING**ATLANTIC RICHFIELD COMPANY	STATE 16 46 70	ADJ	STO,MIS	170	887

`able 4.	Grou	indv	vate	Rights for the Eagl	e Butte West	t LBA Tract (C	ontinued).				
P42470W	11/2/1977	46 70	20	INTERPRETATE ON PANY	M., STATE OF	WYOMING**ATLANTIC	STATE 16 46 70	ADJ	STO,MIS	170	88
P42470W	11/2/1977	46 70	20	IRICHFIELD COMPANY				ADJ	STO,MIS	170	88
P42470W	11/2/1977	46 70	20	IRICHPIELD COMPANY				ADJ	STO,MIS	170	88
P42470W	11/2/1977	46 70	20					ADJ	STO,MIS	170	88
P42470W	11/2/1977			RICHFIELD COMPANY				ADJ	STO,MIS	170	88
P42470W				VSW GAME & FISH COM RICHFIELD COMPANY				ADJ	STO,MIS	170	88
P42470W	11/2/1977	46 70	20	SW GAME & FISH COM RICHFIELD COMPANY	M., STATE OF	WYOMING**ATLANTIC	STATE 16 46 70	ADJ	STO,MIS	170	88
P46399W	1/18/1979	46 70	20	VNE ATLANTIC RICHFIELD CO	MPANY		CC FU 17 1	ADJ	MIS	275	26
P46399W				VNE ATLANTIC RICHFIELD CC			CC FU 17 1	ADJ	MIS	275	-
P46399W	1/18/1979	46 70	20	NW ATLANTIC RICHFIELD CC	MPANY		CC FU 17 1	ADJ	MIS	275	
P46399W	1/18/1979	46 70	20	NW ATLANTIC RICHFIELD CC	MPANY		CC FU 17 1	ADJ	MIS	275	26
P46399W	1/18/1979	46 70	20	NW ATLANTIC RICHFIELD CC	MPANY		CC FU 17 1	ADJ	MIS	275	
P46399W	1/18/1979	46 70	20	NW ATLANTIC RICHFIELD CO	MPANY		CC FU 17 1	ADJ	MIS	275	26
P46399W	1/18/1979	46 70	20	SW ATLANTIC RICHFIELD CO	MPANY		CC FU 17 1	ADJ	MIS	275	
P46399W				SW ATLANTIC RICHFIELD CC			CC FU 17 1	ADJ	MIS	275	20
P46399W	1/18/1979	46 70	20	SW ATLANTIC RICHFIELD CC	MPANY		CC FU 17 1	ADJ	MIS	275	
P46400W			_	VNE ATLANTIC RICHFIELD CO			CCR 17A	PU	MIS	60	1-
P46400W				VNE ATLANTIC RICHFIELD CO			CCR 17A	PU	MIS	60	
P46400W				NW ATLANTIC RICHFIELD CO			CCR 17A	PU	MIS	60	1
P46400W	1/18/1979	46 70	20	NW ATLANTIC RICHFIELD CC	MPANY		CCR 17A	PU	MIS	60	1
P46400W				NW ATLANTIC RICHFIELD CC		1.	CCR 17A	PU	MIS	60	-
P46400W				NW ATLANTIC RICHFIELD CO		•	CCR 17A	PU	MIS	60	+
P46400W	1/18/1979	46 70	20	SW ATLANTIC RICHFIELD CO	MPANY	· · · · · · · · · · · · · · · · · · ·	CCR 17A	PU	MIS	60	
P46400W	1/18/1979	46 70	20	/SW ATLANTIC RICHFIELD CC	MPANY		CCR 17A	PU	MIS	60	1
P46400W				SW ATLANTIC RICHFIELD CC			CCR 17A	PU	MIS	60	+
CU6/096A				NE ATLANTIC RICHFIELD CO			STATE 16 46 70	PU	MIS,STO	100	+
CU6/096A				VNE ATLANTIC RICHFIELD CO			STATE 16 46 70	PU	MIS,STO		+
CU6/096A				NW ATLANTIC RICHFIELD CC			STATE 16 46 70	PU	MIS,STO MIS,STO		+
P42470W	11/2/1977	46 70	30	CNE GAME & FISH COMI RICHFIELD COMPANY	A., STATE OF	WYOMING**ATLANTIC		ADJ	STO,MIS	170	8
P42470W	11/2/1977	46 70	30	VNE GAME & FISH COMI RICHFIELD COMPANY		WYOMING**ATLANTIC	STATE 16 46 70	ADJ	STO,MIS	170	8
P42470W	11/2/1977	46 70	30		A., STATE OF	WYOMING**ATLANTIC	STATE 16 46 70	ADJ	STO,MIS	170	8
P46399W	1/18/1979	46 70	30	NE ATLANTIC RICHFIELD CC	MPANY		CC FU 17 1	ADJ	MIS	275	26
P46399W				VNE ATLANTIC RICHFIELD CC			CC FU 17 1	ADJ	MIS	275	

Table 4.	Groundwater Rights for the Eagle Butte West LBA Tract (C	Continued).				
* P46399W	1/18/1979 46 70 30 NWNW ATLANTIC RICHFIELD COMPANY	CC FU 17 1	ADJ	MIS	275	2654
* P46400W	1/18/1979 46 70 30 NENE ATLANTIC RICHFIELD COMPANY	CCR 17A	PU	MIS	60	
* P46400W	1/18/1979 46 70 30 NWNE ATLANTIC RICHFIELD COMPANY	CCR 17A	PU	MIS	60	
* P46400W	1/18/1979 46 70 30 NWNW ATLANTIC RICHFIELD COMPANY	CCR 17A	PU	MIS	60	
* P101340W	1/29/1996 46 71 1 NENE WYO BOARD OF LAND COMMISSIONERS**CRAMER OF COMPANY	IL STATE 36-10	UNA	IND	26	4400
* P101340W	1/29/1996 46 71 1 NWNE WYO BOARD OF LAND COMMISSIONERS**CRAMER OF COMPANY	IL STATE 36-10	UNA	IND	26	4400
* P84505W	2/14/1991 46 71 1 NENE UNION OIL COMPANY OF CALIFORNIA	DAWN FEDERAL #1-41	UNA	IND	8	10550
P15843P	12/31/1922 46 71 2 SESE ANGELA A. BOOS TRUST	#1 MOORE	PUW	STO	2	60
P101310W	1/11/1996 46 71 4 NENW LANCE OIL & GAS COMPANY, INC	KIRKPATRICK #4-21	UNA	STO,CBM	0	295
* P101311W	1/11/1996 46 71 4 NWNW LANCE OIL & GAS COMPANY, INC	KIRKPATRICK #4-11	UNA	STO,CBM	0	304
• P101311W	1/11/1996 46 71 4 NENW LANCE OIL & GAS COMPANY, INC	KIRKPATRICK #4-11	UNA	STO,CBM	0	304
* P106896W	7/24/1997 46 71 4 SWSW LANCE OIL & GAS COMPANY, INC	ATKINS #4-14	GST	CBM	8.67	347
* P106896W	7/24/1997 46 71 4 SESW LANCE OIL & GAS COMPANY, INC	ATKINS #4-14	GST	СВМ	8.67	347
P106897W	7/24/1997 46 71 4 SESW LANCE OIL & GAS COMPANY, INC	ATKINS #4-24	GST	CBM	7	321.5
P18724P	12/31/1945 46 71 4 NESW LENA M. HAIGHT	RIVER #1	PUW	STO	7.5	85
P59069W	12/10/1981 46 71 4 NENE MILO HAIGHT	MILO HAIGHT #2	PUW	STO	25	900
* P98962W	4/17/1995 46 71 4 SESW MARTENS & PECK OPERATING CO.	ATKINS #4-24	UNA	MIS,STO,CBM	25	
* P98962W	4/17/1995 46 71 4 SWSW MARTENS & PECK OPERATING CO.	ATKINS #4-24	UNA	MIS,STO,CBM	25	
P98963W	4/17/1995 46 71 4 NWNE LANCE OIL & GAS COMPANY, INC	PITTMAN #4-31	GST	MIS,CBM	0	261
P102026W	4/10/1996 46 71 5 SWNW LANCE OIL & GAS COMPANY, INC	GARRETT #5-12	UNA	MIS,CBM	0	343
P106894W	7/24/1997 46 71 5 SWSE LANCE OIL & GAS COMPANY, INC	THRUSH #5-34	GST	СВМ	7.34	318
* P106895W	7/24/1997 46 71 5 SESE LANCE OIL & GAS COMPANY, INC	THRUSH #5-44	GST	CBM	7.34	340
P106895W	7/24/1997 46 71 5 SWSE LANCE OIL & GAS COMPANY, INC	THRUSH #5-44	GST	CBM	7.34	340
P106908W	7/25/1997 46 71 5 NWSW LANCE OIL & GAS COMPANY, INC	GARRETT #5-13	GST	CBM	14	357
P18723P	12/31/1932 46 71 5 NWSE DAVID THRUSH	THRUSH #1	PUW	STO	7.5	35
P98654W	3/27/1995 46 71 5 NENE LANCE OIL & GAS COMPANY, INC	THRUSH #5-41	GST	MIS,CBM	0	291
P98655W	3/27/1995 46 71 5 SENE LANCE OIL & GAS COMPANY, INC	THRUSH #5-42	GST	MIS,CBM	25	309
P99906W	7/24/1995 46 71 5 NWNW LANCE OIL & GAS COMPANY, INC	GARRETT #5-11	GST	MIS,CBM	0	342
* P99906W	7/24/1995 46 71 5 NWSE LANCE OIL & GAS COMPANY, INC	GARRETT #5-11	GST	MIS,CBM	0	342
P106322W	6/6/1997 46 71 6 NENW LANCE OIL & GAS COMPANY, INC	PICKREL #6-21	GST	CBM	12.91	401
P106323W	6/6/1997 46 71 6 NWNE LANCE OIL & GAS COMPANY, INC	PICKREL #6-31	GST	CBM	0	378
P106324W	6/6/1997 46 71 6 SWNE LANCE OIL & GAS COMPANY, INC	PICKREL #6-32	GST	CBM	0	370
P106325W	6/6/1997 46 71 6 NENE LANCE OIL & GAS COMPANY, INC	PICKREL #6-41	GST	CBM	0	371
P106326W	6/6/1997 46 71 6 SENE LANCE OIL & GAS COMPANY, INC	PICKREL #6-42	GST	CBM	22	377
P106327W	6/6/1997 46 71 6 NESE LANCE OIL & GAS COMPANY, INC	PICKREL #6-43	GST	CBM	11	383
* P106909W	7/25/1997 46 71 6 SWSW LANCE OIL & GAS COMPANY, INC	PICKREL #6-14	GST	CBM	23.8	384
P106910W	7/25/1997 46 71 6 NWSE LANCE OIL & GAS COMPANY, INC	PICKREL #0-14 PICKREL #6-33	GST	CBM	23.0	375
					-	375
* P106910W	7/25/1997 46 71 6 NESE LANCE OIL & GAS COMPANY, INC	PICKREL #6-33	GST	CBM	8	3

Table 4.	Grou	ndw	rate	r Rig	ghts for the Eagle Butte West LBA Tract (Co	ontinued).				
* P108758W	1/30/1998 4	6 71	6 1	VESW	LANCE OIL & GAS COMPANY, INC	PICKRELL 23-6	GST .	STO,CBM	7	365
* P108758W	1/30/1998 4	6 71	6 5	SWNE	LANCE OIL & GAS COMPANY, INC	PICKRELL 23-6	GST	STO,CBM	7	365
P70173W	5/20/1985 4	671	6 I	NENE	PICKREL LAND & CATTLE CO., INC	HAIGHT #1 WSW	UNA	IND	15	1075
* P106898W	7/24/1997 4	6 71	7 N	IWNW	LANCE OIL & GAS COMPANY, INC	CLOSE #7-11	GST	CBM	25	3754
P106899W					LANCE OIL & GAS COMPANY, INC	CLOSE #7-12	GST	CBM	18.67	370
P110088W	5/12/1998 4	16 71	7 5	SESW	LANCE OIL & GAS COMPANY, INC	PICKREL 24-7	GST	STO,CBM	15.5	355
P113967W						PICKREL 23-7-4671	GST	STO,CBM	12.4	343
P113968W	the second se					PICKREL 32-7-4671	GST	STO,CBM	11.5	386
P29025P	2/4/1975	16 71	7 5	SESW	PICKREL LAND & CATTLE CO., INC	TANNER #5	PUW	STO	-1	75
* P106900W						PETERS #8-32	GST	CBM	4.66	351
* P106900W					LANCE OIL & GAS COMPANY, INC	PETERS #8-32	GST	CBM	4.66	351
P106901W						PETERS #8-42	GST	CBM	4.33	317
* P98967W					MARTENS & PECK OPERATING CO.	PETERS #8-42	UNA	MIS,STO,CBM	25	
* P98967W			1		MARTENS & PECK OPERATING CO.	PETERS #8-42	UNA	MIS,STO,CBM	25	
P15841P					ANGELA A. BOOS TRUST	#7 BOOS	PUW	DOM	4	300
	10/15/1992					BOOS #11-11	GST	MIS,DEW,CBM	0	245
* CU6/096A					ATLANTIC RICHFIELD COMPANY	STATE 16 46 70	PU	MIS,STO		
* CU6/096A					ATLANTIC RICHFIELD COMPANY	STATE 16 46 70	PU	MIS,STO		
* CU6/096A					ATLANTIC RICHFIELD COMPANY	STATE 16 46 70	PU	MIS,STO		
* CU6/096A					ATLANTIC RICHFIELD COMPANY	STATE 16 46 70	PU	MIS,STO		
* CU6/096A					ATLANTIC RICHFIELD COMPANY	STATE 16 46 70	PU	MIS,STO		
* CU6/096A			+ +		ATLANTIC RICHFIELD COMPANY	STATE 16 46 70	PU	MIS,STO		
* CU6/096A			++		ATLANTIC RICHFIELD COMPANY	STATE 16 46 70	PU	MIS,STO		
* CU6/096A			+		ATLANTIC RICHFIELD COMPANY	STATE 16 46 70	PU	MIS,STO		
* CU6/096A					ATLANTIC RICHFIELD COMPANY	STATE 16 46 70	PU	MIS,STO		
* CU6/096A						STATE 16 46 70	PU	MIS,STO		
			++-		JAMES J. JONAS, Jr.	JONAS JR # 1	GST	DOM,STO	0	300
P158828W					TONY S HAYDEN	HAYDEN #1	GSI	STO		
P22624P				SESW	FLORA M. RAITT	RAITT #4	PUW	STO	5	500
* P42470W	11/2/1977			SWNW	GAME & FISH COMM., STATE OF WYOMING**ATLANTIC RICHFIELD COMPANY		ADJ	STO,MIS	170	887
* P42470W	11/2/1977	46 71	13		GAME & FISH COMM., STATE OF WYOMING**ATLANTIC RICHFIELD COMPANY		ADJ	STO,MIS	170	887
* P42470W	11/2/1977	46 71	13		GAME & FISH COMM., STATE OF WYOMING**ATLANTIC RICHFIELD COMPANY		ADJ	STO,MIS	170	887
* P42470W	11/2/1977	46 71	13		GAME & FISH COMM., STATE OF WYOMING**ATLANTIC RICHFIELD COMPANY		ADJ	STO,MIS	170	887
* P42470W	11/2/1977	46 71	13		GAME & FISH COMM., STATE OF WYOMING**ATLANTIC RICHFIELD COMPANY		ADJ	STO,MIS	170	887
* P42470W	11/2/1977	46 71	13	SESW	GAME & FISH COMM., STATE OF WYOMING**ATLANTIC RICHFIELD COMPANY	STATE 16 46 70	ADJ	STO,MIS	170	887

Table 4.	Groundwater Ri	ghts for the Eagle Butte West LBA Tract (C	ontinued).				
* P42470W	11/2/1977 46 71 13 NESE	GAME & FISH COMM., STATE OF WYOMING**ATLANTIC	C STATE 16 46 70	ADJ	STO,MIS	170	887
* P42470W		KICHFIELD COMPANY		ADJ	STO,MIS	170	887
* P42470W		GAME & FISH COMM., STATE OF WYOMING**ATLANTIC RICHFIELD COMPANY		ADJ	STO,MIS	170	887
* P42470W		GAME & FISH COMM., STATE OF WYOMING**ATLANTIC RICHFIELD COMPANY	STATE 16 46 70	ADJ	STO,MIS	170	887
* P46399W	1/18/1979 46 71 13 SWNW	ATLANTIC RICHFIELD COMPANY	CC FU 17 1	ADJ	MIS	275	2654
* P46399W	1/18/1979 46 71 13 SENW	ATLANTIC RICHFIELD COMPANY	CC FU 17 1	ADJ	MIS	275	2654
* P46399W	1/18/1979 46 71 13 NESW	ATLANTIC RICHFIELD COMPANY	CC FU 17 1	ADJ	MIS	275	2654
* P46399W		ATLANTIC RICHFIELD COMPANY	CC FU 17 1	ADJ	MIS	275	2654
* P46399W		ATLANTIC RICHFIELD COMPANY	CC FU 17 1	ADJ	MIS	275	2654
* P46399W		ATLANTIC RICHFIELD COMPANY	CC FU 17 1	ADJ	MIS	275	2654
* P46399W		ATLANTIC RICHFIELD COMPANY	CC FU 17 1	ADJ	MIS	275	2654
* P46399W		ATLANTIC RICHFIELD COMPANY	CC FU 17 1	ADJ	MIS	275	
* P46399W		ATLANTIC RICHFIELD COMPANY	CC FU 17 1	ADJ	MIS	275	2654
* P46399W		ATLANTIC RICHFIELD COMPANY	CC FU 17 1	ADJ	MIS	275	2654
* P46400W		ATLANTIC RICHFIELD COMPANY	CCR 17A	PU	MIS	60	2004
* P46400W	1/18/1979 46 71 13 SENW	ATLANTIC RICHFIELD COMPANY	CCR 17A	PU	MIS	60	
* P46400W	1/18/1979 46 71 13 NESW	ATLANTIC RICHFIELD COMPANY	CCR 17A	PU	MIS	60	
* P46400W		ATLANTIC RICHFIELD COMPANY	CCR 17A	PU	MIS		
* P46400W	1/18/1979 46 71 13 SWSW	ATLANTIC RICHFIELD COMPANY	CCR 17A	PU	MIS	60	
* P46400W		ATLANTIC RICHFIELD COMPANY	CCR 17A	PU		60	
* P46400W		ATLANTIC RICHFIELD COMPANY	CCR 17A		MIS	60	
* P46400W		ATLANTIC RICHFIELD COMPANY	CCR 17A	PU	MIS	60	
* P46400W		ATLANTIC RICHFIELD COMPANY	CCR 17A	PU	MIS	60	
* P46400W	1/18/1979 46 71 13 SESE	ATLANTIC RICHFIELD COMPANY	CCR 17A	PU	MIS	60	
P114174W	2/22/1999 46 71 14 SESW	BILL BARRETT CORPORATION		PU	MIS	60	
P114175W	2/22/1999 46 71 14 SESW	BILL BARRETT CORPORATION	CC-CBM 24-14	GST	CBM		292
P114896W	3/26/1999 46 71 14 NWSW	BILL BARRETT CORPORATION	CC-CBM 14-14	GST	CBM	0.6	287
P114897W	3/26/1999 46 71 14 NESW	BILL BARRETT CORPORATION	CC-CBM 13-14	GST	CBM	2.6	306
P128282W		BILL BARRETT CORPORATION	СС-СВМ 23-14	GST	CBM	3.9	337
P128283W		BILL BARRETT CORPORATION BILL BARRETT CORPORATION	СС-СВМ 32-14	GST	СВМ	10	257
P128284W			СС-СВМ 33-14	GST	СВМ	10	281
P128285W		BILL BARRETT CORPORATION	СС-СВМ 34-14	GST	CBM	10	306
P128286W		BILL BARRETT CORPORATION	CC-CBM 43-14	GST	СВМ	10	253
* P56976W		BILL BARRETT CORPORATION	CC-CBM 44-14	GST	СВМ	10	263
	6/3/1981 46 71 14 SWSE		DAVIS HOADLEY #1	PU	MIS	85	965
P71303W	9/27/1985 46 71 14 SWSW		HOADLEY #1	PUW	DOM,STO	5	120
P107169W	8/18/1997 46 71 15 NESW	RIM OPERATING, INC	CBM A #23-15	GST	MIS,CBM	1	265

(T) 1 1 4	O Instan D	white for the Eagle Butte West I BA Tract (C	ontinued)				
Table 4.		ghts for the Eagle Butte West LBA Tract (Co	CBM A #24-15	UNA	STO,CBM	2	288
P108715W	1/9/1998 46 71 15 SESW		CBM A #21-15	GST	STO,CBM	0	256
P113998W	2/8/1999 46 71 15 NENW		CBM A #42-15	GST	STO,CBM	0	305
P113999W	2/8/1999 46 71 15 SENE		CBM A #44-15	GST	STO,CBM	25	340
P114000W	2/8/1999 46 71 15 SESE		#5 BOOS	UNA	STO	7	258
	10/24/1960 46 71 15 NESE		CBM A #43-16		MIS,DEW,CBM	5	255
P106932W		WTO BOIND OF MILE COMMISSIONERS		UNA	CBM	1	230
P107172W		WYO BOARD OF LAND COMMISSIONERS** RIM OPERATING, INC	CBM A #13-16	UNA	STO,CBM	10	293
P108716W				UNA	STO,MIS,CBM	5	225
P108719W		WYO BOARD OF LAND COMMISSIONERS** RIM OPERATING, INC		UNA	STO,MIS,CBM	2.6	281
P109057W			CBM A #12-16	UNA	STO,MIS,CBM	5	240
P109059W	2/17/1998 46 71 16 SENW	WYO BOARD OF LAND COMMISSIONERS** RIM OPERATING, INC	CBM A #22-16R	UNA			240
P153527W	8/1/2003 46 71 16 NESE	RIM OPERATING, INC.** WY STATE BOARD OF LAND COMMISSIONERS	CBM A #43-16 ANDERSON	GSI	STO,CBM		
P107173W	8/18/1997 46 71 17 SWSE	RIM OPERATING, INC	CBM A #34-17	UNA	CBM	5	286
P107174W	8/18/1997 46 71 17 NESE	RIM OPERATING, INC	CBM A #43-17	UNA	CBM	5	267
P108721W	1/9/1998 46 71 17 NWSE	RIM OPERATING, INC	CBM A #33-17R	UNA	STO,MIS,CBM	5	275
P108722W	1/9/1998 46 71 17 SESE	RIM OPERATING, INC	CBM A #44-17	UNA	STO,MIS,CBM	5	269
P153528W	8/1/2003 46 71 17 SESE		CBM A #44-17 ANDERSON	GSI	STO,CBM		
P101685W	2/26/1996 46 71 18 SESW		ELLIOTT #1	UNA	DOM	10	220
P109617W		/ LANCE OIL & GAS COMPANY, INC	PICKREL 18-21	GST	CBM	0	355
P109784W		/ LANCE OIL & GAS COMPANY, INC	PICKREL 18-22	GST	STO,CBM	19	379
P109785W		LANCE OIL & GAS COMPANY, INC	PICKREL 18-32	GST	STO,CBM	16	362
P109906W	5/4/1998 46 71 18 SWSF		GIBSON #1	UNA	DOM	18	223
* P109930W		/ MIKE/KATHLEEN GETTERT	GETTERT #2	UNA	DOM	10	210
* P109930W		/ MIKE/KATHLEEN GETTERT	GETTERT #2	UNA	DOM	10	210
P110091W		LANCE OIL & GAS COMPANY, INC	LITTLE BUFFALO 44-18	GST	STO,CBM	9	348
P110189W	5/26/1998 46 71 18 SESV		ELLIOTT #2	UNA	DOM	10	280
P110714W			MORNING GLORY #1		DOM	18	200
P111231W			PRICKETT #1		DOM,STO	16	280
P113974W		V LANCE OIL & GAS COMPANY, INC	PICKREL 12-18-4671	GST	STO,CBM	8	454
P144329W			LISA'S # 1	GST	DOM		262
* P148231W	12/5/2002 46 71 18 NESV		GETTERT # 3	GSI	DOM,STO		
* P148231W	12/5/2002 46 71 18 SESV		GETTERT # 3	GSI	DOM,STO		
P101933W			CARSON #1	UNA	DOM	18	182
P101933W		E LANCE OIL & GAS COMPANY, INC	LITTLE BUFFALO 41-19	GST	STO,CBM	8	328
P110092W		E LANCE OIL & GAS COMPANY, INC	LITTLE BUFFALO 31-19	GST	STO,CBM	8	341
P110117W		E LANCE OIL & GAS COMPANY, INC	LITTLE BUFFALO 42-19	GST	STO,CBM	7	343
P110118W			EAGLE 14-19	GST	CBM	15	464
	1/47/4000 TU / 1 19 SWS			GST	CBM	15	

Table 4.Groundwater Rights for the Eagle Butte West LBA Tract (CoP122399W1/24/2000 46 71 19 SESW DUNCAN OIL, INC.	EAGLE 24-19	GST	CBM	15	388
P122399W 1/24/2000 46 71 19 SESW DONCAN OIL, INC.	EAGLE 33-19	GST	CBM	15	370
	EAGLE 34-19	UNA	СВМ	15	380
P122401W 1/24/2000 46 71 19 NESE DUNCAN OIL, INC.	EAGLE 43-19	GST	CBM	15	368
P122402W 1/24/2000 46 71 19 NESE DUNCAN OIL, INC.	EAGLE 44-19	GST	CBM	15	384
* P126084W 6/9/2000 46 71 19 SUSE DUNCAN OIL, INC.	EAGLE BLOWER FACILITY	GST	IND	30	-1
P21662P 12/31/1925 46 71 19 NWSW SYLVIA NEWTON	NEWTON #4	PUW	DOM,STO	22.5	200
* CU1/311A 5/24/1971 46 71 20 SWNE INEXCO OIL COMPANY	GRADY UNIT WATER WELL #1	PU	IND		
P107175W 8/18/1997 46 71 20 SWNE RIM OPERATING, INC	CBM A #32-20	UNA	CBM	25	
P109060W 2/17/1998 46 71 20 NWNE WYO BOARD OF LAND COMMISSIONERS** RIM OPERATING, INC	CBM A #31-20	UNA	STO,CBM	8.8	310
P109000W 2/17/1998 46 71 20 NWNE WTO DOMED OF LINE COMMODIFIED THE OF LINE OF	CBM A #11-20		STO,MIS,CBM	5	300
P111740W 9/10/1998 46 71 20 SWNW RIM OPERATING, INC	CBM A #12-20		STO,MIS,CBM	5	306
P111741W 9/10/1998 46 71 20 NWSW RIM OPERATING, INC	CBM A #13-20		STO,MIS,CBM		326
P111741W 9/10/1998 46 71 20 NENW RIM OF EXAMINE, INC	CBM A #21-20R		STO,MIS,CBM		310
P111742W 9/10/1998 46 71 20 NEW RIM OF ERATING, INC	CBM A #22-20		STO,MIS,CBM		306
P111743W 9/10/199840 71 20 SENW RIM OF EXAMINE, INC P133434W 3/23/2001 46 71 20 SESW RIM OPERATING, INC	CBM A #24-20	GST	STO,CBM	0	345
* P9258W 5/24/1971 46 71 20 SWNE INEXCO OIL CO.	GRADY UNIT WATER WELL #1	ADJ	IND	350	483
P156575W 1/14/2004 46 71 21 SWSW RIM OPERATING, INC.	CBM A #14-21	GSI	STO,CBM		
P71306W 9/27/1985 46 71 21 SESW HOADLEY ESTATE	HOADLEY #4	PUW	STO	6	55
	GRADY UNIT WATER WELL #2	PU	IND	357	483
* P9259W         5/24/1971         46         71         21         SWNE         INEXCO OIL CO.           P140136W         10/16/2001         46         71         22         SWSE         RIM OPERATING, INC.	CBM A #34-22	GST	STO,CBM		365
P140136W 10/16/200146 71 22 SWSE RIM OPERATING, INC.	CBM A #12-22	GSI	STO,CBM		
P155764W 11/24/2003 46 71 22 SWSW RIM OPERATING, INC.	CBM A #14-22	GSI	STO,CBM		
P155765W 11/24/2003 46 71 22 SWNE RIM OPERATING, INC.	CBM A #32-22	GSI	STO,CBM		
	CBM A #24-23	GSI	STO,CBM		
	HOADLEY #2	PUW	STO	5	110
	CC-CBM 11-23	GST	CBM	4.5	351
P114173W         2/22/1999         46         71         23         NWNW         BILL         BARRETT         CORPORATION           P114176W         2/22/1999         46         71         23         NENW         BILL         BARRETT         CORPORATION	CC-CBM 21-23	GST	CBM	2.9	32
	CC-CBM 31-23	GST	CBM	1.9	31
P114177W 2/22/1999 46 71 23 NWNE BILL BARRETT CORPORATION	CC-CBM 41-23	UNA	CBM	0.9	263
P114178W 2/22/1999 46 71 23 NENE BILL BARRETT CORPORATION	СС-СВМ 32-23	GST	CBM	7.2	309
P114179W 2/22/1999 46 71 23 SWNE BILL BARRETT CORPORATION	CC-CBM 42-23	GST	CBM	1.6	26
P114180W 2/22/1999 46 71 23 SENE BILL BARRETT CORPORATION		GST	CBM	1.0	320
P128281W 8/14/2000 46 71 23 SENW BILL BARRETT CORPORATION	CC-CBM 22-23	GST	CBM	10	410
P128287W 8/14/2000 46 71 23 SWNW BILL BARRETT CORPORATION	CC-CBM 12-23			10	410
* P160998W 7/12/2004 46 71 23 SESW RIM OPERATING, INC.	CBM A #24-23	GSI	STO,CBM		
* P160998W 7/12/2004 46 71 23 SESW RIM OPERATING, INC.	CBM A #24-23	GSI	STO,CBM	05	065
* P56976W 6/3/1981 46 71 23 NENW DAVIS OIL COMPANY	DAVIS HOADLEY #1	PUW	MIS	85	965
* P56976W 6/3/1981 46 71 23 SWNE DAVIS OIL COMPANY	DAVIS HOADLEY #1	PU	MIS	85	965
* P56976W 6/3/1981 46 71 23 SWNW DAVIS OIL COMPANY	DAVIS HOADLEY #1	PU	MIS	85	965

Table 4.	Groundwater Rights for the Eagle Butte West LBA Tract (Co		PUW	STO	5	180
P71305W	9/27/1985 46 71 23 NWSW HOADLEY ESTATE	HOADLEY #3	PUW	STO	20	965
P71307W	9/27/1985 46 71 23 NENW HOADLEY ESTATE	HOADLEY #5		MIS,STO	_20	900
CU6/096A	11/2/1977 46 71 24 NENE ATLANTIC RICHFIELD COMPANY	STATE 16 46 70	PU PU	MIS,STO MIS,STO		
CU6/096A	11/2/1977 46 71 24 NWNE ATLANTIC RICHFIELD COMPANY	STATE 16 46 70		MIS,STO MIS,STO		
* CU6/096A	11/2/1977 46 71 24 NENW ATLANTIC RICHFIELD COMPANY	STATE 16 46 70	PU			
* CU6/096A	11/2/1977 46 71 24 NWNW ATLANTIC RICHFIELD COMPANY	STATE 16 46 70	PU	MIS,STO	10	280
P129276W	9/25/2000 46 71 24 SENE SHERRY & DONALD BEHNKE	HOUSE NO. 1	UNA	DOM,STO	10	200
P152672W	7/22/2003 46 71 24 SENE SHERRY BEHNKE	HOUSE #2	GSI	DOM,STO	10	155
P19833P	12/31/1913 46 71 24 SENE R. S. THRUSH	HOUSE #1	UNA	DOM,STO		
* P42470W	11/2/1977 46 71 24 NENE GAME & FISH COMM., STATE OF WYOMING**ATLANTIC		ADJ	STO,MIS	170	887
* P42470W	11/2/1977 46 71 24 NWNE GAME & FISH COMM., STATE OF WYOMING**ATLANTIC		ADJ	STO,MIS	170	887
* P42470W	11/2/1977 46 71 24 NENW GAME & FISH COMM., STATE OF WYOMING**ATLANTIC RICHFIELD COMPANY		ADJ	STO,MIS	170	887
* P42470W	11/2/1977 46 71 24 NWNW GAME & FISH COMM., STATE OF WYOMING**ATLANTIC RICHFIELD COMPANY		ADJ	STO,MIS	170	887 2654
* P46399W	1/18/1979 46 71 24 NENE ATLANTIC RICHFIELD COMPANY	CC FU 17 1	ADJ	MIS	275	
* P46399W	1/18/1979 46 71 24 NWNE ATLANTIC RICHFIELD COMPANY	CC FU 17 1	ADJ	MIS	275	2654
* P46399W	1/18/1979 46 71 24 NENW ATLANTIC RICHFIELD COMPANY	CC FU 17 1	ADJ	MIS	275	2654
* P46399W	1/18/1979 46 71 24 NWNW ATLANTIC RICHFIELD COMPANY	CC FU 17 1	ADJ	MIS	275	2654
* P46400W	1/18/1979 46 71 24 NENE ATLANTIC RICHFIELD COMPANY	CCR 17A	PU	MIS	60	
* P46400W	1/18/1979 46 71 24 NWNE ATLANTIC RICHFIELD COMPANY	CCR 17A	PU	MIS	60	
* P46400W	1/18/1979 46 71 24 NENW ATLANTIC RICHFIELD COMPANY	CCR 17A	PU	MIS	60	
* P46400W	1/18/1979 46 71 24 NWNW ATLANTIC RICHFIELD COMPANY	CCR 17A	PU	MIS	60	
P13439W	3/29/1972 46 71 25 NWNW JAMES THRUSH	THRUSH #3	PUW	STO	10	465
* CU1/311A		GRADY UNIT WATER WELL #1	PU	IND		
P5690P	12/31/1937 46 71 26 SESE WARREN BROYLES**RICHARD BROYLES	JOE #1	PUW	STO	10	180
* P9258W	5/24/1971 46 71 26 SWNW INEXCO OIL CO.	GRADY UNIT WATER WELL #1	ADJ	IND	350	_
P138037W		CBM A # 12-27	GST	STO,CBM		405
P155671W		CBM A #43-27	GST	STO,CBM		530
P155672W		CBM A #41-27	GST	STO,CBM		410
P155766W		CBM A #23-27	GST	STO,CBM		450
P160997W		CBM A #11-35	GSI	STO,CBM		
* P161697W		CBM A #21-28	GSI	CBM,STO		
P47827W	4/18/1979 46 71 27 SENE ASSOCIATION OF INDEPENDENT CONSULTANTS	EP8	PUW	MON	0	
P50441W		EV 20	PUW	MON	0	
P50442W	9/12/1979 46 71 27 NWSW ASSOCIATION OF INDEPENDENT CONSULTANTS	EV 21	PUW	MON	0	
P84138W		AUSTIN #1	UNA	MIS	10	40
P93007W		ORIN #1	UNA	DOM,STO	13	830

Table 4.	Groundwater Rights for the Eagle Butte West LBA Tract	(Continued).				
P153533W	8/1/2003 46 71 28 SWNE RIM OPERATING, INC.	CBM A #32-28	GST	STO,CBM		410
P153534W	8/1/2003 46 71 28 SWSE RIM OPERATING, INC.	CBM A #34-28	GSI	STO,CBM	1	
* P161697W	8/23/2004 46 71 28 NENW RIM OPERATING, INC.	CBM A #21-28	GSI	CBM,STO		
* P161697W	8/23/2004 46 71 28 NENW RIM OPERATING, INC.	CBM A #21-28	GSI	CBM,STO		
P85251W	5/31/1991 46 71 28 SESE HOADLEY - GRADY PARTNERSHIP	#1-28 HOADLEY	UNA	STO	12	620
* P9259W	5/24/1971 46 71 28 SWNW INEXCO OIL CO.	GRADY UNIT WATER WELL #2	PU	IND	357	4830
P113552W	1/14/1999 46 71 29 NWSW LANCE OIL & GAS COMPANY, INC	WAGENSEN 13-29-4671	GST	STO,CBM	26	376
P113553W	1/14/1999 46 71 29 SENW LANCE OIL & GAS COMPANY, INC	WAGENSEN 22-29-4671	GST	STO,CBM	26	342
P113554W		WAGENSEN 24-29-4671	GST	STO,CBM	26	385
P122406W		EAGLE 11-29	GST	CBM	15	363
P122407W		EAGLE 12-29	GST	CBM	15	340
P133435W		CBM A #32-29	GST	STO,CBM		448
P133436W		CBM A #41-29	GST	STO,CBM		405
P146098W		CBM A #34-29	GST	STO,CBM		505
P146099W		CBM A # 43-29	GST	STO,CBM		475
P153535W		CBM A #34-29 ANDERSON	GST	STO,CBM		250
* P161697W	8/23/2004 46 71 29 NESE RIM OPERATING, INC.	CBM A #21-28	GSI	CBM,STO		
P113555W		WAGENSEN 42-30-4671	GST	STO,CBM	25	393
P122404W		EAGLE 31-30	GST	CBM	15	388
P122405W		EAGLE 41-30	GST	СВМ	15	424
* P126084W		EAGLE BLOWER FACILITY	GST	IND	30	-1
P105545W		PICKREL #1-12	GST	CBM	25	561
* P105547W		PICKREL #1-23	GST	CBM	25	505
* P105547W		PICKREL #1-23	GST	СВМ	25	505
P105548W		PICKREL #1-24	GST	CBM	21.44	477
P106272W		PICKREL #1-21	GST	СВМ	24.83	542
* P106909W		PICKREL #6-14	GST	CBM	23.8	384
* P106913W		PICKREL #1-34	GST	CBM	25	444
* P106913W		PICKREL #1-34	GST	CBM	25	444
P106914W		PICKREL #1-44	GST	CBM	24	397
* P162471W		GILLETTE YARD NO.1	GSI	MIS		
* P162471W		GILLETTE YARD NO.1	GSI	MIS		
* P162471W		GILLETTE YARD NO.1	GSI	MIS	-	
* P162471W		GILLETTE YARD NO.1	GSI	MIS		
* P162471W		GILLETTE YARD NO.1	GSI	MIS		
* P162471W		GILLETTE YARD NO.1	GSI	MIS		
* P162471W		GILLETTE YARD NO.1	GSI	MIS		
* P162471W		GILLETTE YARD NO.1	GSI	MIS		
* P162471W		GILLETTE YARD NO.1	GSI	MIS		1

		1 1 D 1 D H. West I DA Troot	(Continued)				-
Table 4.		ghts for the Eagle Butte West LBA Tract	GILLETTE YARD NO.1	GSI	MIS		
* P162471W	0/=//==	WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
* P162471W	0/=-/	WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
* P162471W		WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
* P162471W		WYDOT** WY STATE BOARD OF LAND COMMISSIONERS		PUW	STO	7.5	80
P29024P		PICKREL LAND & CATTLE CO., INC	TANNER #4 BELLE FOURCHE #1	PU	MIS	0	289
* P59692W	0/ -/	WYOMING STATE HIGHWAY DEPT.		PU	MIS	0	289
* P59692W		WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #1	PU	MIS	0	289
* P59692W	3/8/1982 46 72 1 NESE	WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #1	PU	MIS	0	289
* P59692W		WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #1	PU	MIS	0	300
* P59693W	3/8/1982 46 72 1 NENW	WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #2		MIS	0	300
* P59693W	3/8/1982 46 72 1 NESW	WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #2	PU		0	300
* P59693W		WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #2	PU	MIS		300
* P59693W		WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #2	PU	MIS	0	300
* P59694W		WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #3	PU	MIS	200	
* P59694W		WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #3	PU	MIS	200	
	2/8/1982 46 72 1 NESE	WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #3	PU	MIS	200	
* P59694W		WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #3	PU	MIS	200	
* P59694W		WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #4	PU	MIS	125	270
* P59695W		WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #4	PU	MIS	125	270
* P59695W			BELLE FOURCHE #4	PU	MIS	125	270
* P59695W		WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #4	PU	MIS	125	270
* P59695W		WYOMING STATE HIGHWAY DEPT.	NEWTON #2	UNA	DOM	18	180
P105671W	5/7/1997 46 72 12 SESE	FREEDOM HILLS JOINT VENTURE	CLOSE #7-11	GST	CBM	25	3754
* P106898W	7/24/1997 46 72 12 NENE	C LANCE OIL & GAS COMPANY, INC	CLOSE #12-41	GST	CBM	26	396
P106902W	7/24/1997 46 72 12 NENE	BARRETT RESOURCES CORPORATION	MADER #1	UNA	DOM	10	250
* P109929W		FREEDOM HILLS JOINT VENTURES	· MADER #1	UNA	DOM	10	250
* P109929W	5/6/1998 46 72 12 NWS	E FREEDOM HILLS JOINT VENTURES	OSBORN TRUST 12-22-4672	GST	STO,CBM	45	495
P114441W	3/8/1999 46 72 12 SENV	V BARRETT RESOURCES CORPORATION	GILLETTE YARD NO.1	GSI	MIS		
* P162471W	8/27/2004 46 72 12 NENI	E WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
* P162471W		E WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
* P162471W	8/27/2004 46 72 12 SWN	E WYDOT** WY STATE BOARD OF LAND COMMISSIONERS		GSI	MIS		1
* P162471W	8/27/2004 46 72 12 SEN	E WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		+
* P162471W	8/27/2004 46 72 12 NEN	W WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
* P162471W	8/27/2004 46 72 12 SENV	W WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1		MIS		-
* P162471W	8/27/2004 46 72 12 NESV	W WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI		-	+
* P162471W	8/27/2004 46 72 12 SESV	W WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
* P162471W	8/27/2004 46 72 12 NES	E WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
* P162471W	8/27/2004 46 72 12 NWS	E WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
* P162471W	/ 8/27/2004 46 72 12 SWS	E WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		-
* P162471W		E WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		

Table 4.	Groundwater Rights for the Eagle Butte West LBA Tract					
	12/31/1940 46 72 12 SESW SYLVIA NEWTON	NEWTON #1	PUW	STO	4	100
P59475W	2/17/1982 46 72 12 NENW PERRY OSBORNE	OSBORNE #1	PUW	STO	25	320
* P59692W	3/8/1982 46 72 12 NWNE WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #1	PU	MIS	0	289
* P59692W	3/8/1982 46 72 12 SWNE WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #1	PU	MIS	0	289
* P59692W	3/8/1982 46 72 12 SESW WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #1	PU	MIS	0	289
* P59692W	3/8/1982 46 72 12 NESE WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #1	PU	MIS	0	289
* P59692W	3/8/1982 46 72 12 NWSE WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #1	PU	MIS	0	289
* P59692W	3/8/1982 46 72 12 SWSE WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #1	PU	MIS	0	289
* P59693W	3/8/1982 46 72 12 NWNE WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #2	PU	MIS	0	300
* P59693W	3/8/1982 46 72 12 SWNE WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #2	PU	MIS	0	300
* P59693W	3/8/1982 46 72 12 SESW WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #2	PU	MIS	0	300
* P59693W	3/8/1982 46 72 12 NESE WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #2	PU	MIS	0	300
* P59693W	3/8/1982 46 72 12 NWSE WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #2	PU	MIS	0	300
* P59693W	3/8/1982 46 72 12 SWSE WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #2	PU	MIS	0	300
* P59694W	3/8/1982 46 72 12 NWNE WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #3	PU	MIS	200	
* P59694W	3/8/1982 46 72 12 SWNE WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #3	PU	MIS	200	
* P59694W	3/8/1982 46 72 12 SESW WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #3	PU	MIS	200	
* P59694W	3/8/1982 46 72 12 NESE WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #3	PU	MIS	200	
* P59694W	3/8/1982 46 72 12 NWSE WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #3	PU	MIS	200	
* P59694W	3/8/1982 46 72 12 SWSE WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #3	PU	MIS	200	
* P59695W	3/8/1982 46 72 12 NWNE WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #4	PU	MIS	125	270
* P59695W	3/8/1982 46 72 12 SWNE WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #4	PU	MIS	125	270
* P59695W	3/8/1982 46 72 12 SESW WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #4	PU	MIS	125	270
* P59695W	3/8/1982 46 72 12 NESE WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #4	PU	MIS	125	270
* P59695W	3/8/1982 46 72 12 NWSE WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #4	PU	MIS	125	270
* P59695W	3/8/1982 46 72 12 SWSE WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #4	PU	MIS	125	270
P99218W	5/16/1995 46 72 12 SESE MIKE & KATIE GETTERT	GETTERT #1	UNA	DOM,STO	19	353
P100101W	8/23/1995 46 72 13 NESE BRYAN C TINER	TINER #1	UNA	DOM,STO	25	220
P100837W	11/8/1995 46 72 13 NESW JACK/PAM BAILEY	EVERSON #1	UNA	DOM	25	1070
P109080W	2/17/1998 46 72 13 NENW WILLIAMS PRODUCTION RMT, COMPANY	EVERSON FED. 23-13	GST	STO,CBM	35	524
P124184W	3/16/2000 46 72 13 NENE DNR OIL & GAS INC.	LINDSEY 11-18	GST	CBM	50	1087
P124185W	3/16/2000 46 72 13 SENE DNR OIL & GAS INC.	LINDSEY 12-18	GST	CBM	50	1039
P139339W	9/24/2001 46 72 13 SENW BRAD EDWARDS	EDWARDS # 1	GSI	DOM,STO		
* P162469W	8/23/2004 46 72 13 NENE EAGLE ROCK, LLC.	EAGLE ROCK NO. 1	GSI	MIS		1
* P162469W	8/23/2004 46 72 13 NWNE EAGLE ROCK, LLC.	EAGLE ROCK NO. 1	GSI	MIS		
* P162469W	8/23/2004 46 72 13 SWNE EAGLE ROCK, LLC.	EAGLE ROCK NO. 1	GSI	MIS		
* P162469W	8/23/2004 46 72 13 SENE EAGLE ROCK, LLC.	EAGLE ROCK NO. 1	GSI	MIS		
* P162471W	8/27/2004 46 72 13 NENE WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
* P162471W	8/27/2004 46 72 13 NWNE WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		

Table 4. Groundwater Rights for the Eagle Butte West LBA Tract	(Continued).				
* P162471W 8/27/2004 46 72 13 SWNE WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS	1	1
* P162471W 8/27/2004 46 72 13 SENE WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
* P162471W 8/27/2004 46 72 13 NENW WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		+
* P162471W 8/27/2004 46 72 13 SENW WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		+
* P162471W 8/27/2004 46 72 13 NESW WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS	-	
* P162471W 8/27/2004 46 72 13 SESW WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		+
* P162471W 8/27/2004 46 72 13 NESE WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
* P162471W 8/27/2004 46 72 13 NWSE WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
* P162471W 8/27/2004 46 72 13 SWSE WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
* P162471W 8/27/2004 46 72 13 SESE WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
P162729W 9/28/2004 46 72 13 SENW TARA AND DELORES EDWARDS	EDWARDS #1	GSI	DOM,STO		
P21660P 12/31/1941 46 72 13 SWNE STEVE/MONA MITZEL	NEWTON #2	UNA	STO	1	100
* P59692W 3/8/1982 46 72 13 NENE WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #1	PU	MIS	4	120
* P59692W 3/8/1982 46 72 13 SENE WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #1	PU		0	289
* P59692W 3/8/1982 46 72 13 NESE WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #1	PU	MIS	0	289
* P59692W 3/8/1982 46 72 13 SESE WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #1		MIS	0	289
* P59692W 3/8/1982 46 72 13 SESE WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #1	PU	MIS	0	289
* P59693W 3/8/1982 46 72 13 NENE WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #1 BELLE FOURCHE #2	DSC	MIS	0	289
* P59693W 3/8/1982 46 72 13 SENE WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #2 BELLE FOURCHE #2	PU	MIS	0	300
* P59693W 3/8/1982 46 72 13 NESE WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #2	PU	MIS	0	300
* P59693W 3/8/1982 46 72 13 SESE WYOMING STATE HIGHWAY DEPT.		PU	MIS	0	300
* P59693W 3/8/1982 46 72 13 SESE WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #2 BELLE FOURCHE #2	PU	MIS	0	300
* P59694W 3/8/1982 46 72 13 NENE WYOMING STATE HIGHWAY DEPT.		DSC	MIS	0	300
* P59694W 3/8/1982 46 72 13 SENE WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #3	PU	MIS	200	l
* P59694W 3/8/1982 46 72 13 NESE WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #3	PU	MIS	200	
* P59694W 3/8/1982 46 72 13 SESE WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #3	PU	MIS	200	
* P59694W 3/8/1982 46 72 13 SESE WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #3	PU	MIS	200	
* P59695W 3/8/1982 46 72 13 SESE WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #3	DSC	MIS	200	
* P59695W 3/8/1982 46 72 13 NENE WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #4	PUW	MIS		270
* P59695W 3/8/1982 46 72 13 SENE WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #4	PU	MIS	125	270
* P59695W 3/8/1982 46 72 13 NESE WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #4	PU	MIS	125	270
* P59695W 3/8/1982 46 72 13 SESE WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #4	PU	MIS	125	270
* P59695W 3/8/1982 46 72 13 SESE WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #4	PU	MIS	125	270
P60510W       5/4/1982       46       72       13       NESE       WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #4	DSC	MIS	125	270
P99216W 5/15/1995 46 72 13 NWSE MICHAEL A. & TERRI WEBER	BELLE FOURCHE #5	PUW	MON	0	
P142611W         2/8/2002         46         72         24         NESE         DALE         / SHARLA DOUGLAS	WEBER #1	UNA	DOM,STO	10	240
P147510W         10/14/2002         46         72         24         NESE         DALE         SHARLA DOUGLAS	RAFTER STAR # 1	GST	DOM,STO		162
	WRIGHT 1	GST	DOM,STO		383
	GILLETTE YARD NO.1	GSI	MIS		
* P162471W 8/27/2004 46 72 24 NWNE WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		

Table 4. Groundwater Rights for the Eagle Butte West LBA Tract	(Continued).				
THE REPORT OF TH	GILLETTE YARD NO.1	GSI	MIS		
* P162471W 8/27/2004 46 72 24 SWNE WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
* P162471W 8/27/2004 46 72 24 SENE WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
* P162471W 8/27/2004 46 72 24 NESE WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	NEWTON #3	PUW	STO	4	120
P21661P 12/31/1940 46 72 24 NWNE SYLVIA NEWTON	BELLE FOURCHE #1	PU	MIS	0	289
* P59692W 3/8/1982 46 72 24 NENE WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #1	PU	MIS	0	289
* P59692W 3/8/1982 46 72 24 SENE WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #1	PU	MIS	0	289
* P59692W 3/8/1982 46 72 24 NESE WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #2	PU	MIS	0	300
* P59693W 3/8/1982 46 72 24 NENE WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #2	PU	MIS	0	300
* P59693W 3/8/1982 46 72 24 SENE WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #2	PU	MIS	0	300
* P59693W 3/8/1982 46 72 24 NESE WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #3	PU	MIS	200	
* P59694W 3/8/1982 46 72 24 NENE WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #3	PU	MIS	200	
* P59694W 3/8/1982 46 72 24 SENE WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #3	PU	MIS	200	
* P59694W 3/8/1982 46 72 24 NESE WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #3	PU	MIS	125	270
* P59695W 3/8/1982 46 72 24 NENE WYOMING STATE HIGHWAY DEPT.		PU	MIS	125	270
* P59695W 3/8/1982 46 72 24 SENE WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #4	PU	MIS	125	270
* P59695W 3/8/1982 46 72 24 NESE WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #4	GSI	CBM		
* P141256W 12/3/2001 47 70 30 NESW DCD, INC.	BOOS A-11-30	GSI	CBM		
* P141256W 12/3/2001 47 70 30 SWNE DCD, INC.	BOOS A-11-30	PUW	DOM	10	207
P15835P 6/20/1958 47 70 30 NWSE ANGELA A. BOOS TRUST	#1 BOOS	PUW	DOM,STO	30	90
P15842P 5/12/1969 47 70 30 NWSE ANGELA A. BOOS TRUST	#8 BOOS	PUW	DOM,STO	6	60
P15844P 12/31/1929 47 70 30 NWSE ANGELA A. BOOS TRUST	#1 MATTHEWS		STO	-1	173
P25396W 12/18/1973 47 70 30 NESW ANGELA A. BOOS TRUST	BUCK #1	PUW	STO	4	190
P15837P 12/24/1959 47 70 31 SENW ANGELA A. BOOS TRUST	#3 BOOS	PUW		10	233
P27439W 7/30/1974 47 70 31 SWSE ANGELA A. BOOS TRUST	#1 JACK	PUW	STO	30	3400
* P99057W 4/24/1995 47 71 2 SESE PETROGULF CORPORATION	CLABAUGH #41-2 WSW	UNA	IND		210
P5514P 5/8/1958 47 71 4 SWSW LESLIE CLABAUGH	CLABAUGH #3	PUW	STO	4	10500
* P79080W 2/13/1989 47 71 4 NWSW COMDISCO EXPLORATION	ROYAL DRAW UNIT #1	PUW	MIS	15	10500
P30967W 8/28/1975 47 71 5 SENW MEADOWLARK FARMS INC.	AMAX #5	PUW	DOM,STO	25	10500
* P79080W 2/13/1989 47 71 5 NESE COMDISCO EXPLORATION	ROYAL DRAW UNIT #1	PU	MIS	15	
* P79080W 2/13/1989 47 71 5 NWSE COMDISCO EXPLORATION	ROYAL DRAW UNIT #1	UNA	MIS	15	10500
* P79080W 2/13/1989 47 71 5 NESE COMDISCO EXPLORATION	ROYAL DRAW UNIT #1	DSC	MIS	15	10500
P130325W 10/16/2000 47 71 6 SESW HI-PRO PRODUCTION, L.L.C.	DUNLAP 6-24-47-71-A	GST	CBM	25	401
P130326W 10/16/2000 47 71 6 SWSE HI-PRO PRODUCTION, L.L.C.	DUNLAP 6-34-47-71-A	GST	CBM	25	330
P130326W 10/16/2000 47 71 6 NESE HI-PRO PRODUCTION, L.L.C.	DUNLAP 6-43-47-71-A	GST	CBM	25	326
P130327W 10/16/2000 47 71 6 NESE III-PRO PRODUCTION, L.L.C.	DUNLAP 6-44-47-71-A	GST	CBM	25	341
P130328W 10/16/2000 47 71 6 SESE HI-PRO PRODUCTION, L.L.C.	DUNLAP 6-12-47-71-A	GST	CBM	25	
P130437W         10/25/2000         47         71         6         SWNW         HI-PRO PRODUCTION, L.L.C.           P130438W         10/25/2000         47         71         6         NWSE         HI-PRO PRODUCTION, L.L.C.	DUNLAP 6-33-47-71-A	GST	CBM	25	
P130438W 10/25/2000 47 /1 0 NWSE MI-FRO PRODUCTION, D.D.C.	RAG 6- 22 - 47 -71 - A	GST	CBM	25	
P130691W 11/3/2000 47 71 6 SENW HI-PRO PRODUCTION, L.L.C.	DUNLAP 6 - 31 - 47 - 71 - A	GST	CBM		326
P131775W 12/29/2000 47 71 6 NWNE HI-PRO PRODUCTION, L.L.C.					

Table 4. Groundwater Rights for the Eagle Butte West LE	BA Tract (Continued).				
P131776W 12/29/2000 47 71 6 NESW HI-PRO PRODUCTION, L.L.C.	DUNLAP 6 - 23 - 47 - 71 - A	GST	CBM		321
P131777W 12/29/2000 47 71 6 NWSW HI-PRO PRODUCTION, L.L.C.	DUNLAP 6 - 13 - 47 - 71 - A	GST	CBM		333
P131781W 12/29/2000 47 71 6 NENW HI-PRO PRODUCTION, L.L.C.	RAG 6-21-47-71-A	GST	CBM		324
P132111W 12/29/2000 47 71 6 SWNW HI-PRO PRODUCTION, L.L.C.	ENL DUNLAP 6-12-47-71A	UNA	CBM		
P132112W 12/29/2000 47 71 6 SENW HI-PRO PRODUCTION, L.L.C.	ENL R.A.G. 6-22-47-71A	UNA	CBM		
P132113W 12/29/2000 47 71 6 SESW HI-PRO PRODUCTION, L.L.C.	ENL DUNLAP 6-24-47-71A	UNA	CBM		
P132114W 12/29/2000 47 71 6 NWSE HI-PRO PRODUCTION, L.L.C.	ENL DUNLAP 6-33-47-71A	UNA	CBM		
P132115W 12/29/2000 47 71 6 SWSE HI-PRO PRODUCTION, L.L.C.	ENL DUNLAP 6-34-47-71A	UNA	CBM		
P132116W 12/29/2000 47 71 6 NESE HI-PRO PRODUCTION, L.L.C.	ENL DUNLAP 6-43-47-71A	UNA	CBM		
P132117W 12/29/2000 47 71 6 SESE HI-PRO PRODUCTION, L.L.C.	ENL DUNLAP 6-44-47-71A	UNA	CBM		
* P133817W 4/6/2001 47 71 6 SWNE HI-PRO PRODUCTION, L.L.C.	DUNLAP 6-32-47-71-A	GST	CBM		313
* P133818W 4/6/2001 47 71 6 SENE HI-PRO PRODUCTION, L.L.C.	DUNLAP 6-42-47-71-A	GST	CBM		351
P23440P 7/26/1973 47 71 6 NESW AMAX LAND COMPANY	DUNLAP #6	GST	STO	25	80
P130329W 10/16/2000 47 71 7 SWNW HI-PRO PRODUCTION, L.L.C.	DUNLAP 7-12-47-71-A	GST	CBM	25	415
P130330W 10/16/2000 47 71 7 SWSW HI-PRO PRODUCTION, L.L.C.	DUNLAP 7-14-47-71-A	GST	CBM	25	366
P130331W 10/16/2000 47 71 7 NENW HI-PRO PRODUCTION, L.L.C.	DUNLAP 7-21-47-71-A	GST	CBM	25	416
P130332W 10/16/2000 47 71 7 SENW HI-PRO PRODUCTION, L.L.C.	DUNLAP 7-22-47-71-A	GST	CBM	25	439
* P130333W 10/16/2000 47 71 7 SESW HI-PRO PRODUCTION, L.L.C.	DUNLAP 7-24-47-71-A	UNA	CBM	25	
* P130333W 10/16/2000 47 71 7 SWNW HI-PRO PRODUCTION, L.L.C.	DUNLAP 7-24-47-71-A	UNA	CBM	25	
P130458W 10/25/2000 47 71 7 NENE HI-PRO PRODUCTION, L.L.C.	DUNLAP 7-41-47-71-A	GST	CBM	25	344
P130459W 10/25/2000 47 71 7 NWNE HI-PRO PRODUCTION, L.L.C.	DUNLAP 7-31-47-71-A	GST	СВМ	25	390
P131773W 12/29/2000 47 71 7 SWNE HI-PRO PRODUCTION, L.L.C.	DUNLAP 7 - 32 - 47 - 71 - A	GST	CBM		424
P131774W 12/29/2000 47 71 7 NESW HI-PRO PRODUCTION, L.L.C.	DUNLAP 7 - 23 - 47 - 71 - A	GST	CBM		386
P132118W 12/29/2000 47 71 7 SWNW HI-PRO PRODUCTION, L.L.C.	ENL DUNLAP 7-12-47-71A	UNA	CBM		
P132119W 12/29/2000 47 71 7 SWSW HI-PRO PRODUCTION, L.L.C.	, ENL DUNLAP 7-14-47-71A	GST	CBM		366
P132120W 12/29/2000 47 71 7 NENW HI-PRO PRODUCTION, L.L.C.	, ENL DUNLAP 7-21-47-71A	UNA	СВМ		
P132121W 12/29/2000 47 71 7 SENW HI-PRO PRODUCTION, L.L.C.	ENL DUNLAP 7-22-47-71A	UNA	CBM		
P132122W 12/29/2000 47 71 7 NWNE HI-PRO PRODUCTION, L.L.C.	ENL DUNLAP 7-31-47-71A	UNA	CBM		
P132123W 12/29/2000 47 71 7 NENE HI-PRO PRODUCTION, L.L.C.	ENL DUNLAP 7-41-47-71A	UNA	CBM		
* P133807W 4/6/2001 47 71 7 SESW HI-PRO PRODUCTION, L.L.C.	ENL. DUNLAP 7-24-47-71-A	UNA	CBM		391
P134269W 4/19/2001 47 71 7 NWSW HI-PRO PRODUCTION, L.L.C.	DUNLAP 7-13-47-71-A	GST	СВМ	0	368
* P136837W 7/3/2001 47 71 7 SWSW HI-PRO PRODUCTION, L.L.C.	DUNLAP 7-14-B	GST	СВМ		1258
* P136839W 7/3/2001 47 71 7 NESW HI-PRO PRODUCTION, L.L.C.	DUNLAP 7-23-B	GST	CBM		1192
P23441P 7/26/1973 47 71 7 SWSW AMAX LAND COMPANY	DUNLAP #7 (DEEPENED)	GST	STO	25	140
P86864W 12/19/1991 47 71 7 NWSW HI-PRO PRODUCTION, L.L.C.	DUNLAP #7-13	UNA	STO,CBM	20	301
* P55070W 10/8/1980 47 71 8 SWSW BOWDEN ENERGY COMPANY	DUVALL 1 20	GST	IND	181	4650
P5516P 7/14/1966 47 71 8 SESE LESLIE CLABAUGH	CLABAUGH #5	PUW	STO	5	120
P84217W 12/28/1990 47 71 8 SENE DCD INC.	CLABAUGH #8-8	GST	MIS,DEW,CBM	0	283
P84218W 12/28/1990 47 71 8 SESE DCD INC.	CLABAUGH #16-8	GST	MIS,DEW,CBM	0	285

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able 4.						ghts for the Eagle Butte West LBA Tract (Co		1	1		
P5508W			_			LESLIE CLABAUGH	BAKER #1	PUW	DOM,STO	-1	126
P84215W	12/28/1990						LINNY #6-9	GST	MIS,DEW,CBM	0	242
P84219W	12/28/1990	47 7	1 9	9   S	ESW	DCD INC.	CLABAUGH #14-9	GST	MIS,DEW,CBM	0	272
P84591W	3/4/1991	47 7	1 9	9 N	ENW	DCD INC.	LINNY #3-9	UNA	MIS,CBM	35	
P84592W	3/4/1991	47 7	19	9 N	WNW	DCD INC.	LINNY #4-9	UNA	MIS,CBM	35	
P84220W	12/28/1990	47 7	1 1	.0 S	WSW	DCD INC.	CLABAUGH #13-10	GST	MIS,DEW,CBM	0	233
P84221W	12/28/1990	47 7	1 1	0 S	WSE	DCD INC.	CLABAUGH #15-10	GST	MIS,DEW,CBM	0	220
P139565W	10/2/2001	47 7	1 1	3 S	WSE	FLYING J OIL & GAS INC	FEDERAL 34-13	GST	IND		409
P22622P	3/1/1973	47 7	11	3 S	ESE	FLORA M. RAITT	RAITT #2	PUW	STO	5	190
P98361W	12/23/1994	47 7	11	.3 S	WSE	PURON CORPORATION	PW-P1-1	GSE	IND,MIS	500	
P98361W	12/23/1994	47 7	1 1	.3 S	SESE	PURON CORPORATION	PW-P1-1	GSE	IND,MIS	500	
P98362W	12/23/1994	47 7	11	.3 S	SESE	PURON CORPORATION	PW-P1-2	GSE	IND,MIS	500	
P98362W						PURON CORPORATION	PW-P1-2	GSE	IND,MIS	500	
P98363W						PURON CORPORATION	PW-P1-3	UNA	IND,MIS	500	
P98363W						PURON CORPORATION	PW-P1-3	UNA	IND,MIS	500	
P98363W						PURON CORPORATION	PW-P1-3	UNA	IND,MIS	500	
P22621P						FLORA M. RAITT	RAITT #1	PUW	STO	5	17
P7294P						FRANK P. SCHNEIDER TRUST B	SCHNEIDER #7	PUW	STO	7.5	31
P7290P						BETTY MAE HETTINGER	SCHNEIDER #3	UNA	STO	7.5	30
P7291P						CPT. DELBERT W. FOOTE** FRANK P. SCHNEIDER TRUST B	SCHNEIDER #4	UNA	STO	7.5	13
P84216W						DCD INC.** WYO BOARD OF LAND COMMISSIONERS	STATE #13-16	GST	MIS,DEW,CBM	0	34
P90939W						STATE BOARD LAND COMMISSIONERS** DCD, INC.	STATE #7-16	GST	MIS,DEW,CBM		26
P90940W						STATE BOARD LAND COMMISSIONERS** DCD, INC.	STATE #9-16	GST	MIS,DEW,CBM		31
P90941W						STATE BOARD LAND COMMISSIONERS** DCD, INC.	STATE #11-16	GST	MIS,DEW,CBM		34
P90942W						STATE BOARD LAND COMMISSIONERS** DCD, INC.	STATE #12-16	GST	MIS,DEW,CBM		36
P90943W						STATE BOARD LAND COMMISSIONERS** DCD, INC.	STATE #14-16	GST	MIS, DEW, CBM		30
P90944W						STATE BOARD LAND COMMISSIONERS** DCD, INC.	STATE #16-16	GST	MIS,DEW,CBM		28
P94498W						DCD, INC.**WYO BOARD OF LAND COMMISSIONERS	STATE #2-16	UNA			24
P98313W	2/10/1995				IENE	LANCE OIL & GAS COMPANY, INC** WY STATE BOARD OF LAND	STATE 1-16	UNA	СВМ	1.46	
P98314W	2/10/1995	47 7	71 1	16 N		LANCE OIL & GAS COMPANY, INC** WY STATE BOARD OF LANE COMMISSIONERS		UNA	MIS,CBM	0.15	31
P98315W	2/10/1995	47 7	71	16 S	SENW	LANCE OIL & GAS COMPANY, INC** WY STATE BOARD OF LAND COMMISSIONERS		UNA	MIS,CBM	1.46	31
P98316W	2/10/1995	47 7	71 1	16 5		LANCE OIL & GAS COMPANY, INC** WY STATE BOARD OF LANI COMMISSIONERS		UNA	MIS,CBM	0.15	29
P98317W	2/10/1995	47 7	71 1	16 N		LANCE OIL & GAS COMPANY, INC** WY STATE BOARD OF LANI COMMISSIONERS		UNA	MIS,CBM	0.15	3
P98318W	2/10/1995					LANCE OIL & GAS COMPANY, INC** WY STATE BOARD OF LANI COMMISSIONERS		UNA	MIS,CBM	0.15	-
P112458W	10/30/1998	47 7	71 ]	17 N	WNW	BOWDEN ENERGY COMPANY	MU #11-17	GST	CBM	5	41

Table 4. Groundwater Rights for the Eagle Butte West LBA Tract	(Continued).				
P112494W 11/3/1998 47 71 17 SWNW BOWDEN ENERGY COMPANY	MU #12-17	GST	CBM	1	431
P112496W 11/3/1998 47 71 17 SESE BOWDEN ENERGY COMPANY	MU #44-17	GST	CBM	1	341
P112497W 11/3/1998 47 71 17 SWSE BOWDEN ENERGY COMPANY	MU #34-17	GST	CBM	0.5	357
P112498W 11/3/1998 47 71 17 NESW BOWDEN ENERGY COMPANY	MU #23-17	GST	CBM	1	403
P112499W 11/3/1998 47 71 17 NWSW BOWDEN ENERGY COMPANY	MU #13-17	GST	CBM	3	454
P112500W 11/3/1998 47 71 17 NWSW BOWDEN ENERGY COMPANY	MU #22-17	GST	CBM	0.4	423
P18700P 12/31/1940 47 71 17 SESE GLENN HAYDEN	LAKE #6	PUW	STO	5	220
P18701P 12/31/1938 47 71 17 NESW GLENN HAYDEN	ROYAL #7	PUW	STO	5	140
* P55070W 10/8/1980 47 71 17 SWNE BOWDEN ENERGY COMPANY	DUVALL 1 20	GST	IND	181	4650
* P55070W 10/8/1980 47 71 17 SENE BOWDEN ENERGY COMPANY	DUVALL 1 20	GST	IND	181	4650
* P55070W 10/8/1980 47 71 17 NENW BOWDEN ENERGY COMPANY	DUVALL 1 20	GST	IND	181	4650
* P55070W 10/8/1980 47 71 17 NWNW BOWDEN ENERGY COMPANY	DUVALL 1 20	GST	IND	181	4650
* P55070W 10/8/1980 47 71 17 SWNW BOWDEN ENERGY COMPANY	DUVALL 1 20	GST	IND	181	4650
* P55070W 10/8/1980 47 71 17 SENW BOWDEN ENERGY COMPANY	DUVALL 1 20	GST	IND	181	4650
* P55070W 10/8/1980 47 71 17 NESW BOWDEN ENERGY COMPANY	DUVALL 1 20	GST	IND	181	4650
* P55070W 10/8/1980 47 71 17 SESW BOWDEN ENERGY COMPANY	DUVALL 1 20	GST	IND	181	4650
* P55070W 10/8/1980 47 71 17 NESE BOWDEN ENERGY COMPANY	DUVALL 1 20	GST	IND	181	4650
* P55070W 10/8/1980 47 71 17 NWSE BOWDEN ENERGY COMPANY	DUVALL 1 20	GST	IND	181	4650
* P55070W 10/8/1980 47 71 17 SWSE BOWDEN ENERGY COMPANY	DUVALL 1 20	GST	IND	181	4650
* P55070W 10/8/1980 47 71 17 SESE BOWDEN ENERGY COMPANY	DUVALL 1 20	GST	IND	181	4650
P105549W 4/14/1997 47 71 18 NWSE LANCE OIL & GAS COMPANY, INC	HAYDEN #18-33	GST	CBM	25	409
P112459W 10/30/1998 47 71 18 SENE BOWDEN ENERGY COMPANY	MU #42-18	GST	CBM	1	428
P112460W 10/30/1998 47 71 18 NENE BOWDEN ENERGY COMPANY	MU #41-18	GST	CBM	1	393
P116720W 6/28/1999 47 71 18 SESW JN EXPLORATION/PRODUCTION LIMITED PARTNERSHIP	JN DUVALL 18N WELL	GST	CBM	40	358
* P133820W 4/6/2001 47 71 18 NWNW HI-PRO PRODUCTION, L.L.C.	DUNLAP 18-11-47-71-A	GST	CBM		371
* P133821W 4/6/2001 47 71 18 SWNW HI-PRO PRODUCTION, L.L.C.	· DUNLAP 18-12-47-71-A	GST	CBM		373
* P133822W 4/6/2001 47 71 18 NENW HI-PRO PRODUCTION, L.L.C.	DUNLAP 18-21-47-71-A	GST	CBM		375
* P133823W 4/6/2001 47 71 18 SENW HI-PRO PRODUCTION, L.L.C.	DUNLAP 18-22-47-71-A	GST	CBM		381
* P136842W 7/3/2001 47 71 18 NWNW HI-PRO PRODUCTION, L.L.C.	DUNLAP 18-11-B	GSI	CBM		
* P136844W 7/3/2001 47 71 18 NENW HI-PRO PRODUCTION, L.L.C.	DUNLAP 18-21-B	GSI	CBM		
* P136845W 7/3/2001 47 71 18 SENW HI-PRO PRODUCTION, L.L.C.	DUNLAP 18-22-B	GST	CBM		1230
* P55070W 10/8/1980 47 71 18 NENE BOWDEN ENERGY COMPANY	DUVALL 1 20	GST	IND	181	4650
* P55070W 10/8/1980 47 71 18 SENE BOWDEN ENERGY COMPANY	DUVALL 1 20	GST	IND	181	4650
P105550W 4/14/1997 47 71 19 NWNE LANCE OIL & GAS COMPANY, INC	DUVALL #19-31	GST	CBM	25	343
P105551W 4/14/1997 47 71 19 NWSE LANCE OIL & GAS COMPANY, INC	DUVALL #19-33	GST	CBM	25	276
P105552W 4/14/1997 47 71 19 NESE LANCE OIL & GAS COMPANY, INC	DUVALL #19-43	GST	CBM	25	371
P106903W 7/24/1997 47 71 19 SESW LANCE OIL & GAS COMPANY, INC	FEDERAL #719-24	GST	CBM	0	377
P106905W 7/24/1997 47 71 19 SWSE LANCE OIL & GAS COMPANY, INC	FEDERAL #719-34	GST	CBM	0	367
P106906W 7/24/1997 47 71 19 SENE LANCE OIL & GAS COMPANY, INC	FEDERAL #719-42	GST	CBM	0	412

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Table 4.	Groundwater Rights for the Eagle Butte West LBA Tract	(Continued).		0.014		200
P106907W	7/24/1997 47 71 19 SESE LANCE OIL & GAS COMPANY, INC	FEDERAL #719-44	GST	CBM	0	382
	6/28/1999 47 71 19 NENW JN EXPLORATION/PRODUCTION LIMITED PARTNERSHIP	JN DUVALL 19C WELL	GST	CBM	40	373
	6/28/1999 47 71 19 SENW JN EXPLORATION/PRODUCTION LIMITED PARTNERSHIP	JN MANKIN 19F WELL	GST	CBM	40	363
P22588P	2/7/1973 47 71 19 NWNE KENNETH R. DUVALL	KEN DUVALL #2	PUW	STO	2	30
P22589P	2/7/1973 47 71 19 SWNE KENNETH R. DUVALL	KEN DUVALL #3	PUW	STO	4	84
P102431W	5/13/1996 47 71 20 SWSW LANCE OIL & GAS COMPANY, INC	DUVALL CG 14-20	UNA	MIS,CBM	0	376
P102435W	5/28/1996 47 71 20 NESW LANCE OIL & GAS COMPANY, INC	K&N CG #23-20	UNA	MIS,CBM	0	372
	9/18/1996 47 71 20 SESW LANCE OIL & GAS COMPANY, INC	DUVALL #24-20	UNA	MIS,CBM	4	418
	9/18/1996 47 71 20 NWSW LANCE OIL & GAS COMPANY, INC	DOL #13-20	UNA	MIS,CBM	2	379
	9/18/1996 47 71 20 NWNW LANCE OIL & GAS COMPANY, INC	KD #11-20	UNA	MIS,CBM	6	383
	9/18/1996 47 71 20 SWNW LANCE OIL & GAS COMPANY, INC	ND #12-20	UNA	MIS,CBM	6	365
	11/3/1998 47 71 20 NWNE BOWDEN ENERGY COMPANY	MU #31-20	GST	CBM	1	357
P22590P	2/7/1973 47 71 20 SWNW KENNETH R. DUVALL	KEN DUVALL #4	PUW	STO	5	208
	0/25/1976 47 71 20 NENE GLENN HAYDEN FAMILY RANCH	HAYDEN RANCH #1	PUW	STO	25	906
	10/8/1980 47 71 20 NENW BOWDEN ENERGY COMPANY	DUVALL 1 20	GST	IND	181	4650
	10/8/1980 47 71 20 NENE BOWDEN ENERGY COMPANY	DUVALL 1 20	GST	IND	181	4650
	10/8/1980 47 71 20 NWNE BOWDEN ENERGY COMPANY	DUVALL 1 20	GST	IND	181	4650
	10/8/1980 47 71 20 SWNE BOWDEN ENERGY COMPANY	DUVALL 1 20	GST	IND	181	4650
* P55070W	10/8/1980 47 71 20 SENE BOWDEN ENERGY COMPANY	DUVALL 1 20	GST	IND	181	4650
	10/8/1980 47 71 20 SENW BOWDEN ENERGY COMPANY	DUVALL 1 20	GST	IND	181	4650
* P55070W	10/8/1980 47 71 20 NESE BOWDEN ENERGY COMPANY	DUVALL 1 20	GST	IND	181	4650
* P55070W	10/8/1980 47 71 20 NWSE BOWDEN ENERGY COMPANY	DUVALL 1 20	GST	IND	181	4650
* P55070W	10/8/1980 47 71 20 SWSE BOWDEN ENERGY COMPANY	DUVALL 1 20	GST	IND	181	4650
* P55070W	10/8/1980 47 71 20 SESE BOWDEN ENERGY COMPANY	DUVALL 1 20	GST	IND	181	4650
* P55070W	7/16/1986 47 71 20 SECE DOWDER ENDING COMPANY 7/16/1986 47 71 20 SWNW KENNITH R. DURALL	KEN DUVALL V	PUW	STO	25	895
P72898W	4/6/1987 47 71 20 SWSW CNG PRODUCING COMPANY	ENL PIPER #1	PU	MIS	75	
P74336W	10/8/1996 47 71 21 SWSW LANCE OIL & GAS COMPANY, INC	HAYDEN 14-21	UNA	MIS,CBM	6	343
P104271W	10/8/1996 47 71 21 NWSW LANCE OIL & GAS COMPANY, INC	LAKE #13-21	UNA	MIS,CBM	11	341
P104272W	11/4/1996 47 71 21 SWNE BIG BASIN PETROLEUM, LLC	USA 7-21	GST	CBM	0	357
P104460W	11/4/1996 47 71 21 NWNW BIG BASIN PETROLEUM, LLC	USA 4-21	GST	CBM	0	348
P104461W		SCHNEIDER #1	PUW	DOM	7.5	25
P7288P	9/21/1930 47 71 22 NWSW FRANK P. SCHNEIDER TRUST B	SCHNEIDER #5	PUW	STO	7.5	140
P7292P	8/31/1957 47 71 23 NWSE FRANK P. SCHNEIDER TRUST B	FEDERAL 34-13	GST	IND		4096
* P139565W	10/2/2001 47 71 24 NENE FLYING J OIL & GAS INC	#6 BOOS	PUW	DOM	4	175
P15840P	4/28/1961 47 71 24 NESE ANGELA A. BOOS TRUST	HAIGHT & CO #1	PUW	STO	25	180
P42322W	3/9/1978 47 71 24 NWSE WAYNE HAIGHT	21 24 WSW	PUW	IND	200	1
* P51029W	2/4/1980 47 71 24 NWNE COTTON PETROLEUM CORPORATION	21 24 WSW 21 24 WSW	PU	IND	200	
* P51029W	2/4/1980 47 71 24 SWNW COTTON PETROLEUM CORPORATION	21 24 WSW 21 24 WSW	PU	IND	200	
* P51029W	2/4/1980 47 71 24 SESE COTTON PETROLEUM CORPORATION		GSE	IND,MIS	500	
* P98361W	12/23/1994 47 71 24 SENE PURON CORPORATION	PW-P1-1			1000	1

Table 4. Groundwater Rights for the Eagle Butte West LBA Trac	t (Continued)				
Table 4. Groundwater Rights for the Eagle Butte West LBA Trac	PW-P1-1	GSE	IND,MIS	500	
* P98361W 12/23/1994 47 71 24 NENE PURON CORPORATION	PW-P1-1	GSE	IND,MIS	500	
* P98361W 12/23/1994 47 71 24 NWNE PURON CORPORATION	PW-P1-1	GSE	IND,MIS	500	
* P98361W 12/23/1994 47 71 24 SWNE PURON CORPORATION	PW-P1-2	GSE	IND,MIS	500	
* P98362W 12/23/1994 47 71 24 NENE PURON CORPORATION	PW-P1-2	GSE	IND,MIS	500	
* P98362W 12/23/1994 47 71 24 NWNE PURON CORPORATION	PW-P1-2	GSE	IND,MIS	500	
* P98362W 12/23/1994 47 71 24 SWNE PURON CORPORATION	PW-P1-2	GSE	IND,MIS	500	
* P98362W 12/23/1994 47 71 24 SENE PURON CORPORATION	PW-P1-3	UNA	IND,MIS	500	
* P98363W 12/23/1994 47 71 24 NENE PURON CORPORATION	PW-P1-3	UNA	IND,MIS	500	
* P98363W 12/23/1994 47 71 24 NWNE PURON CORPORATION	PW-P1-3	UNA	IND,MIS	500	
* P98363W 12/23/1994 47 71 24 SWNE PURON CORPORATION	PW-P1-3	UNA	IND,MIS	500	
* P98363W 12/23/1994 47 71 24 SENE PURON CORPORATION	HOME #1	PUW	DOM,STO	4	120
P18726P 4/30/1953 47 71 25 SWNW MILO HAIGHT	SCHNEIDER #6	PUW	STO	7.5	60
P7293P 12/31/1939 47 71 25 NWNW FRANK P. SCHNEIDER TRUST B.	SWBH UNIT WSW #1	UNA	IND	45	1750
P95999W 6/23/1994 47 71 26 SWNE ST. MARY OPERATING CO	SCHNEIDER #2	PUW	STO	5	270
P7289P 12/21/1942 47 71 27 NESW FRANK P. SCHNEIDER TRUST B	HAYDEN 3-28	UNA	MIS,CBM	4	687
P102428W 5/13/1996 47 71 28 SWSW LANCE OIL & GAS COMPANY, INC	HAYDEN CG 34-28	UNA	MIS,CBM	15	300
P102430W 5/13/1996 47 71 28 SWSE LANCE OIL & GAS COMPANY, INC	HAYDEN 8-28	UNA	MIS,CBM	4	775
P102433W 5/13/1996 47 71 28 NENE LANCE OIL & GAS COMPANY, INC	BH #24-28	UNA	MIS,CBM	4	320
P104105W 9/30/1996 47 71 28 SESW LANCE OIL & GAS COMPANY, INC	HOME #1	PUW	DOM,STO	10	140
P18695P 12/31/1925 47 71 28 NESE GLENN HAYDEN	DUVALL 1 20	GST	IND	181	4650
* P55070W 10/8/1980 47 71 28 NENW BOWDEN ENERGY COMPANY	DUVALL 1 20	GST	IND	181	4650
* P55070W 10/8/1980 47 71 28 NWNW BOWDEN ENERGY COMPANY	DUVALL 1 20	GST	IND	181	4650
* P55070W 10/8/1980 47 71 28 SWNW BOWDEN ENERGY COMPANY	DUVALL 1 20 DUVALL 1 20	GST	IND	181	4650
* P55070W 10/8/1980 47 71 28 SENW BOWDEN ENERGY COMPANY	DUVALL 1 20 DUVALL 1 20	GST	IND	181	4650
* P55070W 10/8/1980 47 71 28 NESW BOWDEN ENERGY COMPANY '	DUVALL 1 20	GST	IND	181	4650
* P55070W 10/8/1980 47 71 28 NWSW BOWDEN ENERGY COMPANY		GST	IND	181	4650
* P55070W 10/8/1980 47 71 28 SWSW BOWDEN ENERGY COMPANY	DUVALL 1 20	GST	IND	_	4650
* P55070W 10/8/1980 47 71 28 SESW BOWDEN ENERGY COMPANY	DUVALL 1 20	UNA	MIS,CBM	14	390
P104270W 10/8/1996 47 71 29 NWSW LANCE OIL & GAS COMPANY, INC	MH #13-29	GST	CBM	6	368
P106612W 7/1/1997 47 71 29 SWSW LANCE OIL & GAS COMPANY, INC	LH #14-29	GST	CBM	3.5	449
P107179W 8/18/1997 47 71 29 SWNW LANCE OIL & GAS COMPANY, INC	GARRETT #29-12	GST	CBM	0.0	459
P107180W 8/18/1997 47 71 29 SENW LANCE OIL & GAS COMPANY, INC	GARRETT #29-22	GST	STO,CBM	4	463
P109078W 2/17/1998 47 71 29 NWNW LANCE OIL & GAS COMPANY, INC	GARRETT 29-11 R	GST	STO,CBM STO,CBM	0	477
P109079W 2/17/1998 47 71 29 NESE LANCE OIL & GAS COMPANY, INC	GARRETT 29-43	PUW	STO,CBM	7.5	135
P18717P 6/30/1945 47 71 29 SENW MACSY HAIGHT**TESS GARRETT	STRAATSMA #1		STO	25	40
P18718P 12/31/1945 47 71 29 NENW MACSY HAIGHT**TESS GARRETT	FLOWING #1	PUW		181	4650
* P55070W 10/8/1980 47 71 29 NENE BOWDEN ENERGY COMPANY	DUVALL 1 20	GST	IND	181	4650
* P55070W 10/8/1980 47 71 29 NWNE BOWDEN ENERGY COMPANY	DUVALL 1 20	GST	IND		
* P55070W 10/8/1980 47 71 29 SENE BOWDEN ENERGY COMPANY	DUVALL 1 20	GST	IND	101	4650

Table 4. Groundwater Rights for the Eagle Butte West Ll	BA Tract (Continued).		· · · · · · · · · · · · · · · · · · ·		
P102432W 5/13/1996 47 71 30 NWNE LANCE OIL & GAS COMPANY, INC	SIMMS CG 31-30	UNA	MIS,CBM	3	387
P102436W 5/28/1996 47 71 30 NENE LANCE OIL & GAS COMPANY, INC	LEO CG #41-30	UNA	MIS,CBM	6	399
P104086W 9/30/1996 47 71 30 SENE LANCE OIL & GAS COMPANY, INC	SJ #42-30	UNA	MIS,CBM	4	395
P104087W 9/30/1996 47 71 30 SWNE LANCE OIL & GAS COMPANY, INC	LAS #32-30	UNA	MIS,CBM	10	375
P18727P 12/31/1946 47 71 30 SWNE MACSY HAIGHT**TESS GARRETT	SIMMS #1	PUW	STO	7.5	100
* P102861W 7/2/1996 47 71 31 NWSW CITATION OIL AND GAS CORP	STOCK #13-31	UNA	STO,CBM	5	437
* P102861W 7/2/1996 47 71 31 SWNW CITATION OIL AND GAS CORP	STOCK #13-31	UNA	STO,CBM	5	437
* P102861W 7/2/1996 47 71 31 SWSW CITATION OIL AND GAS CORP	STOCK #13-31	UNA	STO,CBM	5	437
* P102862W 7/2/1996 47 71 31 NWNW CITATION OIL AND GAS CORP	STOCK #11-31	UNA	STO,CBM	0	410
* P102862W 7/2/1996 47 71 31 SWNW CITATION OIL AND GAS CORP	STOCK #11-31	UNA	STO,CBM	0	410
* P102862W 7/2/1996 47 71 31 SWSW CITATION OIL AND GAS CORP	STOCK #11-31	UNA	STO,CBM	0	410
* P102863W 7/2/1996 47 71 31 SENW CITATION OIL AND GAS CORP	STOCK #22-31	UNA	STO,MIS,CBM	0	400
* P102863W 7/2/1996 47 71 31 SWNW CITATION OIL AND GAS CORP	STOCK #22-31	UNA	STO,MIS,CBM	0	400
* P102863W 7/2/1996 47 71 31 SWSW CITATION OIL AND GAS CORP	STOCK #22-31	UNA	STO,MIS,CBM	0	400
* P102864W 7/2/1996 47 71 31 SESW CITATION OIL AND GAS CORP	STOCK #24-31	UNA	STO,CBM	7	402
* P102864W 7/2/1996 47 71 31 SWNW CITATION OIL AND GAS CORP	STOCK #24-31	UNA	STO,CBM	7	402
* P102864W 7/2/1996 47 71 31 SWSW CITATION OIL AND GAS CORP	STOCK #24-31	UNA	STO,CBM	7	402
* P104242W 10/18/1996 47 71 31 NWSE CITATION OIL AND GAS CORP	STOCK 33-31	UNA	STO,CBM	0	377
* P104243W 10/18/1996 47 71 31 SENE CITATION OIL AND GAS CORP	STOCK 42-31	UNA	STO,CBM	0	308
* P104244W 10/18/1996 47 71 31 SESE CITATION OIL AND GAS CORP	STOCK 44-31	UNA	STO,CBM	0	359
P106500W 6/24/1997 47 71 31 NWNE CITATION OIL & GAS CORP.	MACSY CG #31-31	GST	CBM	5	351
P45634W 10/13/1978 47 71 31 NWSW MILO HAIGHT	MILO HAIGHT #1	PUW	STO	20	430
* P88919W 7/16/1992 47 71 31 NESE RAYMOND T. DUNCAN	HAIGHT 5-31	UNA	IND	31	4721
* P88919W 7/16/1992 47 71 31 NWNE RAYMOND T. DUNCAN	HAIGHT 5-31	UNA	IND	31	4721
* P104242W 10/18/1996 47 71 32 SWNW CITATION OIL AND GAS CORP	STOCK 33-31	UNA	STO,CBM	0	377
* P104243W 10/18/1996 47 71 32 SWNW CITATION OIL AND GAS CORP	STOCK 42-31	UNA	STO,CBM	0	308
* P104244W 10/18/1996 47 71 32 SWNW CITATION OIL AND GAS CORP	STOCK 44-31	UNA	STO,CBM	0	359
P106321W 6/16/1997 47 71 32 SESE CITATION OIL AND GAS CORP	KEIDEL 44-32	UNA	STO,CBM	0	321
P106515W 6/23/1997 47 71 32 NWSE CITATION OIL AND GAS CORP	KEIDEL 33-32	UNA	STO,CBM	0	297
P107181W 8/18/1997 47 71 32 NENW LANCE OIL & GAS COMPANY, INC	GARRETT #32-21	GST	CBM	0	334
P107182W 8/18/1997 47 71 32 NWNE LANCE OIL & GAS COMPANY, INC	GARRETT #32-31	GST	CBM	0	353
P102429W 5/13/1996 47 71 33 SWNE LANCE OIL & GAS COMPANY, INC	HAIGHT 4-33	UNA	MIS,CBM	3	775
P102434W 5/13/1996 47 71 33 NENW LANCE OIL & GAS COMPANY, INC	HAIGHT 1-33	UNA	MIS,CBM	4	662
P107183W 8/18/1997 47 71 33 NWNW LANCE OIL & GAS COMPANY, INC	GARRETT #33-11	GST	CBM	0	360
P108043W 11/4/1997 47 71 33 SENW LANCE OIL & GAS COMPANY, INC	SMW 22-33	GST	CBM	2	327
P108044W 11/4/1997 47 71 33 SENE LANCE OIL & GAS COMPANY, INC	SML 42-33	GST	CBM	5	319
P108045W 11/4/1997 47 71 33 NWNE LANCE OIL & GAS COMPANY, INC	SMH 31-33	GST	CBM	6	306
P108046W 11/4/1997 47 71 33 NENE LANCE OIL & GAS COMPANY, INC	SMM 41-33	GST	CBM	7	282
P108040W 11/4/1997 47 71 33 NEWE EARCE OID & GAS COMPARED IN THE P18696P 12/31/1919 47 71 33 SESE GLENN HAYDEN	HARRIS #2	PUW	DOM,STO	5	35

					The second secon	ntinued)				
Table 4.	Ground	wa	te	r Rig	thts for the Eagle Butte West LBA Tract (Co	ANNS #1	PUW	STO	10	500
P27535W	7/31/1974 47 7	71 3	3 N	IENE	MACSY HAIGHT TESS GARGETT	ENL ANN'S #1	PUW	TEM, IND, DRI	25	500
* P30959W	8/19/1975 47 7	713	3 N	IENE	MACSI HAIGHT TESS GARGETT	ENL ANN'S #1	PU	TEM,IND,DRI	25	500
* P30959W	8/19/1975 47 7	71 3	3 N	IESW	MACSY HAIGHT TESS GARGETT	HETTINGER #1	PUW	MIS,DOM	25	623
P33978W	6/17/1976 47	71 3	3 5	SENE	DALE HEITINGER		GST	IND	181	4650
* P55070W	10/8/1980 47	71 3	33 N	IWNE	BOWDEN ENERGI COMITANI	DUVALL 1 20	GST	IND	181	4650
* P55070W	10/8/1980 47	71 3	33 5	SWNE	BOWDEN ENERGY COMPANY	DUVALL 1 20	GST	IND	181	4650
* P55070W	10/8/1980 47	71 3	33 N	IENW	BOWDEN ENERGY COMPANY	DUVALL 1 20	GST	IND	181	4650
* P55070W	10/8/1980 47	71 3	33 N	WNW	BOWDEN ENERGY COMPANY	DUVALL 1 20	GST	IND	181	4650
* P55070W	10/8/1980 47	71 3	33 5	WNW	BOWDEN ENERGY COMPANY	DUVALL 1 20	GST	IND	181	4650
* P55070W	10/8/1980 47	71 3	33 5	SENW	BOWDEN ENERGY COMPANY	DUVALL 1 20	GST	STO,MIS,CBM	25	305
P98612W	3/20/1995 47	71 3	33 1	VESW	LANCE OIL & GAS COMPANY, INC	HAIGHT #33-23	GST	STO,CBM	25	288
P98614W	3/20/1995 47	71 3	33 I	WSE	LANCE OIL & GAS COMPANY, INC	HAIGHT #33-33		STO,CBM	25	293
P98615W	3/20/1995 47	71 3	33 :	SWSE	LANCE OIL & GAS COMPANY, INC	HAIGHT #33-34	GST	STO,CBM STO	5	130
P18697P					GLENN HAYDEN	BAKKER #3	PUW	STO	5	270
P18698P	12/31/1950 47	71	34	SWSE	GLENN HAYDEN	MC VAY 4	PUW		5	85
P18699P					GLENN HAYDEN	BAKKER #5	PUW	STO	200	00
* P51029W	2/4/1980/47	71	34	SWSE	COTTON PETROLEUM CORPORATION	21 24 WSW	PU	IND		065
* P56976W	6/3/1981 47	71	34	NENW	DAVIS OIL COMPANY	DAVIS HOADLEY #1	PU	MIS	85	965
* P56976W					DAVIS OIL COMPANY	DAVIS HOADLEY #1	PU	MIS	85	965
* P101340W	1/29/1996 47				WVO BOARD OF LAND COMMISSIONERS**CRAMER OIL	STATE 36-10	UNA	IND	26	4400
P104315W	10/23/1996 47	71	36	SESW	WYO BOARD OF LAND COMMISSIONERS**ANGELA A	SS-026-95	UNA	STO	25	280
	10/01/10/0 47	71	26	NUNE	STATE OF WYOMING**MACSY HAIGHT**TESS GARRETT	SCHOOL SECTION #1	PUW	STO	7.5	85
P18719P P71205W	0/05/1095 47	71	36	SWSW	WY BOARD OF LAND COMMISSIONERS** JACK & ANGELA BOOS	BFR 1	PUW	STO	3	125
* P94245W	1/1/1993 47	71	36	SWSE	TRUST WYO BOARD OF LAND COMMISSIONERS** UNION OIL COMPANY OF CALIFORNIA	36-15 (STATE)	UNA	IND	15	272
D120221W	10/16/2000 47	72	1	NWSE	HI-PRO PRODUCTION, L.L.C.	DUNLAP 1-33-47-72A	GST	CBM	25	373 366
P130321W	10/16/2000 47	72	1	SWSE	HI-PRO PRODUCTION, L.L.C.	DUNLAP 1-34-47-72A	GST	CBM	25	
P130322W	10/16/2000 47	72			HI-PRO PRODUCTION, L.L.C.	DUNLAP 1-43-47-72-A	UNA	CBM	25	350
	10/16/2000 47				HI-PRO PRODUCTION, L.L.C.	DUNLAP 1-44-47-72-A	GST	CBM	25	368
P130324W	10/10/2000 47	72			HI-PRO PRODUCTION, L.L.C.	ENL MORGAN #1-22	GST	STO,CBM		354
				SENW	HI-PRO PRODUCTION, L.L.C.	ENL MORGAN #1-24	GST			399
* P130385W	10/25/1999 47	12			/ HI-PRO PRODUCTION, L.L.C.	ENL MORGAN #1-24	GST	STO,CBM		399
	10/25/1999 47	12	1	SWIN	/ HI-PRO PRODUCTION, L.L.C.	RAG 1-14-47-72-A	GST		25	
P130689W	11/3/2000 47	12		NEND	HI-PRO PRODUCTION, L.L.C.	RAG 1- 21 - 47 -72 - A	GST		25	347
P130690W	11/3/2000 47	12		NEINW	IN PROPODICTION LLC	ENL R.A.G. 1-14-47-72-A	UNA	CBM		
P132109W	12/29/2000 47	172	1	SWSW	/ HI-PRO PRODUCTION, L.L.C.	ENL R.A.G. 1-21-47-72-A	UNA	CBM		
P132110W	12/29/2000 47	172	1	NEINW	HI-PRO PRODUCTION, L.L.C.	ENL DUNLAP 1-34-47-72 - A	UNA	CBM		
P132149W	V 12/29/2000 47	72	1	SWSE	HI-PRO PRODUCTION, L.L.C.					

Table 4.	Groundwat	ter Ri	ghts for the Eagle Butte West LBA Tract	(Continued).		L CAR DES M		
P132150W	/ 12/29/2000 47 72 1	NWSE	HI-PRO PRODUCTION, L.L.C.	ENL DUNLAP 1-33-47-72 - A	UNA	CBM		T
* P133780W	4/6/2001 47 72 1	NESE	HI-PRO PRODUCTION, L.L.C.	ENL. DUNLAP 1-43-47-72-A	GST	CBM	0	350
* P133781W	4/6/2001 47 72 1	SESE	HI-PRO PRODUCTION, L.L.C.	ENL. DUNLAP 1-44-47-72-A	UNA	СВМ		
* P133804W	/ 4/6/2001 47 72 1	NWSW	HI-PRO PRODUCTION, L.L.C.	ENL. MORGAN 1-13	UNA	CBM		383
* P133825W	/ 4/6/2001 47 72 1	NESW	HI-PRO PRODUCTION, L.L.C.	RAG 1-23-47-72-A	GST	CBM		376
* P162471W	/ 8/27/2004 47 72 1	NENE	WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
* P162471W	8/27/2004 47 72 1	NWNE	WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		1
* P162471W	/ 8/27/2004 47 72 1	SWNE	WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		1
* P162471W	/ 8/27/2004 47 72 1	SENE	WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		1
* P162471W	/ 8/27/2004 47 72 1	NENW	WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		1
* P162471W	/ 8/27/2004 47 72 1	NWNW	WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		1
* P162471W	/ 8/27/2004 47 72 1	SWNW	WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		1
* P162471W	/ 8/27/2004 47 72 1	SENW	WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		1
* P162471W	/ 8/27/2004 47 72 1	NESW	WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
* P162471W	/ 8/27/2004 47 72 1	NWSW	WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
* P162471W	/ 8/27/2004 47 72 1	SWSW	WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		-
* P162471W	/ 8/27/2004 47 72 1	SESW	WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
* P162471W	/ 8/27/2004 47 72 1	NESE	WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
* P162471W	/ 8/27/2004 47 72 1	NWSE	WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		1
* P162471W	/ 8/27/2004 47 72 1	SWSE	WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
* P162471W	/ 8/27/2004 47 72 1	SESE	WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
P60492W	5/3/1982 47 72 1	SWNW	WYOMING STATE HIGHWAY DEPARTMENT	CABALLO #2	PUW	MON	0	300
* P90600W	12/31/1992 47 72 1	NWSW	HI-PRO PRODUCTION, L.L.C.	MORGAN #1-13	UNA	STO,CBM	20	383
* P90600W	12/31/1992 47 72 1	SENW	HI-PRO PRODUCTION, L.L.C.	MORGAN #1-13	UNA	STO,CBM	20	383
P90601W	12/31/1992 47 72 1	SENW	HI-PRO PRODUCTION, L.L.C.	MORGAN #1-22	UNA	STO,CBM	20	353
* P90602W	12/31/1992 47 72 1	SESW	HI-PRO PRODUCTION, L.L.C.	MORGAN #1-24	UNA	STO,CBM	20	400
* P90602W	12/31/1992 47 72 1	SENW	HI-PRO PRODUCTION, L.L.C.	MORGAN #1-24	UNA	STO,CBM	20	400
P92384W	7/15/1993 47 72 1	SWNW	HI-PRO PRODUCTION, L.L.C.	MORGAN #1-12	UNA	STO,CBM	25	359
P104203W	/ 3/1/1996 47 72 2	NWNE	TORCH OPERATING CO	ENL FEDERAL #2-31	UNA	MIS,STO,CBM	5	360.5
* P104216W	/ 3/18/1996 47 72 2	NWNE	TORCH OPERATING CO	ENL THOMPSON #35-34	UNA	MIS,STO,CBM	10	392
* P104265W	/ 3/1/1996 47 72 2	NWNE	TORCH OPERATING CO	ENL MCCREERY #1-21	UNA	MIS,STO,CBM	5	464
* P125281W	/ 5/1/2000 47 72 2	SWNE	JM HUBER CORPORATION	FEDERAL 2-32	GST	STO,CBM	25	414
* P125281W	7 5/1/2000 47 72 2	SENE	JM HUBER CORPORATION	FEDERAL 2-32	GST	STO,CBM	25	414
* P125282W	7 5/1/2000 47 72 2	NENE	JM HUBER CORPORATION	FEDERAL 2-41	GST	STO,CBM	25	415
* P125282W	7 5/1/2000 47 72 2	SENE	JM HUBER CORPORATION	FEDERAL 2-41	GST	STO,CBM	25	415
P125283W	7 5/1/2000 47 72 2	SENE	JM HUBER CORPORATION	FEDERAL 2-42	GST	STO,CBM	25	352
P125372W				OXBOW #22-2	GST	CBM	25	422
P125373W				OXBOW #21-2	UNA	CBM	25	.22
P125374W				OXBOW #11-2	UNA	CBM	25	

Table 4.	Groundw	rate	er Ri	ghts for the Eagle Butte West LBA Tract (C	ontinued).				
* P125937W				JM HUBER CORPORATION	HUBER RAG 35-43-48-72	GST	STO,CBM	25	384
* P125938W	6/2/2000 47 72	2	SENE	JM HUBER CORPORATION	RAG 35-44	GST	STO,CBM	25	400
* P162471W	8/27/2004 47 72	2 1	NENE	WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
* P162471W	8/27/2004 47 72	21	NWNE	WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
* P162471W	8/27/2004 47 72	2 8	SWNE	WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
* P162471W	8/27/2004 47 72	2	SENE	WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
* P162471W	8/27/2004 47 72	21	NENW	WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
* P162471W	8/27/2004 47 72	21	NWNW	WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
* P162471W	8/27/2004 47 72	2 5	SWNW	WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
* P162471W	8/27/2004 47 72	2 5	SENW	WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
* P162471W	8/27/2004 47 72	21	NESW	WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
* P162471W	8/27/2004 47 72	21	NWSW	WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
* P162471W				WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
* P162471W	8/27/2004 47 72	2 3	SESW	WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
* P162471W	8/27/2004 47 72	2	NESE	WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
* P162471W	8/27/2004 47 72	21	NWSE	WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
* P162471W		+		WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
* P162471W				WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
* P81886W	2/27/1990 47 72	21	NENW	PRESIDIO EXPLORATION INC** LYNDE TRUST	LYNDE 1 2 WSW	UNA	IND	25	4570
* P88829W	6/29/1992 47 72	2 5	SENW	JM HUBER CORPORATION	THOMPSON #35-34	UNA	STO,CBM	20	392
* P90136W	11/12/1992 47 72	21	NWNE	JM HUBER CORPORATION	FEDERAL #2-31	UNA	STO,CBM	20	360.5
* P90136W	11/12/1992 47 72	2 5	SENW	JM HUBER CORPORATION	FEDERAL #2-31	UNA	STO,CBM	20	360.5
* P90141W	11/12/1992 47 72	2 5	SENW	JM HUBER CORPORATION	FEDERAL #35-33	UNA	STO,CBM	20	464
P90656W	1/19/1993 47 72	2 N	NWNW	MARTENS & PECK OPERATING CO.	MON #2-11-C	UNA	MON	0	410
P90657W	1/19/1993 47 72	2 N	WNW	MARTENS & PECK OPERATING CO.	MON #2-11-S	UNA	MON	0	310
P90658W	1/19/1993 47 72	2 N	NWNW	MARTENS & PECK OPERATING CO.	MON #22-42-C	UNA	MON	0	515.5
* P104256W	3/25/1996 47 72	3 3	SENE	TORCH OPERATING CO	ENL FEDERAL #3-42	UNA	MIS,STO,CBM	15	414
* P104256W	3/25/1996 47 72	3	NESE	TORCH OPERATING CO	ENL FEDERAL #3-42		MIS,STO,CBM		414
P125284W				JM HUBER CORPORATION	FEDERAL 3-31	GST	STO,CBM	25	473
P125371W	5/9/2000 47 72	3 1	NENE	NORTH FINN, LLC	OXBOW #41-3	GST	CBM	25	474
P131128W	11/20/2000 47 72	3 1	NWSE	CONOCO PHILLIPS COMPANY	FEDERAL 3-22-47-72	GST	CBM		463
* P131129W	11/20/2000 47 72	3	NESE	CONOCO PHILLIPS COMPANY	FEDERAL 3-43-47-72	GST	СВМ		439
* P131129W	11/20/2000 47 72	3 1	NWSE	CONOCO PHILLIPS COMPANY	FEDERAL 3-43-47-72	GST	CBM		439
P131145W	11/20/2000 47 72	3 5	SWSE	CONOCO PHILLIPS COMPANY	FEDERAL 3-34-47-72	GST	CBM		473
P131168W	11/20/2000 47 72	3 1	NWSE	CONOCO PHILLIPS COMPANY	FEDERAL 3-21-47-72	GST	СВМ		469
P131169W	11/20/2000 47 72	3 1	NWSE	CONOCO PHILLIPS COMPANY	FEDERAL 3-33R-47-72	GST	CBM		440
P90604W	12/31/1992 47 72	3	SENE	JM HUBER CORPORATION	FEDERAL #3-32	UNA	STO,CBM	25	447
P90605W	12/31/1992 47 72	3	SENE	JM HUBER CORPORATION	FEDERAL #3-42	UNA	STO,CBM	20	414
P104935W	1/27/1997 47 72	t			HOE CREEK 10-41		STO,MIS,CBM	25	476

Table 4.	Groundwater Rights for the Eagle Butte West LBA Tract	(Continued).				
P104936W		HOE CREEK 10-42	UNA	STO,MIS,CBM	25	536
P104937W		HOE CREEK 10-43	UNA	STO,MIS,CBM	25	544
P112747W	11/5/1998 47 72 10 NWSE MTG OPERATING	HOE CREEK 10-33	UNA	STO,CBM	7.5	564
P112748W		HOE CREEK 10-34	UNA	STO,CBM	25	
P112749W	11/5/1998 47 72 10 SESE MTG OPERATING	HOE CREEK 10-44	UNA	STO,CBM	25	564
P99049W	4/21/1995 47 72 10 NWSE TORCH OPERATING COMPANY	LYNDE TRUST #10-33	UNA	STO,MIS,CBM	25	
* P104075W	9/16/1996 47 72 11 NESE JN EXPLORATION/PRODUCTION	BREEN UNIT 42X-14 WSW	UNA	IND	37	1220
P104214W	3/18/1996 47 72 11 SENW TORCH OPERATING CO	ENL MORGAN #11-22	UNA	MIS,STO,CBM	8	416
P104215W	3/18/1996 47 72 11 SENW TORCH OPERATING CO	ENL MORGAN #11-33	UNA	MIS,STO,CBM	10	466
* P104262W	3/25/1996 47 72 11 SENW TORCH OPERATING CO	ENL MORGAN #11-23	UNA	MIS,STO,CBM	5	475
* P104262W	3/25/1996 47 72 11 NESW TORCH OPERATING CO	ENL MORGAN #11-23	UNA	MIS,STO,CBM	5	475
P112750W	11/5/1998 47 72 11 NWNW MTG OPERATING	HOE CREEK 11-11		STO,CBM	25	438
P112751W	11/5/1998 47 72 11 SWNW MTG OPERATING	HOE CREEK 11-12		STO,CBM	25	452
P116709W	6/28/1999 47 72 11 NENE JN EXPLORATION/PRODUCTION LIMITED PARTNERSHIP	JN AMAX #11A WELL	UNA	CBM	40	
P116712W	6/28/1999 47 72 11 SWNE JN EXPLORATION/PRODUCTION LIMITED PARTNERSHIP	JN AMAX 11G WELL	UNA	CBM	40	
P116713W	6/28/1999 47 72 11 SENE JN EXPLORATION/PRODUCTION LIMITED PARTNERSHIP	JN AMAX 11H WELL	UNA	CBM	40	
* P125280W	5/1/2000 47 72 11 SWSE JM HUBER CORPORATION	FEDERAL 11-34	GST	STO,CBM	25	537
* P125280W	5/1/2000 47 72 11 NENW JM HUBER CORPORATION	FEDERAL 11-34	GST	STO,CBM	25	537
* P128683W	9/5/2000 47 72 11 NENW J.M. HUBER CORPORATION	HUBER/RAG 11-21	GST	СВМ	30	459
* P128683W	9/5/2000 47 72 11 SENW J.M. HUBER CORPORATION	HUBER/RAG 11-21	GST	СВМ	30	459
* P128684W	9/5/2000 47 72 11 NESE J.M. HUBER CORPORATION	HUBER/RAG 11-43	UNA	СВМ	30	
* P128684W	9/5/2000 47 72 11 SENW J.M. HUBER CORPORATION	HUBER/RAG 11-43	UNA	СВМ	30	
P131962W	1/10/2001 47 72 11 SESE J.M.HUBER CORPORATION	RAG FEDERAL 11-44-47-72	GST	STO,CBM		492
* P162471W	8/27/2004 47 72 11 NENE WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
* P162471W	8/27/2004 47 72 11 NWNE WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
* P162471W	8/27/2004 47 72 11 SWNE WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
* P162471W		GILLETTE YARD NO.1	GSI	MIS		
* P162471W	8/27/2004 47 72 11 NENW WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
* P162471W	8/27/2004 47 72 11 NWNW WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
* P162471W		GILLETTE YARD NO.1	GSI	MIS		
* P162471W	8/27/2004 47 72 11 SENW WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
* P162471W	8/27/2004 47 72 11 NESW WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
* P162471W	8/27/2004 47 72 11 NWSW WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
* P162471W	8/27/2004 47 72 11 SWSW WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
* P162471W		GILLETTE YARD NO.1	GSI	MIS		
* P162471W	8/27/2004 47 72 11 NESE WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
* P162471W		GILLETTE YARD NO.1	GSI	MIS		
* P162471W	8/27/2004 47 72 11 SWSE WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
* P162471W	8/27/2004 47 72 11 SESE WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		

P1844W	5/3/1966 47 72 11 NWNE A		CABALLO #1	PUW	STO,IRR	1000	
P86866W	12/19/1991 47 72 11 SENW J		MORGAN #11-22	UNA	STO,CBM	20	416
P87749W	2/26/1991 47 72 11 SWNW I.	W. & WINNIE E. LYNDE	LYNDE #11	UNA	STO	25	120
P89533W	8/3/1992 47 72 11 NWSE J	M HUBER CORPORATION	MORGAN #11-33	UNA	STO,CBM	20	466
P89533W	8/3/1992 47 72 11 SENW J	M HUBER CORPORATION	MORGAN #11-33	UNA	STO,CBM	20	46
P92526W	7/21/1993 47 72 11 NESW J		MORGAN #11-23	UNA	STO,CBM	25	475
P92526W	7/21/1993 47 72 11 SENW J	M HUBER CORPORATION	MORGAN #11-23	UNA	STO,CBM	25	475
P115082W	4/5/1999 47 72 12 NWSW JI	N EXPLORATION & PRODUCTION LIMITED PARTNERSHIP	(JN) CABALLO ROJO #12L WELL	GST	CBM	40	43
P115082W	4/5/1999 47 72 12 NESW JI	N EXPLORATION & PRODUCTION LIMITED PARTNERSHIP	(JN) CABALLO ROJO #12L WELL	GST	CBM	40	43
P115083W	4/5/1999 47 72 12 SWSW JI	N EXPLORATION & PRODUCTION LIMITED PARTNERSHIP	(JN) CABALLO ROJO #12M WELL	GST	CBM	40	46
P115083W	4/5/1999 47 72 12 NESW J	N EXPLORATION & PRODUCTION LIMITED PARTNERSHIP	(JN) CABALLO ROJO #12M WELL	GST	СВМ	40	46
P116698W	6/28/1999 47 72 12 NWNE JI	N EXPLORATION/PRODUCTION LIMITED PARTNERSHIP	JN CABALLO ROJO 12B WELL	GST	CBM	40	38
P116699W	6/28/1999 47 72 12 SWNE JI	N EXPLORATION/PRODUCTION LIMITED PARTNERSHIP	JN CABALLO ROJO 12G WELL	GST	CBM	40	38
P130692W	11/3/2000 47 72 12 SWNW H	II-PRO PRODUCTION L.L.C.	RAG 12 - 12 - A	GST	CBM	25	42
P130693W	11/3/2000 47 72 12 NENW H	II-PRO PRODUCTION L.L.C.	RAG 12 - 21 - A	GST	CBM	25	40
P130694W	11/3/2000 47 72 12 SENW H	II-PRO PRODUCTION L.L.C.	RAG 12 - 22 - A	GST	СВМ	25	42
P130695W			RAG 12 - 43 - A	GST	СВМ	25	3
P131778W	12/29/2000 47 72 12 SWSE H	II-PRO PRODUCTION L.L.C.	RAG 12 - 34 - 47 - 72 - A	GST	CBM		40
P131782W	12/29/2000 47 72 12 SESE H	II-PRO PRODUCTION L.L.C.	RAG 12-44-47-72-A	GST	CBM		30
P132124W	12/29/2000 47 72 12 SWNW H	II-PRO PRODUCTION L.L.C.	Enl R.A.G. 12-12A	UNA	СВМ		
P132125W	12/29/2000 47 72 12 NENW H	II-PRO PRODUCTION L.L.C.	Enl R.A.G. 12-21A	UNA	CBM		-
P132126W	12/29/2000 47 72 12 SENW H	II-PRO PRODUCTION L.L.C.	Enl R.A.G. 12-22A	UNA	СВМ		
P132127W	12/29/2000 47 72 12 NESE H	II-PRO PRODUCTION L.L.C.	Enl R.A.G. 12-43A	UNA	CBM		
P133805W	4/6/2001 47 72 12 NWNW H	II-PRO PRODUCTION L.L.C.	Enl. MORGAN 12-11	UNA	CBM		4
P133806W	4/6/2001 47 72 12 NWSE H	II-PRO PRODUCTION L.L.C.	Enl. BREEN 12-33	UNA	CBM		38
P162471W	8/27/2004 47 72 12 NENE W	YDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
P162471W	8/27/2004 47 72 12 NWNE W	YDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		-
P162471W	8/27/2004 47 72 12 SWNE W	YDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
P162471W	8/27/2004 47 72 12 SENE W	YDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS	1	
P162471W	8/27/2004 47 72 12 NENW W	YDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
P162471W	8/27/2004 47 72 12 NWNW W	YDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS	1	
P162471W	8/27/2004 47 72 12 SWNW W	YDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
P162471W	8/27/2004 47 72 12 SENW W	YDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		-
P162471W	8/27/2004 47 72 12 NESW W	YDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
P162471W		YDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		-
P162471W	8/27/2004 47 72 12 SWSW W	YDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
P162471W		YDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
P162471W	8/27/2004 47 72 12 NESE W	YDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		-
P162471W		YDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		

* P162471W	Groundwater Rights for the Eagle Butte West LBA Tract ( 8/27/2004 47 72 12 SWSE WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
* P162471W		GILLETTE YARD NO.1	GSI	MIS		
P30211W	6/20/1975 47 72 12 SWNW MEADOWLARK FARMS INC.	MCGUIRE 2	PUW	DOM,STO	25	
P86865W	12/19/1991 47 72 12 NWNW HI-PRO PRODUCTION L.L.C.	MORGAN #12-11	UNA	STO,CBM	20	411
P88827W	6/29/1992 47 72 12 NWSE HI-PRO PRODUCTION L.L.C.	BREEN #12-33	UNA	STO,CBM	20	383.5
* P104075W		BREEN UNIT 42X-14 WSW	UNA	IND	37	1220
* P115086W		(JN) DUVALL #13B WELL	GST	CBM	40	383
* P115086W		(JN) DUVALL #13B WELL	GST	CBM	40	383
P115088W		(JN) DUVALL #13D WELL	GST	CBM	40	488
* P115089W		(JN) DUVALL #13E WELL	GST	CBM	40	484
* P115089W	4/5/1999 47 72 13 NWNW JN EXPLORATION & PRODUCTION LIMITED PARTNERSHIP	(JN) DUVALL #13E WELL	GST	CBM	40	484
P115091W		(JN) DUVALL #13G WELL	GST	CBM	40	404
P115094W	4/5/1999 47 72 13 NWSE JN EXPLORATION & PRODUCTION LIMITED PARTNERSHIP	(JN) DUVALL #13J WELL	GST	CBM	40	433
* P115096W	4/5/1999 47 72 13 SWNW JN EXPLORATION & PRODUCTION LIMITED PARTNERSHIP	(JN) DUVALL #13L WELL	GST	CBM	40	533
* P115096W	4/5/1999 47 72 13 NWNW JN EXPLORATION & PRODUCTION LIMITED PARTNERSHIP	(JN) DUVALL #13L WELL	GST	CBM	40	533
P115097W		(JN) DUVALL #130 WELL	GST	CBM	40	478
P133908W	7 4/9/2001 47 72 13 NENW PEABODY NATURAL GAS, LLC	PNG DUVALL 13C-D WELL	UNA	CBM		
P133915W	7 4/9/2001 47 72 13 NWSE PEABODY NATURAL GAS, LLC	PNG DUVALL 13J-D WELL	GST	CBM		1367
P133916W	7 4/9/2001 47 72 13 NESW PEABODY NATURAL GAS, LLC	PNG DUVALL 13K-D WELL	GST	CBM		1394
* P162471W	/ 8/27/2004 47 72 13 NENE WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
* P162471W	/ 8/27/2004 47 72 13 NWNE WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
* P162471W	/ 8/27/2004 47 72 13 SWNE WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
* P162471W	/ 8/27/2004 47 72 13 SENE WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
* P162471W	/ 8/27/2004 47 72 13 NENW WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
* P162471W	/ 8/27/2004 47 72 13 NWNW WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		_
* P162471W	/ 8/27/2004 47 72 13 SWNW WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
* P162471W	/ 8/27/2004 47 72 13 SENW WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
* P162471W	/ 8/27/2004 47 72 13 NESW WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
* P162471W	8/27/2004 47 72 13 NWSW WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
* P162471W	8/27/2004 47 72 13 SWSW WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
* P162471W	8/27/2004 47 72 13 SESW WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
* P162471W	8/27/2004 47 72 13 NESE WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
* P162471W	8/27/2004 47 72 13 NWSE WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
* P162471W	8/27/2004 47 72 13 SWSE WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
* P162471W	8/27/2004 47 72 13 SESE WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
P22587P	2/7/1973 47 72 13 SESE KENNETH R. DUVALL	KEN DUVALL #1	PUW	DOM,STO	25	209
* P102028W	V 4/10/1996 47 72 14 NWSW LANCE OIL & GAS COMPANY, INC	MANKIN #14-13	UNA	MIS,CBM	25	603
* P102029V	V 4/10/1996 47 72 14 NESW LANCE OIL & GAS COMPANY, INC	MANKIN #14-23	UNA	MIS,CBM	25	612
* P104075V	V 9/16/1996 47 72 14 SENE JN EXPLORATION/PRODUCTION	BREEN UNIT 42X-14 WSW	UNA	IND	37	1220

Table 4.	Groundwater Rights for the Eagle Butte West LBA Tract	(Continued).				
* P104075W	9/16/1996 47 72 14 SENW JN EXPLORATION/PRODUCTION	BREEN UNIT 42X-14 WSW	UNA	IND	37	1220
P104210W	3/18/1996 47 72 14 NENW TORCH OPERATING CO	ENL LYNDE TRUST #14-21	UNA	MIS,STO,CBM	17	542
* P104211W	3/1/1996 47 72 14 NENW TORCH OPERATING CO	ENL LYNDE TRUST #14-22	UNA	MIS,STO,CBM	15	552
* P104211W	3/1/1996 47 72 14 SENW TORCH OPERATING CO	ENL LYNDE TRUST #14-22	UNA	MIS,STO,CBM	15	552
* P104212W	3/18/1996 47 72 14 NENW TORCH OPERATING CO	ENL LYNDE TRUST #15-41	UNA	MIS,STO,CBM	8	561
P112754W	11/5/1998 47 72 14 SWNW MTG OPERATING COMPANY	HOE CREEK 14-12	GST	STO,CBM	25	585
P116714W	6/28/1999 47 72 14 NESE JN EXPLORATION/PRODUCTION LIMITED PARTNERSHIP	JN BELL 14I WELL	GST	CBM	40	579
P116715W	6/28/1999 47 72 14 NWSE JN EXPLORATION/PRODUCTION LIMITED PARTNERSHIP	JN BELL 14J WELL	GST	CBM	40	589
P116716W	6/28/1999 47 72 14 SWSE JN EXPLORATION/PRODUCTION LIMITED PARTNERSHIP	JN BELL 140 WELL	GST	CBM	40	644
P116717W	6/28/1999 47 72 14 SESE JN EXPLORATION/PRODUCTION LIMITED PARTNERSHIP	JN BELL 14P WELL	GST	CBM	40	598
* P162471W	8/27/2004 47 72 14 NENE WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
* P162471W	8/27/2004 47 72 14 NWNE WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
* P162471W	8/27/2004 47 72 14 SWNE WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
* P162471W	8/27/2004 47 72 14 SENE WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
* P162471W	8/27/2004 47 72 14 NENW WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
* P162471W	8/27/2004 47 72 14 NWNW WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
* P162471W	8/27/2004 47 72 14 SWNW WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
* P162471W	8/27/2004 47 72 14 SENW WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
* P162471W	8/27/2004 47 72 14 NESW WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
* P162471W	8/27/2004 47 72 14 NWSW WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
* P162471W	8/27/2004 47 72 14 SWSW WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
* P162471W	8/27/2004 47 72 14 SESW WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
* P162471W	8/27/2004 47 72 14 NESE WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
* P162471W	8/27/2004 47 72 14 NWSE WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
* P162471W	8/27/2004 47 72 14 SWSE WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
* P162471W	8/27/2004 47 72 14 SESE WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
P90026W	11/2/1992 47 72 14 NENW JM HUBER CORPORATION	LYNDE TRUST #14-21	UNA	STO,CBM	20	542
* P90027W	11/2/1992 47 72 14 SENW JM HUBER CORPORATION	LYNDE TRUST #14-22	UNA	STO,CBM	20	552
* P90027W	11/2/1992 47 72 14 NENW JM HUBER CORPORATION	LYNDE TRUST #14-22	UNA	STO,CBM	20	552
* P90029W	11/2/1992 47 72 14 NENW JM HUBER CORPORATION	LYNDE TRUST #15-41	UNA	STO,CBM	20	561
* P90810W	1/19/1993 47 72 14 SWNE MARTENS & PECK OPERATING CO.	LYNDE TRUST #14-32	UNA	STO,MIS,CBM	25	
* P90810W	1/19/1993 47 72 14 NENW MARTENS & PECK OPERATING CO.	LYNDE TRUST #14-32	UNA	STO,MIS,CBM	25	
* P96782W	8/3/1994 47 72 14 SESW LANCE OIL & GAS COMPANY, INC	MANKIN #14-24	GST	STO,CBM	25	623
* P97258W	8/19/1994 47 72 14 SWSW LANCE OIL & GAS COMPANY, INC	MANKIN #14-14	GST	STO,CBM	25	631
P97263W	8/19/1994 47 72 14 NENW MARTENS & PECK OPERATING CO.	STATE #636-12	UNA	STO,MIS,CBM	25	
P100632W		HAIGHT #15-34	UNA	STO,CBM	25	643
* P104212W	3/18/1996 47 72 15 NENE TORCH OPERATING CO	ENL LYNDE TRUST #15-41	UNA	MIS,STO,CBM	8	561
P131124W		FEDERAL 15-42-47-72	GST	CBM		584
* P90029W	11/2/1992 47 72 15 NENE JM HUBER CORPORATION	LYNDE TRUST #15-41	UNA	STO,CBM	20	561

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* P96783W 8/3/1994 47 72 15 NESE * P96783W 8/3/1994 47 72 15 NWSE	LANCE OIL & GAS COMPANY, INC	HAIGHT #15-43	GST	STO,CBM	25	589
* P102028W 4/10/1996 47 72 23 NENW	C LANCE OIL & GAS COMPANY, INC 7 LANCE OIL & GAS COMPANY, INC	HAIGHT #15-43	GST	STO,CBM	25	589
* P102029W 4/10/1996 47 72 23 NENW	LANCE OIL & GAS COMPANY, INC	MANKIN #14-13	UNA	MIS,CBM	25	603
	LANCE OIL & GAS COMPANY, INC	MANKIN #14-23	UNA	MIS,CBM	25	612
P126659W 6/29/2000 47 72 23 NENE	EMERALD OPERATING COMPANY	BELL SEELY 12-23	GST	СВМ	40	645
P126666W 6/29/2000 47 72 23 SWSE	EMERALD OPERATING COMPANY	BELL SEELY 41-23	GST	СВМ	40	624
* P131126W 11/20/2000 47 72 23 NWSE	EMERALD OPERATING COMPANY	HAIGHT CBM 34-23	GST	СВМ	40	680
* P131126W 11/20/2000 47 72 23 NWSE	CONOCO PHILLIPS COMPANY	FEDERAL 23-33-47-72	GST	СВМ		662
P131127W 11/20/2000 47 72 23 NESW	CONOCO PHILLIPS COMPANY	FEDERAL 23-33-47-72	GST	СВМ		662
* P162471W 8/27/2004 47 72 23 NESK	CONOCO PHILLIPS COMPANY	FEDERAL 23-23-47-72	GST	СВМ		642
* P162471W 8/27/2004 47 72 23 NENE	WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		1012
* P162471W 8/27/2004 47 72 23 NWNE	WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
* P162471W 8/27/2004 47 72 23 SWNE	WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS	+	
* P162471W 8/27/2004 47 72 23 SENE	WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
* P162471W 8/27/2004 47 72 23 NENW	WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS	+	
P162471W 8/27/2004 47 72 23 NWNW P162471W 8/27/2004 47 72 23 SWNW	WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		+
P162471W 8/27/2004 47 72 23 SWNW P162471W 8/27/2004 47 72 23 SENW	WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
	WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		+
P162471W 8/27/2004 47 72 23 NESW P162471W 8/27/2004 47 72 23 NWSW	WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
P162471W 8/27/2004 47 72 23 NWSW P162471W 8/27/2004 47 72 23 SESW	WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
P162471W 8/27/2004 47 72 23 SESW P162471W 8/27/2004 47 72 23 NESE	WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
P162471W 8/27/2004 47 72 23 NESE P162471W 8/27/2004 47 72 23 NWSE	WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
P162471W 8/27/2004 47 72 23 NWSE P162471W 8/27/2004 47 72 23 SWSE	WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
P162471W 8/27/2004 47 72 23 SWSE P162471W 8/27/2004 47 72 23 SESE	WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
P59692W 3/8/1982 47 72 23 SESE	WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
	WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #1	PU	MIS	0	289
P59692W 3/8/1982 47 72 23 SENE	WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #1	PU	MIS	0	289
P59692W 3/8/1982 47 72 23 NESE	WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #1	PU	MIS	0	289
	WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #1	PU	MIS	0	289
P59693W 3/8/1982 47 72 23 NENE	WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #2	PU	MIS	0	
P59693W 3/8/1982 47 72 23 SENE	WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #2	PU	MIS	0	300
P59693W 3/8/1982 47 72 23 NESE	WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #2	PU	MIS	0	300
P59693W 3/8/1982 47 72 23 SESE	WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #2	PU	MIS		300
P59694W 3/8/1982 47 72 23 NENE	WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #3	PU	MIS	0	300
P59694W 3/8/1982 47 72 23 SENE	WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #3	PU	MIS	200	
P59694W 3/8/1982 47 72 23 NESE	WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #3	PU		200	
P59694W 3/8/1982 47 72 23 SESE	WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #3	PU	MIS	200	
P59695W 3/8/1982 47 72 23 NENE	WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #4	PU PU	MIS	200	0.50
P59695W 3/8/1982 47 72 23 SENE	WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #4	PU PU	MIS	125 125	270 270

* P59695W	3/8/1982 47 72 23 NESE WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #4	PU	MIS	125	270
* P59695W	3/8/1982 47 72 23 SESE WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #4	PU	MIS	125	270
P68643W	10/4/1984 47 72 23 SESE MILO AND MACSY HAIGHT	HAIGHT N W #1	PUW	DOM,STO	20	205
* P96782W	8/3/1994 47 72 23 NENW LANCE OIL & GAS COMPANY, INC	MANKIN #14-24	GST	STO,CBM	25	623
P96784W	8/3/1994 47 72 23 NENW LANCE OIL & GAS COMPANY, INC	MANKIN #23-21	GST	STO,CBM	25	604
* P96785W	8/3/1994 47 72 23 SENW LANCE OIL & GAS COMPANY, INC	MANKIN #23-22	GST	STO,CBM	25	619
* P96785W	8/3/1994 47 72 23 NENW LANCE OIL & GAS COMPANY, INC	MANKIN #23-22	GST	STO,CBM	25	619
* P96786W	8/3/1994 47 72 23 SWNE LANCE OIL & GAS COMPANY, INC	MANKIN #23-32	GST	STO,CBM	25	643
* P96786W	8/3/1994 47 72 23 NENW LANCE OIL & GAS COMPANY, INC	MANKIN #23-32	GST	STO,CBM	25	643
* P97258W	8/19/1994 47 72 23 NENW LANCE OIL & GAS COMPANY, INC	MANKIN #14-14	GST	STO,CBM	25	631
P97259W	8/19/1994 47 72 23 NWNE LANCE OIL & GAS COMPANY, INC	MANKIN #23-31	UNA	STO,CBM	25	643
P97259W	8/19/1994 47 72 23 NENW LANCE OIL & GAS COMPANY, INC	MANKIN #23-31	UNA	STO,CBM	25	643
P98652W	3/27/1995 47 72 23 SESE LANCE OIL & GAS COMPANY, INC	PITTMAN #23-44	UNA	STO,CBM	25	635
P110121W		HAIGHT 22-25	GST	STO,CBM	35	1411
P126662W	i i i i i i i i i i i i i i i i i i i	HAIGHT CBM 13-25	GST	CBM	40	605
P126663W		HAIGHT CBM 25-11	GST	CBM	40	598
P126664W		HAIGHT CBM 31-25	GST	CBM	40	498
P126665W		HAIGHT CBM 33-25	GST	CBM	40	540
P126667W		HAIGHT CBM 42-25	GST	CBM	40	494
P126668W	6/29/2000 47 72 25 SESE EMERALD OPERATING COMPANY	HAIGHT CBM 44-25	GST	CBM	40	494
P126671W		HAIGHT CBM 22X-25	GST	CBM	40	590
P162471W	8/27/2004 47 72 25 NENE WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS	40	390
P162471W	The stand of the common of the	GILLETTE YARD NO.1	GSI	MIS		
P162471W	8/27/2004 47 72 25 SWNE WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
P162471W	8/27/2004 47 72 25 SENE WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
P162471W		GILLETTE YARD NO.1	GSI	MIS		
P162471W		GILLETTE YARD NO.1	GSI	MIS		
P162471W	8/27/2004 47 72 25 SWNW WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
P162471W	8/27/2004 47 72 25 SENW WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
P162471W	8/27/2004 47 72 25 NESW WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
P162471W		GILLETTE YARD NO.1	GSI	MIS		
P162471W		GILLETTE YARD NO.1	GSI	MIS		
P162471W		GILLETTE YARD NO.1	GSI	MIS		
P162471W		GILLETTE YARD NO.1	GSI	MIS		
P162471W		GILLETTE YARD NO.1	GSI	MIS		
P162471W		GILLETTE YARD NO.1	GSI	MIS		
P59692W	3/8/1982 47 72 25 NWNW WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #1	PU	MIS	0	000
P59692W	3/8/1982 47 72 25 SWNW WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #1	PU PU	MIS		289
P59692W	3/8/1982 47 72 25 NWSW WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #1	PU PU	MIS	0	289 289

Table 4.	Groundwater Rights for the Eagle Butte West LBA Tract (Co	ontinued).		· · · · · · · · · · · · · · · · · · ·		
* P59693W	3/8/1982 47 72 25 NWNW WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #2	PU	MIS	0	300
* P59693W	3/8/1982 47 72 25 SWNW WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #2	PU	MIS	0	300
* P59693W	3/8/1982 47 72 25 NWSW WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #2	PU	MIS	0	300
* P59694W	3/8/1982 47 72 25 NWNW WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #3	PU	MIS	200	
* P59694W	3/8/1982 47 72 25 SWNW WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #3	PU	MIS	200	
* P59694W	3/8/1982 47 72 25 NWSW WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #3	PU	MIS	200	
* P59695W	3/8/1982 47 72 25 NWNW WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #4	PU	MIS	125	270
* P59695W	3/8/1982 47 72 25 SWNW WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #4	PU	MIS	125	270
* P59695W	3/8/1982 47 72 25 NWSW WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #4	PU	MIS	125	270
* P98610W	3/20/1995 47 72 25 NENW WESTERN GAS RESOURCES INC	HAIGHT #25-21	UNA	STO,MIS,CBM	25	
* P98610W		HAIGHT #25-21	UNA	STO,MIS,CBM	25	
P98611W		HAIGHT #25-22	UNA	STO,MIS,CBM	25	
P106278W		OSBORN TRUST 12-31	GST	CBM	35	408
P106279W	6/4/1997 47 72 26 SWNE LANCE OIL & GAS COMPANY, INC	FEDERAL #726-23	GST	MIS,CBM	18	689.5
P108750W		HAIGHT 26-31	GST	STO,CBM	7	650
P126661W		HAIGHT 42-26-4772	GST	CBM	40	630
* P162471W		GILLETTE YARD NO.1	GSI	MIS		
* P162471W		GILLETTE YARD NO.1	GSI	MIS		
* P162471W		GILLETTE YARD NO.1	GSI	MIS	0	
* P162471W		GILLETTE YARD NO.1	GSI	MIS		
* P162471W		GILLETTE YARD NO.1	GSI	MIS		
* P59692W		BELLE FOURCHE #1	PU	MIS	0	289
* P59692W		BELLE FOURCHE #1	PU	MIS	0	289
* P59693W	3/8/1982 47 72 26 NENE WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #2	PU	MIS	0	300
* P59693W	3/8/1982 47 72 26 SENE WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #2	PU	MIS	0	300
* P59694W		BELLE FOURCHE #3	PU	MIS	200	
* P59694W	3/8/1982 47 72 26 SENE WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #3	PU	MIS	200	
* P59695W	3/8/1982 47 72 26 NENE WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #4	PU	MIS	125	270
* P59695W	3/8/1982 47 72 26 SENE WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #4	PU	MIS	125	270
P96787W	8/3/1994 47 72 26 SWNE LANCE OIL & GAS COMPANY, INC	HAIGHT #26-11	GST	STO,CBM	25	642
P96788W	8/3/1994 47 72 26 SWNE LANCE OIL & GAS COMPANY, INC	HAIGHT #26-12	GST	STO,CBM	25	681
P96789W	8/3/1994 47 72 26 SWNE LANCE OIL & GAS COMPANY, INC	HAIGHT #26-22	GST	STO,CBM	25	643
* P98652W	3/27/1995 47 72 26 SWNE LANCE OIL & GAS COMPANY, INC	PITTMAN #23-44	UNA	STO,CBM	25	635
P99911W	7/24/1995 47 72 26 NENW LANCE OIL & GAS COMPANY, INC	HAIGHT #26-21	GST	MIS,CBM	25	641.
P108751W	1/30/1998 47 72 36 SENE WY STATE BOARD OF LAND COMMISSIONERS** LANCE OIL &		GST	STO,CBM	15	485
P108752W	1/30/1998 47 72 36 NESE WY STATE BOARD OF LAND COMMISSIONERS** LANCE OIL & GAS COMPANY, INC		GST	STO,CBM	5	498
P108753W	1/30/1998 47 72 36 SESE WY STATE BOARD OF LAND COMMISSIONERS** LANCE OIL & GAS COMPANY, INC	STATE 736-44	GST	STO,CBM	10	540

	Di 14 Gratha Eagla Butte West I BA Tract (Co	ntinued).				
Table 4.	Groundwater Rights for the Eagle Butte West LBA Tract (Co 1/30/1998 47 72 36 NENE LANCE OIL & GAS COMPANY, INC** WY STATE BOARD OF LAND COMMISSIONERS	STATE 736-41	GST	STO,CBM	12	467
P108754W	1/30/1998 47 72 36 NENE LANCE OIL & GAS COMPANY, INC. WT STATE BOILE OF LANCE OF COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
* P162471W	RIGTIOOALAT 7236 NENE WYDOT** WY STATE BOARD OF LAND COMMISSIONER	GILLETTE YARD NO.1	GSI	MIS		
* P162471W	8/27/2004 47 72 36 NWNE WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
DICONTINU	2/07/2004/47/72/36 SWNE WYDOT** WY STATE BOARD OF LAND COMMINIONOMICS	GILLETTE YARD NO.1	GSI	MIS		
* P162471W	0 107 10004 147 72 36 SENE WYDOT** WY STATE BOARD OF LAND COMMISSIONER	GILLETTE YARD NO.1	GSI	MIS		
* P162471W	2 107 10004 147 172 136 NENW WYDOT** WY STATE BOARD OF LAND COMMISSIONER	GILLETTE YARD NO.1	GSI	MIS		
* P162471W	9/07/2004/47/72/36 SENW WYDOT** WY STATE BOARD OF LAND COMMISSIONER	GILLETTE YARD NO.1	GSI	MIS		
* P162471W	9 107 10004 147 172 136 NESW WYDOT** WY STATE BOARD OF LIND COMMISSION	GILLETTE YARD NO.1	GSI	MIS		
* P162471W	RIOTIO0041471721361 SESW WYD01** WY STATE BOARD OF LAND COMMISSIONE	GILLETTE YARD NO.1	GSI	MIS		
* P162471W	8 107 10004 147 72 361 NESE WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
* P162471W	2 107 10004 147 172 36 NWSE WYDOT** WY STATE BOARD OF LAND COMMINDICATE	GILLETTE YARD NO.1	GSI	MIS		
* P162471W	2/07/2004/47/72/36 SWSE WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
* P162471W	8/27/2004 47 72 36 SESE WYDOT** WY STATE BOARD OF LAND COMMISSIONERS		PUW	MON	0	
P40082W	9/28/197/147 72 30 SENW DICHEIFI D COMPANY		DII	MIS	0	289
	3/8/1982 47 72 36 SENW WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #1	PU	MIS	0	289
* P59692W	2 12 11222 47 72 26 NESW WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #1	PU	MIS	0	289
* P59692W	2 12 11222 17 26 SESW WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #1	PU	MIS	0	300
* P59692W	3/8/1982 47 72 36 SENW WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #2	PU		0	300
* P59693W	3/8/1982 47 72 36 NESW WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #2	PU	MIS	0	300
* P59693W	3/8/1982 47 72 36 SESW WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #2	PU		200	500
* P59693W	3/8/1982 47 72 36 SENW WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #3	PU	MIS	200	
* P59694W	3/8/1982 47 72 36 NESW WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #3	PU	MIS	200	
* P59694W	3/8/1982 47 72 36 SESW WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #3	PU	MIS	125	270
* P59694W	3/8/1982 47 72 36 SENW WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #4	PU	MIS		270
* P59695W	3/8/1982 47 72 36 NESW WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #4	PU	MIS	125	27.0
* P59695W	3/8/1982 47 72 36 NESW WYOMING STATE HIGHWAY DEPT.	BELLE FOURCHE #4	PU	MIS	125	
* P59695W	2/24/1986 47 72 36 SENW AMERICAN OIL AND GAS CORPORATION, INC.	WCH 5 (WEST CAMPBELL HYDROLOGICAL)	UNA	MON	0	583
P72107W	LANCE OIL & GAS COMPANY, INC** WY STATE BOARD OF LAND	D STATE #736-21	GST	STO,CBM	25	567
P97265W	LANCE OIL & GAS COMPANY, INC** WY STATE BOARD OF LAND	D STATE #736-22	GST	STO,CBM	25	570
* P97266W	LANCE OIL & GAS COMPANY, INC** WY STATE BOARD OF LANI	D STATE #736-22	GST	STO,CBM	25	570
* P97266W	8/19/1994 47 72 36 NENW COMMISSIONERS	ENL BEAR PIT #1	PU	DEW,RES,IND	0	240
P52658W	4/14/1980 48 71 28 SWNE BEAR CREEK URANIUM	EARL #2	GST	STO	5	130
P5511P	4/13/1951 48 71 28 NWSE AMAX LAND COMPANY	DUNLAP #5	GST	STO	25	120
P23439P	7/26/1973 48 71 29 SWSW AMAX LAND COMPANY	EARL #1	GST	STO	4	65
P5510P	12/31/1920 48 71 29 NENE AMAX LAND COMPANY	R.A.G. 30-11	UNA	CBM	30	384
P119805V	THE TRANSPORTED FOR THE THE TRANSPORTED FOR THE TRANSPORTED FOR THE TRANSPORTED FOR TH	K.A.G. 50-11	_ <b>_</b>			

Table 4.Groundwater Rights for the Eagle Butte West LBA Tra					
P119806W 10/7/1999 48 71 30 SWNW HI-PRO PRODUCTION, L.L.C.	R.A.G. 30-12	UNA	CBM	30	364
P119807W 10/7/1999 48 71 30 NWSW HI-PRO PRODUCTION, L.L.C.	R.A.G. 30-13	UNA	CBM	30	341
P119808W 10/7/1999 48 71 30 SWSW HI-PRO PRODUCTION, L.L.C.	R.A.G. 30-14	UNA	CBM	30	339
P119809W 10/7/1999 48 71 30 NENW HI-PRO PRODUCTION, L.L.C.	R.A.G. 30-21	UNA	СВМ	30	352
P119810W 10/7/1999 48 71 30 SENW HI-PRO PRODUCTION, L.L.C.	R.A.G. 30-22	UNA	CBM	30	379
P119811W 10/7/1999 48 71 30 NESW HI-PRO PRODUCTION, L.L.C.	R.A.G. 30-23	UNA	CBM	30	359
P119812W 10/7/1999 48 71 30 SESW HI-PRO PRODUCTION, L.L.C.	R.A.G. 30-24	UNA	CBM	30	334
P131551W 12/13/2000 48 71 30 NWNW HI-PRO PRODUCTION L.L.C.	ENL. R.A.G. 30-11	UNA	CBM		384
P131552W 12/13/2000 48 71 30 SWNW HI-PRO PRODUCTION L.L.C.	ENL. R.A.G. 30-12	UNA	CBM		364
P131553W 12/13/2000 48 71 30 NWSW HI-PRO PRODUCTION L.L.C.	ENL. R.A.G. 30-13	UNA	CBM		341
P131554W 12/13/2000 48 71 30 SWSW HI-PRO PRODUCTION L.L.C.	ENL. R.A.G. 30-14	UNA	СВМ		339
P131555W 12/13/2000 48 71 30 NENW HI-PRO PRODUCTION L.L.C.	ENL. R.A.G. 30-21	UNA	CBM		352
P131556W 12/13/2000 48 71 30 SENW HI-PRO PRODUCTION L.L.C.	ENL. R.A.G. 30-22	UNA	CBM		379
P131557W 12/13/2000 48 71 30 NESW HI-PRO PRODUCTION L.L.C.	ENL. R.A.G. 30-23	UNA	CBM		359
P131558W 12/13/2000 48 71 30 SESW HI-PRO PRODUCTION L.L.C.	ENL. R.A.G. 30-24	UNA	CBM		334
P130703W 11/3/2000 48 71 31 NWNW HI-PRO PRODUCTION L.L.C.	RAG 31-11-48-71-A	GST	CBM	25	351
P130704W 11/3/2000 48 71 31 SWNW HI-PRO PRODUCTION L.L.C.	RAG 31-12-48-71-A	GST	CBM	25	321
P130708W 11/3/2000 48 71 31 NESW HI-PRO PRODUCTION L.L.C.	RAG 31-23-48-71-A	UNA	CBM	25	
P132092W 12/29/2000 48 71 31 NWNW HI-PRO PRODUCTION L.L.C.	ENL R.A.G. 31-11-48-71-A	UNA	CBM		
P132093W 12/29/2000 48 71 31 SWNW HI-PRO PRODUCTION L.L.C.	ENL R.A.G. 31-12- 48-71- A	UNA	CBM		
P132094W 12/29/2000 48 71 31 NWSW HI-PRO PRODUCTION L.L.C.	ENL R.A.G. 31-13- 48-71- A	UNA	CBM		
P132095W 12/29/2000 48 71 31 NENW HI-PRO PRODUCTION L.L.C.	ENL R.A.G. 31-21- 48-71- A	UNA	CBM		
P132096W 12/29/2000 48 71 31 SENW HI-PRO PRODUCTION L.L.C.	ENL R.A.G. 31-22- 48-71- A	UNA	CBM		
P132097W 12/29/2000 48 71 31 NESW HI-PRO PRODUCTION L.L.C.	ENL R.A.G. 31-23- 48-71- A	UNA	CBM		
P30968W 8/28/1975 48 71 33 SESE MEADOWLARK FARMS INC.	AMAX #6	PUW	DOM,STO	25	
P30969W 8/28/1975 48 71 33 SWSE MEADOWLARK FARMS INC.	AMAX #7	PUW	DOM,STO	25	1
P5512P 6/9/1953 48 71 33 SESE LESLIE CLABAUGH	CLABAUGH #1	PUW	DOM,STO	18	150
P5515P 8/26/1964 48 71 34 NWSW AMAX LAND COMPANY	CLABAUGH #4	GST	STO	10	114
P66989W 4/6/1984 48 71 34 NWSW WYOMING STATE HIGHWAY DEPARTMENT	GILLETTE 59-1	PU	MIS	125	276.5
P88920W 7/27/1992 48 71 34 SESW BALLARD PETROLEUM HOLDINGS LLC	W.D. WATER WELL #1	UNA	IND	60	2070
* P50992W 5/22/1979 48 71 35 NWSW TRUE OIL COMPANY**ARTHUR CUNDY	CLARK STATE WS 1	UNA	STO,IND	18	1100
* P50992W 5/22/1979 48 71 35 SWSW TRUE OIL COMPANY**ARTHUR CUNDY	CLARK STATE WS 1	UNA	STO,IND	18	1100
* P50992W 5/22/1979 48 71 35 SESW TRUE OIL COMPANY**ARTHUR CUNDY	CLARK STATE WS 1	UNA	STO,IND	18	1100
* P99057W 4/24/1995 48 71 35 SESW PETROGULF CORPORATION	CLABAUGH #41-2 WSW	UNA	IND	30	3400
CU2/524A 2/5/1974 48 72 25 SENW MARSHALL J. MORGAN AND BEVERLY A. MORGAN	MORGAN #10	PUW	MIS		
CU5/023A 6/1/1982 48 72 25 SENW MARSHALL JEROME AND BEVERLY ANN MORGAN	MORGAN #20	PUW	MIS,STO		
P119794W 10/7/1999 48 72 25 NWNE HI-PRO PRODUCTION, L.L.C.	R.A.G. 25-31	UNA	CBM	30	458
P119795W 10/7/1999 48 72 25 SWNE HI-PRO PRODUCTION, L.L.C.	R.A.G. 25-32	UNA	CBM	30	394
P119796W 10/7/1999 48 72 25 NWSE HI-PRO PRODUCTION, L.L.C.	R.A.G. 25-33	UNA	CBM	30	384

O O I I CI I I I I I I I I I I I I I I I				
(Continued). R.A.G. 25-34	UNA	CBM	30	418
	GST	CBM	30	389
	UNA	CBM	30	354
	UNA	CBM	30	370
	UNA	CBM		458
	UNA	CBM		394
	UNA	CBM		384
	UNA	CBM		418
	GST	CBM		389
	UNA	CBM		354
	UNA	CBM		370
	GSI	MIS		
	GSI	MIS		
			200	
				190
				222
				180
				190
				392
				464
				399
OXBOW #14-35				418
OXBOW #13-35				511
OXBOW #12-35				431
RAG 35-21				431
HUBER RAG 35-31-48-72				
HUBER RAG 35-41-48-72	GST	STO,CBM	25	372
	OXBOW #12-35 RAG 35-21 HUBER RAG 35-31-48-72	R.A.G. 25-43       UNA         R.A.G. 25-44       UNA         ENL, R.A.G. 25-31       UNA         ENL, R.A.G. 25-32       UNA         ENL, R.A.G. 25-33       UNA         ENL, R.A.G. 25-33       UNA         ENL, R.A.G. 25-33       UNA         ENL, R.A.G. 25-34       UNA         ENL, R.A.G. 25-41       GST         ENL, R.A.G. 25-43       UNA         GILLETTE YARD NO.1       GSI         GILLETTE YARD NO.1<	R.A.G. 25-41       UNA       CBM         R.A.G. 25-43       UNA       CBM         ENL, R.A.G. 25-31       UNA       CBM         ENL, R.A.G. 25-32       UNA       CBM         ENL, R.A.G. 25-33       UNA       CBM         ENL, R.A.G. 25-34       UNA       CBM         ENL, R.A.G. 25-34       UNA       CBM         ENL, R.A.G. 25-41       GST       CBM         ENL, R.A.G. 25-43       UNA       CBM         ENL, R.A.G. 25-44       UNA       CBM         GILLETTE YARD NO.1       GSI       MIS         GILLETTE YARD NO.1 <td< td=""><td>RA.G. 25-41       UNA       CBM       30         R.A.G. 25-43       UNA       CBM       30         ENL. R.A.G. 25-31       UNA       CBM       30         ENL. R.A.G. 25-32       UNA       CBM       30         ENL. R.A.G. 25-33       UNA       CBM       30         ENL. R.A.G. 25-34       UNA       CBM       30         ENL. R.A.G. 25-34       UNA       CBM       30         ENL. R.A.G. 25-41       GST       CBM       30         ENL. R.A.G. 25-43       UNA       CBM       30         ENL. R.A.G. 25-44       UNA       CBM       30         GILLETTE YARD NO.1       GSI       MIS       30</td></td<>	RA.G. 25-41       UNA       CBM       30         R.A.G. 25-43       UNA       CBM       30         ENL. R.A.G. 25-31       UNA       CBM       30         ENL. R.A.G. 25-32       UNA       CBM       30         ENL. R.A.G. 25-33       UNA       CBM       30         ENL. R.A.G. 25-34       UNA       CBM       30         ENL. R.A.G. 25-34       UNA       CBM       30         ENL. R.A.G. 25-41       GST       CBM       30         ENL. R.A.G. 25-43       UNA       CBM       30         ENL. R.A.G. 25-44       UNA       CBM       30         GILLETTE YARD NO.1       GSI       MIS       30

* P125935W	6/2/2000 48	72	35 9	SENE	JM HUBER CORPORATION	HUBER RAG 35-41-48-72	GST	STO,CBM	25	372
P125936W		-			JM HUBER CORPORATION	HUBER RAG 35-42-48-72	GST	STO,CBM	25	367
* P125937W					JM HUBER CORPORATION	HUBER RAG 35-43-48-72	GST	STO,CBM	25	384
* P125938W					JM HUBER CORPORATION	RAG 35-44	GST	STO,CBM	25	400
P134270W		+			NORTH FINN, LLC	OXBOW #22-35	GST	CBM	0	481
P134271W					NORTH FINN, LLC	OXBOW #23-35	GST	CBM		450
P23442P	1				AMAX LAND COMPANY	DUNLAP #8	GST	STO	25	120
P70776W		-			SABINE CORPORATION** I. W. LYNDE TRUST	LYNDE TRUST #1	PUW	STO	25	720
P76634W	1		· · · · · ·		AMAX LAND COMPANY	BA RANCH 24 12 HARROD	UNA	STO,MIS,DOM	100	
* P81886W					PRESIDIO EXPLORATION INC** LYNDE TRUST	LYNDE 1 2 WSW	UNA	IND	25	4570
* P88829W					JM HUBER CORPORATION	THOMPSON #35-34	UNA	STO,CBM	20	392
* P90141W					JM HUBER CORPORATION	FEDERAL #35-33	UNA	STO,CBM	20	464
	12/31/1992 48	72	35 9	SWNE	IM HUBER CORPORATION	THOMPSON #35-32	UNA	STO,CBM	20	435
* P104201W	3/1/1996 48	3 72	36 N	wsw	WYO BOARD OF LAND COMMISSIONERS** TORCH OPERATING	G ENL STATE #36-13	UNA	MIS,STO,CBM	5	340
* P104201W	3/1/1996 48	3 72	36 5	swsw	WYO BOARD OF LAND COMMISSIONERS** TORCH OPERATING	G ENL STATE #36-13	UNA	MIS,STO,CBM	5	340
P104263W	3/25/1996 48	3 72	36 5	SWSW	TORCH OPERATING CO	ENL STATE #36-14	UNA	MIS,STO,CBM	5	370
P104264W	3/25/1996 48	3 72	36 I	NWSE	TORCH OPERATING CO	ENL STATE #36-33	UNA	MIS,STO,CBM	5	328
	10/25/1999 48				HI-PRO PRODUCTION L.L.C.** WY STATE BOARD OF LAN COMMISSIONERS		GST	STO,CBM	-	330
					HI-PRO PRODUCTION L.L.C.** WY STATE BOARD OF LAN COMMISSIONERS	DENL STATE # 36-12	GST	STO,CBM		337
			+		HI-PRO PRODUCTION L.L.C.	ENL STATE # 36 13	UNA	CBM		340
			+		HI-PRO PRODUCTION L.L.C.	ENL STATE # 36 14	UNA	CBM		370
P132144W		+	+		HI-PRO PRODUCTION L.L.C.	ENL STATE # 36-33	UNA	CBM		330
* P133780W			+		HI-PRO PRODUCTION L.L.C.	ENL. DUNLAP 1-43-47-72-A	GST	CBM	0	350
* P133781W					HI-PRO PRODUCTION L.L.C.	ENL. DUNLAP 1-44-47-72-A	UNA	CBM		
P133803W		_			HI-PRO PRODUCTION L.L.C.	2ND ENL. STATE 36-12	UNA	CBM		337
* P133804W					HI-PRO PRODUCTION L.L.C.	ENL. MORGAN 1-13	UNA	CBM		383
* P133805W	4/6/2001 48	3 72	36 \$	SWSW	HI-PRO PRODUCTION L.L.C.	ENL. MORGAN 12-11	UNA	CBM		411
* P133806W	4/6/2001 48	3 72	36 \$	SWSW	HI-PRO PRODUCTION L.L.C.	ENL. BREEN 12-33	UNA	CBM		383.5
* P133807W	4/6/2001 48	3 72	36 8	SWSW	HI-PRO PRODUCTION L.L.C.	ENL. DUNLAP 7-24-47-71-A	UNA	CBM		391
* P133817W	4/6/2001 48	3 72	36 5	SWSW	HI-PRO PRODUCTION L.L.C.	DUNLAP 6-32-47-71-A	GST	CBM		313
* P133818W	4/6/2001 48	3 72	36 \$	SWSW	HI-PRO PRODUCTION L.L.C.	DUNLAP 6-42-47-71-A	GST	CBM		351
P133819W	4/6/2001 48	3 72	36 5	SWSW	HI-PRO PRODUCTION L.L.C.	DUNLAP 17-14-48-71-A	GST	CBM		432
* P133820W	4/6/2001 48	3 72	36 8	SWSW	HI-PRO PRODUCTION L.L.C.	DUNLAP 18-11-47-71-A	GST	CBM		371
* P133821W	4/6/2001 48	3 72	36 \$	swsw	HI-PRO PRODUCTION L.L.C.	DUNLAP 18-12-47-71-A	GST	CBM		373
* P133822W	4/6/2001 48	3 72	36 \$	swsw	HI-PRO PRODUCTION L.L.C.	DUNLAP 18-21-47-71-A	GST	CBM		375
* P133823W	4/6/2001 48	3 72	36	swsw	HI-PRO PRODUCTION L.L.C.	DUNLAP 18-22-47-71-A	GST	CBM		381

Table 4.	Groundwater Rights for the Eagle Butte West LBA Tract (	Continueuj.	GST	CBM	446
	4/6/2001 48 72 36 SWSW HI-PRO PRODUCTION L.L.C.	DONER 2101 12	GST	CBM	376
P133824W		RAG 1-23-47-72-A			
P133825W	HI-PRO PRODUCTION L.L.C.** WY STATE DOMAD OF L	ND STATE 36-11-48-72-A	GST	CBM	367
P134114W	THE PROPERTY AND A PRODUCTION LLC** WY STATE BOARD OF LA	ND STATE 36-11-48-72-A	GST	CBM	367
* P134114W	4/13/2001 48 72 36 SWNW COMMISSIONERS		GST	СВМ	375
P134115W	4/13/2001 48 72 36 NWNE COMMISSIONERS		GST	CBM	375
P134115W	4/13/2001 48 72 36 SWSW HI-PRO PRODUCTION L.L.C.** WY STATE BOARD OF LA		UNA	CBM	
P134116W	1 4/12/2001/48/72/36/ SWNE LOOK MOOLONEDS		UNA	CBM	
* P134116W	4/13/2001 48 72 36 SWSW HI-PRO PRODUCTION L.L.C.** WY STATE BOARD OF L COMMISSIONERS		GST	CBM	314
* P134117W	4/13/2001 48 72 36 SWSE HI-PRO PRODUCTION L.L.C.** WY STATE BOARD OF L COMMISSIONERS	STATE 36-34-48-72-A			314
* P134117W	HI-PRO PRODUCTION L.L.C.** WY STATE BOARD OF L	AND STATE 36-34-48-72-A	GST	CBM	412
	THE REPORT OF A DECEMPTION AND A DECEMPT	HIGH FLAINS 24-11	GST	CBM	416
P136823W	THE PROPERTY AND A PR	HIGH PLAINS 26-41	GST	CBM	1258
P136826W	THE REPORT OF THE PROPERTIES AND A DEPONDENTIAL CONTRACTION L.L.C.	DUNLAP 7-14-B	GST	CBM	1192
* P136837W	The second and the property of the second se	DUNLAP 7-23-B	GST		1192
* P136839W	THE PROPERTY AND THE PROPERTY AND A DEPONDENCE OF A DEPONDENCE	DUNLAP 7-24-B	GST	CBM	1127
P136840W	The second with the DDO DDODLICTION LLC	DUNLAP 18-11-B	GSI	CBM	1253
P136842W	THE REPORT OF THE PROPERTY AND A REPORT OF TH	DUNLAP 18-12-B	GST	CBM	1200
P136843W	THE REPORT OF THE PROPERTY AND A REPORT OF TH	DUNLAP 18-21-B	GSI	CBM	123
* P136844V	THE REPORT OF THE PROPERTY AND A DEPONDENCE OF THE PROPERTY AND A	DUNLAP 18-22-B	GST	CBM	125
* P136845V	THE PROPERTY AND A PRODUCTION LLC	· DUNLAP 24-34-B	GSI	CBM	406
P136846V	The second with DRO DRODUCTION LLC	HIGH PLAINS 25-11	GST	CBM	
P136848V	THE PROPERTY AND A DECEMPTION I I C	HIGH PLAINS 13-23	GSI	CBM	
P136849V	THE REPORT OF THE PROPERTY AND A DECEMPTION I I C	HIGH PLAINS 13-24	GSI	CBM	101
P136850	V 7/3/2001 48 72 36 SWNW HI-PRO PRODUCTION L.L.C.	HIGH PLAINS 23-44	GST	CBM	435
P136851	V         1/0/2001         48         72         36         SWNW         HI-PRO         PRODUCTION L.L.C.           V         7/3/2001         48         72         36         SWNW         HI-PRO         PRODUCTION L.L.C.	HIGH PLAINS 23-34	GST	CBM	470
P136852	N       7/3/2001       48       72       36       SWNW       HI-PRO PRODUCTION L.L.C.         N       8/27/2004       48       72       36       NENE       WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS	
* P162471	N 8/27/2004 48 72 36 NENE WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS	
* P162471	N       8/27/2004 48 72 36       NEND WIDOT** WY STATE BOARD OF LAND COMMISSIONERS         N       8/27/2004 48 72 36       NWNE WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS	
* P162471	N       8/27/2004 48       72       36       SWNE       WYDOT** WY STATE BOARD OF LAND COMMISSIONERS         N       8/27/2004 48       72       36       SWNE       WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS	
* P162471	W       8/27/2004       48       72       36       SENE       WYDOT** WY STATE BOARD OF LAND COMMISSIONERS         W       8/27/2004       48       72       36       SENE       WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS	
* P162471	w       8/27/2004       48       72       36       NENW       WYDOT** WY STATE BOARD OF LAND COMMISSIONERS         w       8/27/2004       48       72       36       NENW       WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS	
* P162471	w       8/27/2004       48       72       36       NWNW       WYDOT** WY STATE BOARD OF LAND COMMISSIONERS         w       8/27/2004       48       72       36       NWNW       WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS	
* P162471	w       8/27/2004       48       72       36       SWNW       WYDOT** WY STATE BOARD OF LAND COMMISSIONERS         W       8/27/2004       48       72       36       SWNW       WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS	
* P162471	W8/27/2004487236SWNWWIDOT**WY STATE BOARD OF LAND COMMISSIONERSW8/27/2004487236NESWWYDOT**WY STATE BOARD OF LAND COMMISSIONERSW8/27/2004487236NESWWYDOT**WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS	

Table 4.	Grou	ndv	vat	er Ri	ghts for the Eagle Butte West LBA Tract (Co	ontinued).				
* P162471W	8/27/2004	18 7	2 36	NWSW	WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
* P162471W	8/27/2004	18 7	2 36	SWSW	WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
* P162471W	8/27/2004	18 7	2 36	SESW	WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
* P162471W	8/27/2004	18 7	2 36	NESE	WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
* P162471W	8/27/2004	18 7	2 36	NWSE	WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
* P162471W	8/27/2004	48 7	2 36	SWSE	WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
* P162471W	8/27/2004	48 7	2 36	SESE	WYDOT** WY STATE BOARD OF LAND COMMISSIONERS	GILLETTE YARD NO.1	GSI	MIS		
P60493W	5/3/1982	48 7	2 36	SWNW	WYOMING STATE HIGHWAY DEPARTMENT	CABALLO #3	PUW	MON	0	
P71739W	1/13/1986	48 7	2 36	SESW	WY BOARD OF LAND COMMISSIONERS**MARSHALL MORGAN	MORGAN #36	UNA	STO	25	103
P89534W	8/3/1992	48 7	2 36		PRODUCTION L.L.C.	STATE #30-12	UNA	STO,CBM	20	337
* P89535W	8/3/1992	48 7	2 36	I NI VA/S VA/		STATE #36-13	UNA	STO,CBM	20	340
* P89535W	8/3/1992	48 7	2 36	SESW	WY STATE BOARD OF LAND COMMISSIONERS** HI-PRO PRODUCTION L.L.C.	STATE #36-13	UNA	STO,CBM	20	340
* P90619W	12/31/1992	48 7	2 36	SWNW	JM HUBER CORPORATION	THOMPSON #35-32	UNA	STO,CBM	20	435
* P90620W	12/31/1992	48 7	2 36	NWSE	HI-PRO PRODUCTION L.L.C.	STATE #36-33	UNA	STO,CBM	20	328
* P90620W	12/31/1992	48 7	2 36	SWNW	HI-PRO PRODUCTION L.L.C.	STATE #36-33	UNA	STO,CBM	20	328
* P90815W	1/19/1993	48 7	2 36	swsw	WY STATE BOARD LAND COMMISSIONERS** HI-PRO PRODUCTION L.L.C.	STATE #36-14	UNA	STO,CBM	25	370
* P90815W	1/19/1993				WY STATE BOARD LAND COMMISSIONERS** HI-PRO PRODUCTION L.L.C.	STATE #36-14	UNA	STO,CBM	25	370
P93190W	10/22/1993	48 7	2 36	NWSW	COMMISSIONER OF PUBLIC LANDS** WYO STATE ENGINEERS OFFICE	ECH-1A	UNA	MON	0	350

Table Notes for Non-Mining Groundwater Rights within Three Miles of the Eagle Butte West LBA Tract

## Search Conducted October 18, 2004

# Ground Water Right Search Area for the Eagle Butte West LBA Tract

Township	Range	Sections
50N	72W	1-11, 15-18
50N	73W	1-3, 10-14
51N	72W	3-11, 14-23, 25-36
51N	73W	1-2, 10-15, 21-28, 34-36

Water rights were searched to the nearest quarter-quarter of each section listed above. Any part of a quarter-quarter that lies within three miles of the LBA tract is included.

### Permit number suffixes are denoted as follows:

- "A" Adjudicated (finalized) rights; unless the right is a territorial appropriation, there will be a match in the reference column from one of the following permit types for the unadjudicated portion:
- "P" Stock and domestic use wells completed prior to May 24, 1969 and registered with the State Engineer's Office prior to December 31, 1972
- "W" Permits are for wells with a priority date for the date of filing with the State Engineer

### Status Codes

- ADJ Adjudicated
- DSC Description
- GSE Good standing, permitted time limits have been extended
- GSI Good standing incomplete; required notices not received; not yet expired
- GST Good standing
- PU Point of use non irrigation (not actual status)
- PUW Location of well (not actual status)
- UNA Unadjudicated (DOM, STO, MON, CBM, and some MIS wells are not adjudicated)

Approximately 554 separate water rights with a status code of ABA (Abandoned), A&C (Abandoned and Cancelled), CAN (Cancelled), or EXP (Expired) have been eliminated from the listing provided above, as none of these well codes represent a valid current right.

### **Use Codes**

- CBM Coal Bed Methane DEW Dewatering DOM Domestic Drilling DRI Industrial IND IRR Irrigation Miscellaneous MIS Monitoring MON RES **Reservoir Supply** STO Stock
- TEM Temporary Use

An asterisk (\*) preceding the permit entry indicates a multiple entry for the same permit number, corresponding to multiple points of use for the permit.

Lands described in these copies are the water rights of record in the SEO and may or may not reflect the actual situation on the ground. Failure to exercise a water right for five years, when water is available, may constitute grounds for forfeiture.

PERMIT	PRIORITY	T	R	S	QQ	APPLICANT	FACILITY NAME	STATUS	USES	SOURCE
26150D	5/11/1979	47	70	32	SWNW		PHOENIX WATER HAUL 32-3	PU	OIL,TEM,IND, MIS,DRI	BELLE FOURCHE RIVER
27172D	5/28/1981	46	71	15			#1 ANGELA WATER HAUL	PU	OIL,TEM,IND, DRI	BELLE FOURCHE RIVER
27185D	6/12/1981	47	72	25		WARDLAW CONTRACT DRILLING INC.**WYO BOARD OF LAND COMMISSIONERS		PU	TEM,IND,DRI	BELLE FOURCHE RIVER
27185D	6/12/1981	47	72	25	NENW	WARDLAW CONTRACT DRILLING INC.**WYO BOARD OF LAND COMMISSIONERS		PU	TEM,IND,DRI	BELLE FOURCHE RIVER
27185D	6/12/1981	47	72	25	NESE	LAND COMMISSIONERS	WARDLAW WATER HAOL	PU	TEM,IND,DRI	BELLE FOURCHE RIVER
P27185D	6/12/1981	47	72	25	NESW	LAND COMMISSIONERS	WARDLAW WATER HAOL	PU	TEM,IND,DRI	BELLE FOURCHE RIVER
P27185D	6/12/1981	47	72	25	NWNE	WARDLAW CONTRACT DRILLING INC.**WYO BOARD OF LAND COMMISSIONERS	WARDLAW WATER HAOL	PU	TEM,IND,DRI	BELLE FOURCHE RIVER
P27185D	6/12/1981	47	72	25	NWNW	WARDLAW CONTRACT DRILLING INC.**WYO BOARD OF LAND COMMISSIONERS	WARDLAW WATER HAOL	PU	TEM,IND,DRI	BELLE FOURCHE RIVER
P27185D	6/12/1981	47	72	25	NWSE	WARDLAW CONTRACT DRILLING INC.**WYO BOARD OF LAND COMMISSIONERS	WARDLAW WATER HAUL	PU	TEM,IND,DRI	BELLE FOURCHE RIVER
P27185D	6/12/1981	47	72	25	NWSW	WARDLAW CONTRACT DRILLING INC.**WYO BOARD OF LAND COMMISSIONERS	WARDLAW WATER HAUL	PU	TEM,IND,DRI	BELLE FOURCHE RIVER
P27185D	6/12/1981	47	72	25	SENE	WARDLAW CONTRACT DRILLING INC.**WYO BOARD OF LAND COMMISSIONERS	WARDLAW WATER HAUL	PU	TEM,IND,DRI	BELLE FOURCHE RIVER
P27185D	6/12/1981	47	72	25	SENW	WARDLAW CONTRACT DRILLING INC.**WYO BOARD OF LAND COMMISSIONERS	WARDLAW WATER HAUL	PU	TEM,IND,DRI	BELLE FOURCHE RIVER
P27185D	6/12/1981	47	72	25	SESE	WARDLAW CONTRACT DRILLING INC.**WYO BOARD OF LAND COMMISSIONERS	WARDLAW WATER HAUL	PU	TEM,IND,DRI	BELLE FOURCHE RIVER
P27185D	6/12/1981	47	72	25	SESW	WARDLAW CONTRACT DRILLING INC.**WYO BOARD OF LAND COMMISSIONERS	WARDLAW WATER HAUL	PU	TEM,IND,DRI	BELLE FOURCHE RIVER
P27185D	6/12/1981	47	72	25	SWNE	WARDLAW CONTRACT DRILLING INC.**WYO BOARD OF LAND COMMISSIONERS	WARDLAW WATER HAUL	PU	TEM,IND,DRI	BELLE FOURCHE RIVER
P27185D	6/12/1981	47	72	25	SWNW	WARDLAW CONTRACT DRILLING INC.**WYO BOARD OF LAND COMMISSIONERS	WARDLAW WATER HAUL	PU	TEM,IND,DRI	BELLE FOURCHE RIVER
P27185D	6/12/1981	47	72	25	SWSE	WARDLAW CONTRACT DRILLING INC.**WYO BOARD OF LAND COMMISSIONERS	WARDLAW WATER HAUL	PU		BELLE FOURCHE RIVER
P27256D	8/3/1981	46	71	14		DIAMOND SHAMROCK CORPORATION	KELLY FEDERAL 32-14 WATER USE	DSC	OIL,TEM,IND, DRI	BELLE FOURCHE RIVER
P27256D	8/3/1981	46	71	14	SWNE	DIAMOND SHAMROCK CORPORATION	KELLY FEDERAL 32-14 WATER USE	PU	OIL,TEM,IND, DRI	BELLE FOURCHE RIVER
P8605S	8/17/1979	46	71	21	SWSW	HEADLEY, JOSEPH & GRADY	HOADLY STOCK RESERVOIR	GST	STO	BUD DRAW
P3293D	6/27/1901		72	35	SWSW	GEORGE A. KEELINE	KAVIO DITCH	PUD	IRR,DOM	CABALLO CREEK
25497R	4/5/1943		72	1		WYOMING GAME AND FISH	CABALLO RESERVOIR (CHANGED TO TEMPORARY NORTH PIT)	TRA	STO,FIS	CABALLO CREEK
P5497R	4/5/1943	47	72	1	NWNE	WYOMING GAME AND FISH	CABALLO RESERVOIR (CHANGED TO TEMPORARY NORTH PIT)	TRA	STO,FIS	CABALLO CREEK

Table 4.	Sur	face	e W	ate	Rights for the Eagle Butte West LBA	Fract (Continued).			
5497R	4/5/1943	47	71	6	NWNWWYOMING GAME AND FISH	CABALLO RESERVOIR (CHANGED TO TEMPORARY NORTH PIT)	TRA	STO,FIS	CABALLO CREEK
95497R	4/5/1943	48	71	31	NWSWWYOMING GAME AND FISH	CABALLO RESERVOIR (CHANGED TO TEMPORARY NORTH PIT)	TRA	STO,FIS	CABALLO CREEK
P5497R	4/5/1943	48	71	31	SWSW WYOMING GAME AND FISH	CABALLO RESERVOIR (CHANGED TO TEMPORARY NORTH PIT)	TRA	STO,FIS	CABALLO CREEK
95497R	4/5/1943	48	71	33	WYOMING GAME AND FISH	CABALLO RESERVOIR (CHANGED TO TEMPORARY NORTH PIT)	TRA	STO,FIS	CABALLO CREEK
95497R	4/5/1943	48	72	36	NESE WYOMING GAME AND FISH	CABALLO RESERVOIR (CHANGED TO TEMPORARY NORTH PIT)	TRA	STO,FIS	CABALLO CREEK
P5497R	4/5/1943	48	72	36	SESE WYOMING GAME AND FISH	CABALLO RESERVOIR (CHANGED TO TEMPORARY NORTH PIT)	TRA	STO,FIS	CABALLO CREEK
25497R	4/5/1943	48	72	36	SWSE WYOMING GAME AND FISH	CABALLO RESERVOIR (CHANGED TO TEMPORARY NORTH PIT)	TRA	STO,FIS	CABALLO CREEK
P1366S	1/26/1956	47	72	2	NENW I.W. & WINNIE E. LYNDE MEMORIAL TRUST	LYNDE NO. 4 STOCK RESERVOIR	PU	STO	CABALLO CREEK
P1366S	1/26/1956	47	72	2	NENWI.W. & WINNIE E. LYNDE MEMORIAL TRUST	LYNDE NO. 4 STOCK RESERVOIR	PUO	STO	CABALLO CREEK
P1366S	1/26/1956	47	72	2	NWNE I.W. & WINNIE E. LYNDE MEMORIAL TRUST	LYNDE NO. 4 STOCK RESERVOIR	PU	STO	CABALLO CREEK
P1366S	1/26/1956	47	72	2	SENW I.W. & WINNIE E. LYNDE MEMORIAL TRUST	LYNDE NO. 4 STOCK RESERVOIR	PU	STO	CABALLO CREEK
P1369S	1/26/1956	48	72	35	NESW I.W. & WINNIE E. LYNDE MEMORIAL TRUST	LYNDE NO. 8 STOCK RESERVOIR	PU	STO	CABALLO CREEK
P1369S	1/26/1956	48	72	35	NWSWI.W. & WINNIE E. LYNDE MEMORIAL TRUST	LYNDE NO. 8 STOCK RESERVOIR	PU	STO	CABALLO CREEK
P1365S	1/26/1956	48	72	35	SESW I.W. & WINNIE E. LYNDE MEMORIAL TRUST	LYNDE NO. 3 STOCK RESERVOIR	PU	STO	CABALLO CREEK
P1365S	1/26/1956	48	72	35	SESW I.W. & WINNIE E. LYNDE MEMORIAL TRUST	LYNDE NO. 3 STOCK RESERVOIR	PUO	STO	CABALLO CREEK
P1369S	1/26/1956	48	72	35	SESW I.W. & WINNIE E. LYNDE MEMORIAL TRUST	LYNDE NO. 8 STOCK RESERVOIR	PU	STO	CABALLO CREEK
P1369S	1/26/1956	48	72	35	SESW I.W. & WINNIE E. LYNDE MEMORIAL TRUST	LYNDE NO. 8 STOCK RESERVOIR	PUO	STO	CABALLO CREEK
P1363S	1/26/1956	48	72	35	SWSWI.W. & WINNIE E. LYNDE MEMORIAL TRUST	LYNDE NO. 1 STOCK RESERVOIR	PU	STO	CABALLO CREEK
P1363S	1/26/1956	48	72	35	SWSWI.W. & WINNIE E. LYNDE MEMORIAL TRUST	LYNDE NO. 1 STOCK RESERVOIR	PUO	STO	CABALLO CREEK
P1364S	1/26/1956	48	72	35	SWSWI.W. & WINNIE E. LYNDE MEMORIAL TRUST	LYNDE NO. 2 STOCK RESERVOIR	PU	STO	CABALLO CREEK
P1364S	1/26/1956	48	72	35	SWSWI.W. & WINNIE E. LYNDE MEMORIAL TRUST	LYNDE NO. 2 STOCK RESERVOIR	PUO	STO	CABALLO CREEK

Table 4	. Sui	fac	e W	ate	r Rigl	nts for the Eagle Butte West LBA T	ract (Continu	ed)				
P1365S	1/26/1956		72			I.W. & WINNIE E. LYNDE MEMORIAL TRUST	LYNDE NO. RESERVOIR	3	STOCK	PU	STO	CABALLO CREEK
P1369S	1/26/1956	48	72	35	swsw	I.W. & WINNIE E. LYNDE MEMORIAL TRUST	LYNDE NO. RESERVOIR	8	STOCK	PU	STO	CABALLO CREEK
CR10/458A	1/26/1956	47	72	2	NWNE	I. W. AND WINNIE E. LYNDE MEMORIAL TRUST	LYNDE NO. RESERVOIR	4	STOCK	PU	STO	CABALLO CREEK
CR10/458A	1/26/1956	47	72	2	NENW	I. W. AND WINNIE E. LYNDE MEMORIAL TRUST	LYNDE NO. RESERVOIR	4	STOCK	PU	STO	CABALLO CREEK
	1/26/1956		72	2	NENW	I. W. AND WINNIE E. LYNDE MEMORIAL TRUST	LYNDE NO. RESERVOIR	4	STOCK	PUO	STO	CABALLO CREEK
	1/26/1956		72	2	SENW	I. W. AND WINNIE E. LYNDE MEMORIAL TRUST	LYNDE NO. RESERVOIR	4	STOCK	PU	STO	CABALLO CREEK
	1/26/1956		72	35	NESW	. W. AND WINNIE E. LYNDE MEMORIAL TRUST	LYNDE NO. RESERVOIR	8	STOCK	PU	STO	CABALLO CREEK
	1/26/1956		72	35		. W. AND WINNIE E. LYNDE MEMORIAL TRUST	LYNDE NO. RESERVOIR	8	STOCK	PU	STO	CABALLO CREEK
	1/26/1956		72	35	1	. W. AND WINNIE E. LYNDE MEMORIAL TRUST	LYNDE NO. RESERVOIR	1	STOCK	PU	STO	CABALLO CREEK
	1/26/1956		72	35		. W. AND WINNIE E. LYNDE MEMORIAL TRUST	LYNDE NO. RESERVOIR	1	STOCK	PUO	STO	CABALLO CREEK
	1/26/1956		72	35	++	. W. AND WINNIE E. LYNDE MEMORIAL TRUST	LYNDE NO. RESERVOIR	2	STOCK	PU	STO	CABALLO CREEK
	1/26/1956		72	35	1	. W. AND WINNIE E. LYNDE MEMORIAL TRUST	LYNDE NO. RESERVOIR	2	STOCK	PUO	STO	CABALLO CREEK
	1/26/1956		72	35		. W. AND WINNIE E. LYNDE MEMORIAL TRUST	LYNDE NO. RESERVOIR	8	STOCK	PU	STO	CABALLO CREEK
	1/26/1956		72	35	<u>├</u>	. W. AND WINNIE E. LYNDE MEMORIAL TRUST	LYNDE NO. RESERVOIR	3	STOCK	PUO	STO	CABALLO CREEK
	1/26/1956		72	35		. W. AND WINNIE E. LYNDE MEMORIAL TRUST	LYNDE NO. RESERVOIR	3	STOCK	PU	STO	CABALLO CREEK
	1/26/1956		72			. W. AND WINNIE E. LYNDE MEMORIAL TRUST	LYNDE NO. RESERVOIR	8	STOCK	PU	STO	CABALLO CREEK
	1/26/1956		72	35		. W. AND WINNIE E. LYNDE MEMORIAL TRUST	LYNDE NO. RESERVOIR	8	STOCK	PUO	STO	CABALLO CREEK
	1/26/1956		72			. W. AND WINNIE E. LYNDE MEMORIAL TRUST	LYNDE NO. RESERVOIR	3	STOCK	PU	STO	CABALLO CREEK
P1371S	4/10/1956		72			.W. & WINNIE E. LYNDE MEMORIAL TRUST	LYNDE NO. RESERVOIR	9	STOCK	PU	STO	CABALLO CREEK
P1371S	4/10/1956		72			.W. & WINNIE E. LYNDE MEMORIAL TRUST	LYNDE NO. RESERVOIR	9	STOCK	PUO	STO	CABALLO CREEK
P1371S	4/10/1956		72			W. & WINNIE E. LYNDE MEMORIAL TRUST	LYNDE NO. RESERVOIR	9	STOCK	PU	STO	CABALLO CREEK
	4/10/1956		72			W. AND WINNIE E. LYNDE MEMORIAL TRUST	LYNDE NO. RESERVOIR	9	STOCK	PU	STO	CABALLO CREEK
	4/10/1956		72			W. AND WINNIE E. LYNDE MEMORIAL TRUST	LYNDE NO. RESERVOIR	9	STOCK	PUO	STO	CABALLO CREEK
CR10/463A P25794D	4/10/1956 6/8/1978		72			W. AND WINNIE E. LYNDE MEMORIAL TRUST	LYNDE NO. RESERVOIR	9	STOCK	PU	STO	CABALLO CREEK
201940	0/0/19/8	40	72	36	MENW	VYOMING STATE HIGHWAY DEPARTMENT	SMP 7665 WATER	RHAUL	,	PU	TEM, IND, MIS	CABALLO CREEK

Table 4.					Rights for the Eagle Butte West LBA TI	SMP 7665 WATER HAUL	PU	TEM, IND, MIS	CABALLO CREEK
P25794D		48	72		SWNWWYOMING STATE HIGHWAT DEPARTMENT	SMP 7665 WATER HAUL	PU		CABALLO CREEK
P25794D CR3/347A	6/8/1978 6/25/1962		72 71		NESW LESLIE CLABAUGH	CLAYBAUGH STOCKWATER RESERVOIR	PU	STO	CLABAUGH DRAW
CR3/347A	6/25/1962		71	3	NESW LESLIE CLABAUGH	CLAYBAUGH STOCKWATER RESERVOIR	PUO	STO	CLABAUGH DRAW
P20609D	2/23/1951	47	72	15	NESE CLAUDE V. & MILO HAIGHT	HAIGHT DITCH	UNA	IRR	COAL CANYON CREEK
P20609D	2/23/1951		72	15	NWSE CLAUDE V. & MILO HAIGHT	HAIGHT DITCH	UNA	IRR	COAL CANYON CREEK
P20609D	2/23/1951	47	72	15	SESE CLAUDE V. & MILO HAIGHT	HAIGHT DITCH	UNA	IRR	COAL CANYON CREEK
P20609D	2/23/1951		72	15	SWSE CLAUDE V. & MILO HAIGHT	HAIGHT DITCH	UNA	IRR	COAL CANYON CREEK
P20609D	2/23/1951		72	22	NENE CLAUDE V. & MILO HAIGHT	HAIGHT DITCH	UNA	IRR	COAL CANYON CREEK
P11759S	5/12/1993		72	10	NESE I.W. & WINNIE E. LYNDE MEML TRST	HOE CREEK STOCK RESERVOIR	ADJ	STO	COAL CANYON CREEK
P11759S	5/12/1993	47	72	11	NWSWI.W. & WINNIE E. LYNDE MEML TRST	HOE CREEK STOCK RESERVOIR	ADJ	STO	COAL CANYON CREEK
P11759S	5/12/1993	47	72	11	SWSWI.W. & WINNIE E. LYNDE MEML TRST	HOE CREEK STOCK RESERVOIR	ADJ	STO	COAL CANYON CREEK
P11759S	5/12/1993	47	72	12	NESE I.W. & WINNIE E. LYNDE MEML TRST	HOE CREEK STOCK RESERVOIR	UNA	STO	COAL CANYON CREEK
CR13/407A	5/12/1993	47	72	10	NESE I. W. AND WINNIE E. LYNDE MEMORIAL TRUST	HOE CREEK STOCK RESERVOIR	ADJ	STO	COAL CANYON CREEK
CR13/407A	5/12/1993	47	72	11	NWSWI. W. AND WINNIE E. LYNDE MEMORIAL TRUST	HOE CREEK STOCK RESERVOIR	ADJ	STO	COAL CANYON CREEK
CR13/407A	5/12/1993	47	72	11	SWSWI. W. AND WINNIE E. LYNDE MEMORIAL TRUST	HOE CREEK STOCK RESERVOIR	ADJ	STO	COAL CANYON CREEK
P8877S	7/10/1981	48	71	33	NWNW MEADOWLARK FARMS INC.	CALAHAN STOCK RESERVOIR	PU	STO	DRAW NO. 2
P8877S	7/10/1981		71	33	NWNWMEADOWLARK FARMS INC.	CALAHAN STOCK RESERVOIR	PUO	STO	DRAW NO. 2
	11/30/1906		72	13	NENW JOHN MORTON SHEEP COMPANY	LAKE VIEW RESERVOIR	PU	STO	DRY CREEK (9-46-71)
	11/30/1906		72	13	NENW JOHN MORTON SHEEP COMPANY	LAKE VIEW RESERVOIR	PUO	STO	DRY CREEK (9-46-71)
	11/30/1906		72	13	NENW JOHN MORTON SHEEP COMPANY	LAKE VIEW RESERVOIR	PU	STO	DRY CREEK (9-46-71)
	11/30/1906		72	13	NENW JOHN MORTON SHEEP COMPANY	LAKE VIEW RESERVOIR	PUO	STO	DRY CREEK (9-46-71)
P29669D	5/11/1987				SENW M. R.A.	M.R.A. OSBORN #1-23 WATER HAUL	PUD	DRI	, DRY CREEK (9-46-71)
P8878S	7/10/1981	48	71	32	NWNE MEADOWLARK FARMS INC.	BELLE AYR NO. 6 STOCK RESERVOIR	PU	STO	DUCK NEST CREEK,DRY GULCH
P8878S	7/10/1983	48	71	32	NWNE MEADOWLARK FARMS INC.	BELLE AYR NO. 6 STOCK RESERVOIR	PUO	STO	DUCK NEST CREEK,DRY GULCH
P12752D	9/17/1914	47	72	3	NENE DELILAH J. MCDONALD	CAVYO DITCH	ADJ	IRR,DOM	FLAT CREEK
P12752D	9/17/1914		72	35	NWSW DELILAH J. MCDONALD	CAVYO DITCH	ADJ	IRR,DOM	FLAT CREEK
P12752D	9/17/1914		72	35		CAVYO DITCH	ADJ	IRR,DOM	FLAT CREEK
C37/228A	9/17/1914		72	-	NENE DELILAH J. MCDONALD	CAVYO DITCH	ADJ	IRR	FLAT CREEK
C37/228A	9/17/191		-	35		CAVYO DITCH	ADJ	IRR	FLAT CREEK
C37/228A	9/17/191		_			CAVYO DITCH	ADJ	IRR	FLAT CREEK
P8771S	1/28/198				NESW RAG WYOMING LAND COMPANY INC.	UPPER GRALLAS GULCH STOCK RESERVOIR	GST	STO	GRALLAS GULCH

Table 4	I. Sur	fac	e W	ate	r Rig	hts for the Eagle Butte West LE	A Tract (Continued)			
P8771S	1/28/1981	48	71	27	NWSW	RAG WYOMING LAND COMPANY INC.	UPPER GRALLAS GULCH STOCK RESERVOIR	GST	STO	GRALLAS GULCH
P8771S	1/28/1981	48	71	27	NWSW	RAG WYOMING LAND COMPANY INC.	UPPER GRALLAS GULCH STOCK RESERVOIR	GST	STO	GRALLAS GULCH
P25953D	10/6/1978	46	71	5	NWNW	FLORIDA GAS EXPLORATION CO.	HAIGHT-GARRETT 1-5 WATER LINE	DSC	OIL,TEM,IND,	HAIGHT DRAW
P25953D	10/6/1978	46	71	5	NWNW	FLORIDA GAS EXPLORATION CO.	HAIGHT-GARRETT 1-5 WATER LINE	PU	DRI OIL,TEM,IND,	HAIGHT DRAW
P25953D	10/6/1978	46	71	7		FLORIDA GAS EXPLORATION CO.	HAIGHT-GARRETT 1-5 WATER LINE	DSC	OIL, TEM, IND,	
27838D	11/16/1982		72	12	NENE	AMOCO PRODUCTION COMPANY	PICKREL AMOCO NO. 1 WATER HAUL	PUD	OIL,TEM,IND,	
27341D	10/9/1981	46	71	18	NESE	INC. PETTY RAY GEOSOURCE	HAY CREEK NO. 1 WATER HAUL	DU	DRI	
27341D	10/9/1981	46	71	18		INC. PETTY RAY GEOSOURCE	HAY CREEK NO. 1 WATER HAUL	PU		HAY CREEK (30-46-71
27341D	10/9/1981	46	71	18		INC. PETTY RAY GEOSOURCE	HAY CREEK NO. 1 WATER HAUL	PU		HAY CREEK (30-46-71
27341D	10/9/1981		71	18		INC. PETTY RAY GEOSOURCE	HAY CREEK NO. 1 WATER HAUL	PU		HAY CREEK (30-46-71
27341D	10/9/1981	46	71	18		INC. PETTY RAY GEOSOURCE	HAV OPERV NO. 1 WATER HAUL	PU		HAY CREEK (30-46-71
27341D	10/9/1981	46	71	18		INC. PETTY RAY GEOSOURCE	HAY CREEK NO. 1 WATER HAUL	PU		HAY CREEK (30-46-71
27341D	10/9/1981	46	71	18		INC. PETTY RAY GEOSOURCE	HAY CREEK NO. 1 WATER HAUL	PU		HAY CREEK (30-46-71
27341D	10/9/1981	46	71	19		INC. PETTY RAY GEOSOURCE	HAY CREEK NO. 1 WATER HAUL	PU		HAY CREEK (30-46-71
27341D	10/9/1981	46	71	19	NESE	INC. PETTY RAY GEOSOURCE	HAY CREEK NO. 1 WATER HAUL	PU		HAY CREEK (30-46-71
27341D	10/9/1981	46	71	19		INC. PETTY RAY GEOSOURCE	HAY CREEK NO. 1 WATER HAUL	PU	TEM,IND	HAY CREEK (30-46-71
27341D			71			INC. PETTY RAY GEOSOURCE	HAY CREEK NO. 1 WATER HAUL	PU		HAY CREEK (30-46-71
27341D	10/9/1981		71			INC. PETTY RAY GEOSOURCE	HAY CREEK NO. 1 WATER HAUL	PU		HAY CREEK (30-46-71
27341D		46	71			INC. PETTY RAY GEOSOURCE	HAY CREEK NO. 1 WATER HAUL	PU	TEM,IND	HAY CREEK (30-46-71
27341D		46	71	19	SENE	NC. PETTY RAY GEOSOURCE	HAY CREEK NO. 1 WATER HAUL	PU		HAY CREEK (30-46-71
27341D	10/9/1981		71	19	SENE	NC. PETTY RAY GEOSOURCE	HAY CREEK NO. 1 WATER HAUL	PU		HAY CREEK (30-46-71
27341D	10/9/1981		71			NC. PETTY RAY GEOSOURCE	HAY CREEK NO. 1 WATER HAUL	PU		HAY CREEK (30-46-71
27341D	10/9/1981		71			NC. PETTY RAY GEOSOURCE	HAY CREEK NO. 1 WATER HAUL	PU		HAY CREEK (30-46-71
27341D						NC. PETTY RAY GEOSOURCE	HAY CREEK NO. 1 WATER HAUL	PU		HAY CREEK (30-46-71)
27341D			71			NC. PETTY RAY GEOSOURCE	HAY CREEK NO. 1 WATER HAUL	PU	the second	HAY CREEK (30-46-71)
27341D 27341D	10/9/1981		71			NC. PETTY RAY GEOSOURCE	HAY CREEK NO. 1 WATER HAUL	PU		HAY CREEK (30-46-71
	10/9/1981		71			NC. PETTY RAY GEOSOURCE	HAY CREEK NO. 1 WATER HAUL	PU		
27341D	10/9/1981		71			NC. PETTY RAY GEOSOURCE	HAY CREEK NO. 1 WATER HAUL	PU		HAY CREEK (30-46-71)
27341D	10/9/1981		71			NC. PETTY RAY GEOSOURCE	HAY CREEK NO. 1 WATER HAUL	PU		HAY CREEK (30-46-71)
27341D	10/9/1981		71			NC. PETTY RAY GEOSOURCE	HAY CREEK NO. 1 WATER HAUL	PU		HAY CREEK (30-46-71
27341D	10/9/1981					NC. PETTY RAY GEOSOURCE	HAY CREEK NO. 1 WATER HAUL	PU		HAY CREEK (30-46-71
27341D	10/9/1981	-	71	20	SESWI	NC. PETTY RAY GEOSOURCE	HAY CREEK NO. 1 WATER HAUL			IAY CREEK (30-46-71)
27341D	10/9/1981		71	20	SWSEI	NC. PETTY RAY GEOSOURCE	HAY CREEK NO. 1 WATER HAUL	PU		HAY CREEK (30-46-71)
27341D	10/9/1981		71			NC. PETTY RAY GEOSOURCE		PU		IAY CREEK (30-46-71)
27341D	10/9/1981	46	72			NC. PETTY RAY GEOSOURCE	HAY CREEK NO. 1 WATER HAUL	PU		IAY CREEK (30-46-71)
27341D	10/9/1981	46	71			NC. PETTY RAY GEOSOURCE	HAY CREEK NO. 1 WATER HAUL	PU		IAY CREEK (30-46-71)
27341D	10/9/1981	46	71	28 1	WNWI	NC. PETTY RAY GEOSOURCE	HAY CREEK NO. 1 WATER HAUL	PU		IAY CREEK (30-46-71)
27341D	10/9/1981					NC. PETTY RAY GEOSOURCE	HAY CREEK NO. 1 WATER HAUL	PU	TEM,IND H	IAY CREEK (30-46-71)
						CONTRACT OF OBOOURCE	HAY CREEK NO. 1 WATER HAUL	PU		IAY CREEK (30-46-71)

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				The st (Continued)			
Table 4.	Surface Wa	ater	Rights for the Eagle Butte West LBA	HAY CREEK NO. 1 WATER HAUL	PU	TEM,IND	HAY CREEK (30-46-71)
P27341D	10/9/1981 46 71	28 5	SWNWINC. PETTY RAY GEOSOURCE	HAY CREEK NO. 1 WATER HAUL	PU	TEM,IND	HAY CREEK (30-46-71)
P27341D	10/9/1981 46 71	29	NENE INC. PETTY RAY GEOSOURCE	HAY CREEK NO. 1 WATER HAUL	PU	TEM,IND	HAY CREEK (30-46-71)
P27341D	10/9/1981 46 71	29	NENW INC. PETTY RAY GEOSOURCE	HAY CREEK NO. 1 WATER HAUL	PU	TEM,IND	HAY CREEK (30-46-71)
P27341D	10/9/1981 46 71	29	NESE INC. PETTY RAY GEOSOURCE		PU	TEM,IND	HAY CREEK (30-46-71)
P27341D	10/9/1981 46 71	29	NESW INC. PETTY RAY GEOSOURCE	HAY CREEK NO. 1 WATER HAUL	PU	TEM,IND	HAY CREEK (30-46-71)
P27341D	10/9/1981 46 71	29	NWNE INC. PETTY RAY GEOSOURCE	HAY CREEK NO. 1 WATER HAUL	PU	TEM,IND	HAY CREEK (30-46-71)
P27341D	10/9/1981 46 71	29	NWNWINC. PETTY RAY GEOSOURCE	HAY CREEK NO. 1 WATER HAUL	PU	TEM,IND	HAY CREEK (30-46-71)
P27341D	10/9/1981 46 71	29	NWSE INC. PETTY RAY GEOSOURCE	HAY CREEK NO. 1 WATER HAUL	PU	TEM,IND	HAY CREEK (30-46-71)
P27341D	10/9/1981 46 71	29	NWSWINC. PETTY RAY GEOSOURCE	HAY CREEK NO. 1 WATER HAUL	PU	TEM,IND	HAY CREEK (30-46-71)
P27341D	10/9/1981 46 71		SENE INC. PETTY RAY GEOSOURCE	HAY CREEK NO. 1 WATER HAUL	PU	TEM,IND	HAY CREEK (30-46-71)
P27341D	10/9/1981 46 71		SENW INC. PETTY RAY GEOSOURCE	HAY CREEK NO. 1 WATER HAUL		TEM,IND	HAY CREEK (30-46-71)
P27341D	10/9/1981 46 71	29	SESE INC. PETTY RAY GEOSOURCE	HAY CREEK NO. 1 WATER HAUL	PU	TEM,IND	HAY CREEK (30-46-71)
	10/9/1981 46 71	29	SESW INC. PETTY RAY GEOSOURCE	HAY CREEK NO. 1 WATER HAUL	PU	TEM,IND TEM,IND	HAY CREEK (30-46-71)
P27341D	10/9/1981 46 71	29	SWNE INC. PETTY RAY GEOSOURCE	HAY CREEK NO. 1 WATER HAUL	PU		HAY CREEK (30-46-71)
P27341D	10/9/1981 46 71	29	SWNWINC. PETTY RAY GEOSOURCE	HAY CREEK NO. 1 WATER HAUL	PU	TEM,IND	HAY CREEK (30-46-71)
P27341D	10/9/1981 46 71	29	SWSE INC. PETTY RAY GEOSOURCE	HAY CREEK NO. 1 WATER HAUL	PU	TEM,IND	HAY CREEK (30-46-71)
P27341D	10/9/1981 46 71	29	SWSWINC. PETTY RAY GEOSOURCE	HAY CREEK NO. 1 WATER HAUL	PU	TEM,IND	HAY CREEK (30-46-71)
P27341D	10/9/1981 46 71	30	NENE INC. PETTY RAY GEOSOURCE	HAY CREEK NO. 1 WATER HAUL	PU	TEM,IND	HAY CREEK (30-46-71)
P27341D	10/9/1981 46 71	30	NENW INC. PETTY RAY GEOSOURCE	HAY CREEK NO. 1 WATER HAUL	PU	TEM,IND	HAY CREEK (30-46-71)
P27341D	10/9/1981 46 71	30	NWNE INC. PETTY RAY GEOSOURCE	HAY CREEK NO. 1 WATER HAUL	PU	TEM,IND	HAY CREEK (30-46-71)
P27341D	10/2/	30	SENE INC. PETTY RAY GEOSOURCE	HAY CREEK NO. 1 WATER HAUL	PU	TEM,IND	
P27341D	10/2/222	30	SWNE INC. PETTY RAY GEOSOURCE	HAY CREEK NO. 1 WATER HAUL	PU	TEM,IND	HAY CREEK (30-46-71)
P27341D		22	NESW JOSEPH & GRADY HOADLEY	DOCTOR JOE STOCK RESERVOIR	UNA	STO	HOADLEY DRAW
P8604S				HOE NO. 5	ADJ	IRR	HOE CREEK
P12638D	8/15/1914 47 72		NWNWI.W. & WINNIE E. LYNDE	HOE NO. 5	ADJ	IRR	HOE CREEK
P12638D	8/15/1914 47 72		SWNWI.W. & WINNIE E. LYNDE	HOE NO. 5	PUD	IRR	HOE CREEK
P12638D	8/15/1914 47 72	11	SWNWI.W. & WINNIE E. LYNDE	HOE NO. 4	PUD	IRR	HOE CREEK
P12637D	8/15/1914 47 72	10	NESE I.W. & WINNIE E. LYNDE MEMORIAL TRUST	HOE NO. 4	ADJ	IRR	HOE CREEK
P12637D		10	NESE I.W. & WINNIE E. LYNDE MEMORIAL TRUST	HOE NO. 3	ADJ	IRR	HOE CREEK
P12636D	8/15/1914 47 72	10	NWSE I.W. & WINNIE E. LYNDE MEMORIAL TRUST	HOE NO. 4	ADJ	IRR	HOE CREEK
P12637D	8/15/1914 47 72	11	NWSWI.W. & WINNIE E. LYNDE MEMORIAL TRUST	HOE NO. 4	ADJ	IRR	HOE CREEK
C43/020A	8/15/1914 47 72	10		HOE NO. 4	PUD	IRR	HOE CREEK
C43/020A				HOE NO. 3	ADJ	IRR	HOE CREEK
C43/019A	8/15/1914 47 72		NWSE I. W. & WINNIE E. LYNDE	HOE NO. 5	ADJ	IRR	HOE CREEK
C43/021A			NWNWI. W. & WINNIE E. LYNDE	HOE NO. 5	ADJ	IRR	HOE CREEK
C43/021A			SWNWI. W. & WINNIE E. LYNDE	HOE NO. 5	PUD	IRR	HOE CREEK
C43/021A			SWNWI. W. & WINNIE E. LYNDE	HOE NO. 4	ADJ	IRR	HOE CREEK
C43/020/			NWSWI. W. & WINNIE E. LYNDE	JOHNSON STOCK RESERVOIR	PU	STO	JOHNSON DRAW
P7061S	9/20/1971 47 71	21	NESW GLENN HAYDEN	JOHNSON STOCK RESERVOIR	PUO	STO	JOHNSON DRAW
P7061S	9/20/1971 47 71	. 21	NESW GLENN HAYDEN	JOHNSON STOCK RESERVOIR	PU	STO	JOHNSON DRAW
CR6/402		21	NESW GLENN HAYDEN	UUHINSON STOCK RESERVOIR	10		

Table 4	. Sur	face	e W	ater	Rights for the Eagle Butte West LBA T	ract (Continued).			
CR6/402A	9/20/1971		71		NESW GLENN HAYDEN	JOHNSON STOCK RESERVOIR	PUO	STO	JOHNSON DRAW
	10/21/1963		71	23	NENW A.G. HOADLEY ESTATE	MOUNT LOGAN STOCK RESERVOIR	UNA	STO	LOGAN CREEK
P2663S	2/6/1959	46	71	28	NENE A. G. HOADLEY	BUTTE STOCK RESERVOIR	PU	STO	NORTH BRANCH BUTTE DRAW
P2663S	2/6/1959	46	71	28	NWNE A. G. HOADLEY	BUTTE STOCK RESERVOIR	PUO	STO	NORTH BRANCH BUTTE DRAW
P2663S	2/6/1959	46	71	28	NWNE A. G. HOADLEY	BUTTE STOCK RESERVOIR	PU	STO	NORTH BRANCH BUTTE DRAW
CR10/466A	7/30/1984	47	71	4	NESE MOBIL MINERAL RESOURCES, INC.	PILLEY STOCK RESERVOIR	PU	STO	PETE DRAW
	7/30/1984		71	4	NWSE MOBIL MINERAL RESOURCES, INC.	PILLEY STOCK RESERVOIR	PUO	STO	PETE DRAW
CR10/466A	7/30/1984	47	71	4	NWSE MOBIL MINERAL RESOURCES, INC.	PILLEY STOCK RESERVOIR	PU	STO	PETE DRAW
P7060S	9/20/1971	47	71	17	SWNE GLENN HAYDEN	ROYAL STOCK RESERVOIR	PU	STO	ROYAL DRAW
P7060S	9/20/1971	47	71	17	SWNE GLENN HAYDEN	ROYAL STOCK RESERVOIR	PUO	STO	ROYAL DRAW
P265S	6/15/1953	47	71	33	NENE NICK STRAATSMA	BUTTE DRAW STOCK RESERVOIR	UNA	STO	
CR6/401A	9/20/1971	47	71	17	SWNE GLENN HAYDEN	ROYAL STOCK RESERVOIR	PUO	STO	
CR6/401A	9/20/1971	47	71	17	SWNE GLENN HAYDEN	ROYAL STOCK RESERVOIR	PU	STO	

Table Notes for Non-Mining Surface Water Rights within Three Miles of the Eagle Butte West LBA Tract

#### Search Conducted October 18, 2004

#### Surface Water Right Search Area for the Eagle Butte West LBA Tract

Township	Range	Sections
50N	72W	4,5
51N	72W	9, 16-21, 29-33
51N	73W	13, 24, 25, 36

Water rights were searched to the nearest quarter-quarter of each section listed above. Any part of a quarter-quarter that lies within three miles of the LBA tract is included.

#### Record suffixes are denoted as follows:

- "A" Adjudicated (finalized) rights; unless the right is a territorial appropriation, there will be a match in the reference column from one of the following permit types for the unadjudicated portion:
- "D" Ditch or pipeline permit
- "E" Enlargement of a ditch or pipeline permit
- "R" Reservoir permit
- "S" Stock reservoir permit

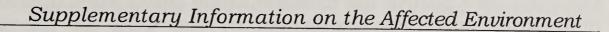
#### **Status Codes**

- A&C Abandoned and Cancelled
- ABA Abandoned
- ADJ Adjudicated
- CAN Cancelled
- DSC Description
- EXP Expired
- GST Good standing
- PU Point of use non irrigation (not actual status)
- PUD Point of diversion (not actual status)
- PUO Point of reservoir outlet (not actual status)
- PUW Location of well (not actual status)
- TEM Temporary
- TRA Transferred to another facility
- UNA Unadjudicated

Approximately 17 separate water rights with a status code of ELI (Eliminated), ABA (Abandoned), or REJ (Rejected) have been eliminated from the listing provided above, as none of these represent a valid current right.

#### **Use Codes**

DOM	Domestic
DRI	Drilling
FIS	Fish propagation
IND	Industrial
IRR	Irrigation
MIS	Miscellaneous
OIL	Oil refining/production
RES	Reservoir supply
STO	Stock
TEM	Temporary use
WET	Wetlands
WIL	Wildlife



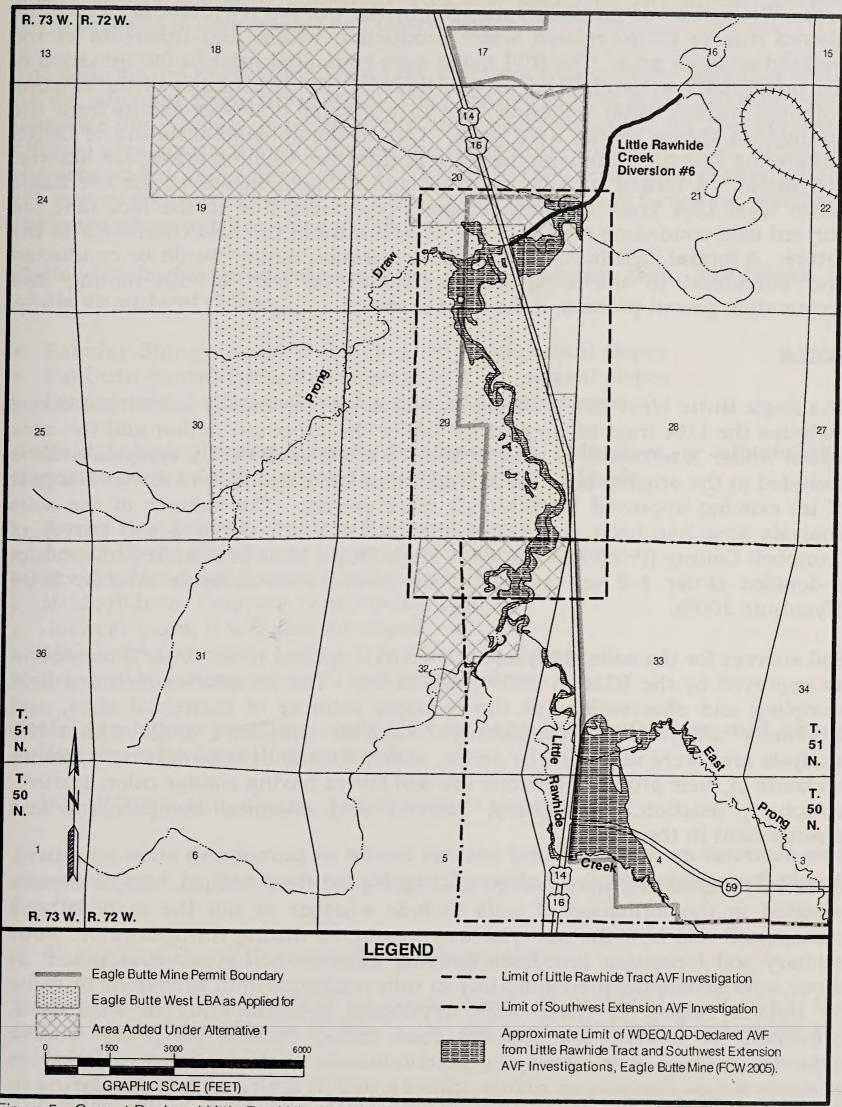


Figure 5. Current Declared Little Rawhide Creek AVF Delineations Within and Adjacent to the Eagle Butte West LBA Tract as Applied for and the Area Added Under Alternative 1.

the tract as a part of the existing Eagle Butte Mine operation. A formal wetland delineation has been confirmed by the COE for the portion of the wetland analysis area (947.94 acres) that is within the current Eagle Butte Mine permit area. Wetland areas previously mapped by the USFWS NWI have been recently altered due to CBNG-related water production within and upstream of the wetland analysis area. The NWI maps were consulted prior to the initiation of the preliminary wetlands field survey; however, the boundaries of the existing potential jurisdictional wetlands vary to a greater or lesser extent from the boundaries shown on the NWI maps. Due to the ephemeral nature of CBNG dewatering activities, the boundaries, and therefore wetland areas, are likewise ephemeral. A formal jurisdictional wetland delineation survey for the Eagle Butte West LBA Tract has not yet been completed due to the fact that the current field conditions may not be representative of the field conditions in the future. A formal jurisdictional wetland delineation survey would be conducted and submitted to the COE for verification as part of the mining and reclamation permit process, if the tract is leased.

#### SOILS

The Eagle Butte West LBA soils analysis area (approximately 2,358 total acres) includes the LBA tract as applied for under the Proposed Action and the area added under Alternative 1. The eastern portion of the soils analysis area is included in the original baseline soil survey of the Eagle Butte Mine and is part of its existing approved WDEQ/LQD mine permit. The balance of the soils analysis area has been covered by the recent NRCS Order 3 soil survey of Campbell County (Prink et al. 2004). Eagle Butte Mine is planning to conduct a detailed Order 1-2 soil survey of the entire soils analysis area in 2005 (Nyenhuis 2005).

Soil surveys for the soils analysis area were completed to an Order 3 resolution as approved by the BLM in 2004 (BLM 2004). The inventories included field sampling and observations at the requisite number of individual sites, and laboratory analysis of representative collected samples. Soils within the analysis area were identified by series, which consist of soils that have similar horizons in their profile. Horizons are soil layers having similar color, texture, structure, reaction, consistency, mineral and chemical composition, and arrangement in the profile.

Soils vary depending upon where and how they were formed. Major factors involved in the formation of soils include whether or not the material was transported and how the material was weathered during transportation. Four primary soil formation processes causing different soil types were noted: 1) those soils developing predominantly in thin residuum from sandstone or shale on upland ridges, 2) those soils developing predominantly in slopewash, colluvium, or alluvial fan deposits from mixed sources on gently sloping uplands, 3) those soils developing predominantly in coarse-textured alluvium or sandy eolian deposits on rolling uplands, and 4) drainage soils developing in mixed stream laid alluvium on terraces and channels, and in fine-textured playa deposits in depressions and closed basins.

The soils on the Eagle Butte West LBA Tract are typical of the soils that occur on the adjoining Eagle Butte Mine. The following is a list of the soil series that comprise the various mapping units that were delineated on the proposed affected area associated with mining the Eagle Butte West LBA Tract, including the area added under Alternative 1. The major soils series encountered within the survey area were grouped according to the primary soil formation processes indicated above and are listed as follows:

# Soils developing predominantly in thin residuum from sandstone or shale on upland ridges

- Samday-Shingle-Badland Complex, 10 to 45 percent slopes
- Fairburn-Samsil-Badland Complex, 10 to 45 percent slopes
- Lismas-Sabatka-Xema Complex, 3 to 15 percent slopes

# Soils developing predominantly in slopewash, colluvium, or alluvial fan deposits from mixed sources on gently sloping uplands

- Arwite Fine Sandy Loam, 0 to 6 percent slopes
- Arwite-Elwop Fine Sandy Loams, 0 to 6 percent slopes
- Deekay-Moorhead Loams, 0 to 6 percent slopes
- Heldt-Bidman Complex, 0 to 3 percent slopes
- Jaywest Loam, 0 to 6 percent slopes
- Moorhead-Leiter Clay Loams, 0 to 6 percent slopes
- Jaywest-Moorhead Loams, 0 to 6 percent slopes

# Soils developing predominantly in coarse-textured alluvium and sandy eolian deposits on rolling uplands

• Vonalf-Xema-Mittenbutte, 3 to 30 percent slopes

#### Drainage soils developing in mixed stream laid alluvium on terraces and channels and in fine-textured playa deposits in depressions and closed basins

• Rockypoint-Boruff Complex, 0 to 3 percent slopes

Table 5 provides the extent of six depth classes of suitable topsoil within the soils analysis area. Figure 6 depicts the soil map units delineated within the soils analysis area.

The Eagle Butte West LBA Tract baseline soils analysis indicates that the amount of suitable topsoil that would be available for redistribution on all disturbed acres within the analysis area during reclamation would vary from an average depth of 0.67 ft to an average depth of 5.0 ft. Areas of unsuitable soils include sites with high sodicity, salinity or clay content and low saturation percent or organic matter. The soil depths and types on the Eagle Butte West LBA Tract soils analysis area are similar to soils currently being salvaged and utilized for reclamation at the adjacent Eagle Butte Mine and other mines in the eastern PRB. The tract is expected to have adequate quantity and quality of soil for reclamation. The site-specific soil surveys have located hydric soils and/or inclusions of hydric soils, which are one component used in identifying wetlands.

Table 5. Acres of Topsoil Available for Reclamation Within the Eagle Butte West LBA Tract Soils Analysis Area.									
Thickness of Suitable Topsoil (inches)	Acres	Percent							
0	212.4	9.0							
0 - 12	340.6	14.4							
12 - 30	1,217.2	51.6							
30 – 48	262.5	11.1							
48 - 60	325.4	13.8							
> 60	. 0.0	0.0							
Total	2,358.1	100.0							

#### VEGETATION

The vegetation analysis area (approximately 2,358 total acres) includes the LBA tract as applied for under the Proposed Action and the area added under Alternative 1. The Eagle Butte West LBA vegetation analysis area is partially located within and west of the current Eagle Butte Mine permit boundary. Consequently, portions of the analysis area were previously mapped and sampled in accordance with the current WDEQ/LQD mine permitting requirements. Habitat Management, Inc. of Gillette, Wyoming completed the balance of the vegetation assessment in 2004. The vegetation communities in this area were appraised and mapped to provide a preliminary assessment.

A total of five vegetation types have been preliminarily identified and mapped within the Eagle Butte West LBA vegetation analysis area. Water, disturbed areas, and shelterbelts were also mapped. Table 6 presents the acreage and percent of the analysis area encompassed by each vegetation type. Figure 7 depicts the five vegetation communities, previously disturbed areas, and areas covered by open water within the analysis area. The vegetation types include agricultural pasture 1, sagebrush grassland, agricultural pasture 2, grassland, and CBNG impacted bottomland. Previously disturbed areas and areas covered by surface water were also delineated. Supplementary Information on the Affected Environment

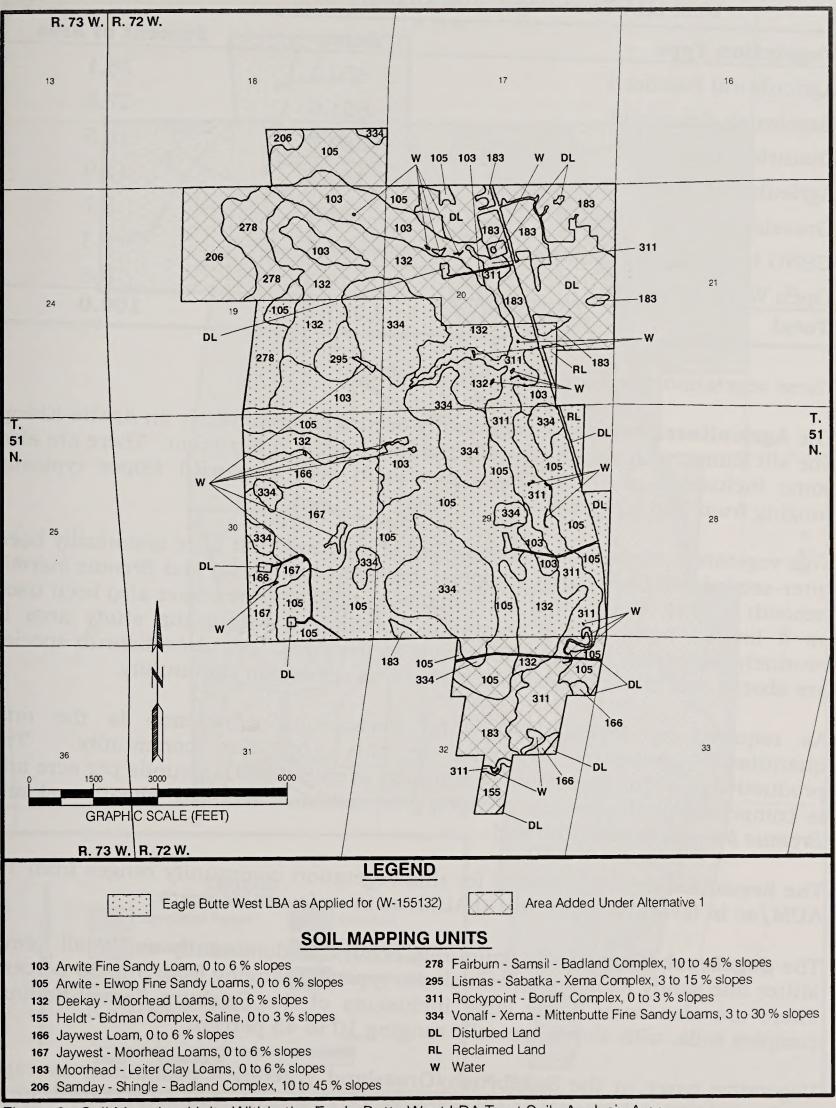


Figure 6. Soil Mapping Units Within the Eagle Butte West LBA Tract Soils Analysis Area.

Vegetation Type	Acres	Percent of Area		
Agricultural Pasture 1	850.3	36.1		
Sagebrush Grassland	651.6	27.6		
Disturbed Area	389.7	16.5		
Agricultural Pasture 2	280.6	11.9		
Grassland	134.9	5.7		
CBNG Impacted Bottomland	31.5	1.3		
Open Water (Reservoir)	19.2	0.8		
Total	2,357.8	100.0		

Table 6.Vegetation Types Identified and Mapped Within the Eagle ButteWest LBA Tract Vegetation Analysis Area.

These vegetation types are described as follows:

The **Agricultural Pasture 1** community occurs predominantly on Arwite-Elwop fine silt loams, with slopes typically ranging from 0 to 6 percent. There are also some inclusions of Deekay-Moorhead loam soil, also with slopes typically ranging from 0 to 6 percent.

This vegetation community is comprised of pastures that have historically been inter-seeded with Agropyron cristatum (crested wheatgrass) and Bromus inermis (smooth brome). Some other perennial wheatgrass species have also been used on a limited basis. This vegetation community within the study area is routinely harvested for hay and grazed by livestock. Shrub/subshrub species are absent or a minor component within this vegetation community.

As required by WDEQ/LQD, total herbaceous production is the only quantitative parameter evaluated in this vegetation community. The productivity for this vegetation community averages 394.2 pounds per acre and is comprised predominately of *Agropyron cristatum* (crested wheatgrass) and *Bromus inermis* (smooth brome).

The livestock carrying capacity for this vegetation community ranges from 1.5 AUM/ac in favorable years to 1.0 AUM/ac in unfavorable years.

The **Sagebrush/Grassland** community occurs predominantly on Vonall-Xema-Mitter fine sandy loam soils, with slopes typically ranging from 3 to 30 percent. There are also some fairly large inclusions of the Fairburn-Samsil-Badland complex soils, with slopes typically ranging 10 to 45 percent.

Vegetative cover in the Sagebrush/Grassland vegetation community averages 21.7 percent; total ground cover averages 73.1 percent. Life form contributions

## Supplementary Information on the Affected Environment

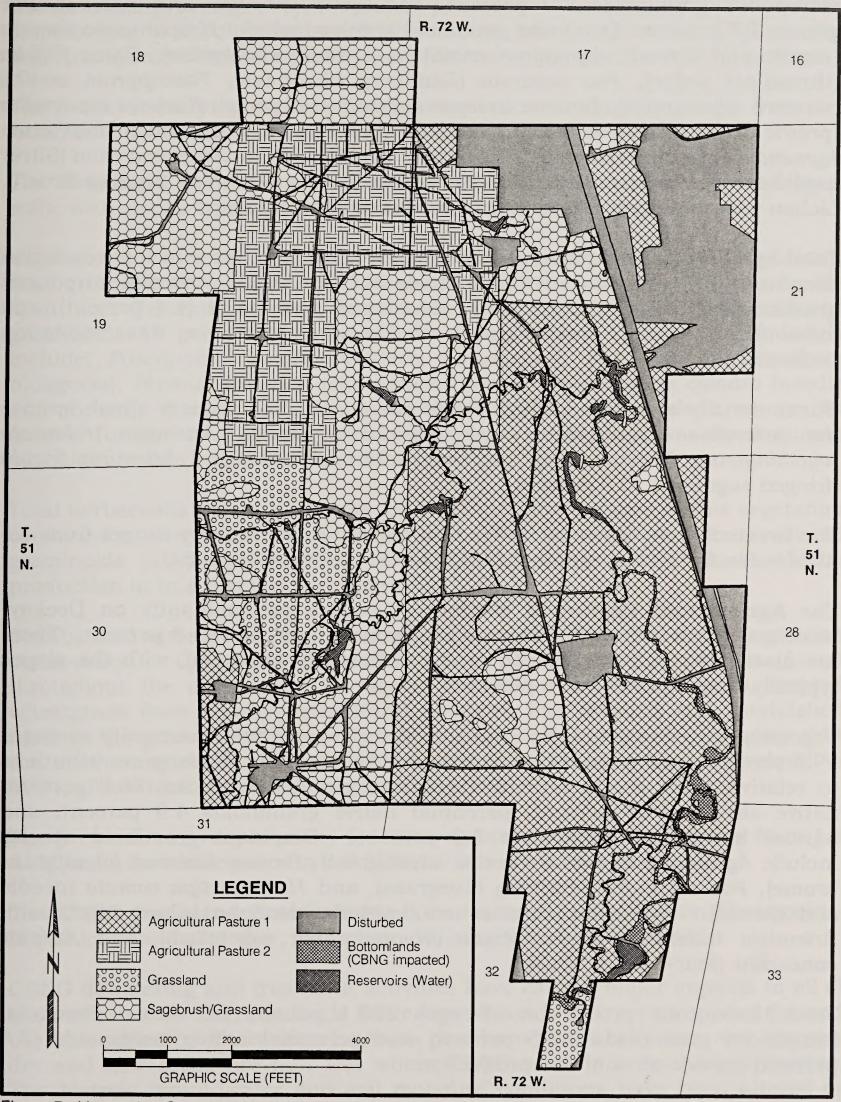


Figure 7. Vegetation Communities Within the Eagle Butte West LBA Tract Vegetation Analysis Area.

## Supplementary Information on the Affected Environment

to relative cover are: perennial native graminoid species 56.2 percent, native shrubs 15.9 percent, introduced native graminoids 13.2 percent, annual introduced graminoids 7.2 percent, and lower vascular and non-vascular plants 3.3 percent. Dominate graminoid species include: *Hesperostipa comata* (needle and thread), *Agropyron cristatum* (crested wheatgrass), *Carex filifolia* (threadleaf sedge), *Poa secunda* (Sandberg bluegrass), *Pascopyrum smithii* (western wheatgrass), *Bromus tectorum* (cheatgrass brome), *Koeleria macrantha* (prairie Junegrass), *Calamovilfa longifolia* (prairie sandreed), and *Achnatherum hymenoides* (Indian ricegrass). Dominate shrubs include *Artemisia cana* (Silver sagebrush) and *Artemisia tridentata wyomingensis* (Wyoming big sagebrush). Lichen was commonly found in this vegetation community.

Total herbaceous production averages 277.9 pounds per acre in this vegetation community. Perennial native graminoids (85.1 percent), perennial introduced graminoids (8.2.3 percent), annual introduced graminoids (4.4 percent), and forbs (2.2 percent) provide most of the production in this vegetation community.

Shrub density averages 3,787.9 plants per acre. The primary shrub species are Artemisia cana (silver sagebrush) 38.8 percent, Artemisia tridentata wyomingensis (Wyoming big sagebrush) 27.3 percent, and Artemisia frigida (fringed sagewort) 23.9 percent.

The livestock carrying capacity for this vegetation community ranges from 1.5 AUM/ac in favorable years to 1.0 AUM/ac in unfavorable years.

The **Agricultural Pasture 2** community occurs predominantly on Deekay-Moorhead loam soils, with slopes typically ranging from 0 to 6 percent. There are also some inclusions of an Arwite fine sandy loam soil, with the slopes typically ranging from 0 to 6 percent.

Vegetative cover in the Agricultural Pasture 2 vegetation community averages 19.6 percent; total ground cover averages 73.6 percent. Life form contributions to relative cover are: perennial introduced graminoid species 76.0 percent, native shrubs 14.4 percent, perennial native graminoids 4.9 percent, and annual introduced graminoids 3.2 percent. Dominant graminoid species include Agropyron cristatum (crested wheatgrass), Bromus tectorum (cheatgrass brome), Poa secunda (Sandberg bluegrass), and Hesperostipa comata (needle and thread). Dominate shrubs include Artemisia cana (silver sagebrush), Artemisia tridentata wyomingensis (Wyoming big sagebrush), and Atriplex canescens (four-wing saltbush).

Total herbaceous production averages 272.1 pounds per acre. Perennial introduced graminoids (85.5 percent) and perennial native graminoids (7.4 percent) provide most of this production.

Shrub density averages 1,949 plants per acre. The primary plant species contributing to shrub cover are *Artemisia cana* (silver sagebrush) 53.5 percent and *Artemisia tridentata wyomingensis* (Wyoming big sagebrush) 43.5 percent.

The livestock carrying capacity for this vegetation community ranges from 1.4 AUM/ac in favorable years to 0.9 AUM/ac in unfavorable years.

The **Grassland** community occurs predominately on Jaywest-Moorhead loam soils, with slopes typically ranging from and at 0 to 6 percent.

Vegetative cover in the grassland vegetation community averages 17.2 percent; total ground cover averages 63.2 percent. Relative cover contributions by life form are: Perennial native graminoids 75.4 percent, annual introduced graminoids 18 percent, and succulents 2.9 percent. Dominant graminoids include: *Pascopyrum smithii* (western wheatgrass), *Poa secunda* (Sandberg bluegrass), *Bromus tectorum* (cheatgrass brome), *Hesperostipa comata* (needle and thread), *Nassella viridula* (green needlegrass), and *Koeleria macrantha* (prairie Junegrass). *Opuntia polyacantha* (plains pricklypear) was the dominate succulent in this vegetation community.

Total herbaceous production averages 149.5 pounds per acre in this vegetation community. Perennial native graminoids (79.8 percent), annual introduced graminoids (10.3 percent), and forbs (9.8 percent) provide most of the production in this vegetation community.

Shrubs and subshrubs are essentially absent from the grassland vegetation community. *Opuntia polyacantha* (Plains Pricklypear) cactus is found throughout the community in varying densities. In limited areas, crested wheatgrass from nearby agricultural pastures has invaded and established itself in the grassland community. Historic aerial photography suggests that the area occupied by this community was used for agricultural cropland in 1994, after which it was reclaimed to rangeland.

The livestock carrying capacity for this vegetation community ranges from 1.4 AUM/ac in favorable years to 0.9 AUM/ac in unfavorable years.

The **CBNG Impacted Bottomlands** occur almost exclusively on Rockypoint-Boruff loam and silty clay, with slopes ranging from 0 to 3 percent.

CBNG dewatering and treatment activities have caused major impacts to all of the watersheds within the Eagle Butte West Tract LBA Tract as applied for and the area added by Alternative 1. Areas that have historically been wet are now dry and new areas are now wet where CBNG water are discharged/treated. The historic groundwater and soil moisture conditions have been altered or disrupted and major shifts in plant community distribution have or are occurring. Dominant graminoids include: Hordeum jubatum (foxtail barley), Agropyron smithii (western wheatgrass), Bromus mollis (soft brome), Agropyron cristatum (crested wheatgrass), Agropyron intermedium (intermediate wheatgrass), and Bromus japanicus (Japanese brome). Dominant sedges include: Carex spp. (sedge species), Eleochan's palustris (common spikerush), Schoenoplectus tabernaemontani (softstem bulrush), and Juncus balticus (Baltic rush). The dominant shrub/subshrub is Atriplex spp. (saltbush species).

Persistent **Open Water** on the site is to a large degree a recent development relating to the onset of CBNG development in the area. Extracted groundwater from coal seams has largely been liberated on the surface to find its own way downslope. Little Rawhide Creek is classified as an intermittent stream in this area and, although CBNG may extend the period of flow, the creek remains classified as intermittent. Water is impounded within in-stream reservoirs along Little Rawhide Creek and ephemeral drainages feeding Little Rawhide Creek within the general analysis area.

With the abundance of both CBNG and traditional oil and gas extraction in the area, networks of **Disturbed Areas** are present that overlay much of the area. Disturbance consists primarily of roads and well pads that are stabilized with clinker (or scoria) gravel and the remnants of Rawhide Village, a subdivision that is currently abandoned. There are also small tank batteries and numerous miles of pipeline disturbance that to varying degrees are recovering vegetation cover. Due to the changing nature of the disturbance areas, not all disturbance areas are depicted on Figure 7.

### WILDLIFE

#### Wildlife Resources

Background information on wildlife in the vicinity of the Eagle Butte West LBA Tract was drawn from several sources, including the South Powder River Basin Coal FEIS (BLM 2003a), WGFD and USFWS records, and personal contacts with WGFD and USFWS biologists. Site-specific data for the Eagle Butte West LBA Tract general analysis area were obtained from several sources, including WDEQ/LQD mine permit applications and annual wildlife monitoring reports for the applicant and nearby coal mines. FCW initiated baseline investigations in 2004 expressly for the Eagle Butte West LBA Tract. All wildlife baseline study procedures were reviewed with Mr. Vern Stelter of the WGFD. Thunderbird Wildlife Consulting, Inc. (TWC) formulated the Eagle Butte West LBA Tract wildlife baseline study plan and obtained approval of the plan from Bill Witchers of the WGFD on 1 April, 2004. The proposed lease area has received comprehensive coverage during baseline and annual wildlife monitoring surveys for the adjacent Eagle Butte Mine since the mid-1970s. Baseline and annual wildlife surveys cover a large perimeter around mine permit areas; consequently, a majority of the proposed lease area and adjacent lands have been surveyed for wildlife species as part of the required monitoring surveys for the FCW and Rawhide Mines. The results of site-specific surveys

for the entire leased area and appropriate perimeter will be part of the mine permitting process if the lease sale is held and the tract is proposed for mining.

The topography within the vicinity of the LBA tract is level to gently rolling, with steeper terrain in the extreme northwestern corner of the LBA tract under Alternative 1. Elevations range from approximately 4,260 to 4,420 ft within the LBA tract as applied for and from 4,240 to 4,560 ft within the area added under Alternative 1.

In an undisturbed condition, the major vegetation types in the general analysis area provide habitats for many species. Vegetation types tend to occur in a mosaic across the landscape; therefore, many wildlife species can be expected to utilize more than one habitat type. Predominant habitat types classified on the LBA tract and adjacent area correspond with the major plant communities defined by the vegetation survey and consist primarily of seeded grassland, grassland, and sagebrush grassland. Various, relatively small parcels of crested wheatgrass pasture occur throughout the area and networks of road and well pad disturbance areas overlay much of the sagebrush grassland and sandy grassland. There are also numerous tank batteries and miles of pipeline disturbance with varying degrees of recovering vegetation cover. No designated critical, crucial, or unique wildlife habitats are present in the area.

The predominant natural habitat is sagebrush grassland, and sandy grassland is the next largest habitat type. Sagebrush grassland includes terrain with greater topographic relief and heavier soils that favor shrub growth. Big sagebrush is the dominant shrub in this habitat type. Native shrubs comprise less than 15 percent of the relative cover. Seeded grassland (Agricultural Pasture vegetation type) is dominated by crested wheatgrass, but older seedings have a mixture of less dominant native plant species, and with the passage of time, these older seedings begin to resemble sagebrush grassland again. Bottomland grassland, or streamside bottomland habitat is limited to a narrow band along limited reaches of Little Rawhide Creek and Prong Draw. Grasses include needleandthread, western wheatgrass, cheatgrass brome, and crested wheatgrass. Trees are present only within residential windbreaks and around an impoundment located on an ephemeral tributary of Little Rawhide Creek in the southern portion of the area added under Alternative 1 (Section 32, T.1N., R.72W.).

Under natural conditions, Little Rawhide Creek is classified as an intermittent stream and its tributaries, including Prong Draw, are all ephemeral streams. In response to surface discharge of groundwater associated with CBNG production upstream of the LBA tract, which is a relatively recent phenomenon, essentially all watercourses in the study area are currently receiving CBNG discharge water on a nearly continuous basis. At least seven distinct in-channel impoundments occur on the LBA tract as applied for and three others are located on lands added under Alternative 1. Streamflow occurrence is now more persistent and these shallow impoundments are seldom completely dry, resulting in an increase in habitat for waterfowl, shorebirds, and various aquatic species.

Eagle Butte Mine's approved WDEQ/LQD mine permit allows disturbance of the Little Rawhide Creek channel. Approximately 3.5 miles of the natural channel has been diverted to-date within Eagle Butte Mine's current permit area. FCW would propose another diversion of Little Rawhide Creek if they acquire a lease for the Eagle Butte West LBA Tract.

#### **Big Game**

The two big game species that are common in suitable habitat throughout the general analysis area include pronghorn (*Antilocapra americana*) and mule deer (*Odocoileus hemionus*). White-tailed deer (*Odocoileus virginianus*) are occasionally observed. No crucial big game habitat or migration corridors are recognized by the WGFD in this area.

Pronghorn are by far the most common big game species in this area. The WGFD has classified the general analysis area as primarily winter/yearlong pronghorn range. The WGFD Gillette Herd Unit encompasses the entire general analysis area. In post-season 2003, the WGFD estimated the Gillette Herd Unit to be 13,000 animals with an objective of 11,000 (WGFD 2004). Winter pronghorn population trends in the general vicinity were initially tracked during annual monitoring at the Eagle Butte Mine. Based on the recommendations of the WGFD, big game monitoring was discontinued in 1999. This recommendation was based on the fact that years of big game monitoring had demonstrated that surface coal mining was having little long-term negative impacts on pronghorn or mule deer. Pronghorn tend to favor sagebrush shrubland and mixed grass prairie habitats in the area but also frequent reclaimed lands.

Seasonal ground count data indicate that mule deer tend to move into the area during the winter, but low numbers observed during the surveys make generalizations about mule deer movements less meaningful. The WGFD has classified the entire general analysis area as being out of normal mule deer use range. The entire area is located within the WGFD Powder River Mule Deer Herd Unit. No crucial or critical mule deer ranges or migration corridors occur on or within several miles of the Eagle Butte West LBA Tract or in the general analysis area. The WGFD estimated the 2003 post-season mule deer for the herd unit at 51,000, which is near the current objective of 52,000 (WGFD 2004). Mule deer use nearly all habitats, but prefer sagebrush grassland, rough breaks, and riparian bottomland. Browse is an important component of the mule deer's diet throughout the year, comprising as much as 60 percent of total intake during autumn, while forbs and grasses typically make up the rest of their diet (Fitzgerald et al. 1994). Mule deer are occasionally observed on the Eagle Butte Mine reclaimed lands. White-tailed deer are generally managed separately by the WGFD in the Powder River and Black Hills Herd Units. White-tailed deer prefer riparian habitats and are therefore seldom observed in the general analysis area due to the lack of that particular habitat. The WGFD classifies the entire general analysis area as out of the normal white-tailed deer use range. White-tailed deer are occasionally recorded along the Rawhide Creek and Little Powder River valleys several miles to the north but are rarely recorded in the general analysis area.

The nearest elk (*Cervus elaphus*) population is in the Fortification Unit, approximately 15 miles to the west of the general analysis area. None of the general analysis area is classified by the WGFD as within normal elk use range. No elk have been observed recently within the general analysis area.

### **Other Mammals**

A variety of small and medium-sized mammal species occur in the vicinity of the general analysis area, although not all have been observed on the LBA tract itself. These include predators and furbearers, such as coyote (*Canis latrans*), red fox (*Vulpes vulpes*), bobcat (*Lynx rufus*), striped skunk (*Mephitis mephitis*), long-tailed weasel (*Mustela frenata*), badger (*Taxidea taxus*), muskrat (*Ondatra zibethicus*), raccoon (*Procyon lotor*), and beaver (*Castor canadensis*). Prey species include various rodents (such as mice, rats, voles, gophers, ground squirrels, chipmunks, muskrats, and black-tailed prairie dogs [*Cynomys ludovicianus*]) and lagomorphs (jackrabbits and cottontails). These prey species are cyclically common and widespread throughout the region. Porcupines (*Erethizon dorsatum*) and bats (such as hoary [*Lasiurus cinereus*] and big brown [*Eptesicus fuscus*]) also have habitat in the vicinity. The prey species are important for raptors and other predators.

Surveys have been conducted to locate prairie dog colonies on and within one mile of the LBA tract as applied for and the area added by Alternative 1. One prairie dog town was found within this survey area. This small town (approximately one acre in area) is located just over <sup>3</sup>/<sub>4</sub> mile from the northern edge of the BLM study area will not be disturbed by current or proposed mining activities.

## Raptors

The raptor species expected to occur in suitable habitats in the general analysis area include the golden eagle (Aquila chrysaetos), ferruginous hawk (Buteo regalis), red-tailed hawk (Buteo jamaicensis), Swainson's hawk (Buteo swainsoni), rough-legged hawk (Buteo lagopus), northern harrier (Circus cyaneus), American kestrel (Falco sparverius), prairie falcon (Falco mexicanus), great horned owl (Bubo virginianus), burrowing owl (Athene cunicularia), and short-eared owl (Asio flammeus). The bald eagle (Haliaeetus leucocephalus) is a migrant and winter resident as discussed in the Biological Assessment (Appendix F) of this EIS. Those species that commonly nest in the general

analysis area are the ferruginous hawk, golden eagle, red-tailed hawk, Swainson's hawk, northern harrier, burrowing owl, and great horned owl. The short-eared owl occasionally nests in the area. Habitat is limited for those species that nest exclusively in trees or on cliffs, but several species are adapted to nesting on the ground, creek banks, buttes, or rock outcrops. Over time, natural forces have destroyed many nests, while others have been relocated for mitigation or removed by mining activities. In some cases, nests have been created to mitigate other nest sites impacted by mining operations at the Eagle Butte Mine.

During surveys that were completed in 2004 by TWC, a total of five raptor species (golden eagle, northern harrier, red-tailed hawk, Swainson's hawk, and burrowing owl) were nesting on the raptor survey area, which includes the LBA tract as applied for, lands added by Alternative 1, and a two-mile radius. In the past, the great horned owl, ferruginous hawk, and short-eared owl have also been identified as nesting within or adjacent to the raptor survey area. The 2004 survey identified 28 intact raptor nests in the survey area, 10 of these nests were active. No active nests were observed on the Eagle Butte West LBA Tract as proposed in 2004. One active northern harrier nest and one active red-tailed hawk nest were documented on the area added under Alternative 1. No intact ferruginous hawks are within the area as applied for under the Proposed Action or the area added by Alternative 1, but four nests are located within one mile of the Eagle Butte West LBA Tract. These nests have not been active since at least 2000. One intact, unoccupied Swainson's hawk/red-tailed hawk nest was present on the lands added under Alternative 1. No other intact raptor nests were present on the LBA tract area as applied for under the Proposed Action or the area added by Alternative 1.

## **Upland Game Birds**

Four upland game bird species are known to occur in suitable habitats on or near the general analysis area. These species are the mourning dove (Zenaida macroura), gray partridge (Perdix perdix), sharp-tailed grouse (Tympanuchus phasianellus), and sage-grouse (Centrocercus urophasianus).

Mourning doves are a migrant and relatively common in the area during migration, particularly near sites with water sources and trees and in the summer for breeding and nesting. This species is a relatively common breeding bird in Campbell County and may be found in a variety of habitat types. Mourning doves were observed on the survey area in 2004 and 2005 (FCW 2005b).

Gray (or Hungarian) partridge, an introduced species, have been infrequently observed on reclaimed areas, sagebrush shrublands, upland grassland, and cultivated lands in the vicinity of the LBA tract. In some years this species is occasionally encountered while in other years partridge appear to be totally absent. The Hungarian partridge were not observed on the survey area in 2004 and 2005 (FCW 2005b). Sharp-tailed grouse were observed in 2004 approximately one mile southeast of the LBA tract, but these sightings were infrequent, occurring during the winter. The nearest sharp-tailed grouse lek is over six miles northeast of the general analysis area.

The sage-grouse is a yearlong resident and is occasionally encountered in the general analysis area. The most abundant vegetation type on the LBA tract as applied for and the area added under Alternative 1 is the sagebrush grassland type, which is characterized by the moderate to heavy presence of Wyoming big sagebrush. At the present time, sage-grouse do not appear to be abundant or common in the area. Five historic strutting grounds have been documented within two miles of the BLM study area. Only two of the five have been active within the last five years (the other three were previously removed by mining activities). Each active lek is generally surveyed three times each breeding season. The Barbour lek, located at the extreme western edge of the Eagle Butte West LBA Tract, was first documented in 1984 during Eagle Butte Mine baseline surveys. The peak number of males was 28 in 1991. No males were recorded in surveys conducted between 1994 and 2000. Breeding activities shifted approximately 1,000 ft southwest of the original lek in 2001. Twentyfour males were observed on the strutting ground in 2001, but numbers declined through 2005. No sage-grouse were recorded on the Barbour lek in 2005 (FCW 2005b). The Rawhide School Satellite lek was first discovered in At least 16 males were in attendance at that time. 2001. Peak male attendance declined during each of the four subsequent years and no birds were observed in the vicinity of the lek in 2005 (FCW 2005b). Three historic strutting grounds (Grams, Rawhide, and Meadowlark) were removed in conjunction with mining activities at Eagle Butte and Rawhide Mines. No males were in attendance at these three leks at least one year prior to lek disturbance. Research has indicated that most hens will nest within a threemile radius around an active lek. The three-mile radius around the Barbour and Rawhide School Satellite leks extends onto the LBA tract as proposed.

## **Migratory Bird Species of Management Concern in Wyoming**

USFWS uses a list entitled Migratory Bird Species of Management Concern in Wyoming, specifically the Coal Mine List of 40 Migratory Bird Species of Management Concern in Wyoming, for reviews related to existing and proposed coal mine leased land (USFWS 2002b). This list was taken directly from the Wyoming Bird Conservation Plan (Cerovski, et al. 2000). The regional status and expected occurrence, historical observations, and breeding records on or near the Eagle Butte West LBA Tract for each listed species are included in Table 7. The Migratory Bird Species of Management Concern in Wyoming replaced the Migratory Birds of High Federal Interest (MBHFI) list. Eagle Butte Mine previously conducted annual surveys for the species included on the MBHFI list and now conducts annual surveys for the species included on the coal mine list. The surveys, which are conducted in the winter through summer, include the permit area and a one-half to one-mile perimeter.

#### Migratory Bird Species of Management Concern in Wyoming: Their Table 7. Regional Status, and Expected and Actual Occurrence on or Near the Eagle Butte West LBA Tract.

Species	Seasonal Status/Breeding Records in Northeastern WY <sup>1</sup>	Expected Occurrence on and in Vicinity of the LBA Tract <sup>2</sup>	Historical Sighting Records and Breeding Status in Vicinity of the LBA Tract <sup>3</sup>
	LEVEL I (species no	eed conservation action)	
Mountain plover	Summer/Observed	Common	None
Greater sage-grouse*	Resident/Breeder	Common	Common breeder
McCown's longspur*	Summer/Breeder	Common	Uncommon breeder
Baird's sparrow	Never Recorded	Uncommon	None
Ferruginous hawk*	Resident/Breeder	Common	Historic breeder
Brewer's sparrow*	Summer/Breeder	Common	Common breeder
Sage sparrow	Summer/ Observed	Common	None
Swainson's hawk*	Summer/Breeder	Common	Common breeder
Long-billed curlew*	Summer/Breeder	Uncommon	Rare Spring Migrant
Short-eared owl*	Resident/Breeder	Common	Historic breeder
Peregrine falcon*	Resident/Observed	Rare	Rare migrant
Burrowing owl*	Summer/Breeder	Common	Common breeder
Bald eagle*	Resident/ Observed	Uncommon	Occasional Winter Resident
Upland sandpiper*	Summer/Breeder	Uncommon	Uncommon breeder

LEVEL II (species need monitoring)				
Cassin's kingbird	Summer/ Observed	Uncommon	None	
Lark bunting*	Summer/Breeder	Common	Common breeder	
Dickcissel*	Summer/Observed	Uncommon	Uncommon Migrant	
Chestnut-collared longspur*	Summer/Breeder	Uncommon	Uncommon breeder	
Black-chinned hummingbird	Never Recorded	Uncommon	None	
Pygmy nuthatch	Resident/Observed	Uncommon	None	
Marsh wren	Summer/Observed	Common	None	
Western bluebird	Summer/ Observed	Uncommon	None	
Sage thrasher*	Summer/Breeder	Common	Uncommon Breeder	
Grasshopper sparrow*	Summer/Breeder	Common	Common breeder	
Bobolink*	Summer/Observed	Uncommon	Uncommon Migrant	
Common loon*	Summer/Observed	Uncommon	Uncommon Migrant	
Black-billed cuckoo	Summer/ Observed	Uncommon	None	
Red-headed woodpecker*	Summer/ Observed	Uncommon	Uncommon Migrant	
Yellow-billed cuckoo	Never Recorded	Uncommon	None	
Eastern screech-owl	Never Recorded	Uncommon	None	
Western screech-owl	Never Recorded	Uncommon	None	
Western scrub-jay	Never Recorded	Uncommon	None	
Loggerhead shrike*	Summer/Breeder	Common	Occasional breeder	
Vesper sparrow*	Summer/Breeder	Common	Common breeder	
Lark sparrow*	Summer/Breeder	Uncommon	Occasional breeder	
Ash-throated flycatcher	Never Recorded	Rare	None	
Bushtit	Never Recorded	Uncommon	None	
Merlin*	Resident/Breeder	Uncommon	Uncommon Migrant	
Sprague's pipit*	Migrant/Observed	Uncommon	Uncommon Migrant	
Barn owl	Summer/Breeder	Unknown Distribution	None	

Compiled from Luce, et al. (1999 and subsequent revisions), for the Campbell County Area.

Expected occurrence in the study area was based on range, history of occurrence, and habitat availability.

Sighting records were derived from actual occurrence on or within one-half mile of the LBA tract and the Alternative 1 tract

configuration area or from observations related to Eagle Butte Mine baseline and annual monitoring. Species marked with an asterisk have historically been recorded during baseline or annual monitoring surveys for the Eagle Butte

Mine.

Twenty-four of the listed species have historically been observed within the general analysis area. Species that have been recorded nesting in the area include the burrowing owl, greater sage-grouse, Brewer's sparrow (Spizella breweri), Swainson's hawk, short-eared owl, ferruginous hawk, lark bunting (Calamospiza melanocorys), grasshopper sparrow (Ammodramus savannarum), McCown's longspur (Calcarius mccownii), upland sandpiper (Bartramia longicauda), chestnut-collared longspur (Calcarius ornatus), sage thrasher (Oreoscoptes montanus), loggerhead shrike (Lanius ludovicianus), lark sparrow (Chondestes grammacus), and the vesper sparrow (Pooecetes gramineus). Other species observed in the area include the long-billed curlew (Numenius americanus), peregrine falcon (Falcon peregrinus), bald eagle, dickcissel (Spiza Americana), bobolink (Dolichonyx oryzivorus), common loon (Gavia immer), redheaded woodpecker (Melanerpes erthrocephalus), Merlin (Falco coumbarius), and Spague's pipit (Anthus spragueii). The bald eagle is only observed in the winter or as a migrant and the long-billed curlew, peregrine falcon, dickcissel, bobolink, loon, red-headed woodpecker, Spague's pipit, and merlin have only been observed as migrants.

The mountain plover (*Charadrius montanus*) is included on the list of *Migratory Bird Species of Management Concern in Wyoming*. The mountain plover was designated as a proposed threatened species by the USFWS in October 2001 (USFWS 2001). USFWS subsequently published a withdrawal of the proposed rule to list the mountain plover as threatened on September 9, 2003, (USFWS 2003). Mountain plovers have not been recorded within the Eagle Butte West LBA Tract or in adjacent areas during the 25+ years of wildlife surveys conducted in the area.

The bald eagle is seasonally common and most frequently observed during the winter months. Bald eagles are relatively common winter residents and migrants in northeastern Wyoming's PRB. No bald eagle roosting habitat is present on the Eagle Butte West LBA Tract or areas added by Alternative 1. No known nest sites, or consistent yearly concentrated prey or carrion sources for bald eagles are present in the area of the Eagle Butte Mine, including the Eagle Butte West LBA Tract and adjacent study area. This species is infrequently observed in the general vicinity of the Eagle Butte West LBA Tract in the winter. Additional information about the observed occurrence of the bald eagle on the Eagle Butte West LBA Tract can be found in the Biological Assessment (Appendix E of the Eagle Butte West EIS).

The burrowing owl is common and a pair of owls has nested in a small prairie dog town in the general analysis area during 10 of the last 12 years. Sagegrouse, recently added to the Level 1 list, are becoming less common in the general analysis area but are still classified as a common breeder on and in the near vicinity of the Eagle Butte West LBA Tract.

Suitable nesting habitat is scarce if not absent in the general analysis area for the remainder of the Migratory Bird Species of Management Concern in Wyoming; therefore, the other species have never been recorded in the wildlife study area.

### **Other Species**

Incidental sightings of other species not targeted by systematic wildlife surveys completed specifically for the applicant and adjacent mines, as well as biological research projects in the eastern PRB, have documented numerous other wildlife species that are generally common inhabitants of the area. Other species observed include waterfowl, shorebirds, nongame birds and nongame fish, as well as various herptiles. Extensive wildlife species lists that document species observed and those with the potential for occurring in the area are included in Eagle Butte Mine's WDEQ/LQD mine permit and annual reports.

The Eagle Butte West LBA Tract provides limited waterfowl and shorebird habitat. The natural aquatic habitat, prior to CBNG development within the Little Rawhide Creek drainage basin, was mainly available during spring migration as ponds (primarily stock and mine reservoirs) and ephemeral streams. Many of these water features generally got quite low or dried up However, the relatively recent development of CBNG during the summer. resources upstream and within the general analysis area has supplied the creek, its tributaries, and in-stream reservoirs/ponds with a nearly continuous water supply, resulting in an increase in habitat for waterfowl and shorebird Broods of blue-winged teal (Anas discors), mallard (Anas species. platyrhynchos), northern shoveler (Anas clypeata), Canada goose (Branta (Charadrius vociferous), and American avocet killdeer canadensis). (Recurvirostra americana) were observed during 2004 and 2005 (FCW 2005b).

Under natural conditions, aquatic habitat is limited by the ephemeral nature of surface waters in the general analysis area. The lack of deep-water habitat and extensive and persistent water sources limits the presence and diversity of fish and other aquatic species. Fish surveys were conducted in the Little Rawhide Creek during baseline studies for the Eagle Butte Mine between 1977 and 1984 and again in 1985. The 1977-84 surveys were completed along Little Rawhide Creek in the northern and northwestern portion of the Eagle Butte Mine area. The 1985 survey was completed on the portion of Little Rawhide Creek that is within the Eagle Butte West LBA Tract. No fish were noted during any of these surveys. Little Rawhide Creek is listed in the WDEQ/LQD Surface Water Classification List as a Class 3B stream that is protected for aquatic life, recreation, wildlife, agriculture, industry, and scenic value. No other ephemeral streams draining the general analysis area are categorized by the WDEQ.

As discussed above, water discharged from CBNG wells has supplied Little Rawhide Creek and some tributaries and ponds with a near continuous water supply, resulting in an increase in habitat for aquatic species.

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Numerous reptile and amphibian species have been recorded during the various surveys on the Eagle Butte Mine area and adjacent lands including the LBA tract. These species include the tiger salamander (Ambystoma tigrinum), plains spadefoot (Scaohiopus bombifrons), great plains toad (Bufo cognatus), Woodhouse's toad (Bufo woodhousei), boreal chorus frog (Pseudacris triseriata maculata), northern leopard frog (Rana pipiens), common snapping turtle (Chelydra serpentina serpentina), western painted turtle (Chrysemys picta belli), short-horned lizard (Phrynosoma douglassi), prairie rattlesnake (Crotalus viridis viridis), bullsnake (Pituophis melanoleucas sayi), western plains garter snake (Thamnophis radix haydeni), and eastern yellowbelly racer (Coluber constrictor flaviventris). The only amphibians that were encountered on the LBA tract in 2004 were the boreal chorus frog and leopard frog. The western painted turtle and common snapping turtle have also been recorded along Little Rawhide Creek within the eastern portion of the survey area. The only amphibians encountered on the LBA tract in 2005 were the boreal chorus frog and western painted turtle (FCW 2005b). No fish were observed in Little Rawhide Creek during the 2004 survey.

## Threatened, Endangered, Proposed, and Candidate Animal Species

Potential habitat for T&E species and their occurrence on the Eagle Butte West LBA Tract are discussed in Appendix F of the Eagle Butte West EIS document.

#### LAND USE AND RECREATION

The majority of the surface estate on the Eagle Butte West LBA Tract as applied for and the area added under Alternative 1 is privately owned, but approximately 15 acres of the area included in the northern part of the area added by Alternative 1 are owned by Campbell County, a portion of which is occupied by an elementary school. FCW is the major private surface owner, but there are 11 other private surface owners in the Echo Subdivision, which is also included in the northern portion of the area added by Alternative 1. The ownership of the surface estate is shown in detail in Figures 3-17 and 3-18 in the Eagle Butte West EIS document. Livestock grazing is the primary land use within the LBA tract as applied for and the area added under Alternative 1, while oil and gas production, wildlife habitat, and recreation are secondary land uses for both public and private lands.

Areas of disturbance within the general analysis area include power transmission lines, ranching-related roads, producing, shut-in and plugged and abandoned conventional oil and gas and CBNG wells, roads and production facilities associated with these oil and gas wells including numerous buried pipelines, residential developments, and surface mine-related facilities. U.S. Highway 14-16 crosses eastern limits of the LBA tract. State Highway 59 and the Hannum Road (a paved county road) are located roughly a mile south of the LBA tract. There are residential streets in the area of the Rawhide Elementary School and the Echo Subdivision, and several unnamed

two-track roads traverse and provide public and private access within and near the proposed lease area and BLM study area.

The oil and gas estate within the Eagle Butte West LBA Tract as applied for and the area added under Alternative 1 is federally and privately owned, with the majority (approximately 88 percent) being privately owned. The ownership of the oil and gas estate is shown in Figure 3-19 in the Eagle Butte West EIS document. A list of the current federal oil and gas lessees of record is included as Table 3-10 in the Eagle Butte West EIS document.

According to the WOGCC records as of May 19, 2006, there were no permitted conventional oil and gas wells on lands included in the Eagle Butte West LBA Tract as proposed and the lands added under Alternative 1 (refer to Figure 3-19 in the Eagle Butte West EIS document). Four conventional oil wells that were drilled on private leases were unproductive and subsequently plugged and abandoned. Records suggest that the four conventional wells were designed to test production from the Minnelusa, Lakota, and Muddy Formations. The most recent conventional test well in the general analysis area was drilled in 1985 (WOGCC 2005).

According to the WOGCC records as of May 19, 2006, there were 20 CBNG wells that were producing, 17 plugged and abandoned, 27 were shut-in, five were dormant, temporarily abandoned or intended to be abandoned, three were recently spudded, and 10 were permitted to be drilled within the lands encompassed by the Eagle Butte West LBA Tract as applied for and the lands added under Alternative 1 (refer to Figure 3-19 in the Eagle Butte West EIS document). Extensive CBNG development has occurred north, south, and west of the tract. CBNG wells capable of production on or in sections adjacent to the Eagle Butte West LBA Tract are listed in Appendix G of the Eagle Butte West EIS document.

Coal mining is a dominant land use to the north, east, and southeast of the LBA tract. The Buckskin, Rawhide, Eagle Butte, Dry Fork, and Wyodak Mines form a group of contiguous or nearly contiguous surface coal mines located in Campbell County (Figure 1). Coal production from these five active mines increased by 48 percent between 1993 and 2005 (from approximately 44 million tons in 1993 to 65 million tons in 2005). Since decertification, three coal leases, including two LBA tracts (the Eagle Butte and West Hay Creek tracts) and one exchange tract (the Belco Exchange tract) have been issued within this group of four mines. The Eagle Butte West LBA Tract being evaluated in this EIS and the Hay Creek II lease application, which is currently pending, are in this group of mines (Tables 1-1 and 1-2 in the Eagle Butte West EIS document).

Big game hunting is the principal recreational land use within the general analysis area, and pronghorn, mule deer, and white-tailed deer are present within the area. On private lands, hunting is allowed only with landowner permission. Land ownership within the PRB is largely private (approximately 80 percent), with some private landowners permitting sportsmen to cross and/or hunt on their land. There has been a trend over the past two to three decades towards a substantial reduction in private lands that are open and reasonably available for hunting. Access fees continue to rise and many resident hunters feel these access fees are unreasonable. This trend has created problems for the WGFD in their attempt to distribute and control harvest at optimal levels, as well as for sportsmen who desire access to these animals (WGFD 2004). Pronghorn, mule deer, and white-tailed deer occur on or adjacent to the LBA tract. Sage grouse, mourning dove, waterfowl, rabbit, and coyote may be also harvested in the vicinity, and some trapping of red fox may also occur.

Specific details regarding big game herd management objectives within and near the general analysis area are contained in the *Casper* and *Sheridan Region Annual Big Game Herd Unit Reports* (WGFD 2004). The WGFD classifies the entire general analysis area as winter/yearlong (67 percent) and yearlong (33 percent) habitat for antelope. No crucial or critical pronghorn habitat is recognized by the WGFD in this area. The proposed lease area is within pronghorn antelope Hunt Area 17, which is contained in the Gillette Herd Unit. In post-season 2003, the population of the Gillette Herd Unit was estimated to be approximately 13,000 animals, which is above the WGFD objective of 11,000 (WFGD 2004).

In 2003, the WGFD issued 986 licenses (717 active licenses) for the Gillette Herd Unit, Hunt Area 17, and 625 antelope were harvested (87 percent success rate). In the years 1998 through 2002, hunters on average harvested 532 animals with better than 86 percent success and spent 3.1 days per animal harvested. Approximately 1,893 recreation days were spent on antelope hunting in 2003. Due to the fact that the Gillette Herd Unit is above herd objectives and the population is in a trend of increasing numbers, additional harvest may be needed to better control the herd and stabilize the population near objectives. Increased harvest may be difficult to achieve because of the increased CBNG development, which is limiting rifle hunting on associated lands. Given the predicted harvest and average winter conditions, the 2004 post-season population was expected to be 13,985 antelope.

The Eagle Butte West LBA Tract as applied for and the area added by Alternative 1 is located within the WGFD Powder River Mule Deer Herd Unit. According to WGFD maps, a majority of the general analysis area is considered out of normal mule deer range. Crucial or critical mule deer habitat does not occur on or within several miles of the general analysis area. The LBA tract is in mule deer Hunt Area 17, part of the Powder River Herd Unit, which also includes Hunt Areas 17, 18, 23, and 26. A majority of the Powder River Herd Unit is privately owned. Access fees are common, resulting in heavy hunting pressure on accessible public land, particularly in recent years. Much of the public owned surface lands are scattered and inaccessible without crossing private land. The 2003 postseason herd population was estimated at

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approximately 51,000 animals, which is near the herd objective of 52,000 animals. In 2003, 3,694 mule deer were harvested from the Powder River Herd Unit and the hunter success rate was 67 percent. The days spent per animal harvested were 5.3 in 2003, slightly below the five-year average of 5.5 days. It is likely that insufficient harvest within mule deer Hunt Area 17 will result in a population increase in the future.

The nearest elk population is in the Fortification Unit, approximately 15 miles to the west of the general analysis area. None of the general analysis area is classified by the WGFD as within normal elk use range. No elk have been observed recently within the wildlife study area.

White-tailed deer are currently managed separately by the WGFD in the Powder River and Black Hills Herd Units. White-tailed deer prefer riparian habitats and are therefore seldom observed in the general analysis area due to the lack of that particular habitat. The WGFD classifies the entire general analysis area as out of the normal white-tailed deer use range. White-tailed deer are occasionally recorded along the Rawhide Creek and Little Powder River valleys several miles to the north but are rarely recorded in the general analysis area.

Under natural conditions, aquatic habitat is limited by the ephemeral nature of surface waters in the general analysis area. The lack of deep-water habitat and extensive and persistent water sources limits the presence and diversity of fish and other aquatic species. Fish surveys were conducted in the Little Rawhide Creek during baseline studies for the Eagle Butte Mine in between 1977 and 1984 and again in 1985. The 1977-84 surveys were completed along Little Rawhide Creek in the northern and northwestern portion of the Eagle Butte Mine area. The 1985 survey was completed on the portion of Little Rawhide Creek that is within the Eagle Butte West LBA Tract. No fish were noted during any of these surveys. Little Rawhide Creek is listed in the WDEQ/LQD Surface Water Classification List as a Class 3B stream that is protected for aquatic life, recreation, wildlife, agriculture, industry, and scenic value. No other ephemeral streams draining the general analysis area are categorized by the WDEQ.

#### **CULTURAL RESOURCES**

Much of the LBA survey area had already been intensively surveyed at a Class III level by numerous inventories that were associated with oil and gas field development and surface mining operations. In 2004, FCW contracted with ACR Consultants, Inc. of Sheridan, Wyoming to perform a Class III survey of previously unsurveyed areas within the Eagle Butte West LBA Tract survey area. The cultural resources survey area included approximately 1,582 acres within the LBA tract as applied for under the Proposed Action and the area added under Alternative 1.

### **Previous Investigations**

Class I (review of previous survey records) file searches conducted at the Wyoming SHPO produced information from 17 cultural resource projects in the Eagle Butte Tract survey area. The majority of these projects are Class III seismic, well pad, and drill hole inventories conducted in association with oil and gas development. Nine previously recorded sites were listed as occurring within the survey area. ACR revisited six of these sites.

A total of nine archaeological sites were identified during records searches. Of the nine sites, six are prehistoric and three are historic. No multi-component sites were identified. Prehistoric sites consist primarily of lithic scatters. Five of the six prehistoric sites were considered not eligible. Historic sites consist primarily of homesteads and trash dumps. The three historic sites are considered not eligible. Of the nine previously recorded sites identified in the LBA tract survey area, only one prehistoric site was considered eligible to the NRHP.

### **Current Investigations**

The remainder of the Eagle Butte Tract survey area was surveyed in entirety at a Class III level (newly identified cultural resources) in 2004. A total of eight archaeological sites and 12 isolated occurrences were identified and recorded during this recent Class III inventory. The 12 isolates consist of six prehistoric flakes and tools and six historic artifacts. The eight newly recorded cultural sites consist of three prehistoric (mostly lithic scatters) sites and two historic site, and three multi-component sites. All are recommended as not eligible to NRHP. Six previously recorded sites were revisited during the inventory.

#### Summary

To summarize the identified cultural resources, a total of 17 archaeological sites are located in the Eagle Butte West LBA Tract project area. Of these 17 cultural sites, nine are prehistoric, five are historic, and three are multi-component. One site was originally considered eligible for the NRHP by the cultural site recorder. ACR Consultants, Inc. reevaluated this site and recommends that the site is not eligible for the NRHP. The remaining 16 sites are considered not eligible for the NRHP. Table 8 lists the cultural sites and their classifications.

Through mitigation procedures involving data recovery plans at each site, the archaeological record will not be negatively affected due to the loss of site 48CA3801. Based on a reevaluation of this site ACR Consulting, Inc. recommends that eligibility determination be changed to not eligible. Until consultation with SHPO has occurred and agreement regarding NHRP eligibility has been reached, all sites should be protected from disturbance.

Table 8.Sites and Isolated Finds in the Class III Cultural Resources Inventory<br/>of the Eagle Butte West LBA Tract Survey Area.

Prehistoric sites:		
Lithic Scatter:	48CA1866, 48CA1867, 48CA1869, 48CA1870, 48CA5050, 48CA5279, 48CA5281, 48CA5287	
Stone Circle:	48CA3801*	
Isolated finds:	6 lithic items	
Historic sites:		
Debris:	48CA626, 48CA5278, 48CA5286	
Livestock/Ranching:	48CA1137, 48CA1868	
Isolated Finds:	6 debris items	
Multi-component sites:	48CA5280, 48CA5282, 48CA5284	

\*NHRP eligible – ACR recommends not eligible.

#### **REFERENCES CITED**

All references cited within this supplemental information document are included within Section 6.0 of the Eagle Butte West EIS document, which is as follows:

Bureau of Land Management (BLM), 2006, Draft Environmental Impact Statement for the Eagle Butte West Coal Lease Application (WYW 154432), U.S. Department of the Interior, Bureau of Land Management Casper Field Office, Casper, Wyoming, October 2006. BLM Library Denver Federal Center Bldg. 50, OC-521 P.O. Box 25047 Denver, CO 80225

