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REMARKS:

*Mark - do you know of a place where
I can get this same type of information
for the Great Divide Basin?*

Thanx.

Alan

5.1.1.6 **Other Mining Activities in the Powder River Basin**

Extensive research into the relative volumes of GHGs emitted by ISR facilities and other natural resource extraction methods has been performed. In support of the analysis for this final SEIS, the NRC staff performed a survey of the recent EISs issued for projects in ~~Powder River Basin~~ *Great Divide*. Based on this survey, the NRC staff found that estimates and projections of the carbon footprint of the natural resource extraction activities vary widely.

West Antelope II Coal Lease Application FEIS

The FEIS for the West Antelope II Coal Lease Application also addressed greenhouse gas emissions as specifically related to the proposed action (Antelope Mine), the mine adjacent to the West Antelope II lease by application (LBA) tract. An inventory of expected greenhouse gas emissions in 2007 was conducted at Antelope Mine. Additionally, the applicant also projected emissions for a typical year of operations at Antelope Mine if the West Antelope II lands are leased and mined. Emissions are measured as CO₂ equivalents (CO₂e), a conversion to put any of the various gases emitted, (i.e., methane or nitrous oxides), into the equivalent greenhouse effect as compared to CO₂ (BLM, 2008a).

Emissions would be generated from the following: carbon fuels used in mining operations, electricity used onsite, blasting, methane released from mined coal, spontaneous combustion, onsite rail transport, and coal transported to purchasers (see Table 5-6).

Projected emission rates increase if the West Antelope II tract is added to mining operations. The increase in CO₂ emissions would result from the additional diesel fuel that would be used in consideration of the added haul distances and overburden hauling, as well as increased electricity and explosives related to increasing strip ratios (BLM, 2008a).

The CCS estimated that activities in Wyoming accounted for 55.6 million metric tons of gross CO₂e emissions in 2005 (Center for Climate Strategies, 2007). Using that estimate, the 2007 Antelope Mine emissions total represents 0.41 percent of state-wide emissions. With the addition of the West Antelope II LBA tract, the projected total Antelope Mine emissions would represent 0.63 percent of state-wide emissions (BLM, 2008a).

Wright Area Coal Lease Application DEIS

The Wright Area Coal Lease Applications (BLM, 2009b) DEIS analyzes the environmental impacts of leasing six tracts of federal coal reserves adjacent to the Black Thunder, Jacobs Ranch, and North Antelope Rochelle mines. All are operating surface coal mines in the southern Powder River Basin (PRB), near the town of Wright, Wyoming. While BLM does not authorize mining through the issuance of a Federal coal lease, WDEQ, with oversight from the Office of Surface Mining (OSM), has regulatory authority in issuing permits to mine coal in Wyoming. However, BLM considered the impacts of mining coal because it is a logical consequence of issuing a maintenance lease to an existing coal mine. BLM analyzed GHG emissions specifically related to mining activities for the Black Thunder, Jacobs Ranch, and North Antelope Rochelle mines; adjacent to the North, South, and West Hilight Fields, West Jacobs Ranch, North Porcupine; and South Porcupine LBA tracts. The use of the coal after it is mined is not determined at the time of leasing. However, almost all coal that is currently being mined in the Wyoming PRB is being used to generate electricity by coal-fired power plants (BLM, 2009b).

CO₂e emissions are projected to increase at the Black Thunder, Jacobs Ranch and North Antelope Rochelle mines if these additional LBA tracts are added to the mining operations (see Table 5-7). The increase in CO₂e emissions are expected to result from the additional

Source	2007*	Average year with West Antelope II LBA*
Fuel	110,877	195,173
Electricity	77,574	111,854
Mining Process	36,772	40,884
On-site Rail	1959	2251
Total At Mine	227,182	347,911
Other Rail†	656,444	754,338

*CO₂e in metric tons
†Assumes 10-percent increase, based on demand in eastern United States
Source: BLM, 2008a

Source	2007	With LBA Tracts
Fuel	577,463	1,429,582
Electricity	465,908	777,141
Mining Process	201,871	296,166
Total of Three Sources	1,245,241	2,502,889

*CO₂e in metric tons Source: BLM, 2009b

fuels (especially diesel) that would be used in consideration of the increased coal and overburden haul distances, as well as increased use of electricity and explosives related to increasing overburden thicknesses. Estimates assume that the combined annual production rate from these three mines is 270 million tons (BLM, 2009b).

The CCS estimates that activities in Wyoming will account for approximately 60.3 million metric tons of gross CO₂e emissions in 2010 and 69.4 million metric tons in 2020 (Center for Climate Strategies, 2007). Using those projections, the 2007 emissions from the three applicant mines total represents 2.22 percent of the 2010 statewide emissions. With the addition of the North Hilight Field, South Hilight Field, West Hilight Field, West Jacobs Ranch, North Porcupine, and South Porcupine LBA tracts, the estimated total emissions at the three applicant mines would represent 3.61 percent of the projected 2020 state-wide emissions (BLM, 2009b).