APPENDIX D9 - WILDLIFE

D9.1 Wildlife

The Wyoming Game and Fish Department (WGFD) and the U.S. Fish and Wildlife Service (USFWS) were contacted in February, 2008 requesting information on critical habitat, crucial or important terrestrial wildlife and threatened and endangered species that may be significant in the permit area.

Letter D-9.1 from the Wyoming Game and fish Department dated March 6, 2008 states that the permit area does not contain crucial big game winter ranges or important sage grouse habitat. WGFD did recommend use of best management practices to reduce erosion and sediment in intermittent tributaries. There are no perennial streams within the permit area to support wildlife so there were no aquatic concerns.

Letter D-9.2 dated March 26, 2008 from the USFWS provides their list of species that need to be addressed. The two threatened and endangered species that may occur in the permit area are the endangered black-footed ferret *(Mustela nigripes*), and the threatened Ute Ladies'-tresses *(Spiranthes diluvialis).*

There are no prairie dog towns within the permit area or on adjacent lands. Therefore, there will not be any impacts to the black-footed ferret.

A Ute ladies' tresses survey was conducted during the 2008 field season as part of the vegetation baseline study. None were found during the surveys conducted in 2008.

Appendix D-9.1 provides a list of wildlife species with the potential of occurring on or within several miles of the permit area.

Letter D-9.1
Wyoming Game and Fish Department

WYOMING GAME AND FISH DEPARTMENT
5400 Bishop Blvd. Cheyenne, WY 82006
Phone: (307) 777-4600 Fax: (307) 777-4610
Web site: http://gf.state.wy.us

March 6, 2008

WER 10898.02
Environmental Solutions, Inc.
Regular Mine Permit Application
Roger's Pit-Croell Redi-Mix, Inc.
Crook County

Dennis R. McGirr
Environmental Solutions, Inc.
PO Box 522
Gillette, WY 82717

Dear Mr. McGirr:

The staff of the Wyoming Game and Fish Department has reviewed the permit area for Roger's Pit-Croell Redi-Mix, Inc. in Crook County. We offer the following comments for your consideration.

The proposed permit area does not contain crucial big game winter ranges or important sage grouse habitat. It is located near Sundance Creek, a perennial stream, and contains brook trout. Sundance Creek is classified as a "green" category stream, meaning it is of local importance to anglers.

We recommend use of best management practices that reduce erosion and sediment from intermittent tributaries of Sybille Creek to prevent degradation of water quality.

Thank you for the opportunity to comment.

Sincerely,

for JOHN EMMERICH
DEPUTY DIRECTOR

JE:VS:gfb

cc: USFWS

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Letter D-9.2
US Fish and Wildlife Service

54/072

CROELL Redi-Mix #____ Permit to Mine December 2008

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ecological Services
5353 Yellowstone Rd, Suite, 308A
Cheyenne, Wyoming 82009

In Reply Refer To:
ES-61411/MINES/WY08SL0123

MAR 26 2008

Mr. Dennis R. McGirr
Environmental Solutions Incorporated
P.O. Box 522
Gillette, Wyoming 82717

Dear Mr. McGirr:

Thank you for your letter and attached maps, dated February 28, 2008, received in our office on March 3, regarding Croell Redi-Mix Incorporated's application to the Wyoming Department of Environmental Quality (WDEQ) for a regular mining permit. This application is an expansion of a Ten Acre Limited Mining Operation Permit (Permit # 1396 ET) located in Crook County, Wyoming (Section 25, T53N, R62W).

Your letter requests the U.S. Fish and Wildlife Service (Service) provide all known information about the potential for Federally listed threatened and endangered species and Migratory Birds of High Federal Interest to occur within or adjacent to the permit area pursuant to the Endangered Species Act of 1973 (Act), as amended, 16 USC 1531 *et seq.*, the Migratory Bird Treaty Act (MBTA),16 U.S.C. 703 and the Bald and Golden Eagle Protection Act (BGEPA), 16 U.S.C. 668.

We are unable to provide you with site-specific information on the occurrence of threatened and endangered species or Migratory Birds of High Federal Interest as our staff has not conducted surveys of the permit area. Based on the location of the permit area and the maps provided, the following threatened or endangered species may be present:

Threatened and Endangered Species

Species	Status	Expected Occurrence
Black-footed ferret (*Mustela nigripes*)	Endangered	Potential resident in prairie dog (*Cynomys* sp.) colonies.
Ute ladies'-tresses (*Spiranthes diluvialis*)	Threatened	Seasonally moist soils and wet meadows of drainages below 7000 feet elevation.

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Black-footed ferrets may be affected if prairie dog towns are impacted. Please be aware that black-footed ferret surveys are no longer recommended in black-tailed prairie dog towns statewide or white tailed prairie dog towns except those noted in our February 2, 2004, letter. However, we encourage the WYDEQ to protect prairie dog towns for their value to the prairie ecosystem and the myriad of species that rely on them. We further encourage you to analyze potentially disturbed prairie dog towns for their value to future black-footed ferret reintroduction.

Ute ladies'-tresses (*Spiranthes diluvialis*) is a perennial, terrestrial orchid, 8 to 20 inches tall, with white or ivory flowers clustered into a spike arrangement at the top of the stem. *S. diluvialis* typically blooms from late July through August, however, depending on location and climatic conditions, it may bloom in early July or still be in flower as late as early October. *S. diluvialis* is endemic to moist soils near wetland meadows, springs, lakes, and perennial streams where it colonizes early successional point bars or sandy edges. The elevation range of known occurrences is 4,200 to 7,000 feet in alluvial substrates along riparian edges, gravel bars, old oxbows, and moist to wet meadows. Soils where *S. diluvialis* have been found typically range from fine silt/sand, to gravels and cobbles, as well as to highly organic and peaty soil types. *S. diluvialis* is not found in heavy or tight clay soils or in extremely saline or alkaline soils. *S. diluvialis* seems intolerant of shade and small scattered groups are found primarily in areas where vegetation is relatively open. Surveys should be conducted by knowledgeable botanists trained in conducting rare plant surveys. *S. diluvialis* is difficult to survey for primarily due to its unpredictability of emergence of flowering parts and subsequent rapid desiccation of specimens. The Service does not maintain a list of "qualified" surveyors but can refer those wishing to become familiar with the orchid to experts who can provide training or services.

Migratory Birds

Please recognize that consultation on listed species may not remove your obligation to protect the many species of migratory birds, including eagles and other raptors protected under the MBTA and BGEPA. We have provided you with a list of Migratory Birds of High Federal Interest for your use (see enclosure).

The MBTA, enacted in 1918, prohibits the taking of any migratory birds, their parts, nests, or eggs except as permitted by regulations and does not require intent to be proven. Section 703 of the MBTA states, "unless and except as permitted by regulations ... it shall be unlawful at any time, by any means or in any manner, to ... take, capture, kill, attempt to take, capture, or kill, or possess ... any migratory bird, any part, nest, or eggs of any such bird..." The BGEPA, prohibits knowingly taking, or taking with wanton disregard for the consequences of an activity, any bald or golden eagles or their body parts, nests, or eggs, which includes collection, molestation, disturbance, or killing.

Work that could lead to the take of a migratory bird including an eagle, their young, eggs, or nests (for example, if you are going to construct new roads, or power lines in the vicinity of a

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CROELL Redi-Mix #___ Permit to Mine

December, 2008

Migratory Bird of High Federal Interest in Wyoming - 2002

Table 1. **Level I Species (Conservation Action).** Species clearly needs conservation action. Includes species of which Wyoming has a high percentage of and responsibility for the breeding population, and the need for additional knowledge through monitoring and research into basic natural history, distribution, etc.

Species	PIF Score[a]	AI[b]	PT[c]	Primary Habitat Type(s)
Mountain Plover[d]	28	4	3	Shortgrass Prairie, Shrub-steppe
Sage Grouse	26	5	3	Shrub-steppe
McCown's Longspur	26	3	2	Shortgrass Prairie, Shrub-steppe
Baird's Sparrow	26	2	3	Shortgrass Prairie
Ferruginous Hawk	23	4	3	Shrub-steppe, Shortgrass Prairie
Brewer's Sparrow	23	5	5	Shrub-steppe, Mountain-foothills Shrub
Sage Sparrow	22	5	2	Shrub-steppe, Mountain-foothills Shrub
Swainson's Hawk	21	3	3	Plains/Basin Riparian
Long-billed Curlew	21	2	3	Shortgrass Prairie
Short-eared Owl	20	3	3	Shortgrass Prairie
Peregrine Falcon	19	3	3	Specialized (cliffs)
Burrowing Owl	19	3	4	Shortgrass Prairie
Bald Eagle	18	3	3	Montane Riparian, Plains/Basin Riparian
Upland Sandpiper	18	2	2	Shortgrass Prairie

[a] From the PIF Priority Database (Carter et al. 1997).
[b] AI = Area Importance (from the PIF Priority Database, Carter et al. 1997).
[c] PT = Population Trend (from the PIF Priority Database, Carter et al. 1997).
[d] Species previously appeared on the Service's 1995 list.

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nest), should be coordinated with our office before any actions are taken. Removal or destruction of such nests, or causing abandonment of a nest could constitute violation of one or both of the above statutes. Removal of any active migratory bird nest or nest tree is prohibited. For golden eagles, inactive nest permits are limited to activities involving resource extraction or human health and safety. Mitigation, as determined by the local U.S. Fish and Wildlife Service field office, may be required for loss of these nests. No permits will be issued for an active nest of any migratory bird species, unless removal of an active nest is necessary for reasons of human health and safety. Therefore, if nesting migratory birds are present on, or near the project area, timing is a significant consideration and needs to be addressed in project planning.

If nest manipulation is proposed for this project, the project proponent should contact the Service's Migratory Bird Office in Denver at 303-236-8171 to see if a permit can be issued for this project. No nest manipulation is allowed without a permit. If a permit cannot be issued, the project may need to be modified to ensure take of a migratory bird or eagle, their young, eggs or nest will not occur.

For our internal tracking purposes, the Service would appreciate notification of any decision made on this project (such as issuance of a permit or signing of a Record of Decision or Decision Memo). Notification can be sent in writing to the letterhead address or by electronic mail to FW6_Federal_Activities_Cheyenne@fws.gov.

Thank you for your efforts to ensure the conservation of threatened and endangered species, migratory birds and sensitive species in Wyoming. If you have any questions regarding this letter or your responsibilities under these Acts, please contact Bradley Rogers at (307) 684-1046.

Sincerely,

Scott Hicks

for Brian T. Kelly
Field Supervisor
Wyoming Field Office

Enclosure

cc: FWS, Federal Activities Specialist, Denver, CO (D. Carlson)
FWS, Fish and Wildlife Biologist, Buffalo Field Office, Buffalo, WY (B. Rogers)
WGFD, Statewide Habitat Protection Coordinator, Cheyenne, WY (V. Stelter)
WGFD, Non-Game Coordinator, Lander, WY (B. Oakleaf)

D-9,3-3

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CROELL Redi-Mix #____ Permit to Mine December, 2008

Migratory Bird of High Federal Interest in Wyoming

Based on Wyoming Bird Conservation Plan, 1 May 2000 (Cerovski et al. 2000)

May 2, 2002

U.S. Fish and Wildlife Service, Wyoming Field Office,
4000 Airport Parkway, Cheyenne, Wyoming 82001

The Wyoming Field Office of the U.S. Fish and Wildlife Service (Service) has compiled the following list from the ongoing work among State and Federal agencies, non-governmental organizations, and the interested public that produced the Wyoming Bird Conservation Plan. This list will now serve as the Service's list of Migratory Birds of High Federal Interest (also known as the Migratory Bird Species of Management Concern in Wyoming) to be used exclusively for reviews concerning existing or proposed mine leased land. The Wyoming Bird Conservation Plan identified "priority species" based on a number of criteria (see below) using the best information available for these generally un-studied species. In many cases, this list reflects identified threats to habitat because no information is available on the species population trends. In some cases it reflects identified population declines though no causal factors have been identified.

Partners in Flight (PIF) is the name given to the coalition of groups that produced the Wyoming Bird Conservation Plan. PIF developed a scoring system to rank species in order of conservation priority. A species' PIF score is the sum of seven sub scores rating the following biological criteria: relative abundance (RA), breeding distribution (BD), non-breeding distribution (ND), threats on breeding grounds (TB), threats on non-breeding grounds (TN), population trends (PT), and area of importance (AI). These criteria are more fully described the end of this document. AI, PT and total PIF scores are listed for each species in Tables 1 and 2. Species with a PIF score of 18 or above, an AI score of 3 or above, and/or PT score of 3 or above were identified as the highest priority species. For more information on the listing process, refer to the Wyoming Bird Conservation Plan, available from the U.S. Fish and Wildlife Service, 4000 Airport Parkway, Cheyenne, Wyoming 82001; or Wyoming Game and Fish Department, Nongame Branch, 260 Buena Vista, Lander, Wyoming 82520.

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Migratory Bird of High Federal Interest in Wyoming - 2002

Table 1. **Level I Species (Conservation Action).** Species clearly needs conservation action. Includes species of which Wyoming has a high percentage of and responsibility for the breeding population, and the need for additional knowledge through monitoring and research into basic natural history, distribution, etc.

Species	PIF Score[a]	AI[b]	PT[c]	Primary Habitat Type(s)
Mountain Plover[d]	28	4	3	Shortgrass Prairie, Shrub-steppe
Sage Grouse	26	5	3	Shrub-steppe
McCown's Longspur	26	3	2	Shortgrass Prairie, Shrub-steppe
Baird's Sparrow	26	2	3	Shortgrass Prairie
Ferruginous Hawk	23	4	3	Shrub-steppe, Shortgrass Prairie
Brewer's Sparrow	23	5	5	Shrub-steppe, Mountain-foothills Shrub
Sage Sparrow	22	5	2	Shrub-steppe, Mountain-foothills Shrub
Swainson's Hawk	21	3	3	Plains/Basin Riparian
Long-billed Curlew	21	2	3	Shortgrass Prairie
Short-eared Owl	20	3	3	Shortgrass Prairie
Peregrine Falcon	19	3	3	Specialized (cliffs)
Burrowing Owl	19	3	4	Shortgrass Prairie
Bald Eagle	18	3	3	Montane Riparian, Plains/Basin Riparian
Upland Sandpiper	18	2	2	Shortgrass Prairie

[a] From the PIF Priority Database (Carter et al. 1997).
[b] AI = Area Importance (from the PIF Priority Database, Carter et al. 1997).
[c] PT = Population Trend (from the PIF Priority Database, Carter et al. 1997).
[d] Species previously appeared on the Service's 1995 list.

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Migratory Bird of High Federal Interest in Wyoming (Coal Mine List) - 2002

Table 2. **Level II Species (Monitoring).** The action and focus for the species is monitoring. Includes species of which Wyoming has a high percentage of and responsibility for the breeding population, species whose population trend is unknown, species that are peripheral for breeding in the habitat or state, or species for which additional knowledge is needed.

Species	PIF Score[a]	AI[b]	PT[c]	Primary Habitat Type(s)
Cassin's Kingbird	22	3	3	Juniper Woodland, Plains/Basin Riparian
Lark Bunting	22	4	4	Shortgrass Prairie, Shrub-steppe
Dickcissel	21	3	3	Shortgrass Prairie
Chestnut-collared Longspur	21	2	3	Shortgrass Prairie
Black-chinned Hummingbird	20	2	3	Plains/Basin Riparian, Shrub-steppe
Pygmy Nuthatch	20	3	3	Low Elevation Conifer
Marsh Wren	20	3	4	Wetlands
Western Bluebird	19	3	3	Juniper Woodland, Low Elevation Conifer
Sage Thrasher	19	5	2	Shrub-steppe
Grasshopper Sparrow	19	3	5	Shortgrass Prairie, Shrub-steppe
Bobolink	19	2	3	Shortgrass Prairie, Shrub-steppe
Common Loon	18	3	3	Wetlands
Black-billed Cuckoo	18	2	3	Plains/Basin Riparian
Red-headed Woodpecker	18	2	3	Plains/Basin Riparian, Low Elevation Conifer
Yellow-billed Cuckoo	18	3	3	Plains/Basin Riparian
Eastern Screech-Owl	18	3	3	Plains/Basin Riparian
Western Screech-Owl	18	3	3	Plains/Basin Riparian
Western Scrub-Jay[d]	18	3	3	Juniper Woodland
Loggerhead Shrike	18	3	3	Shrub-steppe
Vesper Sparrow	18	5	4	Shrub-steppe
Lark Sparrow	18	3	4	Shrub-steppe
Ash-throated Flycatcher[d]	16	2	3	Juniper Woodland
Bushtit[d]	16	3	3	Juniper Woodland
Merlin	15	3	3	Low Elevation Conifer
Sprague's Pipit	n/a	n/a	n/a	Grassland, Plains/Basin Riparian, Shortgrass Prairie
Barn Owl	n/a	n/a	n/a	Shortgrass Prairie, Urban

[a] From the PIF Priority Database (Carter et al. 1997).

[b] AI = Area Importance (from the PIF Priority Database).

[c] PT = Population Trend (from the PIF Priority Database).

[d] Nicholoff, S. 2002. Wyoming Bird Conservation Plan, Version 1.1. Wyoming Partners In Flight and Wyoming Game and Fish Department, Lander. In press.

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Migratory Bird of High Federal Interest in Wyoming (Coal Mine List) - 2002

Wyoming Partners In Flight Process for Prioritizing Species

Wyoming Partners In Flight participants developed the current list of priority species based on a combination of the seven criteria in the national Partners In Flight Priority Database (Carter et al. 1997). This database serves as a defensible method of prioritizing both species and habitats in need of conservation. The criteria include Wyoming-dependent and Wyoming-independent factors. The Wyoming-independent criteria are constant over a species' range and do not vary for each species. The Wyoming-dependent criteria were the key components used to prioritize species and their conservation action needs. In the absence of any more rigorous statewide surveys, Breeding Bird Survey data dating back to 1968 were used to determine population trends in Wyoming.

Criteria

Within each criterion below, a species was given a rank score ranging from 1 to 5, with 1 being the least critical rank and 5 the most critical. Each ranked species could potentially receive a low score of 7 and a high score of 35. However, setting conservation goals based only on total score could be misleading; therefore, each total score was reviewed in conjunction with its component parts. In Wyoming, species were initially ranked using total score, area importance, and population trend.

1. Relative Abundance (RA) - The abundance of a bird, in appropriate habitat within its entire range, relative to other bird species. This criterion gives an indication of a species' vulnerability to withstand cataclysmic environmental changes. A low score would indicate a higher relative abundance, therefore reducing the risk of complete extirpation from losses in one or more regions. Higher scores indicate a lower relative abundance, thus more vulnerability to drastic losses or population changes.

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Migratory Bird of High Federal Interest in Wyoming (Coal Mine List) - 2002

2. Breeding Distribution (BD) - A relative measure of breeding range size as a proportion of North America [defined as the main body of the continent, excluding Greenland, through Panama and the islands of the Caribbean, comprising an area of 22,059,680 km^2 (National Geographic Society 1993)], and as such it provides an index of a species' vulnerability to random environmental events. High scores indicate localized breeding, thus a higher likelihood of serious decline from drastic environmental changes. Low scores indicate wide breeding distribution, therefore less likelihood of extirpation. Used for breeding birds only.

3. Non-breeding Distribution (ND) - A relative measure of non-breeding, or winter, range size as a proportion of North America, and as such it provides an index of a species' vulnerability to random environmental events. High scores indicate localized distribution on the non-breeding grounds. Low scores indicate wide distribution on the non-breeding grounds, therefore less likelihood of extirpation. Used for wintering birds only.

4. Threats on Breeding Grounds (TB) - The ability of a habitat in an area to support populations of a species in that area. Two factors are considered here: 1) each species' demographic and ecological vulnerability (the potential inability of a species to recover from population loss by normal reproductive effort due to low reproductive rate, high juvenile mortality, or both; and the level of ecological specialization of a species and, hence, its potential inability to withstand environmental change), and 2) habitat loss or disruption (a combination of the amount of habitat or conditions necessary for survival and reproductive success that has been lost since 1945, and the amount that is anticipated to be lost in the future). High scores indicate either a large loss of habitat or a species that is an extreme ecological specialist. Low scores indicate a stable or increasing habitat or a species that is an ecological generalist. Used for both breeding and wintering birds.

5. Threats on Non-breeding Grounds (TN) - Range-wide threats on non-breeding, or winter, grounds. This is scored using the same criteria as threats on breeding grounds but reflects non-breeding issues, including migratory habitat. Used for wintering birds only.

6. Population Trend (PT) - The overall population trend of each species assigned independently for each state, province, or physiographic area. This criterion must meet two thresholds, reliability and magnitude, to warrant either a very high or very low score. When possible, a score was assigned using BBS data, which incorporated a population trend uncertainty score based on the statistical validity of the BBS data (i.e. a species must be detected on a minimum of 14 BBS routes per state for population trends to have statistical significance). This criterion was chosen to alert managers to species with modest, but certain, population declines.

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Migratory Bird of High Federal Interest in Wyoming (Coal Mine List) - 2002

7. Area Importance (AI) - The abundance of a species within a state, province, or physiographic area relative to its abundance throughout its range. This criterion helps direct conservation efforts toward areas that are most important to a species' survival. Area Importance is scored locally; therefore, high scores indicate that a large proportion of the species' breeding or winter range occurs in Wyoming, or a species is using a habitat that is only available in Wyoming. Low scores indicate that a small proportion of the species' range occurs in Wyoming, or the preferred habitat is widespread across its range. Used for both breeding and wintering birds.

Priority Species

Priority bird species in Wyoming were identified from the PIF Priority Database (Carter et al. 1997) and by qualitative, informed decisions. Those species with a total score of 18 or above, Area Importance (AI) of 3 or above, and/or Population Trend (PT) of 3 or above from the database, or with a total score less than 18 but of significant local interest were identified as the highest priority species. However, as more information becomes available, the highest priority species for Wyoming may change, as this is a dynamic database that allows for updated information to be periodically inserted and reviewed. The primary habitat type or types required for breeding were identified for each species to determine the highest priority habitat types for the state.

Literature Cited

Carter, M. F., W. C. Hunter, D. N. Pashley, J. S. Bradley, C. S. Aid, J. Price, and G. S. Butcher. 1997. Setting landbird conservation priorities for states, provinces, and physiographic areas of North America. Partners In Flight Priority Database Final Report, Colorado Bird Observatory, Brighton.

Cerovski, A., M. Gorges, T. Byer, K. Duffy, and D. Felley. 2000. Wyoming Bird Conservation Plan, Version 1.0. Wyoming Partners In Flight, Lander, WY.

Nicholoff, S. 2002. Wyoming Bird Conservation Plan, Version 1.1. Wyoming Partners In Flight and Wyoming Game and Fish Department, Lander. In press.

D-9,3-7

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ADDENDUM D-9.1
LIST OF POTENTIAL SPECIES

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APPENDIX D9 –1
LIST OF POTENTIAL SPECIES

Common Name	Scientific Name
INSECTIVORES	INSECTIVORA
Meriam's Shrew	*Sorex merriami*
BATS	CHROPTERA
Little Brown Myotis	*Myotis lucifugus*
Hoary Bat	*Lasiurus cinereus*
Big Brown Bat	*Eptesicus fuscus*
LAGOMORPHS	LAGOMORPHA
Desert Cottontail	*Sylvilagus audubonii*
Mountain Cottontail	*Sylvilagus nuttallii*
Black-tailed Jackrabbit	*Lepus californicus*
White-tailed Jackrabbit	*Lepus townsendii*
RODENTS	RODENTIA
Least Chipmunk	*Tamias minimus*
Yellow-bellied Marmot	*Marmota flaviventris*
Thirteen-lined Ground Squirrel	*Spermophilus tridecemlineatus*
Black-tailed Prairie Dog	*Cynomys ludovicianus*
Eastern Fox Squirrel	*Sciurus niger*
Northern Pocket Gopher	*Thomomys talpoides*
Plains Pocket Gopher	*Geomys bursarius*
Olive-backed Pocket Mouse	*Perognathus fasciatus*
Silky Pocket Mouse	*Perognathus flavus*
Hispid Pocket Mouse	*Chaetodipus hispidus*
Ord's Kangaroo Rat	*Dipodomys ordii*
Beaver	*Castor canadensis*
Western Harvest Mouse	*Reithrodontomys megalotis*
Plains Harvest Mouse	*Reithrodontomys montanus*
White-footed Mouse	*Peromyscus leucopus*
Deer Mouse	*Peromyscus maniculatus*
Northern Grasshopper Mouse	*Onychomys leucogaster*
Bushy-tailed Woodrat	*Neotoma cinerea*
Prairie Vole	*Microtus ochrogaster*
Meadow Vole	*Microtus pennsylvanicus*
Water Vole	*Microtus richardsoni*
Sagebrush Vole	*Lemmiscus curtatus*
Muskrat	*Ondatra zibethicus*
Norway Rat	*Rattus norvegicus*
House Mouse	*Mus musculus*

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APPENDIX D9 –1
LIST OF POTENTIAL SPECIES

Common Name	Scientific Name
Western Jumping Mouse	*Zapus princeps*
Porcupine	*Erethizon dorsatum*
CARNIVORES	CARNIVORA
Coyote	*Canis latrans*
Swift Fox	*Vulpes velox*
Red Fox	*Vulpes vulpes*
Gray Fox	*Urocyon cinereoargenteus*
Raccoon	*Procyon lotor*
Short-tailed Weasel	*Mustela erminea*
Long-tailed Weasel	*Mustela frenata*
Black-footed Ferret	*Mustela nigripes*
Mink	*Mustela vison*
Badger	*Taxidea taxus*
Western Spotted Skunk	*Spilogale gracilis*
Eastern Spotted Skunk	*Spilogale putorius*
Striped Skunk	*Mephitis mephitis*
Mountain Lion	*Felis concolor*
Bobcat	*Felis rufus*
EVEN-TOED UNGULATES	ARTIODACTYLA
Mule Deer	*Odocoileus hemionus*
White-tailed Deer	*Odocoileus virginiaus*
Pronghorn	*Antilocapra americans*
GREBES	PODICIPEDIFORMES
Pied-billed Grebe	*Podilymbus podiceps*
Homed Grebe	*Podiceps auritus*
Eared Grebe	*Podiceps nigricollis*
HERONS	CICONIFORMES
Great Blue Heron	*Ardea herodias*
Green Heron	*Butorides sttiatus*
Black-crowned Night-Heron	*Nycticorax nycticorax*
White-faced Ibis	*Plegadis chihi*
WATERFOWL	ANSERIFORMES
Canada Goose	*Branta canadensis*
Wood Duck	*Aix sponsa*
Green-winged Teal	*Anas crecca*
Mallard	*Anas platyrhynchos*

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APPENDIX D9 –1
LIST OF POTENTIAL SPECIES

Common Name	Scientific Name
Northern Pintail	*Anas acuta*
Blue-winged Teal	*Anas discors*
Cinnamon Teal	*Anas cyanoptera*
Northern Shoveler	*Anas clypeata*
Gadwall	*Anas strepera*
American Wigeon	*Anas americana*
Canvasback	*Aythya valisineria*
Redhead	*Aythya americana*
Ring-necked Duck	*Aythya collaris*
Lesser Scaup	*Aythya affinis*
Comrnon Goldeneye	*Bucephala clangula*
Bufflehead	*Bucephala albeola*
Ruddy Duck	*Oxyura jamaicensis*
VULTURES, HAWKS AND FALCONS	FALCONIFORMES
Turkey Vulture	*Cathartes aura*
Osprey	*Pandion haliaetus*
Bald Eagle	*Haliaeetus leucocephalus*
Northern Harrier	*Circus cyaneus*
Sharp-shinned Hawk	*Accipiter striatus*
Cooper's Hawk	*Accipiter cooperii*
Northern Goshawk	*Accipiter gentilis*
Swainson's Hawk	*Buteo swainsoni*
Red-tafled Hawk	*Buteo jamaicensis*
Ferruginous Hawk	*Buteo regalis*
Rough-legged Hawk	*Buteo lagopus*
Golden Eagle	*Aquila chrysaetos*
American Kestrel	*Falco sparverius*
Merlin	*Falco columbarius*
Peregrine Falcon	*Falco peregrinus*
Gyrfalcon	*Falco rusticolus*
Prairie Falcon	*Falco mexicanus*
GALLINACEOUS BIRDS	GALLIFORMES
Gray Partridge	*Perdix perdix*
Sage grouse	*Centrocercus urophasianus*
Sharp-tailed grouse	*Tympanuchus phasianellus*
Turkey	*Meleagris gallopavo*
CRANES AND RAILS	GRUIFORMES
American Coot	*Fulica americana*

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APPENDIX D9 –1
LIST OF POTENTIAL SPECIES

Common Name	Scientific Name
Sandhill Crane	*Grus canadensis*
SHOREBIRDS	CHARADRIIFORMES
Killdeer	*Charadrius vociferus*
Mountain Plover	*Charadrius montanus*
Black-necked Stilt	*Himantopus mexicanus*
American Avocet	*Recurvirostra arnericana*
Greater Yellowlegs	*Tringa melanoleuca*
Lesser Yellowlegs	*Trinpa flavipes*
Solitary Sandpiper	*Tringa solitaria*
Willet	*Catoptrophorus semipalmatus*
Spotted Sandpiper	*Actitis macularia*
Upland Sandpiper	*Bartramia longicauda*
Whimbrel	*Numenius phaeopus*
Long-billed Curlew	*Numenius americanus*
Semipalmated Sandpiper	*Calidris pusilla*
Western Sandpiper	*Calidris mauri*
Least Sandpiper	*Calidris minutilla*
Baird's Sandpiper	*Calidris bairdii*
Pectoral Sandpiper	*Calidris melanotos*
Long-billed Dowitcher	*Limnodromus scolopaceus*
Common Snipe	*Gallinago gallinago*
Red-necked Phalarope	*Phalaropus lobatus*
Wilson's Phalarope	*Phalaropus tricolor*
Franklin's Gull	*Larus pipixcan*
Bonaparte's Gull	*Larus philladelphia*
California Gull	*Larus californicus*
Herring Gull	*Larus argentatus*
Common Tem	*Sterna hirundo*
Forster's Tem	*Sterna forsteri*
Black Tem	*Chlidonias niger*
PIGEONS AND DOVES	COLUMBIFORMES
Rock Dove	*Columba livia*
Mourning Dove	*Zenaida macroura*
CUCKOOS	CUCULIFORMES
Yelllow-billed Cuckoo	*Coccyzus americanus*
OWLS	STRIGIFORMES
Bam Owl	*Tyto alba*

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APPENDIX D9 –1
LIST OF POTENTIAL SPECIES

Common Name	Scientific Name
Eastern Screech-Owl	*Otus asio*
Great Homed Owl	*Bubo virginianus*
Burrowing Owl	*Athene cunicularia*
Long-eared Owl	*Asio otus*
Short-eared Owl	*Asio flammeus*
Northern Saw-whet Owl	*Aegolius acadicus*
GOATSUCKERS	CAPRIMULGIFORMES
Common Nighthawk	*Chordeiles minor*
Common Poorwill	*Phalaenoptilus nuttallii*
SWIFTS	APODIFORMES
Chinmey Swift	*Chaetura pelagica*
White-throated Swift	*Aeronautes saxatalis*
HUMMINGBIRDS	APODIFORMES
Broad-tailed Hummingbird	*Selasphorus platycercus*
Rufous Hummingbird	*Selasphorus rufus*
KINGFISHERS	CORACIIFORMES
Belted Kingfisher	*Ceryle alcyon*
WOODPECKERS	PICIFORMES
Red-headed Wooodpecker	*Melanerpes erythrocephalus*
Downy Woodpecker	*Picoides pubescens*
Hairy Woodpecker	*Picoides villosus*
Northern Flicker	*Colaptes auratus*
PERCHNG BIRDS	PASSERIFORMES
FLYCATCHERS	TYRANNIDAE
Western Wood-Pewee	*Contopus sordidulus*
Willow Flycatcher	*Empidonax traillii*
Cordilleran Flycatcher	*Empidonax occidentalis*
Say's Phoebe	*Sayornis saya*
Ash-throated Flycatcher	*Myiarchus cinerascens*
Western Kingbird	*Tyrannus verticalis*
Eastern Kingbird	*Tyrannus tyrannus*
Scissor-tailed Flycatcher	*Tyrannus forficatus*
LARKS	ALAUDIDAE
Horned Lark	*Eremophila alpestris*

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APPENDIX D9 –1
LIST OF POTENTIAL SPECIES

Common Name	Scientific Name
SWALLOWS	HIRUDINIDAE
Tree Swallow	*Tachyceneta bicolor*
Violet-green Swallow	*Tachycineta thalassina*
Northern Rough-winged Swallow	*Stelgidopteryx serripennis*
Bank Swallow	*Riparia riparia*
Cliff Swallow	*Hirundo pyrrhonota*
Barn Swallow	*Hirundo rustica*
JAYS AND CROWS	CORVIDAE
Blue jay	*Cyanocitta cristata*
Clark's nutcracker	*Nicifraga columbiana*
Black-billled Magpie	*Pica pica*
American Crow	*Corvus brachyrhychos*
Common Raven	*Corvus corax*
CHICKADEES	PARIDAE
Black-capped Chickadee	*Parus atricapillus*
Mountain Chickadee	*Parus gambeli*
NUTHATCHES	SITTIDAE
Red-breasted Nuthatch	*Sitta canadensis*
White-breasted Nuthatch	*Sitta carolinensis*
Pygmy Nuthatch	*Sitta pygmaea*
WRENS	TROGLODYTIDAE
Rock Wren	*Salpinctes obsoletus*
House Wren	*Troglodytes aedon*
THRUSHES, SOLITARES, AND BLUEBIRDS	TURIDAE
Golden-crowned Kinglet	*Regulus satrapa*
Ruby-crowned Kinglet	*Regulus calendula*
Western Bluebird	*Sialia mexicana*
Mountain Bluebird	*Sialia currucoides*
Townsend's Solitaire	*Myadestes townsendii*
Swainson's Thrush	*Catharus ustulatus*
Hermit Thrush	*Catharus gattatus*
American Robin	*Turdus migratorius*
MOCKINGBIRDS AND THRASHERS	MIMIDAE

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APPENDIX D9 –1
LIST OF POTENTIAL SPECIES

Common Name	Scientific Name
Gray Catbird	*Dumetalla carolinensis*
Northern Mockingbird	*Mimus polyglottos*
Sage Thrasher	*Oreoscoptes montanus*
Brown Thrasher	*Toxostoma rufum*
PIPITS AND WAGTAILS	MOTACILLIDAE
American Pipit	*Anthus rubescens*
WAXWINGS	BOMBYCILLIDAE
Bohemian Waxwing	*Bombycilla garrulus*
Cedar Waxwing	*Bombycilla cedrorum*
SHRIKES	LANIIDAE
Northern Shrike	*Lanius excubitor*
Loggerhead Shrike	*Lanius ludovicianus*
STARLINGS	STURNIDAE
European Starling	*Sturnus vulgaris*
VIREOS	VIREONIDAE
Solitary Vireo	*Vireo solitarius*
Warbling Vireo	*Vireo gilvus*
Red-eyed Vireo	*Vireo olivaceus*
WARBLERS	PARULIDAE
Orange-crowned Warbler	*Vermivora celata*
Yellow Warbler	*Dendroica petechia*
Chestnut-sided Warbler	*Dendroica pensylvanica*
Black-throated Blue Warbler	*Dendroica caerulescens*
Yellow-rumped Warbler	*Dendroica coronata*
Townsend's Warbler	*Dendroica townsendi*
Blackpoll Warbler	*Dendroica striata*
Black-and-white Warbler	*Mniotilta varia*
American Redstart	*Setophaga ruticilla*
Northern Waterthrush	*Seiurus noveboracensis*
MacGillivray's Warbler	*Oporornis tolmiei*
Common Yellowthroat	*Geothlypis trichas*
Wilson's Warbler	*Wilsonia pusilla*
Yellow-breasted Chat	*Icteria virens*
TANAGERS	THRAUPIDAE

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APPENDIX D9 –1
LIST OF POTENTIAL SPECIES

Common Name	Scientific Name
Western Tanager	*Piranga ludoviciana*
GROSBEAKS, FINCHES, SPARROWS, AND BUNTINGS	FRINGILLIDAE
Black-headed Grosbeak	*Pheucticus meloncephalus*
Lazuli Bunting	*Passerina amoena*
Indigo Bunting	*Passerina cyanea*
Dickcissel	*Spiza americana*
Green-tailed Towhee	*Pipilo chlorurus*
Spotted Towhee	*Pipilo maculatus*
American Tree Sparrow	*Spizella arborea*
Chipping Sparrow	*Spizella passerina*
Clay-colored Sparrow	*Spizella pallida*
Brewer's Sparrow	*Spizella breweri*
Field Sparrow	*Spizella pusilla*
Vesper Sparrow	*Pooecetes gramineus*
Lark Sparrow	*Chondestes grammacus*
Sage Sparrow	*Amphispoza belli*
Lark Bunting	*Calamospiza melanocorys*
Savannah Sparrow	*Passerculus sandwichensis*
Baird's Sparrow	*Ammodramus bairdii*
Grasshopper Sparrow	*Ammodramus savannarum*
Fox Sparrow	*Passerella iliaca*
Song Sparrow	*Melospiza melodia*
Lincoln's Sparrow	*Melospiza lincolnii*
White-throated Sparrow	*Zonotrichia albicollis*
White-crowned Sparrow	*Zonotrichia leucophrys*
Harris' Sparrow	*Zonotrichia querula*
Dark-eyed Junco	*Junco hyemalis*
McCown's Longspur	*Calcarius mccownii*
Lapland Longspur	*Calcarius lapponicus*
Chestnut-collared Longspur	*Calcarius ornatus*
Snow Bunting	*Plectrophenax nivalis*
Bobolink	*Dolichonyz oryzivorus*
BLACKBIRDS, ORIOLES AND COWBIRDS	ICTERIDAE
Red-winged Blackbird	*Agelaius phoeniceus*
Western Meadowlark	*Sturnella neglecta*
Yellow-headed Blackbird	*Xanthocephalus xanthocephalus*
Brewer's Blackbird	*Euphagus cyanocephalus*

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APPENDIX D9 –1
LIST OF POTENTIAL SPECIES

Common Name	Scientific Name
Common Grackle	*Quiscalus quiscula*
Brown-headed Cowbird	*Molothrus ater*
Bullock's Oriole	*Icterus bullockii*
GROSBEAKS, FINCHES	FRINGILLIDAE
Gray-crowned Rosy Finch	*Leucosticte tephrocotis*
Cassin's Finch	*Carpodacus cassinii*
House Finch	*Carpodacus mexicanus*
Red Crossbill	*Loxia curvirostra*
Common Redpoll	*Carduelis flammea*
Pine Siskin	*Carduelis pinus*
American Goldfinch	*Carduelis tristis*
Evening Grosbeak	*Coccothraustes vespertinus*
WEAVER FINCHES	PLOCEIDAE
House sparrow	*Passer domesticus*
SALAMANDERS	AMBYSTOMATIDAE
Tiger Salamander	*Ambystoma tigrinum*
SPADEFOOTS	PELOBATIDAE
Plains Spadefoot	*Scaphiopus bombifrons*
TOADS	BUFONIDAE
Great Plains Toad	*Bufo cognatus*
Woodhouse's Toad	*Bufo woodhousei woodhousei*
TREE FROGS	HYLINDAE
Boreal Tree Frog	*Pseudaris triseriata maculata*
TRUE FROGS	RANIDAE
Bullfrog	*Rana catesbeiana*
Northern Leopard Frog	*Rana pipiens*
SNAPPING TURTLES	CHELYDRIDAE
Common Snapping Turtle	*Chelydra serpentina serpentina*
BOX TURTLES	TESTUDINIDAE
Western Painted Turtle	*Chrysemys picta belli*
SPINEY LIZARDS	IGUANIDAE

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APPENDIX D9 –1
LIST OF POTENTIAL SPECIES

Common Name	Scientific Name
Eastern Short-horned Lizard	*Phrynosoma douglassi brevirostre*
Northern Sagebrush Lizard	*Sceloporus graciosus graciosus*
PIT VIPERS	CROTALIDAE
Prairie Rattlesnake	*Crotalus viridis viridis*
COLUBRID SNAKES	COLUBRIDAE
Plains Hognose Snake	*Heterondon nasicus nasicus*
Bullsnake	*Pituophis melanoleucas sayi*
Wandering Garter Snake	*Thamnophis elegans vagrans*
Eastern Yellowbelly Racer	*Coluber constrictor flaviventris*

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APPENDIX D10 - WETLANDS

Waters of the United States and jurisdictional wetlands were not surveyed for the Roger's Pit because the permit areas are located on upland areas and no defined drainages exist within the area to be mined. A May 11, 2009 letter from The Army Corps of Engineers stating that no delineation is required is included herein.

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Croell Redi-Mix, ____ Permit to Mine

May, 2009

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, OMAHA DISTRICT
WYOMING REGULATORY OFFICE
2232 DELL RANGE BOULEVARD, SUITE 210
CHEYENNE WY 82009-4942

REPLY TO
ATTENTION OF

May 11, 2009

Wyoming Regulatory Office

MAY 20

Mr. Roger Croell
Croell Redi-Mix, Inc.
P.O. Box 1352
Sundance, Wyoming 82729

Dear Mr. Croell:

This letter is in response to a request we received on March 2, 2009, from Mr. Dennis McGirr of Environmental Solutions, Inc., for a jurisdictional determination on potential impacts to waters of the United States that could result from the proposed expansion of Croell Red-Mix's Roger's Pit northeast of Sundance. The quarry is located in portions of the southeast quarter and western half of Section 25, the southern half of Section 26, and the northwest quarter and eastern half of Section 35, Township 52 North, Range 62 West, Crook County, Wyoming.

The U.S. Army Corps of Engineers regulates the placement of dredged and fill material into wetlands and other waters of the United States as authorized primarily by Section 404 of the Clean Water Act (33 U.S.C. 1344). The term "waters of the United States" has been broadly defined by statute, regulation, and judicial interpretation to include all waters that were, are, or could be used in interstate commerce such as rivers, streams (including ephemeral streams), reservoirs, and lakes as well as wetlands adjacent to those areas. The Corps regulations are published in the Code of Federal Regulation at 33 CFR Parts 320 through 331. Information on Section 404 program requirements in Wyoming can be obtained from our web site at https://www.nwo.usace.army.mil/html/od-rwy/Wyoming.htm.

Based on the information provided by Mr. McGirr on February 26th, May 4th, and May 11, 2009, it has been determined that there are no wetlands or other waters of the United States within the proposed disturbance area. Therefore, Department of the Army authorization is not required for the project because it does not require the discharge of fill material in wetlands or other waters of the United States. Any changes to the proposed disturbance area as shown on the maps entitled *Map A Roger's Pit – Croell Redi-Mix General Location and Mine Progressions* revised 11/18/2008, and *Map MP-1 Roger's Pit – Croell Redi-Mix Mine Progressions* revised 4/8/2009, could require additional review by this office. This determination does not eliminate the requirement to obtain any other applicable federal, state, tribal, or local permits that may be required.

D-10.2

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Croell Redi-Mix, ____ Permit to Mine May, 2009

In the March 28, 2000, edition of the *Federal Register* (Vol. 65, No. 60), the Corps implemented an administrative appeals process for jurisdictional determinations. This letter serves as an approved jurisdictional determination. Croell Redi-Mix, Inc. may appeal any determination to the Division Engineer's appeal officer, Mr. David Gesl, by obtaining a Notification of Administrative Appeal Options and Process (NAO) form at our web site. Section "D" of the NAO explains the procedures for appeal. The NAO form must be submitted to Mr. Gesl at the address shown on the form prior to **July 13, 2009**, or forfeit the right to an administrative appeal.

Thank you for your interest in cooperating with the requirements of the U.S. Army Corps of Engineers regulatory program. If you have any questions, please contact Mr. Michael Burgan at (307) 772-2300 and reference file No. NWO-2009-00606.

Sincerely,

Matthew A. Bilodeau

Matthew A. Bilodeau
Program Manager
Wyoming Regulatory Office

Copy Furnished:

Dennis McGirr
Environmental Solutions, Inc.
P.O. Box 149
Beulah, Wyoming 82712

RECEIVED
MAY 20 2009

D-10.3

The Omaha District, Regulatory Branch, Wyoming Regulatory Office is committed to providing quality and timely service to our customers. In an effort to improve customer service, please take a moment to complete a Customer Service Survey found on our web site at https://www.nwo.usace.army.mil/html/od-rwy/survey.htm Paper copies of the survey are also available upon request for those without Internet access.

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MINE PLAN

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MINE PLAN

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MINE PLAN

MP 1 GENERAL DESCRIPTION OF MINING OPERATION

The Rogers Pit is an open pit limestone mine with crushing operations. Croell Redi-Mix has been mining the area under Limited Mining Operation (LMO) 1396 ET and another operator has been operating under LMO 1461ET. The expanded regular mine permit will take in both LMO operations.. The following sections present the methods of operation and the procedures used to meet the environmental protection performance standards of Chapter 3 of the WDEQ/LQD Noncoal Rules and Regulations dated June 2000. The crushed limestone material from the mine has and will continue to be used as concrete aggregate and to construct and maintain public roads and private roads in the area.

MP 1.1 Mining Method

The mine is an open pit surface mine currently operating in one pit. The mine operates in shallow limestone deposits that are fairly consistent in depth and extent. Based on the drilling program conducted for the LMO the limestone deposits are variable in depth with maximum depths of approximately 22 feet. Limestone deposits in the regional area have been reported as deep as 40 feet. Topsoil is limited and ranges from 0 to 24 inches. Approximately one-third of the permit area is covered by exposed limestone and gypsum outcrops with little or no topsoil present. Where topsoil is lacking, a thin layer of 0 to 12 inches of weathered limestone and silt often overlay the limestone.

The existing LMO operations include two active pits. Future operations will generally be conducted in one pit. If multiple pits are developed, crushing will normally be conducted in one pit at a time. However, the operator may implement a two pit operation for short periods when starting a new progression and finishing the previous area. The crushing and screening equipment will be moved from one pit to another and generally located at different locations as the pits progress. The only permanent or stationary facilities at the pit site at this time are the scale house and scales. Powder River Energy Corporation has provided electrical power to the site. If other structures are proposed, Croell will address them with WDEQ/LQD prior to construction.

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Mining is conducted by blasting the limestone and then moving the material to the crusher facility with dozers and front-end loaders. Earthmoving begins with topsoil and suitable subsoil salvaging from the initial bench. Where topsoil depths are shallow, topsoil will generally be dozed or bladed into a berm and then picked up with scrapers or truck and loaders and stockpiled. Overburden material is also very thin in most places and will be handled in the same method. The limestone deposit is mined, the high walls are knocked down and available overburden and topsoil are replaced in the mined-out area as the highwall progresses. If the limestone deposits are not contiguous, a new pit area will be developed as mining is completed in the previous area. High wall heights will vary but generally not exceed 25 feet.

The lower topsoil and subsoil profiles may contain high coarse fragment content. Operators will be trained to recognize color and soil structure differences between suitable topsoil, subsoil and the overburden. The salvaged topsoil and subsoil from the initial access road and crusher site will be stockpiled for future use. As mining progresses, topsoil may be removed and applied directly to backfilled and graded areas of the mined-out pit. Topsoil and suitable subsoil salvage is a seasonal operation, dependent upon weather. Where topsoil is limited, some of the overburden material will be used as a plant growth medium to reclaim the mined out areas.

MP 1.2 Life of Mine

Limestone mining has occurred since late 2007 under LMO 1396 ET and LMO 1461ET. Mining is proposed to continue through at least 2029 with reclamation of the final pit mining as soon as possible. Actual mine life will depend on market conditions. Removal of the crushed and screened material and final reclamation may continue for one or two years after extraction is completed.

Changes in operating, marketing, and/or transportation conditions, may cause fluctuations in projected tonnages that could result in a change in the mine plan. The planning process is continual, and many changes may occur during the life of the mine.

The present life-of-mine progressions are shown on Map MP-1. Current production estimates are presented in Table MP 1. Croell Readi-Mix, Inc, proposes producing a maximum of 500,000 ton each year at full capacity. Actual production will depend on market conditions and will be reported in the annual report.

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MP 1.3 Mine Equipment

The major pieces of mining equipment used at the Rogers Pit are listed in Table MP 2. This table shows the number of units by type and size class presently used on site. If multiple pits are established, crushing equipment will generally be transported from one pit to another as operations require. Equipment numbers are not expected to vary but may increase in future years as sales increase. Other equipment at the mine not specifically itemized includes supervisor's pick-up trucks, maintenance service trucks, and other various support equipment. Future mining equipment may vary from that listed in Table MP 2. Changes in mining and hauling methods will be reviewed throughout the mining process in an effort to increase efficiency and minimize environmental impacts.

Reclamation equipment for overburden grading and topsoil replacement will consist of scrapers, crawler tractors, motor graders, and front-end loaders. Scrapers will be used to haul topsoil and subsoil for reclamation of the pit areas, abandoned access roads and crusher locations. These are supplemented with the necessary support equipment for haul road maintenance and dust suppression. Seedbed preparation is performed with normal farming implements pulled by farm tractors. Seeding is done with drills and broadcast seeders. Revegetation activities will be conducted by private contractors. Therefore, the equipment is not included on the equipment list for the mine.

MP 1.4 Affected Area Boundaries

Map MP-1 shows the boundaries of areas proposed to be affected for various activities for the life of the mine. The map shows the maximum area that may be affected by all mining, reclamation, and support activities over the life of the mine. The line includes all lands where disturbance could occur; this does not mean that all areas within this boundary will be disturbed. The intent is to allow sufficient area to develop the pits and conduct support activities such as constructing roads, sediment control structures, and temporary stockpiles. Federal minerals in the NWSW of Section 25, T52N, R62W are not included in the initial progressions but could be included in the future. BLM mineral sales contracts are issued for 5-year periods so one will not been obtained until just prior to the area being mined. A revision will be submitted to LQD to incorporate mining the BLM minerals.

MP 1.5 Relations to Existing Structures

Physical obstacles to mining are minimal within the permit area. The only power line within the affected area provides service to the mine facilities. Rifle Pit Road is a Crook County public road that crosses through the northern limits of the permit area and serves as the access route from the mine to Highway 14 that then provides access to Interstate 90. There are no ranch buildings or other structures located within the proposed mining limits.

MP 2 MINE FACILITIES

MP 2.1 Structures

The only structures proposed at the time of start-up are the scale hose and scale. All activities will be confined to the pit area and the access/haul road. Portable fuel storage structures and sanitation facilities have been placed in the pit area.

Entrance Road The entrance road will be the same as the main haul road for hauling material from the property. The road will be a graveled road from the pit to Highway 14.

Water Supply Initial water for dust abatement will be hauled into the property from an outside source. A water well was drilled near the scale house in 2008 and will be used for dust control and other mine requirements.

MP 2.2 Power

Electrical power to the scale house area has been provide by Powder River Energy Corporation.

MP 2.3 Sedimentation and Treatment Ponds

As the pit area is developed, drainage from disturbed areas will be retained in the pit area through the use of berms and ditches or treated by alternate sediment control methods.

For overburden and topsoil stockpiles, a drainage berm will be constructed around the toe of each stockpile. Overburden material will be used to construct berms around overburden stockpiles and to control runoff within the pit area. Berms around topsoil stockpiles will be constructed with topsoil. Initial sediment control will be provided by alternate sediment control measures such as; silt fences, berms, pits, hay bales, or other acceptable control measures. Sediment control around the scale house are will also be provided by alternate sediment control methods. Following pit development, ultimate sediment control will be provided by the pit area. No sediment ponds are proposed at any

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of the pit areas. Historically, flow in the ephemeral drainages to be impacted has been so low that the landowner and operator do not feel like constructed drainage control structures or diversions will not be required. However, if conditions require a structure, the applicant will obtain WDEQ approval for structures prior to construction.

MP 2.4 Solid Waste Disposal

The operation will haul all solid wastes, including petroleum wastes and any other toxic materials, off site for disposal in an approved facility.

MP 2.5 Storage and/or Stockpile Sites

There are four standard types of stockpiles at the mine: limestone, processing fines, overburden, and topsoil.

Aggregate

Aggregate stockpiles will be located within the pit area. These stockpiles will be active most of the time and volumes will vary. Croell will crush enough material to last for several months. The stockpiles will be reduced by gravel sales. Multiple sizes of crushed materials can be produced and each will require separate stockpiles. Primary products will be concrete aggregate and road base material of variable sizes. Other sizes of aggregate are possible as markets are established.

Processing Fines

Processing fines resulting from the crushing and screening activities will be stockpiled in the pit area near the crushing operation. If a market is found, some of the fines may be sold as product. Most of the fines will be backfilled into the mined out pit area. The landowner is accepting some of the fines for use as a soil additive on his agricultural lands.

Overburden

The locations and volumes of all existing stockpiles will be given in the most current Annual Report. When possible, overburden will be directly placed in mined out areas.

Topsoil

The location and size of stockpiles will be presented yearly in the Annual Report. Annual additions or subtractions from stockpiles will be included therein.

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MP 2.6 Access Control

Additional fences are not expected to be necessary. Most of the permit area consists of haylands. If livestock grazing is implemented, then the active pit and stockpiling areas can be fenced to prevent livestock from accessing the revegetated areas. Since fencing can be detrimental to wildlife in some situations, especially to pronghorn, fences are designed to accomplish their intended purpose yet reduce any negative impacts on wildlife. Where necessary, four-strand barbed wire (WDEQ-LQD Guideline 10 Type III) fences will be used. These fences will be constructed with the lowest strand approximately 15 inches off the ground, the second strand approximately 23 inches off the ground, third strand approximately 31 inches off the ground, and the highest strand approximately 42 inches off the ground, i.e., in increments of 15, 8, 8, and 11 inches. These will be used for livestock control on lands within the disturbed area.

Public access to the mine is controlled and restricted by the private landowner and the operator. The operator will also use signage and/or berms around the highwall crests to restrict access to highwall areas by unauthorized people.

MP 2.7 Auger Mining

No auger mining is planned at this time.

MP 2.8 Underground Mining

No underground mining is planned under this permit. No underground mines exist within the permit area.

MP 3 TRANSPORTATION SYSTEMS

Transportation requirements are limited to one access/haul road from the pit area to an existing gravel road. All mine related roads will be constructed within the permit boundary. Reclamation of the transportation system is discussed in the Reclamation Plan. Topsoil handling prior to construction of transportation systems is discussed in Section MP 4.

MP 3.1 Out-of-Pit Access/Haul Roads

Roads located within the pit are not anticipated and are not subject to design and environmental performance standards. The main access/haul road located outside the pit will be constructed primarily on undisturbed lands but it is possible as mining progresses that subsequent portions may be built on backfilled areas crossing reclaimed land.

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All mining and road construction activities will be conducted outside of the lowlands and drainage bottoms. If culverts are necessary, they will be designed, installed, and maintained according to the requirements of Chapter 3, WDEQ-LQD Noncoal Rules and Regulations. If used, all culverts will be a minimum diameter of 18 inches and will also be designed using LQD Guideline No. 8 criteria.

Haul roads will be surfaced with a crushed limestone to maintain suitable running surfaces. Maintenance of these roads will include filling potholes, blading, and watering for dust suppression. Drainage structures, including culverts will be maintained and kept free of debris. Water bars, cutouts and other measures will be used to keep accumulated road drainage out of natural waterways.

MP 3.2 Other Haul Roads

Out-of-pit haul roads that are primarily established for the purpose of hauling topsoil or overburden through reclaimed or undisturbed areas will be of minimal length generally not exceeding 600 feet in length and used short term, usually for periods of less than one week. If topsoil is present, it will be removed and stockpiled off to the side of the road for replacement during reclamation of the road. Topsoil haul roads that are established upon or within a topsoil stockpile site or upon, within, or through areas that are actively being reclaimed or stripped of topsoil will consist of a bladed earthen surface only; such roadways are exempt from haul road performance standards. Topsoil haulage will primarily be accomplished with a scraper, blade and/or front-end loader.

MP 3.3 Access Roads

The current mine entrance access road to the pit area is limited in length and has been relocated from the original access road that was previously used by the landowner for ranch access to the area. Other ranch roads are also located within the permit area and may be utilized by the mining operation in the future. All topsoil was salvaged and stockpiled for use in final reclamation of the access road. Side ditches have been established along a portion of the access/haul road where it connects with Rifle Pit Road. The road has a limestone surface. The road functions both to provide site access as well as product haulage out of the permit area. As shown on Map MP-1, the alignment has been chosen to avoid drainages and minimize grades. Maintenance of the roadways will include filling potholes and occasionally mowing or spraying weeds.

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MP 3.4 Light-Use Roads

Non-constructed light-use roads exist within the permit area. These two-wheel tracks are used by the ranch owner. The permit area is all private surface with limited access. Specific future needs for light use roads for mining purposes will be limited and cannot be predicted at this time. Such needs or uses will be identified in subsequent Annual Reports.

MP 4 MINING METHODS, SCHEDULES AND ASSESSMENTS

MP 4.1 Mining Sequence

The mining progression is shown for the life of mine on Map MP-1. The map shows the projected advance of operations. The limestone will be mined using blasting, dozers, and front-end loaders. Topsoil and subsoil are variable and range in depths of 0 to 24 inches. Overburden ranges from 0 to several feet across the permit area. Overburden will be removed by dozers, front-end loaders, blades and/or scrapers. Topsoil will be removed by pushing it into a berm and picked up with scrapers or directly picked up with scrapers.

Disturbed areas will be revegetated as soon as practicable to minimize visual impacts. Signs will also be designed and located to comply with LQD regulations and minimize visual impacts.

The progressions presented on MP-1are based on projected sales and will need to be adjusted for actual sales. Revisions will be documented through the annual reporting process.

MP 4.2 Topsoil/Subsoil Handling

Stripping and Handling Techniques

As discussed in D7 (Baseline Soil Survey), topsoil salvage operations will be limited to all topsoil and subsoil horizons down to the overburden or limestone deposit.

All topsoil and suitable subsoil material will be removed from all areas to be affected in the permit area by mining or mining-related activities prior to these areas being affected unless otherwise authorized by the LQD or restricted by equipment limitations. The LQD may authorize topsoil to remain on areas where minor disturbance will occur associated with construction and installation activities including, but not limited to, light-use roads, signs, utility lines, fences, monitoring stations, surveying, and drilling provided that the minor disturbance will not destroy the protective vegetative cover, increase erosion, nor adversely affect the soil resource. LQD will be contacted to determine

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if topsoil needs to be salvaged for all activities requiring minimal surface disturbance. Unless special authorization is provided by LQD prior to disturbance, all topsoil material will be salvaged.

Complete removal of topsoil material is occasionally limited by the configuration of the landscape and limitations of the equipment. Standard earthmoving equipment, including scrapers, dozers, blades, and loaders, may be used to salvage, replace, stockpile, and transport topsoil.

Topsoil salvage operations will be supervised by a qualified person.

Topsoil Replacement and Stockpile Schedule

Topsoil is replaced on mined lands as part of reclamation. Once the initial access road, facility area and initial pit are established, all topsoil from the pit advances will be directly replaced on areas to be reclaimed or stockpiled for later use. Topsoil materials will be salvaged and directly replaced on graded areas whenever possible. When all available graded areas are appropriately covered, topsoil materials remaining in the salvage area will be stripped and stockpiled until needed.

The depth of topsoil replacement is based on the volume salvaged. Topsoil salvage and replacement depths must be determined for each pit area. Large areas (approximately one-third of the mine area) are covered by limestone and gypsum outcrops that contain no salvageable topsoil. Soils are shallow in the initial pit area but increase in some of the future mine areas. The landowner prefers that the available topsoil and subsoil resources be replaced over the entire area rather that reestablishing the large areas with no topsoil. A minimum of 6 inches will be replaced until mining progresses into deeper topsoil areas then the replacement depth will increase to 12 to 18 inches. All overburden and processing fines will be backfilled below the topsoil prior to reclamation.

Annual topsoil removal areas will be evaluated qualitatively to determine topsoil availability.

Current stockpile information is presented each year in the Annual Report. Topsoil replacement sequences are shown on Map RP-1.

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Topsoil Stockpile Construction and Maintenance

When stockpiling is necessary, topsoil and topsoil/subsoil mixtures will primarily be stockpiled in long-term stockpiles having a projected life of more than six months. Topsoil material may infrequently be stockpiled in temporary stockpiles having a projected life of less than six months whenever long-term stockpiling is not necessary or operationally feasible.

Long-term topsoil/subsoil stockpiles will be assigned identification numbers. These stockpiles will normally be seeded with an approved seed mixture during the first normal period for favorable planting conditions according to the practices described in Section RP 5. Stockpile slopes will not exceed 3H:1V. Following additions or deletions of material, the stockpile will be re-contoured and reseeded during the first normal period for favorable planting conditions. Existing long-term stockpile locations and volumetric data will be reported in the Annual Report.

Temporary topsoil/subsoil stockpiles will not exist longer than six months and will not be seeded or have assigned identification numbers. Slopes will remain at the angle of repose or flatter throughout the life of the temporary pile. Stockpile surfaces will be left in a roughened condition to reduce wind and water erosion. Temporary stockpile volumetric data will be included in the Annual Report as needed for bond calculation purposes. Normally, topsoil/subsoil that is placed in and removed from these stockpiles is reported as spread or stockpiled in long-term stockpiles. Topsoil stockpiles will generally be configured as unconsolidated piles or heaps as a result of dozing or placement by scrapers. Small windrows or berms of topsoil created incidentally from and during active topsoil removal or topsoil replacement operations are not considered stockpiles.

All long-term and temporary topsoil/subsoil stockpiles will be located, constructed, and maintained on stable areas and in such a manner so as to minimize wind and water erosion and unnecessary compaction. Stockpiles will not be constructed in drainages so as to impound water. Containment ditches will be constructed with topsoil around topsoil stockpiles wherever site conditions pose a potential for soil loss by water erosion. All stockpiles will be properly signed at the time stockpiling begins.

MP 4.3 Overburden Excavation and Backfilling

If present, overburden extraction follows the salvage of topsoil and suitable subsoil materials.

Overburden removal may be conducted with blades, loaders, dozers and scrapers. The operator will take special care to avoid spilling overburden on to topsoil. Sufficient areas will be stripped for stockpiles to contain all sloughing that could occur during stockpiling activities.

Temporary Overburden Stockpiling Schedule

For the initial pit and when overburden quantities exceed available backfill space, it will be necessary to construct temporary overburden stockpiles. Due to the thin and variable overburden conditions these stockpiles are expected to be very small.

Temporary Overburden Stockpile Construction and Maintenance

When stockpiling is necessary, overburden will be stockpiled in long-term temporary stockpiles having a projected life of more than six months. Overburden may infrequently be stockpiled in temporary stockpiles having a projected life of less than six months whenever long-term stockpiling is not necessary or operationally feasible.

Topsoil will be salvaged from all overburden stockpile locations prior to overburden placement.

Long-term temporary overburden stockpiles will be assigned identification numbers. Stockpile slopes will not exceed 2H:1V. Actual overburden stockpile locations and volumetric data will be reported in the Annual Report. Stockpile volumetric data will also be updated and provided in future permit renewals.

Short-term temporary overburden stockpiles will not exist longer than six months and will not be seeded or have assigned identification numbers. Slopes will remain at the angle of repose or flatter throughout the life of the short-term pile. Stockpile surfaces will be left in a roughened condition to reduce wind and water erosion. Short-term stockpile volumetric data will be included in the Annual Report as needed for bond calculation purposes.

All overburden stockpiles will be located, constructed, and maintained on stable areas in such a manner so as to minimize wind and water erosion. Stockpiles will not be constructed in drainages so as to impound water. Containment ditches will be constructed around stockpiles whenever site conditions pose a potential for topsoil contamination. All stockpiles will be properly signed at the time stockpiling begins.

Mine Pit Backfilling

Backfill materials are stabilized during the backfilling operation. The spoil will be backfilled with dozers, scrapers, and loaders. On each lift, the equipment running on the dumps cause settling and measurable compaction in the backfill. This results in stable backfill benches.

Special Handling Plan

No special handling of the overburden material is anticipated.

MP 4.4 Principal Commodity to be Mined

Limestone aggregate is the only mineral to be mined. Front-end loaders and dozers will be used to mine the limestone to maximize recovery of the smaller deposits.

Blasting Plan

The formation being mined is the Minnekahta Limestone. This formation is easily blasted due to the laminations and micro fractures in the rock structure. It is typically fifteen (15) to twenty two (22) feet in thickness and lies on top of a reddish sandy shale material.

BLASTING DETAILS

A 5 ¼" hole is drilled through the limestone formation on a 12 ft. x 12 ft. pattern. Normally, 100 to 200 holes are drilled and blasted per shot. The pattern is configured to provide the necessary relief toward an open face.

The holes are loaded with ANFO (ammonium nitrate and fuel oil) at a density of eight (8) pounds per foot. A ¾ lb. booster is used in each hole. A bulk explosive blending truck is utilized to load the holes. The holes are then stemmed with crushed stone. This stemming length is from 7 ft. to 10 ft. This loading produces a powder factor (pounds of explosives per cubic yard) of 1.0 to 1.15.

After the holes are loaded, the non-electric initiation system is clipped together to provide a sequential timed blast. This is typically 25ms between holes in a row and 42ms to 84ms between rows. No more than two holes per 8 millisecond delay period are propagated. The nearest structure is an underpass on I-90. This structure is in excess of 1,500 ft away from the blasting area and typically the vibrations levels are less than 0.08 ips.

On days of blasting, signs are placed on all access roads to the blasting area. Before any blasting is performed, communication with the quarry foreman and the blaster takes place and a visual inspection of the surrounding area is also done to ensure that no person is in harms way.

After the blast, an inspection of the blast site is done by the blaster in charge to ensure that all of the explosives propagated. Only after this inspection, are workers allowed to return to the area.

Buckley Powder Company provides the blasting service at this location. They have been in the explosive industry for more than 87 years. Their blasters are well trained and licensed in the State of Wyoming.

Bonding and Reporting

Bonding and reporting will be done in the Annual Report.

MP 4.5 Developmental Drilling

Developmental drilling was completed as part of the LMO 1396 ET planning process..

MP 4.6 Signs and Markers

All signs will be constructed and located in accordance with the performance standards outlined in

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Chapter 3 of the WDEQ/LQD Noncoal Rules and Regulations. A mine identification sign will be placed at the mine entrance to each pit. The sign will contain the mine name, mine permit number, operator's name, contact person, address and phone number. If blasting is implemented, the necessary signs will be posted at all permit area access points. Other signs and markers will include topsoil and overburden stockpile signs posted at access points to the stockpiles prior to initiating material placement.

MP 4.7 Groundwater Protection

Groundwater within this area is more than 20 feet below the lowest proposed pit bottom elevation. With disturbance limited to a depth of approximately 20 feet, no direct impacts to groundwater are expected. In addition, all on-site fuel storage tanks or vessels will be contained within underlined earthen containment structures. All petroleum contaminated soil will be properly removed so that it poses no threat to shallow ground water resources. Any significant flows of groundwater that are encountered during mining in any stratigraphic horizon will be reported to WDEQ/LQD Immediately.

MP 4.8 Surface Water Protection

There are two ephemeral streams and two impoundments within the permit area. Neither impoundment will be removed by the current mine plan. Some sections of the drainages will be impacted by mining and other sections have already been eliminated by agricultural activities. No sediment ponds or other impoundments are anticipated. As described previously, alternate sediment control measures will be implemented as needed to control site runoff. The surface area to be affected annually and the total area to be disturbed but not revegetated at any one time are both small. No impact to surface water quality is expected as a result of mining activities.

MP 4.9 Public Nuisance And Safety

All operations will be conducted to avoid constituting a public nuisance, endangering public safety, life, wildlife and plant life within and adjacent to the permit area. The western permit boundary runs along the Interstate 90 right-of way and the northern boundary is adjacent to Rifle Pit Road which is also a public road maintained by Crook county. The affected area boundary has been pulled back from the permit area to minimize impacts to adjacent lands and there are no residences on or adjacent to the permit area. Any areas such as stockpiles that may interfere with any grazing operation will be fenced as necessary to minimize impacts. The crushing operation will be shielded in the pit area by stockpiles whenever possible. Dust control will be implemented on all roads and in the crushing activities as required by the AQD permit. Blasts are small and will be instituted to

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minimize ground vibration as necessary. The new access road was constructed to maximize sight distances and traffic merge areas. Berms and signage will be used to warn employees and unauthorized personnel of highwalls. Truck drivers are aware of speed limits on the State Highway and Interstate 90 and the short section of Rifle Pit Road that they use getting from the permit area to Highway 14 is too short for them to reach the allowed speed on that County road.

MP 4.10 Weed Control

The operator will implement weed control practices to control noxious weeds in the active mine area and on reclaimed lands through bond release.

MP 4.11 Archaeological Protection

If any cultural materials are discovered during mining, work in the area will stop and LQD and the appropriate agencies will be contacted. The materials will be evaluated by an archaeologist or historian meeting the secretary of Interior's Professional Qualification Standards (48 FR 22716, Sept, 1983).

TABLE MP 1
Production Summary, 2008 – 2027

YEAR	Limestone PRODUCTION (Tons)	OVERBURDEN PRODUCTION (Tons)
2008	500,000	20,000
2009	500,000	20,000
2010	500,000	20,000
2011	500,000	20,000
2012	500,000	20,000
2013	500,000	20,000
2014-18	2,500,000	100,000
2019-23	2,500,000	100,000
2024-27	1,500,000	60,000
TOTAL	9,500,000	380,000

TABLE MP 2

Equipment List

Equipment	Model	Start Up Number
Water Trucks	Variable	1
Graders	Caterpillar 140H	1
Track Dozers	Caterpillar D8N	1
Hydraulic Excavator	Case CX 330	1
Scraper	Caterpillar 627E	1
Front End Loader	Caterpillar 980C	2
	Caterpillar 966D	
Crusher	133 X 115 CEC	2
	Cedar Rapids Cone/5X16 Triple Deck	
Fuel/Lube Truck	Variable	1

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