

0004

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SUMMIT MINERALS, SEASONAL VARIATION

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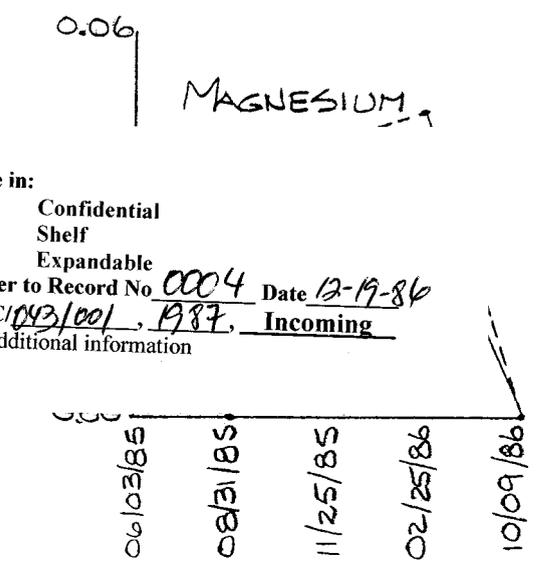
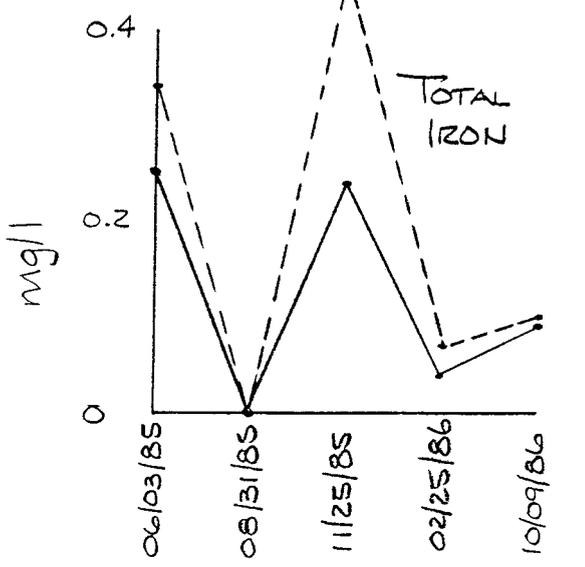
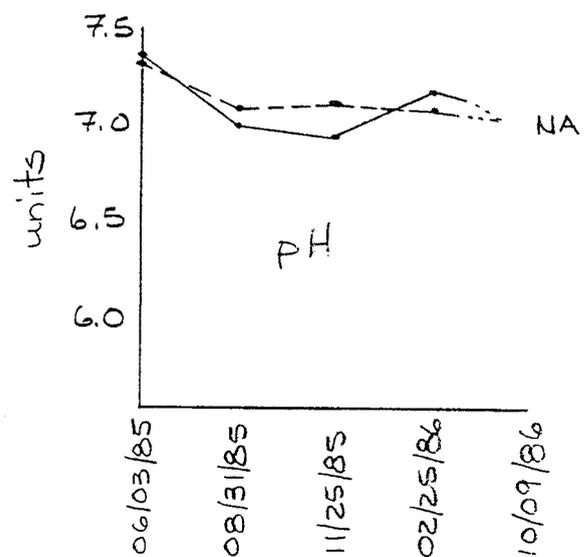
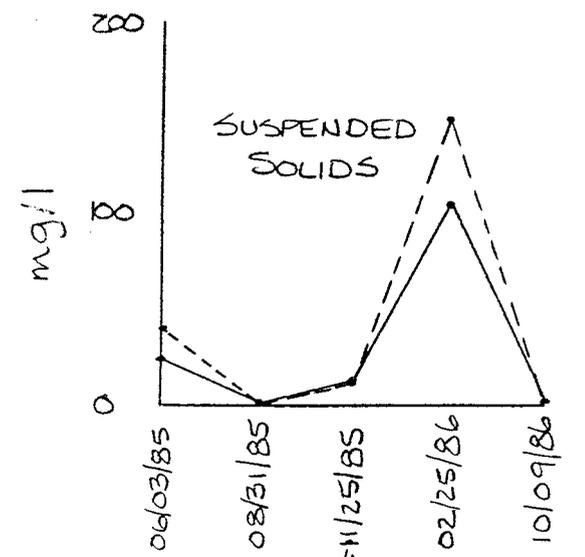
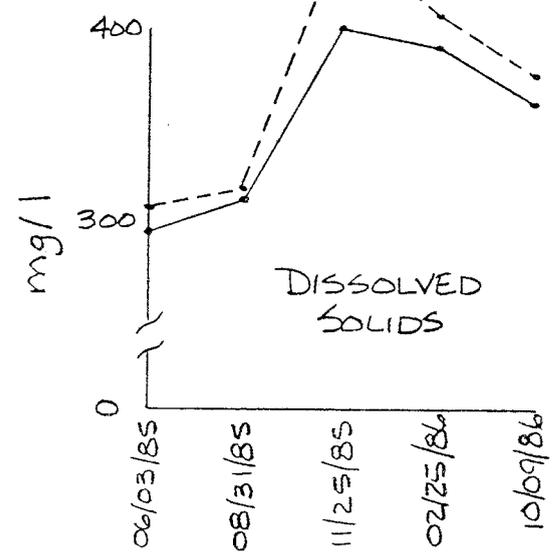
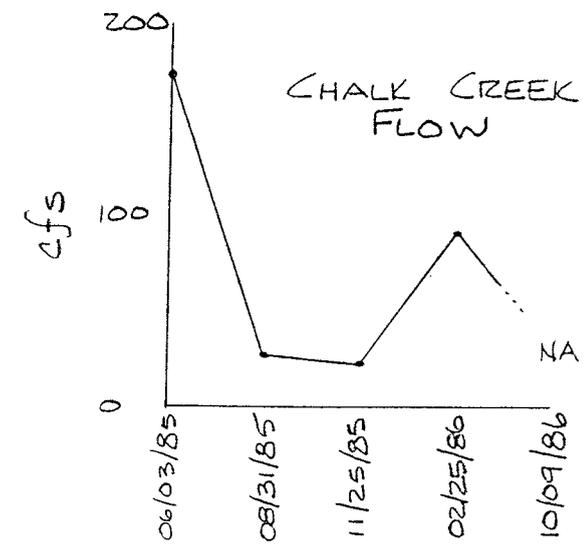
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SOLID LINES - UPSTREAM SAMPLES
 DASHED LINES - DOWNSTREAM SAMPLES



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FIGURE 783.16-1 SEASONAL VARIATIONS ON CHALK CREEK

42 SHEETS 3 SQUARE
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SOLID LINES - UPSTREAM SAMPLES
 DASHED LINES - DOWNSTREAM SAMPLES

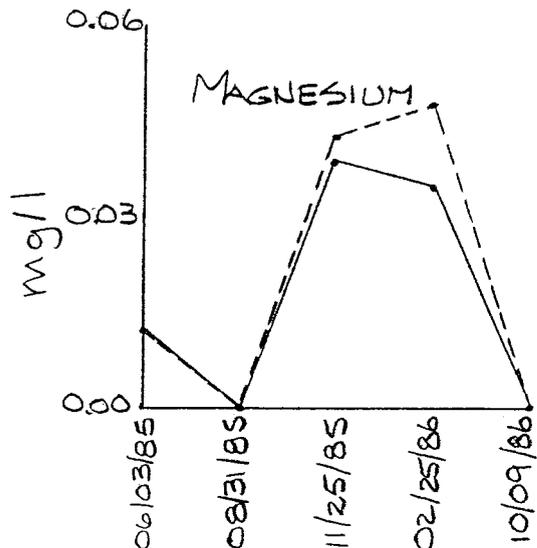
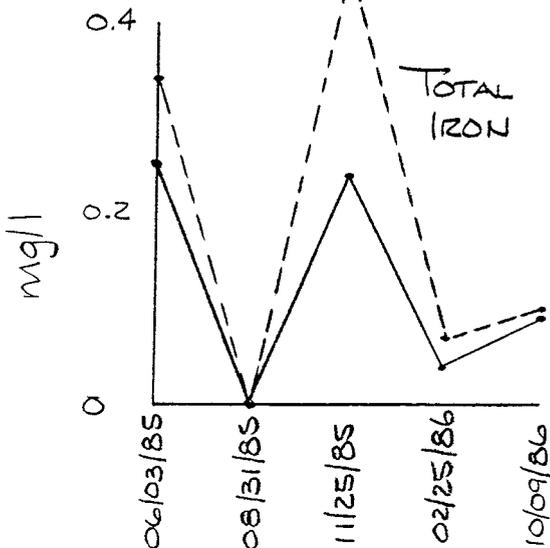
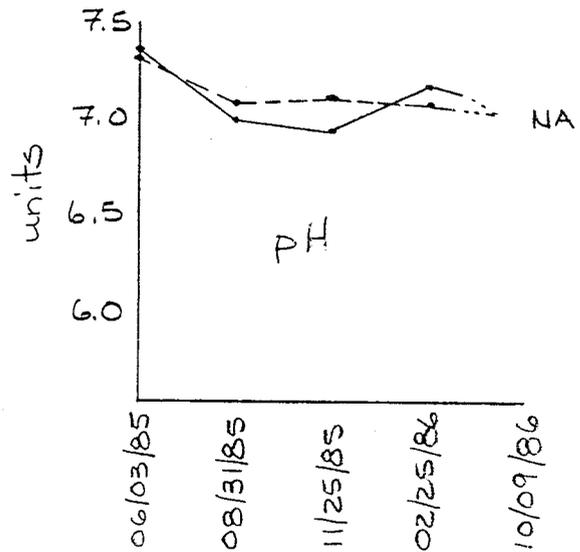
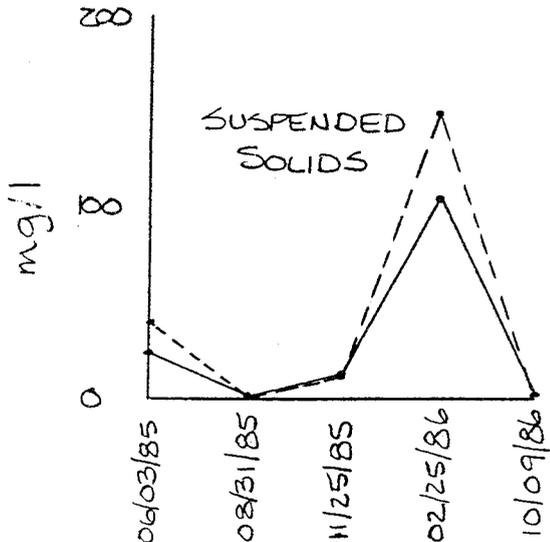
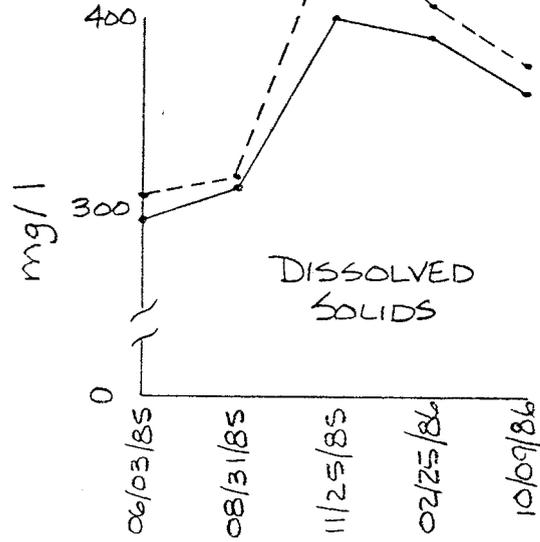
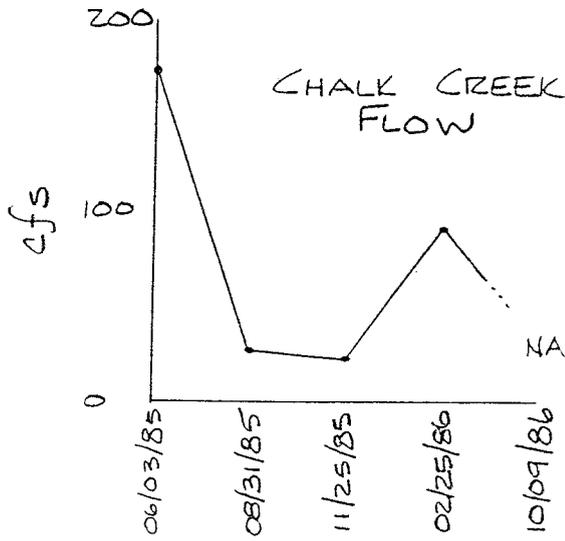


FIGURE 783.16-1 SEASONAL VARIATIONS ON CHALK CREEK

UMC 784.11 OPERATION PLAN: GENERAL REQUIREMENTS

Appropriate signs and markers have been placed to show the permit area boundary, property identification, and stream buffer zones. These signs and markers will remain in place through the bond release period.

UMC 784.11(b)(1) - Construction, Use, and Removal of Sedimentation Pond

The sedimentation pond proposed in this application is an incised pond. Construction techniques will include excavation using a rubber tired front end loader (see Reclamation Plan Appendix for a more detailed discussion of proposed excavation). Dewatering structures will be fabricated and installed as discussed in the Hydrologic Evaluation Appendix of this document.

The sedimentation pond has been designed for full containment of a 10 year - 24 hour precipitation event, and overflow structures have been designed to pass the 25 year - 24 hour event. Pond inflows will be contained a minimum of 24 hours prior to being manually discharged into Chalk Creek. Monitoring of sedimentation pond discharges will be as required by the approved NPDES permit. Results obtained through the NPDES monitoring will be provided to the Division within 90 days after they are received by the Applicant.

Sedimentation pond removal will be according to the plans provided in the Reclamation Plan Appendix on pages RP-23 and RP-24, and shown on plate number 784.23-2.

UMC 784.11(b)(5) - Removal of Mine Facilities

There are three buildings within the proposed permit area. Each is a steel structure built on a concrete foundation. Their locations are shown on Plate numbers 784.23-1 and 784.23-2. They are currently used as necessary to store equipment used in site maintenance. No maintenance or modification to any building is proposed in this plan.

Each building, along with access roads, will be left after reclamation for the surface owner to use to support his ranching operations.

The tipple shown on Plate number 784.23-1 is a concrete structure which was apparently once used as a coal loading facility. This structure will be demolished, disposed of on site, and backfilled according to the plans in section 784.13.

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THE RECLAMATION OF THE SUMMIT MINERALS, INC. NO. 1 COAL MINE IS BASED ON A TOTAL OF 14.41 DISTURBED ACRES. OF THOSE DISTURBED ACRES, 1.77 ACRES WILL BE LEFT TO SUPPORT THE POST MINING LAND USE. THE REMAINING 12.64 ACRES WILL BE RECLAIMED ACCORDING TO THIS PLAN.

CROSS SECTIONS SHOWING EXISTING AND RECLAIMED SURFACES ARE SHOWN ON PLATE NO. 78A.233 AND REFERENCED ON PLATE NOS. 78A.23-1:78A.232. THE CUT-FILL BALANCE DEVELOPED PURSUANT TO THESE CROSS SECTIONS IS SHOWN ON PAGE 7 OF THIS PLAN. SOME 25,300 LY OF MATERIAL WILL BE MOVED TO ACHIEVE THE FINAL RECLAIMED CONFIGURATION SHOWN ON PLATE NO. 78A.232.

THE SURFACE OWNERS HAVE INDICATED THAT THEY WISH TO HAVE ALL SITE IMPROVEMENTS SUCH AS BUILDINGS, THE BRIDGE OVER CHALK CREEK, THE CULVERT (IRRIGATION DITCH ONLY) AND THE ACCESS ROAD LEFT IN PLACE FOLLOWING RECLAMATION TO SUPPORT THE LAND USE OF GRAZING. THE BUILDINGS WILL BE USED TO SUPPORT RANCHING OPERATIONS AND THE ACCESS ROAD AND BRIDGE PROVIDE SITE ACCESS.

BACKFILLING AND GRADING WILL BE ACCOMPLISHED USING A CATAPILLAR D9L BULLDOZER. THE CONCRETE TIPPLE STRUCTURE IS THE ONLY SIGNIFICANT STRUCTURE WHICH IS RECLAIMED UNDER THIS PLAN. BECAUSE THIS STRUCTURE WAS APPARENTLY USED AS A COAL LOADING FACILITY AT ONE TIME, SOME COAL AND/OR COAL WASTE MATERIAL WAS SPILLED IN THE VICINITY OF THE TIPPLE. THERE IS NO REASON TO BELIEVE THAT THE EXTENT OF THE COAL MATERIAL IS GREATER THAN SURFACE SPILLAGE.

UNDER THIS PLAN, THE TIPPLE STRUCTURE WILL BE BROKEN UP AND BACKFILLED. DURING SITE GRADING ANY COAL (BLACK) MATERIAL EXPOSED WILL BE BACKFILLED WITH THE CONCRETE, PRIMARILY IN THE EXISTING DEPRESSION SHOWN ON CROSS SECTION B-B' (PLATE 78A.23-3). CONCRETE, COAL, AND ASPHALT WILL BE PLACED, THEN FILL MATERIAL PLACED ON TOP OF IT TO A MINIMUM THICKNESS OF FOUR FEET. BECAUSE FILL WILL BE PLACED WITH THE D9L, LIFTS WILL BE MINIMAL, AND SUCCESSIVE DOZING WILL COMPACT FILL MATERIAL INTO THE VOIDS CREATED BY BROKEN CONCRETE AND ASPHALT.

SHOULD THE EXTENT OF COAL MATERIAL IN THE TIPPLE AREA BE GREATER THAN ANTICIPATED, IT WILL STILL BE DISPOSED OF IN THE MANNER PREVIOUSLY DESCRIBED. CUT-FILL VOLUMES WILL INCREASE, BUT DUE TO THE CONSERVATIVE ASSUMPTIONS MADE IN THE BACKFILLING AND GRADING BOND ESTIMATE, THE TOTAL BOND AMOUNT OF \$106,312 SHOULD BE ADEQUATE TO COVER THE UNANTICIPATED VOLUMES.

The following revegetation plan for the reclamation of the Summit No. 1 Coal Mine has been formulated pursuant to the requirements of UMC 784.13 (b) (5), 817.100 and 817.111-.117, Utah Coal Mining and Reclamation Permanent Program and according to the Division of Oil, Gas and Mining's Draft Revegetation Guidelines for the Utah Coal Regulatory Program. This plan has been designed to achieve a permanent, diverse and effective vegetation cover on the 14 acre disturbed area of the mine site in order to realize the designated post mining land use as wildlife habitat and grazing land.

I. REVEGETATION SCHEDULE

Contemporaneous Reclamation

In order to control erosion and enhance soil viability, all areas requiring contemporaneous reclamation will be seeded during the appropriate planting time following disturbance, either late fall (October 1 until snow cover) or spring (after snow melt until June 1). Examples of such areas requiring contemporaneous reclamation are waste banks, road cuts and fills, embankments, outslopes, temporary diversion ditches and drainage ways (not riprapped). Species to be used in interim reclamation are discussed under Section III of this report.

Final Reclamation (UMC 784.13 (b) (5) (i) and UMC 817.113)

Following cessation of mining, removal of facilities and final recontouring/regrading of the disturbed area, the seedbed will be prepared during the fall, within one week prior to seeding. Seeding will occur during mid October. It is anticipated that seedbed preparation, planting and mulching will take approximately two to three weeks and will be completed by the end of October.

Shrub seedlings will be planted the following spring, immediately after winter snows have melted. Spring planting will take approximately two to three weeks and should be completed by May 15.

II. SEEDBED PREPARATION

Contemporaneous Reclamation

The soil surface for these areas will be scarified by hand prior to seeding. No fertilizers or soil amendments are planned unless visual inspection (see Monitoring) indicates that interim vegetation is not becoming well established.

proposes to neither control nor monitor groundwater activities in or near the reclamation site. Ground water information gained from the SOAP program at the adjacent Boyer mine is pertinent to the reclamation site due to the proximity of the two properties. Ground water quality data obtained from the Earth Fax draft report is included in this document as Table 783.15-2a through Table 783.15-4b.

Surface drainage and runoff control is shown on drawing number 783.16-1 and plate number 784.23-2. These drawings show the coursing of runoff waters into, around, through, and out of the reclamation site. Design criteria for the development of this drawing is presented in the Hydrologic Evaluation Appendix of this section.

UMC 784.14(b)(2) - Treatment of Pollutants

All runoff which traverses a disturbed surface will be treated by some means of sedimentation control. Drawing number 783.16 and plate number 784.23-2 show that the bulk of the runoff from the disturbed area is coursed into the sedimentation pond where it will be detained for at least 24 hours before discharging into Chalk Creek. An NPDES discharge application has been filed with the appropriate agencies for this outfall (Figure 784.13-2). The Operator will sample any discharges from this outfall and analyze the water as required in the NPDES permit - or for total iron, total manganese, total settleable solids, total dissolved solids, total suspended solids, and pH, - whichever is more stringent.

The Operator requests a small area exemption for those portions of the access road which are not located in the drainage area of the sedimentation pond. Anticipated runoff volumes and proposed treatment methods are detailed in Hydrologic Evaluation Appendix in this section. The Operator will sample any outfall from the sedimentation filter when it occurs. The water will be analyzed for total iron, total manganese, total suspended solids, and pH.

UMC 784.14(b)(3) - Collection of Water Data

Ground water monitoring is not a part of this plan.

The Operator will monitor surface water quality at the locations shown on drawing number 783.16-1. Samples will be obtained quarterly until adequate baseline data is obtained, and then twice a year, once during high flow and once during and once during low flow, for the duration of the bond period.

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Surface water quality and quantity information gained through the SOAP program for the adjacent Boyer Mine is available and pertinent to the reclamation site due to the close proximity of the two properties. Data obtained from Earth Fax' draft report is included on Tables 783.16-6a through 783.16-7b. Additional quality information is included on Tables 783.16-8 and 9.

Surface water samples will be analyzed for the parameters shown on Table 784.14-1 to establish a baseline, then those shown on Table 784.14-2 after baseline is established. During construction periods, weekly checks of the settleable and suspended solids will be conducted on Chalk Creek both upstream and downstream to demonstrate that the surface activities do not adversely affect the creek quality. Results of these monitoring programs, as well as the NPDES monitoring, will be provided to the Division within 90 days of its receipt by the Operator.

Outfall from the sedimentation pond which is regulated by the NPDES permit will be monitored in accordance with the permit. In the event that discharged water exceeds permit effluent limitations, the Operator will report the noncompliance to the appropriate regulatory authorities in a timely manner.

During the seventh year after reclamation activities, the Applicant will begin sampling surface runoff inflows entering the sedimentation pond to establish compliance with UMC 817.46(u). A single-stage sediment sampler (Guy and Norman, 1970) will be located at each of three diversion ditch outlets into the pond (see plate number 784.23-2). This type sampler will automatically collect a sample during a runoff event by siphoning water from the ditch into the collection bottle. The Applicant will make every effort to monitor the bottles following precipitation events where runoff may occur so that collected samples will not stagnate in the sample bottles.

A composite sample will be obtained from the ditches and analyzed for the parameters indicated on Table 784.14-2 (excluding the field measurements). Should the composite sample technique indicate repeated non-compliance, individual ditch samples will be analyzed to isolate the quality problem areas. This water monitoring program will continue through the remainder of the bond period.

UMC 784.14(c) - Consequences of Mining Activities

Underground mining activities or the use of hazardous,

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toxic, or acid forming materials are not a part of this plan. As such, the only probable hydrologic consequence resulting from this reclamation plan is the contribution of untreated sediment to surface waters from the disturbed area. A worst case scenario is presented in section 783.17 of this document. This scenario is assumed from a significant precipitation event (high flow) and would result in additional sediment loading (TSS) in Chalk Creek. Because runoff in this scenario would only course over reclaimed surface disturbances, it not expected to affect iron, manganese, or pH levels.

UMC 784.14(d) - Hydraulic Heads on Mine Openings

Section 784.13 of this document provides a description of the portal sealing methods already used, and to be used, under this plan. Section 783.14 describes the prevailing dip of stata in the reclamation area as westerly, which positions old underground mine workings generally down-dip from the portals.

The underground mine workings of Utah Coal and Energy, Inc. were excavated in the late 1970's. There was no known interception of water in those underground workings and, to date, there has been no known discharge from the sealed mine openings. Similarly, there has been no known interception of water in the underground workings at the adjacent Boyer Mine. It is therefore concluded that there will be no hydraulic head on the abandoned mine openings.

UMC 784.20 SUBSIDENCE CONTROL PLAN

Underground mining activities and the excavation of coal related products are not a part of this plan.

Coal was excavated from the reclamation area by previous owners and operators as shown on Plate 783.14-4. Most of the underground excavation was completed prior to the 1950's and, considering the shallow overburden, the affects of subsidence have probably already been realized. Excavations made in the 1970's by Utah Coal and Energy, Inc. are not extensive, but could potentially develop some surface cracking.

The Applicant will visually monitor mined out areas within the permit area for surface displacement during the bond release period. Should cracking occur to the extent that it becomes hazardous to area inhabitants, the Applicant will, after consulting the Division of Oil, Gas, and Mining, develop and implement appropriate remedial action.