

3 THE AFFECTED ENVIRONMENT

This chapter describes the existing conditions of the physical, biological, cultural, and socioeconomic resources in the study area. The resources that are addressed here were identified during the scoping process or interdisciplinary team review as having the potential to be affected.

Critical elements of the human environment (BLM 1988, 1999) that could potentially be affected by the Proposed Action include air quality, cultural resources, Native American religious concerns, threatened or endangered species, hazardous or solid wastes, water quality, wetlands/riparian zones, invasive, nonnative species (noxious weeds), and environmental justice. Five other critical elements (areas of critical environmental concern, prime and unique farmland, floodplains, wild and scenic rivers, and wilderness) are not present in the project area and are not addressed further. In addition to the critical elements that are potentially present in the project area, this EA discusses the status and potential effects of mining the proposed Belle Ayr 2000 Tract on topography and physiography, geology and minerals, geologic hazards, water quantity, alluvial valley floors, soils, vegetation, wildlife, paleontological resources, visual resources, soils, land use and recreation, and socioeconomics.

Detailed environmental information has been collected on the Belle Ayr 2000 Tract because it is overlapped by the mining permit boundaries of the adjacent Belle Ayr and Caballo Mines. This chapter summarizes information from the current approved Belle Ayr WDEQ/LQD Permit to Mine (#214-T5). The current approved Caballo WDEQ/LQD Permit to Mine also includes information on portions of the tract. The permit documents for these two mines contain more detailed information. Copies of these public documents are available at the Sheridan and Cheyenne WDEQ/LQD offices, and the Casper OSM office..

3.1 GENERAL SETTING

The Powder River Basin is an elongated, asymmetrical structural downfold. The Belle Ayr Mine is located on the eastern flank of the Powder River Basin, and is characterized by rolling hills covered with grass and sagebrush. To the east, the topography changes abruptly to rough, broken, scoria-capped hills. Numerous scoria or sandstone-capped buttes extend to the west. The major drainage in the immediate area is Caballo Creek, which flows west to east through the Belle Ayr Mine permit area, south of the Belle Ayr 2000 Tract. Bone Pile Creek, Duck Nest Creek, and Tisdale Creek are tributaries to Caballo Creek from the north while Clabaugh, DeMott, Royal, Les, and Belle Ayr Draws are the main tributaries to Caballo Creek from the south within the permit area. Maximum local relief within the permit area is 271 feet with the elevation ranging from 4432 to 4703 feet.

3.2 TOPOGRAPHY AND PHYSIOGRAPHY

The topography of the Belle Ayr 2000 Tract is similar to the balance of the Belle Ayr permit area. The area east of Bishop Road is located in a non-contributing basin that slopes gently to the southeast toward a playa that is intersected by Bishop Road. The area west of Bishop Road slopes toward Draw No. 2, an ephemeral tributary of Caballo Creek, which flows to the south.

3.3 GEOLOGY

The Belle Ayr Mine is located on the eastern flank of the Powder River Basin. The structure of the geologic strata within the permit area is homoclinal with beds dipping one to two degrees to the west.

Surface geology in the area of the Belle Ayr 2000 Tract is dominated by the Wasatch formation that is composed of fluvial and paludal sediments. This formation is of Upper Eocene Age and is composed of interbedded and highly lenticular variegated clays, shales, sandstones, occasional fresh water limestones, and thin coal seams. Correlation of individual strata is difficult due to the discontinuous and lens-like nature of the units which is inherent in fluvial deposition, e.g., channel sand deposits. The overburden shales are predominantly silty shales, with lesser thicknesses of clay shales and sandy shales. The degree of lithification of the Wasatch Formation is quite variable, ranging from virtually uncemented sands to moderately well cemented siltstones and sands and from soft to very stiff clays and silty clays.

The target coal bed of the Belle Ayr 2000 Tract is referred to as the Wyodak or Wyodak-Anderson seam. The coal is sub-bituminous and averages 72 feet in thickness in the permit area. There are no partings in the coal on the tract.

The stratum immediately underlying the coal is generally a black carbonaceous claystone with coaly inclusions. Root structure is commonly observed within this claystone. Poorly consolidated sandstone locally underlies the coal.

Additional information regarding the geology of the Belle Ayr 2000 Tract and the Belle Ayr Mine permit area, including maps and cross-sections can be found in Section 2.5 of the WDEQ/LQD Permit to Mine #214.

3.4 SOILS

The soils on the Belle Ayr 2000 Tract are typical of the soils that occur on the remainder of the Belle Ayr Mine permit area, and are similar to soils currently being salvaged by Belle Ayr and Caballo Mines and other Powder River Basin mines. The Belle Ayr 2000 Tract is expected to have an adequate quantity and quality of soil for reclamation as is currently being accomplished at the Belle Ayr Mine. A summary of soil series that comprise the map

units on the Belle Ayr 2000 Tract, along with typical topsoil stripping depths is included as Table 3-1.

All soil surveys were completed in accordance with WDEQ/LQD Guideline No. 1 which outlines required soils information necessary for a coal mining operation. The inventories included field sampling and observations at the requisite number of individual sites, and laboratory analysis of representative collected samples.

Data in the area of the Belle Ayr 2000 Tract was collected by Belle Ayr primarily between 1973 and 1982. The survey methods, mapping, sampling techniques, and results are presented in Appendices 2.7-1, 2.7-2, and 2.7-3 of the WDEQ/LQD Permit to Mine #214-T5. Soil series are illustrated on Map 2.7-1 of the permit.

**Table 3-1
Belle Ayr 2000 Tract
Soils Description**

Series Name	Topsoil Stripping Depth (Inches)	Hydraulic Curve No.
Maysdorf	42	69
Bidman	30-36	79
Pugsley	24	79
Briggsdale	30	79
Samsil	4-6	84
Worf	12	84
Thedalund	18-24	79
Maysdorf-Pugsley Complex (70%/30)	42/24-37	69-79
Bidman-Briggsdale Complex (55%/45%)	30-33	79
Olney-Bowbac Complex (60%/40%)	30-37	69-84
Decolney-Olney Complex 60%/40%	30-35	69
Olney-Vona Complex (60%/40%)	30-37	69

3.5 AIR QUALITY

The basic regulatory framework governing air quality in Wyoming is the Wyoming Environmental Quality Act, the accompanying Air Quality Standards and Regulations promulgated by the Environmental Quality Council, and the State Implementation Plan approved by the EPA under the Clean Air Act. This regulatory framework includes state air quality standards, which must be at least as stringent as National Ambient Air quality Standards, and allowable increments for the prevention of significant deterioration of air quality.

The prevention of significant deterioration (PSD) program is designed to protect air quality from significant deterioration in areas already meeting state standards. In other words, an increase in ambient air pollutant concentrations, above the area baseline, is allowable if the state standard increment for the pollutant is not exceeded for the area. The increment allowable under PSD depends on the area's designation as Class I, II, or III. Class I areas are allowed the smallest increment and Class III the largest. The area the coal mines are located in is Class II, as is all of Wyoming outside the national parks and wilderness areas. The Class I area that is closest to the Belle Ayr 2000 Tract is Wind Cave National Park in South Dakota, approximately 100 miles to the southeast.

In the vicinity of the Belle Ayr 2000 Tract, the main sources of air pollution are surface coal mines, vehicle traffic, various sources associated with oil and gas production, railroad traffic, and farming and ranching activities. The closest operating power plants are approximately 13 miles north of the tract near Gillette.

The major type of emissions from surface coal mining activities is fugitive dust. Blasting and moving overburden, crushing, loading, and hauling coal, and the large areas of disturbed land all produce dust. Wyoming has PM₁₀ ambient air standards for particulates. PM₁₀ is respirable particulate matter (less than 10 microns) which can penetrate into the lungs and cause health problems.

Blasting is also responsible for another type of emission from surface coal mining. Overburden blasting sometimes produces low-lying gaseous orange clouds which contain NO_x.

Vehicle traffic, both inside and outside the areas of surface coal mining, is responsible for tailpipe emissions and for the emission of fugitive dust from paved and unpaved surfaces. Vehicle emissions consist primarily of nitrogen oxides (NO_x) and carbon monoxide (CO) and may include sulfur dioxide (SO₂) and, by secondary processes, ozone(O₃). The national and state standards for emissions of these substances are also shown in Tables 3-2 and 3-3.

The compressor stations and large generators associated with oil and gas production and transport, and fossil fuel-fired power plants produce emissions of NO_x, SO₂, CO, total suspended particulates (TSP), PM₁₀, volatile organic compounds, and smaller amounts of other pollutants.

The main pollutant of concern associated with the locomotive for the trains used to haul coal and other commodities is NO_x. The main pollutants produced by farming and ranching activities are dust and NO_x.

**Table 3-2
Regulated Air Emissions for Selected Ambient Air Quality Standards**

Emissions	Averaging Period	Wyoming Standard (µg/m³)	National Standard (µg/m³)
PM ₁₀ Particulate Matter	24-hour ¹	150	150
	annual ²	50	50
Nitrogen Oxide (NO _x)	annual ²	100	100
Photochemical Oxidant (O ₃)	1-hour ¹	--	235
Sulfur Dioxide (SO ₂)	3-hour ¹	1,300	---
	24-hour ¹	260	365
	annual ²	60	80
Carbon Monoxide (CO)	1-hour ¹	40,000	40,000
	8-hour ¹	10,000	10,000

¹ Standards not to be exceeded more than once per year.

² Annual arithmetic mean not to be exceeded.

In order to obtain a state air quality construction and operating permit, each mine may be required to demonstrate, through dispersion modeling, that its activities will not increase PM₁₀ levels above the annual standard established by the Wyoming Air Quality Standards and Regulations (WDEQ/AQD 1995). The modeling demonstration must include the estimated air pollutant emissions from other existing pollution-generating activities, including adjacent mines, so that control of overall air quality is part of the permitting process.

**Table 3-3
Maximum Allowable Increases for Prevention of Significant Deterioration of Air
Quality: Particulates**

Emission	Averaging Time	Maximum Allowable Increments of Deterioration ($\mu\text{g}/\text{m}^3$)		
		Class I	Class II	Class III ²
PM ₁₀	Annual Mean	4	17	--
	24-hour ¹	8	30	--
¹	Maximum allowable increment may be exceeded once per year at any receptor site.			
²	Wyoming has not adopted Class III standards.			

3.6 WATER RESOURCES

3.6.1 GROUNDWATER

Four types of aquifers exist in the Belle Ayr Mine permit area: scoria, coal beds, Caballo Creek alluvium, and sand bodies within the Wasatch formation. These water-bearing units comprise the shallow groundwater system in the mine area. Deeper sandstone aquifers occur in the Fort Union, Lance, and Fox Hills formations. The Caballo Creek alluvium and the scoria aquifer do not extend onto the Belle Ayr 2000 Tract and are not discussed at length in this EA.

Groundwater resources within the various aquifers occur under a wide range of hydrologic conditions from perched or semi-perched to confined. Groundwater movement is primarily downward, except in limited areas where the coal is in contact with scoria or Caballo Creek alluvium. In those areas, potentiometric surfaces in the coal indicate upward recharge.

A detailed study of the groundwater resources at the Belle Ayr Mine, including maps and cross-sections, is presented in Section 2.6.2 of the WDEQ/LQD Permit #214. Results of the detailed study are summarized below to present general aquifer characteristics underlying the Belle Ayr 2000 Tract.

Coal Aquifer

Due to its continuity, the Wyodak Coal seam is considered a regional aquifer within the Powder River Basin. Studies completed at the Belle Ayr Mine, Caballo Mine and nearby Caballo Rojo Mine indicated an average transmissivity value of 750 gpd/ft with a storage coefficient of 0.003.

Primary recharge to the coal occurs along the coal along its contact with the scoria while secondary (vertical) recharge occurs throughout the area. The coal seams and deeper Fort Union sediments are generally recharged by surface infiltration and water moving downward from overlying Wasatch aquifers. Surface infiltration and direct recharge to the coal from overlying Wasatch overburden is probably minimal in the mine area; the potentiometric surface in the overburden is considerably higher than that in the coal along the T-7 Road. Static water levels are several tens of feet above the top coal structure, indicating the coal aquifer is confined by overlying claystones and siltstones.

Overburden Aquifers

The siltstones, claystones, and shales of the Wasatch overburden are very poor aquifers, ranging from aquitards to aquicludes. There is an anastomosing ("braided" stream) sandy overburden aquifer in the central and western portions of the Belle Ayr Mine permit area.

Wasatch overburden sand bodies constitute minor aquifers of interest in this area. Recharge to these sandstone units occurs both by direct surface infiltration and by recharge near the outcrop area and subsequent down gradient movement of groundwater.

Much of the Belle Ayr Mine Wasatch Formation overburden is composed of silty and clayey shales. Observations of the highwall and drill holes indicate that this material often does not transmit appreciable water when the material is massive and intact. However, small sand lenses or fractures in the shales will transmit water.

Fort Union Formation Aquifers

Mining activities will not directly disturb the Fort Union and Lance-Fox Hills formations underlying the coal, but some mines use them for water supply wells.

Groundwater occurs in the sand lenses of the Fort Union formation. The best Fort Union aquifers, in which many wells in the vicinity of the Belle Ayr Mine are completed, range from 800 to 1200 feet below the ground surface. The Plant #2 well, located in sand lenses of the Fort Union formation, has been used to monitor aquifer properties and the groundwater elevations. The transmissivity in the Plant #2 well was calculated to be 406 gpd/ft and the storage coefficient 0.21. The static water level in the well was 205 feet below the ground surface at elevation 4285 feet.

Lance-Fox Hills Formation Aquifer

Belle Ayr No. 3 and 4 wells are completed in the Lance and Fox Hills formations and are used to monitor these formations. The initial static water level of Belle Ayr No. 3 was 70 feet below ground surface. The initial pumping water level was 212 feet. The initial level of Belle Ayr No. 4 was 752 feet. Belle Ayr No. 3 well is currently being plugged and abandoned.

3.6.2 SURFACE WATER

The Belle Ayr 2000 Tract lies entirely within the Caballo Creek watershed. Caballo Creek flows from west to east through the permit area and empties into the Belle Fourche River approximately five miles downstream of the Belle Ayr eastern permit boundary. The total drainage area of Caballo Creek is approximately 260 square miles.

For permitting purposes, a detailed study of the premine drainage characteristics was completed for the Belle Ayr Mine, including the Belle Ayr 2000 Tract. This study can be reviewed in its entirety in the WDEQ/LQD Permit #214. Information from that study relative to the Belle Ayr 2000 Tract is summarized in this section.

Draw No. 2, a tributary of Caballo Creek, intersects the Belle Ayr 2000 Tract in a north-south direction and flows to the south. Draw No. 2 is a swale-bottomed drainage and is ephemeral in nature. It only flows in response to precipitation and major snowmelt events.

Water quality in Caballo Creek is generally poor when compared to recommended limits for drinking water and standards for irrigation waters. The surface water is alkaline in nature with pH values ranging from 7.0 to 8.98. Total iron generally runs about 1.0 mg/l at most quality check stations. Total suspended solids (TSS) is generally less than 30 mg/l in undisturbed stretches of Caballo Creek.

Total dissolved solids (TDS) in Caballo Creek is high. Values of TDS decrease during higher flow periods because increased quantities of fresh water dilute the higher salt concentration of lower flows.

A large playa, identified as Playa 11 by Belle Ayr Mine, is partially located on the Belle Ayr 2000 Tract. Playa 11 is approximately 34.37 acres in size and has a capacity of 107.25 acre-feet with a maximum depth of 5.3 feet. Bishop Road intersects the playa. This playa does not meet the requirements to be classified as a jurisdictional wetland.

3.6.3 WATER RIGHTS

Water rights for the entire Belle Ayr Mine are discussed in detail in Section 1.9 of the WDEQ/LQD Permit to Mine #214. A list of current groundwater rights and surface water rights for the Belle Ayr 2000 Tract and all of Sections 28 and 29 was obtained from the Wyoming State Engineer's office. Current groundwater rights are listed in Table 3-4 and surface water rights are listed in Table 3-5.

TABLE 3-4
Wyoming State Engineer's Office
Groundwater Rights
Sections 28 and 29, T48N, R71W

Permit No	Priority	T	R	Sec	QtrQtr	Applicant	Facility Name	Use	Yld Act	Well Depth	Static Depth	Well Log
P32015W	10/30/75	48	71	28	NWNE	Carter Oil Company	Caballo OW-2	MON, MIS	0	325	190	Yes
P119803W	10/7/99	48	71	28	NENW	Hi-Pro Production, L.L.C.	R.A.G. 28-21	CBM				
P119801W	10/7/99	48	71	28	NWNW	Hi-Pro Production, L.L.C.	R.A.G. 28-11	CBM				
P30024W	5/30/75	48	71	28	NWNW	Amax Land Company	N 11	MON, MIS	0	207	85	No
P119802W	10/7/99	48	71	28	SWNW	Hi-Pro Production, L.L.C.	R.A.G. 28-12	CBM				
P119804W	10/7/99	48	71	28	SENW	Hi-Pro Production, L.L.C.	R.A.G. 28-22	CBM				
P69372W	2/11/85	48	71	28	NESW	Amax Coal Company	RW2803	MON, MIS	0	250.6	132.7	Yes
P55985W	2/26/81	48	71	28	NESE	Amax Land Company	RW 2801	MON, MIS	0	190	Unk	Yes
P5511P	4/13/51	48	71	28	NWSE	Amax Land Company	Earl #2	STO	5	130	40	Yes
P73594W	11/3/86	48	71	28	SESE	Amax Coal Company	RW2804	MON, MIS	0	117.5	Unk	Yes
P112880W	11/13/98	48	71	29	NENE	Amax Coal West, Inc./Belle Ayr Mine	A1-DW35	MON	0	256	116.2	Yes
P112881W	11/13/98	48	71	29	NENE	Amax Coal West, Inc./Belle Ayr Mine	A1-DW36	MON	0	250	168.4	Yes
P112896W	11/13/98	48	71	29	NENE	Amax Coal West, Inc./Belle Ayr Mine	A1-DW51	MON	0	Unk	Unk	Yes
P112897W	11/13/98	48	71	29	NENE	Amax Coal West, Inc./Belle Ayr Mine	A1-DW52	MON	0	242	163.7	Yes
P122121W	1/21/00	48	71	29	NENE	Belle Ayr Mine RAG Coal West, Inc.	P571375	MON				
P122122W	1/21/00	48	71	29	NENE	Belle Ayr Mine RAG Coal West, Inc.	P571372	MON				
P122123W	1/21/00	48	71	29	NENE	Belle Ayr Mine RAG Coal West, Inc.	P571369	MON				
P122124W	1/21/00	48	71	29	NENE	Belle Ayr Mine RAG Coal West, Inc.	P568375	MON				
P122125W	1/21/00	48	71	29	NENE	Belle Ayr Mine RAG Coal West, Inc.	P568372	MON				
P122126W	1/21/00	48	71	29	NENE	Belle Ayr Mine RAG Coal West, Inc.	P568369	MON				
P5510P	12/31/20	48	71	29	NENE	Amax Land Company	Earl #1	STO	4	65	35	Yes
P112878W	11/13/98	48	71	29	NWNE	Amax Coal West, Inc./Belle Ayr Mine	A1-DW33	MON	0	0	0	No
P112879W	11/13/98	48	71	29	NWNE	Amax Coal West, Inc./Belle Ayr Mine	A1-DW34	MON	0	0	0	No
P112892W	11/13/98	48	71	29	NWNE	Amax Coal West, Inc./Belle Ayr Mine	A1-DW47	MON	0	388	234.1	Yes
P112893W	11/13/98	48	71	29	NWNE	Amax Coal West, Inc./Belle Ayr Mine	A1-DW48	MON	0	0	0	No
P112894W	11/13/98	48	71	29	NWNE	Amax Coal West, Inc./Belle Ayr Mine	A1-DW49	MON	0	0	0	No
P112895W	11/13/98	48	71	29	NWNE	Amax Coal West, Inc./Belle Ayr Mine	A1-DW50	MON	0	0	0	No
P112866W	11/13/98	48	71	29	SWNE	Amax Coal West, Inc./Belle Ayr Mine	A1-DW21	MON	0	308	176.9	Yes
P112867W	11/13/98	48	71	29	SWNE	Amax Coal West, Inc./Belle Ayr Mine	A1-DW22	MON	0	0	0	No
P112870W	11/13/98	48	71	29	SWNE	Amax Coal West, Inc./Belle Ayr Mine	A1-DW25	MON	0	344	180.7	Yes
P112871W	11/13/98	48	71	29	SWNE	Amax Coal West, Inc./Belle Ayr Mine	A1-DW26	MON	0	0	0	No
P112868W	11/13/98	48	71	29	SENE	Amax Coal West, Inc./Belle Ayr Mine	A1-DW23	MON	0	0	0	No
P112869W	11/13/98	48	71	29	SENE	Amax Coal West, Inc./Belle Ayr Mine	A1-DW24	MON	0	231	149.4	Yes
P112872W	11/13/98	48	71	29	SENE	Amax Coal West, Inc./Belle Ayr Mine	A1-DW27	MON	0	0	0	No
P112876W	11/13/98	48	71	29	NENW	Amax Coal West, Inc./Belle Ayr Mine	A1-DW31	MON	0	365	176.6	Yes

TABLE 3-4
Wyoming State Engineer's Office
Groundwater Rights
Sections 28 and 29, T48N, R71W

Permit No	Priority	T	R	Sec	QtrQtr	Applicant	Facility Name	Use	Yld Act	Well Depth	Static Depth	Well Log
P112877W	11/13/98	48	71	29	NENW	Amax Coal West, Inc./Belle Ayr Mine	A1-DW32	MON	0	340	184	Yes
P112888W	11/13/98	48	71	29	NENW	Amax Coal West, Inc./Belle Ayr Mine	A1-DW43	MON	0	334	179.1	Yes
P112889W	11/13/98	48	71	29	NENW	Amax Coal West, Inc./Belle Ayr Mine	A1-DW44	MON	0	349	206	Yes
P112890W	11/13/98	48	71	29	NENW	Amax Coal West, Inc./Belle Ayr Mine	A1-DW45	MON	0	352	220.2	Yes
P112891W	11/13/98	48	71	29	NENW	Amax Coal West, Inc./Belle Ayr Mine	A1-DW46	MON	0	0	0	No
P124028W	1/19/00	48	71	29	NENW	Belle Ayr Mine RAG Coal West, Inc.	A1-DW31	MIS, DEW				
P112874W	11/13/98	48	71	29	NWNW	Amax Coal West, Inc./Belle Ayr Mine	A1-DW29	MON	0	325	162.4	Yes
P112875W	11/13/98	48	71	29	NWNW	Amax Coal West, Inc./Belle Ayr Mine	A1-DW30	MON	0	343	179.6	Yes
P112884W	11/13/98	48	71	29	NWNW	Amax Coal West, Inc./Belle Ayr Mine	A1-DW39	MON	0	0	0	No
P112885W	11/13/98	48	71	29	NWNW	Amax Coal West, Inc./Belle Ayr Mine	A1-DW40	MON	0	351	217.4	Yes
P112886W	11/13/98	48	71	29	NWNW	Amax Coal West, Inc./Belle Ayr Mine	A1-DW41	MON	0	365	218.2	Yes
P112887W	11/13/98	48	71	29	NWNW	Amax Coal West, Inc./Belle Ayr Mine	A1-DW42	MON	0	338	201.9	Yes
P108119W	11/18/97	48	71	29	SWNW	Amax Coal West, Inc.	A335	MON, MIS	0	175	106.3	Yes
P112216W	10/7/98	48	71	29	SWNW	Amax Coal West, Inc./Belle Ayr Mine	A1-DW04	MON				
P112217W	10/7/98	48	71	29	SWNW	Amax Coal West, Inc./Belle Ayr Mine	A1-DW05	MON				
P112218W	10/7/98	48	71	29	SWNW	Amax Coal West, Inc./Belle Ayr Mine	A1-DW06	MON	0	296	173.4	Yes
P112219W	10/7/98	48	71	29	SWNW	Amax Coal West, Inc./Belle Ayr Mine	A1-DW07	MON				
P112220W	10/7/98	48	71	29	SWNW	Amax Coal West, Inc./Belle Ayr Mine	A1-DW08	MON				
P112221W	10/7/98	48	71	29	SWNW	Amax Coal West, Inc./Belle Ayr Mine	A1-DW09	MON				
P112862W	11/13/98	48	71	29	SWNW	Amax Coal West, Inc./Belle Ayr Mine	A1-DW17	MON	0	0	0	No
P112863W	11/13/98	48	71	29	SWNW	Amax Coal West, Inc./Belle Ayr Mine	A1-DW17	MON	0	323	164	Yes
P114848W	4/1/99	48	71	29	SWNW	Amax Coal West, Inc./Belle Ayr Mine	A335-CI	MON				
P108120W	11/18/97	48	71	29	SEW	Amax Coal West, Inc.	A337Zc	MON, MIS	0	330	262.9	Yes
P109910W	5/4/98	48	71	29	SEW	Amax Coal West, Inc.	A337-1	MON	0	206	118.9	Yes
P109911W	5/4/98	48	71	29	SEW	Amax Coal West, Inc.	A337-2	MON	0	201	130.8	Yes
P109912W	5/4/98	48	71	29	SEW	Amax Coal West, Inc.	A337-3	MON	0	207	124.9	Yes
P109913W	5/4/98	48	71	29	SEW	Amax Coal West, Inc.	A337-5	MON	0	48	114	Yes
P109914W	5/4/98	48	71	29	SEW	Amax Coal West, Inc.	A337-6	MON	0	150	110.6	Yes
P109915W	5/4/98	48	71	29	SEW	Amax Coal West, Inc.	A337-6A	MON	0	206	113.1	Yes
P109916W	5/4/98	48	71	29	SEW	Amax Coal West, Inc.	A337-7	MON	0	133	123.9	Yes
P109917W	5/4/98	48	71	29	SEW	Amax Coal West, Inc.	A337-7A	MON	0	193	128.3	Yes
P109918W	5/4/98	48	71	29	SEW	Amax Coal West, Inc.	A337-8	MON	0	216	116.7	Yes
P109919W	5/4/98	48	71	29	SEW	Amax Coal West, Inc.	A337-9	MON	0	192	121.2	Yes
P109920W	5/4/98	48	71	29	SEW	Amax Coal West, Inc.	A337-10	MON	0	213	112.7	Yes
P109921W	5/4/98	48	71	29	SEW	Amax Coal West, Inc.	A337-11	MON	0	140	116.3	Yes
P109922W	5/4/98	48	71	29	SEW	Amax Coal West, Inc.	A337-12	MON	0	141	112.6	Yes
P109923W	5/4/98	48	71	29	SEW	Amax Coal West, Inc.	A337-13	MON	0	320	135.1	Yes
P112222W	10/7/98	48	71	29	SEW	Amax Coal West, Inc./Belle Ayr Mine	A1-DW10	MON	0	295	148.6	Yes
P112223W	10/7/98	48	71	29	SEW	Amax Coal West, Inc./Belle Ayr Mine	A1-DW11	MON				

Permit No	Priority	T	R	Sec	QtrQtr	Applicant	Facility Name	Use	Yld Act	Well Depth	Static Depth	Well Log
P112224W	10/7/98	48	71	29	SENW	Amax Coal West, Inc./Belle Ayr Mine	A1-DW12	MON	0	300	144.6	Yes
P112225W	10/7/98	48	71	29	SENW	Amax Coal West, Inc./Belle Ayr Mine	A1-DW13	MON				
P112226W	10/7/98	48	71	29	SENW	Amax Coal West, Inc./Belle Ayr Mine	A1-DW14	MON				
P112227W	10/7/98	48	71	29	SENW	Amax Coal West, Inc./Belle Ayr Mine	A1-DW15	MON	0	306	219.5	Yes
P112864W	11/13/98	48	71	29	SENW	Amax Coal West, Inc./Belle Ayr Mine	A1-DW19	MON	0	313	148	Yes
P112865W	11/13/98	48	71	29	SENW	Amax Coal West, Inc./Belle Ayr Mine	A1-DW20	MON	0	0	0	No
P114849W	4/1/99	48	71	29	SENW	Amax Coal West, Inc./Belle Ayr Mine	A336-CI	MON				
P116282W	5/25/99	48	71	29	SENW	Amax Coal West, Inc.	A337ZC-1	MON				
P107948W	11/5/97	48	71	29	NWSW	Amax Coal West, Inc.	A259N	MON	0	117	43.3	Yes
P105930W	5/1/97	48	71	29	SWSW	Amax Coal West, Inc./Belle Ayr Mine	DW 2914	DEW, MIS	50	131	35	Yes
P23439P	7/26/73	48	71	29	SWSW	Amax Land Company	Dunlap #5	STO	25	120	Unk	No
P55446W	7/31/80	48	71	29	SESE	Amax Land Company	Enl Belle Ayr South Pit	DEW, MIS	424	150	80	No

Note: The above table was generated from SEO computer records which have not been updated to reflect permit transfers from AMAX to RAG.

Of the 87 groundwater rights listed in Sections 28 and 29, 83 are associated with mining. The other four groundwater rights are held by Hi-Pro Production, LLC for CBM wells. These CBM wells have not been drilled and would not be drilled under the Proposed Action. Groundwater rights within three miles of the permit boundary were researched in 1998 for WDEQ/LQD permitting purposes and are listed in WDEQ/LQD Permit #214.

The only surface water rights for the Belle Ayr 2000 Tract are held by RAG Coal West, Inc., and are for mining purposes. An additional search of surface water rights within three miles downstream of the Belle Ayr Mine was conducted for the WDEQ/LQD permit in 1998. No downstream surface water rights are held on Caballo Creek within three miles downstream of the Belle Ayr Mine.

3.7 ALLUVIAL VALLEY FLOORS

Alluvial valley floors (AVFs) are unconsolidated stream-laid deposits where water availability is sufficient for subirrigation or flood irrigation agriculture. Prior to leasing and mining, AVFs must be identified because SMCRAs restricts mining activities which affect AVFs that are determined to be significant to agriculture. The presence of an AVF can only be substantiated following a detailed evaluation of the area using procedures specified in Chapter 3, Section 2 of the WDEQ/LQD *Coal Rules and Regulations and Guideline No. 9* (WDEQ/LQD 1998; 1994). These procedures require an identification of the essential hydrologic functions of an area's mining operations. If an AVF is present, WDEQ/LQD must

**Table 3-5
Wyoming State Engineer's Office
Surface Water Rights
Sections 28 and 29, T48N, R71W**

Permit No.	T	R	Sec	Qtr	Status	Supply	Use	Facility	Applicant	Source	Priority	Una Amt	Una Unit
P10812R	48	71	28	NENW	UNA	ORI	IND		Caballo Coal Company	Drainage Of Draw No. 2	06/25/1999		
P9143R	48	71	28	SWSW	PU	ORI	TEM,IND,MIS	Banpdes 015	Amax Coal Company	Drainage Of Donkey Creek	05/30/1985	152.14	ACFT
P9521R	48	71	28	SWSW	UNA	ORI	IND,FLO,REC, STO,FIS,WIL,TEM	Temporary North Pit Res	Amax Coal Company	Caballo (Cavajo) Creek/Horse Creek	07/10/1989	617.8	ACFT
P9681R	48	71	28	SWSW	UNA	ORI	IND	Enl. Temporary North Pit	Amax Coal Co.	Horse Creek/Caballo (Cavajo) Creek	06/05/1990	999.21	ACFT
P9143R	48	71	28	SESW	PU	ORI	TEM,IND,MIS	Banpdes 015	Amax Coal Company	Drainage Of Donkey Creek	05/30/1985	152.14	ACFT
P10813R	48	71	28	NESE	UNA	ORI	IND	Lynx	Caballo Coal Company	Moclure Draw	06/25/1999		
P10814R	48	71	28	NESE	UNA	ORI	IND	Ocelot	Caballo Coal Company	Hutz Draw	06/25/1999		
P10813R	48	71	28	NWSE	UNA	ORI	IND	Lynx	Caballo Coal Company	Moclure Draw	06/25/1999		
P30320D	48	71	29		UNA	RES	RES	Temporary North Pit Reservoir	Amax Coal Company	Caballo (Cavajo) Creek/Horse Creek	08/29/1989	6000	CFS
P30320D	48	71	29		UNA	RES	RES	Temporary North Pit Reservoir	Amax Coal Company	Caballo (Cavajo) Creek/Horse Creek	08/29/1989	6000	CFS
P30320D	48	71	29	NENE	UNA	RES	RES	Temporary North Pit Reservoir	Amax Coal Company	Caballo (Cavajo) Creek/Horse Creek	08/29/1989	6000	CFS
P8663R	48	71	29	NENE	UNA	ORI	TEM,IND,MIS,FLO	Northwest	Amax Coal West, Inc.	Draw #2	07/11/1983	46.51	ACFT
P30320D	48	71	29	SENE	UNA	RES	RES	Temporary North Pit Reservoir	Amax Coal Company	Caballo (Cavajo) Creek/Horse Creek	08/29/1989	6000	CFS
P9521R	48	71	29	NESW	UNA	ORI	IND,FLO,REC, STO, FIS,WIL,TEM	Temporary North Pit Res	Amax Coal Company	Caballo (Cavajo) Creek/Horse Creek	07/10/1989	617.8	ACFT
P9521R	48	71	29	NWSW	UNA	ORI	IND,FLO,REC, STO, FIS,WIL,TEM	Temporary North Pit Res	Amax Coal Company	Caballo (Cavajo) Creek/Horse Creek	07/10/1989	617.8	ACFT
P9521R	48	71	29	SWSW	UNA	ORI	IND,FLO,REC, STO, FIS,WIL,TEM	Temporary North Pit Res	Amax Coal Company	Caballo (Cavajo) Creek/Horse Creek	07/10/1989	617.8	ACFT
P9521R	48	71	29	SESW	UNA	ORI	IND,FLO,REC, STO, FIS,WIL,TEM	Temporary North Pit Res	Amax Coal Company	Caballo (Cavajo) Creek/Horse Creek	07/10/1989	617.8	ACFT
P9681R	48	71	29	NESE	UNA	ORI	IND	Enl. Temporary North Pit	Amax Coal Co.	Horse Creek/Caballo (Cavajo) Creek	06/05/1990	999.21	ACFT
P9681R	48	71	29	NWSE	UNA	ORI	IND	Enl. Temporary North Pit	Amax Coal Co.	Horse Creek/Caballo (Cavajo) Creek	06/05/1990	999.21	ACFT
P10920R	48	71	29	SWSE	UNA	ORI	IND,STK,WIL	Sediment Ba65	Belle Ayr Mine RAG Coal West, Inc.	Horse Creek Or Caballo (Cavajo) Creek	08/26/1999		
P9681R	48	71	29	SWSE	UNA	ORI	IND	Enl. Temporary North Pit	Amax Coal Co.	Horse Creek/Caballo (Cavajo) Creek	06/05/1990	999.21	ACFT
P9681R	48	71	29	SESE	UNA	ORI	IND	Enl. Temporary North Pit	Amax Coal Co.	Horse Creek/Caballo (Cavajo) Creek	06/05/1990	999.21	ACFT

Note: The above table was generated from SEO computer records which have not been updated to reflect permit transfers from AMAX to RAG.

3-12

Draft Environmental Assessment

Belle Ayr 2000 Lease Application

make a determination as to whether or not the area is or has been important to farming. The AVF determination is required during the state mine permitting process.

An AVF study was completed covering the entire Belle Ayr Mine permit boundary. AVF areas are present along Caballo Creek, but no AVF areas are present on the Belle Ayr 2000 Tract.

3.8 WETLANDS

Waters of the US is a collective term for all areas subject to regulation by the US Army Corps of Engineers (COE) under section 404 of the Clean Water Act. Wetlands generally include swamps, marshes, bogs, and similar areas" [33 CFR 328.3(a)(7)(b)]. Jurisdictional wetlands are defined by 33 CFR 328.1 and .2 as "those wetlands which are within the extent of COE regulatory review." They must contain three components: hydric soils, a dominance of hydrophytic plants, and wetland hydrology. Many wetland scientists consider areas that contain only one of the three criteria listed above as functional wetlands. The US Fish and Wildlife Service (USFWS) used this categorization in producing the national wetlands inventory maps. These maps are produced using aerial photo interpretation with limited field verification.

The presence of wetlands on a mine property does not preclude mining. Jurisdictional wetlands must be identified and special permitting procedures are required to assure that after mining there will be no net loss of wetlands. A wetland delineation must be completed according to approved procedures (COE 1987) and submitted to the COE for verification as to the amounts and types of jurisdictional wetlands present. In Wyoming, once the delineation has been verified, it is made a part of the mine permit document. The reclamation plan is then revised to incorporate at least an equal type and number of acres of jurisdictional wetlands. Section 404 does not cover functional wetlands. They may be restored as required by the surface managing agency (on public land), or by the private landowner.

A wetlands inventory has been completed for the Belle Ayr 2000 Tract, and that inventory has been approved by the COE. The results of that inventory indicate that there are no wetlands located on the Belle Ayr 2000 Tract.

3.9 VEGETATION

A vegetation inventory of the Belle Ayr Mine permit area, including the Belle Ayr 2000 Tract, was conducted by Stoecker-Keammerer and Associates in the summer of 1984. This inventory identified the major vegetation types and the minimum areal extent of the extended reference areas against which an assessment of revegetation success can be made. The vegetation inventory is presented in Appendix 2.8-1 of WDEQ Permit to Mine #214. The vegetation types and sample locations are given on Map 2.8-1.

A small portion of the northeast corner of Section 29 of the Belle Ayr 2000 Tract was previously disturbed and occupied by a homestead. The remainder of the Belle Ayr 2000 Tract was classified as agricultural land. Specifically, it is part of a crested wheatgrass field used primarily for pasture, but occasionally used as hayland. No vegetative sampling for production or cover was completed on the Belle Ayr 2000 Tract because of its agricultural use and disturbed homestead area.

Inventories for threatened and endangered plant species are discussed in Appendix C.

3.10 WILDLIFE

3.10.1 WILDLIFE RESOURCES

Because of its proximity to two active coal mines, extensive wildlife information is available for the Belle Ayr 2000 Tract. The Belle Ayr 2000 Tract was not specifically studied by either mine.

The Belle Ayr 2000 Tract is dominated by seeded grassland habitat. This habitat is generally a monoculture of crested wheatgrass, although a few native grasses and forbs have invaded. Seeded grassland is used as hayland and grazingland. Some areas, when not hayed or heavily grazed, provide a mid-grass habitat type with considerable vegetation cover.

This section contains summarized information from Belle Ayr's approved WDEQ/LQD permit to mine #214. Annual monitoring has been conducted on the Belle Ayr mine site since 1984. More detailed information may be found in the permits and annual reports for both the Belle Ayr and Caballo Mines.

3.10.2 BIG GAME

Pronghorn (*Antilocapra americana*) are common at the mine site and throughout Campbell County and range through all cover types. They have been observed grazing near mining equipment and buildings at the Belle Ayr Mine during all hours.

Pronghorn density in the vicinity of the Belle Ayr Mine has been consistently higher than that recorded in the multi-mine area. Aerial survey results from 1988 through 1999 demonstrate that pronghorn generally have been most concentrated in the 20% of the Belle Ayr survey area that lies west of Wyoming Highway 59.

Mule deer (*Odocoileus hemionus*) are common on the Belle Ayr property in rough breaks and along the bottomlands and draws of Caballo Creek. The number of mule deer observed during the aerial surveys has ranged from 18 to 120. Annual variations in deer

totals may not be significant. The aerial surveys, as conducted, are designed primarily to census pronghorn, and probably do not yield accurate counts of deer. However, it is quite likely that the deer population around Belle Ayr has increased in recent years. Prior to 1996, the maximum number of deer seen during a survey was 67 animals. During each of the last four years, over 90 deer were recorded. Driving survey results from 1993 through 1999 indicate that mule deer numbers have increased in recent years.

Whitetail deer (*Odocoileus virginianus*) are common east and west of Campbell County along stream bottoms of the Black Hills and Bighorn Mountains. Wyoming Game and Fish Department personnel believe that the whitetail deer is extending its range along major stream drainages and may eventually build small populations in Campbell County in suitable habitat. Few whitetail deer have been found on the study area.

Individuals from the Rochelle Hills elk (*Cervus canadensis*) herd unit occasionally range into the Belle Ayr permit area. Few have been seen on the study area.

3.10.3 OTHER MAMMALS

Small mammals include species from the orders Insectivora (family - Soricidae) and Rodentia (families - Sciuridae, Geomyidae, Heteromyidae, Cricetidae, and Muridae), primarily shrews and small burrowing rodents.

Eight species of small mammals were captured at Belle Ayr in 1999. Captures included deer mouse (*Peromyscus maniculatus*), Thirteen-lined ground squirrels (*Spermophilus tridecemlineatus*), Meadow voles (*Microtus pennsylvanicus*), vest mice (*Reithrodontomys megalotis*), and Olive-backed pocket mice (*Perognathus fasciatus*). Only individuals of the remaining three species were caught: the long-tailed weasel (*Mustela frenata*), sagebrush vole (*Lemmiscus curtatus*), and shrew (*Sorex* spp.). These species also have been captured in prior years, but never in substantial numbers. In addition to the trapped species, three other species, least chipmunk (*Eutamias minimus*), bushytail woodrat (*Neotoma cineria*), and Ord's kangaroo rat (*Dipodomys ordi*) have been observed on the Belle Ayr Mine study area.

The deer mouse was the most ubiquitous and abundant small mammal captured. It was the only species trapped in all habitats, and accounted for 78% of total captures. The thirteen-lined ground squirrel (*Spermophilis tridecemlineatus*) was caught in seven habitats, but was common on only the reclaimed grassland transect.

Meadow voles (*Microtus pennsylvanicus*) and harvest mice (*Reithrodontomys megalotis*) also were trapped in a variety of habitats, but usually only in small numbers. Meadow voles were most abundant in habitats where the understory was relatively dense--

bottomland and tree windbreak. Harvest mice were most common in reclaimed and seeded grassland habitats. Olive-backed pocket mice (*Perognathus fasciatus*) were recorded infrequently in seeded grassland and sagebrush-grassland.

Two lagomorph (rabbit) species were observed during 1999; the cottontail (*Sylvilagus* spp.) and white-tailed jackrabbit (*Lepus townsendi*). Although this area is within the range of the black-tailed jackrabbit (*L. californicus*), none were observed. During spotlight surveys in 1999, lagomorph abundance was 1.4 animals per survey mile. Cottontails were observed more often than jackrabbits; jackrabbits were only seen on one night. Most lagomorphs were recorded in reclaimed grassland and disturbed areas (roads) during the surveys.

As noted, lagomorph abundance would be expected to influence the occurrence and breeding success of large raptors. Annual production of two such species--ferruginous hawks and red-tailed hawks--was extremely low in 1993, but has gradually increased in subsequent years. Because only one pair of golden eagles nests in the area, the potential for increased production for that species is limited. When raptor production was graphed as a function of lagomorph abundance, a positive correlation was apparent.

Numerous interesting wildlife species were observed in this area throughout 1999. Several species of predators and furbearers were observed this year. A coyote (*Canis latrans*) was seen standing along the reclaimed channel of Caballo Creek in April. A raccoon (*Procyon lotor*) was observed along the bank of Caballo Creek in the haylands in the southeast corner of the permit area; raccoons also have been recorded in that area during previous years. A striped skunk (*Mephitis mephitis*) was observed on the haul road near the scoria pit.

A bobcat (*Lynx rufus*) was seen sleeping on an inactive raptor nest in the scoria cliffs near the tire pad in spring 1999. Two bobcats were seen in the scoria rough breaks south of the railroad loop during lagomorph spotlight surveys in late summer. Muskrats (*Ondatra zibethicus*) were observed in native and reclaimed reaches of Caballo Creek during waterfowl surveys.

3.10.4 RAPTORS

A variety of raptor species are known to nest in the Powder River Basin. Habitat is limited for those species that nest exclusively in trees or on cliffs, but several species are adapted to nesting on the ground, on creek banks, buttes, or rock outcrops. Nine species of diurnal raptors and one species of owl have been observed on the Belle Ayr study area. Potential nesting habitat exists for golden eagles (*Aquila chrysaetus*), Swainson's hawks (*Buteo swainsoni*), red-tailed hawks (*Buteo jamaicensis*), harriers (*Circus cyaneus*), American kestrels (*Falco sparverius*), ferruginous hawks (*Buteo regalis*) and great horned owls (*Bubo*

virginianus). These species historically breed and nest in the Belle Ayr Mine wildlife study area vicinity.

Through 1998, a total of 106 raptor nests had been located in the Belle Ayr Mine raptor survey area. Over time, many nests have been destroyed by natural forces; others were relocated for mitigation or removed by mining activities. At the end of the 1998 breeding season, there were 48 known and intact within the Belle Ayr Mine survey area.

In 1999, one new nest was discovered and six nests were destroyed by natural causes. The addition of 1 nest and loss of 6 left a total of 43 known and intact raptor nests in the Belle Ayr Mine survey area as of 1 August 1999. Twenty-seven of those nests were on the permit area, and 16 were in the surrounding perimeter.

Existing nests included:

- 22 ferruginous hawk (*Buteo regalis*) nests,
- 3 golden eagle(*Aquila chrysaetus*), nests,
- 4 burrowing owl (*Speotyto cunicularia*) nests,
- 3 great horned owl (*Bubo virginianus*) nests,
- 3 red-tailed hawk (*Buteo jamaicensis*) nests,
- 1 Swainson's hawk (*Buteo swainsoni*) nests,
- 2 northern harrier (*Circus cyaneus*) nests,
- 1 Swainson's hawk/great horned owl nests,
- 1 Swainson's hawk/red-tailed hawk nest,
- 1 great horned owl/ferruginous hawk nest,
- 1 golden eagle/ferruginous hawk nest, and
- 1 red-tailed hawk/great horned owl nest.

None of the existing nests are located on the Belle Ayr 2000 Tract.

Nine pairs of raptors nested in the Belle Ayr area in 1999; five of those pairs fledged a total of ten young. Raptors that successfully nested included: two pairs of red-tailed hawks; and one pair each of ferruginous hawks, Swainson's hawks, and golden eagles . Two additional pairs of Swainson's hawks and a third pair of red-tailed hawks incubated, but did not hatch young. One pair of northern harriers nested twice; their first nest was depredated, and they abandoned their second nest prior to hatching.

Three species of large raptors--ferruginous hawks, red-tailed hawks, and golden eagles--have consistently nested in the area from 1988 through 1999. Annual productivity of those species has fluctuated, but young have fledged during each of the last 12 years.

Prey availability, especially lagomorph abundance, has undoubtedly influenced the breeding success of the large raptors through time. The decrease in productivity for those raptor species after 1992 was probably related to a striking reduction in lagomorph populations in late winter 1992-1993. Although rabbit numbers have not yet returned to pre-1993 levels, populations do appear to be increasing, and the productivity of large raptors in the Belle Ayr survey area has risen slightly in recent years.

Great horned owls also are known to regularly breed in the area . Great horned owl production in the Belle Ayr Mine area has never been very high, but owls consistently fledged young each year from 1988 through 1991 . However, the secretive nature of great horned owls, which often nest in hidden sites (such as potholes, building rafters, abandoned buildings, and tree cavities), can result in underestimated annual production for that species.

Overall, ferruginous hawks have been the most prolific raptors in the Belle Ayr survey area. Nineteen territories have been identified through 1999. As many as seven pairs have nested in a single year; at least three pairs nested during 10 of the last 12 years. Annual productivity has ranged from 2 to 16 young.

Six red-tailed hawk territories were identified through 1999; four territories contained intact nests this year. At least one pair fledged young in each of the last 12 years . For seven consecutive years (1993 through 1999), red-tailed hawks have successfully nested on platform, within 800 feet--and in full view--of the Belle Ayr Mine shop and truck ready line. The platform has been used despite the existence of a nearby natural nest

Eight Swainson's hawk territories have been identified in the raptor survey area through 1999; only three territories contained intact nests this year. Swainson's hawks fledged young in 9 of the last 12 years; no young fledged from 1993 through 1995. Because Swainson's hawks prey primarily on rodents, the recent decline in lagomorph populations probably has not influenced that species' breeding success. However, data from small mammal trapping at Belle Ayr showed very low rodent populations in 1993. Rodent abundance was considerably higher in 1996 (the next trapping period), and numbers also were relatively high in 1999. Swainson's hawk production also increased in 1996, and young have fledged during each of the subsequent three years.

Only one of the two golden eagle territories identified in the survey area has been active since 1988. That pair fledged young in nine of the last twelve years. In 1990, the eagles began voluntarily using a platform beyond the permit area, and they have used that

platform each subsequent year. Except for 1994 and in 1998, the pair fledged at least one young from the platform each year.

Historically, burrowing owls have nested in the area. Nine burrowing owl nest sites have been identified; five of those sites, however, have been destroyed by natural causes or removed by mining activities. Four pairs nested in 1988, but usually just one pair of owls bred in the area each year from 1990-1992. Although nest sites have been available, no nesting burrowing owls have been located since 1992.

Northern harrier nesting success in the area has been sporadic since they were first found in 1990. However, nesting attempts and success have been sporadic during the last ten years; young fledged from known nests in only four years. Through time, at least two pairs have nested in reclaimed areas or on vegetated topsoil stockpiles on the permit area.

One short-eared owl nest was discovered in 1994; three young fledged from the site that year. Although adults have been observed in the Belle Ayr Mine area since then, no young had been found until 1999. This year fledged young were seen on and near the permit area, but no new nests were located.

Locations of nests and detailed information regarding raptors at the Belle Ayr and Caballo Mines are presented in the Annual Reports for each mine. All active nests are included in the raptor mitigation plans developed for the existing Belle Ayr and Caballo Mines. Those plans have been approved by the USFWS and WDEQ/LQD, and include the Belle Ayr 2000 Tract. If a lease is issued for the Belle Ayr 2000 Tract, the lessee will be required to update their raptor mitigation plan to include mining activities on the tract.

3.10.5 GAME BIRDS

Sage grouse (*Centrocercus urophasianus*), gray partridge (*Perdix perdix*), and the sharp-tailed grouse (*Tympanuchus phasianellus*) were observed on the Belle Ayr permit area in 1999.

Sage grouse were dispersed throughout the Belle Ayr Mine wildlife study area on sage-grass steppes near water. The Belle Ayr lek was active in 1990 and 1991, but grouse attendance was low; no more than 12 males were ever recorded. The lek was inactive from 1992 through 1996. Four to five male grouse were observed displaying approximately 500 feet north of the original Belle Ayr lek site on three mornings in spring 1999. Two hens were also seen at that site during the early April check. One hen was observed on the actual Belle Ayr lek during the mid-April check. No new leks were found in 1999, but a few incidental grouse observations were recorded in spring.

Most game bird sightings occurred on the permit area in early September. A flock of 16 gray partridge was seen in reclaimed grassland on two consecutive days. Eighteen birds were recorded in reclaimed shrubland, approximately one mile to the south, later that week. Two adults and four juveniles were observed in seeded grassland. A flock of 10 to 12 sharp-tailed grouse flushed from a sunflower (*Helianthus* spp.) patch along a reclaimed channel of Caballo Creek

3.10.6 OTHER AVIAN SPECIES

Across all habitats, 28 bird species were detected within transects on the Belle Ayr permit area. Five additional species were recorded only as incidental flyovers. Data from belt transects were used to calculate species richness and abundance for each of the eight habitats on the Belle Ayr permit in 1999. The sagebrush type was highest in breeding bird abundance and species richness, with 95 pairs per 100 acres, and a total of seven species. The native grass type had a species richness of four. Improved pasture supported only two species, but a great abundance (40 pairs per 100 acres) of horned larks.

Western meadowlarks (*Sturnella neglecta*) and vesper sparrows (*Pooecetes gramineus*) were the only species to occur in all eight habitats. Horned larks (*Eremophila alpestris*) were regularly observed in all native upland habitats, except rough breaks, but none were recorded in either bottomland habitat. Small numbers of lark buntings (*Calamospiza melanocorys*) were seen in five habitats; none were recorded on transects in reclamation.

Several species were predictably associated with specific habitats. Rock wrens (*Salpinctes obsoletus*) were observed only in rough breaks. Longspurs (*Calcarius spp.*) were seen exclusively in native grassland. Red-winged blackbirds (*Agelaius phoeniceus*) and spotted sandpipers (*Actitis macularia*) were only recorded in bottomlands. Red-winged blackbirds were more numerous than other species in both bottomland habitats.

3.10.7 FISHES

As Draw No. 2, an ephemeral stream, is the only body of water located on the Belle Ayr 2000 Tract, aquatic habitat is non-existent.

3.10.8 THREATENED AND ENDANGERED SPECIES

The potential occurrence of threatened and endangered wildlife species at the Belle Ayr 2000 Tract is discussed in Appendix C.

3.10.9 MIGRATORY BIRDS OF HIGH FEDERAL INTEREST

Eight raptors listed as Migratory Birds of High Federal Interest (MBHFI) were observed at the Belle Ayr Mine in 1999. Six of the MBHFI were raptors: golden eagles (*Aquila chrysaetos*), ferruginous hawks (*Buteo regalis*), bald eagles (*Haliaeetus leucocephalus*), prairie falcons (*Falco mexicanus*), peregrine falcons (*Falco peregrinus*), and Richardson's merlins (*Falco columbarius*). The first two species have nested at Belle Ayr, but not on the Belle Ayr 2000 Tract.

The two non-raptor MBHFI were the American white pelican (*Pelecanus erythrorhynchos*) and double-crested cormorant (*Phalacrocorax auritus*). Over the last ten years, raptors and cormorants were the only MBHFI consistently seen in the Belle Ayr survey area

Bald eagles occur only as winter visitors to Campbell County. This species is commonly observed on and near the permit area from November to March. However, there is no appropriate roosting habitat on or near the area; the nearest known roost is several miles southeast in the Rochelle Hills. There do not appear to be any unique habitat features or prey sources that would make Belle Ayr more attractive to bald eagles than surrounding lands.

Prairie falcons have been observed on the survey area almost every year either flying over or foraging. No natural cliffs suitable for nesting are present on the Belle Ayr 2000 Tract or in this area. Prairie falcons were seen in late summer and fall 1999. Richardson's merlins are an uncommon visitor, but no typical merlin nest sites, old magpie (*Pica pica*) nests, exist at Belle Ayr. Most observations have been during the non-breeding season. Merlins were observed on the permit area twice in 1999. On 30 July, an adult female was seen perched on a fence-post in seeded grassland. Merlins have been recorded in that same general area in previous years. Migrating peregrine falcons have been observed rarely in the area, but no suitable nesting habitat (tall cliffs) for peregrines exists near Belle Ayr. One adult peregrine falcon was seen on the permit area. The bird was perched on a bank overlooking Caballo Creek. A peregrine was observed in that same general area in May 1998. Peregrine falcons have been recorded at least once during each of the last four years. All sightings were probably birds migrating through the area.

Double-crested cormorants were observed on the permit area twice in both spring and early summer 1999. On 19 May, one bird was seen perched on a rock in a reclaimed reach of Caballo Creek. Six cormorants were recorded flying over Caballo on 26 May. In mid-June, biologists saw one adult flying over the creek in. An adult was observed on Sedimentation Reservoir 19 about one week later.

American white pelicans were observed on the permit area once in 1999. On 12 May, nine birds were seen standing on the bank along Caballo Creek.

Long-billed curlews (*Numenius americanus*) have rarely been observed in the area, and have not nested in the vicinity of Belle Ayr. There is neither suitable staging nor breeding habitat on the survey area for sandhill cranes (*Grus canadensis*), although one individual was seen on the ground in 1993. Flocks of cranes have been observed flying over during migration. Whooping cranes (*Grus americana*) are not known to pass through the area.

Mountain plovers (*Charadrius montanus*) and dickcissels (*Spiza americana*) have never been recorded at Belle Ayr, Caballo, or other adjacent mines. Grassland habitat at Belle Ayr does not appear to be as sparsely vegetated as known mountain plover habitat in Converse County. The principal breeding range of the dickcissel is east of Wyoming, but northeast Wyoming is included in the irruptive breeding range of this species (Evans and Bartels 1983). Habitats used by nesting dickcissels (hayfields, weedy roadsides, fencerows, ungrazed prairie) generally possess taller vegetation than is found on the Belle Ayr survey area.

The absence of wooded habitat prevents the Lewis' woodpecker (*Melanerpes lewis*) from occurring on the area. None have been observed at Belle Ayr or adjacent mines.

3.11 OWNERSHIP AND USE OF LAND

The surface on the Belle Ayr 2000 Tract is owned entirely by RAG Wyoming Land Company, Inc. The surface has been used as improved pastureland. A homestead was formerly located in the northwest corner of Section 28, and extended into the northeast corner of Section 29.

Bishop Road crosses the Belle Ayr 2000 Tract and is the main transportation corridor for workers traveling to and from work at the Belle Ayr Mine and the Caballo Mine. An underground telephone line owned by Qwest crosses the northern part of the Belle Ayr 2000 Tract, and an overhead power line associated with mining activities at the Belle Ayr Mine also crosses the area.

A portion of the Belle Ayr 2000 Tract has been disturbed as part of support activities associated with mining the active leases at the Belle Ayr Mine. The Belle Ayr 2000 Tract is located entirely within the permit and affected area boundaries of the Belle Ayr Mine and partially within the permit and affected area boundaries of the Caballo Mine. Therefore, both mines are permitted to disturb the surface of the area within their affected area boundaries for overstrip and layback, highwall reduction, borrow, stockpiling of topsoil and overburden, construction of access roads, diversion ditches and surface water control structures. Because of the current mining support activities on the Belle Ayr 2000 Tract, the area is restricted to public access, limiting its use for agricultural or hunting purposes. Belle Ayr Mine allows hunting on the Clabaugh pasture north of the Belle Ayr 2000 Tract in Section 21, but not on the Belle Ayr 2000 Tract.

Coal underlying the Belle Ayr 2000 Tract is owned by the United States of America, and is managed by BLM. Oil and gas rights are privately owned. No active oil and gas wells are located on the Belle Ayr 2000 Tract, but there are permits approved by the Wyoming Oil and Gas Conservation Commission to drill 4 coal bed methane wells. One plugged and abandoned dry hole is present on the tract. As the surface owner, RAG Wyoming Land Company, Inc. has agreements with the private oil and gas lessee that would allow the mine-through of coal bed methane wells if any are drilled and completed prior to mining.

3.12 CULTURAL RESOURCES

As part of the permitting process, detailed cultural resources surveys have been conducted on the Belle Ayr 2000 Tract and the adjacent mine permit areas. As a result of these surveys, one archeological find was identified on the Belle Ayr 2000 Tract. This site is not eligible for registry with the National Register of Historic Places (NRHP). More detailed information about archeological site 48CA2807 is presented in Section 2.3 of the WDEQ/LQD Permit #214. Since this site is not eligible for NRHP; it does not present an encumbrance to mining.

No sites Native American religious or cultural importance have been identified on the Belle Ayr 2000 Tract to date.

3.13 PALEONTOLOGICAL RESOURCES

The formations exposed on the surface of the Powder River Basin are the sedimentary Eocene Wasatch and Paleocene Fort Union formations, which are both known to contain fossil remains. Some paleontological surveys have been conducted in the Powder River Basin. Vertebrate fossils that have been described from the Wasatch Formation in the Powder River Basin include fish, turtle, champosaur, crocodile, alligator, and mammal specimens. The Fort Union also contains fossils of plants, reptiles, fish, amphibians, and mammals.

Paleontological surveys have been conducted in the vicinity of the Belle Ayr 2000 Tract, and no vertebrate fossils have been identified in the Wasatch Formation. No paleontological resources would be expected on the Belle Ayr 2000 Tract because of the grassy, gently sloping terrain with no exposures or outcrops.

3.14 VISUAL RESOURCES

Visual sensitivity levels are determined by people's concern for what they see and the frequency of travel through an area. Landscapes within the general analysis area include rolling sagebrush and short-grass prairie, which are common throughout Campbell County and eastern Wyoming. Existing surface mines are visible from Bishop Road. Other man-made intrusions include ranching activities (fences, homesteads, livestock), oil and gas

development (pumpjacks, pipeline ROW's), transportation facilities (roads and railroads), and electric power transmission lines. The natural scenic quality in the immediate lease area is fairly low because of the industrial nature of the adjacent existing mining operations.

For management purposes, BLM evaluated the visual resources on lands under its jurisdiction in the Buffalo Resource Area RMP. The inventoried lands were classified into VRM classes. The lands in the Belle Ayr 2000 Tract area are generally classified as VRM Class IV (existing activity attracts attention and is a dominant feature of the landscape in terms of scale) and Class V (areas where the natural character of the landscape has been disturbed up to a point where rehabilitation is needed to bring it up to the level of one of the other four classifications. The existing mining activity at the Belle Ayr and Caballo mines is visible from or active on the Belle Ayr 2000 tract.

3.15 NOISE

Existing noise sources in the area include adjacent coal mining activities, traffic on Bishop Road, rail traffic, and wind. Studies of background noise levels at adjacent mines indicate that ambient sound levels generally are low, owing to the isolated nature of the area. Mining activities are characterized by noise levels of 85-95 dBA at 50 feet from actual mining operations and activities (BLM 1992b). Table 3-6 presents noise levels associated with some commonly heard sounds.

The nearest residence to the Belle Ayr 2000 Tract is located more than 1.5 miles to the west. Several residences are located approximately 2 miles northwest of the Belle Ayr 2000 Tract at the intersection of Bishop Road and Highway 59.

3.16 TRANSPORTATION FACILITIES

Transportation resources in the vicinity of the Belle Ayr 2000 Tract include Bishop Road, the rail spur, and local roads (Figure 2-1).

Since the Belle Ayr 2000 Tract as applied for would be a maintenance lease for an existing mine, no new transportation facilities or infrastructure would be needed. However, Bishop Road would have to be relocated to allow mining underneath the road and right of way if the Belle Ayr 2000 Tract is leased as applied for.

As discussed in Section 3.11, an active underground telephone line crosses the Belle Ayr 2000 Tract. An overhead power line owned by RAG and used for mining purposes crosses the LBA tract.

Table 3-6
Relationship Between A-Scale Decibel Readings
and Sounds of Daily Life

	How it Feels	Equivalent Sounds	DECIBELS	Equivalent Sounds	How it Sounds
Danger to hearing	Near permanent damage from short exposures	50 hp siren (100 ft.) Jet engine (75 ft.)	130	Jackhammer Chainsaw	135 dB(A) Approx. 64 times as loud as 75 dB(A)
	Pain to ears	Turbo-fan jet at takeoff power (100 ft.)	120	Firecracker (15 ft.) Rock and Roll Band	125 dB(A) Approx. 32 times as loud as 75 dB(A)
	Uncomfortably Loud	Scraper-Loader	110	Unmuffled Motor Bike (2-3 ft.)	115 dB(A) Approx. 16 times as loud as 75 dB(A)
	Discomfort Threshold	Jet flyover (1000 ft.) Noisy newspaper press	100	Car horn Unmuffled Cycle (25 ft.)	105 dB(A) Approx. 8 times as loud as 75 dB(A)
	Very Loud	Air compressor (20 ft.) Power lawnmower	90	Garbage Trucks and City Buses Diesel Truck (25 ft.)	95 dB(A) Approx. 4 times as loud as 75 dB(A)
	Conversation stops	Steady flow of freeway traffic 10-HP Outboard Motor	80	Garbage Disposal Food Blender	85 dB(A) Approx. 2 times as loud as 75 dB(A)
	Intolerable for phone use	Automatic Dishwasher Vacuum cleaner	70	Muffled Jet Ski (50 ft.) Passenger Car 65 mph (50 ft.)	75 dB(A)
	Extra auditory physiological effects	Window air conditioner outside (2 ft.)	60	Busy downtown area	
	Quiet Sleep interference	Window air conditioner in room Occasional private auto at 100 ft.	50	Normal Conversation	55 dB(A) Approx. 1/4 times as loud as 75 dB(A)
Very Quiet		Quiet home during evening Bird Calls	40		45 dB(A) Approx. 1/8 times as loud as 75 dB(A)
		Library Soft whisper 5 ft.	30		35 dB(A) Approx. 1/16 times as loud as 75 dB(A)
			20	In a quiet house at midnight	
		Leaves Rustling	10		

Adapted from ABC's of Our Noise Codes published by Citizens Against Noise, Honolulu, Hawaii

3.17 SOCIOECONOMICS

The social and economic study area for the proposed project involves primarily Campbell County and the cities of Gillette and Wright. Employment at the Belle Ayr Mine as of August 1, 2000 was 236, however, RAG recently announced that 48 people would be laid off at the RAG's Belle Ayr and Eagle Butte Mines by the end of 2000. Of the current employees at Belle Ayr Mine, 79 percent live in Campbell County, with the remaining 21 percent living in other Wyoming communities (Belle Ayr Mine, 2000).

A comprehensive socioeconomic profile of the BLM Buffalo Resource Area (which includes all of Campbell County) was prepared for the BLM under contract with the Department of Agricultural Economics, College of Agriculture, through the University of Wyoming's Cooperative Extension Service (University of Wyoming, 1994). The following discussion that deals with Campbell County is derived from this report. Additional Campbell County data were obtained from the Wyoming Department of Commerce, Wyoming Division of Economic Analysis, Wyoming Department of Employment, Wyoming Economic Development Office, and personal communications with local community development staff.

3.17.1 POPULATION

According to 1990 census data, Campbell County had a population of 29,370, with Gillette accounting for 17,635 of the county's residents and Wright with 1,200. The 2000 population of Campbell County was estimated at 32,930 (U.S. Bureau of Census website, October 2000). The 1998 population of Gillette was estimated at 21,817 (Campbell County Economic Development Corporation 2000). The 1996 population of Wright was estimated at 1,400.

3.17.2 LOCAL ECONOMY

In 1997, 24 percent of the total employment and 28 percent of the total personal income in Campbell County were directly attributable to mining (Wyoming Department of Employment, 1999). Coal production, as reported by the Wyoming State Inspector of Mines, showed the State's coal producers set a new yearly production record of 336.5 million tons in 1999. This was an increase of 6.5 percent over the 315.0 million tons produced in 1998. Campbell County coal production increased by 7.4 percent (274.1 million tons to 294.3 million tons) from 1998 to 1999.

Approximate tax revenues from coal production in Campbell County are presented in Table 3-7. Sales and use taxes are distributed to cities and towns within the county and to the county's general fund. Severance taxes are collected by the state for the removal or extraction of resources such as oil, natural gas, coal, and trona. The State of Wyoming retains approximately 83 percent of the severance tax, and the remainder is returned to the cities, towns, and counties. Ad valorem taxes, which include property taxes, are collected by the county and disbursed to schools, cities, towns, the state

foundation, and various other subdivisions within the county. Mineral royalties are collected on the amount of production and the value of that production. The current royalty rate for federal coal leases is 12.5 percent, with half of this revenue returned to the state. Additional sources of revenue include lease bonus bids (also split with the state) and annual rentals that are paid to the federal government. The total fiscal benefit to the State of Wyoming from coal mining in the Powder River Basin has recently been estimated at \$1.10/ton of coal mined (University of Wyoming 1994).

Nationally, the minerals industry is 1.3 percent of the GNP. In Wyoming, the minerals industry (including oil and gas) is 31 percent of the GSP, which makes it the largest sector of the Wyoming economy. Coal mining alone accounts for 9 percent of the Wyoming GSP (Wyoming Dept. of Administration and Information March 1999).

Table 3-7
Estimated 2000 Fiscal Revenues
from 1999 Coal Production in Campbell County

Collection Type	Amount
Sales and Use Collections ¹	\$22.2 million
Severance Tax Collections ¹	\$64.4 million
Ad Valorem Tax Collections ¹	\$57.2 million
Royalty Collections ²	\$168.1 million
Total Collections	311.9 million

¹ Estimated tax receipts are based on most recent published records of Wyoming Department of Revenue.

² Royalties are based on 12½ percent of sales price on 1998 production, with sales price being the average for northeastern Wyoming (Wyoming Geo-Notes No. 61 March 1999).

3.17.3 EMPLOYMENT

Coal mining has changed a great deal since the 1970's, and new technologies have been a major contributor to these changes. The local coal mining labor force grew during the 1970's, but declined during the 1980's. Since 1973, overall production has risen while employee numbers have decreased. This employment decline followed large industry capital investments in facilities and production equipment, the majority of which was aimed at increasing productivity. Direct employment in the Powder River Basin coal mining industry has remained relatively constant over the last few years at

approximately 3,100 full-time employees.

As of January 2000, the total labor force in Campbell County stood at 19,804 with an unemployment rate of 4.5 percent, compared to 4.2 percent in December 1998 (Wyoming Department of Employment, Research and Planning 2000). At the beginning of 1999 around 2,808 people were directly employed in coal mining, representing about 15 percent of the employed labor force (Wyoming Department of Employment 1999).

Total employment in Campbell County peaked in 1985 at 21,668, the same year that mining employment (which in this case includes oil and gas workers) peaked at 6,312. Total employment declined to a low of 18,103 in 1988, and has generally increased since that time. The current CBM development has resulted in a tight local labor market for both skilled and unskilled labor, however the mining industry has not had difficulty filling positions, even in a tight labor market. The mining industry is the employer of choice in Campbell County due to attractive wage and benefit packages and predictable schedules (Betsy Hockert, Wyoming Employment Center, Gillette, personal communication October 17, 2000).

3.17.4 HOUSING

In 1996, Gillette contained 7,775 housing units, and Wright contained 497 housing units, according to the Campbell County Economic Development Corporation (1997 Community Profile). According to the 1990 census, Campbell County contained 11,538 housing units, 7,078 of which were in Gillette. In early 2000, the average cost of a new 3-bedroom home in Gillette was \$130,000; the average cost of an existing 3-bedroom home was \$89,000. In Wright, the average 2000 prices of new and existing 3-bedroom homes were \$88,000 and \$72,000, respectively. Residential building permits in Campbell County rose from 15 in 1987 to 82 in 1992 to 100 in 1998 (the last year that data are available).

3.17.5 LOCAL GOVERNMENT FACILITIES AND SERVICES

Gillette has generally maintained a steady population growth since 1987, when it totaled 17,054. Owing to the substantial revenues generated by mineral production, local government facilities and services have kept pace with growth and are adequate for the current population. The opening of the new South Campus of Campbell County High School has helped to alleviate overcrowding at the "North Campus." South Campus opened on February 1, 1999 with approximately 300 students and 22 teachers. Beginning with the 1999-2000 school year the numbers have increased to approximately 600 students and 33 teachers.

Wright was established in 1976 by ARCO and is the nearest community to the southern group of Powder River Basin mines. Wright's population peaked in 1985 at approximately 1,800 and decreased to 1,285 by 1994. The 1996 population of Wright

was 1,400. Currently, (Fall of 2000) the town of Wright is not experiencing population growth due to CBM development (Tammie Buresh, Wright Water and Sewer District, personal communication October 17, 2000). Wright's infrastructure is adequate for the current and planned population, and with the current building going on it can double in population before services become limiting.

3.17.6 SOCIAL CONDITIONS

Despite past boom and bust cycles in the area's economy, a relatively stable social setting now exists in these communities. Most residents have lived in the area for a number of years, social ties are well established, and residents take great pride in their communities. Many of the people place a high priority on maintaining informal lifestyles and small town traditions, and there are some concerns that the area could be adversely affected by more than a modest growth in population. At the same time, there is substantial interest in enhancing the economic opportunities available in the area and a desire to accommodate reasonable levels of growth and development.

Wyoming's economy reached the bottom of an energy bust in 1987 and started to recover (Wyoming Department of Administration and Information, February 1999). That recovery began to slow in 1996. The forecast is for slow growth through 2008; Wyoming's population is projected to increase at 0.5 percent per year. Non-agricultural employment is projected to increase by 22 percent by 2008, increasing 1.4 percent in 2000 and then slowing to 1.1 percent per year by 2006. Mining employment is projected to decline by 8.2 percent by 2008. In 1998 there were 17,000 jobs in the mining sector. This dropped to 15,600 in 1999, with 1,000 jobs lost in oil and gas extraction, 300 in non-metallic minerals and 100 in coal mining (Wyoming Department of Administration and Information, February 2000).

3.17.7 ENVIRONMENTAL JUSTICE

Environmental Justice issues are concerned with actions that unequally impact a given segment of society either as a result of physical location, perception, design, noise, etc. On February 11, 1994, Executive Order 12898, "Federal Action to Address Environmental Justice in Minority Populations and Low-Income Populations" was published in the *Federal Register* (59 FR 7629). The Executive Order requires federal agencies to identify and address disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority populations and low-income populations (defined as those living below the poverty level). The Executive Order makes it clear that its provisions apply fully to Native American populations and Native American tribes, specifically to effects on tribal lands, treaty rights, trust responsibilities, and the health and environment of Native American communities.

Communities within Campbell County, entities with interests in the area, and individuals

with ties to the area all may have concerns about the presence of a coal mine within the general analysis area. Communities potentially impacted by the presence or absence of a coal mine have been identified in this section of the EA. Environmental Justice concerns are usually directly associated with impacts on the natural and physical environment, but these impacts are likely to be interrelated with social and economic impacts as well. Native American access to cultural and religious sites may fall under the umbrella of Environmental Justice concerns if the sites are on tribal lands or access to a specific location has been granted by treaty right.

Compliance with Executive Order 12898 concerning Environmental Justice was accomplished through opportunities for the public to receive information on this EA in conjunction with the consultation and coordination described in Section 1.7 of this document. This EA and contributing socioeconomic analysis provide a consideration of impacts with regard to disproportionately adverse impacts on minority and/or low-income groups, including Native Americans.

3.18 HAZARDOUS AND SOLID WASTE

Potential wastes that would be generated in the course of mining the Belle Ayr 2000 Tract would be similar to the wastes that are currently being generated by the existing mining operation, where procedures for handling hazardous and solid waste are in place. Wastes generated by mining the Belle Ayr 2000 Tract would be handled in accordance with the existing regulations using the procedures currently in use at the Belle Ayr Mine. The mine currently maintains status as a conditionally exempt small quantity generator.