Valley Camp TEA
3/84

TABLE OF CONTENTS

PAGE

I. INTRODUCTION....1
II. DESCRIPTION OF THE EXISTING ENVIRONMENT....2
Topography....2
Geology....2
Climate and Air Quality....3
Hydrology
Water Supply....4
Water Quality....4
Soils....4
Vegetation....5
Wildlife and Fisheries....5
Land Use....6
Cultural Resources....6
Transportation....7
Esthetics....7
Socioeconomics....7
III. SUMMARY OF THE OPERATIONS AND RECLAMATION PLAN....8
UMC 782.13 Identification of Interests....9
UMC 782.14 Compliance Information....9
UMC 782.15 Right-of-Entry and Operation Information....9
UMC 782.16 Relationship to Areas Designated Unsuitable for Mining....9
UMC 782.17 Permit Term Information....9
UMC 782.18 Personal Injury and Property Damage Insurance Information....10
UMC 782.19 Identification of Other Licenses and Permits....10
UMC 782.21 Newspaper Advertisement and Proof of Publication....10
V. LAND USE - UMC 783.22, 784.15, and 817.133....10
VI. CULTURAL AND HISTORIC RESOURCES _ UMC 761.11(a)(3), 783.12(b) AND 784.17....10
Condition No. 1. 11
VII. GEOLOGY - UMC 783.13 and 783.14....11
VIII. HYDROLOGIC BALANCE: SURFACE WATER - UMC 783.16, 784.16, AND 784.22....12
UMC 783.16 Surface Water Information....12
Condition No. 2....13
UMC 784.16 Reclamation Plan: Ponds, Impoundments, Banks, Dams, and Embankments....14
(b)(1) Sediment Ponds....14
UMC 784.22 Diversions....18
IX. HYDROLOGIC BALANCE: GROUND WATER - UMC 783.13 AND 783.15....20
X. ALLUVIAL VALLEY FLOORS - UMC 785.19 AND 822....21
XI. WATER RIGHTS AND REPLACEMENT - UMC 783.17, 817.53, AND 817.54....22
XII. PROBABLE HYDROLOGIC CONSEQUENCES OF MINING....22
Surface Water....22
Ground Water - UMC 784.14, 817.50, 817.52, and 817.55....23
UMC 817.50 Hydrologic Balance: Underground Mine Entry and Access Discharges....25

PAGE

UMC 817.55 Hydrologic Balance: Discharge of Water into an Underground Mine....25
UMC 817.52 Hydrologic Balance: Ground Water Monitoring....26
Condition No. 3....27
Condition No. 4....27
UMC 817.57 Hydrologic Balance: Stream Buffer Zones....28
Condition No. 5....29
XIII. CLIMATALOGICAL INFORMATION AND AIR RESOURCES....29
UMC 783.18 Climatalogical Information and Air Resources....29
UMC 784.26 Air Pollution Control Plan....29
XIV. TOPSOIL - UMC 783.21, 784.13(b)(3 and 4), AND 817.21 THROUGH 817.25....29
Condition No. 6....31
Condition No. 7....31
XV. VEGETATION - UMC 783.19, 784.13(b), AND 817.111 through 817.117....32
XVI. FISH AND WILDLIFE RESOURCES - UMC 784.21 AND UMC 817.97....35
Condition No. 8....38
Condition No. 9....39
XVII. PRIME FARMLAND - UMC 783.27, 785.17, AND 823....39
XVIII. EXPLOSIVES - UMC 784.23(b)(9) AND 817.61 through 817.68....39
XIX. OPERATION DESCRIPTION - UMC 784.11 AND 784.12....39
XX. BACKFILLING AND GRADING - UMC 784.13(b)(3), 817.101, 817.72, 817.73, AND 817.74....40
XI. COAL PROCESSING WASTE AND NON COAL WASTE -UMC 784.13(b)(6) 784.16(c) and (d), 784.19, 784.25, 817.71, 817.93 and 817.181....40
XXII. MINE FACILITIES, COAL HANDLING STRUCTURES, AND SUPPORT FACILITIES - UMC 784.11, 784.12, 784.16(a)(2 AND 3), AND 817.181....40
XXIII. ROADS - UMC 784.18, 784.24, AND 817.150 THROUGH 817.180....40
Condition No. 10....41
XXIV. BONDING - UMC 805 AND 806....42
XXV. SEALING OF DRILL HOLES AND UNDERGROUND OPENINGS - UMC 817.14 AND 784.13 (b)(8)....43
XXVI. SUBSIDENCE - UMC 817.126 AND 784.20....43
XXVII. SPECIAL CATEGORIES OF MINING OTHER THAN ALLUVIAL VALLEY FLOORS AND PRIME FARMLAND....44
XXVIII. MISCELLANEOUS COMPLIANCE
Regrading or Stablizing Rills and Gullies - UMC 817.106....45
Contemporaneous Reclamation - UMC 817.100....45
Signs and Markers - UMC 817.11....45
Compliance With Clean Air and Clean Water Acts - UMC 784.13(b)(9)....45
Public Notices of Filing of Permit Applications - UMC 786.11....46
APPENDIX A: CUMULATIVE HYDROLOGIC IMPACT SUMMARY
APPENDIX B: CULTURAL RESOURCE TECHNICAL ANALYSIS

TECHNICAL ANALYSIS

I - INTRODUCTION

This technical analysis (TA) evaluates the application from Valley Camp of Utah, Inc. (Valley Camp) for a permanent program coal mining permit for their Belina Mines Complex in Carbon County, Utah. A permit application package (PAP) was submitted to the Utah Division of Oil, Gas, and Mining (UDOGM) and the Office of Surface Mining (OSM) on 13 February 1981 (UT 0013 and UT 0049), that would bring the Belina Mines Complex into compliance with the Utah State Coal Program for the next 5 years of mining. The Belina Mines Complex consists of the Belina Nos. 1 and 2 mines and a loadout area at the inactive Utah No. 2 mine.

In addition to providing the application requirements for a Utah coal mining permit, the PAP also includes the necessary information for the Secretary of the Interior to make a decision on Valley Camp's mining plan for their Belina Mines Complex. Figure 1 shows the proposed Surface Mining Control and Reclamation Act (SMCRA) Permit Area, and the proposed area of mining plan approval (which is identical to the resource recovery and protection plan boundary). Figures 2 and 3 show the five year progression of mining for the Belina No. 1 and No. 2 Mines within the proposed SMCRA Permit Boundary. Figure 4 shows the proposed life of mine boundaries for the Belina Mines Complex (see Exhibits A and A-1 in the PAP). This permitting action does not include: 1) the southeast lease area (lease number U-067498) and 2) mining of Utah No. 2. Unless otherwise indicated, all references in this TA are to the Utah Regulations Pertaining to the Surface Effects of Underground Coal Mining Activities (UMC 700 et seq. and UMC 800 et seq).

The Belina Mines Complex is located about 3 miles southwest of Scofield, Utah, and 20 miles northwest of Price, Utah (Figure 5). Figure 5 also shows other existing and proposed mines in the vicinity of the Belina Mines Complex. The proposed permit area encompasses the following lands: T13S, R6E, SLM: portions of sections 24, 25, 35 and 36; T13S, R7E, SLM: portions of sections 8, 9, 16, 17, 18, 19, 20, 21, 30, and 31. The mining plan approval area encompasses T. 13 S., R. 6 E., SLM: portions of sections 24, 25, 35 and 36. (see Figure 1). Coal that will be removed by Valley Camp's operation over the life of the mine (i.e., to the year 2010 or 26 years of mining) will include 8,438 acres, of Federal coal, 640 acres of private coal, and 305 acres of Carbon County-owned coal. Federal coal leases to be mined over life-of-mine include: U-020305, U-017354, ~~U-044076, U-067498,~~ U-47974 and ~~U-47975.~~ The proposed 5-year permit application area and proposed area of mining plan approval are not the same and comprise about 2,424 and 1,378 acres, respectively (Figure 1). The mining plan approval will exclude county and fee coal. Federal leases U-067498, U-47974 and U-47975 are not included within the permit area boundary, but is indicated on Figure 2 as being within the proposed life of mine area.

Valley Camp began construction operations in 1976. A permit was issued by the UDOGM on 8 October 1976, under the Utah Mined Land Reclamation Act. This permit is considered to be Valley Camp's interim permit for the Belina mines. Production of 1.1 million tons of coal per year began under a 30 CFR 211 coal mining permit from the U.S. Geological Survey (USGS) and a UDOGM permit issued on 10 February 1977. The proposed action is to continue mining coal underground at 0.972 million tons per year and increase to a maximum of 1.93 million tons per year from the Upper and Lower O'Connor Seams in the years 1988 through 2010.

The PAP does not include the necessary information for permitting mining at Valley Camp's current inactive Utah No. 2 Mine in Pleasant Valley. The Utah No. 2 Mine site is proposed to be used only as a loadout site during the term of this permit.

Approval of both the SMCRA permit by the State of Utah and the mining plan by OSM would provide for mining at the Belina Mine Complex through the year 1988 at a maximum rate of 0.972 million tons per year. Valley Camp presently has contracts to supply this coal to buyers in Utah, California, and Idaho. Coal is and would continue to be transported to the buyer by unit train. Valley Camp currently employs approximately 214 people at its Belina Mine Complex. Employment would increase to 425 in order for production to reach 1.93 million tons per year, beginning in the year 1988.

Accompanying this TA is an environmental assessment (EA) on the Mining Plan that was prepared pursuant to the National Environmental Policy Act (NEPA). The EA and TA frequently cross reference one another.

II - DESCRIPTION OF THE EXISTING ENVIRONMENT

Topography

The mine site is located on the northern Wasatch Plateau and consists of rugged mountain slopes and narrow valley bottoms. Elevations within the mine plan area range from about 7,840 feet mean sea level (m.s.l.) near the railroad loadout facilities to 9,200 feet m.s.l. near the Belina portals. Topography of the proposed permit area is marked by one main drainage, Mud Creek (sometimes referred to as Clear Creek and Pleasant Valley Creek), which empties into Scofield Reservoir north of the mine plan area. Several other lateral drainages flow into Mud Creek. Belina Nos. 1 and 2 Mines are located on a tributary, Whiskey Gulch, to one of these lateral drainages, Eccles Creek. These drainage areas are V-shaped valleys with very steep slopes and narrow bottoms. The Mud Creek drainage has a more U-shaped valley with steep slopes and a broad, relatively flat bottom. The slopes within the permit area range from 10 to 70 percent.

Geology

The proposed permit area is underlain by the Musuk Shale Member of the Mancos Shale, the Star Point Sandstone, the Blackhawk Formation and Price River Formation of the Upper Cretaceous Mesa Verde Group. The Blackhawk Formation is the coal-bearing unit. The area is cut by several faults, the largest being the north-northeast-trending Pleasant Valley Fault, east of the mining area. Other important faults that influence the ground water flow in the vicinity of the Belina mines are the O'Connor and Connelville Faults.

The coal at the Belina Nos. 1 and 2 mine sites is classified as high volatile B bituminous steam coal. Belina coal samples from the Upper and Lower O'Connor beds have an average heat content of approximately 12,212 and 12,496 Btu/lb and a sulfur content of 0.61 and 0.54 percent, respectively. Total recoverable reserves are estimated to be 161.8 million tons.

Exploration for oil and gas has resulted in the discovery and development of the Clear Creek gas field. Three non-producing gas wells and a gas pipeline are present within the permit area (see Figure 1).

Climate and Air Quality

The general climate of the area consists of average monthly temperatures ranging from 15°F in January to 60°F in July. Extreme temperatures are about -40°F and 80°F. Average annual precipitation is 25 to 30 inches, including 8 inches of rainfall from May to September. Snow generally falls from October through May, and snow accumulation averages above 4.5 feet. Maximum snow accumulation expected is 8 feet.

An annual average background level for total suspended particulates (TSP) in rural central and southern Utah is estimated at 20 micrograms per cubic meter (ug/m3) (AeroVironment, 1977). This is significantly below the Federal secondary standard of 60 ug/m3.

Hydrology

The Price River/Huntington Creek drainage divide crosses the permit area. On the east side of the divide, Mud Creek drains into the Scofield Reservoir, which releases water into the Price River. On the west side, water from Huntington Creek drains into the San Rafael River. Average annual runoff is about 10 inches, based on water yield maps of Utah (Bagley et al., 1964).

The portals to the Belina mines are located along an intermittent stream in Whiskey Gulch, a tributary of Eccles Creek. Eccles Creek, a perennial stream, joins Mud Creek above Scofield Reservoir. Within the Mud Creek basin, the primary points of ground water discharge are related to fault zones and associated fractured Star Point Sandstone. In addition, an

intrusive dike extends through the area and is believed to serve as an east-west ground water barrier through the Belina Mines Complex. Intercepted ground water within the mines will likely decrease ground water flow to the springs that are related to these geologic structures. Although ground water movement primarily occurs along the zones mentioned above, numerous small seasonal springs also occur from the Blackhawk Formation. Subsidence effects of the Belina mines will likely cause some of the Blackhawk springs to dry up or be relocated.

Water Supply

All water is committed through water rights, mainly for irrigation downstream (about 98 percent). Scofield Reservoir, which regulates runoff from the upper Price River basin, has a usable storage capacity of 65,780 acre-feet. Annual releases average about 45,000 acre-feet. Water in the area of the Belina mines is used for watering livestock and wildlife, mining coal, domestic use, fisheries, and recreation; the first three consume less than 0.1 percent of the water in the area. The communities of Clear Creek and Scofield are supplied with surface water from Finn Canyon and springs in Boardinghouse Canyon; domestic use is estimated to be 40 acre-feet per year. The OSM CHIA report concludes that there is no apparent hydrologic connection with the Belina mines and water supplied from Finn Canyon.

Water Quality

Surface waters in the upper Price River basin are fresh and are of a calcium bicarbonate type (Mundorff, 1972). Chemical analyses of 10 samples collected from Pleasant Valley Creek above Scofield Reservoir in 1975 to 1976 contained dissolved solids concentrations ranging from 380 to 566 milligrams per liter (mg/l); only one sample exceeded the limit of 600 mg/l recommended by the Public Health Service for human consumption.

Ground water in this mountainous area normally contains concentrations of less than 500 mg/l of dissolved solids. However, three samples of Belina mine drainage, probably from the Blackhawk Formation, contained dissolved solids ranging from 374 to 794 mg/l. All three exceeded allowable limits for human consumption in iron content but were within allowable limits for heavy metals and trace elements. Dissolved solids concentrations from natural sources increase as ground water migrates eastward toward the discharge areas of the Price and Green Rivers. (Reily, et. al., 1982 and Bowles, et. al., 1982).

Soils

Soils over the Belina Mines Complex belong to the Canyon and Ridgelands Association as described in the Soil Resource Inventory, Ferron-Price Planning Unit, Manti-LaSal National Forest, 1977. The portal and mine facilities sites for each of the mines occupy steeply sloping (30 to 50 percent) canyon

sideslopes. The dominant soils have developed in colluvial parent materials derived from sandstone. They have dark colored surface horizons with a silt loam to loam texture over sandy loam to clay loam textured subsoils, contain 20 to 60 percent coarse fragments, and are 20 to 40 inches deep. Because of soil conditions, steep slopes, and climate, only 50 to 80 percent of annual revegetation attempts are expected to be successful (Hagihara et al., 1972). Natural erosion by water where vegetation is present is estimated at about 0.2 cubic yards per acre per year, but the erosion potential could approach 20 cubic yards per acre per year when the soils are exposed (estimated using the universal soil loss equation described by the Soil Conservation Service, 1975). The soils lie on steep slopes which make them physically difficult to manage, increase the chance of instability, and increase the runoff potential (U.S. Geological Survey, 1979).

Vegetation

Most of the permit area is covered with conifer-aspen type vegetation on north-facing slopes and aspen type vegetation interspersed with sagebrush on south-facing slopes. Mountain meadow communities are scattered on upper slopes and ridges. No threatened or endangered plants have been identified within the permit area.

Wildlife and Fisheries

The permit area is located in a mule deer summer range on Utah deer herd unit 32. The present deer population is below the carrying capacity of the range and productivity is slightly below the State average. Parts of the permit area are known to be used by deer and elk for fawning. Winter ranges for deer and elk are somewhat remote from the mine complex area. The ranges are located 7 to 8 miles to the northeast and southeast from the permit area. Therefore, movement of these animals from summer to winter range parallel the permit area. This being the case, movement generally takes place in the lower valleys, i.e., the Pleasant Valley corridor. The mine currently does not restrict or impede movement to summer and winter range for mule deer and elk (Utah Division of Wildlife Resources, September 8, 1983 letter to Valley Camp).

Regionally, moose are known to use riparain bottoms as wildlife habitat. Moose were introduced into the Pleasant Valley area several years ago, however, poaching has reduced their number. Whiskey Gulch and Eccles Creek are not considered as important habitat for moose due to the steep topography limiting the width of the riparian bottoms (DWR, March 14, 1984).

Drainages within the mining plan area provide habitat for beaver. The trapping unit that includes this area ranks as one of the better beaver trapping areas in the State. Other species within the permit area include various raptors, bears, snowshoe

hares, blue grouse, ruffed grouse, and mourning doves. Sage grouse inhabit the area north and east of Scofield. The American peregrine falcon is an occasional visitor and bald eagles are fall visitors at Scofield Reservoir.

Fisheries in and near the area include Scofield Reservoir, Mud Creek, Huntington Creek, and their tributaries (Figure 3). Low flows due to seasonal water runoff, are the critical limiting factors controlling cutthroat trout reproduction in these streams.

Land Use

The zoning ordinances of Carbon County permit coal mining in the proposed area. All mining development on national forest land will be subject to the U.S. Forest Service (USFS) Ferron-Price Unit Management Plan, which was completed in 1978, and the present Price Ranger District Multiple Use Plan.

The USFS, through the land use planning process, has determined that subsurface mining is compatible with other uses of this land. Principal surface uses at present include producing forage and habitat for livestock and wildlife, watershed, recreational use by sightseers and hunters, and timber production.

There are special land use permits within the lease boundaries. Tenneco Oil has a 1.8-mile road right-of-way, which is used for access and maintenance of well sites on private land. Mountain Fuel Supply Company and Utah Natural Gas Company have a gas pipeline easement and a public utility has a special use permit for a communications building. The building is a small concrete structure used for telephone communications. The building, located in the south half of section 25, is within the gas pipeline easement and on top of the dike. Therefore, the building will not be impacted by potential subsidence. (See TA Chapter XXVI).

Cultural Resources

A cultural resources inventory of mine portals, transportation corridors, and service areas has been prepared for the Belina mines permit area, including Belina No. 1, Belina No. 2, and Utah No. 2 (Hauck, 1980). Five historic sites have been recorded within the permit area. Sites 27OU/1 and 27OU/2, both cabin foundations, will be directly affected by mining operations. Both sites were determined ineligible for nomination to the National Register of Historic Places (NRHP) by OSM and the Utah State Historic Preservation Officer (SHPO) (February 29, 1984) in conjunction with approval of the Skyline Mine. Therefore, mining operations will constitute a "No Effect".

Historic sites 42Cr388 (Utah No. 1 Mine), 42Cr389 (Green Canyon Sawmill) and 42C4390 (Nicolitus Mine) are located outside

the direct impact areas but within the permit area. All three sites have been recommended ineligible for nomination to the NRHP. OSM has received SHPO concurrence (February 29, 1984) on this determination (see the separate Cultural Resources TA included as Appendix B).

Additional cultural resources inventory will be conducted within the permit area during 1984. The applicant, in consultation with OSM and the Utah SHPO, has proposed measures to ensure that No Adverse Effects to any significant cultural sites which may be located within the permit area will occur as a result of mining operations.

Transportation

The permit area is accessible from U.S. Highway 6 via Utah Highway 96 and existing roads up Eccles Creek and Whiskey Gulch. Utah Highway 96 is the only all weather or improved asphalt access route to the Pleasant Valley-Scofield area. The Utah Department of Transportation is currently completing an improvement project on Utah Highway 96 which includes resurfacing and some widening.

Eccles Canyon Road is the only direct access route from the Sanpete Valley and Huntington Canyon to recreation areas and mines near Scofield. Summer traffic averages 50 vehicles per day, including recreation traffic, but snow closes the road in winter. The road is unimproved and is single-lane-wide above the Skyline Mine. However, the lower portion has been improved and widened to accommodate traffic to the Belina and Skyline mines. Current plans include completing the improvements, including asphalt surfacing to Utah Highway 31, in 1984. This will provide year-round access between Pleasant Valley, the Belina mines, and Sanpete County (UDOT, 1983).

Few vehicles travel the unimproved roads ascending Finn and Boardinghouse Canyons. These roads are private with locked gates to prevent through traffic.

The Denver and Rio Grande Western Railroad maintains the rail spur from the main line at U.S. Highway 6 to the Utah No. 2 Mine loadout facilities. The section south of the Utah No. 2 Mine is in disrepair. However, the track is being reconstructed to facilitate the Skyline loadout facilities at Eccles Creek.

Esthetics

Both national forest and private lands within and adjacent to the proposed project have a moderate scenic quality which is common throughout the area. They have few outstanding, unique, or distinctive qualities (Torgeson and Carpenter, 1975).

Socioeconomics

The Belina Mine Complex is located in the Pleasant Valley area of Carbon County, Utah. Scofield and Clear Creek, small communities near the mine, were created near the turn of the century as a result of coal mine development. The early mines began closing down in the 1930's and community populations dwindled. The communities are composed primarily of small wood frame and mobile homes. Because of nearby Scofield Reservoir, the communities and adjacent area are popular with fisherman and summer home owners. A lack of developable land and a lack of public services, particularly water and wastewater treatment systems, limit the growth potential of these communities. A moratorium on new hookups in Scofield has been in effect for over 5 years and will continue until adequate infrastructure facilities are developed. A number of ranches on leased land also occur in the area. Most miners working in the area live in the Price-Helper area and in northern Sanpete County (U.S. Office of Surface Mining, 1981).

III - SUMMARY OF THE OPERATIONS AND RECLAMATION PLAN

Valley Camp's Belina No. 1 Mine began operations in 1976 and is currently active in the Upper O'Connor Seam. At present, only limited amounts of coal are mined in the Belina No. 2 Mine. The proposed mine plan will include the operation of both the Belina No. 1 (Upper O'Connor Seam) and Belina No. 2 (Lower O'Connor Seam) Mines. Utah No. 2 (Upper O'Connor Seam) will not be in operation and no mining of the McKinnon Seam will occur under this permit action. Mining techniques employed by Valley Camp are room and pillar operations with secondary recovery of pillars. Coal is transported out of the mines by conveyor belts to a stacking tube and loadout facility. The coal is then transported by haul trucks to the main preparation plant and railroad loadout facilities adjacent to Utah No. 2. The coal is transported by rail to the buyers.

Underground mining operations in Belina Nos. 1 and 2 Mines will progress in a southwest direction from the portal to approximately the center of Section 36 (T13S, R6E, SLM) and west to the Connelville Fault in Section 25 (T13S, R6E, SLM).

Reclamation of the surface facilities will commence upon completion of mining operations. All buildings will be dismantled and removed. Sediment ponds will remain operational throughout the reclamation operations and until soil stability has been achieved. Backfilling and grading operations will occur to bring the cut slopes to a stable grade. The culvert that diverts undisturbed surface runoff under the surface facilities will be plugged and left in place.

When the mine was originally constructed, soil was not salvaged at the portal areas, haul roads, and the railroad loadout facilities. The Belina Mine Complex was originally constructed prior to the passage of SMCRA. After the passage of SMCRA, soil was salvaged from the office and main warehouse

construction site and from expansion at the Belina portals area. Soil removed at the Belina portals area has already been used for ongoing reclamation at the mine site and hence, will not be available for final reclamation. Substitute topsoil material to be used for final reclamation will come from within the permit area.

The substitute topsoil will be distributed over all disturbed areas except on slopes greater than 1.5 H:1V. The steeper slopes will have soil deposited in basins. These basins will then be hand planted at spacing of about 6 foot centers.

Revegetation will occur in the first favorable season following topsoil distribution. The topsoil will be scarified using a disc and harrow. The flatter areas will be seeded using a seed drill, while the steeper slopes will be both hydroseeded and hand seeded. The proposed seed mixture is found in Volume III, Appendix B, pages 22-34 of the PAP.

IV - LEGAL, FINANCIAL, AND COMPLIANCE INFORMATION - UMC 782.13, 782.14, 782.15, 782.16, 782.17, 782.18, 782.19, AND 782.21

UMC 782.13 Identification of Interests

Information required by this rule is provided in Volume I (Section 782.12), Volume V (Section 782.13), and Volume VI (Section 782.13) of the PAP, and responses to determinations of adequacy. The applicant is in compliance with UMC 782.13.

UMC 782.14 Compliance Information

Compliance information can be found in Volume I (Section 782.14), Volume V (Section 782.14), and Volume VI (Section 782.14) of the PAP. The applicant is in compliance with UMC 782.14.

782.15 Right-of-Entry and Operation Information

Information on the applicant's right-to-enter and mine coal can be found in Volume I (Section 782.15), Appendices A and B, and Volume VI (Section 782.15) of the PAP. The applicant is in compliance with UMC 782.15.

UMC 782.16 Relationship to Areas Designated Unsuitable for Mining

Volume I (Section 782.16) of the PAP states that the permit area is not within an area designated or under study for designation as unsuitable for mining (see BLM concurrence letter, October 21, 1983). The application is in compliance with this section.

UMC 782.17 Permit Term Information

Permit term information can be found in Volume I (Section 782.17) of the PAP and the 16 November 1983 response to the determination of adequacy. The applicant is in compliance with 782.17.

UMC 782.18 Personal Injury and Property Damage Insurance Information

A telephone conversation with Shannon Storrud, UDOGM, on 28 September 1983 verified that Valley Camp has an insurance policy in effect which meets the requirements of UMC 806.14. Therefore, the applicant is in compliance with this section.

UMC 782.19 Identification of Other Licenses and Permits

Licenses and permits are identified in Volume I (Section 782.19), Volume V (Section 782.19), and responses to determinations of adequacy. The applicant is in compliance with 782.19.

UMC 782.21 Newspaper Advertisement and Proof of Publication

The applicant has provided a copy of its notice of application for a permit to mine (addenda received by OSM 14 October 1983) as well as verification from the "Price Sun-Advocate" that the advertisement was published in four consecutive weekly editions (28 September to 19 October 1983). The application is in compliance with this section.

V - LAND USE - UMC 783.22, 784.15, AND 817.133

The applicant adequately describes the premining land uses in terms of environmental capability and productivity, and historical and existing uses (Volume II, page 104 through 109A, and Volume VI, pages 783.22-1 and -2 of the PAP).

Valley Camp of Utah has committed to a primary post-mining land use of wildlife (Volume VI, Appendix M) and a secondary land use of livestock grazing. The applicant has provided a description of the proposed use and the methods to achieve this use. All issues concerning reclamation of the haul road from Eccles Creek to the Belina mine portals may be found under UMC 817.156. The post-mining land use sections of the permit application are in compliance with UMC 784.15(b) and 817.133(a)

VI - CULTURAL AND HISTORIC RESOURCES - UMC 761.11(a)(3), 783.12(b) AND 784.17

Cultural and historic resources information is presented in Section 5 and Appendix C of Volume II of the PAP.

A cultural resources TA has been completed by OSM. Although not required by the Utah Surface Mining Act, various Federal laws require further consideration of cultural and historic resources

eligible for listing on the National Register of Historic Places (see Appendix B of this TA).

OSM has received concurrence from the Utah State Historic Preservation Officer (SHPO) (February 29, 1984) with a Finding of No Effect/No Adverse Effect. On the basis of this concurrence, UDOGM and OSM find that the proposed mining operation will not adversely affect any publicly owned park or place listed on the National Register of Historic Places.

The proposed operation will be in compliance with the requirements of UMC 761.11(a)(3), 783.12(b) and 784.17. The following standard condition is included as a condition of this permitting action.

Condition No. 1

If any previously unidentified cultural resources should be discovered during mining operations, the operator shall ensure that the site is not disturbed and shall notify the regulatory authority. The operator shall ensure that the resource(s) is/are properly evaluated in terms of the National Register of Historic Places eligibility criteria (36 CFR 60.6). Should a resource be determined eligible for listing on the NRHP, the operator shall consult with and obtain the approval of the regulatory authority concerning the development and implementation of mitigation measures as appropriate.

VII - GEOLOGY - UMC 783.13 AND 783.14

The description of the geology in the permit area is presented in: (1) The Geology and Coal Reserve Study (Gates Engineering Company, 1982); (2) Volume II of the PAP, Part 783.13 and 783.14, excerpted from the Hydrologic Inventory and Baseline Study of the Valley Camp Lease Area Carbon and Emery Counties, Utah, by Vaughn Hansen and Associates, 1980; (3) Volume IV of the PAP; Map B Coal Maps, Maps B-1a and b columnor sections; Maps F-1 and F-2 longitudinal and cross sections of the mine plan area; (4) Volume V of the PAP Part 783.14; (5) Volume VI of the PAP Appendix N; (6) a submittal dated 14 October 1983 showing a geologic cross section of the Belina mines and adjacent area; and (7) in the complete cumulative hydrologic impact assessment (CHIA report) report available from OSM.

The description of the geology provided in the sources mentioned above provides sufficient information down to the first aquifer [as required by UMC 783.14(a)] to be affected below the coal seam (i.e, the Star Point Sandstone) to serve as the basis of the ground water description for Section 783.15. The geology information has been reviewed and is determined to be complete and technically adequate. Key geohydrology issues addressed in the PAP and the CHIA report include: (1) the location of the intrusive dike encountered in the Belina mines and its influence on ground water flow; (2) the faulting present in the Belina

permit and adjacent area in relation to ground water discharge points; and (3) the offset of strata along faulted zones and the resultant potential to have more significant aquifers adjacent to mine workings. Additional information can be found in the CHIA report summary, Appendix A of this TA.

VIII - HYDROLOGIC BALANCE: SURFACE WATER - UMC 783.16, 784.16, AND 784.22

783.16 Surface Water Information

Surface water information can be found in Section 783.16 (Volume II of the PAP) and the Hydrologic Inventory and Baseline Study of the Valley Camp Lease Area, Carbon and Emery Counties, Utah (Vaughn Hansen Associates, January 1980).

Completeness was evaluated with regard to UMC 783.16 and 783.24(g) (Maps: General Requirements), UMC 793.25(g) (Maps: Cross-Sections, Maps, and Plans), and UMC 784.14(a) and (b) (Reclamation Plan: Protection of Hydrologic Balance). All sections are complete.

Compliance was determined as it relates to the technical adequacy of UMC 817.52 (Hydrologic Balance: Surface and Ground Water Monitoring) and UMC 817.54 (Hydrologic Balance: Water Rights and Replacement). The applicant's existing surface water monitoring program is in compliance; however, Valley Camp proposes to modify this program. The technical analysis of the proposed modification is presented below. In summary, the PAP complies with UMC 817.54 as it relates to surface water.

Valley Camp's original surface water monitoring program collected data from thirteen sites on and adjacent to the Valley Camp lease area. Currently, there are premonitoring sites upstream and downstream from the mine site monitoring for all disturbed areas. Originally, the monitoring was performed on a monthly basis (when accessible i.e., not snow covered) for water quantity and quality. After about one year the monitoring program was reduced to bimonthly (when accessible).

The applicant proposed (Vaughn Hansen Associates, 1980) several changes in his surface water monitoring program. These changes are being approved in part. In summary, Valley Camp has substituted stations VC-11, VC-12, and VC-13 for VC-7 and VC-8. Stations CS-1, CS-7, UPL-3, and UPL-10 are to be abandoned from the Valley Camp surface water monitoring program. Monitoring at Station VC-13 (Long Canyon) is suspended until at least one year prior to any potential underground impact (see Figure 6 for hydrology monitoring sites). Potential underground impact is defined as mining underneath the surface water drainage basin. No mining is proposed in this 5-year period application under the Long Canyon drainage basin. The applicant's recent request to extend mining into the south half of section 36 requires monitoring at VC-12, in Finn Canyon (see TA p. 26 for additional information).

Valley Camp also proposed to reduce their surface water monitoring schedule from every other month to quarterly (i.e. February, May, August, and November). This proposal is rejected. The CHIA report with respect to the Belina mines documented that there has been a large increase in total suspended solids corresponding to construction activities associated with the portal and haul road. Quarterly, or even bi-monthly, sampling is not sufficient to adequately measure the effects of mining or changes in total suspended solids concentrations. The following condition is designed to improve the Valley Camp surface water monitoring program to a level where total suspended solids can be accurately estimated. The condition also incorporates recent UDOGM policy regarding surface and ground water monitoring.

Condition No. 2

Valley Camp shall revise and submit to the regulatory authority for approval, their surface water monitoring schedule within 60 days of permit issuance. Surface-water monitoring shall be performed at stationns VC-1, VC-2, VC-4, VC-5, VC-10, VC-11 and VC-12. Streams shall be monitored monthly during the period from April through August. The monthly monitoring of streams shall include measurements of streamflow and water quality parameters according to the abbreviated water quality parameter list (i.e., sodium, calcium, magnesium, potassium, sulfate, bicarbonate, carbonate, chloride, total dissolved solids, total suspended solids, pH, field specific electrical conductance, and field temperature). Measurements of turbidity may be substituted for the measurement of total suspended solids following the development of an adequate site specific relationship between the two parameters. Twice a year the full suite of water quality parameters (according to the UDOGM guidelines) shall be analyzed. The complete suite of water quality samples shall be taken during a period of flow representative of the warm season low flow and the spring snowmelt highflow. A corresponding flow measurement shall be taken at the same time that water quality samples are taken

Ground Water (Springs): Each spring that is included in the monitoring network shall be monitored during the period from June through August. These springs are S24-12, S25-13, S36-17, S36-23, S36-19, S31-13 and S7-11 (see Figure 6). During the monthly monitoring period, measurements of flow, pH, specific electrical conductance (EC), calculated total dissolved solids, and temperature must be made. A quarterly flow measurement shall be taken together with a water qulaity sample. The water sample shall be analyzed according to the abbreviated schedule mentioned previously, excluding total suspended solids. Twice a year (spring and fall) a flow sample shall be analyzed according to the complete suite of paramenters listed in the UDOGM guidelines. Data shall be submitted quarterly to UDOGM and an annual analysis and summary of the data will be provided.

784.16 Reclamation Plan: Ponds, Impoundments, Banks, Dams, and Embankments

(b)(1) Sedimentation Ponds

Valley Camp has already constructed five sedimentation ponds: two at the Belina mines and three at the Utah No. 2 facilities. Ponds Nos. 1, 2, and 3 are located at the Utah No. 2 facilities. These ponds were built in 1979 and 1980. However, Valley Camp has proposed modifications to Pond No. 3 (approved with conditions by UDOGM dated 20 June 1983), and Valley Camp has proposed a new truck scale installation that would change the size of the disturbed area that drains into Pond No. 2 (letter from Valley Camp to UDOGM dated 25 July 1983).

Information pertaining to the sedimentation ponds can be found in section 784.12 (Volume III), Appendix A (Volume V), Section 784.16 (Volume VI of the PAP), and in "Office of Surface Mining Reclamation and Enforcement Compliance Survey in Clear Creek, Utah Area" (Vaughn Hansen Associates, October 1978), and in the modification letters cited above.

All sedimentation ponds were reviewed for technical adequacy for UMC 817.45 (Hydrologic Balance: Sediment Control Measures), UMC 817.46 (Hydrologic Balance: Sedimentation Ponds), and UMC 817.49 (Hydrologic Balance: Permanent and Temporary Impoundments). Sections 817.48 (Hydrologic Balance: Discharge Structures), 817.56 (Hydrologic Balance: Postmining Rehabilitation of Sedimentation Ponds, Diversions, Impoundments, and other Treatment Facilities), and 817.57 (Hydrologic Balance: Stream Buffer Zones) were also reviewed as they pertain to sedimentation ponds. The existing Ponds Nos. 1, 3, and 4 and the mine-water discharge pond were found to be in compliance with all pertinent sections, although Ponds Nos. 3 and 4 and the mine-water discharge pond have special conditions that must be noted.

The two sedimentation ponds located at the Belina mines are Pond No. 4 and a pond for the mine-water discharge. Mine water was originally discharged into a filter pond that was built in 1977 and discharged into an undisturbed drainage above the portal yard. This original pond did not perform adequately and Valley Camp stopped using the pond. During this period, Valley Camp conveyed the mine water to Pond No. 4. Partially because of this inflow of mine water (mean flow of about 0.5 cfs), Pond No. 4 has had a series of violations for exceeding the total suspended solids effluent limitations and for failure to prevent short circuiting (NOV Nos. 82-1-9-2 and 82-4-11-1). Remedial action for these violations included reconstruction of the filter ponds at the Belina mines. Approval of the new filter pond was given by UDOGM (letter to OSM dated 29 June 1983). The new filter pond was constructed in November, 1983 and has been functioning to reduce the TSS levels in Pond No. 4. No new violations have issued by the State or OSM since the construction of the pond.

The existing design for Pond No. 3 is totally in compliance. However, there were questions in the PAP pertaining to a modification of this pond. Specifically, the new modifications had a designed side slope of 1.8H:1V which is steeper than that allowed for in UMC 817.46C. UDOGM has received plans and design calculations (dated 1 June 1983) from Valley Camp's consultant that adjust the side slopes to 2H:1V or shallower on inside slopes and 3H:1V or shallower on outside slopes.

Sedimentation Pond No. 4 will be left as a permanent impoundment. Before abandoning the permit area, Valley Camp will remove the accumulated sediment, remove the principal spillway and seal that portion of the pond, and place a minimum of 18 inches of riprap material (12 inches or larger) on the interior of the fill slope (Section M, 9/14/83). The postmining landuse for the Belina portal area will be wildlife and livestock grazing.

The pond is large enough to prevent drying out due to evapotranspiration if the pond is full in May; therefore, the level of water will be sufficient to serve as a reservoir for macroinvertebrates. Because the area below the pond is already stabilized, the postmining pond should not result in the diminution of quality of water downstream, but the impoundment of water will reduce the water quantity. The pond has a storage volume of about 10 acre-feet, and the average annual volume of Whiskey Gulch above the mine area is about 29 acre-feet. Therefore, about one-third of the volume of flow from this part of Whiskey Gulch will be impounded. This storage volume will reduce as sediment accumulates and fills the pond.

Design of the permanent impoundment meets the criteria established under the U.S. Soil Conservation Service Practice Standard 378, "Ponds". This technical guide is appropriate since it covers ponds for livestock, fish and wildlife, recreation, and other uses for small ponds where failure will not result in loss of life or damage to homes, buildings, main highways, or public utilities. No principal spillway will be used, rather flow in excess of the storage volume will discharge through the emergency spillway. Perimeter slopes of the pond are presently stable and should remain stable after mining. The perimeter slopes are not steeper than 2h:1v. Revegetation of the pond area will be of the same type and timing as for the portal yard; therefore, erosion at the pond should be minimized.

In summary, Sedimentation Pond No. 4 meets the performance standards for permanent impoundments (817.49) and postmining rehabilitation of impoundments (817.56). However, Valley Camp still needs to get approval of the Utah State Engineer before they modify the pond and abandon the site. No condition is needed because this requirement is already part of their approval from the Utah State Engineer when they built the pond.

Pond No. 4 is designed to be in compliance with the regulations. However, the addition of mine-water discharge into the pond has exceeded the ability of the pond to properly treat the water. The diversion of the mine-water discharge into a separate pond should allow Pond No. 4 to again have the storage capacity to properly treat the water from the portal pad. Pond No. 4 also complies with the requirements of a permanent impoundment.

The mine-water discharge pond is technically classified as a sedimentation pond (UMC 701.5), but it is built of concrete in the shape of a rectangular box. Current sedimentation pond regulations are not flexible enough to allow for these types of treatment devices. The pond should be treated as an alternative treatment system. The pond is designed for and is currently meeting effluent limitations for total dissolved solids and to be stable; therefore, the pond is in compliance.

Buffer zone regulations require that no land within 100 feet of an intermittent stream with a biological community be disturbed by coal mining activities (unless the regulatory authority authorizes such action). Whiskey Gulch is an intermittent stream. It is uncertain whether there is a biological community in Whiskey Gulch, but these facts must be considered:

- Eccles Canyon Creek adjacent to and downstream of Whiskey Gulch has a biological community (Coastal States Energy, 1980);

- Underground mine-water discharge from the Belina mines has resulted in almost continuous flow in Whiskey Gulch below the portal yard since 1982 (Valley Camp surface water monitoring program); and

- Salamanders have been found at the Belina portal yard in Sedimentation Pond No. 4.

Because there is a biological community on the upstream and downstream reaches of Whiskey Gulch and because there has been almost continuous flow in Whiskey Gulch below the portal yard for the past two years, it is assumed that Whiskey Gulch has a biological community. Since Whiskey Gulch is an intermittent stream with a biological community, buffer zone requirements are applicable.

Most of the 1.79 mile haul road is within 100 feet of Whiskey Gulch. The portal pad site is located on a fill over Whiskey Gulch. Both of the structures were built prior to the passage of SMCRA, but they still must be considered as to whether the regulatory authority may authorize their placement within the buffer sones. The regulatory authority may authorize such activities if they comply with UMC 817.41 through 817.44 and that there will be no degradation of water quantity or quality.

This technical analysis has found that temporary and permanent diversions are already in compliance with UMC 817.41 through 817.44 (see page 16). Analysis of the surface water monitoring data confirms that there is no reduction in water quantity in Whiskey Gulch. However, the Belina CHIA report determined that during construction and early use of the road and pad there was degradation of water quality due to increases in total suspended solids (TSS). The CHIA report also suggested that these increases in TSS concentration were not at the level to cause material damage because the level does not exceed surface water quality standards for domestic, recreational, cold water aquatic life and agricultural uses.

Degradation of the water quality due to increases in TSS have been reduced since construction of the road and pad because of stabilization of the areas, flushing away of available material, and sediment control measures implemented by Valley Camp. Valley Camp continues to provide extra control measures such as their recent paving of the haul road and building of a mine-water discharge pond. TSS levels should continue to decrease over time, but they are likely to remain above levels found in undisturbed areas.

Most of the water quality impacts associated with the road and pad have already occurred. Levels of degradation have continued to decrease since the road and pad were constructed. OSM has considered (see EA page 6) the potential environmental benefits of enforcing the buffer zone requirements, however, reconstruction of the road and pad outside of the Whiskey Gulch buffer zone would not be prudent for the following reasons: 1) reconstruction of the road and pad would essentially cause the mine to close; there are no feasible alternative access routes to the portal area, 2) relocation of the pad would require closure and relocation of the Belina No. 2 portal and truck loadout facilities; this would create additional disturbance, and 3) relocation of the road and pad would create a new wave of sediment (3-10 years) into Whiskey Gulch. Therefore, the regulatory authority authorizes the use of the pre-existing haul road and portal yard within the Whiskey Gulch buffer zone.

The Utah No. 2 facilities were regraded around 1981 in order to decrease the drainage area flowing into Pond No. 2. According to the revised plans, Pond No. 2 has less than four acres draining into it, including the bath house and truck stop area and part of the truck loadout scales. In addition, Valley Camp cleaned out Pond No. 2 in the fall of 1983. A review of Valley Camp's NPDES self-monitoring reports shows no reported discharge from Pond No. 2.

Pond No. 2 is too small to achieve a detention time of 24 hours (UMC 817.46(c)). The pond is currently .4 acre/foot too small for total containment of the 10-year 24-hour event. However, Valley Camp has committed to enlarging the pond during the next construction season, spring of 1984 (July 25, 1983

letter to UDOGM). Valley Camp has further committed to submitting plans to the regulatory authority for review and acceptance prior to construction.

In summary, Sedimentation Ponds Nos. 1, 3, and 4 and the mine discharge pond are presently in compliance with 817.46. Valley Camp has committed to bringing Pond No. 2 into compliance with 817.46(c).

Pond No. 2 is the only sedimentation pond at the operation within 100 feet of a perennial stream. Pond No. 2 is adjacent to Mud Creek. Site visits have confirmed that the downstream embankment slope is riprapped all the way to the stream.

Analysis of the surface water monitoring data indicates that there are no adverse effects on the quality or quantity of waters in Mud Creek adjacent to Pond No. 2. The analysis was performed in the Belina CHIA report on monitoring stations VC-1 and VC-2. Therefore, the Utah No. 2 facilities are in compliance with UMC 817.57 (Hydrologic Balance: Stream Buffer Zones).

784.22 Diversions

Valley Camp uses diversions both at the Belina mines and the Utah No. 2 facilities. At the Belina mines, there are six open channel ditches and two culverts that drain unaffected runoff away from the disturbed areas. At the Utah No. 2 facilities, there are five culverts and one ditch that drain the undisturbed water away from or the disturbed water into the sedimentation ponds. All present diversions are temporary.

Valley Camp proposes to reconstruct the stream channel at Whiskey Gulch at the Belina portal yard after mining. This diversion of the stream channel will be a permanent diversion. The permanent diversion will be a channel over the portal yard, through Sedimentation Pond No. 4, and down the outslope along the edge of the fill. Information is available for the longitudinal profile and cross-section for the channel over the portal yards (Section 784.22, Volume VI of the PAP).

Diversions were evaluated for compliance for UMC 817.43 (Hydrologic Balance: Diversions and Conveyance of Overland Flow, Shallow Ground Water Flow, and Ephemeral Streams), UMC 817.44 (Hydrologic Balance: Stream Channel Diversions). UMC 817.56 (Hydrologic Balance: Postmining Rehabilitation of Sedimentation Ponds, Diversions, Impoundments, and Treatment Facilities), and UMC 817.57 (Hydrologic Balance: Stream Buffer Zones) were reviewed as they pertain to diversions.

All of the temporary diversions at the Belina portal yard are in compliance. Special note should be made of the flow velocities in the ditches and culverts. Peak flow velocities for the ditches will be in the range of 10 to 12 feet per second. Normally, this velocity range would be excessive, but the ditches

are on competent sandstone that functions as a rigid channel lining and should be stable at these velocities.

Where Ditch A-B enters Whiskey Gulch, the outflow velocity from the ditch may be greater than the flow velocity in Whiskey Gulch. Section 817.43(f)(3) requires that energy dissipators be used at these locations. Valley Camp has committed to use straw bales at this location as an energy dissipator (March 6, 1984). This will be adequate due to the small size of the area. This will provide the control necessary to show compliance with this section.

Flow velocity in the 42-inch culvert under the portal yard at the outlet would be over 10 feet per second for the 100-year, 6-hour precipitation event. The outlet is on top of the rock toe buttress of the fill. The rock toe buttress consists of boulders and cobbles from one to four feet in diameter placed by end dumping or moving with dozers in order to insure interlocking and proper resting of individual boulders. This compaction of the boulders and cobbles along with the large size of the rock will allow the rock toe buttress to be stable with the discharge flow from the culvert.

The inlet for the 42-inch culvert was designed with a trash rack (Figure D-1, Revision No. 3, November, 1983). A site visit showed that the designed trash rack has not been installed, although a substitute structure is in place. Trash racks are not required in the performance standards, but properly installed and maintained trash racks are necessary to help prevent clogging of the culvert. The newly designed trash rack has been constructed; however, due to snow cover, it has not been installed. Valley Camp has committed (March 6, 1984) to installing the new trash reck during the first construction season, spring 1984.

There is and will be no permanent diversion at the Utah No. 2 facilities (OSM Compliance "Survey on Clear Creek, Utah Area ", Vaughn Hansen Associates, 1978). There will be one permanent diversion at the Belina mines (see TA 18 for description). General riprap sizing information is presented in the PAP, November 15, 1983 DOA response. Valley Camp has provided information pertaining to riprap gradation in their letter of 15 November 1983. Valley Camp has committed to follow the guidelines established in the Army Corp of Engineers Riprap Design Mannual, HEC11 for riprap gradation for the reconstructed stream channel. This will be adequate to establish appropriate gradation.

The channel drop section for the overland channel below Pond No. 4 was constructed as part of the modification to the lower pad and Pond No. 4. Work was completed in 1980. Field inspections by the OSM staff and the consultants confirm that the channel drop section is stable due to the size of the riprap and the absence of the erosional problems.

In summary, the current temporary diversions at the Belina mines and the Utah No. 2 facilities and the proposed permanent diversion at the Belina mines are in compliance with UMC 817.43, 817.44, and 817.56. Compliance with respect to reclamation of the haul road from Eccles Creek to the Belina portals is addressed under UMC 817.156.

IX - HYDROLOGIC BALANCE: GROUND WATER - UMC 783.13 AND 783.15

The ground water resources are described in the following parts of the PAP:

- Volume II, Part 783.14;

- Hydrologic Inventory and Baseline Study of the Valley Camp Lease Area, Carbon and Emery Counties, Vaughn Hansen and Associates, 1980;

- Volume IV, Maps F, F-3, and F-5;

- Volume V, Part 783.15; and

- Volume VI, Appendix N.

The description of ground water resources in the sources mentioned above for the permit and adjacent area of the Belina mines has been reviewed and found to be complete and technically adequate. The information from these sources has been used to define the ground water resources in the permit and adjacent area of the Belina mines as presented in the complete report, Appendix B Chapter 2. Also see CHIA report summary, Appendix A of this TA.

The most significant ground water resources identified in the PAP and CHIA report (see Appendix B, Chapter 2) that are or appear to be in hydraulic connection with the Belina mines and, hence, may be impacted include:

- The baseflow of Eccles Creek via the O'Connor Fault zone;

- The Boardinghouse Springs that supply the Town of Clear Creek (water right Number 91-3586 belonging to Valley Camp of Utah, Inc.). This potential hydraulic connection to the Belina mines was interpreted as part of the CHIA report Report (see Chapters 2, 4, 5, and 6);

- The fractured Star Point aquifer associated with the O'Connor and Connelville Faults;

- The Star Point aquifer east of the O'Connor Fault; and

- Minor springs issuing from the Blackhawk Formation overlying the Belina mines.

The PAP is in compliance with UMC 783.13 and UMC 783.15

X - ALLUVIAL VALLEY FLOORS - UMC 785.19 AND 822

Eccles Creek within Eccles Canyon has been determined to not be an alluvial valley floor (AVF). This issue was addressed in the OSM technical analysis for the Skyline Mine. In addition, Whiskey Canyon and Pleasant Valley above the Utah No. 2 facilities were observed by OSM (August 1983) to be too narrow for flood irrigation or subirrigation agricultural activities.

Valley Camp's response (Volume V Apparent Completeness Review) mentions that the upper part of Pleasant Valley has historically not been flood irrigated. The PAP indicates that the lower part of Pleasant Valley (i.e., below the proposed Belina permit area) has historically been flood irrigated and may also be subirrigated near the stream channel. OSM staff evaluated the AVF characteristics of Pleasant Valley during a field trip in early August 1983. The field investigation confirmed the statements in the PAP, that the upper part of Pleasant Valley (near the Utah No. 2 Mine) is narrow and is generally not suitable for flood irrigation development. The lower part of the valley was observed to be flood irrigated. In addition, it appeared that grasses on the valley bottom may be subirrigated.

On the basis of the information presented in Volume V of the PAP and information gained during the field investigation, it is concluded that the surface topography, soils, water quality, and water quantity of lower Pleasant Valley (i.e., below the Utah No. 2 mine) are all suitable for flood irrigation agricultural activities. It is also likely that portions of Pleasant Valley are subirrigated for agriculturally useful species of plants. It is concluded, therefore, that lower Pleasant Valley is an AVF with the essential hydrologic functions of flood irrigation and possibly subirrigation. Conversely, it is concluded that the narrow valleys of Whiskey Canyon, Eccles Canyon, and Pleasant Valley above the Utah No. 2 mine facilities are not AVFs.

The analysis of probable hydrologic consequences and the CHIA report indicate that the base flow component of streamflow from Eccles Creek could be diminished by the Belina mining operations (see CHIA report Chapters 4, 5, and 6). However, during mining the ground water discharges from the mine would maintain flow in Eccles Creek. In addition, the applicant has committed to seal the mine workings (i.e. as determined safe by MSHA, see page 784.14-2 & 3 of the PAP) in the vicinity of the O'Connor Fault to allow accumulation of water to recharge the fractured materials that currently convey water to Eccles Creek. Within the mine, water encountered will be pumped to the vicinity of the O'Connor Fault. In this way, recharge to the O'Connor Fault zone and the corresponding discharge to Eccles Creek will be maintained during mining. Following mining, ground waters will flood the mine workings, after an unknown period, and ground

water flow to Eccles Creek will be maintained. Therefore, it is concluded that the quantity of water in Eccles Creek will be maintained to support the irrigation operations on the Pleasant Valley AVF.

Additional information developed in the CHIA report shows that water quantity will not be impacted either at the Belina mines nor the Utah No. 2 facilities. This study also shows that water quality will be within the agriculture and livestock limits for protection of beneficial uses of water (Utah Division of Health, October 1978). These conditions will prevail not only for the proposed 5-year permit term but also for the life of the mine. Therefore, the proposed operation will not materially damage the water supplied to the Pleasant Valley AVF and the Belina mines will not interrupt, discontinue, or preclude farming on the AVF.

The stream flow monitoring stations on Eccles Creek (see Chapter VIII of this TA) are considered adequate to determine if the Belina mines are affecting the water supply to the irrigation operation on the Pleasant Valley AVF. If water supplies are affected, the applicant has committed additional water rights to replace affected water supplies (see Chapter XI, UMC 783.17 and 817.54 in this TA). Therefore, the PAP is in compliance with respect to UMC 785.19 and 822.

XI - WATER RIGHTS AND REPLACEMENT - UMC 783.17, 817.53, AND 817.54

The applicant has identified and evaluated the probable impact of mining operations on existing ground water and surface water rights (see pages 36 to 42 of Supplement N, Volume VI of the PAP). The applicant also provides an adequate monitoring system for surface and ground water (see Chapter XII, UMC 817.52) to detect if mining-associated water losses will occur. If mining causes an interruption or cessation of flow associated with an existing water right or a perennial spring, the applicant has provided a sequence of measures to be taken to maintain the source of water including: diverting water to the site, hauling water, using Valley Camp's wells, developing a new source, or transferring water rights (see Volume VI, Appendix N, pp. 41-42 of the PAP). The PAP is therefore deemed in compliance with respect to UMC 783.17, 817.53, and 817.54).

XII - PROBABLE HYDROLOGIC CONSEQUENCES OF MINING
CHIA REPORT SUMMARY - See Appendix A of this TA

Surface Water

The applicant has made a determination of the probable hydrologic consequences (PHC) of mining in Section 784.14 (Volume III of the PAP) and in the "Hydrologic Inventory and Baseline Study of the Valley Camp Lease Area, Carbon and Emery Counties, Utah" (Vaughn Hansen Associates, 1980). Valley Camp has provided

baseline hydrologic data from January 1976 to September 1979. Additional hydrologic data were obtained from the quarterly hydrologic monitoring programs from October 1979 through June 1983.

Completeness was evaluated with respect to UMC 784.14(c) (Reclamation Plan: Protection of Hydrologic Balance). The applicant's PHC, along with subsequent submittals, was determined to be complete. Most of the evaluation of the anticipated hydrologic consequences was based on further analyses made in the CHIA report. A summary of the CHIA is found in Appendix A of this TA.

Compliance was determined for UMC 817.41 (Hydrologic Balance: General Requirements), UMC 817.42 (Hydrologic Balance: Water Standards and Effluent Limitations), and UMC 817.48 (Hydrologic Balance: Acid-forming and Toxic-forming Materials) as they pertain to surface water.

Analysis of the surface water monitoring data shows that the total suspended sediment concentration and load has increased below the Belina Nos. 1 and 2 Mines. Based on field observations and analysis of the NPDES records, it is concluded that the increases in suspended sediment are coming from the haul road and the portal area.

The Belina CHIA report determined that the increase in suspended solids load ranged from 2.5 to 20 tons per disturbed acre per year. The range is because the sediment carrying capacity increases during a high stream flow year versus a low stream flow year. The CHIA report also documented that impacts on Eccles Canyon are the result of other mining activities (Skyline Mine) and non-mining activities, i.e., on-going construction and improvements to the Eccles Canyon Road.

The increases in suspended sediment has impacted the fisheries production of Eccles Canyon Creek (see Chapter XVI). Recent improvements at the Belina mines will reduce the suspended sediment concentration and load. These improvements include paving the haul road and building a new filter pond for the mine discharge. It is unknown at this time to what magnitude these improvements will reduce the total suspended sediment concentration and load. The CHIA report estimates that 2-20 tons/acres/year of sediment may be produced at the mines; therefore, paving of the 11 acre haul road may potentially reduce the sediment load by 22-220 tons per year. A detailed analysis of the anticipated hydrologic consequences is presented in the CHIA report. Sufficient information is provided in the PAP and the CHIA report to find compliance with respect to the surface water aspects of UMC 784.14. Compliance with respect to reclamation of the haul road from Eccles Creek to the Belina portals is addressed under UMC 817.156.

<u>Ground Water - UMC 784.14, 817.50, 817.52, and 817.55</u>

The probable ground water hydrologic consequences of the Belina mines with respect to UMC 784.14 are discussed in the following parts of the PAP:

- Volume III, Part 784.14;

- Hydrologic Inventory and Baseline Study of the Valley Camp Lease Area, Carbon County, Utah, January 1980, pages 114-117;

- Volume V, Part 784.14; and

- Volume VI, Appendix N, pages 23-36.

In addition, the CHIA report defines the ground water impacts that are expected with respect to the Belina mines (see Chapters 4, 5 and 6). Ground water impacts that are predicted in the PAP and/or the CHIA report are as follows:

- Effects of ground water discharges from the Belina mines to the quality and quantity of receiving streams that are discussed in the CHIA report. Additional details of ground water/surface water interactions are discussed below.

- Under standard operating procedures, ground water intercepted in the Belina mines will be pumped from the mines and will be discharged from sediment ponds to Eccles Creek via Whiskey Canyon. This intercepted ground water is also the recharge to the local ground water system. More specifically, ground water flow via the O'Connor Fault (i.e., 200 gallons per minute) to Eccles Creek provides the principle baseflow to Eccles Creek. The Belina mines might potentially intercept almost all of the recharge to the O'Connor Fault zone, and therefore, could cause declines in the discharge of ground water to Eccles Creek along the O'Connor Fault. However, as described previously (see Chapter X), Valley Camp has committed to maintain water in the mine in the vicinity of the O'Connor Fault in order to preserve the base flow of Eccles Creek.

- The subsidence effect of the Belina mines indicates that surface cracks and potholes may reach the surface in areas where overburden is less than 400 feet over the Upper O'Connor Coal Seam (see Volume VI, pages 24-30 of the PAP). Plate 4, Volume VI shows the areas of potential subsidence. Within the area of potential subsidence water rights associated with 3 springs (91-1643, 91-3499, and 91-3500) may be impacted. For the three springs with water rights that may be affected, Valley Camp has developed a plan and has committed to replacing the water supply for the water users that may be affected (see Chapter XI-UMC 817.54).

- The CHIA report described the potential relationship between recharge intercepted in the Belina Mines Complex and the springs in lower Boardinghouse Creek, the main source of water for the

Town of Clear Creek. The source of recharge to this spring is believed to be primarily from the fault zones, south of the dike, just upgradient from the spring. There is a possibility that some reduction of flow will occur in the Boardinghouse Spring as a result of ground water intercepted within the Belina mine. The amount of expected decrease in flow is considered to be minimal. The average annual flow from the Boardinghouse Spring is 250 gpm; Clear Creek utilizes 61 gpm or 24 percent of this flow. A worst case analysis indicates that the Belina mines could intercept 26 gpm of ground water flow, or result in a 10.4 percent reduction. The town would still have 163 gpm available for use after removing the 61 gpm from the spring. In addition, no decrease of flow was reported as a result of the mining operations in the O'Connor mine which was located in Boardinghouse Creek (Jack Otanni; personal communication, 3/2/84). Due to the closer proximity of the O'Connor mine to the spring, the O'Connor mine would conceivably cause a greater reduction in flow than the Belina mine would; however, since no reduction occurred during the O'Connor mining activities, it is anticipated that no significant reduction of flow will occur as a result of the Belina operations. Therefore, this impact is not considered to be significant.

- Two wells, one in the Connelville Fault Zone (i.e., Coastal States Energy Well 91-1560) and one in the O'Connor Fault zone (i.e., Valley Camp's well 91-1691) may experience declines in well yield. These water reductions are not seen as significant and can be corrected by increasing the depth of the wells in the fractured Star Point Sandstone.

- Valley Camp's water rights associated with mine tunnel discharges (91-3596 and 91-3595) will also likely experience decreases in discharge as a result of dewatering operations in the Belina Mines Complex. However, these water rights are not currently being used and the impact is, therefore, considered not significant. The applicant is in compliance with UMC 784.14.

UMC 817.50 Hydrologic Balance: Underground Mine Entry and Access Discharges

The CHIA report concludes that gravity drainage will not occur from any mine access points because intercepted ground waters in the mine will move down dip (i.e., to the west) away from the mine entries. Therefore, UMC 817.50 does not apply to this PAP.

UMC 817.55 Hydrologic Balance: Discharge of Water into an Underground Mine

The applicant plans to discharge all excess water encountered in the mine workings via the portals and the system of sedimentation ponds they have constructed and have planned. Therefore, UMC 817.55 does not apply to this PAP.

UMC 817.52 Hydrologic Balance: Ground Water Monitoring

The Belina mines ground water monitoring program can be found in Volume VI, Appendix N, pages 18-21 of the PAP.

Several issues that have previously been raised with regard to the ground water monitoring program have been addressed in the recent addition to the PAP (Volume VI). The issues that have been adequately addressed include:

- Valley Camp will initiate sampling of springs 18 months prior to potential disturbance by the Belina mines;

- A commitment by Valley Camp to monitor all springs in the adjacent area that have water rights associated with them (i.e., 531-1, 531-5, and 531-11);

- A commitment by Valley Camp to monitor larger springs in the adjacent area of the Belina mines (i.e., 56-3, S25-2, S25-6, and 536-3), including the Boardinghouse Spring (532-3), which may receive recharge from the mine area via the intrusive dike that was encountered in the mines and which occurs near the Boardinghouse Spring.

In a letter dated March 9, 1984 to OSM, Valley Camp requested an extenstion of the present 5-year permit boundary, which would extend mining in Federal lease U-044076 to the southern boundary line of section 36 and in the southeast corner of section 35, Federal lease U-017354 (see cooresponding section). The applicant requests this extension for the purpose of confirming newly acquired geologic (seismic) data. This tentative geological information indicates that in this area, additional fault(s) up to 350 feet in displacement and another intrusive dike are present. Valley Camp is concerned about the location of the faulting and the dike and how it may interfere with the present layout of the mine. In order to effectively plan for the continuation of the Belina mine development, Valley Camp requested to extend development of their South Main Entries, or to (as the case may be) through the faulting and dike.

OSM has considered the hydrological implications of the requested extension. The CHIA considered all anticipated mining, which included the area of the requested extension. Since this area has already been included in the assessment of the cumulative hydrologic impacts, and faulting and intrusives have been considered on the whole, potential impacts have been addressed. The development of main entries into this area will provide additional confirmation on the hydrogeology as required by Condtions 3 and 4.

The determination of the anticipated hydrologic impacts relied heavily on information concerning the occurrence of ground water in mines in the Mud Creek drainage. The data search for the CHIA report concerning ground water inflow to mines

originated from personal communications with individuals that have worked extensively in the mines.

Ground water inflow information is considered important to document mining impacts on ground water resources in general. More importantly, monitoring of ground water inflow to the Belina mines would also document whether or not a significant water bearing zone had been encountered that may require some mitigating measure. Therefore, in order for the PAP to be in compliance with UMC 817.52, condition is necessary.

Condition No. 3

Valley Camp shall restrict mining in section 36; S1/2, Federal lease U-017354 and section 35; E1/2SE1/4, SE1/4NE1/4, Federal lease U-044076, to the development of the south Main Entries only. Updated information on the geologic structures (faults, dikes, fractures, channel sandstones, etc.) encountered in the mine as the result of this development shall be submitted as part of the applicant's annual in-mine ground-water monitoring program (see Condition 4).

Condition No. 4

Within 60 days of permit issuance, Valley Camp of Utah, Inc. shall develop and implement an in-mine ground-water monitoring program. This monitoring program shall be submitted for approval by the regulatory agency. The results of the monitoring program shall be reported on a quarterly basis and include a map of all points and/or areas of defined measurable flow (greater than 1 gpm) as well as an indication of the geologic source of the flow (channel sandstone, fault, fracture, lineament system, etc.). The map shall also show the location of in-mine sumps used to collect water as well as updated information on the geologic structures (faults, dikes, fractures, channel sandstones, etc.) encountered in the mine as a result of extended mining into Federal lease U-017354 and U-044076. The report shall also contain a discussion of the quantity, quality, and source of the water encountered. When new points or areas of measurable flow are first encountered, flow rate and field water quality parameters shall be measured. Field water quality parameters shall, at a minimum, consist of: pH, temperature, electrical conductance, and calculated total dissolved solids. Monthly, flow and field water quality parameters shall be measured. Quarterly, an abbreviated water quality analytical schedule for the samples shall be completed. The abbreviated water quality analytical schedule will, at a minimum, consist of the laboratory measurements for: sodium, potassium, calcium, magnesium, iron (total), chloride bicarbonate, sulfate, carbonate, pH, and TDS. A mass balance table of the cations/anions in milliequivalents per liter shall be required for each sample analysis. Biannually, and at the approximate same time each year, a comprehensive water quality analytical schedule for the samples shall be completed. The full suite of parameters to be analyzed

shall include those recommended in the UDOGM guidelines for establishement of surface and ground-water monitoring programs. If the number of measuring points becomes excessive, the applicant may request a modification of the number of sampling sites from the regulatory authority. In addition to the in-mine monitoring of ground water flow, the applicant shall account for all ground water consumption (evaporation and other losses) and transfers of water in and out of the mine.

UMC 817.57 Hydrologic Balance: Stream Buffer Zones

The applicant has committed to establish a buffer zone, where pillars will not be pulled, on either side of the perennial streams within the permit area to avoid the surface effects of subsidence. All the stream reaches within the permit area have been reclassified as intermittent streams by OSM (January 26, 1984). As a result of this new classfication the intermittent streams are no longer protected under UMC 817.126.

However, pursuant to this section: "...no land within 100 feet of...an intermittent stream and which contains a biological community...shall be disturbed by surface (underground) coal mining activities,...unless the Division specifically authorizes surface (underground) coal mining activities closer to or through such a stream upon finding- 1) that the original stream channel will be restored; and 2) during and after the mining, the water quantity and quality from the stream section within 100 feet of the underground coal mining activities shall not be adversely affected..." In the absence of information on biological commmunities in these intermittent streams, it will be assumed that each stream contains a biological community.

The portions of the stream reaches that are potentially going to be affected from subsidence (a disturbance of underground coal mining activities) are the headland reaches of these intermittent streams, which are adjacent to the Mud Creek/Huntington Creek basin divide. The main hydrologic role of the stream headlands is to receive snowmelt runoff waters and allow it to flow downstream. It has been determined that subsidence would not adversely affect the ability of these headlands to receive snowmelt runoff waters and allow it to flow downstream, nor would subsidence affect water quality. Even if subsidence cracks occured in the stream channel, the effects would only be temporary as subsidence cracks have been shown to be self-healing within a relatively short period of time (few days to a couple of weeks). Even if subsidence cracks intercepted snowmelt runoff, it would tend to recharge the aquifer systems that provide baseflow to the respective streams, until such time that the subsidence cracks self-heal through the aid of runoff. (DeGraff, S.V., 1981, Subsidence Crack Closure: Rate, Magnitude, and Sequence: Bulletin of the International of Engineering Geology, No. 23, p. 123-127)

The subsidence monitoring plan as described in the September, 1983 Hydrology Update (Appendix N) on page 30 commits to a plan which includes a late summer visual inspection of potential subsidence areas above the mines and an annual aerial photogrammetric survey. The visual inspection shall include the intermittent streams above the mines.

The applicant has not committed to restore the original stream channel of an intermittent stream, only a perennial stream. The applicant must commit to restore the original stream channels of the intermittent streams if disturbance occurs to be in compliance with UMC 817.57; therefore, the following condition is required.

Condition No. 5

Within 60 days of permit issuance, Valley Comp of Utah, shall revise and submit to the regulatory authority for approval the subsidence monitoring program to include the intermittent streams in the permit area. The applicant shall commit to restore the original stream channels of intermittent streams within the permit area that may be disturbed by underground coal mining activities, including surface subsidence effects.

XIII - CLIMATALOGICAL INFORMATION AND AIR RESOURCES

UMC 783.18 Climatological Information and Air Resources

The applicant has provided references for the information required by UDOGM under this section in the Coastal States Energy Skyline Mine permit application. Valley Camp's application (Volume V, 783.18, page 14) is in compliance with Section UMC 783.18.

UMC 784.26 Air Pollution Control Plan

No air quality monitoring program has been required by UDOGM. The applicant has a fugitive dust control plan and the approval of the Utah Department of Health to operate within limits which it set. The applicant is, therefore, in compliance with this section (Volume V, 783.18, page 14A-C).

XIV - TOPSOIL - UMC 783.21, 784.13(b)(3 AND 4), AND 817.21 THROUGH .25

Soil resource information can be found in Volume II (pages 83 through 103 and Appendix D) and Volume VI (pages 83 through 83B) of the PAP. Information pertaining to topsoil handling is presented in Volume III (page 27), Volume V (pages 22 through 22D), and Volume VI (pages 784.13(b)(4) - 1 and 2 and Appendix P) of the PAP.

Existing surface disturbance including interim reclamation areas (approximately 13 acres), occurs within three portions of

the permit area. The first disturbed area of approximately 20 acres is the Belina portals area. The second disturbed area of approximately 18 acres is the Utah No. 2 loadout and yard area. The third disturbed area of approximately 25 acres is the haul road from Eccles Creek to the Belina portals. The only topsoil salvaged from the previously disturbed areas has been redistributed for interim reclamation at the Belina portals area (approximately 4 acres). The applicant has proposed the use of substitute topsoil material for reclamation. Two sources of material are available; one source is located within the Belina portals and the other source is at the Utah No. 2 loadout and yard areas.

Specific information pertaining to the two sources of substitute topsoil material, including location and extent of source areas, laboratory data, suitability evaluations, volume calculations, and a design for a greenhouse study, have been provided by the applicant. However, for the application to be in compliance, deficiencies in the design of trials testing the feasibility of using substitute topsoil as a plant growth medium must be corrected. In addition, the applicant must provide more detailed information on the depth and location of substitute soil redistribution and the types and rates of soil amendments, including fertilizer, to be added to the respread substitute topsoil (see Condition No. 6 and 7).

The calculations of substitute topsoil volumes provided by the applicant are estimates of the amount of available material which must be removed in order that the areas currently occupied by the substitute topsoil be reclaimed to the final reclaimed grades. More precise calculations of volumes (includes swell factor) conducted by OSM for the two substitute topsoil sources indicate availability of approximately 2,204,290 cubic feet of material at the Belina portals area and 415,393 cubic feet of material at the Utah No. 2 loadout and yard area, based upon the applicant's maps and cross sections. The volume for the Belina portals source indicates substitute topsoil material is available in an amount sufficient to spread a thickness of approximately 6 inches over disturbed areas yet to be reclaimed within the Belina portals area. This source of substitute topsoil will also serve for the reclamation of the haul road. Compliance with respect to reclamation of the haul road from Eccles Creek to the Belina portals is addressed under UMC 817.156. The volume for the Utah No. 2 loadout and yard area source indicates substitute topsoil material is available in an amount sufficient to spread approximately six inches thick over disturbed areas yet to be reclaimed within the Utah No. 2 loadout and yard area. In order to provide a substitute topsoil redistribution plan that commits to spreading a uniform amount of substitute material at the Belina and Utah No. 2 sites, Condition No. 6 is required.

An evaluation of the physical and chemical data developed for both sources of substitute topsoil indicates both materials are capable of supporting plant growth and would enhance the

feasibility of reclamation of the Belina Mines Complex disturbed areas. This determination is based on the review of physiochemical and productivity data for soils, as described by the Soil Conservation Service (SCS), which occur in areas adjacent to the Belina Mines Complex. SCS soils reviewed in the evaluation of reclamation feasibility includes the Daybell soil series which is described as a poor source of topsoil due to an excess of coarse fragments (USDA-SCS and USDI-BLM 1981). However, this soil series produces an annual yield of air-dry herbage of 2,600 lbs per acre in favorable years and 1400 lbs per acre in unfavorable years for use primarily as forage for livestock and wildlife. The substitute topsoil materials have similar chemical and physical characteristics, except for the absence of excessive number of coarse fragments, to the Daybell soil. Therefore it is concluded that the substitute topsoil material will support revegetation. To substantiate this evaluation, greenhouse or field trials must be conducted.

The proposed design for a greenhouse study provided by the applicant to test the two substitute topsoil sources is inadequate in scope. The purpose of the trial is to confirm the ability of the substitute topsoil sources to support successful revegetation under environmental conditions (constraints) which are characteristic of the site and the site-specific reclamation plan. Therefore, for a greenhouse study to provide data valuable to the evaluation of the two substitute topsoil materials and vegetative response to each substitute topsoil material must be assessed under conditions such as: 1) moisture availability, 2) precipitation, 3) air and soil temperature ranges comparable to the sites of reclamation. In addition to standard background conditions, the greenhouse study must consider response to variables including thickness of topsoil over substrate, seed mixtures, fertilization rates, and aspect.

Due to the complexity of a greenhouse study which would require site-specific environmental conditions and testing in response to a number of variables, a favorable alternative to a greenhouse study would be field trials conducted at each of the disturbed areas. Field trials would provide the site-specific environmental conditions including choices of aspect and would eliminate problems associated with the greenhouse study.

When Condition No. 6 and No. 7 are satisfied, the applicant will be in compliance with UMC 784.13(b)(4) and UMC 817.21 through 817.25.

Condition No. 6

Within 60 days of permit issuance, Valley Camp of Utah, Inc. shall provide for review and approval by the regulatory authority, a plan to redistribute substitute topsoil material at a uniform thickness over all disturbed areas to be reclaimed, taking into consideration the total volumes of subtitute topsoil materials available at all substitute topsoil material sources.

Condition No. 7

Within 60 days of permit issuance, Valley Camp of Utah, Inc. shall provide for review and approval by the regulatory authority, a sound design for either field site trails or a revised greenhouse study. The permittee shall also provide a commitment to conduct either of these tests selected to the regulatory authority to demonstrate the feasibility of using the proposed topsoil substitute material pursuant to UMC 817.22(e). If Valley Camp of Utah, Inc. elects to conduct field site trials, the design of the trials shall include at a minimum: test sites at both the Belina portal area and the Utah No. 2 loadout area; the test of types and rates of soil amendments; a test for optimum topsoil depth, tests for each proposed seed mixture by appropriate aspect; and establish control plots for each test.

If Valley Camp of Utah, Inc. elects to conduct greenhouse studies, the existing design proposed in the permit application shall be revised to include at a minimum: tests for soil samples from both Belina portal area and Utah No. 2 loadout area, tests for types and rates of soil amendments, tests for optimum topsoil depth, tests for each proposed seed mixtures by appropriate aspect, and establish control plots for each study. The design of the greenhouse study shall simulate environmental conditions in the greenhouse (such as growing season, air temperature, soil temperature, soil moisture, precipitation, light, available rooting depth, and aspect) to those at the mine site.

The design of either the field site trials or the greenhouse study shall provide a monitoring schedule, identify methods for monitoring, analysis of seedling establishment and plant mortality, and standards for determining success of each test.

The applicant shall provide types and rates of application for amendments to be added to the respread substitute topsoil based on the laboratory data from either the greenhouse study or field site trials.

XV - VEGETATION - UMC 783.19, 784.13(b), AND 817.111-.117

Vegetation information can be found in the following sections of the PAP:

- Volume II, pages 39 through 51, Appendix F, and Appendix H.
- Volume V, pages 15 through 15N.
- Volume VI, pages 783.19-1 and 2, and replacement pages 15D through 15N-32.

. Volume VI, replacement page 783.19-3, (November 1983).

. Volume VI, replacement pages 783.19 through 783.19-4 (January 1984).

The Belina Mines Complex is an existing operation which was disturbed prior to collection of any vegetation information. The vegetation information provided in the PAP was taken from similar areas adjacent to the surface facilities within the proposed permit area.

A riparian community along Whiskey Gulch was buried by a valley fill when the Belina portals were constructed. The riparian community in all probability consisted of a narrow zone along the valley bottom composed of redtop, silver sagebrush, sedges, grasses, and numerous forbs.

The applicant has provided statistical analyses of sample adequacy for cover (Figure 2-15, Volume II and pages 783.19-1 and 2, Volume VI of the PAP) productivity (replacement pages 783.19-3 dated 4 January 1984), and tree density (replacement pages 783.19-3 and 783.19-4 dated 4 January 1984). The results of this analysis indicate that a sufficient number of samples were collected for the lower canyon spruce-fir sites, sagebrush site, Whiskey Canyon aspen and spruce-fir sites, and the portal yard spruce-fir site. The applicant collected the required number of samples to establish vegetation conditions within the 80 percent confidence level.

Reference areas have been established for all vegetation types that have been disturbed and which will require reclamation. The reference areas are at a minimum 56 percent similar in species composition to the validation sites. The reference areas (7) have been located on maps of the permit area.

Restoration of the riparian community has been adequately addressed. Adequate details on plant species composition, planting density, planting areas, and methods of planting were provided. As proposed, restoration efforts in Whiskey Gulch would result in the development of approximately 0.3 acres more riparian habitat than was lost because of mining activities. An estimated initial loss of approximately 0.1 acres of riparian community resulted from mining.

The application contains adequate site-specific seed mixtures for existing conditions within the permit area (see Appendix B, Volume III of the PAP). These seed mixtures provide a diverse plant composition and are of adequate amounts. Also, planting details are sufficient to determine the feasibility for successful reclamation. An interim seed mixture slightly different from that in the PAP was proposed by Valley Camp for interim reclamation of the Belina haul road (see September 15, 1983 letter from Trevor Whiteside of Valley Camp to Lynn Kuntzler of UDOGM). UDOGM, in a subsequent letter (29 July 1983)

determined the interim seed mixture to be adequate and approved Valley Camp's request.

Mining operations have disturbed a total of approximately 76 acres of vegetation (Belina Mine portals 29.5 acres; loadout facilities 21.6 acres; haul road 25.0 acres). Of this total, about 75 acres would be revegetated. Approximately 1 acre would remain unvegetated because of retention of Sedimentation Pond No. 4 as a wildlife mitigation measure (see TA page 34). In addition, it is estimated that 1,043 acres within the permit area may be subject to subsidence . (OSM CHIA, Figure 2).

The PAP is in compliance with UMC 783.19, 784.13(b), and 817.111 through 817.117. Compliance with respect to reclamation and revegetation of the haul road from Eccles Creek to the Belina portals is addressed under UMC 817.156.

XVI - FISH AND WILDLIFE RESOURCES - UMC 784.21 AND UMC 817.97

The applicant's fish and wildlife protection plan are found in the PAP and in the sections shown below:

FISH AND WILDLIFE RESOURCE SUBMITTALS

Section	Date of Submission	Pages
Fish and Wildlife Resource Data		
Vol. 2	November 1980	52-82F
Vol. 2, Appendix E	-	-
Vol. 2, Appendix I	-	1-68
Vol. 3, Section 784.21	-	86-88A
Vol. 5, Appendix I	12 May 1982	1-22
VCI Letter	29 July 1983	1-4
Fish and Wildlife Plan		
Vol. 3, Section 784.21	November 1980; January 1981 14 September 1982	86-88A
Vol. 3, Appendix D	27 January 1981	1-14
Vol. 5, Appendix I	12 May 1982	1-22
Vol. 6, Section 784.15	13 September 1983	1-5
Vol. 6, Section 784.21	14 September 1983	1-5
Vol. 6, Section 817.97	15 September 1983	1-5
Vol. 6, Appendix M Attachments 1-4	September 1983	+8
VCI Letter	29 July 1983	1-4
Supplemental Responses, Section 784.21	17 November 1983	17-17a
Supplemental Responses, Section 817.97	15 November 1983	18-18c
Supplemental Responses, Section 784.21	5 January 1984	17b-17d
Supplemental Responses, Section 817.97	6 January 1984	1-3

No threatened or endangered fish or wildlife species occur on the proposed mining plan area and no Federally-designated critical habitats are present (Volume 5, Appendix I of the PAP). The bald eagle, American peregrine falcon, and arctic peregrine falcon occur sporadically in the region, but do not reside or depend on habitats in the mining plan area. Documentation regarding threatened and endangered species from U.S. Fish and Wildlife Service (USFWS) has been received (letter dated 20 December 1983, from USFWS to OSM). Design and construction of power transmission and distribution lines will be in accordance with guidelines set forth in Environmental Criteria for Electric Transmission Systems and REA Bulletin 61-10, Powerline Contacts by Eagles and Other Large Birds (Volume III, Section 784.21). The golden eagle inhabits the mining plan area but no nest sites are known. The mining activities will not significantly affect the status of golden eagles in the area.

Five major fish and wildlife issues have been identified: (I) alteration of key wildlife areas; (2) disruption of raptor nest sites; (3) loss and degradation of riparian habitat; (4) degradation of aquatic habitat in Eccles and Whiskey Creeks; and (5) the lack of specifics in the applicant's fish and wildlife plan. Each of these issues is resolved in the following narrative.

The USFWS identified potential jeopardy to active raptor nest sites in Eccles Canyon (letters dated 13 September 1982 and 8 April 1983). The PAP is in compliance with UMC 784.21(b)(3) and UMC 817.97(d) because mining operations would occur outside the recommended 0.25 mile buffer zone during the breeding season as suggested by USFWS (see Volume VI, Attachments of the PAP and the USFWS letter of 13 September 1982). No jeopardy of the raptor nest sites should occur.

The USFWS (letter dated 8 April 1983), the Utah Division of Wildlife Resources (UDWR) (letters dated 8 September 1983 and 4 October 1983) and the UDOGM (letter dated 23 May 1983) expressed concerns about the protection and restoration of key wildlife habitat. Key wildlife habitat and features within the permit area include portions of deer and elk summer range. An estimated 17 perennial springs and seeps are scattered throughout the permit area and may constitute another high value habitat feature. The UDWR has designated the entire permit areas as being included in deer and elk summer range. Past mining activities have resulted in a total of about 76 acres of disturbance. The applicant has committed to restoring all 75 acres (Pond No. 4, 1 acre, will not be reclaimed) with a vegetative cover and composition conducive to wildlife uses. The applicant has: (1) provided a commitment to protect and restore wildlife habitat; (2) provided plans for restoring useable wildlife habitat; (3) committed to revegetate all disturbed areas (excluding Pond No. 4); (4) provided habitat enhancement measures; (5) committed to incorporating the recommendations of

the UDWR in locating random wildlife habitat plantings of trees and shrubs on reclaimed areas; and (6) provided a feasible plan for restoring lost riparian habitat (discussed in greater detail below). Compliance with respect to reclamation of the haul road from Eccles Creek to the Belina portals is addressed under UMC 817.156.

The generic, non-site specific nature of the provisions described in the proposed Fish and Wildlife Protection Plan in the initial PAP was a consistent concern expressed by the USFWS (letters dated 13 September 1982 and 8 April 1983) and the UDOGM (letters dated 25 June 1980 and 23 May 1983). The UDWR found the reclamation plan adequate (letters dated 4 October 1983 and 13 August 1982), but still had concerns regarding water quality impacts on the Eccles Creek fishery (letters dated 8 September 1983 and 14 September 1983) and the proposed permanent retention of the haul road (letter dated 4 October 1983). The submission of supplemental data and commitments by the applicant (November 1983 and January 1984) provided adequate information to resolve concerns about specific mitigation and/or restoration questions.

The degradation of water quality in Eccles Canyon Creek by siltation from the haul road and its resultant effects on the downstream fishery and aquatic life status was a concern expressed by the USFWS (letters dated 19 May 1980, 13 September 1982, and 8 April 1983) and the UDWR (letters dated 8 September 1983 and 14 September 1982). The applicant provided adequate plans and planting schedules for stabilizing the road shoulder with soil binding agents, implementing a suitable planting plan, utilizing suitable soil amendments, and selecting adequate plant species for the existing road conditions. Compliance with respect to reclamation of the haul road from Eccles Creek to the Belina portals is addressed under UMC 817.156.

The USFWS (letters dated 19 May 1980 and 8 April 1983), the USFS (letter dated 20 April 1983), and the UDOGM (letters dated 25 June 1980 and 23 May 1983) expressed numerous concerns about several aspects of riparian habitat. Concerns included the absence of: (1) riparian habitat mapping; (2) protection and restoration commitments; (3) description of restoration methods; and (4) subsidence impacts on riparian/wetland habitats. The PAP and applicant do: (1) provide a commitment to protect, enhance, and restore riparian habitat; (2) provide adequate plans for revegetating and developing riparian habitat in selected areas (Whiskey Gulch); (3) acknowledge impacts to riparian wetland habitats; and (4) propose a plan for monitoring, evaluating, and mitigating spring subsidence effects on wetlands and wildlife use.

The applicant's riparian habitat restoration plan will result in approximately 0.3 acres more habitat being available than was estimated present before mining disturbances began. Part of this area will include the sedimentation pond in Whiskey Gulch that will be retained as a wildlife watering source.

The PAP recognizes the potential effects of subsidence-induced losses of wetlands, riparian areas, and potential wildlife watering areas caused by dewatering of springs and seeps, some of which are perennial. Replacement and/or restoration of springs and seeps for wildlife purposes are addressed (as required by UMC 817.97(a) and UMC 817.41(a)(b)) in the PAP. Commitments are made to (1) monitor perennial springs and seeps within the subsidence zone, and (2) provide replacement flows for the loss of important springs and seeps. However, the PAP lacks mapping and descriptions of riparian and other wetland habitat, considered important in light of recent determinations of potential subsidence effects on springs and seeps. Such data are considered essential since both the USFWS and USFS identified potential impacts to streams, springs and seeps, and riparian habitats (USFWS letter April 8, 1983 and USFS letter April 20, 1983). The position of UDWR is that springs and seeps provide critical wildlife habitat for all wildlife and mitigation will be expected for any spring or seep impacted by the mining activity (UDWR letter to UDOGM, February 3, 1983). Even though the applicant has committed to a conceptual plan to identify and monitor springs and seeps and potential wetlands, specific details for implementing the plan were not provided, therefore, the following condition is required.

Condition No. 8

Within 180 days of permit issuance, Valley Camp of Utah, Inc. shall submit to the regulatory authority for review and approval an implementation plan for monitoring wetland and riparian areas in the entire subsidence area. The plan shall include: (1) a map locating all wetland and riparian areas; (2) a description of the size and plant characteristics of each wetland; (3) the source of water supporting each wetland; (4) details and commitment to restore or replace affected areas and water sources; and (5) a monitoring schedule.

The USFWS initially concluded that the Belina Complex would not affect threatened and endangered species (December 20, 1983). However, in a subsequent letter to OSM (January 16, 1984), the USFWS identified concern with all Utah mines utilizing and potentially depleting water from the Upper Colorado River system. The agency has identified the need to analyze the impacts of the depletions of water from the river as habitats for the Colorado squawfish and humpback chub. The USFWS feels there is a need for those who deplete the source to contribute to the conservation program designed to compensate for the loss of water from the system. The USFWS currently assesses a one-time fee of $15 per acre/foot to each water user depleting the source.

OSM's CHIA concludes, based on the applicant's estimate of evaporative losses and other information collected from nearby mines, that Valley Camp depletes approximately 49 acre/feet per year of water. Based on this figure, the applicant would be

obligated to contribute a one-time fee of $735 to the USFWS study program.

OSM is currently consulting with the USFWS on this issue. If the USFWS determines that the Valley Camp operation constitutes a significant effect on the river system, OSM will enforce the following condition:

Condition No. 9

Within 30 days of permit issuance, the permittee shall implement the mitigation measures identified in the USFWS letter dated April 19, 1984, and submit proof of such compliance to the regulatory authority.

XVII - PRIME FARMLAND - UMC 783.27, 785.17, AND 823

Valley Camp has provided documentation from the Soil Conservation Service stating that there are no prime farmland soils within the permit area.

XVIII - EXPLOSIVES - UMC 784.23(b)(9) AND 817.61 THROUGH .68

Valley Camp states in Volume VI, Section 784.11, page 4 of the PAP that there would be no blasting associated with its surface operations. Therefore, these sections of the Utah regulations are not applicable.

XIX - OPERATION DESCRIPTION - UMC 784.11 AND 784.12

Volume III of the PAP (pages 3A, 4, and 5 of UMC 784.11) contains a description of the existing and proposed mining support facilities. Map No. C-6 illustrates the facilities in place at the Belina No. 1 and No. 2 mine sites, and Map No. C-3 shows the facilities at the Utah No. 2 portal. Included in these facilities are the three sedimentation ponds at the Utah No. 2 mine and one sedimentation pond at the Belina site. Also included are the domestic wastewater treatment plant, the mine wastewater settling and filtration unit, culinary water well, Belina bathhouse, Belina shop/warehouse and Valley Camp mine office west of the Utah No. 2 mine. Further details of the domestic wastewater plant are shown on Figure 3-6B and the mine wastewater facility is shown in detail on Figure 3-6C. A section of the existing culinary water well is illustrated on Figure 3-6A.

The mine operation plan outlines the methods proposed for extraction of coal from Belina No. 1 and No. 2 mines. The Utah No. 2 mine is presently not active except for the coal loading facilities. Room and pillar coal extraction methods are presently being used at the Belina mines. Roof control plans found in Appendix B, Volume V of the PAP illustrate the proposed underground mining system. The applicant has commited to limit extraction of coal from areas defined by a 35 degree angle of

draw under existing gas pipelines, perennial streams, and other surface or near-surface structures (Volume VI, Appendix N). In accordance with the applicant's subsidence monitoring program this figure may be reduced as mining conditions change (see MMS letter, May 23, 1980, to Valley Camp and Chapter XXVI of this TA). The description of operations is in compliance with the requirements of the UMC 784.11 and UMC 784.12 regulations.

XX - BACKFILLING AND GRADING - UMC 784.13(b)(3), 817.101, 817.72, 817.73 AND 817.74

Post mining topography in the vicinity of the Belina portal area is illustrated on Map D-1 and post mining topography for Utah No. 2 is shown on Map D-3 (see Volume IV of the PAP). The information provided in the PAP demonstrates compliance with UMC 817.101, 817.72 - .73.

Because terrace slopes adjacent to the Belina portals exceed the allowable 2H:1V Valley Camp provided a plan for stabilizing the terrace slopes. The plan is considered adequate and therefore the applicant is in compliance with respect to UMC 784.13(b)(3).

XXI-COAL PROCESSING WASTE AND NON-COAL PROCESSING WASTE - UMC 784.13(b)(6), (b)(7), 784.16(c) AND (d), 784.19, 784.25, 817.71, 817.93, AND 817.103

The applicant has stated in paragraph 784.11, Volume VI, page 4, and paragraph 784.13(b)(7) page 1 and 2 of the PAP that no coal processing wastes are generated and that all non-coal wastes are disposed of at the Carbon County Sanitary Landfill. All non-coal wastes are stored at the mine site in metal trash containers prior to being transported to the landfill. The operation is in compliance with the requirements of these regulations.

XXII - MINE FACILITIES, COAL HANDLING STRUCTURES, AND SUPPORT FACILITIES - UMC 784.11, 784.12, 784.16(a)(2) AND (a)(3), 817.181

The description of mine facilities, coal handling structures, and support facilities can be found in Volume VI, paragraphs 784.11, 784.12, and 784.13 of the PAP. These structures are shown on map C-6 of Appendix O, Volume VI of the PAP. The major mine facilities include the main coal conveyor, stacker tube, underground coal reclaimer, and truck loading bin. Coal is hauled by truck to the railroad loadout facility at the Utah No. 2 facility or directly to the consumer. Support facilities include the office/warehouse west of Utah No. 2, the Belina shop/warehouse, and the Belina bathhouse. No coal washing is performed. The operation and facilities described are in compliance with the facilities' requirements listed above.

XXIII - ROADS - UMC 784.18, 784.24, AND 817.150 THROUGH 817.180

As-built drawings of the Whiskey Canyon access road, including road profile, plan location, sections, details of drainage, and auxiliary items, are shown on the supplementary road drawings, sheets No. 1, T-1, S-1 through S-4, P-1 through P-7, and D-1 through D-5 of the PAP. Sections and details of the ancilliary roads at Belina Nos. 1 and 2, Utah No. 2, and the Valley Camp office and warehouse are shown on Figure 3-32 and described on page 92 in Volume III of the PAP. Geotechnical analysis reports for slope stability of steep cut and fill slopes have been furnished in Appendix L of the PAP. Inclusion of the corrective measures for steep slopes recommended in Appendix L brings the work described in compliance with the requirements of those regulations.

Valley Camp has proposed to leave the Belina haul road from the Eccles Canyon Road to the Belina portal area after completion of mining and reclamation operations. The haul road and Belina portals are located on fee land. In accordance with UMC 817.133 and 817.156, OSM consulted with the private land owners to determine the acceptability of the applicant's plan and if the surface owners would accept responsibility to maintain the road (see OSM letter, December 14, 1983). Based on the applicant's as-built drawings of the road, OSM determined that maintenance would be essential to ensure the stability of the road after mining operations cease. The applicant and the landowners declined to accept liability and maintenance responsibilities for the haul road after bond release; therefore, the regulatory authority is requiring the applicant to restore the haul road right-of-way to a condition meeting the requirements of UMC 817.156. OSM informed the applicant (see letter of January 27, 1984) of its decision to establish a bond amount sufficient to cover the reclamation costs for the road. After permit issuance, Valley Camp may choose to submit a revision to the permit consisting of an alternative plan for reclamation which would be compatible with proposed (i.e. wildlife habitat) or revised post mining land use. If Valley Camp's alternative plans are found to be acceptable, the bond can be adjusted accordingly (see Chapter XXIV of this TA).

The applicant must prepare and submit to the regulatory authority a reclamation plan for restoring the haul road right-of-way (Condition No. 10). Preparation of this plan will require the applicant to revise the topsoil handling portions of the reclamation plan for the portal area. Review of the available substitute topsoil volume for the portal area indicates sufficient material to cover the portal area and haul road right-of-way with no less than 6 inches.

Condition No. 10

Within 180 days of permit issuance, Valley Camp of Utah, Inc. shall submit to the regulatory authority for review and approval a detailed reclamation plan to restore the Belina haul road in accordance with UMC 817.156. This plan must address, at a

minimum, removal and disposal of vegetation cover from fill slopes that would interfere with backfilling and grading operations, slope stability and source, backfilling and grading, topsoil handling, disposal of concrete and asphalt, removal of culverts and re-establishment of natural drainages, sediment control measures, and revegetation of the road surfaces and adjacent slopes.

XXIV - BONDING-UMC 805 and 806

Estimated reclamation costs are included as Appendix A (revised 22 February 1983) in Volume III of the PAP. These estimates were based on the assumption that Valley Camp would purchase topsoil. The applicant's current reclamation plan includes the use of substitute material from the loadout and portal areas as a plant-growth medium; therefore, importation of topsoil will not occur and the bond has been adjusted accordingly. In addition, OSM evaluated and revised the applicant's assumptions regarding backfilling and grading costs. The revised bond for the Belina Mines Complex is estimated by OSM to be at $1,521,214.00 as documented below:

Recalmation Bond Calculations

A. Portal Reclamation (PAP Volume III, Appendix A)

1. Belina No. 1	$ 13,500
2. Belina No. 2	11,700
3. Utah No. 2	9,982
Total Item A	$ 35,182

B. Sturctural Removal (PAP Volume III, Appendix A)

1. Concrete Structures	$ 10,638
2. Steel Structures	71,252
3. Conveyors	30,500
4. Misc. (Waterline, Sewer, Powerlines)	40,600
Total Item B	$152,900

C. Grading and Topsoil Application

Cost to move and spread 76,858 yds^3 of topsoil @ $1.60/$yd^3$	
Total Item C	$122,973

D. Revegetation (Total Acres=79.1, PAP Volume III, Appendix A)

1. Area Preparation (Rake and Clean) 462.94/ac x 79.1	$ 36,618

EXHIBIT 1

BELINA HAUL ROAD BOND CALCULATIONS

Earth work (assuming section at 60 + 100 as typical)
Approximate volume to be removed from side slope
Volume to be placed in cut = 106,000 yd^3
(Unit costs are from Dodge Guide)

(1) Clearing and grubbing (assume disturbed width 200')
Area = 25 ac
Light clearing and grubbing with disposal
$617/ac x 25ac = $15,425

(2) Remove and dispose of bit. concrete (asphalt surfacing)
9,300 tons @ 149 lbs/ft^3 T=6"

$$\text{Volume} = \frac{9{,}300 \times 2{,}000}{149 \text{ lbs}} \text{ lbs./ft}^3 = 124{,}832 \text{ ft}^3$$

$$\text{Area} = \frac{124{,}832}{.5 \text{ ft}} \text{ ft}^3 \times \frac{\text{yd}^2}{9\text{ft}^2} = 27{,}740 \text{ yd}^2$$

Cost = 27,740 yd^2 x .59/yd^2 = $16,367

(3) Remove culverts
900' l.f. 24" csp
900' x ($4.62/ft) = $4,158

(4) Earthwork
(a) Remove earth from down slope
(Assume total volume can be removed with dragline)
Assume hard clay and a 3 yd^3 dragline and casting to road surface
$1.30/$yd^3$ (1,300 yd^3/day)
106,000 x $1.30 = $137,800

(5) Move and spread by dozer, shape and compact
$1.97/$yd^3$ x $106,000 yd^3 = $208,820

(6) Revegetation
Area = 25 ac

(a) Haul and spread topsoil

$$25 \text{ ac} \times 43{,}560 \times .5 \times \frac{1}{27} = 20{,}167 \text{ yd}^3$$

20,167 (.67 + 2.58) = 65,543

(b) Area preparation
25 ac x $468/ac = $11,700

(c)	Fertilizing 25 ac x $428.33/ac	= $10,708
(d)	Seeding	
	25 ac x $600.90/ac	= $15,022
	TOTAL	$ 485,543
	10% mobilization-demobilization	48,554
	13% profit + adm.	63,121
		$ 597,218

Maint. 10 years at $100/ac	= $25,000
TOTAL BOND	= $622,000

2.	Hydroseeding (Fert. and seed) 649.35/ac x 41.4	26,883
3.	Fertilzer and seeding 794.27/ac x 37.7	29,944
4.	Mulching 12.5 ac (VCC's Figure) 400/ac x 12.5	5,000
5.	Shrubs and Trees 750 x .78/ea.	562
	Total Item D	$ 99,007

10%	Contingency (Items A, B, C, D)	$ 41,000
13%	Profit and Adm (Items A, B D)	37,322
10%	Mobilization and Demob. (Items A, B, C, D)	41,000
TOTAL		$899,000
Haul Road (See Exhibit 1)		622,000
TOTAL BOND		$1,521,000

The applicant has posted a $190,000 interim surety bond assessed for the disturbance of 38 acres at $5,000 per acre. Upon submittal of a bond to cover reclamation costs of $1,521,000.00, prior to permit issuance, the applicant will be in compliance with this section.

XXV - SEALING OF DRILLED HOLES AND UNDERGROUND OPENINGS - UMC 817.14 AND 784.13(b)(8)

The methods which have been used to plug and seal exploration holes are described in paragraph 817.31(b)(8) page 1, and illustrated in Figure 3-9A in Volume IV of the PAP. Proposed sealing of the existing culinary water well during the reclamation phase is also described on page 1 of the same paragraph.

Because the inactive Utah No. 2 mine will not be utilized for extraction of coal during the term of this permit, the mine has been sealed approximately 700 feet back from the portals. The portion of the mine between the portals and the seal is currently being used for material storage. The existing portals provide access to this storage area and are being ventilated. Access to the storage areas through the portals is controlled by locked doors which prevent unauthorized entry into the mine. The applicant is in compliance with UMC 817.14 and 784.13(b)(8).

XXVI - SUBSIDENCE - UMC 817.126 AND 784.20

The PAP includes a subsidence base map for the Valley Camp lease area (see Plate 3 of the PAP) and an illustration of

potential subsidence areas within the Valley Camp lease area (see Plate 4 of the PAP). Analysis of the potential for subsidence due to mining is included in Appendix N of the PAP as part of the Hydrology Update. This material is found at the back of Volume IV of the PAP. Using this information, OSM estimates that approximately 1,043 acres within the permit area may be subject to subsidence. Maps E2-006 and E1-0005 are included in Appendix C, Volume V and are used to illustrate how the applicant proposes to protect the existing gas transmission pipeline which crosses the mine site, a gas well and Boardinghouse Creek. The subsidence monitoring plan in use is described in Volume V and Appendix H.

The monitoring plan provides for establishing ground stations located by physical survey for vertical and horizontal position. Under agreement with the U.S. Forest Service, these points will be checked for movement by aerial photogrammetric methods on an annual basis. An angle of 35 degrees from the vertical is used at this mine. Where overburden depths are less than 400 feet, there should be no surface cracking or displacement due to the applicant's commitment to establish a sufficient buffer zone on either side of the pipeline within which no coal will be mined.

The applicant has committed to a similar approach to avoiding the effects of subsidence for the perennial streams and a gas well within the mining plan area. The applicant has acknowledged that springs may be lost in areas where overburden is less than 400 feet thick. A commitment is provided with respect to perennial streams to leave coal pillars in place beneath the streams within the angle of draw. OSM has reclassified the streams within the permit area as intermittent, therefore, Valley Camp's commitment and monitoring plan must be adjusted (see TA discussion under UMC 817.57, page 28). In accordance with information collected through the applicant's subsidence monitoring program, the angle of draw may be adjusted. This approach was approved by MMS on May 23, 1980, in a letter to Valley Camp (see correspondence section). The USFS lease (Utah 067498; January 1, 1962) covering the Belina Mines Complex stipulates that: 1) underground mining operations shall be conducted in such a manner so as to prevent surface subsidence that would cause damage to surface structures (USFS Condition 11), and 2) surface structures lost or damaged as a result of mining activities are to be replaced or restored (USFS Condition 15). The requirements of this permit are in agreement with the applicant's commitments and will provide for the protection of the gas pipeline in accordance with UMC 817.126 and 784.20. The angle of draw may be reduced, as supported by the applicant's monitoring plan. If subsidence affects the pipeline, the applicant must replace or restore the structure in accordance with the USFS lease condition (see USFS letter to OSM, March 7, 1984). The information provided is considered adequate and the PAP is in compliance with UMC 817.126 and 784.20.

XXVII - SPECIAL CATEGORIES OF MINING OTHER THAN ALLUVIAL VALLEY FLOORS AND PRIME FARMLAND

Not applicable.

XXVIII - MISCELLANEOUS COMPLIANCE

Regrading or Stabilizing Rills and Gullies - UMC 817.106

The applicant has committed to regrading and stabilizing rills and gullies (Volume V). The applicant would accomplish this operation after the rills or gullies have been filled and graded. These areas would then be reseeded, interseeded, and replanted, and appropriate measures taken to avoid additional erosion. The PAP has complied with the requirements of UMC 817.106.

Contemporaneous Reclamation - UMC 817.100

The applicant has provided sufficient documentation that reclamation efforts would be carried out contemporaneously throughout the mining operations. This specifically includes backfilling, grading, topsoil handling, and revegetation (Volume III, page 23). The PAP demonstrates compliance with UMC 817.100.

Signs and Markers - UMC 817.11

Valley Camp states in its PAP (Volume VI, Section 784.11, page 5) that the required signs and markers would be posted. Drawings are included illustrating specifications of these signs and markers (Volume VI, Section 784.11, Drawings A5-0064 and A5-0065). The applicant has complied with this section.

Compliance with Clean Air and Clean Water Acts - UMC 784.13(b)(9)

The applicant's two requests for approval for development and an amendment for increased production were approved by the Utah Department of Health in letters dated 23 May 1975, 7 May 1980, and 17 August 1981, respectively, with 14 conditions attached. The stipulated approvals are sufficient for the State of Utah and OSM (conversation with Floyd Johnson, OSM, 29 September 1983) to find the applicant in compliance with the Clear Air Act. The Utah Department of Health determined that no PSD permit would be required (17 August 1981 letter from Utah Department of Health to Valley Camp, Inc.). The applicant has not exceeded the tonnage limit of 2.25 million tons of coal per year set in the approval letter. The 5-year plan projects an increase in production to 1.93 million tons per year.

The applicant holds an NPDES permit (No. UT0022985) from EPA Region VIII which allows discharge to Mud and Whiskey Creeks. Violations issued in the past historically exceed TSS limits. There are no current outstanding violations due to the applicant's redesign and construction of the mine water filtration pond. No fines have been levied against the company. According to Rob Walleen (EPA Region VIII, 6 October 1983), the applicant is in compliance with the Clean Water Act since no

dredge and fill permits are required from the Corps of Engineers and the applicant currently holds the proper NPDES permits. The applicant is in compliance with the Clean Air and Clean Water Acts.

Public Notices of Filing of Permit Applications - UMC 786.11

The applicant has placed an advertisement in the Price Sun-Advocate (addenda received by OSM 14 October 1983) which complies with the requirements of this section.

XXIX - OPERATIONS ON LANDS SUBJECT TO LIMITATIONS OR PROHIBITIONS - UMC 762.11 AND 786.19(d)(2)

The proposed permit area is not within an area designated or under study for designation as unsuitable for mining. The applicant's statement required by UMC 782.16 is located in Volume I, page 24 of the PAP. The proposed operation is in compliance with the requirements of this section.

STATE OF UTAH
NATURAL RESOURCES
Oil, Gas & Mining

Norman H. Bangerter, Governor
Dee C. Hansen, Executive Director
Dianne R. Nielson, Ph.D., Division Director

355 W. North Temple • 3 Triad Center • Suite 350 • Salt Lake City, UT 84180-1203 • 801-538-5340

April 29, 1985

CERTIFIED RETURN RECEIPT REQUESTED
P-396-996-975

Mr. Trevor Whiteside
Chief Engineer
Valley Camp of Utah
Belina Mine Complex
Scofield Route
Helper, Utah 84526

Dear Mr. Whiteside:

Re: Abatement Plans for Notice of Violation #N85-2-3-2, Utah No. 2 Loadout, Belina Complex, ACT/007/001, #3 and 7, Carbon County, Utah

The Division's Technical Staff has reviewed the March 27th and April 15, 1985 submittals from Valley Camp addressing the violation #N85-2-3-2, 1 of 2 and 2 of 2. Based on the plans submitted, Valley Camp proposes to construct drainages ditches along the outslope of the coal stockpile to convey runoff to sediment ponds # 1 and 2. Valley Camp also proposes to reconstruct the diversion ditch on the inslope of the haul road, across from the truck scale. This ditch will direct runoff water through the culvert beneath the haul road to the sediment pond. This concept is acceptable to the Division.

The Division's review shows errors in Valley Camp's peak flow calculations for the four areas contributing to the diversion ditches. Using the SCS curve number technique for determination of peak flow, the Division estimates a peak for area 1 of 1.33 cfs; for areas 2 and 3, 2.61 cfs; and for area 4, 0.21 cfs. The discrepancy in peak flow estimates is attributed to the methodology of peak flow determination used by Valley Camp. The SCS technique requires the use of a site specific rainfall distribution rather than the application of a uniform distribution of rainfall over a 24 hour period.

APPENDIX "A"

CUMULATIVE HYDROLOGIC IMPACT ASSESSMENT SUMMARY
MUD CREEK BASIN

INTRODUCTION

This is an assessment of the probable cumulative hydrologic impacts of all anticipated mining in the Mud Creek Drainage Basin with respect to Valley Camp's Belina mine.

The lease area of the Belina Mine Complex is located within two major drainage basins: the Price River and Huntington Creek drainage in the northern Wasatch Plateau. On the Huntington Creek side of the divide, the hydrology is related to runoff from undisturbed surface lands only and is, therefore, not considered as part of the cumulative impact area since there are no anticipated effects to this basin as a result of mining.

On the east side of the drainage divide, Mud Creek (previously known as Clear Creek and Pleasant Valley Creek) drains into the Scofield Reservoir which in turn releases water into the Price River. The portals to the Belina mine are located along an intermittent stream in Whiskey Gulch, a tributary to Eccles Creek. Eccles Creek, a perennial stream, drains into Mud Creek. Also draining into Mud Creek in the vicinity of the Belina Mine Complex are Boardinghouse Canyon and Slaughterhouse Canyon, both perennial streams. Other tributaries to Mud Creek above Scofield Reservoir are Long, Finn, Broads, Green, Winter Quarters, and Woods Canyon Creeks.

GEOLOGY

The lowermost strata of importance in the area is the Masuk Shale member of the Mancos Shale formation. Above the Masuk are the Star Point Sandstone, the Blackhawk Formation, and the Price River Formation including the basal Castlegate Sandstone member.

The Masuk Shale grades upward into, and interfingers with, the Star Point Sandstone. The hydrologic characteristics of the Masuk are very poor: and the Masuk is considered as a lower confining bed for the Star Point, characterized by low vertical and horizontal permeabilities even when associated with faulting.

The Star Point Sandstone generally consists of the predominant sandstone tongues with interbedded shales and siltstones in between. The Star Point is about 600 feet thick in this area and interfingers with the Blackhawk formation above. The Star Point Sandstone tongues are generally massive and medium grained and are occasionally broken by shale lenses of low permeabilty. These massive sandstones have generally poor hydraulic characteristics, but the water-bearing characteristics of the more massive units are greatly enhanced by the localized faulting and secondary fracturing and jointing that has occurred. Springs and seeps in the Star Point area are common. Fractured and faulted zones in the Star Point are characterized by relatively large discharge rates and low seasonal variability inflow rates.

The Blackhawk Formation is about 1500' thick in the area and consists of fluvial channel sandstones and intercalated shale, siltstone, and coal. The channel sands are more dominant in the upper half of the Blackhawk than in the lower half. The channel sandstones are generally local in extent in that they are relatively narrow across but are long lengthwise, meandering as fluvial deltaic streams will. The discontinuous nature of these channel sandstones makes ground-water movement through the Blackhawk formation somewhat irregular, resulting in perched aquifers within the channel sandstones.

About 300 feet of the Castlegate Sandstone member of the Price River Formation overlies the Blackhawk Formation. The Castlegate is a cliff-forming, coarse-grained, fluvial, sandstone-and-pebble conglomerate that is considered to be good aquifer material. Springs and seeps are common in the gradational contact of the Castlegate and Blackhawk.

Several major en echelon (step-like) faults trending northeast-southwest and a dike up to 230' thick trending east-west at Boardinghouse Canyon extend through the Mud Creek drainage. The major faults in the area are (from east to west) the Pleasant Valley, the O'Connor, the Connelville, and the Valentine faults. These faults are generally scissors faults with varying amounts of displacement (ranging from only a few feet to over a thousand feet) at the northern and southern ends of the faults. They are generally high-angle, normal faults, down-dropped on the west.

Available information indicates that faulted zones in the Blackhawk Formation have not significantly increased the hydraulic properties except where sandstone strata are connected across the faulting, whereas faulted zones within the Star Point do have greatly improved hydraulic properties. The lamprophyre dike is believed to be a low permeability ground-water flow barrier.

Ground-water movement down and through the Blackhawk to recharge the Star Point is enhanced by faults and fault zones. It should be noted that lateral ground-water movement and discharge from its faulted zones in the Blackhawk to streams is negligible. Ground-water movement in the Star Point moves preferentially along fractured zones in the sandstone tongues and is discharged where these fractured sandstones are exposed along the valley margins. Discharge from fractured Star Point occurs at a relatively high rate, with little seasonal fluctuation. As a result, the Star Point is the main source of baseflow in the Mud Creek and Eccles Creek drainages.

DELINEATION OF CUMULATIVE IMPACT AREA

Different areas have been delineated for the ground-water and surface-water cumulative impact areas (CIA's). The ground-water CIA was delineated on the basis of the hydrogeology of the area. The eastern boundary of the CIA is the Pleasant Valley Fault zone, a major ground-water system in itself which will buffer ground-water effects from the Belina mines from occurring east of the fault. The northern and

southern boundaries were placed on arbitrary topographic boundaries, and the western boundary was placed on the Huntington Creek-Mud Creek drainage divide. For the surface-water CIA, drainage that does not contribute to the Mud Creek was assumed to be outside the limits of the CIA. Drainage from the Belina lease area in the Huntington Creek basin is from undisturbed surface lands only. The only possible impact to this area is from possible subsidence, which, in the undisturbed area, is determined to be unlikely; therefore, this area was excluded from the Belina CIA.

ANTICIPATED MINING

Three mines are currently operating in the CIA. These mines are the Skyline No's 1, 2, and 3; the Blazon No. 1 (temporarily closed); and Belina No's 1 and 2. Proposed mining includes the Scofield mine and the Kinney No. 2 mine. The assessment considered that all five mines would be operating for approximately forty years.

HYDROLOGY

General

Surface water is a calcium bicarbonate type and is generally of good quality. Baseline total dissolved solids (TDS) has ranged from 171 to 391 mg/l with a mean of 315 mg/l. Ground water is also of a calcium bicarbonate type and is also of good quality. Values for ground water are generally between 300 and 600 mg/l TDS.

Mud Creek provides about 16 percent of the annual flow into Scofield Reservoir, estimated to be 8,844 acre-feet per year with an average flow rate of 2 to 4 cfs. Estimated ground-water flow into Scofield Reservoir from the Mud Creek basin is about 15 acre-feet per year (.02 cfs average).

Surface Water Impacts

Four scenarios were used in the computer model to evalute potential cumulative effects from all anticipated mining in the CIA, using variable mine discharge rates and either a high or low value for the water quality parameters.

Quantity: Increases in streamflow were predicted for all four scenarios. The predicted streamflows into Scofield Reservoir are almost double the present 2-4 cfs average flow. The largest increases were predicted for baseflow conditions August through March.

Quality: Increases were predicted for all dissolved and suspended sediments. Quality will be discussed here with respect to total dissolved and suspended solids (TDS and TSS). Predicted increases in TDS load for the four scenarios ranged from 210 to 720 tons per year using scenario baseline values of 393 to 526 mg/l. This compares with a current mean TDS load of 3000 tons/year (7 to 24 percent increases). Utah has set a primary drinking water criteria for TDS at 2000 mg/l.

The amount of total suspended solids has occurred in two extreme conditions as a result of variations in flow: 2.5 tons/acre/year in a low streamflow year to 20 tons/acre/year in a high streamflow year, making prediction of TSS increases as a result of mining operations difficult. Over the life of the mines (40 years), an additional 4120 to 33,000 tons is expected to be deposited in Scofield Reservoir. This will only reduce the storage capacity of Scofield by a maximum of 0.2 percent.

Since no water quality criteria are expected to be exceeded and since reduction of storage capacity at Scofield Reservoir is basically insignificant, water quality impacts are considered minimal.

Ground-Water Impacts

Ground-water quality was determined to not be affected from the mining operations. The impact of this intercepted ground water on the flow and quality of Mud Creek has been evaluated in the surface-water analysis.

The amount of ground water that will be intercepted in the mines cannot be quantified with the available information; however, mine discharges can be reasonably predicted using ground-water inflow data from other mines in the area. At a maximum, mine inflow will be on the order of 224 gpm.

Ground-water baseflow to Eccles Creek is believed to be primarily from the O'Connor fault zone which crosses the permit area. The baseflow from the O'Connor fault to Eccles Creek is on the order of 200 gpm. If ground water in the vicinity of the O'Connor fault is intercepted within the mine, then this would also intercept the baseflow to Eccles Creek. The applicant has committed to maintain water in the mine in the vicinity of the O'Connor fault in order to preserve the baseflow to Eccles Creek from this source; therefore, this impact is considered minor.

Within the areas of potential subsidence, three springs with water rights may be affected from subsidence. For these springs, the applicant has committed to replacing the water supply for the water users that may be affected; therefore, this impact is considered not significant.

Ground water intercepted in the mines may result in minimal reduction of flow to the spring in lower Boardinghouse Canyon. The reduction in flow to this spring is considered minimal and, consequently, this potential impact is considered to be not significant (see TA chapter XII, UMC 784.14, 817.50, 817.52, and 817.55).

Two wells, one in the Connelville fault zone and the other in the O'Connor fault zone, may experience declines in well yield as water is intercepted from these fault zones in the mines. These wells are owned by the mining companies and can be made deeper to improve yield, if necessary. This impact is considered minimal.

The applicant holds water rights associated with mine tunnel discharges. These discharges will likely experience some decrease in flow rate as a result of dewatering the aquifer system; however, these water rights are not currently being used, and the impact is considered not significant.

FINDING

It is concluded from the cumulative hydrologic impact assessment report and the technical assessment that increases in total dissolved solids, total suspended solids, calcium, magnesium and phosphate will occur; however, these increases have been determined to not cause material damage to the surrounding hydrologic balance. In addition, springs with water rights (other than Valley Camp's) may have a diminution in flow; increased streamflow from mine discharges will occur in Eccles Creek and Mud Creek; and an unknown number of springs currently used by wildlife may possibly decrease in flow. The applicant provided mitigating measures to minimize impacts to the hydrologic balance where potential impacts were considered important to local users or wildlife; therefore, it is determined that the mining operation has been designed to prevent material damage to the hydrologic balance outside the proposed mine plan area for the life of the proposed mining operation.

Appendix B

TECHNICAL ANALYSIS
BELINA MINES
VALLEY CAMP OF UTAH, INC.
Carbon and Emery Counties, Utah

Cultural Resources

A. Description of Existing Environment

A cultural resources inventory of mine portals, transportation corridors and service areas has been prepared for the Belina Mines permit area (including Belina #1, Belina #2 and Utah #2) (Hauck 1980). Five historic sites have been recorded within the permit area. Sites 270U/1 and 270U/2, both cabin foundations, will be directly affected by mining operations. Both sites were determined ineligible for nomination to the National Register of Historic Places (NRHP) by OSM and the Utah State Historic Preservation Officer (SHPO) in conjunction with approval of the Skyline Mine (Attachment 1). Therefore, mining operations will have No Effect on these sites.

Historic sites 42Cr388 (Utah No. 12 Mine), 42Cr389 (Green Canyon Sawmill) and 42Cr390 (Nicolitus Mine) are located outside the direct impact areas but within the permit area. All three sites have been recommended ineligible for nomination to the NRHP, and OSM has received SHPO concurrence with the recommendations (Attachment 2). There is no need to seek Determinations from the Keeper of the National Register of Historic Places or to consult with the Advisory Council on Historic Preservation, due to the SHPO's concurrence.

B. Description of Applicant's Proposal

OSM's apparent completeness review of the cultural resources documentation submitted with the application identified nine deficiencies which required the submittal of additional information. In subsequent submittals (November 16, 1983; January 4, 1984) the applicant satisfied all nine deficiencies.

The applicant will complete a 100% pedestrian inventory of cultural resources of certain areas over the underground workings as designated by OSM (October 14, 1983 Determination of Adequacy) and will submit an acceptable cultural resources inventory report prior to December 31, 1984 to the Division of Oil, Gas and Mining; the Utah SHPO; the BLM; Manti-LaSal National Forest; and OSM. The applicant will conduct additional inventory to assess the effects of subsidence upon sensitive sites as may in the future be deemed necessary by the above agencies, and will

consult with the regulatory authority concerning the necessity of impact mitigation and/or monitoring of sensitive sites. If mitigation measures are deemed necessary, the applicant will consult with the regulatory authority concerning the development of an acceptable mitigation plan.

The proposed measures, in conjunction with the stipulation concerning emergency discoveries of cultural sites during mining (Section F) and the cultural/paleontological resource stipulations to the Federal coal leases (Attachment 3) are sufficient to allow OSM to seek SHPO concurrence with a Determination of No Effect/No Adverse Effect.

C. Evaluation of Compliance

Applicant's Compliance

Adherance to the measures proposed in the application and acceptance and implementation of the proposed Stipulation (Section F) will indicate the applicant is in compliance with all applicable regulations and legislation.

OSM Compliance

OSM has received concurrence from the Utah SHPO concerning the recommended ineligibility of sites 42Cr388, 389 and 390 and a determination that permit approval will have No Effect/No Adverse Effect upon significant cultural sites (Attachment 2). OSM has also received concurrence from the Forest Service on March 12, 1984 (See correspondence section).

D. Revision to Applicant's Proposal

Upon plan approval, the applicant shall satisfy the stipulations identified in Section F and Attachment 3.

E. Reevaluation of Compliance

The Utah SHPO has concurred with OSM's recommendation concerning site eligibility and the effect of the undertaking; therefore, OSM does not need to consult with the Keeper of the National Register of Historic Places and/or the Advisory Council on Historic Preservation. Additional consultations with the SHPO and the Advisory Council on Historic Preservation may be necessary if mitigation measures must be implemented to avoid adverse effects resulting from subsidence.

F. Stipulation

1. If any previously unidentified cultural resources should be discovered during mining operations, the operator shall ensure that the site is not disturbed and shall notify the regulatory authority. The operator shall ensure that the resource(s) is/are properly evaluated in terms of the National Register of Historic

Places eligibility criteria (36 CFR 60.6). Should a resource be determined eligible for listing on the NRHP, the operator shall consult with and obtain the approval of the regulatory authority concerning the development and implementation of mitigation measures as appropriate.

G. Summary of Compliance

The applicant will be in compliance if the stipulation in Section F and the measures proposed in the application are adhered to. The SHPO and USFS concurrences have been received and OSM will ensure that the stipulation is followed; therefore, OSM is found to be in compliance with the National Historic Preservation Act.

H. Proposed Departmental Action

The Secretary can approve the application with the proposed stipulation in accordance with the SHPO concurrence with recommendations concerning site eligibility and project effect, and USFS concurrence concerning completeness and adequacy of the application.

I. Residual Impacts of Proposed Departmental Action

At least two historic sites, which are currently considered ineligible for nomination to the NRHP will be directly impacted and an unknown number of sites will be indirectly affected by the proposed undertaking. Cultural resources that are considered insignificant today may contain information that would be recognized as significant in the future. These sites could be adversely affected, making future data recovery impossible. Unknown cultural sites may also be affected through operator activities, vandalism and unauthorized collection.

J. Alternatives to the Proposed Action

One alternative would be disapproval of the permit. Another would be to require complete inventory of the permit area and avoidance of all cultural sources during construction of surface facilities. Disapproval of the permit is not appropriate (See EA, Page 3). The applicant is required (Stipulation No. 1) to ensure that no disturbances occur to cultural resource sites discovered during mining operations until NRHP eligibility is determined.

The preferred alternative is to approve and implement the measures described in the application and in Section F. This allows the applicant to proceed and allows OSM to comply with all applicable federal legislation and regulations.

Reference Cited

Hauck, F.R.
1980 Intensive Archaeological Surface Evaluations in the Proposed Whiskey Creek Canyon - Pleasant Valley Project in Carbon County, Utah. Coal Mine and General Services Facilities Relative to Belina #1, #2 and Utah #2. AERC Paper No. 21.

Attachments:
(1): OSM Request for SHPO Concurrence With Skyline Mine SHPO Concurrence with Finding and Determination for Skyline Mine.
(2): OSM Request for SHPO Concurrence with Belina Mines SHPO Concurrence with Findings and Determination for Belina Mines.
(3): Federal Coal Lease Stipulations