CHAPTER 4

LAND USE
(R645-301-400)

INCORPORATED
EFFECTIVE:
SEP 02 1999

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CRANDALL CANYON MINE, MINE AND RECLAMATION PLAN
CHAPTER 4
LAND USE

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Note: Bold number plates and appendices are included with this submittal.
CHAPTER 4

LAND USE

4.10 Regional Land Use

The majority of the land use in the Wasatch Plateau is administered by the United States Forest Service and is managed as a multiple use forest area.

4.10.1 Land Use In Mine Plan Area

Prior to 1939, the permit area was used for non-developed recreation, grazing by native big game species and habitat for small game and non-game animals. From 1939 until 1955, the area was mined by traditional room and pillar methods. Approximately 35,000 tons were removed from the Hiawatha Seam. When mining operations were terminated in 1955, the land reverted to its original uses. In 1983, mining activities were resumed. At present, cattle are moved through the canyon to grazing areas at higher elevations. Riparian areas are grazed during the movement through the canyon. A land use map has been prepared and is included as Plate 4-2.

Mining in the South Crandall lease and the U-68082 lease mod area will not affect the present land use of the area. The area is classified as rangeland. The existing landuse will continue during, as well as following, mining in this area. Refer to Plate 4-2.

After mining operations cease, the mine site surface area will be restored to its approximate original contours. The access road will be left in place, pursuant to the wishes of the U.S. Forest Service (USFS) the surface landowner.

4.11 Premining

The premining use of the land was for dispersed non-developed recreation, native wildlife habitats and dispersed cattle grazing. The wildlife habitats within the mine area are described in Appendix 3.2 and 3.3.

The area was used for a previous mining operation. The previous operation prepared level areas to allow access to the coal seam and for coal loading operations. This made the area more accessible to the general public and to the present mining operation.

The previous operation left lumber, deteriorating buildings, fuel and oil cans, and various other trash in the area. A portion of the existing vegetation was also disturbed with no evidence of revegetation.
After reclamation, the area will be restored to support premining land uses. Vegetation will be restored to provide habitat and a food source for wildlife. It is expected that the cattle grazing will continue after reclamation. The access road will remain pursuant to the wishes of the USFS and to support underdeveloped recreation.

### 4.11.1 Historic Land Use

The Manti-La Sal Division of the United States Forest Service has this area shown on their land use map as suitable for dispersed, non-developed recreation, and limited grazing as the slopes are steep. There is not enough of the necessary vegetation for extensive grazing. It is also classified as unsuitable for logging operations as conifer is only a marginal component of the area.

Crandall Canyon is not actually being used as summer range for cattle, but cattle are moved through the canyon to grazing areas at higher elevations. Because the cattle are moved through the canyon, although undesirable, grazing does occur without noticeable depletion of vegetation in the riparian zone. It is expected that sporadic cattle grazing will continue after mine life.

By returning the disturbed area to its original contour, the canyon outside the riparian zone will be too steep for grazing by other than native wildlife. Wildlife grazing and habitat will be part of the postmining land use.

Plate 4-1 shows the grazing allotment boundaries of the existing permit area and the South Crandall lease area and the U-68082 lease mod area. Plate 4-3 presents the oil and gas analysis areas as well as the existing gas wells.

### 4.11.110 Surface Land Status/Mine Plan Area

Ownership of the surface rights within and contiguous to the mine plan and permit area is shown on Plates 1-1, 5-3 and 4-1. The surface within the lease areas and the contiguous lands are administered by the USFS. Also as shown on Plate 1-1 there are no structures within 1000' of the mine permit area.

### 4.11.112 Ownership

The United States Government under the supervision of the Manti-La Sal National Forest owns most of the surface rights in the immediate area of the permit and mine plan area as shown on Plates 1-1 and 4-4.
4.11.113 Surface Managing Authorities

The United States Department of Agriculture, Forest Service, Intermountain Region is the surface managing authority.

4.11.114 Utility Corridors and Other Right-Of-Ways

No utility corridors or other rights-of-way exist on the surface within the existing permit area nor the U-68082 lease mod area. A utility corridor exists within the permit area in the South Crandall lease area. See Plate 4-2. There are no surface or subsurface mad-made features within or passing over the permit or Incidental Boundary Change areas.

There has been no change in the premining use of the land within the last five years.

4.11.115 Affect Of Operation On Land Use

GENWAL feels that greater portion of permit area will not be affected by mining operations and that premining land use will be applicable except for the disturbed area surrounding the portals and the access road.

The maximum area of possible subsidence is shown on Plate 5-2 as the area contained within the zero subsidence contours. As explained in Chapters 5 and 7 no adverse effects are expected to occur as a result of the subsidence mechanisms and no mitigation measures are proposed. In the event subsidence damages or alters streams, roads, etc. GENWAL will repair or replace such structures in conjunction with prudent and reasonable environmental designs and in compliance and agreement with USFS lease stipulations.

4.11.12 Land Capability

In the Manti-La Sal National Forest Land and Resource Management Plan (LRMP), 1986, the Forest Service has developed certain management objectives for the area. The permit area includes four separate management units.

The bottom of Crandall Canyon is included in the MMA (Leasable Minerals Area) Management Unit where management emphasis is on leasable minerals development. This unit includes the surface facilities for the mine.

The eastern portion of the permit area lies within the GWR (General Big Game Winter Range) Management Unit where management emphasis is on providing general big game winter range.
The north and west areas of the permit area lies within the RNG (Range Forage Production) Management Unit. Management emphasis is on production of forage and cover for domestic livestock and wildlife. The Incidental Boundary Change area lies within the RNG use classification. Surface land uses and resources will not be affected by underground mining operations. The South Crandall lease area lies within the RNG and MWS use classifications (see Plate 4-2). The U-68082 lease mod area lies within the RNG use classification.

The riparian area along Crandall Creek is included in the RPN (Riparian) Management Unit. RPN areas include the aquatic (including fish) ecosystem, the riparian (characterized by distinct vegetation), and adjacent ecosystems that remain within approximately 100 feet measured horizontally from the edge of all perennial streams and springs, and the shores of lakes and other still water bodies, i.e., from seeps, bogs, and wet meadows. Emphasis is on preservation of the riparian areas and component ecosystem.

The historic use of the land has been for recreation, forestry, wildlife habitat, and mining as indicated by previous zoning, historic documentation and visual examination.

4.11.13 Land Use/Zoning

Emery County had previously zoned this area as a recreation forestry and mining area. However, as of November 12, 1979, this area has been rezoned to CE-1 which is a critical environment zone. A county zoning of CE-1 does not prohibit mining. Therefore, the area did not have to be rezoned.

4.11.14 Cultural and Historic Resource Information

A Cultural, Historic and Archeological inventory conducted on June 19 and 20, 1980 on all areas to be disturbed in the proposed permit area. No recorded or unrecorded archeological sites were found in the project area. A copy of the report on the archeological inventory is included as a supplement to this chapter as Appendix 4-1.

All of the areas potentially affected by surface disturbing activities in Genwal's Crandall Canyon Mine Plan were investigated for cultural resources. No prehistoric remains were located in the mine plan area. A single site, however, near a haul road from the mine was recorded in 1975, by the Forest Service. This site (42EM722), a rock shelter, is some 50 meters in length and contains at least one meter of cultural deposits. Remains include stone tools, pottery, lithic debris, abundant charcoal, bone and pictographs on the cliff face above. Extensive vandalism has taken place; however, undisturbed areas in the shelter still remain. The site is eligible for inclusion to the National Register of Historic Places. Therefore, it needs to be protected. The major threats to the site appear to be a direct impact from possible road improvement and present ensuing impacts caused by increased vandalism brought about by the improvement of the road. The site was fenced to be a solution to the vandalism problem.
The archaeological site at the mouth of Crandall Creek is not threatened by road improvements and the area is fenced as stated in the plan. The initial road development has progressed along Crandall Canyon past site (42EM722) and Genwal has fenced off the designated site accordingly. A detailed report on the Sherman Shelter was completed by the USFS and is included within this chapter as Appendix 4-4. An additional archaeological survey was conducted for LBA #9 in 1992. Data associated with this report are contained in Appendix 4-1A. Additional survey information for the surface facility expansion area is also contained in Attachment 3 in the Addendum to Appendix 3-2.

Since there will be no surface disturbance within the South Crandall lease area nor the U-68082 lease mod area, no impact to cultural or historic resources will occur. In June, 2004 Senco-Phenix performed an intensive archaeological survey of the U-68082 lease mod area and submitted its report to the Forest Service and SHPO. This report is included in Appendix 4-10.

4.11.141 Cultural and Historic Resource Maps

Cultural and Historic Resource maps are included in Appendix 4-5 and 4-6.

4.11.141.1 Boundaries of Listed Historic Resources

There are no public parks in the permit area. The only site of historical significance is an archeological site listed as "The Sherman Shelter 42EM722".

4.11.141.2 Location of Cemeteries

No cemeteries exist within the permit or IBC area or within any adjacent area subject to potential impacts.

4.11.141.3 National Trails/Scenic Rivers

No trails or the wild and scenic rivers or study area rivers exist within the permit area or areas of potential impact.

4.11.142 State Historic Preservation Officer

The State Historic Preservation Office in a letter dated August 8, 1980, (see Appendix 4-2) granted cultural resource clearance for the GENWAL Crandall Canyon Mine. Conditional clearance from OSM was provided by a letter dated April 17, 1981 (see Appendix 4-3). GENWAL has followed the recommendations contained in Appendix 4-1, the Archeological Reconnaissance Report, and fenced site 42EM722. With the acquisition of lease UTU-68082, an additional Paleo-Arch inventory was conducted in 1992. That report is attached as Appendix 4-1A. A subsidence monitoring plan is included as part of Chapter 5. According to the SHPO there are no significant cultural resources within the South Crandall lease area nor the U-68082 lease mod area. (See Appendix 4-9)
4.11.142.1 - 4.11.142.2 Prevention of Adverse Archaeological Impacts

No adverse impacts are anticipated and GENWAL has taken all action outlined and recommended by OSM and the USFS to safeguard the Sherman Shelter.

4.11.143 Historical Resources Eligible for Listing

GENWAL intends to protect any known historical and cultural resources. Should additional information be required, GENWAL and the requesting regulatory agency will determine the appropriate action.

4.11.143.2 Field Investigations

Field investigations have been conducted in conjunction with the archeological survey. A map showing the survey area investigated for archeological importance is included as Appendix 4-5.

Although the archeological report mentions a scattering of historic mining remains, they are remains of habitation and human use rather than mining. The remains consist of a rusty automobile body, either a 1939-1940 Ford or Mercury, numerous tin cans and bottles, bedsprings, and piles of wood from old cabins which have been destroyed by vandals. These habitation remains (1939-1955) are of no historic value and no study will be undertaken to document the remains. Maps of the areas investigated are included in Appendix 4-1 and Appendix 4-1A.

4.11.200 Previous Mining

The mine plan area has been previously mined and the following information is provided.

4.11.210 Mining Method

Type of mining method used: room and pillar method of mining.

4.11.220 Coal Seam Mined

Coal seams mined: Hiawatha seam was the only seam mined.

4.11.230 Extent of Coal Removed

Extent of coal removed: Approximately 35,000 tons as per USGS calculations.
4.11.240 Dates of Past Mining

Approximate dates of past mining: November, 1939, to September, 1955, as per USGS records.

4.11.250 Land Use Preceding Mining

The land was historically used for wildlife and domestic grazing.

4.12 Reclamation Plan

NOTE: See Appendix 5-22(A) for the stand-alone reclamation plan for the East Mountain Emergency Drillpads and Access Roads. See Plate 1-1 for location of these drillpads and access roads.

4.12.1 Postmining Land Use Plan

In areas where surface disturbances resulted from mining operations, soil reclamation and revegetation will restore the areas to their premining usefulness as range land, wildlife habitat and recreational use. The reclamation plans are presented in chapters 2, 3, 5, and 7.

Land uses are solely at the discretion of the USFS. No alternative land uses have been proposed.

4.12.2 Landowner Or Surface Manager Comments

The citations from the Manti La Sal National Forest Land and Resource Management Plan can be considered as comments from the Forest Service for most of the disturbed area. The plan states that the road will be left in place pursuant to the wishes of the Forest Service and the surface landowner. Correspondence from the Forest Service indicating the above and outlining attendant reclamation requirements is included in Appendix 1-2.

4.13 Performance Standards

4.13.1 Postmining Land Use

All disturbed areas will be restored in a timely manner to conditions that are capable of supporting the uses they were capable of supporting prior to mining.

4.13.3 Criteria for Alternative Postmining Land Use

No alternative postmining land use is planned or proposed.
4.20 Air Quality

4.21 Operation in Compliance with State/Federal Air Quality Laws

Coal mining and reclamation operations will be conducted in compliance with the requirements of the Clean Air Act and any other applicable Utah or Federal statutes and regulations pertaining to air quality standards.

4.22 Compliance with Utah Bureau of Air Quality

GENWAL has an approved air quality permit covering all planned facilities for the Crandall Canyon Mine with the Utah Bureau of Air Quality. A copy of the Air Quality Approval Order Modification is presented in Appendix 4-8.

The air quality permit was revised in August 1997 to incorporate the new surface facilities and mine yard expansion area. The air quality permit was amended and approved prior to operation of the new facilities.

4.23 Fugitive Dust Control Plan

The Air Quality Approval Order contains the air pollution control plan which includes an air quality monitoring program. The monitoring program will provide sufficient data to evaluating the effectiveness of the fugitive dust control practices and compliance with federal and Utah air quality standards.

A description of the controls and design features associated with the yard expansion can be found in Chapter 5 under section 5.26.

4.24 Fugitive Dust Control Plan for Reclamation Activities

A fugitive dust control plan is included in Appendix 4-7.
Appendix 4-1

Archaeological Reconnaissance in Crandall Canyon
Appendix 4-2

Cultural Resource, Determination of Effect
Cultural Resource
Determination of Effect
Feb. 10, 1988

Project No. 
Forest Site: 

CULTURAL RESOURCE
DETERMINATION OF EFFECT

Having carried out a cultural resource investigation of the proposed Campbell Canyon Coal Mine Site project, the USDA Forest Service, Intermountain Region, has determined that it will be \( \bigcirc \) no, \( \bigcirc \) no adverse / adverse, effect on cultural resources in the project area. This determination is based upon evidence that

\( \bigcirc \) The project will not affect cultural resources.

\( \bigcirc \) There are no sites present which are eligible for inclusion in the National Register of Historic Places.

\( \bigcirc \) There are important sites present but modification of the project is sufficient to avoid adverse impacts.

\( \bigcirc \) There are sites present whose major importance is the scientific information they contain. Salvage of this data is adequate mitigation of possible impacts.

\( \bigcirc \) There are sites present which appear to meet the criteria for inclusion in the National Register.

\( \bigcirc \) There are sites present which are listed on the National Register.

As the State Historic Preservation Officer for \( \bigcirc \) \( \bigcirc \) \( \bigcirc \) \( \bigcirc \), I reviewed the documentation provided concerning this project.

\( \bigcirc \) I agree with the Forest Service determination above.

\( \bigcirc \) I do not agree with the Forest Service determination for the following reasons:

Signed: 
State Historic Preservation Officer

Date: August 8, 1980
Appendix 4-3

OSM Clearance
MEMORANDUM

TO: John Nadolski
FROM: Foster Kirby
SUBJECT: Crandall Canyon Mine-Genval (UT-0067)

17 APR 1981

All of the areas potentially affected by surface-disturbing activities (6.6 acres) in Genval's Crandall Canyon Mine Plan were investigated for cultural resources. No prehistoric remains were located in the mine plan area. A single site, however, near a haul road from the mine was recorded in 1975 by the Forest Service. The site (42EM722), a rock shelter, is some fifty meters in length and contains at least one meter of cultural deposits. Remains include stone tools, pottery, lithic debris, abundant charcoal and bone and pictographs on the cliff face above. Extensive vandalism has taken place; however, undisturbed areas in the shelter still remain. The site is eligible for inclusion to the National Register of Historic Places. Therefore, it needs to be protected. The major threats to the site appear to be a direct impact from possible road improvement and present and ensuing impacts caused by increased vandalism brought about by the improvement of the road. The suggested fencing of the site appears to be a solution to the vandalism problem; however, if the site is threatened by road improvement, a mitigation plan may be needed.

The archaeological report mentions the presence of a scattering of historic mining remains. Documentation and evaluation of these remains should be included within the mine plan. In future submissions, a general cultural resource overview of both prehistoric and historic developments in the area will be needed. Additionally, a clear map of areas surveyed in relation to areas of potential surface disturbance is required.

In a letter dated August 8, 1980 (attached) from the State Historic Preservation Office of Utah, cultural resource clearance is given for the Genval Crandall Canyon Mine. The Office of Surface Mining will proceed with compliance to the SHPO's findings when the aforementioned requests are addressed. Additionally, upon completion of subsidence studies, this office may request, by stipulation in the approval package, that a cultural resource sample survey of lands potentially impacted by subsidence be undertaken.

Attachment
Appendix 4-4
Cultural Resource Report, Sherman Shelter
Appendix 4-5
Archaeological Survey Map

THIS INFORMATION HAS BEEN PLACED IN A SEPARATE CONFIDENTIAL BINDER
Appendix 4-7
Approval Order, Air Quality
February 3, 1992

R. Jay Marshall
Genwal Coal Company
P. O. Box 1201
Huntington, Utah 84528

Re: Approval Order for an Increase in Production
Emery County CDS B ATT NSPS

Dear Mr. Marshall:

The above-referenced project has been evaluated and found to be consistent with the requirements of the Utah Air Conservation Rules (UACR) and the Utah Air Conservation Act. A 30-day public comment period was held and all comments received were evaluated. The conditions of this Approval Order (AO) reflect any changes to the proposed conditions which resulted from the evaluation of the comments received. This air quality AO authorizes the project with the following conditions and failure to comply with any of the conditions may constitute a violation of this order:

1. Genwal Coal Company, with offices located at Crandall Canyon and the mine site located at Crandall Canyon shall operate the materials handling system according to the information submitted in the Notice of Intent dated September 12, 1991 and submitted to the Executive Secretary.

The changes covered in this AO are as follows:

A. An increase in production from 360,000 tons per year up to 1,500,000 tons per year

B. Elimination of a diesel generator

C. Paving of the haul road

A copy of this AO shall be posted on site and shall be available to the employees who operate the air emission producing equipment. All employees who operate the air emission producing equipment shall receive instruction as to their responsibilities in operating the equipment in compliance with all of the relevant conditions.
2. The approved installations shall consist of the following equipment:
   A. A Grizzly  
   B. Two (2) Crushers  
   C. A Storage Silo  
   D. A Wheeled Loader  
   E. A Coal Stockpile  
   F. A Conveyor System  
   G. Loadout to Highway Vehicles

3. This AO shall replace the AO dated November 2, 1988.

4. Visible emissions from any point or fugitive emission source associated with the installation or control facilities shall not exceed 20% opacity. Opacity observations of emissions from stationary sources shall be conducted in accordance with 40 CFR 60, Appendix A, Method 9. Visible emissions from mobile sources and intermittent sources shall use procedures similar to Method 9, but the requirement for observations to be made at 15 second intervals over a six minute period shall not apply. Any time interval with no visible emissions shall not be included.

Visible emissions from haul road traffic shall not exceed 20% opacity. Visible emissions determinations for traffic sources shall use procedures similar to Method 9, but the requirement for observations to be made at 15 second intervals over a six minute period shall not apply. Six points, distributed along the length of the haul road, shall be chosen by the Executive Secretary or his representative. An opacity reading shall be made at each point when a vehicle passes the selected points. Opacity readings shall be made ¼ vehicle length or greater behind the vehicle. The accumulated six readings shall be averaged for the compliance value.

5. The coal production shall not exceed 1,500,000 tons per 12-month period without prior approval in accordance with R446-1-3.1, UAC. Compliance with the annual limitation shall be determined on a rolling 12-month total. Based on the first day of each month a new 12-month total shall be calculated using the previous 12 months. Records of production shall be kept for all periods when the plant is in operation. Records of production shall be made available to the Executive Secretary or his representative upon request and shall include a period of two years ending with the date of the request. Production shall be determined by examination of company sales records and production records. The records shall be kept on a daily basis.

6. All unpaved roads and other unpaved operational areas which are used by mobile equipment shall be water sprayed and/or chemically treated to reduce fugitive dust. Control is required at all times (24 hours per day every day) for the duration of the project/operation. If chemical treatment is to be used, the plan must be approved by the Executive Secretary. Records of water treatment shall be kept for all periods when the plant is in operation. The records shall include the following items:
Mr. Marshall  
February 3, 1992  
Page 3

A. Date  
B. Number of treatments made  
C. Rainfall received, if any, and approximate amount  
D. Time of day treatments were made

Records of treatment shall be made available to the Executive Secretary upon request and shall include a period of two years ending with the date of the request.

7. The haul road shall be paved and shall be periodically swept or sprayed clean as dry conditions warrant or as determined necessary by the Executive Secretary. Records of cleaning of the paved road shall be made available to the Executive Secretary or his representative upon request and shall include a period of two years prior to the date of request.

8. Water sprays shall be installed at the following points to control fugitive emissions:

A. All crushers  
B. All screens  
C. All conveyor transfer points  
D. All stockpiles  
E. All operation areas

The sprays shall operate whenever dry conditions warrant or as determined necessary by the Executive Secretary.

9. In addition to the requirements of this AO, all provisions of 40 CFR 60, NSPS Subparts A and Y apply to the affected facilities of this installation.

10. For sources which are subject to NSPS, visible emission observations which are performed during the initial compliance inspection shall consist of 30 observations of six minutes each in accordance with 40 CFR 60, Appendix A, Method 9. It is the responsibility of the owner/operator of the source(s) to supply these observations to the Executive Secretary. Emission points which are subject to NSPS shall include the following:

A. Coal processing and conveying equipment (includes breakers and crushers)  
B. Coal storage systems  
C. Coal transfer and loading systems

11. The moisture content of the material shall be maintained at a value of no less than 6% by weight. The moisture content shall be tested if directed by the Executive Secretary using the appropriate ASTM method.
12. The following limits shall apply to the storage pile:

A. Size not to exceed 3000 tons.
B. Throughput not to exceed 285,000 tons per 12-month period.

The storage piles shall be watered to minimize generation of fugitive dusts as dry conditions warrant or as determined necessary by the Executive Secretary.

Compliance with the annual limitation shall be determined on a rolling 12-month total. Based on the first day of each month a new 12-month total shall be calculated using the previous 12 months. Records of throughput shall be kept for all periods when the plant is in operation. Records of throughput shall be made available to the Executive Secretary or his representative upon request and shall include a period of two years ending with the date of the request. Throughput shall be determined by examination of records of pile throughput which shall be kept by management. The records shall be kept on a daily basis.

13. All records referenced in this AO or in an applicable NSPS or NESHAPS, which are required to be kept by the owner/operator, shall be made available to the Executive Secretary or his representative upon request.

14. All installations and facilities authorized by this AO shall be adequately and properly maintained. The owner/operator shall comply with R446-1-4.7, UAC. R446-1-4.7, UAC addresses unavoidable breakdown reporting requirements. The owner/operator shall calculate/estimate the excess emissions whenever a breakdown occurs. The sum total of excess emissions shall be reported to the Executive Secretary for each calendar year no later than January 31 of the following year.

15. The Executive Secretary shall be notified in writing upon start-up of the installation, as an initial compliance inspection is required. Eighteen months from the date of this AO the Executive Secretary shall be notified in writing of the status of construction/installation if construction/installation is not completed. At that time the Executive Secretary shall require documentation of the continuous construction/installation of the operation and may revoke the AO in accordance with R446-1-3.1.5, UAC.

Any future modifications to the equipment approved by this order must also be approved in accordance with R446-1-3.1.1, UAC.

This AO in no way releases the owner or operator from any liability for compliance with all other applicable federal, state, and local regulations including the Utah Air Conservation Rules.
Annual emissions for this source (the entire plant) are currently calculated at the following values:

A. 13.91 tons/yr for Particulate
B. 5.57 tons/yr for PM$_{10}$
C. 0.39 tons/yr for SO$_2$
D. 4.02 tons/yr for NO$_x$
E. 0.54 tons/yr for VOC
F. 1.23 tons/yr for CO
G. 0.09 tons/yr for Aldehydes

These calculations are for the purposes of determining the applicability of PSD and nonattainment area major source requirements of the UAC. They are not to be used for purposes of determining compliance.

Sincerely,

F. Burnell Cordner, Executive Secretary
Utah Air Quality Board

cc: EPA Region VIII, Mike Owens
SouthEastern Utah District Health Department
GENWAL COAL COMPANY

Pride & Performance

GENWAL CRANDALL

COAL CANYON

CO. MINE

Huntington, Utah

LETTER OF INTENT
BUREAU OF AIR QUALITY

September 12, 1991
WORKER COMMUNITY

September 16, 1991

F. Burnell Cordner, Director
Bureau of Air Quality
1950 West North Temple
P.O. Box 16690
Salt Lake City, Utah 84116-0690

Dear Mr. Cordner:

At this time Genwal Coal Company would like to submit this Notice of Intent to expand our production and modify our surface facilities to handle the increase in production. In addition, this Notice of Intent will reflect the upgrades to our power system and haulage road.

Currently we are approved to mine 360,000 tons of coal per year, and we would like to expand this production to 1,500,000 tons. Only slight changes in the operating procedures will be required and these changes will reduce emissions from the present state. Even with the increased number of coal haulage trucks total emissions will be reduced due to the paving of the coal haulage road.

Emissions will be further reduced due the elimination of the diesel generator previously used for power generation.

Please find enclosed the calculations used to determine emission levels and coal handling schematics, and production schedules for your review.

Your timely review of this modification would be greatly appreciated. If there are any further questions or comments please feel free to contact me at 687-9813. Thank you very much for your time and consideration.

Sincerely,

R. Jay Marshall
Chief Engineer
Genwal Coal Company
(I) DESCRIPTION OF PROPOSAL

Genwal Coal Company proposes to make changes to our existing coal operation. Genwal Coal Company currently operates under an air quality approval order dated November 2, 1988. The total coal production is limited to 360,000 tons per year. The current approval allows for two crushers, screens, conveyors, and a grizzly, a surge bin, storage hoppers, and a truck load-out facility. The new proposal will up allowable production from 360,000 tons to 1,500,000 tons per year.

Genwal coal is the present owner of the following leases:

1) U-54762 T. 15S., R. 7E. Section 31: SE 1/4 SE 1/4, Section 32: S 1/2 SW 1/4, SW 1/4 SE 1/4; T. 16S., R.7E. Section 5: Lots 2, 3, and 8.

2) SL-062648 T. 16S., R.7E. Section 5: SW 1/4 NW 1/4 Lot 4, Section 6: SE 1/4 NE 1/4, Lot 1

3) U-66438 T.15S., R.7E. Section 31: lots, 10, 11, and 12. (ROW)

4) ML-21568 T. 15S., R.6E. Section 36: ALL

5) ML-21569 T. 16S., R.6E. Section 2: All

Coal from all five leases is removed from one set of portals and is processed and loaded at one surface facility.

The following numbers describe the present operation:

1. 1,500,000 tons per year
2. 6,250 tons per day
3. 240 days per year
4. 20 hours per day
5. Pile size - 1,500 tons average
6. Truck payload - 45 tons
7. Road Length - 1.35 miles
8. Power - UPL line service
GENWAL COAL COMPANY
Letter of Intent (LOI)
Bureau of Air Quality

R.O.M. BELT (A)

Presently coal is mined with a continuous mining machine and transported by the R.O.M. (Run of Mine) conveyor belt (A) out of the mine and onto a Grizzly (B). (See Figures 1 and 2) The speed of the R.O.M. belt is less than 550 feet per minute. The drop for the R.O.M. coal from the R.O.M. conveyor to the Grizzly is less than five (5) feet.

GRIZZLY (B)

The grizzly dimension will be approximately 5' wide and 8' long. The Run of Mine (R.O.M.) belt will transport up to 1,500,000 Tons of coal a year starting in 1992.

The coal will be separated into one of two circuits at the grizzly. During normal operations the primary coal circuit will be used. The secondary circuit will only be used when the primary circuit fails or becomes overloaded. It is estimated that 1,350,000 tons will take the primary circuit and only 150,000 tons will end up in the secondary circuit. The primary circuit will be discussed first.

PRIMARY CRUSHER (C)

Coal leaving the grizzly and entering the primary circuit will leave as either 2" plus which will flow over the grizzly and into the primary crusher (C), or 2" minus which will pass through the grizzly, bypassing the crusher and drop directly onto the silo belt (D). It is estimated that of the 1,500,000 tons of R.O.M. coal, 1,080,000 tons will flow over the grizzly and into the primary crusher. Approximately 270,000 of the R.O.M. coal will pass through the grizzly and drop onto the silo belt.

SILO BELT (D)

The silo belt is approximately 100 feet long and travels at less than 550 feet per minute. From the silo belt the coal will drop into the silo (400 ton storage bin). The drop from the silo belt into the silo (E) is approximately 5 feet.
SILO (E)

The silo is built of steel and is fully enclosed. The silo is constructed with an overflow. If the silo is full the coal will flow out the top of the overflow and onto the storage pile (J). This overflow coal will then be handled by the secondary circuit. The overflow coal will amount to approximately 135,000 tons a year. Approximately 1,215,000 tons of coal will pass through the silo and be reclaimed by the reclaim belt.

RECLAIM BELT (F)

The reclaim belt is approximately 50 feet long and travels at a speed of less than 550 feet per minute. Once the coal is weighed on the reclaim belt it is conveyed into coal haul trucks to be delivered to our buyers.

COAL HAUL TRUCKS (G)

These coal haul trucks are not owned by Genwal Coal Company but are owned and operated by Savage Industries. These trucks are specially designed to haul coal long distances with minimal spillage.

The above discussion describes the Primary coal circuit which handles approximately 1,350,000 tons of the total production of 1,500,000 tons. The remaining 150,000 tons will be handled by the secondary coal circuit.

SECONDARY CRUSHER (H)

Coal leaving the grizzly and entering the secondary circuit will leave as either 2" plus which will flow over the grizzly and into the secondary crusher (H), or 2" minus which will pass through the grizzly, bypassing the crusher and drop directly onto the bypass conveyor (I). It is estimated that of the 1,500,000 tons of R.O.M. coal, 120,000 tons will flow over the grizzly and into the secondary crusher. Approximately 30,000 tons of the R.O.M. coal will pass through the grizzly and drop directly onto the bypass belt.
GENWAL COAL COMPANY
Letter of Intent (LOI)
Bureau of Air Quality

BYPASS CONVEYOR (L)

The bypass conveyor is approximately 40 feet long and travels at less than 550 feet per minute. Approximately 150,000 tons per year of coal from the bypass conveyor will drop approximately 75 feet onto the coal storage pile (J).

COAL STOCKPILE (J)

Coal will only be stored on the stock pile if the primary circuit fails or if the silo overflow is being utilized. The amount of coal on the stockpile will change from day to day. The stock pile will collect coal from the secondary circuit as well as from the silo over flow. Approximately 115,000 tons a year will come from the silo overflow and 150,000 tons a year will come from the secondary coal circuit. The maximum amount of coal expected on the pile at any one time will be 3,000 tons. The majority of the time the pile will be depleted to minimal tonnages. Coal will be reclaimed from the coal stock pile by the use of a loader.

LOADER OPERATIONS

A cat loader, owned and operated by Savage Industries, will reclaim coal from the coal stock pile and place it into the reclaim coal hopper (K). The travel distance for this loader is less than 100 feet.

RECLAIM COAL HOPPER (K)

This hopper is approximately 5 foot square and will hold nearly 3.5 tons. It is anticipated that only 285,000 tons of coal a year will be handled by the loader.

HOPPER BELT (L)

Coal from the hopper will drop from the bottom of the hopper onto a short conveyor which in turn will deposit the coal onto the reclaim conveyor. The hopper conveyor is approximately 20 feet long and travels at under 400 feet a minute. It is at the reclaim conveyor that the "primary" circuit and the "secondary" circuit join together.

PAGE: 4

11-Sep-91
representing the total 1,500,000 tons a year of production. The total coal production will travel from the reclaim belt to the truck load out as discussed above.

The grizzly, and crushers are owned and operated by Genwal Coal Company. The loader, silo, and truck load out are owned and operated by Savage Industries. However, for the purpose of this Letter of Intent all equipment on Genwal Coal Companies permitted mine property was taken into consideration regardless of ownership.

(II) EMISSION SUMMARY

The emissions from the Genwal Operation are shown below with a comparison of present vs projected. A net emission increase is shown for convenience.

<table>
<thead>
<tr>
<th>Emission</th>
<th>Present</th>
<th>Projected</th>
<th>Net Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Particulate</td>
<td>22.36</td>
<td>13.91</td>
<td>-8.47</td>
</tr>
<tr>
<td>PM&lt;sub&gt;10&lt;/sub&gt;</td>
<td>8.47</td>
<td>5.57</td>
<td>-2.85</td>
</tr>
<tr>
<td>SO&lt;sub&gt;2&lt;/sub&gt;</td>
<td>4.43</td>
<td>.39</td>
<td>-4.04</td>
</tr>
<tr>
<td>NO&lt;sub&gt;x&lt;/sub&gt;</td>
<td>65.71</td>
<td>4.02</td>
<td>-61.70</td>
</tr>
<tr>
<td>CO</td>
<td>14.46</td>
<td>1.23</td>
<td>-13.23</td>
</tr>
<tr>
<td>VOC</td>
<td>5.35</td>
<td>.54</td>
<td>-4.82</td>
</tr>
<tr>
<td>Methane</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Aldehydes</td>
<td>1.00</td>
<td>0.09</td>
<td>-0.91</td>
</tr>
</tbody>
</table>

Total Yearly Emission Decrease 8.47 TONS

(III) BEST AVAILABLE CONTROL TECHNOLOGY (BACT) ANALYSIS

The following points will require application of best available control technology (BACT) and were included in the emission calculations:

- Haul road
- Grizzly
- Crushing
- Conveying
- Storage pile
- Drop points
- Disturbed soil, wind erosion
- Diesel engine emissions
Haul Road

The old gravel haul road has been paved greatly reducing emissions. Due to the paving of the road no BACT evaluation is needed.

Grizzly

BACT for this emission point will include the following. The grizzly will be completely enclosed. The distance coal is dropped onto the grizzly will be minimized. Coal spray’s will be used to suppress dust if the coal moisture content drops below 6%. Adding moisture to the coal reduces the value of the coal. For each percent increase in moisture there is a corresponding decrease of about 200 BTU’s. The 6% moisture level is well above the 4% required to be classified as "wet" crushing. Due to environmental conditions the sprays will only be used during the late spring, summer and early fall months to minimize the chances of freezing.

Conveying

According to previous submittals the BACT for this emission point has been determined to be 10% opacity limitation. It will be met through the use of water sprays at the conveyor transfer points underground, where the water is protected from freezing. Water will also be applied at the face during the mining process. Experience has shown that adequate watering will allow the opacity limitation to be met. The conveyor will not be completely covered due to the low speed of the conveyors (6.8 MPH).

Storage Pile

The coal stock is needed to handle any overflow coal or coal handled in the secondary circuit. The maximum size of this pile will be 3,000 tons. However, the average or normal level will be less than 500 tons. BACT for this pile has been determined to be minimizing of emissions through an operating practice of watering as dry conditions warrant. Experience has shown that adequate watering will control fugitive dusts.
Drop Points

The emissions from drop points at conveyor termination points will be controlled by water sprays employed when the coal moisture content drops below 6%. Again, the spray system will only be used during warm dry weather.

Disturbed Soil, Wind Erosion

BACT for disturbed areas and wind erosion from these areas has been determined to be minimizing of emissions through an operating practice of watering as dry conditions warrant. Experience has shown that adequate watering will control fugitive dusts.

Diesel Engine Emissions

BACT for all diesel engines at the coal mine has been determined to be minimizing of emissions through an operating practice of proper maintenance and low sulfur fuel as required by section 4.2.1, Utah Air Conservation Regulations (UACR).

By implementing the above plans Genwal Coal Company can effectively reduce emissions from 22.36 down to 13.91 even with an increase of production from 360,000 tons to 1,500,000 tons per year.
GENERAL COAL COMPANY
(Summary)
COMPARING 360,000 TONS/yr
WITH 1,500,000 TONS/yr

<table>
<thead>
<tr>
<th>SOURCE</th>
<th>360,000 TONS</th>
<th>1,500,000 TONS</th>
<th>NET EMISSION INCREASE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>TSP</td>
<td>PM-10</td>
<td>TSP</td>
</tr>
<tr>
<td>Haul Road</td>
<td>10.700</td>
<td>4.800</td>
<td>2.431</td>
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<tr>
<td>Misc Sources</td>
<td>4.4000</td>
<td>0.2900</td>
<td>1.45</td>
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<tr>
<td>Crusher</td>
<td>1.08</td>
<td>0.07</td>
<td>1.08</td>
</tr>
<tr>
<td>Loader Operation</td>
<td>0.0048</td>
<td>0.0022</td>
<td>5.93</td>
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<tr>
<td>Storage Pile</td>
<td>0.166</td>
<td>0.054</td>
<td>0.146</td>
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<tr>
<td>Disturbed Soil Wind</td>
<td>2.40</td>
<td>0.87</td>
<td>2.51</td>
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<tr>
<td>Diesel Engine Emiss</td>
<td>4.73</td>
<td>2.40</td>
<td>0.37</td>
</tr>
<tr>
<td>TOTAL</td>
<td>22.38</td>
<td>8.42</td>
<td>13.91</td>
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</table>

(NET EMISSION INCREASE)
TOTAL ANNUAL EMISSIONS ESTIMATE IN TONS/yr

<table>
<thead>
<tr>
<th></th>
<th>360,000</th>
<th>1,500,000</th>
<th>1,140,000</th>
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<tbody>
<tr>
<td>BEFORE</td>
<td></td>
<td>AFTER</td>
<td>CHANGE</td>
</tr>
<tr>
<td></td>
<td>TSP</td>
<td>PM-10</td>
<td>TSP</td>
</tr>
<tr>
<td>TSP</td>
<td>22.38</td>
<td>13.91</td>
<td>-8.47</td>
</tr>
<tr>
<td>PM-10</td>
<td>8.42</td>
<td>5.57</td>
<td>-2.85</td>
</tr>
<tr>
<td>SOX</td>
<td>4.43</td>
<td>0.39</td>
<td>-4.04</td>
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<tr>
<td>NOX</td>
<td>65.71</td>
<td>4.02</td>
<td>-61.70</td>
</tr>
<tr>
<td>CO</td>
<td>14.46</td>
<td>1.23</td>
<td>-13.23</td>
</tr>
<tr>
<td>VOC non Methane</td>
<td>5.36</td>
<td>0.54</td>
<td>-4.82</td>
</tr>
<tr>
<td>VOC Methane</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Aldehydes</td>
<td>1.00</td>
<td>0.09</td>
<td>-0.91</td>
</tr>
</tbody>
</table>
LOI Calculations

URBAN PAVED ROAD

Assume Local Street roadway category

e = k (SL/.7)^p (lb/VMT)

<table>
<thead>
<tr>
<th>Particulate Emission Factor</th>
<th>e</th>
<th>0.05402 lbs/VMT TSP</th>
</tr>
</thead>
<tbody>
<tr>
<td>total road surface loading and surface silt content, fraction particles &lt;75 um</td>
<td>sl</td>
<td>2.0215 grains/ft2</td>
</tr>
<tr>
<td>base emission factor,</td>
<td>k</td>
<td>0.0208 lb/VMT</td>
</tr>
<tr>
<td>exponent</td>
<td>p</td>
<td>0.90 dimensionless</td>
</tr>
</tbody>
</table>

\[
e = k (SL/.7)^p (lb/VMT)
\]

<table>
<thead>
<tr>
<th>Particulate Emission Factor</th>
<th>e</th>
<th>0.01892 lbs/VMT PM-10</th>
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<tr>
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<td>sl</td>
<td>2.0215 grains/ft2</td>
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<td>k</td>
<td>0.0081 lb/VMT</td>
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<tr>
<td>exponent</td>
<td>p</td>
<td>0.80 dimensionless</td>
</tr>
</tbody>
</table>

SUMMARY

<table>
<thead>
<tr>
<th>Vehicle miles traveled (VMT)</th>
<th>Urban paved road emissions in TONS/Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tons Produced</td>
<td>Tons</td>
</tr>
<tr>
<td>Length of Road</td>
<td>2.70 miles per trip</td>
</tr>
<tr>
<td>Tons per trip</td>
<td>45.00</td>
</tr>
<tr>
<td>VMT = (tons prod)/tons per trip * Road Length</td>
<td>90,000</td>
</tr>
</tbody>
</table>
CONTROLLED ANNUAL EMISSION RATE ESTIMATE FOR:

SOURCE: 2 Crushers

COMPANY NAME: Genwal Coal Company

TOWN: Huntington, Utah

28-Aug-1991

Annual Emissions Estimate in Tons/Year =
(uncontrolled Emissions)*(100-% Control)

Particulate (TSP) = 1.08 Tons/Year
PM-10 ...... = 0.07 Tons/Year

AP-42 Supplement A October 1986
Section 8 Mineral Products Industry Sources
8.19.2 Crushed Stone Processing
Table 8.19.2-1, Primary or Secondary crushing Dry Material

Emission Factors in LB/TON
TSP (From table 8.19.2-1)...... 0.018 LB/TON
PM10 (Ratio From above)........ 0.001 LB/TON

Crusher Through-Put: Percentage of Production Rate ...... 0.80

Production Rate of Crushing Plant 1,500,000 TONS/YEAR

Uncontrolled Particulate Emissions

TSP = (EMISS. FACT.)(Prod Rate)(% Through-put)
/2000 LB/TON

TSP = 10.80 TON/YEAR

PM-10 = (EMISS. FACT.)(Prod Rate)(% Through-put)
/2000 LB/TON

PM-10 = 0.72 TON/YEAR

Controlled Particulate Emissions

Percent Control: Enclosed Source ...... 0.90
Particulate emissions generated by drop operations. (Miscellaneous Sources)

\[ E = K \left( \frac{0.0032}{U(5)} \right)^{1.3} \left( \frac{W}{2} \right)^{1.4} \]

- \( E \) = emission factor
- \( K \) = particle size multiplier (dimensionless)
- \( U \) = mean wind speed, (MPH)
- \( W \) = material moisture content (%)

<table>
<thead>
<tr>
<th>No.</th>
<th>Tons</th>
<th>ETSP</th>
<th>TSP</th>
<th>EPM-10</th>
<th>PM-10</th>
<th>Drop FT.</th>
<th>From</th>
<th>To</th>
<th>Drop Description</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>1,500,000</td>
<td>0.00016</td>
<td>0.12</td>
<td>0.00008</td>
<td>0.06</td>
<td>5</td>
<td>A</td>
<td>B</td>
<td>ROM belt to Grizzly</td>
</tr>
<tr>
<td>2</td>
<td>1,080,000</td>
<td>0.00016</td>
<td>0.09</td>
<td>0.00008</td>
<td>0.04</td>
<td>5</td>
<td>B</td>
<td>C</td>
<td>Oversized from Grizzly to Primary Crusher</td>
</tr>
<tr>
<td>3</td>
<td>1,080,000</td>
<td>0.00016</td>
<td>0.09</td>
<td>0.00008</td>
<td>0.04</td>
<td>1</td>
<td>C</td>
<td>D</td>
<td>Crushed from Primary Crusher to Silo Belt</td>
</tr>
<tr>
<td>4</td>
<td>1,350,000</td>
<td>0.00016</td>
<td>0.11</td>
<td>0.00008</td>
<td>0.05</td>
<td>5</td>
<td>D</td>
<td>E</td>
<td>Crushed and undersized from silo belt to silo</td>
</tr>
<tr>
<td>5</td>
<td>135,000</td>
<td>0.000083</td>
<td>0.06</td>
<td>0.00039</td>
<td>0.03</td>
<td>60</td>
<td>E</td>
<td>F</td>
<td>Silo overflow to stock pile</td>
</tr>
<tr>
<td>6</td>
<td>1,215,000</td>
<td>0.00016</td>
<td>0.10</td>
<td>0.00008</td>
<td>0.05</td>
<td>3</td>
<td>E</td>
<td>G</td>
<td>Silo discharge to reclaim belt</td>
</tr>
<tr>
<td>7</td>
<td>1,500,000</td>
<td>0.000083</td>
<td>0.62</td>
<td>0.00039</td>
<td>0.29</td>
<td>12</td>
<td>F</td>
<td>H</td>
<td>Reclaim belt to haulage trucks</td>
</tr>
<tr>
<td>8</td>
<td>120,000</td>
<td>0.00016</td>
<td>0.01</td>
<td>0.00008</td>
<td>0.00</td>
<td>5</td>
<td>B</td>
<td>I</td>
<td>Oversized from Grizzly to Secondary Crusher</td>
</tr>
<tr>
<td>9</td>
<td>120,000</td>
<td>0.00016</td>
<td>0.01</td>
<td>0.00008</td>
<td>0.00</td>
<td>1</td>
<td>H</td>
<td>J</td>
<td>Crushed from Secondary Crusher to by-pass conveyor</td>
</tr>
<tr>
<td>10</td>
<td>30,000</td>
<td>0.00016</td>
<td>0.00</td>
<td>0.00008</td>
<td>0.00</td>
<td>6</td>
<td>B</td>
<td>K</td>
<td>Undersized from Grizzly to by-pass conveyor</td>
</tr>
<tr>
<td>11</td>
<td>270,000</td>
<td>0.00016</td>
<td>0.02</td>
<td>0.00008</td>
<td>0.01</td>
<td>6</td>
<td>B</td>
<td>L</td>
<td>Undersized from Grizzly to Silo Belt</td>
</tr>
<tr>
<td>12</td>
<td>150,000</td>
<td>0.000083</td>
<td>0.06</td>
<td>0.00039</td>
<td>0.03</td>
<td>75</td>
<td>I</td>
<td>J</td>
<td>Crushed and Undersized from by-pass conveyor to stock</td>
</tr>
<tr>
<td>13</td>
<td>285,000</td>
<td>0.000083</td>
<td>0.12</td>
<td>0.00039</td>
<td>0.06</td>
<td>2</td>
<td>J</td>
<td>K</td>
<td>Stock pile loaded into Coal Hopper using front end lo</td>
</tr>
<tr>
<td>14</td>
<td>285,000</td>
<td>0.00016</td>
<td>0.02</td>
<td>0.00008</td>
<td>0.01</td>
<td>1</td>
<td>L</td>
<td>L</td>
<td>Coal Hopper to Hopper Belt</td>
</tr>
<tr>
<td>15</td>
<td>285,000</td>
<td>0.00016</td>
<td>0.02</td>
<td>0.00008</td>
<td>0.01</td>
<td>1</td>
<td>L</td>
<td>F</td>
<td>Hopper Belt to Reclalm Belt</td>
</tr>
</tbody>
</table>

Totals | 1.45 | | 0.69 |
controlled Annual Emission Rate Estimate For:

SOURCE: Loader Operation Area

enwal Coal Company
Mintong, Utah

just 1991

annual Emissions Estimate in Tons/Yr

Particulate (TSP).......................... 5.93 TONS/YEAR
PM10 ........................................ 2.67 Tons/YEAR

P-42 Supplement A October 1986
section 11 Miscellaneous Sources
1.2 Fugitive Dust Sources
1.2.1 Unpaved Roads: Loader Operations Area

b/VMT = Equation #1 From PG. 11.2.1-1 =
(5.9)((s/12)(S/30)((W/3)^.7)((w/4)^.5)((365-p)/365)........... 14.659 LBS/VMT
(5.9)((s/12)(S/30)((W/3)^.7)((w/4)^.5)((365-p)/365)........... 6.597 LBS/VMT

- Part. Size Fact. <30 micr. from PG. 11.2.1-3 = 0.80
- Part. Size Fact. <10 micr. from PG. 11.2.1-3 = 0.36
- Silt Cont MEAN DEFAULT VALUE FROM PG. 11.2.1-3 = 12.20 $m
- SPEED DEFAULT VALUE ..................... 15 MPH
- Vehicle Weight: (Loaded Wt. + Empty Wt.)/2 = 45.00 Tons
- Mean # wheels: BAQ DEF Value from PG. 11.2.1-3 = 4 Wheels
- of days > .01 in H2O (estimated) ........... 30 Days

M_1, R = (Miles/Trip)*(Trips/Year) .................. 809.66 VMT/yr

Miles/Trip: Estimate (150 Ft/Trip)/(5280 ft/mile) = 0.028 Miles/Trip
Trips/yr = (Mat. Loaded/yr)/(Mat. Loaded/trip) = 28,500 Trips/Year
Material Loaded tons/yr from LOI = 285,000 Tons/Year
Material Loaded/Trip: (Loaded wt. - Empty wt.) = 10 Tons
Empty Wt. Est. from staker asp. review = 40 Tons
Loaded Wt. Empty Wt., + 5yd of gravel = 50 Tons

ONS/YR = (LBS/VMT)(VMT/YR)(1Ton/2000lbs) = 5.93 Tons/YR
CONTROLLED ANNUAL EMISSION RATE ESTIMATE FOR:

SOURCE: STORAGE PILE

COMPANY NAME: GENWAL COAL COMPANY

LOCATION: HUNTINGTON, UT

DATE: 02-MAY-1988

FILE: T4

TIME: 10:42:19 AM

ANNUAL EMISSIONS ESTIMATE IN TONS/yr =

PARTICULATE

PM10

0.146 TON/TR

0.054 TON/yr

AP-42 FOURTH EDITION SEPT 1985 VOLUME I

SECTION 11 MISCELLANEOUS SOURCES

11.2.3 AGGREGATE HANDLING AND STORAGE PILES

11.2.3-3 WIND EROSION EQ

LBS/DAY/ACRE = EQUATION #3 FROM PG. 11.2.3-5=

(1.7)(4/1.5)(365-p)/235)(t/13)= 6.948794 LBS/D/A

s = SILT CONT.: DEFAULT MEAN VALUE FROM TABLE 11.2.3-3

10% 

p = # OF DAYS (> 0.1 IN OF PRECP.) OR (SNOW COVER)

AND MOISTURE FROM MINE AND PROCESSING

240.0 DAYS

f = % OF TIME WIND IS < 12 MPH: BAG DEFAULT STATE WIDE

17.0%

USE: 365 DAYS/yr

ACRES OF STORAGE PILE: AS INDICATED IN 7-1-87 STUDY = 0.115 ACRES

EMISSIONS ESTIMATE:

PARTICULATE (TSP) =

(LB/DAY/ACRE) x (DAYS/yr) x ACRES/(2000 LB/TON) = 0.15 TON/YR

PM10 = (TSP) x 0.37 = 0.054 TON/YR

FROM WIND EROSION PM10 ESTIMATE. 10/6/87 STUDY PERFORMED

BY DAVE PREY, ENVIRONMENTAL HEALTH SCIENTIST BAG.
CONTROLLED ANNUAL EMISSION RATE ESTIMATE FOR:

SOURCE: DISTURBED SOIL WIND EROSION

GENWAL COAL COMPANY
HUNTINGTON, UTAH
29 AUG 1991

ANNUAL EMISSIONS ESTIMATE IN TONS/YR = (TON/ACRE/YR)(ACRE)

<table>
<thead>
<tr>
<th>EMISSION TYPE</th>
<th>EMISSION RATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOTAL PARTICULATE</td>
<td>2.51 TON/yr</td>
</tr>
<tr>
<td>PM-10</td>
<td>0.90 TON/yr</td>
</tr>
</tbody>
</table>

AP-42 FOURTH EDITION SEPT 1985 VOLUME 1
SECTION 8 MINERAL PRODUCTS INDUSTRY SOURCES
8.24 WESTERN SURFACE COAL MINING
TABLE 8.24-4, WIND EROSION OF EXPOSED AREAS

EMISSION FACTOR IN TON/(ACRE*YEAR)

<table>
<thead>
<tr>
<th>EMISSION TYPE</th>
<th>FACTOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>PARTICULATE (tsp)</td>
<td>0.38 T/A*YR</td>
</tr>
<tr>
<td>PM10</td>
<td>NA T/A*YR</td>
</tr>
</tbody>
</table>

USE: 365 DAYS/YR

ACRES OF DISTURBED AREA: FROM LOI: 6.60 ACRES

TSP IN TON/YR = (TON/ACRE*YEAR)(ACRE)............. 2.51 TON/yr
PM10 IN TON/YR = TSP(0.37) ................. 0.90 TON/yr
FROM WIND EROSION PM10 ESTIMATE 10/06/87
STUDY PERFORMED BY DAVE PREY BAQ
CONTROLLED ANNUAL EMISSION RATE ESTIMATE FOR:

SOURCE: WHEELED LOADER

GENWAL COAL COMPANY
HUNTINGTON, UTAH
29-AUG-1991

ANNUAL EMISSIONS ESTIMATE IN TONS/yr =

\[ \text{(EMISS. FACTOR)(GAL/YR)(1/1000)(1 TON/2000LBS)(# OF LOADERS)} \]

<table>
<thead>
<tr>
<th>EMISSION FACTOR IN LBS/K GAL OF OPERATION</th>
<th>29.3</th>
<th>26.4</th>
<th>31.2</th>
<th>321.2</th>
<th>98.7</th>
<th>43.2</th>
<th>0.0</th>
<th>7.2</th>
</tr>
</thead>
<tbody>
<tr>
<td>PARTICULATE (TSP)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PM10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SOX</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NOX</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CO</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>VOC, non-METH (EXHAUST HYDROCARBONS)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>VOC, METH</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ALDEHYDES</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

GALLONS DIESEL FUEL/YR: NOI INFO ............... 25,000
NUMBER OF WHEELED LOADERS ...................... 1.0
APPENDIX 4-9

LETTER FROM SHPO (SOUTH CRANDALL LEASE)
September 9, 2003

Mr. Jim Dykman
State Historic Preservation Officer
300 Rio Grande
Salt Lake City, UT 84181

Re: Genwal South Crandall Tract

Dear Mr. Dykman:

GENWAL RESOURCES INC. has applied for a mining permit on a tract of land adjacent to its Crandall Canyon Mine. I talked to you in late June about a survey of the area, the South Crandall Tract. The Division of Oil, Gas and Mining has said that they will be in contact with you about a cultural resources survey of the area. In order to help expedite your review for DOGM, I am enclosing the outline of the tract (Federal Lease UTU-78953) on the Rilda Canyon USGS quadrangle topographical map.

Call me at 435-564-4015 if you have any questions.

Sincerely,

Gary E. Gray
Engineer

P.O. BOX 1077
PRICE, UTAH 84501
PHONE: (435) 564-4000
FAX: (435) 564-4002
APPENDIX 4-10

ARCHAEOLOGY REPORT, U-68082 LEASE MOD AREA
SENCO-PHINIX, 2004

INCORPORATED
FEB 26 2005
DIV OF OIL GAS & MINING