GOAL V

OPEN SPACES, SCENIC AND HISTORIC AREAS AND NATURAL RESOURCES

BAKER COUNTY

COMPREHENSIVE PLAN

GOAL V
OPEN SPACES, SCENIC AND HISTORIC AREAS AND NATURAL RESOURCES

OPEN SPACES, SCENIC AND HISTORIC AREAS AND NATURAL RESOURCES
GOAL: To conserve open space and protect natural and scenic resources.

I. OPEN SPACES AND SCENIC AREAS

A. State Highway Scenic Routes

The Oregon State Highway Division has the responsibility for designating scenic areas along State Highways. The designated scenic areas in the County are as follows: (See Plate # 10 of Appendix I)

1. Route U.S. 26 - Highway 5

   a. From milepoint 199.61 (Baker/Grant County Line) To milepoint 210.60 (Junction Baker/Unity Highway).
   b. From milepoint 213.11 (.09 miles SE of Unity) To milepoint 222.91 (Baker/Malheur County Line)

2. Route Oregon #245 - Highway 13

   a. From milepoint 2.46 (Unity Lake Park Entrance) To milepoint 37.03 (Jct. Whitney Highway)

3. Route I-80N - Highway 6

   a. From milepoint 317.39 (Pleasant Valley Interchange) To milepoint 329.24 (1.81 miles SE Durkee Interchange)
   b. From milepoint 345.78 (Huntington Interchange) To milepoint 352.00 (Baker/Malheur County Line)

4. Route Oregon #86 - Highway #12

   a. From milepoint 4.81 (.28 miles E of Sunnyslope Lane) To milepoint 40.64 (Eagle Creek)
   b. From milepoint 43.03 (.76 miles E of Richland) To milepoint 53.05 (.19 miles E Sage Road)

c. From milepoint 55.03 (Clear Creek) To milepoint 70.64 (Homestead Road)

5. Route Oregon 203 - Highway 340

   a. From milepoint 22.90 (Baker/Union County Line) To milepoint 31.09 (Salt Creek)

6. Route Halfway-Cornucopia - Highway 413

   a. From milepoint .41 (Cornucopia) To milepoint 5.70 (Pine Creek)

B. Goal V Open Spaces and Scenic Areas Findings

1. Land needed or desirable for open space" includes agricultural and forest lands (public and private); public parks and campgrounds; lakes, streams and reservoirs; and other special purpose lands such as wilderness areas, recreation areas and wildlife areas.

2. "Scenic Views and Sites" are a resource indigenous to Baker County. Of particular significance are those scenic areas identified by the Oregon Department of Transportation and mapped on Plate 10 of Appendix I. The county, in its application of the Goal 5 Administrative Rule, identifies these as 2A resources pursuant to OAR 660-10-000.

3. "Potential and approved Oregon recreation trails" have not been inventoried in Baker County other than the TransAmerica Bikeway as mapped on Plate 3 of Appendix I. It is a 2A resource (OAR 660-16-000).

4. "Potential and approved federal wild and scenic waterways and state scenic waterways" have not been identified or inventoried in Baker County.

C. Goal V Open Spaces and Scenic Areas Policies

1. Open space, as such, is not a significant issue or problem in Baker County. By staff computation, Baker County residents have in excess of 100 acres of open space per capita. Open space shall be addressed and accommodated by the application of the related aspects of other land use goals: agricultural and forest lands; air, land and water resources quality; and recreational needs.

2. Those resources collectively known as scenic views and sights are identified, after review, as not in known conflict with other land uses and as having no impact areas.

The County will promote land uses designed to conserve the natural splendor of the region.

D. Sources of Information

1. Oregon State Highway Division, R.P. Mathew, Outdoor Advertising Supervisor

II. WILD AND SCENIC WATERWAYS; RECREATION TRAILS

A. Potential and Approved Wild and Scenic Waterways

There are no federal or state approved Wild and Scenic Waterways in the County. At this writing, there are no suggested potential Wild and Scenic Waterways in the County.

B. Potential and Approved Oregon Recreation Trails

See Plate #4 of Appendix I for TransAmerica Bikeway. A feasibility study is being conducted by the National Park Service for the Desert National Scenic Trail Project. At this time, it does not appear that the proposed Desert Trail will cross any portion of Baker County.

C. Sources of Information

1. U.S. Department of the Interior; Bureau of Outdoor Recreation
2. Oregon State Department of Transportation, Parks and Recreation Branch
3. Oregon Natural Heritage Program, April 1978, Baker County Data Summary

III. ENERGY SOURCES

A. Energy Sources Inventory

Energy Sources include geothermal heat, water power, transportation pipelines of natural gas and petroleum distillates, and solar radiation.

1. GEOTHERMAL HEAT

As indicated under Section I(F) of the Goal XIII element of this Plan, three sites have been identified in the Northeast Oregon Geothermal Project Report, EOCDC, 1978 as most promising for geothermal developments. They are:

a) Fisher Hot Springs - This spring is noted on the Rock Creek 7.5' quadrangle in the NE¼ of the NW¼ of Section 10, Township 7 S., Range 38 E., W.M. The site may be reached via the Anthony Lakes Road. Follow the road west from North Powder approximately eight miles to the Foothill Road, thence two miles south to the J.K. Fisher residence. The Fishers own the springs.

b) Radium Hot Springs - This well-known spring is located on the Haines 7.5' quadrangle in the SW¼ of the NE¼ of Section 28, Township 7 S., Range 39 E., W.M. The commercial development centering around the spring is reached via Highway 30 approximately seven miles south of the North Powder interchange on I-84. The property is owned in a partnership with Jack Stevens as the resident owner.

c) Sam-O-Springs - This spring is located 250 meters southwest of the Baker I-84 Campbell Street interchange inside a small bath house. The spring is shown on a Baker 7.5 minute quadrangle in the NE¼ of the SE¼ of Section 16, Township 9 S., Range 40 E., W.M. The property is owned by the City of Baker and is being developed as the source of water for a municipal swimming pool under construction.

2. WATER POWER

Potential hydroelectric power dam sites are identified under Section I(B) of the Goal XIII element of this Plan. Because of the site specific nature of such a resource and the probability of such impoundments being multi-purpose, i.e., flood control, irrigation storage, and recreational as well, the county finds this resource warrants protection under the 3A category pursuant to OAR 660-16-000.

3. TRANSPORTATION PIPELINES

As mapped on Plate number 3 of Appendix I and described in the Goal XII element of this Plan, three pipelines presently exist. The construction of the last followed, for the most part, an easement secured for a previous line.

The resolution of any conflicts that exist, and the county recognizes that conflicts do occur, is through negotiations between the land owners and the pipeline company. In the final analysis, the circuit court arbitrates the conflict.

4. SOLAR POWER

The low density of development in Baker County does not justify immediate concern for protecting solar access. The county notes an increasing interest in the utilization of solar power but identifies no conflicts with this resource.

IV. NATURAL AREAS

A. Natural Areas Inventory

Natural Areas are defined by the Oregon Legislature as areas which have:

> Substantially retained their natural character, or, if altered in character shall in addition to their natural heritage resource values be valuable as habitat for plant and animal species or for the study and appreciation of the natural features (ORS 273.566(l)).

Much of Baker County could be considered a natural area by such a definition. Publicly owned land, land which is used for commercial grazing and timber production, and other land which is neither urbanized nor cultivated makes up 69% of the County. Much of that land represents important habitat for some form of plant, animal or aquatic life. Diverse geography provides for a variety of ecosystems within the county, each supporting a distinct type of natural community.

Land use patterns have altered the natural character and plant and animal communities of land in the county to varying degrees. Grazing and forestry practices, as well as urbanization, recreation and the expansion of lands under cultivation often result in ecosystem simplification. Decreases in species diversity accompany most increases in the intensity of land use. As trends toward more intensive land use continue, it is important to identify those areas in which human activity has had minimal impact or in which the perpetuation of a natural area resource is a primary management objective.

The Natural Area Preserves Advisory Committee defines three essential elements of a Natural

Areas Program. The first element is the inventory process, in which sites are identified, classified and recorded. Next, some sites are selected for protection based on their relative quality and "protectability." Finally, policies and protective mechanisms are designed to preserve the natural area resources at designated sites (Natural Area Preserves Advisory Committee, Oregon's Natural Area Preserves Program, Salem, 1979, p.3). These three steps are recognized by Baker County as an integral part of the comprehensive planning process.

THE INVENTORY

The Oregon Natural Areas Data Summary (The Oregon Natural Heritage Program of the Nature Conservancy, 1978) was used as the basis for the Inventory of Natural Areas in Baker County. Research was conducted on each of the 27 sites identified by the Oregon Natural Heritage Program (ONHP). Landowners, local experts, and staff from the Bureau of Land Management, the Forest Service, the Oregon Department of Fish and Wildlife, and the Oregon Natural Heritage Program were contacted in order to verify the presence and condition of the elements identified at each site. The inventory may be found in Technical Information and Inventory Data for Land Use Planning in Baker County. Sites are located on a USFS map available in the Planning Office and hereby adopted by reference. Color photographs of natural sites are also available for viewing in the Planning Office.

The inventory describes the location and characteristics of each site. This includes the existence of the natural area elements identified by ONHP, ownership, and other information gathered from the above-named sources, and site visits. Real and potential conflicts between the perpetuation of the natural area resource and competing land uses are also discussed.

The precise locations of natural area sites on public land are not refined beyond those boundaries defined by ONHP. Sites on private land are refined down to the affected land parcels. This information is on file in the Baker County Planning Office. To protect both the natural area resources and the privacy of landowners however, the location of each site is described only generally in the plan.

SELECTION

Sites on the inventory do not necessarily contain significant natural area resources. Stratification of inventoried sites must take additional criteria into account. Before particular sites can be selected for protective status, the consequences of such action must be examined.

Natural area resources provide benefits which are enjoyed by many sectors of the public. Recreational and educational opportunities for hunters, professional and amateur naturalists, photographers and students are created in natural areas. Riparian zones which are left as natural areas reduce flood risk and provide habitat for natural predators of farm pests. Perhaps the most valuable benefits are the applications in medicine, agriculture and industry of scientific research made possible by the existence of natural areas as storehouses of new species and information.

Natural areas provide countless benefits, the majority of which are public benefits. Public benefits, such as the value of a natural area as a gene pool, are difficult to quantify. Neither the "cost" of protecting such resources, nor the "costs" of losing them (which are much greater, as reproducing a natural area is much more difficult than keeping one) can be assessed to those who receive the benefits. Were such costs calculable, they would not be collectible. No one can be excluded from enjoying many of the benefits of natural areas; therefore, there is little incentive to pay for their protection. For instance, natural areas support wild varieties of plants which are food crops, such as wheat. The wild varieties are essential to the development of disease resistant varieties for agriculture. No one is excluded from the enjoyment of the continued availability of wheat, which is a public benefit. Nor is the cost of preserving natural areas figured into the price of a loaf of bread.

Many public benefits provided by natural areas are dispersed and enjoyed from points physically removed from the land itself. When such lands are privately owned, the costs of preserving them, are borne by private landowners, who receive no compensation from the benefitting public. All but one of the sites in Baker County are in resource zones--either the EFU or the Timber-Grazing Zone, in which permitted land uses and subdivisions are already limited. Riparian zone setbacks adopted by Baker County concurrently give protection to wetlands identified as natural areas. Further restrictions on management practices which impose substantial and uncompensated hardships on individual landowners should be avoided. Unfortunately, there is little incentive for private landowners to preserve natural areas, and the costs to the individual often exceed the benefits enjoyed by that individual. Therefore, the natural areas which are most feasibly protected by government regulation and policy are those on publicly owned land.

On the other hand, natural areas on public land are not necessarily the most successfully protected. Multiple use policies which govern the distribution of land uses on most public land often subject those lands to more intensive use than comparable private land. In Baker County, many individuals voluntarily protect excellent natural area resources on private land. Such protection plus a framework of county control has, perhaps, the best chance of being successful.

The Inventory of Natural Areas includes sites which are on public and private lands in Baker County. All of the sites identified by ONHP are included; some have been limited in size. These changes reflect refinement of information about each site and changes which have affected some sites since the ONHP survey.

Following is a description of the sites listed on Baker County's Inventory of Natural Areas. The sites are divided into four categories labeled 1A, 2A, 3B and 3C to correspond to the Goal 5 Administrative Rule (OAR 660-16-000). Each category indicates the degree of importance and protection judged by the County to be appropriate for the sites listed.

1A SITES

The following sites have been either withdrawn by The Oregon Natural Heritage Program (ONHP) as candidate Natural Areas or found unsuitable after review and consideration by Baker County.

1. Bowen Valley (#BA-10). This area was found by ONHP to be so impacted by past activities of man and domestic animals as to be no longer suitable as a candidate natural area. For this reason it will be excluded from further consideration on the county's Inventory of Natural Areas.

2. Hunt Mountain (#BA-24). This area is being deleted from the Natural Area Inventory after County findings that:

   a. There is no evidence of unique characteristics to qualify as a natural area.
   b. The area has already been impacted by logging and farming activity.
   c. The site is primarily on public land.

3. Unnamed (Site #BA-2).

   Location: Southwest quarter of Section 6 in Township 9 South, Range 41 E.W.M.

   Findings:

   a. The site was not considered important enough by the Nature Conservancy to warrant a site report.

   b. The resource (Idaho fescue-bluebunch wheatgrass and Bluebunch wheatgrass-Sandberg's bluegrass) is found in better quality elsewhere in the County, as indicated by the Nature Conservancy in a letter dated January 24, 1985.

   c. The site is near an urban center and thereby subject to considerable conflict. It abuts Highway 86 which is a major State highway within 3 miles of Baker.

   d. The site is also near white top growth and the entire area will probably be sprayed for weed control.

   e. The site is already intensively grazed.

   Conclusion: Do not include on Natural Areas Inventory (1A).

4. Unnamed (Site #BA-31).

Location: North half of Township 10 South, Range 42 and 43 E.W.M.

Findings:

a. This site was not considered important enough by the Nature Conservancy to warrant a site report.

b. The Nature Conservancy has stated that this resource (sage grouse strutting grounds) is not currently considered by the Heritage Program to be a significant factor in identifying sites for natural area status (letter from Nature Conservancy to Baker County, January 24, 1985).

c. The County is currently considering ways to inventory and protect the habitat of these birds and other wildlife.

d. There are other areas of the County where sage grouse are more plentiful (at Virtue Flat, Site BA-12, for example), as suggested in a letter dated April 8, 1985 from the BLM, which owns a portion of the site.

e. The site is in an area protected by EFU-160 zoning.

Conclusion: Do not include on the Natural Areas Inventory (1A).

5. Baldock Slough: Recommended Findings and Conclusions. The Baker County Planning Commission, in a public hearing held April 2, 1985 and advertised pursuant to law, took verbal and written testimony from 20 landowners and interested citizens relative to the location, history, characteristics and future plans for the Baldock Slough. Photographs, taken both from the air and the ground, were also introduced into the record as evidence. Letters from a major landowner along the Slough and from a Grange Organization interested in the Slough, were also introduced into the record as evidence. A map defining the Baldock Slough, pumping ponds, excavation areas, drain ditches, dams and canals, was also entered into the record. There was no testimony or evidence submitted in support of preserving Site BA-5 (Baldock Slough) as a Natural Site.

From the evidence and the testimony entered into the record, the Baker County Planning Commission finds that:

a. The location of the Baldock Slough is in Township 8 South, Range 39 East of the Willamette Meridian, Sections 1, 11 and 12; and Township 8 South, Range 40 East of

the Willamette Meridian, Sections 4, 5, 6, 9, 10, 14 and 23.

b. Approximate length of the Slough is 11 miles. Approximately two miles of the Slough near the Baker Municipal Airport have been straightened and are not considered part of the Slough any longer.

c. The elevation of the Slough drops from 3,357 feet at the north edge of the City airport to an elevation at the Lily pumps of 3,328 feet. This 29-foot drop over the total distance (approximately 2.5 feet drop per mile distance) indicates the flatness of the grade. Some parts of the Slough are even flatter. Testimony indicated that Bates drain has a drop of only 1.5 feet per 4 miles.

d. On the map, at approximately the center lines of the boundary common to Sections 4 and 9 of Township 8 South, Range 40 East, the Baldock Slough passes underneath the Interstate 84 Freeway.

e. Testimony from the engineer with Oregon Department of Transportation who built the I-84 Bridge in 1967 indicated the design was changed from the planned culvert to driven pilings to allow the channel to be deepened up to four feet by excavation to facilitate the needed drainage. Said change was a result of the local input as to the critical need for Baldock Slough to function as a drain for the entire eastern side of Baker Valley. As a result of that change in design, the Baldock Slough became the only outlet through the freeway "dike".

f. Testimony indicated County roads and State Highways are affected by excessive surface water and would be undermined by any limitation on the drainage program in Baker Valley which relies upon the Baldock Slough as the drainage channel.

g. The red lines on the exhibit map indicate the drainage projects already constructed that depend upon the Baldock Slough as their outlet from Baker Valley. Without exception, in every section through which the Baldock Slough is identified, there is a drainage ditch either constructed or proposed that empties into the Baldock Slough.

h. Counting only the existing drains and discounting the proposed drains, it is only from the center of Section 14 to the center of Section 10 (approximately 1.75 miles) that the Slough does not receive drainage from a drain already constructed.

i. Within the above-mentioned 1.75 mile portion of the Baldock Slough, a proposed drain will enter the Slough in Section 10.

j. There is no Site Report available in the Oregon Natural Areas Inventory for Baker County produced by the Oregon Natural Heritage Program in 1978. A communication

from the Nature Conservancy dated January 4, 1985 states "there is no site report available for the Baldock Slough."

k. According to the guidelines set forth by Nature Conservancy in their Data Summary, page 4, under "Notebook Use", "Planners may assume that, generally, highest priority may be given to those sites for which site reports are included in the Notebook." Accordingly, the Baker County Planning Commission finds that this site, because of the absence of a site report, is not a high priority area.

Furthermore, in deciding which Natural Areas to protect, the guidelines of the Data Summary set forth the following criteria for local use:

a. Diversity at site
b. Naturalness
c. Uniqueness
d. Viability

Diversity

The Baker County Planning Commission finds that:

a. The elements identified by Nature Conservancy at and along the Baldock Slough include wetland shrubland, marshland, long-billed curlew, and waterfowl wetland.

b. Wetlands are identified in 6 of the other sites of the Nature Conservancy Summary (BA-7, BA-8, BA-10, BA-22, BA-23 and BA-41).

c. The 8" x 8" aerial photographs introduced into the record, particularly Nos. 4, 6 and 12 indicate the abundance of wetlands on Baker Valley's floor.

d. According to page 13-6 of Baker County's Overall Economic Development Program, June, 1979, with annual updates, the Soil Conservation Service indicates approximately 30,000 acres of Baker Valley are wetlands in need of drainage.

e. The Baldock Slough is just one of the meandering water bodies present in Baker Valley. Multiple channels of the Powder River, Settlers' Slough, and Salmon Creek create excessive surface water during late winter and Spring of each year.

f. Testimony indicates that land needing drainage could be as high as 44,000 acres in Baker Valley.

g. Testimony indicates curlews are not water birds but are found in pastures and meadows

in Baker County. There is no testimony indicating that the curlew is exclusive to the Baldock Slough area. To the contrary, curlews are identified in the Nature Conservancy Summary in other areas of Baker County.

h. The curlew is listed as a shorebird in Appendix I of the Fish and Wildlife Habitat Protection Plan for Baker County under a heading entitled "A Partial Checklist of Wildlife Species commonly found in Baker County." (emphasis added.)

Naturalness

The Baker County Planning Commission, from testimony, finds:

a. The Baldock Slough was originally a channel of the Powder River.

b. The channel was diverted by farmers to its present route to serve primarily as an irrigation canal. Earliest settlers and migrants were able to cross the Valley floor with wagon trains because Baldock Slough was then a river channel. The present Powder River channel cannot serve to drain Baker Valley as a river normally does because the river channel is elevated higher than adjacent lands needing drainage. This elevation is the result of decades of dredging to remove siltation from the channel.

c. Recent enhancement of flood irrigation systems and availability of irrigation water through an upstream impoundment known as Mason Dam/Phillips Reservoir, has produced a year-round high water table in Baker Valley.

d. The water table in Baker Valley has risen approximately 2-3 feet since the construction of Mason Dam in the early 1960s.

e. The high water table and leaching action associated with it make it impossible to grow deep-rooted forage crops on thousands of acres of Baker Valley crops.

f. An inferior forage species known as saltgrass predominates on the acres that need drainage.

g. The alkaline condition of the acres needing drainage is evidenced by the white appearance of the ground surface.

h. The conversion of the old Powder River channel to a slough commenced September 26, 1918 when the first dam was issued a permit for the creation of stored water.

i. From 1918 to the 1950s approximately 25 dams were constructed to artificially store flood waters in the Slough, thereby holding the water table high to allow subirrigation

of agricultural land for the purpose of producing grain.

j. The use of the Baldock channel for storage increased siltation, thereby raising the floor of the channel.

k. In 1950, the Slough north of the Baker City Airport to Lee Lane and beyond was filled.

l. In the 1950s, 2 miles of channel of the old Slough near the Airport was straightened and deepened.

m. In the 1950s, 10 check dams were removed.

n. In 1966, 300 yards of buried irrigation mainline across and through the Slough was constructed on dry Slough bed.

o. In 1967, 20 acres of Glen True's land affected by the Slough were levelled at a cost of $915; cost shared by the Agricultural Stabilization and Conservation Commission (ASC): $543.

p. In 1971, additional land levellings on Glen True's land were sloped toward the Slough for the necessary drainage. Private cost: $1,102; ASC cost: $672.

q. In 1973 Baker Valley Irrigation District expended $156 to dig irrigation pond in the bend of the Slough near the main line on Glen True's property.

r. In 1976 a drain ditch was constructed running east and west for additional drainage on Glen True's property. The drain ditch emptied into the Slough. Cost: $405.

s. In 1976, additional drainage canals on the Glen True property, using Baldock Slough as the outlet channel, were built. Private cost: $2,555; ASC cost-sharing: $1,480.

t. In 1976 soil removal and distribution occurred related to drainage construction; additional cost $1,320 to Glen True.

u. In 1976, Glen True paid $915; ASC share $868 to the Baldock Improvement Company for construction of a new ditch to carry irrigation water to the Baldock Slough for drainage.

v. In 1983, lateral drain constructed by Ed Trindle to tie into Glen True's drain, ultimately dumping into the Baldock Slough by way of a culvert; cost to Glen True: $500 to remove and scatter the spoil from that ditch that was on his land.

w. In August, 1965, Sackos Excavating Company dug two stock water ponds in the bottom of the Baldock Slough channel for Bill Leigh, one north and one south of the Medical Springs Highway. The Slough at that time was dry; the water table several feet below the bottom of the Slough, thus necessitating the ponds to be dug.

x. Jim Rea, owner Lazy J Ranch, has spent over $100,000 since 1979 to straighten the channel of the Baldock Slough to create drainage ditches to improve draining.

y. In the late 1970s Fred Warner cooperated with the Jeppson Ranch to dig a drain from Highway 203 to the Baldock Slough. The cost exceeded $10,000.

z. In 1983, Warners constructed a drain along the east side of the freeway two miles long that emptied into the Slough. The cost was over $5,000.

aa. In 1983, Warners removed a man-made dam from the Slough and installed a 5-foot wide culvert at a cost of $2500.

ab. In 1983, Warners cooperated with the Lazy J Ranch and Charles Colton and Sons to install drain culverts at the lower end of Baker Valley. Warners share was $4,343.

ac. Of the 25 or 26 dams constructed on the Slough, today, even though several dams still exist, not one of them holds back water.

ad. The Baldock Slough is the only waterway on the east side of the Powder River in Baker Valley which can and does drain into the Powder River.

Uniqueness

The Baker County Planning Commission finds that:

a. The Baldock Slough is just one of many channels providing wetlands in Baker valley. (See aerial photographs Nos. 1-12.)

b. Waterfowl habitat dependent upon wetlands has increased since 1945 by the construction of ponds and drains in Baker Valley estimated in excess of 200 acres of water surface area.

c. Since the construction of Mason Dam in the 1960s, more acres are irrigated and irrigated for a longer season, thereby increasing wetland habitat in Baker Valley.

d. Free-flowing ditches are less alkaline and therefore provide better habitat for wildlife than "dead" water.

e. Deeper water avoids wintertime freeze-up, thereby providing free water for waterfowl habitat.

f. The Slough is unique in that it was identified as a necessary drain and anticipated as such during the construction of Mason Dam in 1964.

g. Continuing to improve the Baldock Slough as a drain will still provide pockets and areas where it is not cost-effective to drain, thereby providing wetland habitat of two different sorts: along the drain and undrained portions of the Baldock Slough watercourse.

h. With the advent of fresh water moving through the Baldock Slough, fisheries habitat is improving and fish populations in the watercourse are increasing. Fish are now moving from Thief Valley Reservoir upstream into the drain and into the ponds on Bates' land.

i. The United States Bureau of Reclamation notes the repayment obligation of the farmers for the cost of constructing Mason Dam and notes that restricting drainage at this point impedes their ability to produce and therefore to repay that obligation.

j. In 1983, 2.5 miles of Scott Bates' land was deeded to the County as a portion of the four-mile long drain ditch dug at a total cost of some $119,000. This drain ditch will not function if the Baldock Slough is prohibited from acting as a drain.

k. In 1983, the Soil Conservation Service monitored the pH of the water flowing through the Bates drain ditch. The water that was then inky (stagnant, highly alkaline water) is now pH-neutral. Said water supports fish not previously possible.

l. Ducks and geese are present in and along the Bates drain.

m. There may be public liability if the County now imposes restrictions on drainage after so many years and so much money has been invested in the drainage project.

Viability

The Baker County Planning Commission finds:

a. The Baldock Slough, as presently characterized with running, fresh water, is not a slough.

b. Agricultural lands along the Baldock Slough were some of the most productive in Baker Valley in the 1800s and early 1900s.

c. Lands that were only capable of growing saltgrass before drainage are now once again, after drainage, producing 2 tons of grain per acre.

d. One-hundred acres of land drained by Orville Rohner produced more ducks and geese habitat/hunting than before drainage when the area was one of tules and swamp.

e. Waterfowl populations at the upper end of the Slough south of the airport are 3 times what they were prior to drainage.

f. Many drains were created for which no financial records have been kept. Therefore, the investment of the community in the drainage project is actually greater than that reflected by the testimony.

g. Besides the constructed drains, all County roads are accompanied by barrow pits which function as drains, and on the eastern side of the Powder River, drain into the Baldock Slough, thence into the river.

h. Baker Valley Irrigation District, at a cost of more than $30,000, have routed the Baldock Slough underneath the Powder River near the Lily Pond, and then dump the Slough water into the River, thereby eliminating the bottleneck to drainage that was present before said construction.

i. Additional drainage is planned for the Spring and Summer of 1985 by Sackos, Errend, and True.

j. The Bureau of Reclamation has not formally identified wetlands in Baker Valley.

k. Property referred to during testimony as Glen True's had a value of $36,000 (its 1939 sales price). After the water table was elevated by changes to the Baldock Slough, the lands became alkaline and unproductive; the value of that same land was decreased to its 1946 purchase price of $6,000. With the drainage that has now occurred and is planned, the market value of the land, were it sold, would be at or above the $36,000 original value. The improvement now from the drainage program can be expressed in the 5-6 ton per acre of alfalfa presently grown.

l. The storm sewers of the City of Baker drain into the Baldock Slough. Its free flow is essential to the city.

m. Adequate drainage of Baker Valley is an important factor in the cost-efficient operation of the County's Vector Control Program.

n. The point of diversion and the alignment of the Baldock Slough have been manipulated

since 1936 many times to accommodate urban growth and development.

o. The Economic element of Baker County's Comprehensive Plan identifies the industrial land base in Baker Valley as an important contributor to the economic well-being of Baker County. Three-hundred-five acres of that industrial land base are in an area where high water and the need for drainage have been identified. The Baldock Slough serves as the drain for these and other non-industrial lands.

p. Baker County's Overall Economic Development Program of 1979 created an action Plan for implementation of the drainage requirements of Baker Valley. The 1985 OEDP continues to recognize drainage as a vital factor in achieving economic development for the agricultural community of Baker Valley, particularly the eastern side of the Powder River.

q. Landowners whose land lies at lower elevations from lands already drained will suffer economic hardship if surface water brought to their elevation is not allowed to be passed on to lower elevations through a viable drainage channel, which is the Baldock Slough.

r. Waterfowl avoid shallow oxbows of river and channels in winter and gravitate toward deep drains where the moving water does not freeze.

s. The area near the Slough, particularly along Sunnyslope Road, has frequently been difficult for the Department of Environmental Quality to approve for standard subsurface septic tank disposal systems. Adequate drainage by means of the Baldock Slough would continue to improve that situation.

t. Stagnant water in the Baldock Slough has actually killed willows lining the channel.

u. Geese along the Baldock Slough now stay all summer raising their young; unlike in past years when the Slough was not running fresh water. Fishing for recreation has improved in the Baldock Slough; bass and even trout are being caught.

v. Higher-than-average precipitation in the Powder River watershed during the past four years has increased the water table even more than before making it imperative to drain.

w. Case law, identified as a Baker County case "Wellman vs. Harris and Kelly" favors drainage.

x. Goal 3 and Goal 9 both call for a promotion of agricultural values and preservation of agricultural lands.

y. Thirteen to seventeen geese nests were counted last year after the drainage program was initiated.

z. Fish found in waters above the Bates' pond are migrating from the river through the Baldock Slough drainage system.

Conclusion

Based on all of the above, the Baker County Planning Commission makes ultimate findings of fact that:

a. Through deliberate actions of local farmers a natural free-flowing stream was dammed many times, creating a Slough, which is not a natural area, and which, over the years, created the excess water and alkalinity problems finally recognized in the 1950s.

b. The drainage projects initiated in the 1950s and continuing through the present time were made more imperative by the prolonged water season and the cumulative changes in the Baldock Slough.

c. We find no evidence that curlews are unique to the Baldock Slough.

d. Additional wetland areas have been created through the creation of ponds and drains and ditches so as to provide reasonable alternative areas for the waterfowl habitat. There is relative abundance of wetland in Baker County, including waterfowl habitat, curlew habitat and vegetation associated with wetlands. To preserve the Slough as stagnant water would actually hurt wildlife.

e. This is the only available drain east of the Powder River. Nature Conservancy has little information, even now, regarding the quality and quantity of the resource site. We have identified the precise location of the Slough; we know that the meanders and oxbows in many instances have been filled and drained.

f. Irrigation practices have altered the original channel so it is no longer in its original location.

g. All but about 2.5 miles of the center section of the Slough have been permanently altered. The design of the I-84 Bridge was changed to accommodate the needs of drainage via the Baldock Slough. There has been a 75% increase in availability of water as a result of the construction of Mason Dam. Private and public dollars have already been expended in significant amounts to drain Baker Valley by way of Baldock Slough. Drainage was a recognized need at the time of planning the Mason Dam project. Productivity of land is directly related to adequacy of drainage. The Baldock

Slough was not native to or a natural part of Baker Valley until 1918. Even as late as 1950, the Baldock Slough dried up in the middle of the summer. Baldock Slough now runs fresh water year-round.

Based upon the findings of fact, the ultimate findings of fact, and all of the record, the Baker County Planning Commission concludes that the Baldock Slough does not qualify as a natural area because it is not ecologically or scientifically significant. The Slough is not found to be a significant resource warranting inclusion on the Baker County Inventory of Natural Areas.

6. Medical Springs Cemetery (Site #BA-15).

Location: Southwest quarter of the southeast quarter of Section 2 in Township 7 South, Range 41 E.W.M.

Findings:

a. This site was not considered important enough by the Nature Conservancy to warrant a site report.

b. The resource (sagebrush communities) is found elsewhere in the County.

c. The cemetery is inventoried by the County as an historic site, and as such will receive protective consideration.

d. The cemetery has been voluntarily maintained by the neighboring ranchers; those with family buried there expressed concern for its preservation in the future and agreed that historic preservation is important.

e. There is little burial activity since the topsoil is only 2" thick over solid rock.

f. Lack of any cemetery organization to maintain the site indicates less intensive burial activity than in other cemeteries; the ownership has been unknown for 27 years; the likelihood of increased burial activity is therefore, slight.

g. This site is 5.5 acres.

Conclusion: Do not include on Natural Areas Inventory (1A).

7. Phillips Lake Rookery (Site #BA-42).

Location: Southeast quarter of Section 24 in Township 10 South, Range 37 E.W.M.

Findings:

a. This site was not considered important enough by the Nature Conservancy to warrant a site report.

b. Testimony from surrounding landowners indicates that the cited resource (a Great Blue Heron rookery) existed at the site from 1974 through 1981 but has been abandoned since 1981.

c. The Nature Conservancy has stated that this resource (Great Blue Heron rookery) is not currently considered by the Heritage Program to be a significant factor in identifying sites for natural area status (letter from Nature Conservancy to Baker County, January 24, 1985).

Conclusion: Do not include on Natural Areas Inventory (1A).

8. Clover Creek Rookery (Site #BA-43).

Location: Northeast quarter of Section 23 in Township 8 South, Range 42 E.W.M.

Findings:

a. This site was not considered important enough by the Nature Conservancy to warrant a site report. Testimony presented as being from past and present landowners indicated that the cited resource (a Great Blue Heron rookery) existed at the site until the mid 1970s; there is no evidence of a rookery at this time; there are nests elsewhere in the County.

b. The Nature Conservancy has stated that this resource (Great Blue Heron rookery) is not currently considered by the Heritage Program to be a significant factor in identifying sites for natural area status (letter from Nature Conservancy to Baker County, January 24, 1985).

Conclusion: Do not include on Natural Areas Inventory (1A).

9. Salt Creek Grasslands (Site #BA-3)

Location: Sections 5 and 8 in Township 8 South, Range 41 E.W.M.

Findings:

a. The site was not considered important enough by the Nature Conservancy to warrant a

site report.

b. The resource (Big sage/bluebunch wheatgrass and Big sage/Idaho fescue) is found in better quality elsewhere in the County, as indicated by the Nature Conservancy in a letter dated January 24, 1985.

c. ASCS funding has supported spraying to eliminate sagebrush on the site, the economic benefits to agriculture from the eradication of the resource having been judged worthy of federal financial assistance.

d. The resource (Big sage/bluebunch wheatgrass and Big sage/Idaho fescue) is found in better quality elsewhere in the County, as indicated by the BLM in a letter dated April 4, 1985.

Conclusion: Do not include on Natural Areas Inventory (1A).

10. Thief Valley Reservoir (Site #BA-19) At the extreme northern edge of Baker County, this reservoir forms part of the County boundary. The area is predominantly one private ownership of over 2500 acres devoted to grazing. It is zoned for Exclusive Farm Use. The County adopts as its findings the factual information contained in its March 20, 1986 letter to DLCD regarding BA-19. In so doing, we conclude that the original ONHP designation was incorrect. The bald eagle's nest identified lies in Union County, not in Baker County as stated. Furthermore, the pygmy rabbit is not found in this area. We therefore are deleting BA-19 from our Goal 5 Natural Areas Inventory for Protection.

2A SITES

The following natural areas are found to be 2A sites according to the Goal 5 Administrative Rule Process. A 2A designation calls for the preservation of the resource site, given no conflicting uses.

1. City of Baker Watershed (Site #BA-6) The elements noted by the Oregon Natural Heritage Program are subalpine fir forest, engelmann spruce-subalpine fir, douglas fir, grand fir, montane variety big sage, subalpine grassland. The zoning and land use include no legal grazing*. The primary use of the land is limited logging and watershed protection. Such protection is maintained by Forest Service Management Policies. This site is the only good example of a subalpine plant community in Baker County. The area's protection as a watershed for the City of Baker increases the likelihood that this site will continue to be a viable natural area resource.

*A fenced portion of the watershed is grazed by the USFS permittee, but upon land that

has no intake to the water system.

2. Table Rock and Monument Peak (Site #BA-37) Elements noted by ONHP and confirmed are montane variety sagebrush. The zoning and land use in the area is limited logging. Protection is through watershed management policy of the U.S. Forest Service. Steep terrain has precluded much logging in the remarkably undisturbed old growth forest included in this area. Douglas fir, white fir, pine and engelmann spruce are the dominant plant species in the area, though sagebrush is not uncommon.

3. Stink Creek Proposed Research Natural Area (Site #BA-40) Elements noted by the ONHP and confirmed are mixed conifer/pinegrass, Ponderosa pine-douglas fir/elksedge and juniper forest plant communities. Zoning and land use protection as a natural area would afford protection through Forest Service management policy. This area includes good examples of the elements mentioned by ONHP. The status of the area as a natural area remains "proposed" pending final selection of these areas by Forest Service planners. The 2A designation is one of no known conflicts with preservation of the resource intended.

4. Love Reservoir (Site #BA-8) Part of this site is BLM and part is privately owned. The whole area is grazed by domestic livestock. The riparian habitat area is well within the 50 foot riparian setback requirements for development. The two golden eagle nest sites are on BLM land. The information available from the Nature Conservancy on hawk nests was not locationally specific enough to assess. In addition, no hawks or hawk nests were observed in the area. The County adopts by reference the factual information contained in text and photographs submitted in a letter to DLCD March 20, 1986 regarding BA-8. Therefore, the County finds that: 1) the riparian habitat is identified as a 3C resource; 2) the two golden eagle nest sites are outside the jurisdiction of Baker County; and 3) that inadequate information exists on hawks and hawk nests (1B) site.

5. Unnamed (Site #BA-13) This site is within an 1100-acre private ranch zoned for Exclusive Farm Use. The resource shown by ONHP is a golden eagle nest. The County adopts by reference the factual information contained in text and photographs submitted to DLCD, March 20, 1986 regarding BA-13. It is the decision of local government that safeguards already adopted for this site in the form of EFU zoning eliminate any otherwise potential conflict. The County's riparian zone, road setbacks and DEQ setback regulations for septic drainfields will prevent the golden eagle nest from being converted to a homesite.

6. Unnamed (Site #BA-32) This site is in an area owned mostly by BLM and Idaho Power. The site is at the extreme northeastern edge of Baker County where Hunsaker Creek flows into the Snake River. In addition to resource zoning, the bald eagles

identified by ONHP are protected from development by wildlife protection policy #9. The terrain is very rugged and threat of conflict is so remote that the local government's decision is to designate this site 2A on our Natural Area Inventory.

7. Little Lookout (Site #BA-16) Elements noted by ONHP and confirmed are douglas fir forest, quaking aspen, big sage/bunchgrass in forest zone, stiff sage scabland, Idaho fescue-bluebunch wheatgrass, bluebunch wheatgrass-sandberg's bluegrass, Columbian sharptailed grouse (last Oregon siting 1973), and hairy balsamroot. Zoning and land use are Exclusive Farm Use. Protection is through private ownership and BLM policy. This site covers an area of about six square miles north of Little Lookout Mountain. The bunchgrass range and sagebrush plant communities existing here are, in the Nature Conservancy's estimation, "The best . . . in Baker County, if not the State." (Letter from Curt Soper, August 12, 1982). The site also provides excellent habitat for raptors and other birds. This is a possible site for the re-introduction of the Columbian sharp-tailed grouse, now under consideration by the Oregon Department of Fish and Wildlife. Geological features, springs and streams add to the value of this site as a natural area. No known conflicts exist at this writing. While land use change is considered unlikely, its advent would require a public hearing to carefully review the impact of the proposed change against Ordinance criteria established for the purpose of preserving significant natural areas.

8. Burnt River Canyon (Site #BA-30) Elements noted by ONHP and confirmed are douglas fir forest, big sage, bunchgrass in the forest zone, green rabbit brush/bluebunch wheatgrass, mountain mahogany, bluebunch wheatgrass-sandberg's bluegrass. The zoning and land use are EFU with grazing and wildlife. Protection is through BLM management policy. Most of the Burnt River Canyon is included in this area. Intensive land uses, such as crop production, residential and mining uses are concentrated along the valley floor. The riparian zone, especially in the western end of the canyon, has been adversely impacted by these activities. Plants noted by the ONHP thrive however, on the valley slopes, the steepness of which limit the extent to which grazing or more intensive land uses may occur. Mountain mahogany and similar brushy vegetation is more prevalent on those slopes with a southern aspect, and douglas fir on those with a northern aspect. Upland game birds are abundant, and the Oregon Department of Fish and Wildlife, in conjunction with the BLM, is considering this area for the re-introduction of bighorn sheep.

Findings:

a. The County has determined that potential conflicts do not exist in the Burnt River Canyon.

b. The County adopts by reference the factual information contained in text and

photographs submitted to DLCD, March 20, 1986 identifying BA-30 as having only one potential conflict: state highway realignment.

c. In telephone communication with Roger Lang, Oregon State Highway Department, La Grande office, April 17, 1986, the Highway Department has no realignment project underway or identified in the State Highway Six-Year Improvement Plan that would impact the geological formation identified in Site BA-30

Conclusion: Based upon these findings, the County Planning Commission recommends that Burnt River Canyon be designated as a 2A Natural Area resource site.

3B SITES

The following natural areas are found to be 3B sites wherein conflicting uses shall be allowed fully:

1. Portion of Salisbury Marsh (Site #BA-7, see also below under "3C" sites) This site straddles a busy state highway. The primary candidate for protection is the willow veery, which needs a wetlands habitat.

Location: Sections 35 and 36 in Township 10 South, Range 39 E.W.M.

Findings:

a. The entire area is very wet (the water table is at about 1'), which inhibits most conflicting uses.

b. Some grazing may occur on the site, but customary agricultural practices, even if in conflict with a natural resource, are not regulated by the County (see revised Policy 15, page 3, Ordinance 85-3).

c. The one-half acre said by Nature Conservancy to be the most "important and unique" portion of the site is so wet it is doubtful that it could qualify for DEQ approval.

d. The underlying zoning for the area (40 and 160 acres) will discourage development which might conflict with the resource.

e. The current owner of the most important 1/2 acre piece has testified he keeps his horses from grazing there during the nesting season.

f. The resource identified for protection is riparian habitat containing willow, black cottonwood, and birch.

Conclusion: Include on Inventory; allow conflicting uses fully (3B) for all except the most critical 1/2 acre portion of the site. The 1/2 acre portion of the site identified on the attached map is hereby designated as a 3C resource subject to the limitations set forth in Article III, Section 301.D, 1-10 of the Zoning Ordinance. The County will encourage the Nature Conservancy to buy that 1/2 acre.

2. Wingville Cemetery (Site #BA-14)

Location: Southwest quarter of Section 29, Township 8 South, Range 39 E.W.M.

Findings:

a. There is a history of compatibility between use of the cemetery and the resource (steppe grassland and giant wild rye). The resource has survived despite nearly a century of burials and grave maintenance.

b. The Planning Commission is sensitive to human interests and wishes to allow burials and present maintenance practices for graves.

c. Burial activity in the cemetery is slight; only one burial is believed to have occurred during the past 10 years. There is little reason to believe interments will increase in the future.

d. Testimony indicated those with relatives buried there felt strongly about maintaining the graves and keeping the cemetery clean.

e. This site, as is, is a good place to preserve native grasses with a minimum of conflict, since it will not be grazed or tilled for crops. The grasses remain largely undisturbed.

f. Giant wild rye is found elsewhere in the County.

g. The cemetery is listed on the County's inventory of Historic Places and as such, is given protection from destruction or alteration of its original nature. It is, in fact, one of the sites eligible for National Register status.

h. The Nature Conservancy's site report indicates that this site "is not of great significance statewide, because similar undisturbed sage communities do exist elsewhere." The site report indicates the size of the site to be 6 acres.

i. Under Grange revocation procedures, the State Grange became the owner/manager of the Wingville Cemetery when the original Grange disbanded. At the time, the IOOF ownership had been transferred to Grange ownership.

Conclusion: Because the occasional burial and continued maintenance within the cemetery are judged to be of equal value as the preservation of the natural vegetation found at the cemetery, the Planning Commission concludes that the site shall be designated as a 3B resource wherein conflicting uses shall be allowed fully. The site shall also be continued as an inventoried historic site in the County's Goal 5 element and subject to the protective measures thereof.

3C SITES

The following inventory is of natural areas designated 3C according to the Goal 5 Administrative Rule, wherein conflicting uses will be limited:

1. Elkhorn Wildlife Management Area (Site #BA-33) Elements noted by ONHP and confirmed are deer critical winter range and elk critical winter range. Zoning and land use are EFU and Timber-Grazing. Protection is through Oregon Department of Fish and Wildlife management policy. The Oregon Department of Fish and Wildlife manages this 3,206-acre site, of which 1,656 acres are state-owned land, 1,430 under BLM ownership, and 120 under Forest Service ownership. The primary management objective is to provide winter range and a feeding site for big game. Two-hundred fifty elk and 210 deer were fed at this site between December, 1981 and April, 1982. Lesser priorities are habitat for other wildlife, recreation, and cattle grazing. An adjacent residential zone and the potential encroachment of nonresource dwellings may eventually adversely impact the quality of this site.

2. Elkhorn Wildlife Management Area (Site #BA-38) Elements noted by ONHP and confirmed are elk critical winter range. Zoning and land use are EFU and Timber-Grazing. Protection is through Oregon Department of Fish and Wildlife management policy. The Oregon Department of Fish and Wildlife manages this 4,643-acre site, 3,292 acres of which are in Baker County. One-hundred fifty-eight acres are under the Forest Service and the rest is state-owned. Primary objective of management is to provide winter range and a feeding site for big game. Three-hundred-fifty elk and 15 deer were fed at this site between December, 1981 and April, 1982. The area also provides important habitat for owls and many smaller birds.

3. Sumpter Valley Wildlife Management Area (Site #BA-23) Elements noted by ONHP and confirmed are American osprey, golden eagle, waterfowl wetland, shorebird-marshbird habitat, and great blue heron rookery. Zoning and land use are prescribed by the Sumpter Valley Management Plan and Implementing Ordinance. Protection is through the Oregon Department of Fish and Wildlife management policy and County policy. The dredge tailings are an example of an area which was severely altered in character but which through time, has become an important natural area. The ponds and vegetation now covering the old dredge tailings provide habitat for a variety of

birds and furbearers. In addition to those species noted by ONHP, Canada geese, at least 20 pair of ringnecked ducks, bobolinks, sandhill cranes, bitterns and numerous smaller birds are found here. Mink, beaver, and other furbearers also thrive at this 1600 acre site which is managed by ODFW through a lease agreement with the County. Any future mining activity in this area will be subject to OAR 660-16-000. The 3C designation permits the county to limit potential conflicts, i.e., mining, residential development and recreational activities, by means of existing criteria in the Sumpter Valley Management Plan and Ordinance.

4. Pine Creek (Site #BA-41) Elements noted by ONHP and confirmed are marshland and great blue heron rookery. Zoning and land use are EFU. Protection is through management as a wildlife sanctuary by the landowner. The area is fenced on all sides and includes a portion of Pine Creek. The heron rookery has been existent since 1975 and is stable. The riparian zone, which includes many tall trees as well as shrubs and other lower vegetation, provides excellent habitat for many birds, deer and furbearers. A change of use by the landowner to a nonresource related use would require careful consideration of the potential impact to the rookery.

5. Mouth of Eagle Creek (Site #BA-22) Elements noted by ONHP and confirmed are wetlands forest, northern bald eagle, waterfowl wetland, shorebird marshland habitat, and great blue heron rookery. The zoning and land use are Exclusive Farm Use with some grazing. Protection is through private ownership. The site lies in the north bank of the confluence of the Eagle and Powder Rivers and is managed for wildlife by the owner. This preserve provides excellent habitat for deer and many birds, including great horned owls and western blue birds. In addition to species which are year round residents, a number of shore birds summer here, and as many as 40 bald eagles winter here. A change from current resource use of the land would require careful review of the potential impact to the identified resources.

6. North Powder River Area (Site #BA-35) Elements noted by ONHP and confirmed are wetlands forest and great blue heron rookery. Zoning and land use are EFU. Protection is through private ownership. This riparian zone includes trees of varying heights which provide habitat for a variety of birds. The heron rookery has been established since about 1977 and is stable. Any proposed change of use would require careful consideration of the potential impact on the identified resource.

7. Virtue Flat (Site #BA-12) Elements noted by ONHP and confirmed are sage grouse strutting grounds. Zoning and land use are Exclusive Farm Use. Protection is through private ownership. Though a number of such sites exist in Baker County, this is perhaps the one of greatest importance. Sixty-eight birds use this site, the highest concentration in the county. The terrain and surrounding vegetation make this an ideal sage grouse habitat and it is important during both strutting and brooding season.

Curlews, short-eared owls, and burrowing owls also frequent the area. A herd of 142 antelope winter here. Early grazing and the use of herbicides to control brush are a threat to the perpetuation of this natural area resource. The area known to be strutting and nesting grounds will be protected, but not the entire area as defined by ONHP. Baker County has relied upon testimony of ODFW personnel in making that assessment. Any change of use for this area would require careful consideration to determine the impact of change upon the resource.

8. Salisbury Marsh (Site #BA-7) See 3B sites above for full description. This site straddles a busy state highway. The primary candidate for protection is the willow veery, which needs a wetlands habitat.

Location: Sections 35 and 36 in Township 10 South, Range 39 E.W.M.

Findings:

a. The one-half acre said by Nature Conservancy to be the most "important and unique" portion of the site is so wet it is doubtful that it could qualify for DEQ approval.

b. The current owner of the most important 1/2 acre piece has testified he keeps his horses from grazing there during the nesting season.

Conclusion: Include on Inventory; allow conflicting uses fully (3B) for all except the most critical 1/2 acre portion of the site. The 1/2 acre portion of the site identified on the attached map is hereby designated as a 3C resource subject to the limitations set forth in Article III, Section 301.D, 1-10 of the Zoning Ordinance. The County will encourage the Nature Conservancy to buy that 1/2 acre.

PROTECTION

Natural areas in Baker County include resources of national, statewide and local significance. Protection of these resources involves two federal agencies, the Oregon Department of Fish and Wildlife, the State's Natural Heritage Advisory Council, County government, local landowners, and participants in the local political process. State and federal agencies include natural area resources in management plans for lands under their respective jurisdictions. Protection of natural area resources is a management priority for some of the public land sites included on the Baker County Inventory. Natural area resources are not protected on some other sites where the agency has given priority to competing land uses.

Baker County recognizes the efforts of state and federal agencies to protect natural area resources on public land. Protection of natural areas in the rest of the county is most feasible when it is a priority among the management objectives of individual landowners. The

objective of the County's Natural Area policy is to augment the volunteer protection for these resources by private landowners. This will be achieved by requiring landowners whose land includes an inventoried significant natural area to notify the County 30 days in advance of a change in land use which may negatively affect the quality of the resource. Examples of commonly recognized conflicts include, but are not limited to:

1. filling of wetlands;
2. aggregate removal near rookeries;
3. structural development on or near resource sites.

For those sites categorized as 2A or 3C, County government will schedule and hold a public hearing for the proposal as well as notify the appropriate state agencies.

The economic hardship placed on a landowner by slowing the speed with which land use can be changed is offset by the opportunity for continued protection provided by the notification procedure and public hearing. Questions relative to economic gain or loss are incorporated into the review criteria for changes proposed for natural areas. The long-term environmental consequences of this protective measure should be a decrease in the rate at which natural areas are lost through intensification of conflicting land uses.

PROPOSED NATURAL AREA PROTECTIVE MEASURE

The definition of a natural area, according to Goal 5:

> Natural area--includes land and water that has substantially retained its natural character and land and water that, although altered in character, is important as habitats for plant, animal or marine life, for the study of its natural historical, scientific or paleontological features, or for the appreciation of its natural features. (Goal 5, LCDC Statewide Goals and Guidelines)

Sites which are designated as natural areas in Baker County require special attention especially if they are not duplicated by sites on federal land which include similar natural area resources. Natural area preservation depends on the voluntary cooperation of landowners, but also involves the efforts of conservation interests and the control of County government. Opportunities for outright purchase, conservation easements, purchase of development rights and other agreements between landowners and conservation groups are frequently lost. The County's role in protecting natural area resources is to ensure that such opportunities are not lost through a lack of communication. A landowner whose land includes a significant natural area will be required to notify the County 30 days in advance of a change in land use which may affect the quality of the resource. A state agency, either the Oregon Department of Fish and Wildlife and/or the State Natural Heritage Advisory Council, along with the general public will then be notified by the County of a hearing to be held regarding the proposed change. If during the hearing, it is determined by the County that the integrity of the significant resource

is indeed threatened, the County must reach a decision whether to allow, allow with conditions, or disallow the proposed change based on clear and objective criteria to be found in the Zoning Ordinance.

B. Goal V Natural Areas Findings

1. "Water areas, wetlands, watersheds and groundwater resources" includes all surface and subsurface waters under the control of the state.

   A more detailed and conclusive inventory of such resources will require the coordinated efforts of private interests, the county, State and federal agencies.

   In particular, the Powder River Basin Water Resources Report, 1967, should be updated. Until such an update however, the county recognizes this document and adopts it by reference. Resources inventoried therein are recognized as 2A resources pursuant to OAR 660-16-000 and will be protected accordingly by county policies.

2. "Wilderness areas" include those land areas in the county designated as such pursuant to applicable federal law. Such land areas are inventoried under Goal IV of the Baker County Comprehensive Plan. All such sites are given protection as 2A resources in Baker County (OAR 660-16-000).

3. Riparian zones along the stream corridors of Baker County are essential to both maintenance of stream quality and protection of aquatic terrestrial wildlife.

   a. One of the inventoried conflicts in riparian zones, feedlots, is regulated through cooperative agreement by the Oregon Department of Agriculture and the Department of Environmental Quality pursuant to the Animal Waste Control Provisions of the "208" program for Water Quality.

   b. Another inventoried conflict, stream channelization/bank stabilization, is regulated through the Division of State Lands and the Oregon Department of Fish and Wildlife under fill/removal regulations.

   c. Road construction associated with forest operations as a conflict in riparian zones is addressed by the Oregon Forest Practices Act. Other types of road construction are regulated in some instances by County setback requirements relative to access for new construction.

   d. Inventoried conflict between new construction and riparian zones is addressed by setback requirements in the land development ordinance.

e. For those land owners who choose to participate in the State's Riparian Zone Tax Incentive Program, additional protection will be available to riparian zones once the County's Comprehensive Plan is acknowledged.

f. The County's FloodPlain Ordinance, as adopted, will provide additional setbacks from floodways which are also riparian areas.

4. Baker County's adoption and implementation of a Flood Plain Ordinance will provide further protection to riparian areas since construction in flood prone areas will be regulated.

5. Baker County recognizes the roles played by various state and federal agencies in the protection of our natural resources, including riparian areas, including but not limited to the Division of State Lands, the Department of Environmental Quality, the Oregon Department of Fish and Wildlife, the Oregon Forest Protection Act, and the Oregon Department of Agriculture.

C. Goal V Natural Areas Policies

1. Natural Areas designated as 2A sites are to be protected to ensure the preservation of the resource site.

2. Natural Areas identified as 3C sites shall be reviewed against criteria found in the Zoning Ordinance to allow conflicting uses, but in a limited way so as to protect the resource site to some desired extent.

3. Customary resource uses (i.e., grazing and tillage practices) are not considered to be conflicts requiring regulation in Baker County's program to achieve Natural Area protection.

4. The County shall encourage, as appropriate, the signing of properties to recognize Natural Areas that are significant and for which protection is either totally or partially required.

5. Baker County encourages the future participation of landowners in both the Riparian Land Tax Incentive Program and the Fish Enhancement Property Tax Program which offer tax advantages as well as protection for natural resources.

6. For new construction of dwellings, agricultural buildings, commercial structures and new roads accessory to such development, the County will impose setbacks adequate to protect and preserve riparian values.

7. Water areas, wetlands, watershed and groundwater resources are often described as the limiting factor in the development of productivity in our region. For this reason, water resources shall receive protection from competing uses through the Goal 5 process.

V. HISTORIC AND CULTURAL SITES, STRUCTURES, DISTRICTS

Not included on this list are sites and structures found within the cities of the County. They are outside of the jurisdiction of County Planning.

A. Inventory of Historic and Cultural Sites, Structures and Districts

1. NATIVE AMERICAN THEME

A general theme to include all prehistoric, ethnographic, and/or ethnohistoric American Indian culture sites. Sites may include trails, camps, rockshelters, occupational sites, quarries, burials, scatters, and hunting and gathering areas (Hudson et al., 1978, p. 61).

Baker County, like much of eastern Oregon, is rich in resources representing this theme. The stability of land surfaces and arid climate have contributed to the preservation of many prehistoric sites. The density of sites in the county is between six and ten sites per square mile, though only a small percentage of them have actually been identified. About 500 prehistoric sites within Baker County are currently recorded with the State Historic Preservation Officer. Most of these sites are on Forest Service or BLM land, and are protected by federal law (information from a phone conversation with Le Gilson, Archeologist, Oregon Department of Transportation, 3 September, 1982).

a. Historic and Cultural Native American Theme Sites, Structures, Districts

	Twp	Rge	Sec	Date	Inventory	Ownership
Big Creek Archeological District[a]	7	40,41			3	BLM
Unity Archeological District[a]	12, 13 12, 13	37 38			3	BLM

[a]District refers to areas not site specific for which more detailed locational information is not appropriate.

2. OVERLAND MIGRATION THEME

The theme of Euroamerican migration to the Pacific Northwest is related to the Oregon Trail and side routes. Sites may include roads, rest points, and camps (Hudson et al., 1978, p. 61).

a. Historic and Cultural Overland Migration Theme Sites, Structures, Districts

	Twp	Rge	Sec	Tax lot	Date	Inventory	Ownership
Flagstaff Hill Monument	9	41	6	500	1943	1,2***	BLM
Farewell Bend State Park	14	45	33	1600		1***	ODOT
Oregon Trail Landmark	9	40	5	100	1924	1,2***	ODOT
Emigrant Graves	14	45	20		1841-1849		ODOT
Rattlesnake Springs Landmark	12	44	30	2200	1922	1***	ODOT
Sisley Creek/Gold Hill Oregon Trail Segment[b] (jeep trail, short segments)	12 11 11	44 44 43	5,6,8 17,20 31 35,36		1843	6	Private BLM
White Swan Mine Oregon Trail Segment[b] (jeep trail, short segments)	10 10	42 41	5,7,20 28,29,33 25,35,36		1843	6	Private BLM
Unnamed Segment Oregon Trail Segment (passing thru[b])	13	44	3,15			6	BLM
Virtue Flat Oregon Trail[c] (visible undisturbed wagon train ruts)	9	41			1843	6**	BLM
Slough House (no standing structure)	8	40			1850-1900	3	Private
Signature Rock (adjacent to BLM; existing fence; interest of owner in protection)	9	42			1860s to pres	3**	BLM

[b] Oregon Trail Segments are included in National Park Service Management Plan unless on private land. Oregon-California Trails Association, La Grande Chapter, is available as a resource for protection of privately-owned segments.

[c] Priority Site.

** Of probable National Register eligibility or local significance according to BLM Historic and Cultural Site files, contact person, Mary Oman; or Lorela Hudson, Gary C. Ayers, George F. Gauzza and Joseph Rudolph, Cultural Resources Overview of the Malheur, Umatilla and Wallowa Whitman National Forests: Northeast Oregon/Southwest Washington, Sandpoint, Idaho: 1978.

3. **SETTLEMENT THEME**

The theme of the development of communities and the acquisition of the Public Domain for residence and livelihood. Sites may include towns, homestead entries, and cabins (Hudson et al., 1978, p. 61).

a. Historic and Cultural Settlement Theme Sites, Structures, Districts

	Twp	Rge	Sec	Tax Lot	Date	Inventory	Ownership
Chandler log cabin (Believed to be oldest county dwelling)	8	39		8300		1***	Private EFU
McDonald House (Historic Reese House)	10	38	18	300	1890	1***	Private EFU
McEwen School (coverted to residence)	10	38	18B	600	1900	1***	Private EFU
Smull House (Historic Roe House)	10	38	18B	200	1890	1***	Private EFU
Rowe Barn	10	38	18B	200	1871	1***	Private EFU
Pocahontas School site (no remnants except chimney; historic interpretive sign)	9	39	5				Public
Rock Creek Townsite (Old Butched Shop)	7	38				3	Private/ multiple
Durkee C.I. Sacred Heart Catholic Church (Residence)	11	43	28B	1900		1***	Private
Wingville Grange Hall No. 560 & Historic Interpretive Sign Methodist and Episcopal (Historic Wingville I.O.O.F.)	8	39	27	10400	1870s	1**	Private
Auburn Cemetery	10	39	27	1100	1862	5**	Private
Big Creek Cemetery (Auburn & Big Creek are oldest two)						5	
Big Flat Cemetery	12	37	10			5	
Boyer Family Cemetery					1890s	5	Private
Boyer Family Cemetery						5	Private
Copperfield-Homestead Cemetery					1900	5	Private

Durkee Cemetery	11	43	18		1890s	5	Private
Eagle Valley Cemetery						5	Private
Goose Creek Cemetery					1874	5	Private
Fleetwood Family Cemetery					1890	5	Private
Governor Gale's Grave (Richland Cemetery)	inside city					5	Private
Hibbard Creek Cemetery	12	45	27		1886	5	Private
Lime-Dixie Cemetery	13	44	23		1870	5	Private
Haines Cemetery	8	39	10		1910	5	Private
Nathaniel Hamlin Cemetery	7	39	10		1910	5	Private
Love Family Cemetery	8	43	32		1870	5	Private
McEwen Cemetery	10	38	18		1895	5	Private
Rock Creek Cemetery	7	38	36		1862	5	Private
Rosenburg Hill / Pine Valley Cemetery					1870s	5	
Rye Valley Cemetery	13	43	5		1872	5	BLM
Sparta Cemetery	8	44	16		1870	5	
Sumpter (Blue Mountain) Cemetery	9	37	33		1860	5	
Trimble Family Cemetery					1919	5	
Unity (Burnt River) Cemetery	13	36	12			5	
Whitney Cemetery	10	36	27		1900	5	
Wingville Cemetery[c]	8	39	29	1000	1878	5**	Private
Auburn Townsite	10	39	16	3100	1862	2, 6**	Private BLM
Bourne[d] (existing historic structures)	8	37	32DA	2502, 2503 2900, 3100 3601, 3603 3801, 4800 5403, 1800 2301		2, 6**	Forest Service/ Private
Clark's Creek Townsite (vicinty Chinatown)	12	41	27, 28		1869	3	BLM

Cornucopia[d] (existing historic structures)	6	45	27, 28 33, 34		1885	2	Forest Service/ Private
Greenhorn[d] (existing historic structures)	10	35	15		1902	2	Private
Tipton Townsite (no existing structures)	10	35½	24		1904	2, 6**	Forest Service
Whitney (existing structures, interpretive sign)	10	36	32, 33			2	Private
Sumpter Townsite (Historic Cabin Site)					1865	3	BLM
Sparta Store	8	44	15BC	300	1871	3**	Private
Sanger Townsite[d]	7	43			1870s		Forest Service
Pleasant Valley Stone Residence Building	10	41	NE¼ 23			3	Private
Lime Kiln	10	41	NE¼ 23			3	Private
7 Cabins/homestead structures	10	41	NE¼ 23			3	BLM
Other							
9 Historic refuse localities	purposefully undisclosed for protection					3	BLM
6 Historic petroglyphs	purposefully undisclosed for protection					3	BLM

[d] Inadequate information available to evaluate significance of resource.

4. **MINING THEME**

A theme of the early development of the region, and primarily relating to mining operations and claims. Sites may include placer mining and lode mining areas, mines, cabins, ditches, flumes and trails (Hudson et al., 1978, p. 62).

A brief discussion of the history of mining in Baker County, including important mining districts, is included in Section VII Mineral and Aggregate Resources, of the Goal V element of the Baker County Comprehensive Plan.

a. Historic and Cultural Mining Sites, Structures, Districts

	Twp	Rge	Sec	Tax lot	Date	Inventory	Ownership
Sumpter Valley Gold Dredge (within juisdiction of City of Sumpter	9	37	32	702	1920s	1*	Private
Burnt River Wagon Road Bridgeport	12 12	42 41	6 1,2,3,10,16,20		1870s	3**	BLM
Halfway Wagon Road (about 2 miles along Timber Canyon)	9	46	11,14,23			3	BLM
Rich Grade Wagon Road (about 1 mile north along Keystone Mine)	9	44	14, 15			3	BLM
Virtue Mining Area	9	41	20, 21	1900, 2500 2600, 2700 2800, 2900 2205, 2206 2207, 2208	1862	2**	BLM Private
Griffin Gulch/Elk Creek Area	9	39	35		1861	6**	Private
Mormon Basin Mining District[a]		13	42				BLM
Cable Cove Historic Sites	8	36	multiple sections		1872		Forest Service
Elkhorn Baisley Area[d]	8	38	21		1882		BLM Private
Cave Creek Historic Mining Site	12	42	5			3	BLM
Sparta Historic Mining Area					1863/ 1871		BLM Forest Service
Greenhorn Historic Mining Sites	9	35	9D		1860s	6**	Forest Service Private
Original Fort Sumpter Cabin Site (no standing structure; partially destroyed; next to school					1860s	3	Private
Conner Creek Historic Mining Sites	11, 12	45			1872	3	BLM

Eilertsen Meadow Area[d]	8	38	18				Private
Dixie Creek (South Rock) Area	13	42	22, 23				BLM
Baker-Elkhorn Ridge	8	38	21		1890s	**	BLM Private Forest Service
Homestead/Copper Creek Area[d] Historic Buildings)	6	48			1897		Private
Coal Mine	10	39	29		1920		Forest Service
Iron Dyke Copper Mine	6	48	21		1902-1922		Private
Rye Valley Chinese diggings	13	43	5				BLM
Auburn Ditch & Reservoir	8 9 9 10	38 38 39 39	34, 35 2,11,12,13 17,18,20,21,28 32, 33 4, 5, 9		1862-1863	2, 3, 7**	Private Forest Service
Eldorado Ditch	14 14 13 13 12 12 12	37 38 38 39 39 40 41	24, 25, 26 6,7,17,19 11,12,14,15,16 20,21,28,29,31 32 3,4,5,6,7 33,34,35,36 24,25,26,27,28 29,31,32 31,32,33,34,35		1863-1874	2, 3, 6**	Private BLM Forest Service
Littlefield Ditch	linear feature				1885-1892	3	Private BLM
Schuck Ditch	linear feature				1885-1892	3	BLM
Sparta Ditch	7 6 7	44 43 43	6,7,18 ,19,30 15,16,20,21,28 29,33,34,35 1, 2, 3		1871	3, 6**	Forest Service Private
Rye Valley Chinese diggings	13	43	5				BLM

Auburn Ditch & Reservoir	linear feature	1862-1863	2, 3, 7**	Private Forest Service
Eldorado Ditch	linear feature	1863-1874	2, 3, 6**	Private BLM Forest Service
Littlefield Ditch	linear feature	1885-1892	3	Private BLM
Schuck Ditch	linear feature	1885-1892	3	BLM
Sparta Ditch	linear feature	1871	3, 6**	Forest Service
Other				
9 Mining Ditches	Purposefully undisclosed		3	BLM
7 Hardrock mining sites	Purposefully undisclosed		3	BLM
4 Placer mining sites	Purposefully undisclosed		3	BLM
3 Hydraulic mining sites	Purposefully undisclosed		3	BLM
4 Mining cabins	Purposefully undisclosed		3	BLM
1 Mining claim	Purposefully undisclosed		3	BLM

5. **LIVESTOCK THEME**

The theme of the development of the livestock industry, including sheep, cattle, and horses. Sites may include camps, corrals, fencelines, salt caches, stock driveways, and watering places (Hudson et al., 1978, p. 62).

a. Historic and Cultural Livestock Theme Sites, Structures, Districts

	Twp	Rge	Sec	Tax lot	Date	Inventory	Ownership
Kirby Cow Camp	11	42				3	Private
Hand Stacked Rock Walls	10	39				3	BLM

6. **FARMING THEME**

The theme of farming represents the development of agricultural industry in orchard and grain production. Sites may include orchards, mills, market routes, irrigation systems and dams (Hudson et al., 1978, p. 62).

a. Historic and Cultural Farming Theme Sites, Structures, Districts

	Twp	Rge	Sec	Tax lot	Date	Inventory	Ownership
Wisdom Barn	8	39	26	8201	1892	1**	Private
Powder River Ditch (Source: Theif Valley)						4	BLM
Love Ditch, Reservoir						4	BLM
33 Irrigation ditches						4	BLM
1 Irrigation dam						4	BLM

CENTURY FARMS

The county wishes to recognize the historical significance of farms and ranches in single family ownership for one hundred years or longer. Because of eligibility regulations, some ownerships are old enough but do not or have not yet qualified for state recognition. Therefore, the inventory is two-fold: State Century Farms and Other Century Farms in Baker County.

State Century Farms
Chandler Herefords, Inc., Baker Valley
Vernon Hayhurst, Haines
Howard Payton, Baker Valley
Leonnig Ranch, Haines
Joe McEnroe, Jr., Baker Valley
Warner Brothers, Baker Valley
Brent Perkings, Jr., Baker Valley
Harln Wendt

Other Century Farms in Baker County
Love Ranch, Keating
Rolland Ebell Ranch, Baker
Nelson (Boyer) Ranch, Hereford

Being Researched for Age
Arthur Trimble, Hereford Area
Fishers, Muddy Creek Area
Moody, Pine Eagle Area
Robinette, Pine Eagle Area
Hensley, Pine Eagle Area
Jennings, Pine Eagle Area
Evans, Pine Eagle Area
Eileen Skinner, Goose Creek Area

7. **LUMBERING THEME**

The theme of the cutting of timber, this general theme encompasses early timber cutting and sawing for the construction of local communities, residences, and improvements, as well as the operation of logging companies to harvest timber for regional and national markets. Sites may include sawmills, roads, cutting areas, cabins, camps, flumes, dams, railroads, and railroad improvements such as trestles and water towers (Hudson, et al., 1978, p. 62).

a. Historic and Cultural Lumbering Theme Sites, Structures, Districts

	Twp	Rge	Sec	Tax lot	Date	Inventory	Ownership
Sumpter Valley Railroad	10 10 10	37 37 37	4 3	400, 402, 600, 901, 1000 2200, 2600 1800		7*	Public Forest Service
Koontz Sawmill Site (no standing structure)	12	41	30		1863	4	Private
Sawmill/Sawmill Bulch[d]	8	44			1865-1870	4	BLM
Pedro Mt. Sawmill (no structure; equipment only)	13	42	4		1911-1915	4	Private
Conner Creek Sawmill[d]	11	45				4	BLM
Whitney Mill	10	36	34			4**	Private
Marble Creek Millsite	9	39	6 or 7			4	Private
Robinson Gulch Millsite	13	42	14			4	BLM

8. **TRANSPORTATION AND COMMUNICATION THEME**

A major theme for the development of the region is the aspect of our economy which demands access to and from markets and settlements, as well as communication systems. Sites may include roads, trails, telephone and telegraph lines, stage stations, and railroads (Hudson et al., 1978, p. 62).

a. Historic and Cultural Transportation and Communication Theme Sites, Structures, Districts

	Twp	Rge	Sec	Tax lot	Date	Inventory	Ownership
Martin Bridge Stage Station Site[d]	6	45				2	Private
Sparta Vicinity Stone Building (Baker-Cornucopia Stage Stop)	8	43	14			4	Private

9. **FEDERAL RESOURCE MANAGEMENT THEME**

The themes of the Forest Service, the BLM and Depression Era public works programs represent a new era for the region in terms of fostering new patterns for resource utilization. Sites may include trails, cabins and pasture, administrative sites, lookouts, experimental planting area CCC camps, trails, roads and other irprovements (adapted from Hudson et al., 1978, p. 62).

a. Historic and Cultural Federal Resource Management Theme Sites, Structures, Districts

	Twp	Rge	Sec	Tax lot	Date	Inventory	Ownership
Anthony Lakes CCC Structures	7	37	18	100		**	Forest Service
Pine Ranger Station CCC Structures	8	46	21AA	300		**	Forest Service
Unity Ranger Station CCC Structure within jurisdiction of Unity	13	37	16B	2600		**	Forest Service
Antlers Guard Station	11	36	3	100		**	Forest Service

10. **RECREATION THEME**

This theme represents events and places relating to traditional activities of relaxation - fishing, hunting, camping, swimming and hiking. Sites may include camps, resorts, and early Forest Service campgrounds or recreation facilities.

a. Historic and Cultural Recreation Theme Sites, Structures, Districts

	Twp	Rge	Sec	Tax lot	Date	Inventory	Ownership
Anthony Lakes CCC Campground	7	37	18	100	1920-1930s	**	Forest Service
Fisher Hot Springs	7	38	10		1870		Private
Radium Hot Springs	9	39	28				Private

11. **COMMERCE AND INDUSTRY THEME**

The theme of the development of trade and industry (other than livestock, timber and farming). Sites may include power facilities, stores, sites of previous industrial establishments.

a. Historic and Cultural Commerce and Industry Theme Sites, Structures, Districts

	Twp	Rge	Sec	Tax lot	Date	Inventory	Ownership
Rock Creek Power Plant	7	38	33			4**	Private
Pleasant Valley Stone Quarries	10	42	19			4	BLM
Haines Quarry	7	39	27				Private

12. **PALEONTOLOGY THEME**

The theme of natural changes which have occured in the area. Sites include fossils and other material reflecting the flora and fauna typical of the Baker area in previous geologic eras.

a. Historic and Cultural Paleontology Theme Sites, Structures, Districts

	Twp	Rge	Sec	Tax lot	Date	Inventory	Ownership
Homestead Paleontological District-Periman Fossils	6	48					BLM
Big Creek Paleontological Districts-Productids	7	41					BLM
Keating Paleontological District (fossils representing a middle miocene-swampy environment)	8	41, 42					BLM
Burnt River Paleontological District	11, 12	41					BLM Forest Service
Pine Forest Paleontogical	11, 12	42					BLM

Note: Mapping for the cultural and historic areas can be found on Plate #18 of Appendix I

CULTURAL AREAS

"Cultural areas" refer to those characterized by evidence of an ethnic, religious or social group with distinctive traits, beliefs and forms. Although such resources are not present in the county today, cultural resources from the past are recognized to be of significance.

The cultural resources of Baker County include areas, sites, structures, objects and other evidence of importance to cultures or communities which have been present in Baker County. They include resources of scientific, traditional religious and other import, and contribute to further understanding of the history and prehistory of human activity in the area.

Information about cultural resources must be drawn from a variety of sources. Inventories

Information about cultural resources must be drawn from a variety of sources. Inventories done by the BLM, United States Forest Service, and Oregon Department of Transportation document some historic and archeological resources. Local experts and amateur historians have also contributed much to the literature. Unfortunately, much information is known only to landowners owning such resources, or remains unutilized in primary source documents such as homestead entries and mining patents, or is buried underground.

Systematic inventories of cultural resources are in progress on USFS lands and efforts to gather information concerning resources on BLM land are also ongoing. It is unlikely that a similar commitment of the resources needed to thoroughly inventory cultural resources on private lands within the county will occur. A consolidated inventory of sites which are documented may increase local awareness of the quantity and diversity of the county's cultural resources. The Baker County inventory includes resources on public and private land in order to provide a more comprehensive view. However, those cultural resources existing on federal property are exempt from the Freedom of Information Act. Their specific location is not divulged in this document therefore, because of its public nature. As in other areas, Baker County does not assume planning or zoning jurisdiction on federal lands.

Cultural resources provide clues to events of the past. An inventory is most useful if it can be related in a coherent manner to current knowledge of the area's historical trends. Hudson, et al. (1978) identify fifteen major prehistoric and historic themes which are appropriate for northeastern Oregon and southeastern Washington. These themes represent cultural trends and their selection was based on historical narrative rather than specific sites. Particular sites in Baker County may not be representative of the sites in the larger region, but cultural trends can be generalized. Baker County's inventory is organized according to 12 of these themes. It is interesting to note that the county has no significant resource in either the military theme or the early trapper and missionary themes.

In the inventory, each theme and the historic and archeological phenomena expected to relate to it are discussed. Known cultural resources relevant to each theme are listed, including locational and documentary references. In some cases, an evaluation of the significance of a site is indicated in the inventory. Where inadequate information is available to evaluate the significance of a resource, the resource is identified as a 1B component of the inventory. The inventory includes 12 themes adapted from Hudson, et al., some of which are represented by many sites, others by only a few.

The significance of a particular site as a cultural resource depends on a number of criteria. Foremost is its ability to answer research questions about an area. Significance is therefore a measure of how critical the information provided by a site is to the understanding of past events and cultures. Another criterion is the scope of significance--is the site of purely local import, or is it related to regional, state or national history? The state of preservation must also be considered and this must be judged in relation to similar sites representing the same

theme. The significance of a site is also a function of its complexity. That is, a site which provides a bundle of interwoven clues to an entire period or series of events, is more valuable than one supplying more limited information about a single person or event.

In addition to a site's ability to answer research questions, fill gaps in knowledge of history at a local or wider level, and its complexity, several other criteria must be addressed. A site's association with a person, place or event of recognized importance adds to its significance. Its relevance to a particular ethnic group, especially if little is known about that group, is also important. Likewise, the value of a site which is related to themes which are poorly represented by known cultural resources may be great despite poor condition or lack of complexity.

Finally, site significance must be evaluated in terms of recreational value. Cultural resources which are accessible to the public are important for several reasons. Interest in local history and the role of the local area in the history of the larger area is enhanced by the existence of resources which may be appreciated first hand. Resources which are accessible and interpretable to the public are of a great educational value to local people and visitors. Some such sites may also be of value to the economy by attracting tourists and other visitors to the County. A few resources, such as the Sumpter Valley Railroad and the dredge, are of commercial value and further contribute to the County's economy.

A determination of the significance of a site is a process of professional evaluation undertaken by an historian, anthropologist, or archaeologist. Before such a determination can be made, considerable information is required about the resource site and its relevance to local and regional history. The significance of some sites in Baker County has been determined by qualified professionals. Such sites, and the appropriate references are so noted in the inventory. Inadequate information and lack of professional evaluations preclude determinations of the significance of many other sites, however. Considerable research and professional evaluation is still needed before the significance of these sites can be determined.

The efforts of archaeologists employed by the BLM and the USFS, local experts and amateur historians continue to increase what is known about cultural resources in the county. The Baker County Historical Society and the Oregon Trail Regional Museum, and Eastern Oregon Museum Societies are also active in gathering, assembling, and interpreting local cultural resources. These groups and individuals are responsible for most of the research which has occurred in the county. They will also be involved in the development and implementation of policies concerning cultural resources which are determined to be of significance.

CULTURAL RESOURCES

The inventory of cultural resources includes historic, prehistoric and paleontological resources. They include site specific resources, such as structures and landmarks, as well as non-site-specific resources, such as mining areas and irrigation ditches. They are organized according

to major historic and prehistoric themes, each of which is discussed.

The inventory includes locational information and references other inventories which contain more descriptive information concerning the condition and significance of each site. In some cases, sites have not been sufficiently documented, and additional information is still needed.

The archaeological and paleontological districts are defined in very general terms. To prevent inappropriate disclosure of the exact locations of particular sites, more detailed information is not included in the plan.

Sources of information are referred to by numbers, according to the following key:

1. Oregon Department of Transportation Statewide Inventory of Historic Sites and Buildings: Baker County, 1976. Descriptions of inventoried sites by Stephen Dow Beckham.
2. Aubrey L. Haines Historic Sites Along the Oregon Trail. Gerald, MO.: Patrice Press, 1981.
3. BLM Historic and Cultural site files. Contact person: Mary Oman.
4. Department of Interior, National ParK Service: Oregon Trail: Comprehensive Management and Use Plan. GPO: August, 1981
5. Oregon Department of Transportation Cemetery Survey, 1978.
6. Lorela Hudson, Gary C. Ayers, George F. Gauzza and Joseph Rudolph. Cultural Resources Overview of the Malheur, Umatilla and Wallowa Whitman National Forests; Northeast Oregon/Southwest Washington, Sandpoint, Idaho, 1978.
7. The Eldorado Ditch: An Example of a Threatened Historic Resource, John P. Preston, ODOT, 1982.
8. Eldorado Ditch History. Woodrow Wheeler, USFS, Unity R.D., 1980.

* On the National Resister of Historic Places.
** Of probable National Register eligibility or local significance, according to #4 or #7 above.
*** Additional sites visited by the State Historic Preservation Office (SHPO) and judged to have historic significance.

B. Cultural Resources and Land Use

Baker County's inventory includes 201 resource sites. Two of these, the Sumpter Valley Gold Dredge and the Sumpter Valley Railroad, are on the National Register of Historic Places, and protected by federal law. Twenty-five more have been judged by professionals to be of "National Register quality." An additional ten are not of National Register quality but have been inventoried and visited by staff from the State Historic Preservation Office (SHPO) and are judged to be of significance. For most sites however, significance has yet to be evaluated

by a professional. These sites will remain on the County's inventory until enough information has been acquired and sufficient expertise is available to determine their significance. They are designated as "1B" resources.

Sixteen sites judged to be of National Register quality exist all or partially on non-federal land. Many of these--four mining areas and three ditches--are non-site-specific or linear resources. In determining potential land use conflicts between the cultural resource's continued presence and other land uses on a given site, it is necessary to look at the resource and other land uses in their entirety. With the exception of Wingville (Pine Creek) Cemetery, and the townsites of Greenhorn and Bourne, all National Register quality sites are located in zones where timber production and grazing are the primary land uses. Of the ten additional sites judged by the state to have historical significance, only two (Farewell Bend State Park and the Sacred Heart Catholic Church in Durkee) are in non-resource zones. Timber or grazing practices may have locally adverse effects on a particular cultural resource, but over all, forest range and uses are compatible with site preservation. Localized damage to a resource site is unavoidable when resources are as extensive as the Oregon Trail or ditches such as the Eldorado, which covers more than 110 miles. Indeed, localized disturbances may have less impact on the resources as whole than the on-going impacts of weather and erosion. Conflicts do not exist between non-site-specific cultural resources in the Timber-Grazing or EFU zones; the County will treat them as compatible uses. The National Park Service agrees that grazing does not constitute a conflict with historic segments of the Oregon Trail. When linear or district resources cross jurisdictional lines, the USFS and BLM staff archaeologists have volunteered to provide assistance in the evaluation of impact of a potentially conflicting proposal on a cultural resource.

The Sumpter Gold Dredge is within the jurisdiction of the City of Sumpter; the Sumpter Valley Railroad is in the County's Sumpter Valley Management Area. A portion of the railroad is being restored by the Sumpter Valley Railroad Restoration Inc., a nonprofit corporation. According to the Sumpter Valley Tailing Management Plan currently in use, "The County will cooperate in the effort to establish and operate a recreational railroad involving land in the geographic area . . . The overall plan of the corporation includes a museum of logging and mining as such activities were related to the original railroad" (Sumpter Valley Dredge Tailing Management Plan and Implementing Ordinance, p. 3). Potential conflicts between the railroad and other land uses in the management area are dealt with in the management plan.

Wingville (Pine Creek) Cemetery is within an acknowledged Rural Residential (RR-5) Zone. Its use as a cemetery continues. The County is reviewing the cemetery as a 1B Natural Area.

The remaining two sites of National Register quality which are all or partially on private land are townsites. One of these, Greenhorn, has been designated by the 1983 Legislature as an historic ghost town. Both Greenhorn and the other townsite, Bourne, are designated for Recreational Residential zoning. Six buildings, two landmarks, and a state park which are all

or partially on non-federal land are on the Statewide Inventory. Of all significant historic/cultural resources, the structural resources are more likely to be subject to conflict in the form of demolition or major exterior alteration. Therefore, demolition and major alterations to any inventoried historic structures of known significance shall be subject to County permit procedures contained within Section 412 of the County Zoning Ordinance.

PROTECTION OF VULNERABLE CULTURAL RESOURCE SITES

Several state and federal laws promote the protection of cultural resources on privately owned land. Federal laws include the National Historic Preservation Act (1966), the Federal Aid Highway Act of 1968, the Archaeological and Historic Preservation Act (1974), and the Tax Reform Act (1976). For the most part, these laws involve financial incentives to states and individuals to protect or preserve cultural resources. State laws include ORS 97.745-760, ORS 358.110-770, ORS 271.710-750, ORS 226.010-590, and ORS 311.150-370. These also involve tax incentives, as well as laws regulating the disruption of Native American cultural sites and historical sites.

The county also has a role in the protection of cultural resources. Eventually, conflicts may occur between resource preservation and forestry or agricultural practices. Ultimately, the decision of whether or not to preserve a significant site rests with the county. The county's role is to promote and support the education of people as to the value of preserving a rich, diverse cultural heritage; to point out the economic correlation between the preservation of these resources and our ability to share that heritage with tourists; to be aware of such conflicts as they arise and to require the preservation of these resources when to do so is in the public interest.

Private landowners who voluntarily protect cultural resources on their own land, and private interest groups such as the museum and historical societies of the county, are the most crucial components of any attempts to preserve cultural resources. Legislation provides incentives and bans the destruction of special resources. Awareness of sites, interest in preserving them, and the wherewithal to accomplish preservation or restoration of cultural resources cannot simply be legislated. The county can however, promote the development of these interests by maintaining the inventory of cultural resources and by working with private interest groups such as the historical societies, museums and museum commissions, Chambers of Commerce, the Library, Historic Baker City, Inc., Sumpter Valley Railroad Restoration, Inc., and/or affected local government. The intent of the county's cultural resources policy is to insure that resources are not lost simply because of a lack of communication between interested parties. Private owners of site-specific cultural/historic resources of known significance will be required to notify the county at least 30 days in advance before embarking on actions that will significantly and adversely affect the resource site. The county will then provide notice to the general public and contact the Baker County Historical Society, the State Historic Preservation Office, or other local groups with similar interests.

The county recognizes that these resources exist today because landowners have cared about them and chosen to preserve them. County landowners have recognized the increased marketability of resources which are preserved in their historic character. Nonetheless, as ownerships and land use patterns change, individual resources can be lost in the shuffle. The county's notification and public hearing policy is intended to alert others of a threat to an inventoried historical or cultural resource and provide an opportunity to save the resource from degradation or destruction. The county recognizes the creativity of advocacy groups in the preservation, renovation and interpretation of cultural resources in Baker County. Their activities provide ample evidence that the county can best preserve valuable cultural resources by promoting interaction between these groups and property owners.

A hierarchy of actions is proposed according to the known significance of the resource. For those resources on the inventory that have one star (National Register), all implementing measures, educational and persuasive efforts will be invoked to save the resource. For all starred resources, the county will provide full notice to the public, to the State Historic Preservation Office, and to local special interest groups as well as delay the requested action for 30 days during which time a public hearing would be held. Modifications to the proposal would be discussed to diminish or eliminate the conflict (i.e., leave the exterior of an historic structure unchanged or choose a color for metal roofing compatible with the historic structure). The adopted review criteria for protection of significant resources (Section 410 of the Zoning Ordinance) would be utilized. In the event of resources not starred, i.e., the 1B component of the inventory, or those items not presently inventoried, the county will enlist the aid of local experts who may find the resource relatively non-significant but who can photograph or in other ways record the resource before its destruction or modification, thereby maintaining a more complete record of the county's historical and cultural diversity. The local review board may find the resource of enough significance to warrant a public hearing.

C. Goal V Historic and Cultural Resources Findings

1. "Historic areas, sites, structures and objects" include resources listed in the National Register of Historic Places, the Statewide Inventory of Historic Buildings and Sites, and other resources as identified or verified by the local Historical Society.

   Because of the overlapping nature of historic resources and cultural resources, the two have been combined into one analysis, inventory and map. See Plate 18 of Appendix I.

   It should be noted that this material reflects the review and comments of the Baker County Historical Society.

D. Goal V Historic and Cultural Resources Policies

1. The county continues to commend the voluntary spirit of resource conservation and protection practiced by county landowners. The notification policy and public hearing process is intended to provide notice to the public sector of a pending action affecting a cultural, historic or natural resource. The County shall require the preservation of a resource when it is found to be in the public's best interest to do so.

2. The county will encourage training for its Planning Commission and staff in historic and cultural preservation.

3. The county shall encourage and support the coordination of Museum Commissions, Boards, Chambers of Commerce, Historical Societies, Libraries, Sumpter Valley Railroad Restoration, Inc., Historic Baker City, Inc., local governments and the media regarding the preservation of our community's natural heritage.

VI. FISH & WILDLIFE

A. Fish and Wildlife Inventory

1. Elk Feeding Grounds

   The Oregon Fish and Wildlife Commission owns and manages lands for winter elk feeding as follows.

   a. Auburn Site: Township 10S, Range 39E.; 1,656 acres
   b. North Powder Site: Township 6S., Range 38E.; 3,256 acres

2. Nesting Grounds; Wildlife Area

   The Fish and Wildlife Commission, under license from the County and Forest Service manages the "Sumpter Valley Wildlife Area."

   a. County land (dredge tailings): Township 10S., Range 37E-38E; about 1600 acres
   b. Federal land: Township 10S, Range 38E; about 800 acres, including west end of Phillips Lake (Mason Reservoir).

3. Bodies of Water Stocked by Fish and Wildlife Commission

Anthony Lake	7S	37E	18
Balm Creek Res.	7S	43E	7
Duck Lake	5S	44E	29
Eagle Take	5S	44E	21
Fish Lake	6S	46E	16
Haines Pond #1 & #2	7S	39E	21
Murrey Res.	14S	38E	18
Higgins Res.	13S	38E	5
Highway 203 Pond	S	40E	24
Long Creek Res.	14S	37E	15
Looking Glass Lake	6S	44E	5
Lost Lake	8S	37E	1
North Powder Pond #2	6S	38E	36
Phillips Lake	10S	38E	30
Rock Creek Lake	8S	38E	31
Twin Lake	9S	38E	5
Unity Res.	12S	37E	16
VanPatten Lake	7S	37E	16
Wyatt Lake	8S	44E	24
Portion Thief Valley Res.	6S	40E	
Burnt River, South Fork			
Cracker Creek			
Eagle Creek, Main			
Eagle Creek, West Fork			
Pine Creek, North Fork			
Pine Creek (Pine Valley)			
Powder River			
Oxbow Res.			
Brownlee Res.			
Upper Hells Canyon Res.			

4. Antelope Winter Ranges

The following represents an approximation of the antelope winter ranges:

a. Virtue Flat Area: Township 9S., portions of Ranges 41E and 42E.
b. Iron Mountain Area: Portions of Townships 10S and 11S; Portions of Ranges 42 and 43 East.
c. Sutton Creek-Alder Creek Area: Portions of Townships 11S and 12S; Portions of Ranges 40E, 41E, and 42E; small portion in 43E; a strip of land south of

Interstate 80-N.

5. Deer Winter Ranges

The deer winter ranges include the lower levels of the entire Powder Drainage Basin.*

* By definition, the Powder Drainage Basin encompasses the whole of Baker County, including Burnt River, Pine Creek, Eagle Creek, Powder River, and North Powder River.

6. Elk Winter Ranges

The elk Winter Ranges include the lower foothills and valley fringe areas of:

a. Elkhorn Mountain Ranges (Baker, Sumpter and Burnt River Valleys)
b. Eagle Mountain Range (Keating, Pine and Snake River Valleys)
c. North Fork Dixie Creek area
d. Big Lookout Mountain area

7. Maps available in County Planning Office

a. Big Game Habitat, Baker County, 1982, ODFW

FISH AND WILDLIFE AREAS

Fish and wildlife areas and habitats include but are not limited to particularly defined land areas containing management areas, refuges, or preserves that are owned and/or managed by agreement by the State of Oregon primarily for wildlife purposes.

In 1980, the Oregon Department of Fish and Wildlife (ODFW) developed the Fish and Wildlife Protection Plan for Baker County. This document provided information on species, habitat, abundance, expenditures, ODFW policy, and sensitive habitat areas. Acceptable and nonacceptable uses of sensitive habitat, maps showing deer and elk winter range, and areas designated as impacted deer and elk winter range were included. In 1982, ODFW provided information on wildlife habitat other than that owned and/or managed by the State. This information supplemented wildlife areas in the Technical and Inventory Data for Land Use Planning in Baker County. It specifically referred to deer, antelope and elk winter habitat. The inventory maps prepared in August, 1982 by ODFW local game biologist Dick Humphreys are enlarged equivalents of the maps included in the 1980 Fish and Wildlife Protection Plan for Baker County. In May 1985, a committee of local landowners, Baker County Planning Commission members, and ODFW staff created what has collectively become referred to as the "1985 Program Maps" by combining the enlarged inventory maps and 39 detailed inventory maps of elk winter habitat areas.

The County has adopted the fisheries habitat and rookeries as mapped by ODFW, the large program map entitled "Antelope Habitat and Deer Winter Habitat Map," (Exhibit B to Ordinance 85-7), and the set of 39 program maps indexed on the large program map entitled "Elk Winter Habitat Map," (Exhibit C to Ordinance 85-7) and are collectively known and referred to as the "May, 1985 maps." The County will use these 1985 program maps to identify deer and elk winter habitat and antelope habitat areas in assessing housing density conflicts. Refinement of the program mapping was continued and adopted consistent with OAR 660, Division 16.

Studies were conducted by Jack Ward Thomas (biologist at Eastern Oregon State College), Dick Humphreys (ODFW biologist), representatives of the agricultural community, the Extension Service, and others. The recommended habitat area was considered to be the minimum for survival of big game herds. This information was used as a baseline. In 1986, the Baker County Wildlife Advisory Committee was formed to review the recommended habitat areas and to determine appropriate exclusions. Members of the committee included an ODFW biologist, local ranchers, and interested parties. Excluded areas recommended were:

1. Land above 5,000 feet (the typical winter snow line in Baker County.)
2. All irrigated agricultural lands except those specifically designated by committee consensus because these lands are especially vulnerable to damage in early spring and late fall, considerable agricultural investment in these lands and the cost of damage caused by big game.
3. Private lands abutting federal lands and whose exclusion would not have a significant impact on habitat protection because of size and location.
4. Two areas located in the Rock Creek area of Baker Valley because development patterns had previously eliminated habitat.

In 1987, Baker County adopted the Big Game Winter Habitat overlay.

Section VI of the Goal V element of the Baker County Comprehensive Plan was acknowledged in 1987 after four years of debate between the State, County, and citizens over the issues associated with big game habitat. Baker County will use the Periodic Review Process to incorporate new information and to update the Comprehensive Plan within the limited resources of staff time and money. As in the past, there continues to be disagreement among experts in the Wildlife Management field.

There is a continuing need for new information with regard to the location of irrigated farmland, the number of acres used by big game, the amount of forage produced and consumed on each acre, and the times of the year during which this takes place, as well as the numbers of big game and where they exist at various times of the year. These are key considerations in determining habitat to be protected, and other big game related issues.

FISH AND WILDLIFE RESOURCES

Significant fish and wildlife resources exist in Baker County. The County recognizes the Department of Fish and Wildlife's assertion that "few, if any areas in the county are devoid of fish and wildlife and all areas are subject to land use impacts" (Humphreys and West, 1980, p. 2). The County also recognizes the role of fish and wildlife in satisfying recreational and economic needs in the county.

Data gathered at the Starkey Experimental Forest and Range indicate an estimated median value of $118 per trip, with an estimated $23 per hunter day. This translates into a $10 million infusion into the economy of eastern Oregon. Recreational days and expenditures for nonconsumptive uses, such as photography, birdwatching, and viewing elk have been estimated to average $27 per day. Further development of the elk viewing site at the Elkhorn Wildlife Area could capture about $1 million for the local economy (Bolin 1994).

The Oregon Department of Fish and Wildlife's Fish and Wildlife Protection Plan for Baker County includes an inventory of 42 different species of game and nongame mammals, 17 species of reptiles and amphibians, 53 species of game and nongame birds, and 18 species of game fish. The Oregon Department of Fish and Wildlife defines the quantity of each species in numbers or relative abundance. Habitat descriptions are generalized and quantified in terms of habitat acres available to each species of significant population size in Baker County (Humphreys and West, 1980, Appendix 1, pp. 17-20). As of 1994 this Plan has not been revised. Inventory Maps showing crucial and noncrucial range for elk, deer and antelope have been provided by the Department of Fish and Wildlife to the Planning Commission. The Department's inventory maps of elk winter habitat have been further revised by the County to begin, as habitat protection program maps, to delete generally irrigated agricultural lands and lands over 5,000 feet in elevation. The program maps were refined further to exclude small parcels adjacent to federal lands and two areas in the Rock Creek area.

Fish habitat includes 856 miles of stream, 20 natural lakes, and 15 manmade waterbodies. These, which include most year-round waterways in the county, are illustrated on inventory maps included in the Fish and Wildlife Protection Plan.

Expert analysis of the inventory materials provided by the Oregon Department of Fish and Wildlife indicates substantial updating, upgrading and improvement of the basic inventory information is essential in order that decisions can be made based upon the current information. Present information is inadequate to show such crucial matters as concentrations of elk population in various locations at different time points during the year. Neither does it indicate whether migration routes remain constant or shift over time. The ODFW Mule Deer Plan Goal initiated in 1991 identified 10 issues and strategies ODFW will address. One of the issues identified was, "Insignificant knowledge exists by which to manage mule deer intensively." Strategies to address the issue were,

1. ODFW will survey a statistically valid sample on a hunt unit or hunt area. Harvest data will provide a model for implementation of controlled buck hunting.
2. Investigate and develop better census techniques.
3. Determine deer movement patterns more accurately and delineate herd boundaries that is accurate with 20 percent or less movement in or out.
4. Develop population simulation models by 1996.

There is also a need for improved information for determining how many residences per unit of land area it takes to produce a given level of impact on elk populations or on usefulness of that land as elk habitat.

Due to the lack of an empirical basis for determining what levels of housing density will preclude use by elk, the County commits to continued research on this subject and shall cooperate with the State to develop professional methodologies to meet Goal 2 requirements for factually-based land use planning are satisfied. For example, based upon professional opinion the 5,000 foot elevation contour was used to delineate lands to be excluded in the habitat in the inventory. We need an actual field study to verify proper contour has been employed for analysis. The necessary research would also include information relevant to inventory, evaluation of conflicts, and design of mitigation measures. The specific focus of research should be on the following matters.

1. Inventory Information Information is needed on patterns of movement and whether these patterns are constant. The location of elk, their concentrations, frequency and when they reach certain locations is important, but currently missing information.

2. Census Methodology A scientifically based and professionally accepted methodology for elk census must be decided upon.

3. Habitat Standards A scientifically based standard must also be found for distinguishing crucial from noncrucial habitat.

4. Human Interference There is currently very little information on measurement of the point at which elk reach the limits of their tolerance for human behavior.

5. Cumulative Impact of Housing on Habitat There is at present no professionally accepted standard for measurement of the impact of lot size and density upon habitat. There is no clear information on the density that may be permitted in a particular area before habitat is affected.

6. Mitigation Techniques More information is needed on mitigation techniques in addition to density control and feeding stations. The objective here is to identify techniques which are the least intrusive on property rights of landowners.

7. Evaluation of Mitigation Measures There is a need to develop criteria and standards for evaluating the effectiveness of various mitigation measures.

8. Management Objectives There is not yet a clearly defined scientific method for defining management objectives.

Due to the County's limited resources and the scope of scientific work that needs to be done, the County's research will of necessity be passive. The County will monitor professional literature and data generated by the State and other entities. The County will also participate in any rule making undertaken by the State in the area of procedures for setting management objectives. It will also participate in the design of any studies that are undertaken to provide the above outlined information.

In evaluating information, the County will apply certain standards. First, any theory employed must be validated by empirical data. Conclusions must be based upon documented evidence. Second, the studies and data collection must be based upon professionally accepted scientific methodology. Third, where conflicts exist in information or conclusions, the County will consider the credibility and credentials of the source.

The County will apply these evaluation criteria in order to assure that it is relying upon the best available information as required by Goal 5.

CONFLICTS

The following discussion identifies in general, conflicts between wildlife habitat and other uses of land in Baker County, and their economic, environmental, social and energy consequences. However, with regard to elk habitat conflicts, we also adopt as our findings and conclusions the findings and conclusions in Appendix III of this Plan, consisting of the Working Paper on Conflicting Evidence (Exhibit D, Ordinance 85-7); the Working Paper on Density (Exhibit E, Ordinance 85-7); and the January 20, 1986 letter of review from Dr. L. Hayden-Wing (Exhibit F, Ordinance 85-7).

Historically, resource management practices of both public and private landowners have allowed for the continued presence of significant levels of fish and wildlife in Baker County. Appendix 3, Oregon Department of Fish and Wildlife Wildlife Protection Plan for Baker County, page 23, summarizes Oregon Department of Fish and Wildlife's view of the habitat, sensitive habitat, compatible land uses and conflicting land uses associated with most fish and wildlife found in Baker County. While the County continues to consider Oregon Department of Fish and Wildlife Plans for big game as references, they shall not be considered as obligating the County to adopt their preferred management practices. There is agreement about upland game birds, water fowl, furbearers or fish and the conflicting uses which have been identified. Because there has been dispute about the elk aspects of the big game category, elk habitat conflicts and implementation measures are discussed separately in other portions of

the Plan. The information presented by the Oregon Department of Fish and Wildlife relative to critical levels of residential development has been the subject of controversy and is in many respects contradicted by the expert opinion of Dr. Hayden-Wing and others.[1]

The EFU and Timber-Grazing zones are generally compatible with wildlife. Because of Oregon Department of Fish and Wildlife stated concern for potential conflicts in aquatic and riparian areas, the County has adopted a riparian zone setback for any new road or regulated structure. Moreover, aquatic and riparian wildlife habitat is protected in some cases by state laws. For instance, the Forest Practices Act restricts the removal of streamside vegetation. Fill and removal laws administered by the Division of State Lands regulate the conditions under which those activities may occur in some aquatic and riparian areas. Other state laws regulating the maintenance of stream flow also affect the degree to which riparian and aquatic zones may be altered.

Due to the variety of wildlife found throughout the county, it is not practical to designate "wildlife zones" in which wildlife could be protected by special laws preserving habitat. Zoning regulations which preserve land for agricultural, forest and grazing uses also function to preserve these same areas for wildlife. Conversely, the greatest potential for conflict between wildlife and other land uses exists in nonresource zoned lands. Urban uses compete with wildlife for space and other resources and result in additional harassment from noise and other disturbances. In nonresource zones, i.e., rural residential, industrial and commercial zones, other land uses take precedence over wildlife habitat. Concentrating the intensive land uses in these zones, even to the exclusion of wildlife populations, allows such intensive uses to be excluded from the EFU and T-G zones reducing pressure on those zones. For example, rural residential development is concentrated in areas which are already built and committed. This preserves resource land which is not built and committed for agricultural, forest and wildlife uses. Zoning of built and committed areas for nonresource uses along already existing corridors reduces the number of roads which might otherwise be built through the EFU and TG zones, thereby maintaining the quality of those areas for wildlife habitat.

In accordance with uses and zoning listed by the Oregon Department of Fish and Wildlife (Fish and Wildlife Protection Plan for Baker County), the County finds that both the EFU and T-G zones are compatible with wildlife. Exceptions are shown for waterfowl habitat areas if development affects aquatic and riparian zones and fisheries habitat, unless densities of residential development are kept low and appropriately set back from the waterways.

Based upon these Oregon Department of Fish and Wildlife findings, the County concludes that primary uses in the EFU and T-G zones are usually compatible with wildlife. If those primary uses, such as farming, grazing, or timber harvest, are being conducted as allowed by statutory or administrative law, they shall not be judged to be in conflict with wildlife. Consequently, the County will regulate wildlife management uses in the EFU and T-G zones through its conditional use process.

Relative to conflict between nonprimary uses or exceptions proposed within an EFU or T-G zone and wildlife resources, other than conditionally permitted residences in identified big game habitat areas, the County will follow Policy No. 1 under Section VI(D) of the Goal V element of this Comprehensive Plan.

Under OAR 660-16-005, the County must identify conflicting uses and consider both the impacts on the resource site and the impacts on the conflicting use in analyzing consequences. The rule requires that identification of conflicts be "done primarily by examining the uses allowed in broad zoning districts established by the jurisdiction." Conflicting use is defined as "one which, if allowed, could negatively impact a Goal 5 resource site." Impacts caused by uses of the resource are considered in the ESEE analysis and may be used to justify the conflicting use.

In summary, we find the existence of conflicts. These include both impacts on elk habitat and on resource uses permitted by the current zoning map. The County has determined that both the resource sites and the conflicting uses are important. In order to address this situation, Baker County has developed a program designed to balance conflicting uses so as to allow the conflicting use in a way that will provide a significant protection to the resource sites.

The most significant feature of our analysis is that any conflicts and/or impacts which exist are not extensive and do not have major impact on wildlife habitat. For example, with no protective land use measures in place, the elk population in Baker County has grown since 1931 from a few elk to an estimated 3300 in 1993. This population requires yearly reduction in order to avoid elimination by malnutrition. In recent times, elk populations show no negative impact from current land use restrictions. The two exclusion areas in the Rock Creek area demonstrate the slow rate of development and minimal change in parcel size. The parcel sizes have either increased, or decreased slightly as a result of remapping by the Baker County Assessor's office. A review of development since 1978 indicates that the two most intensive permits granted in the Rock Creek vicinity involved the establishment of the ODFW feeding stations.

It appears that other factors also contribute to minimize conflicts in habitat areas. According to ODFW, 61 percent of deer winter range is located on private land. Forty-six percent of elk winter range is located on private land. Of this only a relatively small portion would qualify for dwelling placement under existing building permit and zoning standards (e.g., septic tank suitability, unsuitability for farm or forest use, compatibility with farm and forest uses, and preservation of existing development pattern and access). In 1986, County staff projected the total number of potential nonresource developments as 1,289. The basis of this projection can be found in 'Exhibit E' (of Ordinance 85-7) in Appendix III of this Plan. Even at full build-out, the average density in the area is projected to be only one house per one-hundred and seventy-two acres.

Contributing to our conclusion that conflicts are present but minimal is the fact that there is no evidence in the literature related to this subject demonstrating a specific lot size impact on elk population.

Baker County has 17 pre-1986 substandard parcels (less than 40 acres). These parcels are situated in widely dispersed areas of the county and would present no significant impact if dwellings were requested. The isolation and distances between these separate parcels will have no significant effect on the pattern of surrounding land uses in the area. Therefore, the County, after consulting with ODFW staff has determined that one dwelling on each of these substandard parcels will satisfy the investment backed expectations of the owner without substantially depleting habitat.

Among the conclusions that are accepted regarding elk is that the repetition and predictability of human activity which does not harm the elk contributes to the conditioning of the elk to accept the activity. In the Baker County situation, it is also important to note that the potential for conflict is low because vacation homes in elk winter habitat areas, due to high elevations and general inaccessibility, have a low occupancy rate during the winter months when the elk are present. These factors, coupled with the very small rate of growth in rural area dwellings in Baker County, probably account for the fact that, to date, development of residences has not significantly affected the elk population in Baker County. We do not conclude however, that there is no conflict. The evidence appears to establish that conflict is possible, but that it is likely to be minimal in Baker County.

In designing a program to balance conflict, it is important to understand that density control is not the most important factor in balancing conflict. Inter-related factors beyond the control of the County such as hunter density, game regulation (consequently herd age and structure), and grazing and forest practices on federal and private lands have a greater impact on elk than land use decisions made by the County. We conclude based upon the facts that land use actions that may be taken by the County will have relatively minor impact upon elk populations and habitat and that the degree of the conflict issue is minimal. State and federal agencies have recognized the need for improved communication and cooperation between the agencies that manage public lands and those who manage the wildlife. The County believes that more will be accomplished by thoughtful and professional management techniques than by land use regulation. Nevertheless, the County has adopted provisions which address potential conflicts and control them.

Since population level has the greatest impact on the degree of conflict, the County will work together with the State to encourage an approach to these issues which is based upon recognized principles of administrative agency practice.

The major impact on elk habitat, population and behavior is clearly hunting. According to Christensen, hunting is the primary cause of elk mortality. Hunting is the only effective means

of controlling total numbers of elk and without it the herd would grow until it experiences disease and malnutrition during a severe winter. The number of elk, gender composition of the herd (hence calf recruitment and survival), land occupation and forage patterns are influenced by hunting. On the other hand, bringing hunters into the area causes damage to the habitat and to the primary uses of the land. The general nature of the elk's tolerance for human interaction is also affected by hunting. Unhunted elk show a greater tolerance for humans on foot as well as other forms of consistent activity (Cassier 1992). Hunted elk populations therefore have less tolerance for all forms of human activity. Since hunted elk are more wary of humans, and less likely to approach human habitations than unhunted elk, hunted elk are more likely to lose habitat from the construction of residences. Less hunting would permit more human activity and allow more use of traditional winter habitat with less stress and energy expansion for animals during the critical winter period because elk would be less nervous about entering inhabited areas. Elk are however, quite tolerant of human activity. In the opinion of Dr. Jack Ward Thomas the limit of people to tolerate elk will be exceeded before the limit of elk to tolerate people is reached. Dr. L. Hayden-Wing agrees with this conclusion.

While it may be debated whether or not hunting should be identified as a Goal 5 conflict, any land use program that does not recognize the impact of hunting would not be factually based. This discussion also provides a context for the County's land use policy. It must be understood that factors over which the County has no control, such as the amount of hunting permitted, game regulations, forest and grazing practices have a far greater impact on elk habitat and population than the local zoning code.

Another identified conflict is the impact of elk on nonirrigated pasture. Dr. Obermiller, Professor and Extension Resource Economist at Oregon State University, published findings indicating that during one year the direct financial impact from crop losses, forage losses and fence repair, together with losses of opportunity income, totalled $347,530 for the 105 survey respondents. He estimated that for the survey year Baker County Gross Income was reduced by $2,842,700 and the net household spendable income was reduced by $490,530. Similar losses have been demonstrated by other studies.

The human activities associated with the grazing of livestock on pasture land are usually very limited and impact elk very little, if any. When necessary, elk modify their behavior patterns and may become nocturnal feeders to avoid human contact and will continue using pasture land they find desirable. Elk and livestock do not normally bother each other and will use the same pasture land simultaneously.

Housing development has been identified as a conflicting use within elk winter habitat areas. There is apparently no professional standard or basis for determining how many residences per unit of land area it takes to produce a given level of impact on elk populations or on usefulness of that land as elk habitat. In the face of the lack of any empirical basis for determining what

levels of housing density will preclude use by elk, the County commits to continue research on this subject as discussed above.

POLICY

The basic element of the County's policy to achieve balance between the use and protection of existing resources is to monitor the slow rate of growth to determine the cumulative impact and take corrective measures as deemed necessary. During this process, the County will develop more useful information to evaluate conflict and to evaluate the tools of mitigation. Because the major threat would be wholesale subdivision for nonresource dwellings, this activity is severely constrained by existing state and local regulations. The County will also rely upon existing zoning code limitations which limit nonresource dwellings. Finally, ODFW feeding stations, grazing program, habitat enhancement, forage enhancement, monitoring and complaint resolution efforts will be relied upon as specific tools to mitigate conflicts. According to ODFW, the program has reduced complaints in Baker County.

The County's land use regulations are designed to insure that the cumulative impact of development does not impact elk habitat or population. The County will conduct an ongoing study and update its program to ensure that cumulative impact does not damage habitat. Nonresource dwellings have been severely restricted in habitat areas. Subdivisions in resource zones are prohibited. To comply with administrative rules promulgated in 1994, the minimum resource related parcel size is 80 acres in farm/forest zones. To ensure protection of the habitat in these areas however, the County will continue to require nonresource related parcels located in habitats to be no less than 40 acres. Through administrative rule the larger parcel sizes effectively create a barrier to conflicting uses within the deer and winter habitat areas. In addition, the aspects of current regulation in the primary zones severely restrict residential development (e.g., septic suitability, compatibility with resource use, soil class limitations, preservation of the existing pattern of development, and access).

In the County's review of its program to limit housing density, topographic constraints on residential development, slow rate of residential growth and our commitment to monitoring the cumulative impacts of growth, we conclude that compliance with Goal 5 has been achieved relative to protecting wildlife habitat from excessive residential conflict.

One area (Area A of map Attachment A, Ordinance 86-1) within the Rock Creek Quadrangle, does not follow the general pattern apparent in other areas of habitat reviewed. Area A consists generally of small parcels (i.e., 40-120 acre parcels) and contains several dwellings. The County's conclusion is that deletion of this area poses no threat to the overall ability to protect the resource, i.e., elk habitat, required for Goal 5 compliance. We therefore designate Area A, identified on the 1986 Rock Creek Quadrangle Elk Winter Habitat Protection Program Map (map Attachment A, Ordinance 86-1), as a 3B area pursuant to Goal OAR 660-16-010.

Another area (Area B), shown on the 1986 Rock Creek Quadrangle Elk Winter Habitat

Protection Program Map (map Attachment A, Ordinance 86-1), is also designated as a 3B area, based on Policy 2 of Section VI(D) of the Goal V element of this Plan, which provides for the exclusion of irrigated agricultural land from elk habitat protection.

The exclusion of these areas from the regulations applying to the Elk Winter Habitat Protection Program has proved to be justified and has provided the County with a model to compare with the remainder of the protected areas.

A major tool for reducing potential conflict and damage to private land is the use of winter feeding stations for elk in Baker County. In some areas of the County wildlife numbers are in excess of ODFW management objectives. During severe winters malnutrition and starvation have caused uncontrolled grazing and damage to private lands. Feeding stations are anticipated to mitigate both death and damage, but their use must be carefully controlled because they may tend to domesticate the natural wildlife resource.

The County shall keep apprised of feeding station activity to ensure that they perform their mitigation function rather than creating direct conflicts with agricultural uses; e.g., damage to fencing and crops. In Baker County, the two major feeding stations were first authorized by conditional use permits and are now placed in accordance with ODFW administrative rule. The County will also work with ODFW to distinguish those areas which are suitable for feeding stations from those which are not.

Although feeding stations have alleviated damage to crops over most vulnerable areas, they have not totally solved the problem and may increase the potential for damage in the vicinity of the stations. Wherever feasible, permanent feeding stations will be located next to publicly-owned land to minimize the impact on privately-held land being used for primary permitted uses in the zoning district. Buying or leasing a large enough buffer of land around each feeding site to absorb most of the "feed lot" effect shall be recommended. Alternatives to reliance on ownership size alone, such as strategically placed diversion and control fences to help guide elk and to discourage use of adjacent agricultural and timber management areas will be given high priority.

According to the Elkhorn Wildlife Area Long Range Management Plan the Oregon Department of Fish and Wildlife currently owns 6,566.42 acres, leases 380 acres, and has management agreements with public agencies for 1,570 acres. The Department has proposed the acquisition of land adjacent to the wildlife area to increase deer and elk habitat.

State agencies are required by law to carry out their planning programs affecting land use in compliance with the goals (ORS 197.180). Goal 2 specifically requires state agency plans and actions related to land use to be consistent with comprehensive plans. Oregon Department of Fish and Wildlife big game management objectives shall be consistent with the Goals as stated in the Baker County Comprehensive Plan. This process will create a mechanism which will

assist in providing a program for protection of elk habitat while balancing conflicting uses within Baker County.

CONCLUSION

Baker County recognizes that important wildlife habitat co-exists with primary outright uses in the two resource zones. Where wildlife uses are in conflict with nonresidential farm or forest uses in EFU and T-G zones, the establishment and operation of feeding stations, which are not currently regulated through administrative rule promulgated by ODFW shall be regulated through the conditional use process. Residences allowed as permitted uses in the resource zones shall be regulated by the existing Ordinance provisions for said zones. Residences allowable as conditional uses in the resource zones in areas identified as significant wildlife habitat on the County's Goal 5 program protection maps shall be limited by standards designed to reduce conflicts and ensure the protection of significant big game habitat based on the requirements of Goal 5 and OAR 660, Division 16.

B. Sources of Information

1. W.R. (Dick) Humphreys, O.F.W.C. Game Biologist
2. Oregon Fish and Wildlife Commission, LaGrande Office
3. Baker County Assessment Rolls
4. Oregon Fish and Wildlife Commission Maps
5. Fish and Wildlife Protection Plan for Baker County, 1980, ODFW

C. Goal V Fish & Wildlife and Big Game Habitat Findings

The governing body finds the following to be factually representative of the wildlife resources in Baker County.

1. The governing body finds statewide Planning Goal 5 calls for a resolution of conflicts between competing land uses.

2. The governing body finds that wildlife presently compete with domestic users on both public and private lands in Baker County. The ownership patterns of public and private lands within Baker County create inherent problems and contribute to wildlife and human conflict. Public agencies control 57 percent of deer and 72 percent of elk summer range, while private ownership makes up 61 percent of deer and 46 percent of elk winter range.

   Forest and grazing practices of the past have resulted in loss of cover and has made the animals more vulnerable to predators. Public lands have experienced an increase in year round recreational activity. Once inaccessible habitat is now within easy reach of

a large number of people. This is due to, 1) the large number and density of logging roads on the national forests, and 2) increased use of four wheel drive vehicles, and snowmobiles.

3. The governing body finds that Baker County considered the impacts of roads and residential development with regard to preserving habitat. In the period between 1986 and 1994 Baker County constructed no roads within big game habitat.

4. The governing body finds that while, in general, road construction may adversely affect big game, the minimal road development on nonfederal lands in Baker County has not caused significant impact. However, to lessen the impact new road development may have, the County shall adopt policies for necessary mitigation.

5. The governing body finds hunting, fishing, and wildlife viewing provide an economic stimulus of approximately $3 million per year to the people of Baker County. Hunting is a primary producer of Goal 5 conflict related to deer, antelope, and elk populations and habitats. Hunted animals tend to be more wary of human presence and may avoid human occupied areas. This behavior deprives them of traditional habitat.

6. The governing body finds that its regulatory efforts are only a small part of a habitat conservation program. Activities of federally managed land and ODFW have greater impact on habitat. An integrated management program coordinating efforts of public and private entities would create a global approach to range, forest, and habitat management.

7. The governing body finds wildlife and sportsmen damage crops and fences on some private land in Baker County. Based upon a 1981 survey of 105 farmers and ranchers in Baker County, and analyzed by use of the county's Input-Output Model, that damage was estimated at $347,490. A similar 1985 survey of 36 farmers and ranchers showed an average loss to big game of $978.45 per family.

8. The governing body finds agriculture, forestry mining, and recreation/tourism are the economic backbone of Baker County.

9. The governing body finds residential development may have cumulative impact on an area's big game habitat. Current state and county land use policies and zoning are adequate to protect winter habitat.

10. The governing body finds feeding sites are a management tool suitable for use in areas where natural winter habitat is inadequate to maintain existing Oregon Department of Fish and Wildlife big game management objectives without significant levels of damage to private property.

11. The governing body finds that the established winter feeding stations, the fencing and grass replacement programs sponsored by ODFW go far in mitigating the impact of big game on valley ranches. Therefore, efforts on the County level to limit conflicts shall focus on the preservation of elk cover through minimum parcel sizes, and on the consideration of habitat needs during new road construction.

12. The governing body finds the Oregon Department of Fish and Wildlife is mandated "to regulate wildlife populations and the public enjoyment of wildlife in a manner that is compatible with primary uses of the lands and waters of the State and provides optimum public recreational benefits." (ORS 496.012(5)).

13. The governing body finds the location and numbers of big game animals, and the management objectives adopted by the Oregon Department of Fish and Wildlife are of great consequence to the citizens of Baker County. The perceptions of the situation differ among hunters, farmers and ranchers, and nonhunting admirers of wildlife.

14. The governing body finds evidence that prudent cattle management practices can improve elk range forage and vice versa. Baker County finds that no changes in common agricultural practices are necessary to preserve habitat.

15. The governing body finds several studies in the referenced literature discussed the importance of varied topography as a means of providing cover for wildlife. Baker County's topography ranges from flat lands on valley floors to very mountainous areas. The topography will not likely be greatly affected by development short of large scale surface mining.

16. The governing body finds that voluntary efforts to site dwellings so as to minimize human/big game conflicts are effective methods to ameliorate potential conflicts. More intensive regulation may be considered when conflicts so warrant.

17. The governing body finds the Starkey Project on elk vulnerability may prove to be a valuable tool in analyzing the effectiveness of Baker County's habitat protection measures. If available, this study will be examined at the next periodic review.

D. Goal V Fish & Wildlife and Big Game Habitat Policies

1. The County shall develop programs appropriate to protect identified significant wildlife habitat, after considering the economic, social, environmental and energy consequences of conflicts between wildlife habitat and other uses of these areas.

2. Irrigated agricultural land shall not be identified on "Elk Winter Habitat Protection"

program maps.

3. The County believes that wildlife management activities for existing elk herds should be planned for higher elevation, nonirrigated pastureland and timber-grazing lands.

4. The County, in coordination with ODFW shall, based on the best information presently available from agencies, landowners and concerned citizens, identify areas suitable for elk winter habitat, consistent with Policy 2, on its Elk Winter Habitat Goal 5 Protection Program Maps.

5. The County believes that, where due to unique topography and existing development of irrigated agriculture, there is not enough dry pastureland and timbered grazing land at suitable elevations to provide adequate winter habitat for existing elk herds (e.g., at the base of the Elkhorn Mountains in Baker Valley), the Oregon Department of Fish and Wildlife either should institute a program of winter feeding stations for elk, located in the dry pastureland or timbered grazing areas so as to prevent elk from descending onto and causing damage to the irrigated agricultural lands, or should use less intrusive management techniques, or should reduce its elk management objectives for those areas. The management technique chosen should be the least intrusive technique on uses allowed by the primary zone.

6. Where a program of feeding stations for elk and other big game animals is adopted by the Oregon Department of Fish and Wildlife, the County will cooperate with the Oregon Department of Fish and Wildlife by allowing public and private feeding station use as conditional uses, subject to approval criteria in its Zoning and Subdivision Ordinance, which include imposing such conditions that neighboring property will be adequately protected from big game damage through purchase, easement, diversionary fencing, or other suitable means.

7. The County believes the ODFW should do its utmost to mitigate and to compensate landowners and operators for big game damage to private property in Baker County, with highest priority given to those properties adjacent to, or in the migratory pathway of, big game moving to and from winter feeding stations.

8. Residential density shall be limited in identified antelope habitat and deer and elk winter habitat to levels which do not conflict with continued use of these areas as antelope habitat or deer or elk winter habitat, through the use of minimum lot sizes and conditional use standards for residences in the resource zoning districts of the Zoning Ordinance.

9. During periodic review, the County will evaluate the effectiveness of these implementation measures in preventing conflicts between big game habitat and other

uses of identified significant big game habitat, and will adopt any adjustments necessary to ensure the protection of significant big game habitat based on the requirements of Goal 5 and OAR 660, Division 16.

10. Any repeal of the adopted 1985 Elk Winter Habitat Protection Program Maps or inventory maps of Elk Winter Habitat will become effective only upon the adoption of new maps consistent with the post acknowledgment Plan Amendment procedures of ORS 197.610 and OAR 660, Division 18.

11. Before new roads are dedicated or developed within Baker County's big game habitat, the effect of such construction will be considered in light of its potential impact on big game.

12. In its 1994 survey of parcels below the 40 acre parcel size within the habitat overlay, Baker County Planning staff found only 17 substandard parcels were legally created prior to the 1986 adoption. To preserve the investment backed expectation of these owners, and given the limited number of parcels, which are scattered throughout the County, these parcels may be allowed one dwelling, provided that the dwelling siting otherwise conforms to the requirements of the zone.

13. In the big game habitat, new dwellings allowed under the pre-existing non-conforming use standard shall not be allowed on parcels where public access is greater than 200 feet from the proposed location of the dwelling.

14. The County shall establish a reporting mechanism of complaints regarding human/animal interference in habitat areas. ODFW will furnish a yearly written report on the number of complaints and responses. This data will be used for analysis during periodic review.

15. The governing body or its designate shall work with federal agencies to promote the implementation of these policies on lands managed by the federal government.

VII. MINERAL AND AGGREGATE RESOURCES

A. Introduction

Baker County is among the most mineralized counties in the state. Its community was formed with the gold and silver booms of the late nineteenth century, and mineral extraction continues to be an economic base of the community. In the twentieth century, emphasis has shifted from the metallic minerals to production of cement from limestone and aggregate extraction. Acknowledged provisions of the comprehensive plan and zoning ordinance reflect this important economic asset.

Regional geologic reports and maps that provide dated coverage of all or large parts of Baker County are listed in the inventory bibliography. The more comprehensive treatises on the geology and mineral deposits are those by Lindgren (1901), Swartley (1914), Parks and Swartley (1916), Gilluly and others (1933), DOGAMI (1939 and 1969), Brooks and Ramp (1968), Brooks (1979), and Orr and others (1992). Some of the information contained in these documents is paraphrased in the following brief descriptions of the county's mineral resources. Index maps of the metal mining districts and many of the mines therein are contained in Brooks and Ramp (1968). Geologic maps covering all or large parts of the county include Gilluly (1937), Pardee and others (1941), Brown and Thayer (1966), Brooks and others (1976), Walker (1977), and Walker and MacLeod (1992). Geology and mineral resource maps of smaller areas are cited in descriptions of the districts or specific mineral deposits they cover.

Baker County's mineral resource inventory includes all of the districts, mines, and prospects described in the publications listed in the bibliography and in unpublished files of the Oregon Department of Geology and Mineral Industries (DOGAMI). Technical information for most of these deposits is included in the miloc database prepared by DOGAMI.

The Inventory of Mineral and Aggregate Resources in Baker County (See Appendix IV) includes background information and a list of all commercial sites which have been or are currently active and in which material remains. Surface mining sites are indicated on the map of Baker County (Plate 12a) of Appendix I (1983, updated 1993). The first section of the inventory includes only significant metallic resources; the second section includes all significant nonmetallic resources. These resources were updated in 1993 and put into a computer database accessed by Alpha4 software.

The Inventory of Patented Mining Claims, arranged numerically, is included in the Technical Information and Inventory Data for Land Use Planning in Baker County (1983, updated 1993). It includes all known sites which have been granted a patent by the federal government. The granting of patents transfers subsurface and surface rights of the public land to private ownership and also brings these lands under County jurisdiction. These are also mapped in small scale on Plate 16 of Appendix I with numbers corresponding to the printed inventory.

COURT 94 04 001

IN THE COUNTY COURT OF THE STATE OF OREGON
FOR THE COUNTY OF BAKER

Entered
January 6 1994
County Court Journal
County Clerk
By _____ Deputy

IN THE MATTER OF	)	
	)	
AMENDING THE BAKER COUNTY	)	Ord. No. 93-06
COMPREHENSIVE PLAN RELATING	)	Amending Ord. 83-2
TO GOAL 5--MINERAL AND	)	
AGGREGATE	)	

Whereas, Baker County received a grant from the Department of Land Conservation and Development to review, update and amend the Baker County Comprehensive Plan relating to minerals and aggregate; and

Whereas, the first element of the Baker County Periodic Review includes a review and update of the Baker County Comprehensive Plan relating to minerals and aggregate; and

Whereas, the Planning Department completed a technical review of the County's aggregate sites and made recommendations to the Baker County Planning Commission regarding compliance with Goal 5 Administrative Rule Provisions; and

Whereas, the Planning Commission reviewed and approved the proposed amendments and forwarded their recommendation to the Baker County Court.

NOW THEREFORE, BE IT ORDAINED BY THE BAKER COUNTY COURT:

Section 1. The Baker County Court adopts the attached amendments to the Baker County Comprehensive Plan.

Section 2. The amendments are incorporated, and may in some cases, replace existing Plan provisions. Provisions adopted under this ordinance have precedence over earlier versions of the Plan.

COURT 94 04 002

Section 3. This ordinance shall become effective immediately.

ADOPTED BY THE BAKER COUNTY COURT, THIS 5TH OF JANUARY, 1994.

BY AND FOR THE BAKER COUNTY COURT:

Steve M Bogart

Steve M. Bogart, Judge

Gerald Conrad, Commissioner

Truscott Irby

Truscott Irby, Commissioner

****

Section 6. Mineral and Aggregate Resources

Mineral and aggregate resources include any naturally occurring inorganic mineral of economic quality and quantity, including such minerals of organic derivation. The object of this portion of the Goal V element is to protect and ensure appropriate use of gravel and mineral resources of the county, and to minimize conflicts between surface mining and surrounding land uses.[1]

A. Introduction

Baker County is among the most mineralized counties in the state. Its community was formed with the gold and silver booms of the late nineteenth century, and mineral extraction continues to be an economic base of the community. In the twentieth century, emphasis has shifted from the metallic minerals to production of cement from limestone and aggregate extraction. Acknowledged provisions of the comprehensive plan and zoning ordinance reflect this important economic asset.

~~The geologic history of the Eastern Blue Mountain region resulted in extensive mineral and aggregate deposits in Baker County. The area's geological formations are described by Ross (1938), Wilkinson (1959), Baldwin (1959), and the USGS (1969). Baldwin describes rock deposits found in the major formations. These include volcanic flows and limestone in the Clover Creek greenstone formation, argillite in the Elkhorn Ridge, and schists, limestone, slate and quartzite in the Burnt River schist formation. He also notes gypsum and limestone deposits around Huntington. Granite deposits are found in the Blue Mountains and the Wallowas and frequently coincide with areas having a history of gold mining. Baldwin identifies basalt flows in the Powder River and Unity Basin and alluvial deposits of sand and gravel covering many other valley floors.[2]~~

~~Numerous mineral deposits "of demonstrated or potential~~

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[1]Steve Oulman, Department of Land Conservation and Development, Model Comprehensive Plan Provisions, Goal Statement, page 1, (1992)

[2]~~Edward~~ Ewart M. Baldwin, Geology of Oregon, University of Oregon Cooperative Bookstore, Eugene, 1959.

~~economic importance" which occur in Baker County are described by the U.S.G.S. These include manganese oxides, and mercury. Their survey also mentions the presence of semiprecious gemstones such as agate, opalite, crypto crystalline quartz and petrified wood in the Blue Mountain region.[3]~~

Regional geologic reports and maps that provide dated coverage of all or large parts of Baker County are listed in the inventory bibliography. The more comprehensive treatises on the geology and mineral deposits are those by Lindgren (1901), Swartley (1914), Parks and Swartley (1916), Gilluly and others (1933), DOGAMI (1939 and 1969), Brooks and Ramp (1968), Brooks (1979), and Orr and others (1992). Some of the information contained in these documents is paraphrased in the following brief descriptions of the county's mineral resources. Index maps of the metal mining districts and many of the mines therein are contained in Brooks and Ramp (1968). Geologic maps covering all or large parts of the county include Gilluly (1937), Pardee and others (1941), Brown and Thayer (1966), Brooks and others (1976), Walker (1977), and Walker and MacLeod (1992). Geology and mineral resource maps of smaller areas are cited in descriptions of the districts or specific mineral deposits they cover.

Baker County's mineral resource inventory includes all of the districts, mines, and prospects described in the publications listed in the bibliography and in unpublished files of the Oregon Department of Geology and Mineral Industries (DOGAMI). Technical information for most of these deposits is included in the miloc database prepared by DOGAMI.

The inventory of Mineral and Aggregate Resources in Baker County includes background information and a list of all commercial sites which have been or are currently active and in which material remains. Surface mining sites are indicated on the map of Baker County (Plate ~~12~~ _____) in the Technical Information and Inventory Data for Land Use Planning in Baker County (1983, updated 1993) and are described in Chapter 10 of that same reference. The first section of the inventory includes only significant metallic resources; the second section includes all significant

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[3]U.S.G.S. in collaboration with Oregon Department of Geology and Mineral Industries, Senate Committee on Interior and Insular Affairs, Washington, D.C.: GPO, 1969.

nonmetallic resources. [These resources were updated in 1993 and put into a computer database accessed by Alpha4 software.]

The Inventory of Patented Mining Claims, arranged numerically, is included in Chapter 10 of the Technical Information and Inventory Data for Land Use Planning in Baker County (1983, updated 1993). It includes known sites which have been granted patents by the federal government. The granting of patents transfers sub-surface and surface rights of the public land to private ownership and also brings these lands under County jurisdiction. These are also mapped in small scale on Plate 16 of the same reference document with numbers corresponding to the printed inventory. Supplementing the inventory and map is an alphabetical index of individual and group patented mining claims and a large scale map of same is in the County Planning Office.

A general overview of metallic assets is given below. More information is provided in the **Technical Information and Inventory Data for Land Use Planning in Baker County** (1983, rev. 1993).

B. History of Production

1. Metallic Minerals

a. Overview of Gold and Silver Resources

The settlement and early development of Baker County is closely related to mining which began in 1861 with the discovery of gold in Griffin Gulch about five miles south of the present site of Baker.

Although lode mines began operating as early as 1864, most of the early day gold production was from placer deposits because they were the most easily found and could be worked largely by hand; lode mining required heavy, expensive equipment which had to be hauled overland, usually from the Dalles, by wagon or pack-train.

Lode mining developed rapidly following extension of the railroad to Baker in 1884. Completion of the Sumpter Valley Railroad to Sumpter in 1896 facilitated a mining boom in that area that lasted

until about 1910. One of the high points of gold production was during the late 1930s and early 1940s following the increase of the price of gold from $20.67 to $35.00 per troy ounce in 1934.

All gold mines were closed by government order early in World War II and due to subsequent inflation of costs of mining without compensating increase in the prices of gold most of the mines have remained closed.

Metals production from mines in Baker County totals about 3.4 million ounces gold, 3.3 million ounces silver, 8,000 tons of copper and smaller amounts of various other metals including lead, zinc, antimony, tungsten, and manganese.

~~Gold "The total output of gold from Baker County probably is close to two and a half to three million ounces since 1861," Brooks said. "The total recorded production of the state is 5.8 million ounces...."~~

~~Silver Silver production in Oregon through 1968 was recorded at 5.5 million ounces. "That probably hasn't changed materially since then," Brooks said.~~

~~Through 1965, according to his research, more than 2.2 million ounces of silver had been mined in Baker County. Little more has been extracted since....~~

~~Copper Through 1965, more than 16 million pounds of copper had been taken from Baker County's soil. There has been substantial copper production at the Iron Dyke Mine, north of Oxbow, and at the Mother Lode Mine, north of Keating, he (Brooks) said ...~~

~~Lead Lead is another by product of gold and silver mining. Through 1965, according to Brooks, nearly 300,000 pounds of lead were extracted from Baker County. Little has been taken out since, however. (Excerpted from "Mineral Wealth" in Mining: Baker County's Brightest Prospect", a supplement to the Democrat Herald, Baker: July 20, 1982, pp. 30-32.)~~

Geologic evidence presented to the County indicates that many of the gold bearing veins have not been exhausted. Some of them remain a potential source of gold when economic conditions permit further development. The possibility exists that large gold deposits will be discovered that can be mined by open-pit or large volume underground methods.

b. Principal Gold Mining Districts

Greenhorn District: - The district embraces the eastern part of the Greenhorn Mountains and lies partly in Grant County. The deposits are grouped around the ~~town~~site of Greenhorn, approximately 50 miles west of Baker City by way of Whitney townsite. Maps by Ferns and others (1983) and Brooks and others (1983) provide geologic coverage of part of the area. The Bonanza mine in Baker County and Red Boy mine in Grant County have been the dominant lode mines in the district with gold production of about $1,750,000. Among more than two dozen smaller lode mines in the district are the Golden Eagle in Baker County and the Pen Harrison, Pyx, and tempest mines in Grant County. Yield from placer mines in the Greenhorn district has been about $1.75 million. A bucket line dredge was operated on Burnt River above Whitney during 1941-1942 and 1945-1946.

Elkhorn Ridge area (Cracker Creek, Sumpter, Rock Creek, Baker, and part of Cable Cove districts): At least 20 lode mines and prospects have been productive. More than 100 separate gold occurrences have been prospected. The geology of part of the area and the locations of many deposits are shown on maps of the Bourne (Brooks and others, 1982), Mount Ireland (Ferns and others, 1982) and Elkhorn Peak (Ferns and others, 1987) quadrangles. The largest producers were the North Pole-Columbia Lode near Bourne in the Cracker Creek district, and the Baisley-Elkhorn and Highland-Maxwell mines in the Rock Creek district. Total output from lode mines exceeds 500,000 ounces gold and 1,000,000 ounces silver. Most of the gold bearing veins are in the Elkhorn Ridge Argillite near the margin of the Bald Mountain Batholith.

Dredging in the Sumpter Valley during 1913-1924, 1935-1942, and 1945-1954 produced more than 325,000 ounces of gold and 80,000 ounces of silver. Other important placer areas include McCully Fork and Cracker Creek near Sumpter and the Auburn, Miners Creek, and Salmon Creek areas in the Baker district. Nearly all creeks and gulches in these areas were placered extensively in the early days of mining and some are still active on a small scale. Some of the early day placers were described as "enormously rich" but production records are scarce.

Virtue District: The Virtue district includes the mines and prospects in the vicinity of Virtue Flat about 10 miles east of Baker. The largest producers were the Virtue mine (more than $2,000,000 in gold) and the White Swan mine (about $700,000 in gold). The Flagstaff, Emma, Hidden Treasure, Friday, Rachel, and Mabel mines produced less than $200,000 each. The deposits are in rocks of the Elkhorn Ridge Argillite and older gabbro and diorite near the edge of a granodiorite intrusive.

Mormon Basin District: The Mormon basin district straddles the Baker-Malheur County line. Gilluly and others (1933) provide a geologic map of the district and descriptions of some of the deposits. Lode mine production is estimated at 125,000-135,000 ounces gold and 75,000-150,000 ounces silver came mostly from the Rainbow mine. Smaller lode mines include the Sunday Hill, and Humboldt. The deposits occur in rocks of the Burnt River Schist and are associated with the granodiorite stock of Pedro Mountain. Reputedly large production in early days was recovered from gulch and bench placers in Mormon Basin and adjacent Malheur City, Rye Valley and Clarks Creek areas. Parts of Clarks Creek and Burnt River were dredged during 1917-1936.

Weatherby District: The Weatherby district is centered about 35 miles southeast of Baker City and encompasses several small lode mines and prospects on both sides of Burnt River. Included are the Gold Ridge, Gold Hill, Gleason, and Little Bonanza mines which worked narrow discontinuous quartz veins mostly in quartz diorite. Geologic map of the Durkee quadrangle (Prostka, 1963) covers the district. The deposits are in rocks of the Burnt River Schist and small granodiorite intrusive bodies.

Cornucopia District: This district is near the head of Pine Creek 12 miles north of Halfway in northeastern Baker County. Lode mine production (more than $10,000,000 in gold and silver) has been almost entirely from the Cornucopia mine. The mine contains about 36 miles of underground tunnels and shafts which developed two veins that are about 2,500 feet apart and, where mined, ranged from 3 to 9 feet wide. The veins cut granodiorite of the Cornucopia stock and metamorphosed volcanic rocks of the Clover Creek

Greenstone. Both veins are said to continue below the lowest levels on which they were mined. Several smaller veins in the district have been prospected.

Placer mines along Pine Creek below Cornucopia have been sporadically active since the late 1860's and have produced several million dollars in gold. The Bonanza placer mine has been active about six months per year since 1988.

Eagle Creek, Sanger, and Sparta Districts: These districts included the upper drainage of Eagle Creek and the adjoining area on the Powder River slope in the vicinity of Sparta, about 40 miles east of Baker. ~~, northeast of Keating. Elevation of the mines ranged from 3,500 feet to 7,000 feet.~~ Lode mine production was dominated by the Sanger mine which produced about $1,500,000 from operations during 1874-1897. Smaller mines in the area include the Basin, Gem, East Eagle, and Macy mines. ~~The Sanger Mine, the principal lode mine, was on a branch of Goose Creek near the top of the Powder River - Eagle Creek Divide. The Sumpter Lode, the principal vein, was discovered in 1870 and was worked more or less continuously through 1897. Production totaled about . In 1874 the production was $60,000 form from ore containing $16 to the ton.~~ The Sanger placers produced about $500,000 in gold prior to 1901. Placers near Sparta and along Eagle Creek are said to have been very rich locally.

Connor Creek District: This district includes all of the Snake River Canyon area between the mouths of Burnt River near Huntington and Powder River near Richland. Principal lode mines are the Connor Creek mine (total output: about $1,250,000 gold) 3 miles up Connor Creek from the Snake River and the Bay Horse mine (production: about 250,000 ounces silver) a few hundred feet above the Snake River 7 miles below Huntington. The Connor Creek mine is in slaty rocks of the Burnt River Schist. The Bay Horse is in volcanic rocks of the Huntington Formation.

Connor Creek below the Connor Creek lode mine has undergone several different eras of placer mining activity. Production prior to 1914 exceeded $100,000 in gold. Subsequent output may be more than that.

c. Other types of Metallic Minerals found in Baker County

COPPER
Deposits of copper minerals and associated gold and silver are widely scattered in the southern foothills of the Wallowa Mountains northeast of Keating and in the Snake River Canyon north of Oxbow. The deposits occur in volcanic and sedimentary rocks of the Clover Creek Greenstone and Seven Devils Group. Information concerning these deposits is contained in Swartley (1914), Gilluly (1933), DOGAMI (1939), and Brooks and Ramp (1968). The most productive copper mine in the southern Wallowa foothills was the Mother Lode mine on Balm Creek northeast of Keating which produced about one million pounds of copper and 8,000 ounces of gold during 1935-1938. The Iron Dyke Mine on the Snake River at Homestead produced 14.4 million pounds of copper, 35,000 ounces of gold and 256,000 ounces of silver between 1915 and 1928. This mine was active again for several years during the 1970's and 1980's.

ANTIMONY
Stibnite and antimony oxide minerals are associated with a quartz vein in gabbro at the Gray Eagle mine in the Virtue district east of Baker. About 300 tons of antimony metal and some gold have been recovered from ore and concentrates shipped from this occurrence, mainly during World War II. Minor amounts of stibnite also are associated with several gold quartz veins and hot spring related gold deposits in the county.

MANGANESE
Several truck loads of manganese ore have been shipped from deposits in the Elkhorn Ridge Argillite near Pleasant Valley and Whitney and in the Burnt River Schist on Sheep Mountain south of Burnt River canyon. Two small manganese occurrences on the south slope of Dooley Mountain are Tertiary rhyolitic rocks.

TUNGSTEN
The tungsten mineral, scheelite, occurs in the vicinity of Chicken Creek east of Durkee, on Pedro Mountain near Rye Valley, and at the Cliff gold prospect in the Virtue district east of Baker. The Chicken Creek deposits are associated with quartz veins and fracture zones in granodiorite. Occurrences on Pedro Mountain are near the

intrusive contact between limestone and granodiorite. At the Cliff mine scheelite occurs in quartz veins in sheared gabbro.

MOLYBDENUM
Molybenum prospects occur in granitic intrusive rocks in the upper north Powder River area and in ultramafic igneous rocks near the Record mine southwest of Unity.

2. Industrial Minerals

~~The history of the mineral industry in Baker includes more than the precious metals. Lead, copper and cement are also important and have been exported from the County. Dean Brickey (editor of the Baker City Herald),[4] discusses these materials and their relative importance:~~

~~Cement — "Cement production in Baker County long ago far exceeded all the gold and silver that was ever produced," said Howard Brooks, resident geologist with the State Department of Geology and Mineral Industries. (1983)~~

a. Overview

Over the past several decades, the principle mineral products of Baker County have been industrial material, chiefly cement, limestone, sand and gravel, crushed stone, clay, and volcanic cinders. These resources do not possess the emotional appeal of gold and silver but their production and use have a much greater impact on the economy and social well being of every community.

b. Location of Industrial Minerals

Cement was made at two different plants, both built by Oregon Portland Cement Company. The first, at Lime, was operated during 1923-1979. The second, activated in 1979 and still operating, has a cement making capacity of 500,000 tons per year. Ash Grove Cement West, Inc. became the operating company in 1992.

Limestone deposits are included in several different rock formations in many parts of the

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[4] "Mining History", from Mining: Baker County's Brightest Prospect, a supplement to the Democrat Herald, Baker: July 20, 1982, pp. 5-8.

County (see Brooks, 1991). The largest deposits are in the Martin Bridge Formation and Nelson Marble. Smaller but significant deposits occur in the Weatherby Formation and the Elkhorn Ridge Argillite. Small limestone lenses are minor constituents of the Clover Creek Greenstone and Huntington Formation.

The Martin Bridge Formation is widely exposed in the Wallowa Mountains (Weis and others, 1976) and in the Snake River canyon near Big Bar (Vallier, 1974). Most of the Martin Bridge limestone exposures in the Wallowas and the Snake River canyon are within the Eagle Cap Wilderness Area or the Hells Canyon National Recreation Area wherein new mine development is prohibited.

The Nelson Marble in Oregon forms a belt up to a mile wide and 30 miles long extending east and northeast from the western part of the Burnt River canyon southwest of Durkee to the Snake River near the mouth of Soda Creek. The Durkee quarry, continuously active since 1954, is the only significant limestone development within this belt. Exposures of the belt where it crosses the upper parts of Fox Creek and Connor Creek in Tps. 11 and 12 S., Rgs. 44 and 45 east represent the largest undeveloped reserves of good-quality limestone in Oregon outside of the Eagle Cap Wilderness Area. Although reserves are enormous the limestone remains undeveloped because of its distance from major sources of transportation.

Quarries at Lime developed limestone deposits in the Jett Creek Member of the Jurassic Weatherby Formation. The limestone unit which underlies an area about 3 miles long and up to a mile wide (Brooks, 1979) consists of interbedded calcareous siltstone, siltstone, limestone, and dolomitic limestone. Only small scattered deposits were found to be of sufficient size and purity for use in making cement. Limestone mining ceased in 1965 when costs of producing good quality stone became excessive.

The Marble Creek and Baboon Creek quarry deposits are the largest of many small limestone blocks and lenses in Elkhorn Ridge Argillite in the Elkhorn Ridge area west of Baker City. Limestone from the two quarries was converted to lime at a plant 5 miles north of Baker. Combined sales totaled 347,675 tons of lime valued at $7,345,000.

Several thousand tons of low-grade lime were dumped and remain near the plant site.

Numerous small limestone deposits occur in Elkhorn Ridge Argillite in the low hills between Pleasant Valley and Virtue Flat east of Baker City and in Clover Creek Greenstone in similar terrane northeast of Keating and southeast of Medical Springs. Some of these deposits appear to be good quality limestone but because of their small size no single deposit is large enough for anything other than local use. Perhaps the combined product of several deposits would be sufficient to sustain a small lime manufacturing plant.

c. Types of Industrial Minerals

LIMESTONE AND ITS PRODUCTS

Limestone is among the world's most versatile and widely used mineral commodities. In the earliest days of Baker County development limestone was burned with wood in small batch-type kilns to make lime for use in making mortar and plaster for building construction. The remains of one of these kilns stands near the old Pleasant Valley school.

Since those early beginnings more than 30,000,000 tons of limestone have been mined from deposits in Baker County most of it from the quarries and for the uses listed in the following table:

Quarry Name	Years Operated	Production (Tons)	Main Use	Formation Name
Durkee	1954-present	20,000,000	Cement(70%) Lime(30%)	Nelson Marble
Lime	1923-1965	9,020,000	Cement	Weatherby
Marble Creek	1957-1963	275,000	Lime	Elkhorn Ridge Argillite
Baboon Creek	1963-1971	275,000	Lime	Elkhorn Ridge Argillite

BUILDING STONE

Baker's old gray stone buildings, including the City Hall, County Court House (1905), and Saint Francis Cathedral (1906) are constructed of blocks of volcanic tuff mostly from quarries near Pleasant Valley. Some came from quarries about

one mile southeast of Baker. Largely because of its drab gray color the stone has not been used for building since the early 1900's. The age of the buildings attests to the weather-resisting quality of the stone. The quarries near Pleasant valley have large reserves of stone available (Gilluly, 1937).

Granite from a quarry about one mile east of Haines was, for many decades, sold for building and especially monumental purposes. The quarry has not been operated extensively since the 1950's.

RHYOLITE
Rhyolite from quarries high on the south slope of Dooley Mountain has been marketed in several metropolitan areas in the Northwest including Boise, Portland, and Seattle. It's main use has been for facings on both commercial and domestic buildings. The rhyolite is thinly banded and ranges in color from creamy white to pale brown, reddish brown, and near-purple.

SAND, GRAVEL, AND CRUSHED STONE (CONSTRUCTION)
These commodities are among the most important products of Baker County mining even though their value is far overshadowed by the value of cement. Their main uses are as aggregate for concrete and for road paving materials. Most crushed stone produced for use as aggregate or road metal is basalt. Sand, gravel, and basalt are available in many parts of the county but in some areas they must be trucked many miles.

PERLITE
Perlite of good quality and large quantity occur on the south slope of Dooley Mountain. Some of it has been mined for sale in the Portland area. Transportation costs to major market areas have prevented significant development of the deposits.

DIATOMITE
Small diatomite deposits occur in the Keating area. Where exposed the deposits appear to contain significant amounts of ash and clay. Some of the material might be useful as kitty litter or oil absorbent.

ZEOLITE
Zeolite deposits are wide spread in the low hills bordering Durkee valley on the north and east.

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None has been mined except for test purposes.

CLAY
Clay is an important ingredient of cement and is produced for that use by Ashgrove Cement West near their plant site southeast of Durkee. Bentonitic clay deposits occur in the Hereford area. Little exploration or testing of the material has been done, so its quality and quantity are not well known.

SEMIPRECIOUS GEMSTONES
Semiprecious gemstones such as agate, opalite, cryptocrystalline quartz and petrified wood occur in several areas in Baker County.

C. Treatment of Mineral and Aggregate Resources in Baker County

Mining continues to play an important role in the County's economy. The level of activity fluctuates but it is fair to assume that mining will continue ~~to be significant~~ to have importance as an industry. Also, given the interest tourism has generated in Baker County's historic culture, e.g., the Sumpter Dredge State Park, mining ghost towns and industrial tours of active mining operations, the minerals industry can be seen as an offshoot to tourism in the future. Demand for industrial minerals and aggregate materials is difficult to predict; even the Oregon Department of Transportation and the County ~~Roadmaster~~ Public Works Department make no projections of future needs.

~~Historically, mining has played an influential role in the growth and development of Baker County. A brief discussion of the history of the County's major mining districts is provided by Gerry Steele:~~

~~"Two parties prospected in Eastern Oregon in the summer and fall of 1861. Both were in search of the stream where the so called Blue Bucket strike had been found. One group, according to an 1874 story in the Bedrock Democrat, was the men who discovered gold in Griffin Gulch.~~

~~The rush for these placer diggings commenced in the spring of 1862. The newspaper said the discovery led to the discovery of other sites such as Auburn, Mormon Basin and Rye Valley...."~~

~~(2)~~ 1. Surface Mining:

Though mining is an important element of the County's economy, few public records documenting the activity are kept. The primary source of information concerning sites is the Department of Geology and Mineral Industries (DOGAMI). ~~which issues surface mining permits or certificates of exception to parties involved in the extraction of mineral and aggregate resources.~~ Baker County conditional use permit files supplement DOGAMI records by providing more extensive information about some DOGAMI sites and additional sites. Geologists from DOGAMI, the State Highway Department and the industry, as well as ~~the~~ Baker County ~~Roadmaster~~ Public Works Department employees are important data sources because of their knowledge of the area's geological history, and familiarity with specific resource sites. Where these data sources remain inadequate to determine the quantity, quality and location of a site, resource owners and landowners ~~may be~~ have been contacted and/or on-site inspections made.

Data was collected from all the above sources and used to compile the Mineral and Aggregate Inventory. Locations of sites are described to the quarter section. More specific siting is used when that information is available. Quantity is described in terms of site acreage and cubic yardage (or tonnage in some cases). Estimates of cubic yardage are not always available, and where available are sometimes not disclosable (ORS 517.900 restricts disclosure of some information contained in a surface mining permit application). To estimate the quantity of rock in a particular site, the Department used the formula: Acreage times depth times 1613, based on a determination of 1613 cubic yards of aggregate per acre.

The inventory also indicates the resource owner, the land owner and the DOGAMI identification number for each site, if that information is available. Sites located on federal land are included ~~in order~~ to provide a more accurate picture of the relative importance of each site as a supplier to an area, but the County presumes no jurisdiction over such sites.

~~The types of resources and probable uses address the quality matter.~~ In 1993, an ad hoc committee comprised of industry representatives, selected members of the Planning Commission, and government officials recommended to the entire Planning Commission that the

Commission adopt standards used by the Oregon Department of Transportation as a basis for quality analysis. The Planning Commission adopted the recommendation.

The ad hoc committee recognized that factors other than its intrinsic "quality" influence the relative value of some resources. In particular, market demand and proximity to demand are important ~~and~~ non-static factors.

Resource sites included on the inventory are considered to be ~~significant~~ valuable sources of industrial minerals. They represent sources of mineral and aggregate materials currently being used, and known sites for which a future need may arise. Though some sites are currently closed or inactive, nonetheless, they contain ~~they contain, nonetheless~~, significant reserves. "Closed" and "inactive" are administrative classifications, and do not necessarily mean ~~that~~ the resource has been depleted.

The aggregate inventory contains 155 sites. The state and county own 47 of these sites. There is documentation of five additional sites in which Baker County has 99 year leases on privately owned parcels. The Federal Government owns eighteen of the 155 resource sites. The remaining sites are privately owned or information regarding ownership is unavailable. Several of the private resource sites are used primarily by the Oregon Department of Transportation or the County Road Department. ~~Surface mining includes large and small placer operations and chemical leaching processes. In addition to new excavations, considerable reworking of old wastes occurs.~~ A few sites belong to federal or municipal agencies. Most of the remaining sites belong to private individuals or firms. ~~with the exceptions of a few that belong to federal or municipal agencies.~~ These private sites supply materials such as limestone and bentonite, which have been marketed outside of the County, as well as sand, gravel and rock for local construction. ~~They~~ These sites tend to be located closer to urbanized areas than are the state and County road maintenance pits. A number of small sites are used to maintain private access roads.

2. Mining on Patented Claims: see page 73 of Technical Information.

The primary metallic resource is gold. Surface mining of metallic minerals includes large and small placer

operations and chemical leaching processes. In addition to new excavations, considerable reworking of old wastes occurs.

~~Patenting has been going on since the Mining Act of 1872~~ The patenting process originated with the Mining Act of 1872, and is currently ~~handled~~ managed through rules promulgated by the Federal Bureau of Land Management, Department of the Interior. ~~There are 241 mining claims in Baker County.~~ Prior to patenting a claim, an individual must demonstrate a valid discovery and have such validated by a representative of the BLM~~,~~ ~~and invest~~ The individual patenting must also invest in site improvements. Placer claims are generally twenty to 160 acres in size~~, and load~~ Lode claims may be up to 600 feet by 1500 feet, with a 20.64 acre maximum.

Because patented claims are scattered throughout the farm and forest zones of Baker County as well as within inventoried important wildlife habitats, the potential for conflict between mining and other resources exists. Reducing the threat of conflict, however, are such factors as remoteness of the mines, existing surface disturbances from historic use, ~~visual~~ barriers ~~due to~~ created by terrain and vegetation ~~that offer~~ insuring acceptable separation of uses, and existing regulation dealing with surface activity, reclamation, and degradation of other resources, i.e., air, land, and water quality laws. Additionally, it should be noted that the majority of patented mining claims in Baker County are underground mines known as lode claims. As such, their impact on surface uses is minimal. These claims have co-existed with farming, ranching and residential uses for upwards of a hundred years, mostly in harmony with the environment. Finally, there is some question as to whether the patenting process preempts certain local government zoning regulations. ~~Finally, in light of a recent court decision Eastern Oregon Mining Assn. v. Grant Co. _____ Fed. _____, _____ (c. 1983) wherein County and state government is are reminded of the supremacy of federal law, Baker County has no wish to attempt to interfere with federally granted patented mining rights.~~

~~Therefore,~~ Based on the historical use of land in Baker County, and because of the uncertainty regarding federal preemption issues, the County determines that patented mining claims are found to be a 3A resource (pursuant to OAR 660-16-000). Their ~~whose~~ importance relative to other uses is significant to the point of

warranting protection from all conflicting uses.

D. Mining and Land Use Regulation:

The Oregon Administrative Rules (OAR 660-16-000) create the framework for analyzing uses where significant sites are located in or near areas where conflicting land use occurs. The rules require such analysis, called an Environmental, Social, Economic, and Energy analysis (ESEE), only where conflicts are identified. The following discussion indicates many mineral sites in Baker County are located in resource zones which provide adequate protection for the mineral, forest and agricultural uses. Where sites are located in or near residential development and industrial areas, the ESEE analysis is conducted to indicate the best methods to resolve the conflicts.

The majority of mining sites occur in the resource zones. All known patented claims fall into the Mineral Extraction Zone, where mining is an outright use. Most non-patented sites included in the Inventory of Mineral and Aggregate Resources fall into the Sumpter Valley Dredge Tailing Management Area or the Forest and EFU zones, where mining is a conditional use. These operations are regulated by DOGAMI, which issues permits pursuant to an acceptable reclamation plan and bonding. The purpose of the reclamation program is "to provide that the usefulness, productivity, and scenic value of all lands and water resources affected by surface mining operations within this state shall receive the greatest practical degree of protection and reclamation necessary for their subsequent use."[5]. The policies and statutory provisions under which DOGAMI regulates mining minimize the detrimental impact such activity might have on subsequent uses of sites in resource zones. Therefore, mining is compatible with other land uses in the Sumpter Valley Dredge Tailing Management Area, ~~and~~ the Mineral Extraction, Forest and EFU zones.

In several instances, however, mining occurs in other zones, some of which represent potential land use conflicts. Such sites are listed separately in Chapter 10 of the Technical Information and Inventory Data for Land Use Planning in Baker County (1983, updated 1993). Sites which are in such zones but are officially closed are not included on this list. Closure implies that

[5]O.R.S. 517.760(2)(1991)

the site is in the process of being reclaimed. Reclamation enhances the land's capacity to support the uses allowed by the Zoning Ordinance. Conflicts between mining and other land uses are analyzed on a site by site basis below. The purpose of such analysis is to compare the economic, social, environmental, and energy consequences of mining use with the same consequences of other uses allowed in the zone. From such comparisons, the County has reached conclusions and policies about which uses are preemptive or compatible.

E. The Environmental, Social, Economic and Energy (ESEE) analysis

1. ~~(3)~~ Surface Mining and the Rural Residential Zone (RR-5)

In Baker County, only one area of surface mining activity occurs in or near residential areas. The ESEE analysis treated this area as one site:

SITE: TWP. 8 RG. 39 SEC. 19, 20, 29

Quarries in Area:					Zoning:
-Butler Pit	8	39	19	TL: 400	Surface Mining
-Marc Sackos	8	39	20	TL: 800	Rural Residential
-Austin	8	39	29	TL: 1200	Rural Residential
-Zimmer	8	39	29	TL: 1300	Surface Mining
-Schuetz Pit	8	39	29	TL: 1400	Surface Mining

*These parcels are being considered as one significant site in Baker County due to the quality of resource in that area and the conflict of residential development which affects each parcel.

Adjacent Land Use: Rural Residential (RR-5)

Conflicts: Increased residential development on adjacent land

Road Accessibility: Paved, County Roads; Pocahontas and Polly

Quality: The parcels above are known to have high quality resources unique to Baker County. Butler pit has high quality material which meets the State's requirements for the soundness, degradation, and abrasion test, which are available in the Butler Pit file. Other parcels in the area are currently in operation for extraction activities, however, 1993 quality testing results are not available at this time.

Quantity: The resources found in this area are of limited quantity elsewhere within Baker County. Butler Pit is

the largest resource area and is documented to contain a minimum of 360,000 cubic yards. Lyle Chadwick, the Baker County Road Superintendent, estimated Butler Pit may have as much as 4,000,000 cubic yards.

Significance: This area provides both a large quantity and high quality of resource for Baker County. The resource found in this area is unique and limited in the County. Butler Pit is the Baker County Road Department's primary source of road maintenance materials. The Schuetz Pit, a Baker County pit, is currently inactive, but Lyle Chadwick, the Baker County Road Superintendent, indicates that it may contain material which will be needed in the future. These quarries are centrally located in Baker County to provide economic accessibility to high maintenance roads. This area is extremely valuable to Baker County and needs to be protected from conflicting uses.

Recommendations: Increased residential development may lead to an increase in complaints in this area. Buffering of adjacent land, such as berms, trees, and fencing may be essential. Additionally, the gravel pits may need to introduce quick growing shrubs or trees such as Russian Olive Poplars, to separate the extraction activity from the residential use. Water is currently used to control the dust in the extraction areas. Staff encourages buffering with quick growing trees surrounding these extraction areas to provide both visual screening and dust control. Butler Pit, Schuetz Pit, and the Zimmer Pit are currently zoned Surface Mining; however, a buffer zone of 500-1,000 feet, such as found in the Sumpter Valley Dredge Tailings, can provide owners and prospective purchasers with information and set standards.

On November 10, 1993, the Baker County Planning Commission approved the development standards for residential zoned property and property adjacent to the gravel pits identified in this site analysis. The following development requirements are proposed to be incorporated in the BCZO:

1) The property owner shall plant fast growing vegetation on the property line adjoining the surface mining site prior to issuance of a building permit.

2) The developer of property adjacent or immediately across the road from a surface mining zone shall not construct a dwelling or other living quarters less than 100 feet from the surface mining

property line.

3) Before a new quarry site is initiated or expanded on land zoned surface mining, where the site is adjacent to land zoned rural residential, the applicant for the quarry activity shall construct a berm to screen the quarry activity from adjacent residential activities. Owners and operators of existing pits will be encouraged to construct berms or plant vegetation to screen the mining activities from adjacent uses.

4) For lands within a 1/4 mile radius of the Surface Mining Zoned quarry sites an Acknowledgement of Adjacent Land Use (AALU) form shall be filed and recorded with the property deed. The AALU form will be provided to the property owner by the Planning Department and recorded with the Baker County Clerk. By filing this acknowledgement the property owner recognizes the activity and the right of the extraction process to occur on lands zoned Surface Mining.

2. Surface Mining and the Industrial Zone

In Baker County, there are three areas where surface mining occurs on property zoned industrial. For two of these areas (treated as one site), the existence of the industrial zone is to allow for concrete or lime processing on site. The third area poses a more real conflict, which will be discussed as part of its ESEE analysis.

Site: Ashgrove Cement Company: Twp. 12 Rg. 43 Secs. 10/11
Lime: (former Ashgrove Cement Co.) Twp. 13 Rg. 44 Secs. 25 26, 27, 34, 35

Zoning: Industrial

Adjacent Land Use: Exclusive Farm Use

Conflict: Surface mining in industrial zone. Theoretically, another industrial use could be developed on the property, which would limit access to the quarry/manufacturing site.

Road Accessibility: The current Ashgrove Cement Company site is located west of Interstate 84. Six miles south of Ashgrove is Lime, the abandoned cement manufacturing site. Lime is east of I-84.

Quality: Resource of limestone and shale.

Quantity: Large ridge lines of lime.

Significance: Both locations described in this site are unique because the consequence of protecting the resource is the same as protecting the adjacent industrial uses. Raw materials extraction does not conflict with industrial land use here because the only existing industry is one which processes those very materials. Proximity to the material source is vital to Ash Grove Cement's operation, and such materials should remain as accessible as possible.

Site: Twp. 9 Rg. 40 Sec. 9/10

Quarries in area:

-Superior Equipment	TL: 1800	Industrial
-Triple C	TL: 300,400	Industrial
-Oregon State Hwy (ODOT) stockpile site	TL: 700	Industrial

Adjacent Land Use: west and south- UGB Baker City Commercial; east- EFU; north- Rural Residential (RR-5)

Conflicts: Heavy industry and increased commercial development on adjacent land. The opening of the Oregon Trail Interpretive Center, located 3 miles east of Baker City off State Highway 86, created a focus on tourism. The intersection of Best Frontage Road and Hwy 86 is at the northeast corner of the above listed site, and is used for access to the quarry areas. This creates conflicts between recreational passenger car traffic, as the only official access to the Interpretive Center off of Interstate 84, is through an intersection at Interstate 84 and State Highway 86.

During the first eighteen months of the Center's opening almost 540,000 people have visited the facility, 338,000 since January 1, 1993 alone. The traffic count at exit 302 has increased since the May 1992 opening and is expected to increase in the future. The most recent ADT (average daily traffic) numbers available are from ODOT and are summarized below.

June 1993 - Hwy 86 four miles west of Richland
a. 955 cars per day

June 16-23, 1993 - Hwy 86 near the BLM

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Interpretive Center

a. Monday - Friday
1,143 cars per day

b. Saturday - Sunday
1,307 cars per day

I-84 is averaged at 6,000 cars per day (at an average of 1,000 cars per day the Center pulls 16.6% of the inter-state traffic)

At this time the ADT numbers do not indicate an immediate problem but future development will definitely mandate action. Due to the increase of tourist traffic, commercially zoned property is in demand. This is reflected by a 1991 zone change of land west of Best Frontage Road and east of I-84, from Light Industry to Tourist Commercial and General Commercial. Additionally, the intersection of Best Frontage Road, Hwy 86 and I-84 is beginning to have traffic flow pattern problems during peak tourist seasons. With increased interest in developing commercial activity at this location commercial congestion, traffic, and tourist related activities will further encroach on the extraction activities. Greater pressure will be placed on this site to rezone to commercial in the near future. Concern for commercial tourist amenities and visual appeal may cause the industry to close or may force relocation of the current operations.

Road Accessibility: Hwy 86, Best Frontage Road, Atwood Road

Quantity: Triple C is estimated to contain approximately 1,800,000 cubic yards of quality material. This is a substantial amount of resource for Baker County. Other parcels in the area are currently in operation for extraction activities, however, 1993 quantities are not available at this time.

Quality: According to information located in the Triple C Aggregate Inventory file, the site is documented to have high quality material meeting the State's requirements for the Sodium Sulfate (soundness), Oregon Air Degradation, and LA Ratler (abrasion) tests.

Significance: This area provides both a large quantity and a high quality of resource to Baker County. These quarries are centrally located and economically accessible to local markets. These parcels

represent important and accessible sources of gravel, asphalt, and cement for the Baker County area.

Recommendations: Careful evaluation of this site is necessary. Since these industrial sites are located on the scenic route to the Interpretive Center, buffering with trees may help to provide some form of visual screening for those traveling on Hwy 86. In order to prevent further congestion at the intersection of Best Frontage Road, Hwy 86, and I-84, rerouting of the Frontage road has been suggested by ODOT staff. A second step may be an alternative truck route for aggregate trucks. Carefully designed truck access and routes may alleviate the conflicts with tourist traffic. The industrial zone could instead be accessed at the intersection of Best Frontage Road and Atwood/Campbell during times of high volume tourist traffic. Prior to additional development or commercial zone changes, a community task force should be established to resolve or mitigate these issues. This committee should include ODOT staff, the City of Baker Public Works Director, Planning Directors, City Planning Commission, County Planning Commission, County Public Works Director, BLM Interpretive Center Director, and other related agencies to ensure proper consideration of conflicting development priorities.

~~#56 FarWest Concrete's gravel pit at SE 1/4 Sec. 29, Twp. 8S., R39E~~

~~A portion of this gravel site being used by FarWest Concrete. One six acre pit is not currently active. Currently active, but it is being used as a pond. The firm sells pit run from an eight acre pit, in which about 150,000 cubic yards of material remain. Also, 3/4 - 1 1/2 inch crushed rock is stockpiled here.~~

~~FarWest Concrete is an important supplier of aggregate material to the construction industry in Baker County. This site is strategically located to serve building needs in the City of Baker, Haines, and the Wingville area. Although presently zoned RR-1, mining is not in conflict with adjacent land uses at this time; but rural residential development in the future could become a conflict.~~

~~At this point in time, absent actual conflicts, it is useful to compare the consequences of protecting the resource site with the consequences of giving priority to the speculative value of land which is zoned for rural~~

COURT 94 04 026

~~residential use.~~

~~The resource site can be protected by designating it as a surface mining zone (SMZ). Such a designation decreases uncertainty which otherwise might inhibit investment and a long range planning for the site. Protection of this existing site is more energy efficient and environmentally sound than the proliferation of other sites which would be required to meet local gravel needs. Such designation will contribute to the efficient utilization of the County's gravel resources.~~

~~Giving priority to the speculative value of such land for residential development would impose economic hardship on the gravel pit owner. Such a policy would have the effect of requiring him to mitigate potential conflicts between the noise, dust and appearance of gravel extraction and residential development. Since, however, residential development has yet to occur on the adjacent property, such a policy might or might not enhance its value for residential use, and would surely add a degree of uncertainty to plans for the development of the gravel resource.~~

~~FarWest's gravel pit is an important resource and should be protected. Conflicts with adjacent properties do not currently exist, and may be avoided by giving priority to the resource site over speculative values of adjacent residentially zoned land. If such properties are eventually developed, it will be the responsibility of these developers to provide appropriate buffers and screen. Such requirements would be described in the RR-1, Zoning Ordinance.~~

~~#55 The County's pit at SE1/4 Sec. 29, T8S., R39E.~~

~~This pit is currently inactive, but the County Roadmaster indicates that it may contain material which will be needed in the future. It is adjacent to the pit discussed above (#56) and should be included with the FarWest pit and protected by this SMZ for the same reasons.~~

~~#53 Baker County's Pit at SE1/4 Sec. 19, T8S., R39E (The Butler Pit).~~

~~This site is on an eighty acre parcel about half of which has been developed as a gravel pit. It is one of the County Roadmaster's primary sources of road maintenance materials. Its location provides good access to many of the heavily used roads radiating from the City of Baker. The quality and quantity of material make the Butler Pit a valuable resource to County residents and development of the site~~

~~represents a substantial investment of local revenue.~~

~~The Butler Pit is surrounded by land which is zoned for rural residential land use, which allows for parcel sizes as small as five acres. If a density of one house per five acres actually existed, residential and gravel extraction could be conflicting land uses. However, the mean size of the thirteen parcels which are contiguous with the Butler Pit is 19 acres, and the residential density is one house per 44 acres. Gravel extraction and residential land use are compatible at current densities, and through the creation of appropriate buffers and screens can remain compatible as residential density increases.~~

~~The southeast portion of the site has been reclaimed, and ponds on the eastern side are used for irrigation and fishing. The western part of the site is managed for wildlife. Thus, some buffers already exist between County and private land. Future reclamation may provide more screens, but it should be incumbent upon those who eventually develop rural residential properties to screen their houses from the gravel pit, which has been in existence for many years.~~

~~The Butler Pit should be protected as a resource site. This can be accomplished with the SMZ designation. Gravel excavation will not conflict with adjacent land uses if proper safeguards are taken by the developers of the surrounding rural residential land. These safeguards would be described in the RR-5 Zoning Ordinance.~~

~~(4) Surface Mining in the Industrial Zone #97 & 105 Ash Grove Cement Sites at Sec. 10, 11, 14, 15, 16, T12S, R43E & Sec. 25, 26, 27, 34, 35, T13S., R44E.~~

~~These quarry sites belong to AGPC. Site 97 is 736 acres, currently an active source of limestone and shale, whereas site 105, 1053 acres, is an inactive limestone source. The area is zoned for heavy industrial use, and the sole industrial occupant and owner is AGPC. Baker County believes the industrial designation is appropriate for these sites.~~

~~These sites are unique because the consequence of protecting the resource are the same as protecting the adjacent industrial uses. Raw materials extraction does not conflict with industrial land use here because the only existing industry is one which processes those very materials. Proximity to the material source is vital to AGPC's operation, and such materials should remain as accessible as possible.~~

~~#69 & 71 Redi Mix Sites at SW 1/4 Sec. 10, T9S., R40E~~

~~These contiguous sites and the adjacent land to the north and east are zoned for heavy industrial use. The boundaries of the City of Baker and its Urban Growth Boundary lie to the west and the south.~~

~~These sites represent important and accessible sources of gravel for Redi Mix, a primary supplier of gravel, asphalt and cement to the Baker area. These sites contain significant quantities of material and are valuable resources. Currently, gravel extraction and industrial land use are compatible because the only existing industry in the zone is the Redi Mix, which primarily serves local needs.~~

~~By giving priority to industry on these sites, the pressure on agricultural land for industrial sites may be lessened. In addition, such designation allows Redi Mix, which owns 50 acres adjacent to site 71, more flexibility in the expansion of its cement and related products manufacture. Industrial designation does not preclude continued gravel pit activity. Rather it protects alternative industrial land uses in the future.~~

F. Findings of Fact

1. The governing body finds that the history of Baker County is inextricably bound to the development and use of its mineral resources.

2. The governing body finds that the preservation of extraction sites will encourage economic development and preserve infrastructure.

3. The governing body finds that the preservation of extraction activities will help implement its Regional Strategies Program to promote tourism. Locally, the Sumpter Dredge has become the centerpiece of a state park. The mining tailings in the same area have become a tourist attraction and special wildlife habitat. In other areas of the county, mining operations give tours of facilities to educate the public about modern mining and reclamation practices.

4. The governing body finds that it is in the best interests of the people of Baker County to allow federal, state and local governmental bodies to extract material in sufficient quantities to maintain local infrastructure, whether the extraction site has been deemed significant according to the established

Beaver State

criteria or not.

5. The governing body accepts the ESEE analysis as the determining development review for those sites where conflicts have been identified.

6. The governing body finds that the most efficient, and environmentally sound means to encourage extraction activities is to expand existing pits in preference to opening new ones.

7. The governing body finds that Baker County is in a unique position among Oregon Counties in its mineral resources, and that those resources should be recognized as a vital part of the social and economic fabric of the community. Further, the process of acquiring land for mining purposes through patenting limits the restrictions the County may place on those patented mining claims.

8. The governing body finds that industrial minerals such as limestone are another vital resource, and extraction activities to produce cement is another essential element of the economy.

9. The governing body finds that for those sites for which a determination of significance has yet to be made, the agricultural and forest zoning will preserve the site for extraction activities, while allowing the site to be put to other uses, until such time as the extraction of the resource becomes necessary.

G. Comprehensive Plan Policies to protect Mineral and Aggregate Resources

1. The county shall protect significant gravel and mineral resources consistent with Statewide Planning Goal 5 and Oregon Administrative Rules Chapter 660, Division 16.

2. The county shall maintain an inventory of gravel and mineral resource sites. The comprehensive plan inventory shall comprise three parts:

   a. A list of "significant sites" identified through the Goal 5 process as resources that the county will protect from conflicting uses;

   b. A list of "potential sites" for which

information about the location, quality, and quantity of a resource site is not adequate to allow a determination of significance;

c. A list of "other sites" for which information about the location, quality, and quantity of a resource site indicates that the site is not a significant resource.

3. The county shall identify the location of a gravel or mineral resource as the site of a recoverable source of material. A resource site may include all or portions of a parcel, and may include contiguous parcels in different ownerships. The county will not treat a site irrevocably committed to land uses incompatible with surface mining as a significant resource.

4. The county will consider gravel resources significant if the resource meets Oregon Department of Transportation aggregate specifications and the site contains a minimum of 100,000 cubic yards of minable reserves.

5. Because municipal, county or state government agencies have acquired material source sites for maintaining the public road system, and such sites form a network of statewide importance, the county shall consider these sites significant.

6. The county will judge the significance of non-gravel mineral resources on a case by case basis. Resources shall be judged by the commercial or industrial value of the resource, and the relative quality and relative abundance of the resource within at least the county.

7. The county shall allow continued mining at existing significant resource sites. Expansion beyond the limits of an existing site shall comply with county zoning regulations.

8. The County shall review applications for extraction to implement the policy to expand existing commercial gravel pits in preference to creating new pits.

9. The scope of an existing or "grandfathered" surface mining operation shall be established by:

a. Authorization by a county land use approval; or

b. The extent of the area disturbed by mining or processing on February 28, 1974; or

c. The continuous pursuit of a specific mining plan by an operator for not less than five years.

10. The county will protect the right to continue an existing surface mining operation. A decision whether to protect the site from additional conflicts shall be based on the analysis of economic, social, environmental and energy (ESEE) consequences of conflict. The ESEE analysis for existing sites shall only consider the consequences of potential conflicts with mining activities, and the consequences of mine expansion on existing or potential conflicting uses.

11. The county will not protect resources on the "other sites" inventory from conflicting uses.

12. For sites on the "potential sites" inventory, the county shall review available information about gravel and mineral resources, and if the information is adequate, determine the site to be significant when one of the following conditions exists:

a. As part of the next scheduled periodic review; or

b. When a landowner or operator submits information concerning the potential significance of a resource site and requests a comprehensive plan amendment.

13. For each site determined to be significant, the county shall complete the remainder of the Goal 5 process of identifying conflicting uses, analyzing the ESEE consequences of the conflicting use(s), and designating a level of protection from conflicting uses. If the final decision concerning the site is to preserve fully or partially protect the resource from conflicting uses, the county shall zone the site appropriately.

14. Conflicts with other natural resource values shall not be the basis for mining restrictions unless the county has included the conflicting resource on the inventory of significant Goal 5 resources, and has adopted a resource protection program.

15. To approve surface mining at a site zoned for exclusive farm or forestry use, the county shall find, as part of

the ESEE analysis, that the proposed activity will not: 1) force a significant change in, or significantly increase the cost of, accepted farming or forestry practices on surrounding lands, and 2) will not significantly increase fire hazard or significantly increase fire suppression costs or significantly increase risks to fire suppression personnel. This analysis shall be conducted as a part of a public hearing for a conditional use permit for mineral extraction activities occurring. These criteria may be satisfied through imposition of clear and objective conditions.

16. Mining and processing of gravel and mineral materials may only be allowed at sites included on the "other sites" inventory, "potential sites" or "significant sites" inventory.

    a. Mining at sites on the "other sites" inventory may be allowed by a conditional use permit.

    b. Mining at sites on the "potential" or "significant" sites inventories may only be permitted in accordance with applicable provisions of the Baker County Zoning and Subdivision Ordinance.

17. The county shall not independently apply its ordinance provisions regarding mineral and aggregate resources to land within another county, or within a city or its urban growth boundary. The county shall encourage protection of significant sites through cooperative agreements with another county or a city where the resource or its impact area extends across jurisdictional boundaries.

18. The county shall require increased setbacks, insulation, screening, or similar measures as conditions of approval for any new conflicting use within an impact area surrounding a gravel or mineral resource site when such measures are necessary to resolve conflicts identified in a site-specific Goal 5 analysis.

19. The county shall impose conditions on surface mining when necessary to lessen conflicts identified as part of a site-specific Goal 5 analysis. Where such conditions conflict with comprehensive plan and zoning ordinance criteria/ standards, the conditions developed through the Goal 5 process shall control.

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20. As part of the Goal 5 process to determine the amount of protection given a significant gravel and mineral resource site, the county shall determine the appropriate post-mining use of the site.

21. The county recognizes the jurisdiction of the Department of Geology and Mineral Industries (DOGAMI) over mined land reclamation pursuant to ORS 517.750 to 517.900 and the rules adopted thereunder.

22. Unless specifically determined on a case by case basis, it shall be the policy of the county, pursuant to ORS 517.830(3), to request that DOGAMI delay its final decision on approval of a reclamation plan and issuance of an operating permit until the county decides all comprehensive plan amendments or site plan approvals.

23. No surface mining or processing activity, as defined by the zoning ordinance, shall begin without land use approval from the county, and approval of a reclamation plan and issuance of an operating permit by DOGAMI.

24. The county shall not rezone land from Surface Mining (SMZ) or Mineral Extraction (ME) until the gravel or mineral resource is depleted, and the site has been reclaimed. Conversion of industrially-zoned aggregate and mineral sites to new industrial uses shall only be allowed if the ability to extract the aggregate and mineral resource is not jeopardized.

25. Mining upon patented mining claims within the Mineral Extraction Zone (ME) shall be an outright use.

26. Mining of previously mined land within the Sumpter Valley Overlay Zone (SVOZ) shall be an outright use.

27. Gravel pits inventoried as significant resources, which do not conform to the grandfathering clause described in Policy Number 9, shall be protected by the application of a Surface Mining Zone (SMZ).

28. To allow for small scale mineral exploration, the governing body has determined that a conditional use permit for exploration, extraction and processing will be necessary only after DOGAMI permitting thresholds have been reached. Exploration or small scale mining activities which do not reach those thresholds have a marginal impact on land use, as long as the operator has complied with other applicable laws.

INTRODUCTION TO THE BAKER COUNTY AGGREGATE AND MINERAL INVENTORY

GEOLOGY

Rocks exposed in Baker County are divisible into three groups on the basis of when, where, and how they were formed.[1]

1. Metamorphic Rocks: The oldest group of rocks was formed on and beneath the floor of an ancient ocean and were pushed against and became part of the North American continent as part of the process called plate tectonics. They range from Early Pennsylvanian to Late Jurassic in age, which covers the span of geologic time between about 300 million and 150 million years ago. Included are ocean floor sedimentary rocks, (chiefly chert and argillite), rocks from volcanoes on the ocean floor (mostly lava flows, tuffs, and associated sedimentary rocks), and igneous rocks (serpentinite, gabbro, and diorite), which formed from magma that came from deep within the earth and congealed in great cracks in the ocean floor. The rocks are metamorphosed, which means that their original mineralogy and structure changed as a result of deep burial and the intense folding and faulting they underwent while being pushed against the continent. Brief descriptions of the major units follow:

Elkhorn Ridge Argillite: A rock formation composed mainly of thick sections of dark colored argillite, tuffaceous argillite, and chert, with subordinate metavolcanic rocks and lenticular limestones. Exposures form a broad east trending belt across the middle third of the county. Named for exposures on Elkhorn Ridge. Age: Possibly Permian and Late Triassic.

Burnt River Schist: A structurally deformed sequence of interlayered phyllite and chert, massive to schistose greenstone and tuff, and marble named for exposures in Burnt River Canyon east of Bridgeport. Exposures extend eastward to Snake River Canyon and Idaho, westward beyond Hereford and southward through Mormon Basin. Age: Possibly Permian and Triassic.

Nelson Marble: Part of the Burnt River Schist, a belt of large and small marble lenses and associated phyllite 20 miles long and up to a mile wide extending from Burnt River Canyon south of Durkee eastward to Snake River. Age: Permian or Triassic.

Clover Creek Greenstone and Seven Devils Group: A group of rocks consisting of altered lava flows, tuffs, and volcaniclastic sandstones, breccias and conglomerates with subordinate argillite, chert, and limestone that is widely exposed in the Wallowa Mountains, the southern foothills of the Wallowas (Keating-Medical Springs-North Powder area), and the

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[1]This section was written by Howard Brooks, Geologist (Retired from the Oregon Department of Geology and Mineral Industries), recognized specialist in Eastern Oregon geology (1993)

Supplementing the inventory and map is an alphabetical index of individual and group patented mining claims and a large scale map of same is in the County Planning Office.

A general overview of metallic assets is given below. More information is provided in the Technical Information and Inventory Data for Land Use Planning in Baker County (1983, rev. 1993).

B. History of Production

1. Metallic Minerals

a. Overview of Gold and Silver Resources

The settlement and early development of Baker County is closely related to mining which began in 1861 with the discovery of gold in Griffin Gulch about five miles south of the present site of Baker City.

Although lode mines began operating as early as 1864, most of the early day gold production was from placer deposits because they were the most easily found and could be worked largely by hand; lode mining required heavy, expensive equipment which had to be hauled overland, usually from The Dalles, by wagon or pack-train.

Lode mining developed rapidly following extension of the railroad to Baker City in 1884. Completion of the Sumpter Valley Railroad to Sumpter in 1896 facilitated a mining boom in that area that lasted until about 1910. One of the high points of gold production was during the late 1930s and early 1940s following the increase of the price of gold from $20.67 to $35.00 per troy ounce in 1934.

All gold mines were closed by government order early in World War II and due to subsequent inflation of costs of mining without compensating increase in the prices of gold most of the mines have remained closed.

Metals production from mines in Baker County totals about 3.4 million ounces gold, 3.3 million ounces silver, 8,000 tons of copper and smaller amounts of various other metals including lead, zinc, antimony, tungsten, and manganese.

Geologic evidence presented to the County indicates that many of the gold bearing veins have not been exhausted. Some of them remain a potential source of gold when economic conditions permit further development. The possibility exists that large gold deposits will be discovered that can be mined by open-pit or large volume underground methods.

b. Principal Gold Mining Districts

Greenhorn District The district embraces the eastern part of the Greenhorn Mountains and lies partly in Grant County. The deposits are grouped around the site of Greenhorn, approximately 50 miles west of Baker City by way of Whitney townsite. Maps by Ferns and others (1983) and Brooks and others (1983) provide geologic coverage of part of the area. The Bonanza mine in Baker County and Red Boy mine in Grant County have been the dominant lode mines in the district with gold production of about $1,750,000. Among more than two dozen smaller lode mines in the district are the Golden Eagle in Baker County and the Ben Harrison, Pyx, and tempest mines in Grant County. Yield from placer mines in the Greenhorn district has been about $1.75 million. A bucket line dredge was operated on Burnt River above Whitney during 1941-1942 and 1945-1946.

Elkhorn Ridge area (Cracker Creek, Sumpter, Rock Creek, Baker, and part of Cable Cove districts) At least 20 lode mines and prospects have been productive. More than 100 separate gold occurrences have been prospected. The geology of part of the area and the locations of many deposits are shown on maps of the Bourne (Brooks and others, 1982), Mount Ireland (Ferns and others, 1982) and Elkhorn Peak (Ferns and others, 1987) quadrangles. The largest producers were the North Pole-Columbia Lode near Bourne in the Cracker Creek district, and the Baisley-Elkhorn and Highland-Maxwell mines in the Rock Creek district. Total output from lode mines exceeds 500,000 ounces gold and 1,000,000 ounces silver. Most of the gold bearing veins are in the Elkhorn Ridge Argillite near the margin of the Bald Mountain Batholith.

Dredging in the Sumpter Valley during 1913-1924, 1935-1942, and 1945-1954 produced more than 325,000 ounces of gold and 80,000 ounces of silver. Other important placer areas include McCully Fork and Cracker Creek near Sumpter and the Auburn, Miners Creek, and Salmon Creek areas in the Baker district. Nearly all creeks and gulches in these areas were placered extensively in the early days of mining and some are still active on a small scale. Some of the early day placers were described as "enormously rich" but production records are scarce.

Virtue District The Virtue district includes the mines and prospects in the vicinity of Virtue Flat about 10 miles east of Baker City. The largest producers were the Virtue mine (more than $2,000,000 in gold) and the White Swan mine (about $700,000 in gold). The Flagstaff, Emma, Hidden Treasure, Friday, Rachel, and Mabel mines produced less than $200,000 each. The deposits are in rocks of the Elkhorn Ridge Argillite and older gabbro and diorite near the edge of a granodiorite intrusive.

Mormon Basin District The Mormon basin district straddles the Baker-Malheur County line. Gilluly and others (1933) provide a geologic map of the district and descriptions of some of the deposits. Lode mine production is estimated at 125,000-135,000 ounces gold

and 75,000-150,000 ounces silver came mostly from the Rainbow mine. Smaller lode mines include the Sunday Hill, and Humboldt. The deposits occur in rocks of the Burnt River Schist and are associated with the granodiorite stock of Pedro Mountain. Reputedly large production in early days was recovered from gulch and bench placers in Mormon Basin and adjacent Malheur City, Rye Valley and Clarks Creek areas. Parts of Clarks Creek and Burnt River were dredged during 1917-1936.

Weatherby District The Weatherby district is centered about 35 miles southeast of Baker City and encompasses several small lode mines and prospects on both sides of Burnt River. Included are the Gold Ridge, Gold Hill, Gleason, and Little Bonanza mines which worked narrow discontinuous quartz veins mostly in quartz diorite. Geologic map of the Durkee quadrangle (Prostka, 1963) covers the district. The deposits are in rocks of the Burnt River Schist and small granodiorite intrusive bodies.

Cornucopia District This district is near the head of Pine Creek 12 miles north of Halfway in northeastern Baker County. Lode mine production (more than $10,000,000 in gold and silver) has been almost entirely from the Cornucopia mine. The mine contains about 36 miles of underground tunnels and shafts which developed two veins that are about 2,500 feet apart, and where mined, ranged from 3 to 9 feet wide. The veins cut granodiorite of the Cornucopia stock and metamorphosed volcanic rocks of the Clover Creek Greenstone. Both veins are said to continue below the lowest levels on which they were mined. Several smaller veins in the district have been prospected.

Placer mines along Pine Creek below Cornucopia have been sporadically active since the late 1860's and have produced several million dollars in gold. The Bonanza placer mine has been active about six months per year since 1988.

Eagle Creek, Sanger, and Sparta Districts These districts included the upper drainage of Eagle Creek and the adjoining area on the Powder River slope in the vicinity of Sparta, about 40 miles east of Baker City. Lode mine production was dominated by the Sanger mine which produced about $1,500,000 from operations during 1874-1897. Smaller mines in the area include the Basin, Gem, East Eagle, and Macy mines. The Sanger placers produced about $500,000 in gold prior to 1901. Placers near Sparta and along Eagle Creek are said to have been very rich locally.

Connor Creek District This district includes all of the Snake River Canyon area between the mouths of Burnt River near Huntington and Powder River near Richland. Principal lode mines are the Connor Creek mine (total output, about $1,250,000 gold) 3 miles up Connor Creek from the Snake River and the Bay Horse mine (production, about 250,000 ounces silver) a few hundred feet above the Snake River 7 miles below Huntington. The Connor Creek mine is in slaty rocks of the Burnt River Schist. The Bay Horse is in volcanic rocks of the Huntington Formation.

Connor Creek below the Connor Creek lode mine has undergone several different eras of placer mining activity. Production prior to 1914 exceeded $100,000 in gold. Subsequent output may be more than that.

c. Other types of Metallic Minerals found in Baker County

COPPER

Deposits of copper minerals and associated gold and silver are widely scattered in the southern foothills of the Wallowa Mountains northeast of Keating and in the Snake River Canyon north of Oxbow. The deposits occur in volcanic and sedimentary rocks of the Clover Creek Greenstone and Seven Devils Group. Information concerning these deposits is contained in Swartley (1914), Gilluly (1933), DOGAMI (1939), and Brooks and Ramp (1968). The most productive copper mine in the southern Wallowa foothills was the Mother Lode mine on Balm Creek northeast of Keating which produced about one million pounds of copper and 8,000 ounces of gold during 1935-1938. The Iron Dyke Mine on Snake River at Homestead produced 14.4 million pounds of copper, 35,000 ounces of gold and 256,000 ounces of silver between 1915 and 1928. This mine was active again for several years during the 1970's and 1980's.

ANTIMONY

Stibnite and antimony oxide minerals are associated with a quartz vein in gabbro at the Gray Eagle mine in the Virtue district east of Baker City. About 300 tons of antimony metal and some gold have been recovered from ore and concentrates shipped from this occurrence, mainly during World War II. Minor amounts of stibnite also are associated with several gold quartz veins and hot spring related gold deposits in the county.

MANGANESE

Several truck loads of manganese ore have been shipped from deposits in the Elkhorn Ridge Argillite near Pleasant Valley and Whitney and in the Burnt River Schist on Sheep Mountain south of Burnt River canyon. Two small manganese occurrences on the south slope of Dooley Mountain are Tertiary rhyolitic rocks.

TUNGSTEN

The tungsten mineral, scheelite, occurs in the vicinity of Chicken Creek east of Durkee on Pedro Mountain near Rye Valley, and at the Cliff gold prospect in the Virtue district east of Baker City. The Chicken Creek deposits are associated with quartz veins and fracture zones in granodiorite. Occurrences on Pedro Mountain are near the intrusive contact between limestone and granodiorite. At the Cliff mine scheelite occurs in quartz veins in sheared gabbro.

MOLYBDENUM

Molybdenum prospects occur in granitic intrusive rocks in the upper north Powder River

area and in ultramafic igneous rocks near the Record mine southwest of Unity.

2. Industrial Minerals

a. Overview

Over the past several decades, the principle mineral products of Baker County have been industrial material, chiefly cement, limestone, sand and gravel, crushed stone, clay, and volcanic cinders. These resources do not possess th0e emotional appeal of gold and silver, but their production and use have a much greater impact on the economy and social well being of every community.

b. Location of Industrial Minerals

Cement was made at two different plants, both built by Oregon Portland Cement Company. The first, at Lime, was operated during 1923-1979. The second, activated in 1979 and still operating, has a cement making capacity of 500,000 tons per year. Ash Grove Cement West, Inc. became the operating company in 1992.

Limestone deposits are included in several different rock formations in many parts of the County (see Brooks, 1991). The largest deposits are in the Martin Bridge Formation and Nelson Marble. Smaller but significant deposits occur in the Weatherby Formation and the Elkhorn Ridge Argillite. Small limestone lenses are minor constituents of the Clover Creek Greenstone and Huntington Formation.

The Martin Bridge Formation is widely exposed in the Wallowa Mountains (Weis and others, 1976) and in the Snake River canyon near Big Bar (Vallier, 1974). Most of the Martin Bridge limestone exposures in the Wallowas and the Snake River canyon are within the Eagle Cap Wilderness Area or the Hells Canyon National Recreation Area wherein new mine development is prohibited.

The Nelson Marble in Oregon forms a belt up to a mile wide and 30 miles long extending east and northeast from the western part of the Burnt River canyon southwest of Durkee to the Snake River near the mouth of Soda Creek. The Durkee quarry, continuously active since 1954, is the only significant limestone development within this belt. Exposures of the belt where it crosses the upper parts of Fox Creek and Connor Creek in Townships 11 and 12 South, Ranges 44 and 45 east represent the largest undeveloped reserves of good-quality limestone in Oregon outside of the Eagle Cap Wilderness Area. Although reserves are enormous the limestone remains undeveloped because of its distance from major sources of transportation.

Quarries at Lime developed limestone deposits in the Jett Creek Member of the Jurassic

Weatherby Formation. The limestone unit which underlies an area about 3 miles long and up to a mile wide (Brooks, 1979) consists of interbedded calcareous siltstone, siltstone, limestone, and dolomitic limestone. Only small scattered deposits were found to be of sufficient size and purity for use in making cement. Limestone mining ceased in 1965 when costs of producing good quality stone became excessive.

The Marble Creek and Baboon Creek quarry deposits are the largest of many small limestone blocks and lenses in Elkhorn Ridge Argillite in the Elkhorn Ridge area west of Baker City. Limestone from the two quarries was converted to lime at a plant 5 miles north of Baker City. Combined sales totaled 347,675 tons of lime valued at $7,345,000. Several thousand tons of low-grade lime were dumped and remain near the plant site.

Numerous small limestone deposits occur in Elkhorn Ridge Argillite in the low hills between Pleasant Valley and Virtue Flat east of Baker City and in Clover Creek Greenstone in similar terrain northeast of Keating and southeast of Medical Springs. Some of these deposits appear to be good quality limestone, but because of their small size no single deposit is large enough for anything other than local use. Perhaps the combined product of several deposits would be sufficient to sustain a small lime manufacturing plant.

c. Types of Industrial Minerals

LIMESTONE AND ITS PRODUCTS

Limestone is among the world's most versatile and widely used mineral commodities. In the earliest days of Baker County development limestone was burned with wood in small batch-type kilns to make lime for use in making mortar and plaster for building construction. The remains of one of these kilns stands near the old Pleasant Valley school.

Since those early beginnings more than 30,000,000 tons of limestone have been mined from deposits in Baker County, most of it from the quarries and for the uses listed in the following table:

Quarry Name	Yrs. Operated	Production(Tons)	Main Use	Formation Name
Durkee	1954-present	20,000,000	Cement (70%) Lime (30%)	Nelson Marble
Lime	1923-1965	9,020,000	Cement	Weatherby
Marble Creek	1957-1963	275,000	Lime	Elkhorn Ridge Argillite
Baboon Creek	1963-1971	275,000	Lime	Elkhorn Ridge Argillite

BUILDING STONE

Baker City's old, gray stone buildings, including the City Hall, County Courthouse (1905), and Saint Francis Cathedral (1906) are constructed of blocks of volcanic tuff mostly from quarries near Pleasant Valley. Some came from quarries about one mile southeast of Baker City. Largely because of its drab gray color, the stone has not been used for building since the early 1900's. The age of the buildings attests to the weather-resisting quality of the stone. The quarries near Pleasant Valley have large reserves of stone available (Gilluly, 1937).

Granite from a quarry about one mile east of Haines was, for many decades, sold for building and especially monumental purposes. The quarry has not been operated extensively since the 1950s.

RHYOLITE

Rhyolite from quarries high on the south slope of Dooley Mountain has been marketed in several metropolitan areas in the Northwest including Boise, Portland, and Seattle. Its main use has been for facings on both commercial and domestic buildings. The rhyolite is thinly banded and ranges in color from creamy white to pale brown, reddish brown, and near-purple.

SAND, GRAVEL, AND CRUSHED STONE (CONSTRUCTION)

These commodities are among the most important products of Baker County mining even though their value is far overshadowed by the value of cement. Their main uses are as aggregate for concrete and for road paving materials. Most crushed stone produced for use as aggregate or road metal is basalt. Sand, gravel, and basalt are available in many parts of the county but in some areas they must be trucked many miles.

PERLITE

Perlite of good quality and large quantity occur on the south slope of Dooley Mountain. Some of it has been mined for sale in the Portland area. Transportation costs to major market areas have prevented significant development of the deposits.

DIATOMITE

Small diatomite deposits occur in the Keating area. Where exposed, the deposits appear to contain significant amounts of ash and clay. Some of the material might be useful as kitty litter or oil absorbent.

ZEOLITE

Zeolite deposits are wide spread in the low hills bordering Durkee valley on the north and east. None has been mined except for test purposes.

CLAY

Clay is an important ingredient of cement and is produced for that use by Ashgrove Cement West near their plant site southeast of Durkee. Bentonitic clay deposits occur in the Hereford area. Little exploration or testing of the material has been done, so that its quality and quantity are not well known.

SEMIPRECIOUS GEMSTONES

Semiprecious gemstones such as agate, opalite, cryptocrystalline quartz and petrified wood occur in several areas in Baker County.

C. Treatment of Mineral and Aggregate Resources in Baker County

Mining continues to play an important role in the County's economy. The level of activity fluctuates, but it is fair to assume that mining will continue to have importance as an industry. Also, given the interest tourism has generated in Baker County's historic culture, e.g., the Sumpter Dredge State Park, mining ghost towns and industrial tours of active mining operations, the minerals industry can be seen as an offshoot to tourism in the future. Demand for industrial minerals and aggregate materials is difficult to predict; even the Oregon Department of Transportation and the County Public Works Department make no projections of future needs.

1. Surface Mining

Though mining is an important element of the County's economy, few public records documenting the activity are kept. The primary source of information concerning sites is the Department of Geology and Mineral Industries (DOGAMI). Baker County conditional use permit files supplement DOGAMI records by providing more extensive information about some DOGAMI sites and additional sites. Geologists from DOGAMI, the State Highway Department and the industry, as well as Baker County Public Works Department employees are important data sources because of their knowledge of the area's geological history, and familiarity with specific resource sites. Where these data sources remain inadequate to determine the quantity, quality and location of a site, resource owners and landowners have been contacted and/or on-site inspections made.

Data was collected from all the above sources and used to compile the Mineral and Aggregate Inventory (See Appendix IV). Locations of sites are described to the quarter section. More specific siting is used when that information is available. Quantity is described in terms of site acreage and cubic yardage (or tonnage in some cases). Estimates of cubic yardage are not always available, and where available are sometimes not disclosable (ORS 517.900 restricts disclosure of some information contained in a surface mining permit application). To estimate the quantity of rock in a particular site, the Department used the

formula:

> Acreage times depth times 1613, based on a determination of 1613 cubic yards of aggregate per acre.

The inventory also indicates the resource owner, the land owner and the DOGAMI identification number for each site, if that information is available. Sites located on federal land are included to provide a more accurate picture of the relative importance of each site as a supplier to an area, but the County presumes no jurisdiction over such sites.

In 1993, an ad hoc committee comprised of industry representatives, selected members of the Planning Commission, and government officials recommended to the entire Planning Commission that the Commission adopt standards used by the Oregon Department of Transportation as a basis for quality analysis. The Planning Commission adopted the recommendation.

The ad hoc committee recognized that factors other than its intrinsic "quality" influence the relative value of some resources. In particular, market demand and proximity to demand are important non-static factors.

Resource sites included on the inventory are considered to be valuable sources of industrial minerals. They represent sources of mineral and aggregate materials currently being used, and known sites for which a future need may arise. Though some sites are currently closed or inactive, nonetheless, they contain significant reserves. "Closed" and "inactive" are administrative classifications, and do not necessarily mean the resource has been depleted.

The aggregate inventory contains 155 sites. The state and county own 47 of these sites. There is documentation of five additional sites in which Baker County has 99 year leases on privately owned parcels. The Federal Government owns eighteen of the 155 resource sites. The remaining sites are privately owned or information regarding ownership is unavailable. Several of the private resource sites are used primarily by the Oregon Department of Transportation or the County Road Department. A few sites belong to federal or municipal agencies. Most of the remaining sites belong to private individuals or firms. These private sites supply materials such as limestone and bentonite, which have been marketed outside of the County, as well as sand, gravel and rock for local construction. These sites tend to be located closer to urbanized areas than are the state and County road maintenance pits. A number of small sites are used to maintain private access roads.

2. Mining on Patented Claims

The primary metallic resource is gold. Surface mining of metallic minerals includes large and small placer operations and chemical leaching processes. In addition to new

excavations, considerable reworking of old wastes occurs.

The patenting process originated with the Mining Act of 1872, and is currently managed through rules promulgated by the Federal Bureau of Land Management, Department of the Interior. Prior to patenting a claim, an individual must demonstrate a valid discovery and have such validated by a representative of the BLM. The individual patenting must also invest in site improvements. Placer claims are generally twenty to 160 acres in size. Lode claims may be up to 600 feet by 1500 feet, with a 20.64 acre maximum.

Because patented claims are scattered throughout the farm and forest zones of Baker County as well as within inventoried important wildlife habitats, the potential for conflict between mining and other resources exists. Reducing the threat of conflict however, are such factors as remoteness of the mines, existing surface disturbances from historic use, barriers created by terrain and vegetation insuring acceptable separation of uses, and existing regulation dealing with surface activity, reclamation, and degradation of other resources, i.e., air, land, and water quality laws. Additionally, it should be noted that the majority of patented mining claims in Baker County are underground mines known as lode claims. As such, their impact on surface uses is minimal. These claims have co-existed with farming, ranching and residential uses for upwards of a hundred years, mostly in harmony with the environment. Finally, there is some question as to whether the patenting process preempts certain local government zoning regulations.

Based on the historical use of land in Baker County, and because of the uncertainty regarding federal preemption issues, the County determines that patented mining claims are found to be a 3A resource (pursuant to OAR 660-16-000). Their importance relative to other uses is significant to the point of warranting protection from all conflicting uses.

D. Mining and Land Use Regulation

The Oregon Administrative Rules (OAR 660-16-000) create the framework for analyzing uses where significant sites are located in or near areas where conflicting land use occurs. The rules require such analysis, called an Environmental, Social, Economic, and Energy analysis (ESEE), only where conflicts are identified. The following discussion indicates many mineral sites in Baker County are located in resource zones which provide adequate protection for the mineral, forest and agricultural uses. Where sites are located in or near residential development and industrial areas, the ESEE analysis is conducted to indicate the best methods to resolve the conflicts.

The majority of mining sites occur in the resource zones. All known patented claims fall into the Mineral Extraction Zone, where mining is an outright use. Most nonpatented sites included in the Inventory of Mineral and Aggregate Resources fall into the Sumpter Valley

Dredge Tailing Management Area or the Forest and EFU zones, where mining is a conditional use. These operations are regulated by DOGAMI, which issues permits pursuant to an acceptable reclamation plan and bonding. The purpose of the reclamation program is,

> To provide that the usefulness, productivity, and scenic value of all lands and water resources affected by surface mining operations within this state shall receive the greatest practical degree of protection and reclamation necessary for their subsequent use (ORS 517.760(2) (1991)).

The policies and statutory provisions under which DOGAMI regulates mining minimize the detrimental impact such activity might have on subsequent uses of sites in resource zones. Therefore, mining is compatible with other land uses in the Sumpter Valley Dredge Tailing Management Area, the Mineral Extraction, Forest and EFU zones.

In several instances however, mining occurs in other zones, some of which represent potential land use conflicts. Such sites are listed separately in the Technical Information and Inventory Data for Land Use Planning in Baker County (1983, updated 1993). Sites which are in such zones, but are officially closed are not included on this list. Closure implies that the site is in the process of being reclaimed. Reclamation enhances the land's capacity to support the uses allowed by the Zoning Ordinance. Conflicts between mining and other land uses are analyzed on a site by site basis below. The purpose of such analysis is to compare the economic, social, environmental, and energy consequences of mining use with the same consequences of other uses allowed in the zone. From such comparisons, the County has reached conclusions and policies about which uses are preemptive or compatible.

E. The Environmental, Social, Economic and Energy (ESEE) Analysis

1. Surface Mining and the Rural Residential Zone (RR-5)

In Baker County, only one area of surface mining activity occurs in or near residential areas. The ESEE analysis treated this area as one site:

SITE: Twp. 8S, Rg. 39E, Sec. 19, 20, 29

Quarries in Area:			**Zoning**
-Butler Pit	8 39 19D	TL: 300, 400	Surface Mining
-Marc Sackos	8 39 20	TL: 800	Rural Residential
-Austin	8 39 29	TL: 1200	Rural Residential
-Zimmer	8 39 29	TL: 1300	Surface Mining
-Schuetz Pit	8 39 29	TL: 1400	Surface Mining

These parcels are being considered as one significant site in Baker County due to the quality of resource in that area and the conflict of residential development which affects each parcel.

Adjacent Land Use: Rural Residential (RR-5)

Conflicts: Increased residential development on adjacent land

Road Accessibility: Paved, County Roads; Pocahontas and Polly

Quality: The parcels above are known to have high quality resources unique to Baker County. Butler Pit has high quality material which meets the State's requirements for the soundness, degradation, and abrasion test, which are available in the Butler Pit file. Other parcels in the area are currently in operation for extraction activities, however 1993 quality testing results are not available at this time.

Quantity: The resources found in this area are of limited quantity elsewhere within Baker County. Butler Pit is the largest resource area and is documented to contain a minimum of 360,000 cubic yards. Lyle Chadwick, the Baker County Road Superintendent, estimated Butler Pit may have as much as 4,000,000 cubic yards.

Significance: This area provides both a large quantity and high quality of resource for Baker County. The resource found in this area is unique and limited in the County. Butler Pit is the Baker County Road Department's primary source of road maintenance materials. The Schuetz Pit, a Baker County pit, is currently inactive, but Lyle Chadwick, the Baker County Road Superintendent, indicates that it may contain material which will be needed in the future. These quarries are centrally located in Baker County to provide economic accessibility to high maintenance roads. This area is extremely valuable to Baker County and needs to be protected from conflicting uses.

Recommendations: Increased residential development may lead to an increase in complaints in this area. Buffering of adjacent land, such as berms, trees, and fencing may be essential. Additionally, the gravel pits may need to introduce quick growing shrubs or trees such as Russian Olive Poplars, to separate the extraction activity from the residential use. Water is currently used to control the dust in the extraction areas. Staff encourages buffering with quick growing trees surrounding these extraction areas to provide both visual screening and dust control. Butler Pit, Schuetz Pit, and the Zimmer Pit are currently zoned Surface Mining; however a buffer zone of 500-1,000 feet, such as found in the Sumpter Valley Dredge Tailings, can provide owners and prospective purchasers with information and set standards.

ASSESSMENT PURPOSE ONLY

BAKER COUNTY

1" = 400'

8 39 29

"AUSTIN, ZIMMER, & SCHUETZ PITS"
8-39-29-1200, 1300, 1400

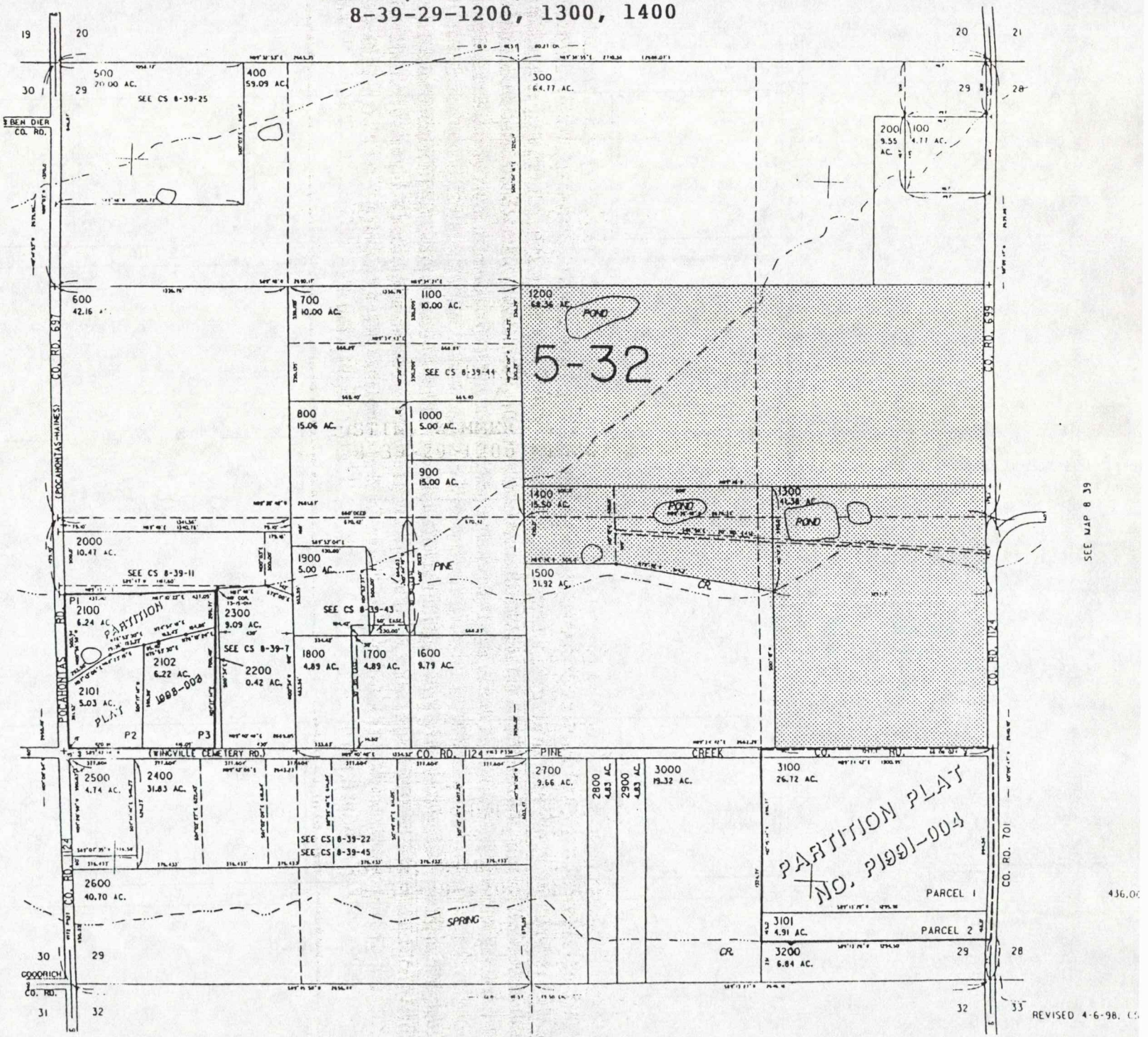
SCALE 1:9600

400 0 400 800

FEET

0 .10 .20 .40

KILOMETER



5-32

REVISED 4-6-98, CS

V-81

8 39 29

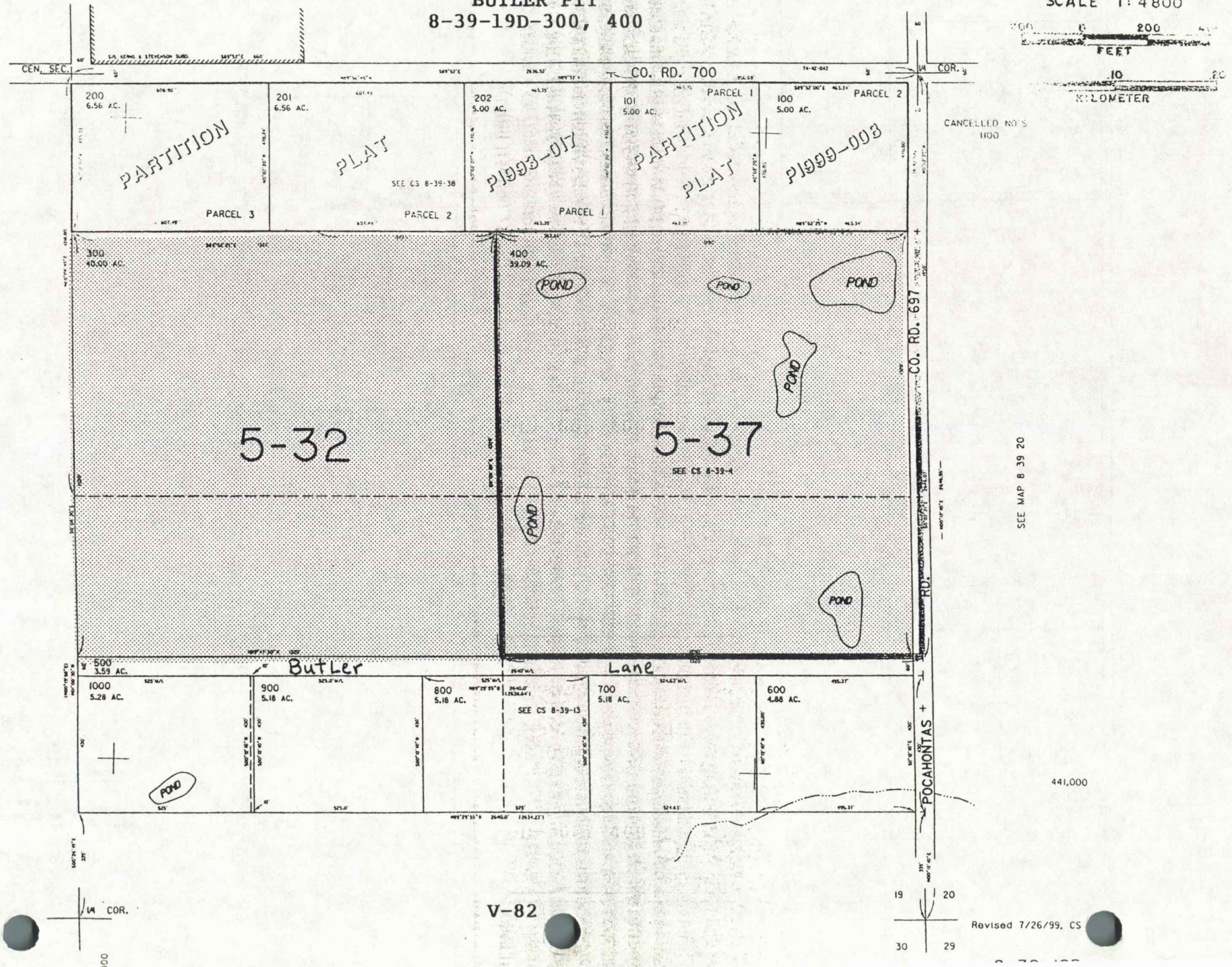
ASSESSMENT PURPOSE ONLY

SE1/4 SEC.19 T.8S. R.39E. W.M.
BAKER COUNTY
1" = 200'

8 39 19D
8 39 19D

"BUTLER PIT"
8-39-19D-300, 400

SCALE 1:4800
0 200 400 FEET
0 .10 .20 KILOMETER



V-82

Revised 7/26/99, CS

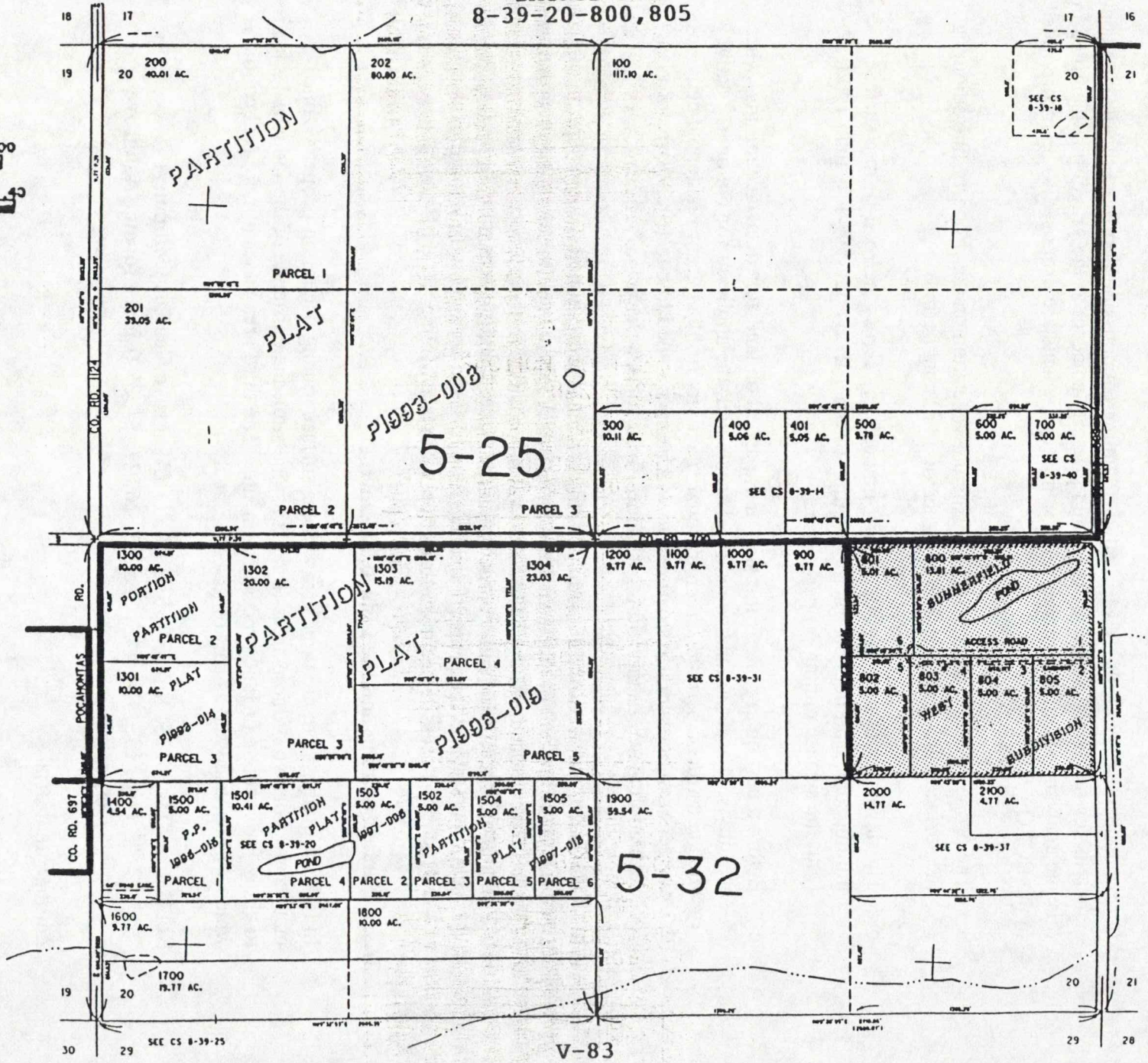
THIS MAP WAS PREPARED FOR ASSESSMENT PURPOSE ONLY

SECTION 20 T.8S. R.39E. W.M.
BAKER COUNTY
1" = 400'

8 39 20

"SACKOS PIT"
8-39-20-800,805

SCALE 1:9600
400 0 400 800
FEET
0 .20 .40
KILOMETER



V-83

REVISED 1-7-98, C

On November 10, 1993, the Baker County Planning Commission approved the development standards for residential zoned property and property adjacent to the gravel pits identified in this site analysis. The following development requirements are proposed to be incorporated in the BCZO:

a. The property owner shall plant fast growing vegetation on the property line adjoining the surface mining site prior to issuance of a building permit.

b. The developer of property adjacent or immediately across the road from a surface mining zone shall not construct a dwelling or other living quarters less than 100 feet from the surface mining property line.

c. Before a new quarry site is initiated or expanded on land zoned surface mining, where the site is adjacent to land zoned rural residential, the applicant for the quarry activity shall construct a berm to screen the quarry activity from adjacent residential activities. Owners and operators of existing pits will be encouraged to construct berms or plant vegetation to screen the mining activities from adjacent uses.

d. For lands within a 1/4 mile radius of the Surface Mining Zoned quarry sites an Acknowledgement of Adjacent Land Use (AALU) form shall be filed and recorded with the property deed. The AALU form will be provided to the property owner by the Planning Department and recorded with the Baker County Clerk. By filing this acknowledgement the property owner recognizes the activity and the right of the extraction process to occur on lands zoned Surface Mining.

2. **Surface Mining and the Industrial Zone**

In Baker County, there are three areas where surface mining occurs on property zoned industrial. For two of these areas (treated as one site), the existence of the industrial zone is to allow for concrete or lime processing on site. The third area poses a more real conflict, which will be discussed as part of its ESEE analysis.

SITE: **Twp. 12S, Rg. 43E, Sec. 10, 11 (Ashgrove Cement Company)**
Twp. 13S, Rg. 44E, Sec. 25, 26, 27, 34, 35 (Lime - former Ashgrove Cement Co.)

Zoning: Industrial

Adjacent Land Use: Exclusive Farm Use

Conflict: Surface mining in industrial zone. Theoretically, another industrial use could be developed on the property, which would limit access to the quarry/manufacturing site.

Road Accessibility: The current Ashgrove Cement Company site is located west of Interstate 84. Six miles south of Ashgrove is Lime, the abandoned cement manufacturing site. Lime is east of I-84.

Quality: Resource of limestone and shale.

Quantity: Large ridge lines of lime.

Significance: Both locations described in this site are unique because the consequence of protecting the resource is the same as protecting the adjacent industrial uses. Raw materials extraction does not conflict with industrial land use here because the only existing industry is one which processes those very materials. Proximity to the material source is vital to Ash Grove Cement's operation, and such materials should remain as accessible as possible.

SITE: Twp. 9S, Rg. 40E, Sec. 9, 10

Quarries in area:		**Zoning**
-Superior Equipment	TL: 1800	Industrial
-Triple C	TL: 300, 400	Industrial
-Oregon State Hwy (ODOT)	TL: 700	Industrial stockpile site

Adjacent Land Use: West and South - UGB Baker City Commercial; East - EFU; North - Rural Residential (RR-5)

Conflicts: Heavy industry and increased commercial development on adjacent land. The opening of the Oregon Trail Interpretive Center, located 3 miles east of Baker City off State Highway 86, created a focus on tourism. The intersection of Best Frontage Road and Hwy 86 is at the northeast corner of the above listed site, and is used for access to the quarry areas. This creates conflicts between recreational passenger car traffic, as the only official access to the Interpretive Center off Interstate 84, is through an intersection at Interstate 84 and State Highway 86.

During the first eighteen months of the Center's opening almost 540,000 people have visited the facility, 338,000 since January 1, 1993 alone. The traffic count at exit 302 has increased since the May 1992 opening and is expected to increase in the future. The most recent ADT (average daily traffic) numbers available are from ODOT and are summarized below.

June 1993 - Hwy 86 four miles west of Richland

a. 955 cars per day

June 16-23, 1993 - Hwy 86 near the BLM Interpretive Center

a. Monday - Friday 1,143 cars per day
b. Saturday - Sunday 1,307 cars per day

I-84 is averaged at 6,000 cars per day (at an average of 1,000 cars per day the Center pulls 16.6% of the interstate traffic)

At this time the ADT numbers do not indicate an immediate problem, but future development will definitely mandate action. Due to the increase of tourist traffic, commercially zoned property is in demand. This is reflected by a 1991 zone change of land west of Best Frontage Road and east of I-84, from Light Industry to Tourist Commercial and General Commercial. Additionally, the intersection of Best Frontage Road, Hwy 86 and I-84 is beginning to have traffic flow pattern problems during peak tourist seasons. With increased interest in developing commercial activity at this location, commercial congestion, traffic, and tourist related activities will further encroach on the extraction activities. Greater pressure will be placed on this site to rezone to commercial in the near future. Concern for commercial tourist amenities and visual appeal may cause the industry to close or may force relocation of the current operations.

Road Accessibility: Hwy 86, Best Frontage Road, Atwood Road

Quantity: Triple C is estimated to contain approximately 1,800,000 cubic yards of quality material. This is a substantial amount of resource for Baker County. Other parcels in the area are currently in operation for extraction activities, however 1993 quantities are not available at this time.

Quality: According to information located in the Triple C Aggregate Inventory file, the site is documented to have high quality material meeting the State's requirements for the Sodium Sulfate (soundness), Oregon Air Degradation, and LA Ratler (abrasion) tests.

Significance: This area provides both a large quantity and a high quality of resource to Baker County. These quarries are centrally located and economically accessible to local markets. These parcels represent important and accessible sources of gravel, asphalt, and cement for the Baker County area.

Recommendations: Careful evaluation of this site is necessary. Since these industrial sites are located on the scenic route to the Interpretive Center, buffering with trees may help to provide some form of visual screening for those traveling on Hwy 86. In order to prevent further congestion at the intersection of Best Frontage Road, Hwy 86, and I-84, rerouting of the Frontage road has been suggested by ODOT staff. A second step may be an alternative truck route for aggregate trucks. Carefully designed truck access and routes may alleviate

3. **Mineral Extraction and Residential Uses**

a. **Location:** **Twp. 09S, Rg. 37E, Sec. 20, Tax Lot 1600**

Zoning: Mineral Extraction

Adjacent Zonings: Rural Residential (RR-5), Timber-Grazing (TG)

Conflict: Residential uses

Road Accessibility: Cracker Creek Road (Bourne Road), a County Road

Quality and Quantity: The gold deposit in this area is of both considerable quality and quantity, which is evidenced by the existing mineral patent on the subject property, as well as both current and historical mining activity in the area. Other parcels in the vicinity are currently in operation for extraction activities.

Significance: The quality and quantity of the gold resource was found to be significant and has been added to the list of significant mineral resource sites.

Conflicting Uses: Complaints from existing and future residential uses were identified as being in conflict with the mining site. Complaints can include noise, air quality, negative effects on property values, fire potential and weed management/reclamation.

Economic, Social, Environmental and Energy Analysis: An economic, social, environmental and energy analysis was conducted within the impact area for potential impacts surrounding residential uses may have upon the mining operation.

Environmental, Social and Energy - No existing or potential environmental, social, or energy impacts from conflicting uses were identified.

Economic - Existing and potential economic impacts from conflicting uses were identified as complaints from the surrounding residentially-zoned properties against normal operations of the mine, which would require mine operators to expend energy, time and money in order to contest complaints.

An ESEE analysis was also conducted within the impact area for the potential impacts mining activity may have on the value of surrounding residential properties. The degree of adverse effect on property values within the impact area was rated on a scale from 1 to 5 (0 = no effect, 5 = greatest effect) and is detailed below:

Environment – Rated 2. The potential for impact of the mining operation on air quality, noise, dust, reclamation, wetland preservation and erosion exists, all of which have the potential to impact valuation of property.

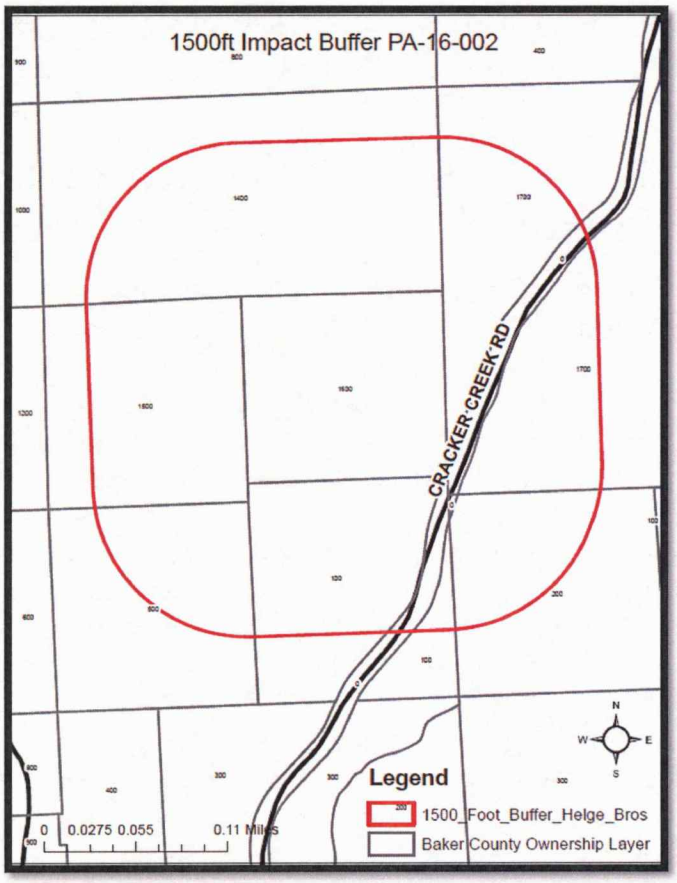
Social – Rated 3. The potential for impact of the mining operation on the use and enjoyment of neighboring properties exists; however, no measureable social impact is brought about by the mining operation.

Economic – Rated 2. The potential for impact of the mining operation on the value of neighboring properties exists, namely upon use and enjoyment of the land.

Energy – Rated 0. No evidence of potential impact on energy exists.

Mitigation and Policies: The mining site was determined to be a significant resource. The resource site and the conflicting residential uses were determined to be important when compared to each other. Based on the economic, social, environmental and energy analysis, it was determined that the conflicting residential uses shall be allowed in a limited way that protects the resource site to a reasonable extent.

An impact area was adopted in which development standards are imposed to create a minimum physical distance between the mining operation and residential uses in an effort to decrease potential conflicts between property owners. The following map, depicting the ±1,500 foot impact area immediately surrounding Tax Lot 1600 of Map 09s37e20 (Ref #13981), is implemented as the Mining Activity Buffer Overlay Zone in the Baker County Zoning Ordinance.



Conflicts from Residential Uses to Mining: Potential complaints from property owners of residential properties near the subject property were identified as a conflicting use with the resource site. In an effort to mitigate this potential conflict, all future residential development of properties under Baker County jurisdiction which are located within the identified impact area will commence only after an Acknowledgement of Mining Activity has been signed by the property owner, is on file with the Baker County Planning Department and has been recorded in the Baker County Clerk's Office. This acknowledgement is designed to fully disclose the presence

of the significant mineral resource site and protect the resource site from potential complaints from property owners of nearby residentially-zoned property.

Conflicts from Mining to Residential Uses: Potential impacts upon residentially-zoned properties within the impact zone have been identified and mitigated for below:

Noise – Noise from the mining operation may impact the use and enjoyment of residentially-zoned properties. In an effort to mitigate for potential noise, the hours of operation may not exceed 8am to dusk. Noise-reducing buffers, mufflers and quiet generators must be used for mining equipment.

Dust – Dust from the mining operation may impact air quality, use and enjoyment of residentially-zoned properties. In an effort to mitigate for potential impacts to air quality, all roads shall be rocked and wet as necessary, and as would be consistent with any requirements of DOGAMI or MSHA.

Fire – Increased fire potential due to the mining operation may exist. In an effort to mitigate for increased fire potential, any mine operator on the site is required to provide clear access to the parcel, clear vegetation from the mine site as needed before mining, buffer around structures, and the install an on-site emergency water source.

Weeds/Reclamation – The spread of noxious weeds due to the disturbance of ground associated with mining the operation may impact nearby properties. In an effort to mitigate for the potential spread of weeds from the mining operation, the stockpiling topsoil and annual seeding with certified noxious weed-free seed is required in as would be consistent with any requirements of DOGAMI. Without full reclamation of the mining site, nearby properties may be negatively impacted. In an effort to mitigate for this potential impact, only an ½ acre of land may be open for mining at any given time while on-going reclamation takes place, including grading, restoring normal contours to prevent erosion, and re-establishing vegetation and animal habitat.

In an effort to further mitigate for the aforementioned conflicts, adherence to an Operation & Reclamation Plan is required as part of a Site Design Review application. The following setback distances shall be imposed on the mine site and mine processing operation:

i. a 50 foot setback to all property lines between the subject property and Tax Lot 1400 (of Map 09s37e20) to the north;
ii. a 25 foot setback to all federally-managed lands; and
iii. a 25 foot setback to Spaulding Gulch

Property value – Concerns were raised about noise, air quality, fire, weeds and reclamation of the mining operation impacting use and enjoyment of residentially-zoned properties. In an effort to mitigate for potential impact, adherence to an Operation & Reclamation Plan is required, including implementation of all required setbacks mitigation efforts and final reclamation procedures. An Acknowledgement of Mining Activity has been designed to fully disclose the presence of the significant mineral resource and protect the resource site from potential complaints from property owners of nearby residentially-zoned property.

b. SITE: Twp. 09S, Rg. 37E, Sec. 29b TL 100

Conflicting Uses: Conflicting uses within the 1500 foot impact area have been identified as homes located on adjacent properties zoned Rural Residential (RR-5) and traffic on Bourne Road.

Fire: Fire is a concern. As Tax Lot 100 is located within the Powder River Rural Fire Protection District, coordination of mining activities with said department shall be required.

Road: As the mining operation includes crossing Bourne Road (County Road 904), coordination with the Baker County Road Master shall be required in order to determine appropriate measures for traffic control, road maintenance and signage, especially in regards to safety during holidays and other major events. These requirements shall be left to the Road Master's discretion.

Noise: Due to the proximity of Tax Lot 100 to properties zoned Rural Residential (RR-5), noise is a concern. As such, all mining operations and processing of materials shall occur during daylight hours.

Weeds: Land disturbance on Tax Lot 100 may cause weeds to spread to adjacent property owners. Coordination with the Baker County Weed Department shall be required to mitigate the spread of noxious weeds.

Permitting: A copy of the operating plan and all permits obtained shall be kept on file in the Baker County Planning Department.

Once the mining site has been reclaimed in accordance with the policies of the Comprehensive Plan, the post-mining zoning for this site shall be Rural Residential within the Sumpter Valley Overlay. This zone change must be initiated by a request for a Plan Amendment.

c. SITE: Twp. 09S, Rg. 37E, Sec. 29, Tax Lot 400

Zoning: Mineral Extraction

Adjacent Zonings: Rural Residential (RR-5), Timber-Grazing (TG), City of Sumpter Zoning (R, IR, RFE)

Conflict: None identified

Road Accessibility: Cracker Creek Road (Bourne Road), a County Road

Quality and Quantity: The gold deposit in this area is of both considerable quality and quantity, which is evidenced by the existing mineral patents on the subject property, as well as both current and historical mining activity in the area. Other parcels in the vicinity are currently in operation for extraction activities.

Significance: The quality and quantity of the gold resource was found to be significant and has been added to the list of significant mineral resource sites.

Conflicting Uses: No existing or future uses were identified as being in conflict with the mining site.

Economic, Social, Environmental and Energy(ESEE) Analysis:
An ESEE analysis was conducted within 1,500 feet of the boundaries of the subject property to identify the potential impacts mining activity may have on surrounding residential properties. The degree of adverse effect on residential properties within this area was rated on a scale from 1 to 5 (0 = no effect, 5 = greatest effect) and is detailed below:

Environment – Rated 2. The potential for impact of the mining operation on air quality, noise, dust, reclamation, wetland preservation and erosion exists, all of which have the potential to impact surrounding valuation of properties.

Social – Rated 3. The potential for impact of the mining operation on the use and enjoyment of neighboring properties exists; however, no measureable social impact is brought about by the mining operation.

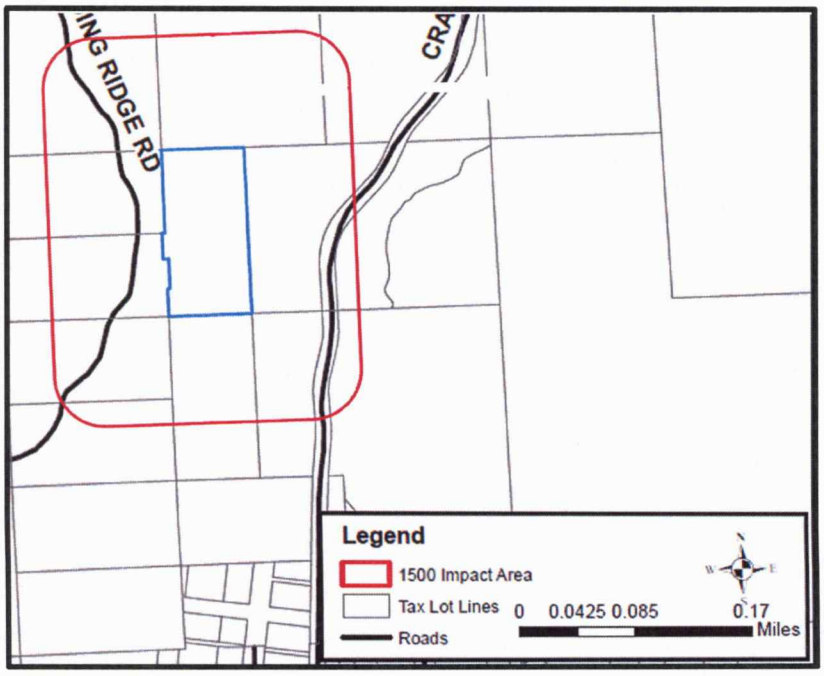
Economic – Rated 2. The potential for impact of the mining operation on the value of neighboring properties exists, namely upon use and enjoyment of the land.

Energy – Rated 0. No evidence of potential impact on energy exists.

An ESEE analysis was not conducted within this area for the evaluation of potential impacts of identified conflicting uses on the mining operation, as no conflicting uses were identified on the mining operation.

Mitigation and Policies: The following map is included in the Baker County Zoning Ordinance and depicts those properties to which further mitigation efforts apply.

Impact Area:



Conflicts from Residential Uses to Mining: No existing or future uses were identified as being in conflict with the mining site.

Conflicts from Mining to Residential Uses: Potential impacts upon residentially-zoned properties within the impact zone have been identified and mitigated for below:

Noise – Noise from the mining operation may impact the use and enjoyment of residentially-zoned properties. In an effort to mitigate for potential noise, the hours of operation may not exceed 8am to dusk. Noise-reducing buffers, mufflers and quiet generators must be used for mining equipment.

Dust – Dust from the mining operation may impact air quality, use and enjoyment of residentially-zoned properties. In an effort to mitigate for potential impacts to air quality, all roads shall be rocked and wet as necessary, and as would be consistent with any requirements of DOGAMI or MSHA.

Fire – Increased fire potential due to the mining operation may exist. In an effort to mitigate for increased fire potential, any mine operator on the site is required to provide clear access to the parcel, clear vegetation from the mine site as needed before mining, buffer around structures, and install an on-site emergency water source.

Weeds/Reclamation – The spread of noxious weeds due to the disturbance of ground associated with mining the operation may impact nearby properties. In an effort to mitigate for the potential spread of weeds from the mining operation, the stockpiling topsoil and annual seeding with certified noxious weed-free seed is required in as would be consistent with any requirements of DOGAMI. Without full reclamation of the mining site, nearby properties may be negatively impacted. In an effort to mitigate for this potential impact, reclamation will take place, including grading, restoration of normal contours to prevent erosion, and re-establishment of vegetation and animal habitat.

In an effort to further mitigate for the aforementioned conflicts, adherence to an Operation & Reclamation Plan is required as part of a Site Design Review application. The following setback distances shall be imposed on the mine site and mine processing operation:

i. a 50 foot setback to all property lines between the subject property and Tax Lot 1400 (of Map 09s37e20) to the north;
ii. a 25 foot setback to all federally-managed lands; and
iii. a 25 foot setback to Spaulding Gulch

Property value – Concerns were raised about noise, air quality, fire, weeds and reclamation of the mining operation impacting use and enjoyment of residentially-zoned properties. In an effort to mitigate for potential impact, adherence to an Operation & Reclamation Plan is required as part of a Site Design Review application, including implementation of all required setbacks mitigation efforts and final reclamation procedures.

d. Location: **Twp. 09S, Rg. 37E, Sec. 29b, Tax Lot 500**

Zoning: Mineral Extraction

Adjacent Zonings: Rural Residential (RR-5), Mineral Extraction (ME)

Conflict: Residential uses

Road Accessibility: Cracker Creek Road (Bourne Road), a County Road
Spaulding Ridge Road, a County Road

Quality and Quantity: The gold deposit in this area is of both considerable quality and quantity, which is evidenced by the existing mineral patent on the subject property, as well as both current and historical mining activity in the area. Other parcels in the vicinity are currently in operation for extraction activities.

Significance: Based in part on the mineral patent, the quality and quantity of the gold resource was found to be significant and has been added to the list of significant mineral resource sites.

Conflicting Uses: None identified

Economic, Social, Environmental and Energy Analysis: An economic, social, environmental and energy analysis was conducted within the impact area for potential impacts surrounding residential uses may have upon the mining operation.

Environmental, Social and Energy - No existing or potential environmental, social, economic or energy impacts from conflicting uses were identified.

An ESEE analysis was also conducted within the impact area for the potential impacts mining activity may have on the value of surrounding residential properties.

Environmental, Social and Energy - No existing or potential environmental, social, economic or energy impacts upon conflicting uses were identified.

Mitigation and Policies: None required.

Impact Area: A ±1,500 foot impact area was selected to analyze conflicts between the proposed mining use and conflicting uses.

Conflicts from Residential Uses to Mining: No existing or potential impacts from conflicting uses were identified.

Conflicts from Mining to Residential Uses: No existing or potential impacts from the proposed mining operation were identified.

the conflicts with tourist traffic. The industrial zone could instead be accessed at the intersection of Best Frontage Road and Atwood/Campbell during times of high volume tourist traffic. Prior to additional development or commercial zone changes, a community task force should be established to resolve or mitigate these issues. This committee should include ODOT staff, the City of Baker Public Works Director, Planning Directors, City Planning Commission, County Planning Commission, County Public Works Director, BLM Interpretive Center Director, and other related agencies to ensure proper consideration of conflicting development priorities.

F. Mineral and Aggregate Resources Findings

1. The governing body finds that the history of Baker County is inextricably bound to the development and use of its mineral resources.

2. The governing body finds that the preservation of extraction sites will encourage economic development and preserve infrastructure.

3. The governing body finds that the preservation of extraction activities will help implement its Regional Strategies Program to promote tourism. Locally, the Sumpter Dredge has become the centerpiece of a state park. The mining tailings in the same area have become a tourist attraction and special wildlife habitat. In other areas of the county, mining operations give tours of facilities to educate the public about modern mining and reclamation practices.

4. The governing body finds that it is in the best interests of the people of Baker County to allow federal, state and local governmental bodies to extract material in sufficient quantities to maintain local infrastructure, whether the extraction site has been deemed significant according to the established criteria or not.

5. The governing body accepts the ESEE analysis as the determining development review for those sites where conflicts have been identified.

6. The governing body finds that the most efficient, and environmentally sound means to encourage extraction activities is to expand existing pits in preference to opening new ones.

7. The governing body finds that Baker County is in a unique position among Oregon Counties in its metallic mineral resources, and that those resources should be recognized as a vital part of the social and economic fabric of the community. Further, the process of acquiring land for mining purposes through patenting limits the restrictions the County may place on those patented mining claims.

8. The governing body finds that industrial minerals such as limestone are another vital resource, and extraction activities to produce cement is another essential element of the economy.

9. The governing body finds that for those sites for which a determination of significance has yet to be made, the agricultural and forest zoning will preserve the site for extraction activities, while allowing the site to be put to other uses, until such time as the extraction of the resource becomes necessary.

10. "Mineral and aggregate resources" include any naturally occurring inorganic mineral of economic quality and quantity, including such minerals of organic derivation.

    a. Maps prepared by the Bureau of Land Management (BLM) displaying public/private ownership patterns including mineral resource ownership are used in the Baker County Planning Office to identify public or private ownership of surface and subsurface rights. Further information regarding private ownership of mineral rights is secured from County records in the Assessor's and Clerk's office or from other BLM records.

    b. Those lands deeded as patented mining claims are inventoried and mapped. Such lands will be recognized by the county for continued, outright use for mining and will be zoned in a Mineral Extraction (ME) Zone. These sites are 3A sites pursuant to OAR 660-16-000.

    c. Mining is subject to the public hearing process in the other resource zones of Baker County to determine its compatibility with the primary uses. This is true of the Timber/Grazing (TG) zone, Farm (EFU) zone, and The Sumpter Valley Management Area (SVMA) zone. These sites then would all be considered 3C sites pursuant to OAR 660-16-000.

    d. Mining of aggregate in residential areas has been inventoried, mapped and evaluated. Three sites have been given 3C status, pursuant to OAR 660-16-000, and a protective zone designation, known as a Surface Mining (SM) Zone, will be implemented for these sites.

    e. The historical use of land in a portion of Sumpter Valley and the resulting disturbance of the mined area still unreclaimed have prompted the creation of an overlay zone in a residentially zoned exception area. Within this overlay zone, further mining of previously mined land shall be allowed as an outright use.

    f. Because of the relationship between mineral extraction and the industries located within certain industrial zones, the county finds that the Industrial (I) Zone is adequate protection for certain mineral resources. These are sites of a 3B nature pursuant to

OAR 660-16-000.

G. Mineral and Aggregate Resources Protection Policies

1. The County shall protect significant gravel and mineral resources consistent with Statewide Planning Goal 5 and Oregon Administrative Rules Chapter 660, Division 16.

2. The County shall maintain an inventory of gravel and mineral resource sites. The comprehensive plan inventory shall comprise three parts:

   a. A list of "significant sites" identified through the Goal 5 process as resources that the County will protect from conflicting uses;

   b. A list of "potential sites" for which information about the location, quality, and quantity of a resource site is not adequate to allow a determination of significance;

   c. A list of "other sites" for which information about the location, quality, and quantity of a resource site indicates that the site is not a significant resource.

3. The County shall identify the location of a gravel or mineral resource as the site of a recoverable source of material. A resource site may include all or portions of a parcel, and may include contiguous parcels in different ownerships. The County will not treat a site irrevocably committed to land uses incompatible with surface mining as a significant resource.

4. The County will consider gravel resources significant if the resource meets Oregon Department of Transportation aggregate specifications and the site contains a minimum of 100,000 cubic yards of minable reserves.

5. Because municipal, county or state government agencies have acquired material source sites for maintaining the public road system, and such sites form a network of statewide importance, the county shall consider these sites significant.

6. The County will judge the significance of nongravel mineral resources on a case-by-case basis. Resources shall be judged by the commercial or industrial value of the resource, and the relative quality and relative abundance of the resource within at least the county.

7. The County shall allow continued mining at existing significant resource sites. Expansion beyond the limits of an existing site shall comply with county zoning

regulations.

8. The County shall review applications for extraction to implement the policy to expand existing commercial gravel pits in preference to creating new pits.

9. The scope of an existing or "grandfathered" surface mining operation shall be established by:

   a. Authorization by a county land use approval; or

   b. The extent of the area disturbed by mining or processing on February 28, 1974; or

   c. The continuous pursuit of a specific mining plan by an operator for not less than five years.

10. The County will protect the right to continue an existing surface mining operation. A decision whether to protect the site from additional conflicts shall be based on the analysis of economic, social, environmental and energy (ESEE) consequences of conflict. The ESEE analysis for existing sites shall only consider the consequences of potential conflicts with mining activities, and the consequences of mine expansion on existing or potential conflicting uses.

11. The County will not protect resources on the "other sites" inventory from conflicting uses.

12. For sites on the "potential sites" inventory, the County shall review available information about gravel and mineral resources, and if the information is adequate, determine the site to be significant when one of the following conditions exists:

   a. As part of the next scheduled periodic review; or

   b. When a landowner or operator submits information concerning the potential significance of a resource site and requests a comprehensive plan amendment.

13. For each site determined to be significant, the County shall complete the remainder of the Goal 5 process of identifying conflicting uses, analyzing the ESEE consequences of the conflicting use(s), and designating a level of protection from conflicting uses. If the final decision concerning the site is to preserve fully or partially protect the resource from conflicting uses, the County shall zone the site appropriately.

14. Conflicts with other natural resource values shall not be the basis for mining

restrictions unless the County has included the conflicting resource on the inventory of significant Goal 5 resources, and has adopted a resource protection program.

15. To approve surface mining at a site zoned for exclusive farm or forestry use, the County shall find, as part of the ESEE analysis, that the proposed activity will not:

    a. force a significant change in, or significantly increase the cost of, accepted farming or forestry practices on surrounding lands, and

    b. will not significantly increase fire hazard or significantly increase fire suppression costs or significantly increase risks to fire suppression personnel.

    This analysis shall be conducted as a part of a public hearing for a conditional use permit for mineral extraction activities occurring. These criteria may be satisfied through imposition of clear and objective conditions.

16. Mining and processing of gravel and mineral materials may only be allowed at sites included on the "other sites" inventory, "potential sites" or "significant sites" inventory.

    a. Mining at sites on the "other sites" inventory may be allowed by a conditional use permit.

    b. Mining at sites on the "potential" or "significant" sites inventories may only be permitted in accordance with applicable provisions of the Baker County Zoning and Subdivision Ordinance.

17. The County shall not independently apply its ordinance provisions regarding mineral and aggregate resources to land within another county, or within a city or its urban growth boundary. The County shall encourage protection of significant sites through cooperative agreements with another county or a city where the resource or its impact area extends across jurisdictional boundaries.

18. The County shall require increased setbacks, insulation, screening, or similar measures as conditions of approval for any new conflicting use within an impact area surrounding a gravel or mineral resource site when such measures are necessary to resolve conflicts identified in a site-specific Goal 5 analysis.

19. The County shall impose conditions on surface mining when necessary to lessen conflicts identified as part of a site-specific Goal 5 analysis. Where such conditions conflict with comprehensive plan and zoning ordinance criteria/standards, the conditions developed through the Goal 5 process shall control.

20. As part of the Goal 5 process to determine the amount of protection given a significant gravel and mineral resource site, the County shall determine the appropriate post-mining use of the site.

21. The County recognizes the jurisdiction of the Department of Geology and Mineral Industries (DOGAMI) over mined land reclamation pursuant to ORS 517.750 to 517.900 and the rules adopted thereunder.

22. Unless specifically determined on a case-by-case basis, it shall be the policy of the County, pursuant to ORS 517.830(3), to request that DOGAMI delay its final decision on approval of a reclamation plan and issuance of an operating permit until the County decides all comprehensive plan amendments or site plan approvals.

23. No surface mining or processing activity, as defined by the zoning ordinance, shall begin without land use approval from the County, and approval of a reclamation plan and issuance of an operating permit by DOGAMI.

24. The County shall not rezone land from Surface Mining (SM) or Mineral Extraction (ME) until the gravel or mineral resource is depleted, and the site has been reclaimed. Conversion of industrially-zoned aggregate and mineral sites to new industrial uses shall only be allowed if the ability to extract the aggregate and mineral resource is not jeopardized.

25. Mining upon patented mining claims within the Mineral Extraction Zone (ME) shall be an outright use.

26. Mining of previously mined land within the Sumpter Valley Overlay Zone (SVO) shall be an outright use.

27. Gravel pits inventoried as significant resources, which do not conform to the grandfathering clause described in Policy Number 9, shall be protected by the application of a Surface Mining Zone (SM).

28. To allow for small scale mineral exploration, the governing body has determined that a conditional use permit for exploration, extraction and processing will be necessary only after DOGAMI permitting thresholds have been reached. Exploration or small scale mining activities which do not reach those thresholds have a marginal impact on land use, as long as the operator has complied with other applicable laws.

29. Conversion of industrially-zoned aggregate and mineral sites to new industrial uses shall only be allowed if the aggregate and mineral resource is not jeopardized.

1982 SURFACE MINING PERMITS

On the next several pages are listed the metallic and non-metallic resources in Baker County along with a list of resources that are potential conflicts. This project was completed with the help of the Blue Mountain Intergoverment Council and a HUD 701 grant.

POTENTIAL CONFLICTS

SITE NO.	LOCATION ¼ SECTION	SECTION	TOWNSHIP	RANGE	RESOURCE	CONFLICT
53	Southeast	19	8	39	Gravel	RR-5
55	Southeast	29	8	39	Gravel	RR-5
56	Southeast	29	8	39	Gravel	RR-5
69	Southwest	10	7	40	Gravel	Heavy Industry
71	Southwest	10	9	40	Gravel	Heavy Industry
97		10, 11, 14, 15, 16	12	43	Limestone	Heavy Industry
105		25, 26, 27, 34, 35	13	44	Limestone	Heavy Industry

METALLIC

NO.	¼	SEC.	TWP.	RGE.	RES.[1]	ACRES	YDS. (000)	STATUS	RESOURCE OWNER	LAND OWNER	DOGAMI NUMBER	COMMENTS
1	SE	2	10	36	Au	2			Mark Hemstreet	Private	01-0111	Mined prior to 1972
2		10, 11, 14, 23-25	11	36	Au	10			Progress Minerals	USFS	01-0116	Site is along Burnt River
3	NE	4	10	39	Au	2		Closed	Henry Williams	USFS	01-0094	
4	N½ S½	3-5 32-34	10 9	39 39	Au	6		Active	LeRoy Valentine	Wayne Foster/USFS	01-0115	Area has been heavily mined in the past
5	N½	34	9	39	Au	100		Active	Curt Harrison	Wayne Foster		"Mine is productive and will continue"
6	NE S½	31 32	9 9	39 39	Au Ag	3		Active	Leonard Green Allen Mellot	USFS	01-0110	Area has been heavily mined in the past
7	SE	4	10	39	Au			Inactive	Lyle Chadwick		01-0102	
8	NW	10	12	39	Au			Closed	Ward Meisner	U.S. Gov't	01-0055	
9	SE		12	39	Au	5		Active	Richard Edwards	Vickerman & Meisner	01-0107	"North Tom Mine"
10		15, 22, 23, 26	12	39	Au			Closed	Sabia, Inc.		01-0047	
11	NW	15	12	39	Au Ag	51		Active	Hereford Placer	BLM	01-0072	
12	SW NW	15 22	12 12	39 39	Au				Ormica	BLM	01-0114	Mined prior to 1972

METALLIC

NO.	¼	SEC.	TWP.	RGE.	RES[1]	ACRES	YDS. (000)	STATUS	RESOURCE OWNER	LAND OWNER	DOGAMI NUMBER	COMMENTS
13	NW	5	9	41	Au Ag	5		Closed	Flagstaff Mines		01-0103	Mined prior to 1972 "Flagstaff Mines" Recent activity leaching of old material
14	S N	6 7	9	41	Au Ag			Closed	Anthony Brandenthaler		01-0070	"Gray Eagle Mine"
15	SE	21	9	41	Au, Ag S & G				Brandenthaler		01-0026	Leaching of old material
16	SW	35	12	41		1	Less Than 2.5/Year		Everett Soden		01-0073	
17	W	14, 15	8	42	Au	1000		Active	Deka	BLM	01-0119	Recently started operation "Premet Mine"
18	NE W	9 10	12 12	42 42	Au	2100			Recovery Systems	Floyd Vaughan		"Reagan Meadows"
19		7, 8, 12, 13	12	42	Au			Active	Lloyd McCullough		01-0042	
20	SW	29	6	43	Au				Hester Sturgill		01-0081	
21	NW	13	12	43	Au	1			Clyde Creech	State		
22	SW	16	12	43	Au Q				Robert Lattig	U.S. Gov't	01-0095	Mined prior to 1972 "Goldridge Mine"
23		20, 22 27, 29 33, 34	6 7	45 45	Au	983		Active	UNC		01-0112	Mined prior to 1972 "Cornucopia Mines"

METALLIC

NO.	¼	SEC.	TWP.	RGE.	RES[1]	ACRES	YDS. (000)	STATUS	RESOURCE OWNER	LAND OWNER	DOGAMI OWNER	COMMENTS
24		10 15	7 7	45 45	Au	440			Resource Investment	Private / USFS	01-0029	Mined prior to 1972
25	E W	33 34	11	45	Au Ag	2			Kenneth Stanton		01-0088	
26		34	11	45	Au G	21	Less Than 5/Year	Active	Rodgers		01-0059	
27	NW	3	12	45	Au	21	Less Than 5/Year	Active	Neal Mishler		01-0108	
28	NW	3	12	45	Au	½			Tawn Mar		01-0080	Testing work was done in 1979 but no permit for full scale operation has been issued
29	NE	32	10	46	Au				G.O.L.D.	U.S. Gov't	01-0109	RR-2
30	NW	10	10	37	S G	40		Closed	Baker Co.		01-0075	Dredge Tailings
31	NW	10	10	37	S G			Closed	Ellingsons		01-0019	
32	NW	10	10	37	S G	5		Closed	Nelson Deppe	Daniel Warnock	01-0118	Primary need completed
33	NE NW	10 11	10 10	37 37	S G			Closed	O'Hair		01-0099	Dredge Tailings

NONMETALLIC

NO.	¼	SEC.	TWP.	RGE.	RES.[1]	ACRES	YDS. (000)	STATUS	RESOURCE OWNER	LAND OWNER	DOGAMI NUMBER	COMMENTS
34	NE	13	10	37	S, G	1	Less than 5/year	Inactive	Baker Co.		01-0009	Limited Dredge Loop
35	SE	18	11	37	G	10		Inactive	Baker Co.	Archie VanCleave	01-0091	Pitrun
36	NW	28	12	37	G	1	Less than 5/year	Active	Baker Co.		01-0023	
37	NE	28	12	37	R	40	3		State (3) Highway Division	U.S. Gov't		Borrow Pit/Baker Unity Highway
38	W½	36	8	38	R	2½	100-200		D McD Corp.	City of Baker		4000 yds used by City Usable for riprap
39	SW NW	14 20	9 10	38 38	L R	1400 1100	Less than 100 million tons	Inactive Inactive	Blue Mt. Blue Mt.	USFS	01-0097 01-0027	Used in agriculture industry
40	SE	18	10	38	G	13	150		State Highway Division	State		Good material. Will be used Sumpter Valley Highway
41	NW	20	10	38	R			Closed	Ellingson		01-0084	
42	E½ NE	33 3	12 13	38 38	B	400			Burnt River Clay Co. Lyle Laeger	Floyd Vaughan	01-0117	
43	NW	19	13	38	R	5	100		State Highway Division	State		Used for sanding roads
44		7 12	14 13	38 37	R	11	100		State Highway Division	State		Used for sanding roads

NONMETALLIC

NO.	¼	SEC.	TWP.	RGE.	RES[1]	ACRES	YDS. (000)	STATUS	RESOURCE OWNER	LAND OWNER	DOGAMI NUMBER	COMMENTS
45	SE	34	6	39	G	1	Less than 5/year	Inactive	Baker Co.		01-0014	Ester Pit
46	S½ NW	35 2	6 7	39 39	R				Marian Jacobson			
47	SE	2	7	39	R				Arthur Powell			
48	SW	21	7	39	Cl, G				Cecil Fisher		01-0074	
49	SW	21	7	39	S, G	1	Less than 5/year		State Highway Division	State	01-0100	Regularly used borrow pit
50	SW	26	7	39	R	40	150		State Highway Division	U.S. Gov't		Important resource of hard rock. Used for Haines/Anthony Lake Highway
51	SW SE	15	8	39	G	3			State Highway Division	State		Borrow pit
52	SE	17	8	39	G		200	Inactive	Baker Co.		01-0017	Good road material
53	SE	24	8	39	G	80		Active	Baker Co.		01-0004	"Butler Pit"
54	NW	20	8	39	G	72		Inactive	Redi-Mix			Still undeveloped. Material is probably better than what they are using
55	SW	29	8	39	G	1	Less than 5/year	Inactive	Baker Co.	Ralph Hunter	01-0019	Pit is full of water
56	SE	29	8	39	G, R	14	150	Active	Louis Townsend	James Coleman	01-0113	Material meets DEQ drainfield standards

NONMETALLIC

NO.	¼	SEC.	TWP.	RGE.	RES[1]	ACRES	YDS. (000)	STATUS	RESOURCE OWNER	LAND OWNER	DOGAMI NUMBER	COMMENTS
57	SW	13	9	39	R				Patricia Wilson		01-0054	For road use (access roads)
58	SE	28	10	39	R	7			State Highway Division	State		For Sumpter Highway
59	SE	10	12	39	R			Closed	John D. Falk		01-0067	Placer Gravel
60	NE	22	12	39	G	1	Less than 5/year		Carl Bornig	BLM	01-0104	
61	SE NE	20 29	7 7	40 40	R	10			William Schaan			
62	S½ N½	27 34	7	40	A	400	150		BLM	BLM	01-0060	BLM now has permit here Used for old Oregon Highway
63	SW NW	27 34	7 7	40 40	R	10		Active	Charles Colton	BLM	01-0096	Operated by Baker Co.
64	NE	16	8	40	R				E.J. & Emma Warner			
65	NE	24	8	40	R	30	75/stockpiled		State Highway Division	State		May be reopened Medical Springs Highway
66	NE	34	8	40	G	1	Less than 5/year	Inactive	Redi-Mix		01-0032 01-0076	Not in use now. Could be an Aggregate source "Old Stanford Pit"
67	NE	34	8	40	G			Active	Alex Sackos		01-0065	
68	SE	1	9	40	S	160		Inactive	Baker Co.		01-0011	Flagstaff Sand Pit

NONMETALLIC

NO.	¼	SEC.	TWP.	RGE.	RES[1]	ACRES	YDS. (000)	STATUS	RESOURCE OWNER	LAND OWNER	DOGAMI NUMBER	COMMENTS
69	SW	10	9	40	S, G	80	"lots"	Active	Redi-Mix	Redi-Mix	01-0024	Activity prior to 1972 Seeking northern expansion
70	NW	10	9	40	G	15			State Highway Division	State		No more excavation but stock pile site in use. Baker-Homestead Highway
71	SW	10	9	40	G	28		Active	Redi-Mix	Redi-Mix		
72	SW	30	9	40	R	5		Active	G. Enbusk		01-0086	
73	SE	30	9	40	Sh	1	Less than 5/year	Inactive	Baker Co.		01-0046	
74	NW & SW	1	10	40	G	80			State Highway Division	Private land (99 yr. lease)		Borrow Pit
75	SE	5	10	40	G	14			State Highway Division	State		Borrow Pit Baker/Unity Highway
76	NE	31	10	40	G	5			Dan E. Martin			
77	SE N½	6 7	11 11	40 40	R G			Inactive	Donna Donnely		01-0030	
78	SW	6	11	40	R	6	50		State Highway Division	State		Used intermittently by County and Forest Service as grid roll base
79	SE	14	7	41	R	1	Less than 5/year	Inactive	Baker Co.		01-0083	
80	SE	35	7	41	G	1	Less than 5/year		State Highway Division	Jim Colton Property	01-0082	Poor road material

NONMETALLIC

NO.	¼	SEC.	TWP.	RGE.	RES[1]	ACRES	YDS. (000)	STATUS	RESOURCE OWNER	LAND OWNER	DOGAMI NUMBER	COMMENTS
81	SE	35	8	41	R				State Highway Division	U.S. Gov't		Some use as rip rap only
82	NW	7	9	41	Q, R	40		Active	Valentine Enterprises		01-0085	Mined prior to 1972 "Grey Eagle Mine"
83	NW	13	9	41	R	1	Less than 5/year	Inactive	Baker Co.	U.S. Gov't	01-0021	Staggs & Weber
84	NE	21	10	41	S, G	20		Inactive	Baker Co.		01-0002	Briske Pit
85	S½	20	12	41	R	40		Inactive	Baker Co.		01-0043	Old Tailings
86	SE	27	7	42	R	15		Active	Baker Co.		01-0022	Basalt
87	SE	1	8	42	R	40		Inactive	Baker Co.	U.S. Gov't	01-0007	Cook Road Pit
88	SW NW	32 5	8 9	42 42	R	1	Less than 5/year	Inactive	Baker Co.		01-0018	Ruckles Creek
89	NW	25	8	42	G	1	Less than 5/year		State Highway Division	State	01-0078	Borrow Pit
90	SW	25	8	42	G	20		Inactive	Baker Co.		01-0021	
91	NW NE	29 30	10	42	R	50	250	Active	State Highway Division	State	01-0028	Will be used. Good road material. Pleasant Valley/Durkee Road
92		31	11	42	Sh	58	Unknown	Inactive	OPC	OPC		Fair to good material
93	NW	33	8	43	R	20	200		State Highway Division	U.S. Gov't		Will be used for road material Baker/Copperfield Road
94	NE	34	8	43	R	30			State Highway Division	U.S. Gov't		Will be used for rip rap Baker/Homestead

NONMETALLIC

NO.	¼	SEC.	TWP.	RGE.	RES[1]	ACRES	YDS. (000)	STATUS	RESOURCE OWNER	LAND OWNER	DOGAMI NUMBER	COMMENTS
95	SE	17	11	43	Cl	80	Unknown	Active	OPC		01-0057	Mined prior to 1972 Good material
96	NE NW	23 24	11 11	43 43	G	240			Rod McCullough			
97		10, 11 14,15, 16	12	43	L Sh	736	Unknown	Active	OPC	OPC & Partners	01-0053	Good material
98		10, 14 15, 16	12	43	L Sh	339	Unknown	Active	OPC	U.S. Gov't		Mining to continue for 3 yrs. Good material
99	NE NW	5	14	43	S	80			State Highway Division	U.S.		Old Oregon Trail Highway Used for sanding
100	SW	5	14	43	Sc	40	Unknown	Active	OPC	OPC	01-0056	Mined prior to 1972 Good material
101	SW	5	14	43	C	1	Less than 5/year	Active	State Highway Division	U.S. Gov't	01-0064	
102		20	8	44	S	40		Inactive	Baker Co.		01-0013	JIm Mine (Sparta)
103	SE	3	9	44	R	20	"lots"		State Highway Division	U.S. Gov't		Will be used Baker/Homestead
104		13	9	44	G	6	30		State Highway Division	State		Suitable for base rock
105		25, 26 27, 34 35	13	44	L	1053	Unknown	Inactive	OPC	OPC		Fair to Good material
106		15	7	45	G	300			Fred Smith	Fred Smith & USFS		Meets DEQ drainfield requirements

NONMETALLIC

NO.	¼	SEC.	TWP.	RGE.	RES[1]	ACRES	YDS. (000)	STATUS	RESOURCE OWNER	LAND OWNER	DOGAMI NUMBER	COMMENTS
107	NE	35	9	45	G				Ralph Graven			Material removed at confluence of Eagle Creek & Powder River
108		15	13	44	R	64	Unknown	Inactive	OPC	OPC		Fair to Good
109	SE	15	13	44	R	20			State Highway Division	State		Good road material Will be used
110		34	11	45	R	1	Less than 5/year		Cecil Rogers		01-0059	
111	SE	29	13	45	Ba	10		Inactive	Baker Co.	Idaho Power	01-0041	Gypsum
112	SE NW	8 9	14 14	45 45	G	100		Active	Baker Co.			City of Huntington is using
113	NE	32	14	45	G			Inactive	Louis Gay		01-0077	
114	NE	19	7	46	S	1	Less than 5/year	Inactive	Baker Co.		01-0051	
115		35	7	46	G	1	Less than 5/year	Inactive	Baker Co.		01-0003	Buchanan
116	SE	6	9	46	R	60	72	Closed	State Highway Division	U.S. Gov't	01-0062	Frequently used
117	SW		10	46	R	5			Baker Co.	BLM	01-0020	
118		7	8	47	R	17	175		State Highway Division	State		Good material Will be used
119	NW	19	8	47	Sh	40		Inactive	Baker Co.		01-0008	On-going quarry Dead Cow Butte

NONMETALLIC

NO.	¼	SEC.	TWP.	RGE.	RES[1]	ACRES	YDS. (000)	STATUS	RESOURCE OWNER	LAND OWNER	DOGAMI NUMBER	COMMENTS
120	SW	27	7	39	Gr	11	Commercial quantities	Inactive	Stan Ingram	Stan Ingram		Source of granite for historic bldgs., Baker Co.
121	SE	1	9	40	Gr	40	Commercial quantities	Inactive	Stan Ingram	Stan Ingram		Source of granite for historic bldgs., Baker Co.

Baker County Mineral and Aggregate
Non Metallic Inventory
Site # 122

No.	1/4	Sec	Twp	Rge	RES 1	Acres	Yds	Status	Resource Owner	Land Owner	Dogami #	Comments
122		13 & 24	8S	44	Gr	10	Commercial Quantities Total extraction not to exceed 500,000 tons/lifetime.	ACTIVE	Rocky Randall	Rocky Randall		OWEB Grant Project for Eagle Creek restoration and Commercial Purposes

Baker County Mineral and Aggregate Non Metallic Inventory

No.	1/4	Sec	Twp	Rge	RES 1	Acres	Yds	Status	Resource Owner	Land Owner	DOGAMI NUMBER	Comments
123		35	7S	47	Bg	1	10,000+ Total extraction not to exceed 500,000 tons/lifetime.	ACTIVE	Pine Valley Land, LLC	Pine Valley Land, LLC	N/A	Primary purpose is to supply rock for projects in Pine Valley

Baker County Mineral and Aggregate Non Metallic Inventory

NO.	1/4	SEC.	TWP.	RGE.	RES 1	ACRES	YDS.	STATUS	RESOURCE OWNER	LAND OWNER	DOGAMI NUMBER	COMMENTS
124	NE	17	7S	48	Bg	~ 5	Commercial Quantities - Total extraction not to exceed 500,000 tons/lifetime.	ACTIVE	George P. and Judy L. Parker Family Trust	George P. and Judy L. Parker Family Trust	N/A	Primary purpose is to supply rock for projects in the Halfway-Oxbow area
125	NE	19	7S	48	Bg	~ 5.8	Commercial Quantities - Total extraction not to exceed 500,000 tons/lifetime.	ACTIVE	George P. and Judy L. Parker Family Trust	George P. and Judy L. Parker Family Trust	N/A	Primary purpose is to supply rock for projects in the Halfway-Oxbow area

Baker County Mineral and Aggregate Non Metallic Inventory

No.	1/4	Sec	Twp	Rge	Res 1	Acres	Yards	Status	Resource Owner	Land Owner	DOG-AMI #	Comment
3	NE	04/05	7S	39	Bg	215 +/-	1.1 million solid cubic yards on 215+/- acres	Active	Harney Rock & Paving Company	Harney Rock & Paving Company	01-072-5	Primary purpose is to supply ballast for Union Pacific, and gravel products for local community.

PATENTED MINING CLAIMS

On the next 46 pages are listed the patented mining claims in Baker County. The inventory has been presented in two separate formats. The first format, consisting of approximately 10 pages, lists the mining claims in order by legal description. The second half of the inventory approximately 36 pages, lists the mining claims in alphabetical order. These lands are within the Mineral Extraction Zone. The mapping of these claims can be located on Plate #16 of Appendix I.

The inventory was completed with assistance from the Rural Service Institute of Eastern Oregon State College, LaGrande, Oregon.

REF #	MINERAL SURVEY NO.	NAME OF INDIVIDUAL CLAIMS OR MINING CLAIM GROUPS	MAP NO.
1	868	Spring Consolidated Group	6 43
2	772	Good Luck & Jack Rabbit Lodes	6 45 6 40
3	324	Basin Consolidated	6 45
4	206	S½ of Last Chance Quartz Claim	6 45
5	799 A & B	Lost Horse; Lily Langtry & Columbia Lodes & Eureka Mill Site	6 45
6	784	Portland Group	6 45
7	Sur. No. 14	Robert Emmett Quartz Mine	6 45
8	370 A & B	Senator Tabor Quartz Claim and Mill Site	6 45
9	801	Valley View Group	6 45
10	673	Aspen Consolidated Lode	6 48
11	468	Copper Giant	6 48 Suspended
12	668	Fraction Lode	6 48
13	543	Gray Eagle Consolidated	6 48
14	466	Iron Dyke Group	6 48 Suspended
15	669	Last Chance Lode	6 48
16	467	Lime Placer	6 48 Suspended
17	587	McDougall Group (part in Wallowa Co.)	6 48
18	823	River View, Dixie & Devel Slide Lodes	6 48
19	Sur. No. 6	Annex Placer Mine	6 45 27
20	779	Arctic Group	6 45 27
21	Sur. No. 3	Bruin Quartz Mine	6 45 27
22	Sur. No. 5	Eagle Quartz Mine	6 45 27
23	780	Equinox Group	6 45 27
24	820	Flagstaff & Crescent Lodes	6 45 27
25	571	Mountain Robin Consolidated	6 45 27
26	312	Companion Quartz Claim	6 45 28

REF #	MINERAL SURVEY NO.	NAME OF INDIVIDUAL CLAIMS OR MINING CLAIM GROUPS	MAP NO.
27	320	Core Mining Claim	6 45 28
28	214	Denver Quartz Mining Claim	6 45 28
29	778	Dunn & Norton Group	6 45 28
30	219	Forest Queen Consolidated	6 45 28
31	369	Gem & Hercules	6 45 28
32	314	Helena Quartz Claim	6 45 28
33	311	Phoenix Quartz Claim	6 45 28
34	771	Last Chance Group	6 45 28
35	817 A & B	Mayflower Lode and Ohio Mill Site	6 45 28
36	321	Montana Consolidated	6 45 28
37	309	Motor Quartz Claim	6 45 28
38	313	Prescott Quartz Claim	6 45 28
39	765	Red Fox, Old Grey Fox & Florence Lodes	6 45 28
40	Sur. No. 10	Red Jacket Quartz Mine	6 45 28
41	310	Union Quartz Mine	6 45 28
42	656	Buckeye Group	7 40
43	386	Relocated Pittsburg	7 40
44	722	Gigantic Consolidated Lode	7 42
45	Sur. No. 13	Buffalo Quartz Mine	7 43
46	Sur. No. 7	Golden Eagle Quartz Mine	7 43
47	Sur. No. 9	Knight Quartz Mine	7 43
48	Sur. No. 12	Nellie Grant Quartz Mine	7 43
49	867 2 Sheets	Pathfinder Group	7 43 7 44
50	Sur. No. 8	Summit Quartz Mine	7 43
51	Sur. No. 11	Badger Quartz Mine	7 44
52	Sur. No. 126	Dolly Varden Quartz Lode	7 44

REF #	MINERAL SURVEY NO.	NAME OF INDIVIDUAL CLAIMS OR MINING CLAIM GROUPS	MAP NO.
53	427	Alta Quartz Mine	8 36
54	477	Bald Mountain Consolidated	8 36
55	645	Black Dwarf	8 36
56	481	Bell Baker Consolidated	8 36
57	449	California Mine	8 36
58	505	Casaubon	8 36
59	647	Dutch Flat Placer	8 36
60	485	Gold Hill Lode Mining Claim	8 36
61	211	Herculean Quartz Claim	8 36
62	461 A & B Sheet No. 2	Imperial Consolidated Quartz Claim & Mill Sites	8 36
63	461 Sheet No. 1	Imperial Consolidated Quartz Claim & Mill Sites	8 36
64	428	Luxemburg Quartz Claim	8 36
65	129	Mammoth Quartz Mine	8 36
66	643	Midnight Quartz Mining Claim	8 36
67	646	Miner Lode	8 36
68	800	Morning Star Lode	8 36
69	706	Oregon Cheif Group	8 36
70	498	Red Cheif Consolidated	8 36
71	296 A	Afterthought Quartz Mine	8 37
72	494	Anniversary Consolidated	8 37
73	204	Appomattox Quartz Claim	8 37
74	491	Banner Consolidated	8 37
75	259	Baring Consolidated Placer Claim	8 37
76	471	Bismark Consolidated	8 37
77	365	Blue Mountain	8 37
78	686	Buckeye Consolidated Lode	8 37

REF #	MINERAL SURVEY NO.	NAME OF INDIVIDUAL CLAIMS OR MINING CLAIM GROUPS	MAP NO.
79	256	Central Placer Claim	8 37
80	336	Climax Consolidated	8 37
81	500	Colorado & Gould & Curry Lodes	8 37
82	176	Columbia Quartz	8 37
83	593	Columbia No. 2 Quartz Mining Claim	8 37
84	238	Consolidated Fractional Quartz Claim	8 37
85	237	Cracker & Oregon Consolidated	8 37
86	366	Cyclone Consolidated	8 37
87	254 A & B	Chloride Consolidated Quartz Mine and Mill Site	8 37
88	591	Eraskle Quartz Mining Claim	8 37
89	194	Eureka Consolidated Placer Mine	8 37
90	Sur. No. 15	Eureka Quartz Mine & Eureka Mill Site	8 37
91	Sur. No. 16 Lot 38	Excelsior Quartz Mine	8 37
92	244	Excelsior No. 2 Quartz Mine	8 37
93	236	Forest City Quartz Mine	8 37
94	424	Gold Dollar Quartz Claim	8 37
95	684	Great American Lode	8 37
96	348	Golconda Quartz Claim	8 37
97	410	Hydraulic Placer Claim	8 37
98	519	Lakeview Consolidated	8 37
99	423	Majestic Quartz Claim	8 37
100	298	More or Less Quartz Mining Claim	8 37
101	486	Mountain View Consolidated	8 37
102	181	North Pole Mining Claim	8 37
103	241	North Star Quartz Claim	8 37
104	502	North Star No. 2	8 37

REF #	MINERAL SURVEY NO.	NAME OF INDIVIDUAL CLAIMS OR MINING CLAIM GROUPS	MAP NO.
105	245	Northern Consolidated Placer Claim	8 37
106	381	Ohio Quartz Claim	8 37
107	367 A & B	Old Middleman & Tin Horn Quartz Claims and Mill Sites	8 37
108	242	Raging Roland Quartz Claim	8 37
109	493	Sampson Consolidated	8 37
110	315	Shyster Consolidated Quartz Mine and Mill Site	8 37
111	189	Small Hope Placer Claim	8 37
112	422	South Pole & Evans	8 37
113	303	Tamarack Placer Claim	8 37
114	378 Amended	Telephone Lode	8 37
115	267	Villard Quartz Claim	8 37
116	190	Webfoot Placer Claim	8 37
117	378	Wide West, Century, Charleston, & Telephone	8 37
118	191	Willamette Placer Claim	8 37
119	182 A & B	Williams Quartz Claim & Mill Site	8 37
120	490	Yankey Jim	8 37
121	210	Arastra Ridge Consolidated Quartz Claim	8 38
122	561	Brooklyn	8 38
123	341	Cold Gold Quartz Claim	8 38
124	350	Dolcoath Quartz Claim	8 38
125	418	Elkhorn Consolidated	8 38
126	208	Elkhorn Extension Consolidated Quartz Mine	8 38
127	167	Elkhorn Quartz Claim	8 38
128	356	Excuse Consolidated	8 38
129	821 A & B	Happy Jack; Midnight; Snowflake;	8 38

REF #	MINERAL SURVEY NO.	NAME OF INDIVIDUAL CLAIMS OR MINING CLAIM GROUPS	MAP NO.
	Sheet No. 1	Defender; Shamrock; Reliance; Highland Fraction; Highland; Duke; Glasgow; Bannockburn & Eldorado Lodes & Highland Mill Site	8 37
130	345	Klondike Quartz Claim	8 38
131	264	Mountain Belle Consolidated	8 38
132	265	Mountain View Quartz Claim	8 38
133	408	Pearl Quartz Claim	8 38
134	251	Robinson Consolidated Quartz Claim	8 38
135	701	Sherman Consolidated	8 38
136	701	Sound Money Lode	8 38
137	293 Amended	Crystal Palace Consolidated Quartz Mine	8 44
138	586	Del Monte Group	8 44
139	798	Gem Extension North; Northeast Gem; East Gem; East Side; New Gem No. 2 Extension South; East Gem Extension South; Gem Extension South; West Gem; Fractional Gem & N.W. Gem Lodes	8 44
140	127 Amended	Gem Quartz Mine	8 44
141	609	Goldridge Consolidated Lode	8 44
142	803	Michigan Lode	8 44
143	804	Neptune Lode	8 44
144	708	Rosebud	8 44
145	232	Saw Mill Gulch Consolidated Placer Claim	8 44
146	220	Union Quartz Claim	8 44
147	480	Amazon Group	9 36
148	382 A & B	Annululu & Chapman Quartz Claims and Annululu Mill Site	9 36
149	376	Bilac Quartz Claim	9 36
150	329	Bunker Hill	9 36
151	421	Ibex Consolidated (part in Grant Co.)	9 36

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170	226	Sumpter Deep Gravel Mine	9 37 20, TL 1600 9 37 29, TL 100 9 37 29, TL 400 9 37 29, TL 500
171	335	Sumpter Placer Mine	9 37 29, TL 400

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152	599	Maidens Dream Consolidated	9 36
153	375	Myrtle Quartz Claim	9 36
154	813	Pioneer, Pacific, & LaCross Claims	9 36
155	447	Rainbow & Boulder Quartz Claims	9 36
156	679	Ancora Consolidated Lode	9 37
157	470	Bear Consolidated	9 37
158	452	Black Belle	9 37
159	685	Dixie Queen Lode	9 37
160	257	Louise Consolidated Placer Claim	9 37
161	198	Mary Agnes Consolidated Placer	9 37
162	177	Mountain Belle Quartz Mine	9 37
163	653 A & B	Orleans Quartz Mining Claim & Mill Site	9 37
164	Lot No. 92	Richard Dounie Placer	9 37
165	745	Silver Dick & Blue Swan Quartz Claims	9 37
166	392	Gold Wedge Placer	9 37 29
167	Lot No. 91	J. D. Young's Placer	9 37 29
168	393	Meadow Group Placer	9 37 29
169	390	Stinson & Grainger Placer	9 37 29
170	261	Monarch Marble Claim	9 38
171	Lot No. 69 M.D. 4	Hardin W. Estates Placer	9 39
172	763	Hope Group	9 39
173	Lot No. 111	Jones & Carpenter	9 39
174	Lot No. 43 M.D. 4	Levi W. Nelson Placer Mining Claim	9 39 8
175	Lot No. 56 M.D. 4	Robert Kitchen Placer	9 39
176	192	Tom Payne Quartz Mine	9 39

REF #	MINERAL SURVEY NO.	NAME OF INDIVIDUAL CLAIMS OR MINING CLAIM GROUPS	MAP NO.
177	353	Young American	9 39 8
178	732	Clipper Consolidated Lodes	9 41
179	399	Collateral Quartz Claim	9 41
180	282	Columbian Quartz Claim	9 41
181	524	Cyclone Consolidated	9 41
182	716	Herbert Consolidated Lode	9 41
183	121	Michael Hyde Quartz Mine	9 41
184	337	Mogul Quartz Claim	9 41
185	385	Montie Consolidated	9 41
186	317	Rachel Consolidated Quartz Mine	9 41
187	249	Red Ledge Quartz Claim	9 41
188	857	St. Paul Quartz Mine	9 41
189	333	Sunset Extension Consolidated	9 41
190	703	Uncle Dan Consolidated Lode	9 41
191	318	Virginia Consolidated	9 41
192	858	Virtue Extension No. 1, Virtue Extension No. 2, and Virtue Extension No. 3 Lodes	9 41
193	248	White Swan Consolidated Quartz Mine	9 41
194	458	Carpenter Group	10 35
195	548	Colin Pierce	10 35
196	547	Diaden Mine	10 35
197	911	Eccentric; Tuxedo; Domino; Wild Rose; Gold Bug & Black Horn Lodes	10 35
198	563	Eureka	10 35
199	555	Golden Eagle Consolidated	10 35
200	554	Hidden Treasure Consolidated (part in Grant Co.)	10 35
201	509	Jordan Consolidated Placer	10 35

REF #	MINERAL SURVEY NO.	NAME OF INDIVIDUAL CLAIMS OR MINING CLAIM GROUPS	MAP NO.
202	552	Ophir Consolidated	10 35
203	546	Phoenix Consolidated	10 35
204	541	Snow Creek Mine	10 35
205	458	Virginia Lode Claim (part in Grant Co.)	10 35
206	332	Bonanza Consolidated	10 35½
207	384	Boone Consolidated	10 35½
208	727	Niobe Consolidated	10 35½
209	508	Union Consolidated	10 35½
210	Claim No. 37	Winterville Placer Claim	10 35½
211	225	Evening Star Consolidated	10 36
212	Lot No. 82	Daniel Best & Co. Placer	10 39
213	634	Brases Consolidated	10 41
214	707	Kirkham Placer	11 40
215	611	Klondike Placer	11 40
216	612	Lincoln Placer	11 40
217	705	South Placer	11 40
218	124	James P. Faul Placer Mine	11 45
219	122	James P. Faul Quartz Mine	11 45
220	123	John O. Faul Quartz Mine	11 45
221	Lot No. 45, 46	O. S. Buckland & Jeremiah J. Doolens	12 41
222	Lot No. 50 A & B	Tallman Winning & Mounteys	12 41
223	Lot No. 51 M.D. 4	William L. Sutton, George W. Lake, Joel E. Meachum Placer Mining Claim	12 41
224	Lot No. 77	W. R. Curtis & Co.	12 41
225	Tract No. 48 M.D. 4	James M. Cummings Placer Mining Claim	12 42
226	Lot 68 A & B	J. C. Powers Placer	12 42

REF #	MINERAL SURVEY NO.	NAME OF INDIVIDUAL CLAIMS OR MINING CLAIM GROUPS	MAP NO.
227	438 A & B	Rattler Consolidated	12 42
228	Lot 54 A & B	Walter Fernald Goldbearing Placer	12 42
229	Lot No. 103	Andrew Weatherby & Co. Placer Claim	12 44
230	240	Cleveland Consolidated Quartz Claim & Mill Site	12 44
231	852	Railroad No. 1 & Railroad No. 2 Lodes	12 43
232	Lot No. 72	Charlie Green Quartz Mine	13 42
233	719	Jim Crow	13 42
234	735	Dew Drop	13 42
235	639	Golden Reef	13 42
236	Lot 71	Green Discovery Quartz Mine	13 42
237	661 A & B	Hattie B. Quartz Mining Claim & Rainbow Mill Site	13 42
238	718	Lulu Consolidated Lode	13 42
239	837	Oregon Chief No. 2 Lode	13 42
240	736	Oregon Chief & Oregon Chief No. 3	13 42
241	662	Rainbow	13 42
242	720	St. Croix	13 42
243	Sur. No. 70 3 Sheets	Joseph H. Shinn Goldbearing Placer Mine	13 43
244	239	Huddleston Placer Mining Claim	13 43
245	Sur. No. 133	Bayhorse Quartz Claim	13 45
246	302	Big Slide Gypsum Claim	13 45
247	308	Gypsum Mining Claim	13 45
248	301	O.K. Consolidated Quartz Mining Claim	13 45
249	300	Rapid Quartz Mining Claim	13 45
250	751	Red Bird	14 45

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NAME	Mineral Survey Number	Account Number Map, Tax Lot No.
Ace part of Pathfinder group	867 Sheet 2	7 43 1300
Aerial part of Phoenix group	546	10 35 600
Aerial No. 1 part of Phoenix group	546	10 35 600
Afterthought	296 A	8 37 2700
Alaska part of Equinox group	780 Sheet 2	6 45 1600
Alaska part of Union Consolidated	508	10 35½ 300
Albine part of Bald Mountain Consolidated	477	9 36 600
Alexander part of Louise Consolidated	257	9 37 200
Alpha part of Buckeye group	656	7 40 1400
Alta	#2 Amended	6 45 27 200
Alta	427	8 36 1700
Amazon Group Amazon; Brooklyn; Cupid	480	9 37 600
American Girl part of Herbert Consolidated Lode	716	9 41 3600
Anaconda part of Oregon Chief group	706	8 36 900
Ancora Consolidated Lode Ancora; Ashland; Ashland Group; Fraction; First Chance; Katherine	679	9 37 100
Andrew J. Weatherby & Company	Lot #103	12 44 2000
Angola part of Red Chief Consolidated	498	8 36 300

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NAME	Mineral Survey Number	Account Number Map, Tax Lot No.
Anicondia part of McDougall group (part in Wallowa County)	587	6 48 200
Annex Placer part of Baring Consolidated	259	8 37 400
Annex Placer Mine	Sur. No. 6	6 45 27 200
Anniversary Consolidated Anniversary; Fritz; Projection	494	8 37 400
Annululu & Chapman Quartz Annululu; Annululu Millsite; Chapman	382 A & B	9 36 200 9 36 300
Apex Fraction part of Aspen Consolidated Lode	673	6 48 1600
Appomattox Quartz	204	8 37 2600
Arastra Ridge Consolidated BonanzaQueen Quartz; Captain Jack; Golden Eagle; Miners Hope; Missouri	210	8 38 5600
Arctic Group Arctic; Autumn; Manhattan	779	6 45 27 200
Ashland part of Ancora Consolidated	679	9 37 1000
Ashland Group Fraction part of Ancora Consolidated	679	9 37 1000
Aspen Consolidated Lode Claim Aspen; Apex Fraction; Lookout; Kentucky; Ruby Fraction; Tillamook; Keystone Fraction; Jackpot Fraction No. 2; Sailor Jack	673	6 48 1600
Atlantic part of Gigantic Consolidated	722	7 42 4400
Atlantic part of Bonanza Consolidated	332	10 35½ 300
Autumn part of Arctic Group	779	6 45 27 200
Badger Quartz Mine	Sur. No. 11	7 44 200

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NAME	Mineral Survey Number	Account Number Map, Tax Lot No.
Bald Mountain Consolidated Albine; Bald Mtn.; Chegoggan; East Fair View; Fair View; Kenton; Kitchi Meadow; Reed; Saginaw; Three Star; Whitehall	477	8 36 1100 9 36 600
Banner Consolidated Quartz Banner No. 1; Banner No. 2; Iwalani; Keauhoi; Midas	491	8 37 200
Bannockburn part of	821 A & B	8 38 5300
Baring Consolidated Annex Placer Claim; Baring; Basin & Maryland Placer Claims	259	8 37 400
Basin Consolidated Moutain Chief Quartz Claim; Red Boy Quartz Claim	324	6 45 300
Basin Placer Claim part of Baring Consolidated	259	8 37 400
Bay Horse Quartz Mine	Sur. No. 133	13 45 500
Bear Consolidated Black Bear; Brown Bear; Dewey Placer; Grizzly Bear	470	9 37 200
Bell Baker Consolidated Quartz Bell Baker; Red Fox	481	8 36 1300
Bellview Quartz Claim part of Robinson Consolidated	251	8 38 5500
Big Slide Gypsum Claim	302	13 45 1400
Big Spring part of Elkhorn Consolidated	418	8 38 4800
Bismark Consolidated Bismark; Gladstone	471	8 37 400
Black Bear part of Bear Consolidated	470	9 37 200
Black Belle Quartz Claim	452	9 37 900
Black Dwarf Quartz Claim	645	8 36 700

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NAME	Mineral Survey Number	Account Number Map, Tax Lot No.
Black Eagle part of Valley View group	801	6 45 200
Black Hawk part of Lulu Consolidated Lode	718	13 42 1700
Blackmailer Quartz Claim part of Shyster Consolidated Quartz Mine & Mill Site	315	8 37 400
Bland part of Sherman Consolidated	701	8 38 5000
Blue Ledge part of Elkhorn Extension Consolidated Quartz Mine	208	8 38 5600
Blue Mountain Quartz	365	8 37 400
Blue Swan part of Silver Dick & Blue Swan Quartz	745	9 37 400
Bonanza Consolidated Quartz Claim & Mill Site (See M.S. 332 below)	266 A & B	
Bonanza Consolidated Atlantic; Bonanaz; Emma; Haggard; Haggard West; Pacific	332	10 35½ 300
Bonanza Queen part of Arastra Ridge Consolidated	210	8 38 5600
Boone Consolidated Boone; Little Jesse; Parrot; White Elephant	384	10 35½ 400
Boulder part of Rainbow & Boulder Quartz Claims	447	9 36 200
Brazos Consolidated Brazos; Pleasant Valley; Queen Bee	634	10 41 500
Brindle Horse part of Diadem Mine	547	10 35½ 1000
Brooklyn part of Amazon group	480	9 37 600
Brooklyn Quartz	561	8 38 5400

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NAME	Mineral Survey Number	Account Number Map, Tax Lot No.
Brown Bear part of Bear Consolidated	470	9 37 200
Bruin Quartz Mine	Sur. No. 3	6 45 27 200
Bryan part of Sherman Consolidated	701	8 38 5000
Buckeye Group Buckeye; Louise; Yellow Jacket; Alpha & Carmen Lodes	656	7 40 1400
Buckeye Consolidated Buckeye; Crescent; Crown	686	8 37 1400
Buffalo Quartz Mine & Buffalo Mill Site	Sur. No. 13	7 43 200 7 43 700
Bunker Hill	329	9 36 400
Butte part of Montana Consolidated	321	6 45 28 200
Buttercup part of Spring Consolidated	868	6 43 300
C. T. Bradley Mill Site Claim 40B part of Nellie Grant Quartz Claim & C. T. Bradley Mill Site	Sur. No. 12	7 43 700
California Mine California; Kearsarge; Oregon; Winning Hand	449	8 36 600
Calumet part of Elkhorn Consolidated	418	8 38 4800
Captain Jack part of Arastra Ridge Consolidated Quartz Claim	210	8 38 5600
Carmen part of Buckeye group	656	7 40 1400
Carpenter Group Myrthful; Virgin (part in Grant Co.)	458	10 35 200
Carrie part of Uncle Dan Consolidated	703	9 41 4400

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NAME	Mineral Survey Number	Account Number Map, Tax Lot No.
Casaubon	505	8 36 1500
Cassel part of Louise Consolidated	257	9 37 200
Central Placer Claim	256	8 37 400
Century part of Wide West; Century, Charleston & Telephone Lodes	378	8 37 2500
Chapman part of Annululu & Chapman Quartz Claim & Annululu Mill Site	382 A & B	9 36 200
Charles Green Quartz Mine	Lot #72	13 42 100
Charleston part of Wide West; Century, Charleston & Telephone Lodes	378	8 37 2500
Cheboggan part of Bald Mountain Consolidated	477	9 36 600
Chloride Consolidated Quartz Mine & Mill Site Chloride Millsite; Chloride; Ketchum	254 A & B	8 37 1000 8 37 1100
Cleopatra part of Niobe Consolidated	727	10 35½ 200
Cleveland Consolidated & Mill Site Cleveland; Gambler; Gold Cup; On Time; Cleveland Quartz Claim Millsite	240	12 44 2400
Cliff part of Montana Consolidated	321	6 45 28 200
Climax Consolidated Climax; Orazaba	336	8 37 2300
Clipper Consolidated Clipper; Clipper No. 2; Connecting Link; Florence; Portland; Portland No. 2 & Virtue Valley Lodes	732	9 41 2600
Coin & Coin No. 2 part of Pathfinder group	867 Sheet No. 1	7 43 1300

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NAME	Mineral Survey Number	Account Number Map, Tax Lot No.
Cold Gold Quartz Claim	341	8 38 5500
Colin Pierce Quartz	548	10 35 300
Collateral Quartz	399	9 41 2900
Colorado & Gould & Curry	500	8 37 500
Columbia part of Lost Horse, Lily Langtry & Columbia group	799 A & B	6 45 800
Columbia No. 2	593	8 37 2300
Columbia Quartz Mine	176	8 37 2600
Columbian Quartz Claim	282	9 41 200
Companion Quartz Claim	312	6 45 28 200
Connecting Link part of Clipper Consolidated Lode	732	9 41 2600
Connecting Link part of Herbert Consolidated Lode	716	9 41 3600
Consolidated Fraction Quartz Fractional; Summit	238	8 37 400
Copper Giant	468	6 48 1500
Copper King part of McDougall group (part in Wallowa Co.)	587	6 48 200
Copper King Extension part of McDougall group (part in Wallowa Co.)	587	6 48 200
Copper Queen part of McDougall group	587	6 48 200
Coup D'OR part of Equinox group	780 Sheet 2	6 45 27 200
Cracker & Oregon Consolidated Cracker; Oregon	237	8 37 400
Cracker Jack part of Montie Consolidated	385	9 41 2500

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NAME	Mineral Survey Number	Account Number Map, Tax Lot No.
Cracker Placer part of Eureka Consolidated	194	8 37 3000
Creek Placer Claim part of Northern Consolidated	245	8 37 400
Creek Quartz Mine	Sur. No. 1	6 45 27 200
Crescent part of Flagstaff & Crescent Lodes		6 45 27 200
Crescent part of Buckeye Consolidated	686	8 37 1400
Crescent Crown		8 37 1400
Crow Fractional part of Golden Eagle Consolidated	555	10 35 800
Crown part of Buckeye Consolidated	686	8 37 1400
Crown Point part of Union Consolidated Quartz	508	10 35½ 300
Crystal Palace Consolidated Crystal Palace; Goldsmith; Grand Majestic; Little Bay Horse	293 Amended	8 44 5400
Cupid part of Amazon group	480	9 37 600
Cyclone Consolidated Cyclone; Projection	366	8 37 2600
Cyclone Consolidated Cyclone; Cyclone No. 3	524	9 41 1100
Cyclone M. S. part of Old Middleman & Tinhorn Quartz Claims & Mill Sites	367 A & B	8 37 2600
Danae part of Golden Eagle	555	10 35 800
Daniel Best & Co. Placer	Lot #82	10 39 2900
Deep Gravel Placer part of Jordan Consolidated	509	10 35½ 400

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NAME	Mineral Survey Number	Account Number Map, Tax Lot No.
Defender part of	821 A & B Sheet No. 1 & 2	8 37 1300
Del Monte Group Del Monte East; Del Monte No. 1 North; Del Monte No. 1 South; Del Monte West; Del Monte No. 5; Del Monte No. 6	586	8 44 2800
Deming part of Sherman Consolidated	701	8 38 5000
Denver Quartz Mining Claim	214	6 45 28 200
Devel Slide part of Riverview, Dixie & Devel Slide Lodes	823	6 48 1800
Devels Dream part of Maidens Dream Consolidated Quartz	599	9 36 900
Dew Drop Quartz Mining Claim	735	13 42 1800
Dewey Placer part of Bear Consolidated	470	9 37 200
Diadem Mine Brindle Horse; Diadem	547	10 35 1000
Dixie part of Riverview, Dixie & Devel Slide Lodes	823	6 48 1800
Dixie Queen Lode	685	8 37 800
Dolcoath Quartz Claim	350	8 38 5700
Dolly Gray part of Gray Eagle Consolidated	543	6 48 1600
Dolly Varden Quartz Lode	Sur. No. 126	7 44 1000
Donaldson Placer part of Eureka Consolidated	194	8 37 3000
Duke part of	821 A & B Sheet No. 1 & 2	8 38 5300
Dutch Flat Placer	647	8 36 400

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NAME	Mineral Survey Number	Account Number Map, Tax Lot No.
Eagle part of Pathfinder group	867 Sheet No. 1	7 43 1300
Eagle No. 2 part of Imperial Consolidated Quartz Claim Mill Sites	461 A & B	8 36 400
Eagle No. 2 Mill Site part of Imperial Consolidated Quartz Claim & Mill Sites	461 A & B	8 36 400
Eagle Quartz Mine	Sur. No. 5	6 45 27 200
East Fari View part of Bald Mountain Consolidated	477	8 36 1100
East Gem part of	798	8 44 4400
East Gem Extension South part of	798	8 44 4400
East Side part of	798	8 44 4400
Eclipse part of Pathfinder group	867 Sheet No. 2	7 43 1300
Eldorado part of Equinox group	780 Sheet No. 2	6 45 28 200
Eldorado part of	821 A & B Sheet No. 1 & 2	8 38 5300
Elena part of Gigantic Consolidated	722	7 42 4400
Elkhorn Consolidated Big Spring; Culumet; Gold Bug; Hecla; Monitor; Silverbug; Tiptop; Willamette	418	8 38 4800
Elkhorn Extension Consolidated Blude Ledge; Elkhorn Extension; Stella	208	8 38 5600
Elkhorn	167	8 38 5600
Emma part of Bonanza	332	10 35½ 300
Equinox Group	780 Sheet No. 1 & 2	6 45 27 200

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NAME	Mineral Survey Number	Account Number Map, Tax Lot No.
Fraction; Equinox; Masonic; University; Surplus; Judge; Temple; Turk; Alaska; Coup D'or; Eldorado		6 45 28 200
Eraskle Quartz Mining Claim	591	8 37 2300
Eureka part of McDougall group	587	6 48 200
Eureka Consolidated Cracker; Donaldson; Eureka; Victor	194	8 37 3000
Eureka Mill Site part of	799 A & B	6 45 800
Eureka Quartz	563	10 35 600
Eureka Quartz Mine & Mill Site Lot 37A; Lot 37B	Sur. No. 15	8 37 400
Euterpe part of Niobe Consolidated	727	10 35½ 200
Evans part of South Pole & Evans Claims	422	8 37 1600
Evening Star part of Ibex Consolidated (part in Grant Co.)	421	9 36 700
Evening Star Consolidated Evening Star; Meadock; Saturn	225	10 36 300
Excelsior No. 2	244	8 37 400
Excelsior Quartz Mine Lot 38	Sur. No. 16	8 37 400
Excuse Consolidated Excuse; Excuse No.1	356	8 38 4400
Extension part of Sherman Consolidated	701	8 38 5000
Fair View part of Bald Mountain Consolidated	477	8 36 1100
First Chance part of Ancora Consolidated	679	9 37 1000

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NAME	Mineral Survey Number	Account Number Map, Tax Lot No.
Flagstaff & Crescent		6 45 27 200
Flat part of Spring Consolidated	868	6 43 300
Florence part of Red Fox; Old Gray Fox & Florence Lodes	765	6 45 28 200
Florence part of Clipper Consolidated	732	9 41 2600
Forest City Quartz Mine	236	8 37 900
Forest Queen Consolidated Forest Queen; Forest Queen Extension; Lone Star	219	6 45 28 500
Foster part of Pathfinder group	867 Sheet No. 1	7 43 1300
Fox No. 1	U.S. Patent #1156763	11 45 3300
Fox No. 2	U.S. Patent #1156763	11 45 3300
Fox No. 3	U.S. Patent #1156763	11 45 3300
Fox No. 11	U.S. Patent #1156763	11 45 3300
Fox No. 12	U.S. Patent #1156763	11 45 3300
Fox No. 13	U.S. Patent #1156763	11 45 3300
Fox No. 14	U.S. Patent #1156763	11 45 3300
Fox No. 15	U.S. Patent #1156763	11 45 3300
Fox No. 16	U.S. Patent #1156763	11 45 3300
Fox No. 17	U.S. Patent #1156763	11 45 3300
Fox No. 18	U.S. Patent #1156763	11 45 3300
Fox No. 19	U.S. Patent #1156763	11 45 3300
Fox No. 20	U.S. Patent #1156763	11 45 3300
Fraction part of Equinox group	780 Sheet No. 1	6 45 28 200

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NAME	Mineral Survey Number	Account Number Map, Tax Lot No.
Fraction Lode Claim	668	6 48 1600
Fractional Gem part of	798	8 44 4400
Fractional Quartz part of Consolidated Fractional	238	8 37 400
Fritz part of Anniversary	494	8 37 400
Gambler part of Cleveland Consolidated & Mill Site	240	12 44 2400
Gem part of Gem & Hercules	369	6 45 28 200
Gem & Hercules	369	6 45 28 200
Gem Extension North part of	798	8 44 4400
General Sherman part of Sherman Consolidated	701	8 38 5000
Gigantic Consolidated Atlantic; Elena; Gigantic; Hercules; Jerry; Pacific	722	7 42 4400
Gladstone part of Bismark Consolidated	471	8 37 400
Gladston Quartz Claim part of Robinson Consolidated	251	8 38 5500
Glasgow part of	821 A & B Sheet No. 1 & 2	8 38 5300
Gulconda Quartz Claim	348	8 37 2500
Gold Bug part of Elkhorn Consolidated	418	8 38 4800
Gold Cup part of Cleveland Consolidated Quartz Claim & Mill Site	240	12 44 2400
Gold Dollar	424	8 37 400

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NAME	Mineral Survey Number	Account Number Map, Tax Lot No.
Gold Hill part of Gold Ridge Consolidated	609	8 44 3900
Gold Hill Lode Mining Claim	485	8 36 1200
Gold Note part of Red Chief Consolidated	498	8 36 300
Gold Wedge Placer Mine	392	9 37 29 400
Golden Eagle Consolidated Crow Fractional; Danae; Gold Eagle; Harold F; Mammoth Comstock; Yellow Jacket	555	10 35 800
Golden Eagle Quartz Claim part of Arastra Rigdge Consolidated	210	8 38 5600
Golden Eagle Quartz Mine	Sur. No. 7	7 43 200
Golden Gate part of Homestead & Golden Gate Mining Claim	514	9 37 300
Golden Hope part of Hope group	763	9 39 6800
Golden Net part of Hidden Treasure (part in Grant Co.)	554	10 35 400
Golden Reef	639	13 42 1300
Golden Thread part of Rattler Consolidated	438 A & B	12 42 1900
Golden Wedge part of McDougall group (part in Wallowa Co.)	587	6 48 200
Goldridge Consolidated Goldridge; Johnny Bull; Jessie Livingston; Silver Queen; Uncle Sam; Gold Hill	609	8 44 3900
Goldsmith part of Crystal Palace Consolidated	293 Amended	8 44 5400
Goodluck part of Uncle Dan Consolidated	703	9 41 4400

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NAME	Mineral Survey Number	Account Number Map, Tax Lot No.
Good Luck & Jack Rabbit Lodes	772	6 40 1700
Goodyear part of Pathfinder group	867 Sheet No. 1	7 43 1300
Gore Mining Claim	320	6 45 28 200
Gould & Curry part of Colorado, Gould & Curry	500	8 37 500
Grand Majestic part of Crystal Palace Consolidated	293 amended	8 44 5400
Granite part of Last Chance group	771	6 45 100
Gray Eagle Consolidated Dolly Gray; Gray Eagle	543	6 48 160
Great American Lode	684	8 37 1500
Green Discovery	Lot #71	13 42 200
Green Horn (all in Grant Co.)	458	
Green Horn part of Ibex Consolidated (in Grant Co.)	421	
Grizzly Bear part of Bear Consolidated	470	9 37 200
Gypsum Mining Claim	308	13 45 1400
H.T.H. part of Mountain View Consolidated	436	8 37 300
Haggard part of Bonanza Consolidated	332	10 35½ 300
Haggard West part of Bonanza Consolidated	332	10 35½ 300
Happy Jack; Midnight; Snowflake; Defender; Shamrock; Reliance; Highland Fraction; Highland; Duke; Glasgow; Bannockburn; Eldorado; Highland Mill Site	821 A & B Sheet No. 1 & 2	8 37 1200 8 37 1300 8 37 5300

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NAME	Mineral Survey Number	Account Number Map, Tax Lot No.
Hardin W. Estes Placer	Lot #69	9 39 5200 9 39 5300
Harold F. part of Golden Eagle Consolidated	555	10 35 800
Harvest Queen part of McDougall group (part in Wallowa Co.)	587	6 48 200
Hattie B. Quartz & Rainbow Mill Site	661 A & B	13 42 1700
Hawkeye part of Herbert Consolidated Lode	716	9 41 3600
Hecla part of Elkhorn Consolidated	418	8 38 4800
Helena	314	6 45 28 200
Herbert Consolidated American Girl; Connecting Link; Hawkeye; Herbert; Nellie M.; Rainey Day	716	9 41 3600
Herculean	211	8 36 800
Hercules part of Gem & Hercules	369	6 45 28 200
Hercules part of Gigantic Consolidated	722	7 42 4400
Hidden Treasure Consolidated Golden Net (part in Grant Co.)	554	10 35 400
Highland part of	821 A & B Sheet No. 1 & 2	8 38 5300
Highland Fraction part of	821 A & B Sheet No. 1 & 2	8 38 5300
Highland Mill Site part of	821 A & B Sheet No. 1 & 2	8 37 1200
Homestake part of Oregon Chief group	706	8 36 900
Homestake & Golden Gate	514	9 37 300

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NAME	Mineral Survey Number	Account Number Map, Tax Lot No.
Hope Group Golden Hope; Hopefull; Iron Cross	763	9 39 6700
Hopefull part of Hope group	763	9 39 6700
Huddleston	239	13 43 400
Hurry Up part of Rachel Consolidated	317	9 41 1000
Hydraulic Placer	410	8 37 2900
Ibex part of Ibex Consolidated (all in Grant Co.)	421	
Ibex Consolidated Evening Star; Greenhorn (in Grant Co.); Ibex (in Grant Co.); Natchez (in Grant Co.); O.K. (in Grant Co.); Pyrites (in Grant Co.)	421	9 36 700
Ida part of Uncle Dan Consolidated	703	9 41 4400
Imperial Consolidated Quartz Claim & Mill Sites Eagle No. 2; Eagle No. 2 Mill Site; Imperial; North Eagle (part in Grant Co.); North Winchester (part in Grant Co.); Olympia; Raleigh; Raleigh Millsite; Silver Star; Top Hand (part in Grant Co.); Winchester (part in Grant Co.); Olympia Mill Site	461 A & B	8 36 400
Independence part of Union Consolidated	508	10 35½ 300
Iron Cross part of Hope group	763	9 39 6800
Iron Dyke Group Iron Dyke; Madie; Schley; Shafner; Sampson Sley; Violet	466	6 48 1600
Iwalani part of Banner Consolidated	491	8 37 200

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NAME	Mineral Survey Number	Account Number Map, Tax Lot No.
J. C. Powers Placer	Lot #68 A & B	12 42 2500 12 42 3300
J. D. Young & Co.'s Placer	Lot #91	9 37 29 200 9 37 29 300
Jack Rabbit Lodes part of Good Luck & Jack Rabbit Lodes	772	6 40 1700
Jackpot Fraction No. 2 part of Aspen Consolidated Lode Claim	673	6 48 1600
James M. Cummings Placer	Tract No. 48	12 42 500
James P. Faull Placer	124	11 45 3400
James P. Faull Quartz Mine	122	11 45 3500
Jeremiah J. Dooleys	Lot #46	12 41 2000
Jerry part of Gigantic Consolidated Lode Claim	722	7 42 4400
Jesse Livingston part of Goldridge Consolidated Lode Claims	609	8 44 3900
Jim Crow Quartz Mining Claim	719	13 42 1700
John O. Faull Quartz Mine	123	11 45 3500
Johnny Bull part of Goldridge Consolidated Lode Claims	609	8 44 3900
Jones & Carpenter Placer	Lot #111	9 39 8 100
Jordan Consolidated Placer Mine Deep Gravel Placer; Jordan Placer	509	10 35½ 400
Joseph H. Shinn Goldbearing Placer	Sur. No. 70	13 43 1400
Judge part of Equinox group	780 Sheet No. 1	6 45 28 200
K & K part of Lulu Consolidated Lode Claim	718	13 42 1700

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NAME	Mineral Survey Number	Account Number Map, Tax Lot No.
Katherine part of Ancora Consolidated Lode Claim	679	9 37 1000
Kearsarge part of California Mine	449	8 36 600
Keauhoi part of Banner Consolidated Quartz Claim	491	8 37 200
Kenton part of Bald Mountain Consolidated Quartz Mining Claim	477	8 36 1100
Kentucky part of Aspen Consolidated Lode	673	6 48 1600
Ketchum part of Chloride Consolidated Quartz Mine & Mill Site	254 A & B	8 37 1000
Keystone Fraction part of Aspen Consolidated Lode	673	6 48 1600
Kirham Placer Claim	707	11 40 1500
Kitchi part of Bald Mountain Consolidated Quartz	477	8 36 1100
Klondike Placer Claim	611	11 40 3900
Klondike Quartz Claim	345	8 38 5500
Knight Quartz Mine	Sur. No. 9	7 43 200
La Cross part of Pioneer, Pacific & La Cross Lodes	813	9 36 500
Lakeview Consolidated Quartz Lakeview; Lakeview Extension; Spring	519	8 37 700
Last Chance Group Maverick; White Swan; North Half Last Chance; Granite Lodes	771	6 45 28 200 6 45 100
Last Chance Lode Claim	669	6 48 1600

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NAME	Mineral Survey Number	Account Number Map, Tax Lot No.
Leigh part of Mountain View Consolidated Mining Claims	436	8 37 300
Levi W. Nelson Placer	Lot #43	9 39 8 200 to 600
Lilac Quartz	376	9 36 401
Lily Langtry part of Lost Horse, Lily Langtry & Columbia Lodes & Eureka Mill Site	799 A & B	6 45 800
Lime Placer Lime No. 1; Lime No. 2	467	6 48 300
Little Bay Horse part of Crystal Palace Consolidated Quartz Mine	293 Amended	8 44 5400
Little Jesse part of Boone Consolidated Quartz	384	10 35½ 400
London part of Pathfinder group	867 Sheet No. 1	7 43 1300
Lone Star part of Forest Queen Consolidated Quartz	219	6 45 28 500
Lookout part of Aspen Consolidated Lode	673	6 48 1600
Lost Horse; Lily Langtry & Columbia Lodes & Eureka Mill Site part of	799 A & B	6 45 800
Lotta part of Mountain View Consolidated	436	8 37 300
Louise part of Buckeye Group Quartz Claims	656	7 40 1400
Louise Consolidated Placer Alexander Placer Claim; Cassel Placer Claim; Louise Placer Claim	257	9 37 200
Lulu part of Snow Creek Mine	541	10 35 900

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NAME	Mineral Survey Number	Account Number Map, Tax Lot No.
Lulu Consolidated Lode Claim Black Hawk; Lulu; K & K; Ratcliff; Tank	718	13 42 1700
Luxemburg Quartz Claim	428	8 36 1800
Madie part of Iron Dyke group	466	6 48 1600
Maidens Dream Consolidated Maidens Dream; Devils Dream	599	9 36 900
Maid of Erin part of Oregon Chief group	706	8 36 900
Majestic Quartz Claim	423	8 37 400
Mammoth Comstock part of Golden Eagle Consolidated Quartz	555	10 35 800
Mammoth Quartz Mine	129	8 36 1400
Manhattan part of Arctic group	779	6 45 27 200
Mary Agnes Consolidated Placer Mine	198	9 37 1100
Maryland Placer part of Baring Consolidated Placer	259	8 37 400
Masonic part of Equinox group	780 Sheet No. 1	6 45 28 200
Maverick part of Last Chance group	771	6 45 28 200
Mayflower Lode & Ohio Mill Site part of	817 A & B	6 45 28 200
McDougall Group Anicondia (part in Wallowa Co.); Copper King (part in Wallowa Co.); Copper King Extension (part in Wallowa Co.); Golden Wedge (part in Wallowa Co.); Harvest Queen (part in Wallowa Co.); Union; Pivot; Eureka; Copper Queen; Miners Exchange	587	6 48 200

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NAME	Mineral Survey Number	Account Number Map, Tax Lot No.
McKinley part of Sherman Consolidated Quartz	701	8 38 5000
Meadock Quartz Claim part of Evening Star Consolidated Quartz	225	10 36 300
Meadow part of Bald Mountain Consolidated Quartz	477	8 36 1100
Meadow Group Placer Mine Meadow Placer; No Name Placer	393	9 37 29 1200
Michael Hyde Quartz Mine	Lot #121	9 41 2900
Michigan part of Pathfinder group	867 Sheet No. 2	7 44 100
Michigan part of Uncle Dan Consolidated Lode	703	9 41 4400
Michigan Lode	803	8 44 3500
Midas part of Banner Consolidated Quartz	491	8 37 200
Midnight part of	821 A & B Sheet No. 1 & 2	8 37 1300
Midnight Quartz	643	8 36 900
Miner Lode	646	8 36 400
Miners Exchange part of McDougall group	587	6 48 200
Miners Hope Quartz part of Arastra Ridge Consolidated Quartz	210	8 38 5600
Missouri Quartz part of Arastra Ridge Consolidated Quartz	210	8 38 5600
Mogul	337	9 41 2900
Monarch Marble Claim	261	9 38 700

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NAME	Mineral Survey Number	Account Number Map, Tax Lot No.
Monitor part of Elkhorn Consolidated Quartz	418	8 38 4800
Montana Consolidated Mining Claim Butte; Cliff; Montana; Omer	321	6 45 28 200
Montie Consolidated Quartz Cracker Jack; Montie; New Emma; Wonder	385	9 41 2500
More or Less Quartz	298	8 37 400
Morning Star Lode	800	8 36 1900
Motor Quartz	309	6 45 28 200
Mountain Belle Consolidated Quartz Claim Mountain Belle Quartz Claim; Sweepstakes Quartz Claim	264	8 38 5100
Mountain Belle Quartz Mine	177	9 37 600
Mountain Chief Quartz Claim part of Basin Consolidated Mining Claim	324	6 45 300
Mountain Robin part of Mountain Robin Consolidated Mining Claim	571	6 45 27 200 6 45 28 600
Mountain Robin Consolidated Mountain Robin; Van Winkle	571	6 45 27 200
Mountain View part of Valley View group	801	6 45 200
Mountain View Consolidated H.T.H.; Leigh; Lotta; Mountain View; W.W.C.	436	8 37 300
Mountain View Quartz Claim	265	8 38 5500
Myrthful part of Carpenter group (part in Grant Co.)	458	10 35 200
Myrtle part of Red Chief Consolidated Mine	498	8 36 300
Myrtle Quartz Claim	375	9 36 400

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NAME	Mineral Survey Number	Account Number Map, Tax Lot No.
Natchez part of Ibex Consolidated (all in Grant Co.)	421	
Nellie Grant Quartz Mine & C. T. Bradley Mill Site Nellie Grant Claim 40A; C. T. Bradley Mill Site Claim 40B	Sur. No. 12	7 43 200 7 43 700
Nellie M. part of Herbert Consolidated Lode	716	9 41 3600
Neptune Lode	804	8 44 5400
New Emma part of Montie Consolidated	385	9 41 2200
New Gem No. 2 Extension South part of	798	8 44 4400
New York part of Pathfinder group	867 Sheet No. 1	7 43 1300
Niobe Consolidated Cleopatra; Euterpe; Niobe	727	10 35½ 200
No Name Placer part of Meadow Group Placer	399	9 37 29 1200
Norma Quartz Claim part of Rachel Consolidated	317	9 41 1000
North Eagle part of Imperial Consolidated Quartz Claim & Mill Sites (part in Grant Co.)	461 A & B	8 36 400
North Half Last Chance part of Last Chance group	771	6 45 28 200
North Pole	181	8 37 400
North Star No. 2	502	8 37 400
North Star	241	8 37 400
North Star part of Robinson Consolidated	251	8 38 5500

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NAME	Mineral Survey Number	Account Number Map, Tax Lot No.
North Star part of Rachel Consolidated	317	9 41 1000
North Winchester part of Imperial Consolidated Quartz Claim & Mill Sites (part in Grant Co.)	461 A & B	8 36 400
Northeast Gem part of	798	8 44 4400
Northern Consolidated Creek Placer Claim; Northern Placer Claim; Southern Placer Claim	245	8 37 400
Northwest Gem part of	798	8 44 4400
O. K. part of Ibex Consolidated (all in Grant Co.)	421	
O. K. Consolidated O. K.; Snowstorm	301	13 45 700
O. S. Buckland	Lot #45	12 41 2000
Ohio part of Red Chief Consolidated	498	8 36 300
Ohio Mill Site part of Mayflower Lode & Ohio Mill Site	817 A & B	6 45 28 200
Ohio	381	8 37 2400
Old Grey Fox part of Red Fox; Old Grey Fox & Florence Lodes	765	6 45 28 200
Old Middleman & Tinhorn Quartz Claims & Mill Sites Cyclone M.S.; Tin Horn; Tin Horn M.S.; Old Middleman	367 A & B	8 37 2600
Olympia part of Imperial Consolidated Quartz Claim & Mill Sites	461 A & B	8 36 400

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NAME	Mineral Survey Number	Account Number Map, Tax Lot No.
Olympia Mill Site part of Imperial Consolidated Quartz Claim & Mill Sites	461 A & B	8 36 400
Omer part of Montana Consolidated	321	6 45 28 200
On Time part of Cleveland Consolidated Quartz Claim & Mill Site	240	12 44 2400
Ophir part of Pathfinder group	867 Sheet No. 1	7 43 1300
Ophir Consolidated Ophir (part in Grant Co.)	552	10 35 500
Orazaba part of Climax Consolidated	336	
Oregon part of California Mine	449	8 36 600
Oregon Chief & Oregon Chief No. 3 part of Oregon Chief; Oregon Chief No. 3	736	13 42 1900
Oregon Chief Group Anaconda; Homestake; Maid of Erin; Oregon Chief	706	8 36 1000
Oregon Chief No. 2 Lode	837	13 42 1900
Oregon Quartz Claim part of Cracker & Oregon Consolidated Quartz Claim	237	8 37 400
Orleans Quartz Mining Claim & Mill Site Orleans; Orleans Mill Site	653 A & B	9 37 500
Oswego part of Sherman Consolidated	701	8 38 5000
Pacific part of Gigantic Consolidated	722	7 42 4400
Pacific part of Pioneer, Pacific & La Cross Lodes	813	9 36 500

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NAME	Mineral Survey Number	Account Number Map, Tax Lot No.
Pacific part of Bonanza Consolidated	332	10 35½ 300
Parrot part of Boone Consolidated	384	10 35½ 400
Pathfinder Group Ace; Coin; Coin No. 2; Eagle; Eclipse; Foster; Goodyear; London; Michigan; New York; Ophir; Pathfinder; Sovereign; Victor	867 Sheet 1 & 2	7 43 1300 7 44 100
Pearl Quartz Claim	408	8 38 4900
Phoenix Consolidated Aerial; Aerial No. 1; Phoenix	546	10 35 600
Phoenix	311	6 45 28 200
Pioneer, Pacific & La Cross Lodes part of	813	9 36 500
Pivot part of McDougall Group	587	6 48 200
Pleasant Valley part of Brazos Consolidated	634	10 41 500
Poorman part of Golden Eagle Consolidated	555	10 35 800
Portland part of Red Chief Consolidated	498	8 36 300
Portland part of Clipper Consolidated	732	9 41 2600
Portland Group Portland No. 1; Portland No. 2	784	6 45 900
Portland No. 2 part of Clipper Consolidated	732	9 41 2600
Prescott Quartz Claim	313	6 45 28 200
Protection part of Anniversary Consolidated	494	8 37 400
Protection part of Cyclone Consolidated	366	8 37 2600

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NAME	Mineral Survey Number	Account Number Map, Tax Lot No.
Protection part of Union Consolidated	508	10 35½ 300
Pyrites part of Ibex Consolidated (all in Grant Co.)	421	
Queen Bee part of Brazos Consolidated	634	10 41 500
R. T. Lincoln Placer	612	11 40 3900
Rachel Consolidated Hurry Up; North Star Quartz Claim; Norma Quartz Claim; Rachel Extension Quartz Claim; Rachel Quartz Claim	317	9 41 1000
Rachel Extension Quartz Claim part of Rachel Consolidated	317	9 41 1000
Raging Roland	242	8 37 400
Railroad No. 1 & Railroad No.2 Lodes	852	12 43 2100
Rainbow & Boulder Quartz Claims Boulder; Rainbow	447	9 36 200
Rainbow Mill Site part of Hattie B.; Rainbow Mill Site	661 A & B	13 42 1700
Rainbow	662	13 42 1700
Rainey Day part of Herbert Consolidated	716	9 41 3600
Raleigh part of Imperial Consolidated Quartz Claim & Mill Sites	461 A & B	8 36 400
Raleigh Mill Site part of Imperial Consolidated Quartz Claim & Mill Sites	461 A & B	8 36 400
Rapid Quartz Mining Claim	300	13 45 600
Ratcliff part of Lulu Consolidated Lode Claim	718	13 42 1700

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NAME	Mineral Survey Number	Account Number Map, Tax Lot No.
Rattler Consolidated Quartz Mine & Mill Site; Golden Thread; Rattler; Rattler Mill Site	438 A & B	12 42 1900
Red Bird	751	14 45 600 14 45 700
Red Boy part of Basin Consolidated	324	6 45 300
Red Chief Consolidated Angola; Gold Note; Myrtle; Ohio; Portland; Red Chief	498	8 36 300
Red Fox part of Bell Baker Consolidated	481	8 36 1300
Red Fox, Old Grey Fox & Florence Lodes part of	765	6 45 28 200
Red Jacket	Sur. No. 10	6 45 28 200
Red Ledge	249	9 41 3500
Reed part of Bald Mountain Consolidated	477	8 36 1100
Reliance part of	821 A & B Sheet No. 1 & 2	8 38 5300
Relocated Pittsburg Quartz Mining Claim	386	7 40 1100
Richard Dounie Placer	Lot #92	9 37 1100
Richmond part of Union Consolidated	508	10 35½ 300
Risk part of Samson Consolidated	493	8 37 1700
River View, Dixie & Devel Slide Lodes part of	823	6 48 1800
Robert Emmett Quartz Mine	Sur. No. 14	6 45 700
Robert Kitchen Placer	Lot #56	9 39 6400
Robinson Consolidated Quartz Claim Bellview; Gladstone; North Star;	251	8 38 5500

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NAME	Mineral Survey Number	Account Number Map, Tax Lot No.
Rosebud	708	8 44 3500
Ruby Fraction part of Aspen Consolidated Lode Claim	673	6 48 1600
Saddle part of Spring Consolidated	868	6 43 300
Saginaw part of Bald Mountain Consolidated	477	9 36 600
Sailor Jack part of Aspen Consolidated Lode	673	6 48 1600
St. Croix	720	13 42 1700
St. Paul Quartz Mine St. Paul; Spokane	857	9 41 3800
Sampson part of Iron Dyke group	466	6 48 1600
Sampson Consolidated Risk; Sampson; Venture	493	8 37 1700
Saturn Quartz Claim part of Evening Star Consolidated	225	10 36 300
Saw Mill Gulch Consolidated Placer	232	8 44 4500
Schley part of Iron Dyke group	466	6 48 1600
Senator Tabor Quartz Claim & Mill Site Senator Tabor; Senator Tabor Mill Site	370 A & B	6 45 500
Shafner part of Iron Dyke group	466	6 48 1600
Shamrock part of	821 A & B Sheet No. 1 & 2	8 38 5300
Sherman Consolidated Bland; Bryan; Deming; Extension; General Sherman; McKinley; Oswego; Sixteen to One	701	8 38 5000
Shyster Consolidated Blackmailer Quartz Claim; Shyster Quartz Claim	315	8 37 400

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NAME	Mineral Survey Number	Account Number Map, Tax Lot No.
Silver Bug part of Elkhorn Consolidated	418	8 38 4800
Silver Dick & Blue Swan Quartz Mining Claims part of	745	9 37 400
Silver Queen part of Goldridge Consolidated	609	8 44 3900
Silver Star part of Imperial Consolidated Quartz Claim & Mill Sites	461 A & B	8 36 400
Sixteen to One part of Sherman Consolidated	701	8 38 5000
Sley part of Iron Dyke group	466	6 48 1600
Small Hope Placer	189	8 37 400
Snowball part of Snow Creek Mine	541	10 35 900
Snow Creek Mine Lulu; Snowball; Snow Creek; Zelda	541	10 35 900
Snowflake part of	821 A & B Sheet No. 1 & 2	8 37 1300
Snowstorm part of O. K. Consolidated	301	13 45 700
Sound Money Lode	701 Amended	8 38 5000
South Half of Last Chance Quartz Claim	206	6 45 28 200
South Placer Claim	705	11 40 5200
South Pole & Evans Quartz Claims part of	422	8 37 1600
Southern Placer Claim part of Northern Consolidated Placer Claim	245	8 37 400
Sovereign part of Pathfinder group	867 Sheet No. 1	7 43 1300

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NAME	Mineral Survey Number	Account Number Map, Tax Lot No.
Spadra part of Uncle Dan Consolidated Lode	703	9 41 4400
Spokane part of St. Paul Quartz Mine	857	9 41 3800
Spring part of Spring Consolidated group	868	6 43 300
Spring part of Lakeview Consolidated	519	8 37 700
Spring Consolidated Group Buttercup; Flat; Saddle; Spring; Wild Buck No. 1	868	6 43 300
Stella part of Elkhorn Extension Consolidated Quartz Mine	208	8 38 5600
Stinson & Grainger Placer Mine	390	9 37 29 200
Summit Quartz Claim part of Consolidated Fractional Quartz Claim	238	8 37 400
Summit Quartz Mine	Sur. No. 8	7 43 200
Sunset part of Virginia Consolidated Quartz Claim	318	9 41 2900
Sunset Extension Consolidated Quartz Claim Sunset Extension; Virginia Extension	333	9 41 2900
Surplus part of Equinox group	780 Sheet No. 1	6 45 28 200
Sweepstakes Quartz Claim part of Mountain Belle Consolidated Quartz Claim	264	8 38 5100
Tallman Winning & Mounteys	Lot #50A Lot #50B	12 41 2400 13 41 200
Tamarack Placer	303	8 37 1600
Tank part of Lulu Consolidated Lode	718	13 42 1700

NAME	Mineral Survey Number	Account Number Map, Tax Lot No.
Sumpter Deep Gravel Mine	226	9 37 20, TL 1600 9 37 29, TL 100 9 37 29, TL 400 9 37 29, TL 500
Sumpter Placer Mine	335	9 37 29, TL 400

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NAME	Mineral Survey Number	Account Number Map, Tax Lot No.
Telephone part of Wide West; Century; Charleston & Telephone Lodes	378	8 37 2500
Telephone Lode	378 Amended	8 37 2500
Temple part of Equinox group	780 Sheet No. 1	6 45 28 200
Three Star part of Bald Mountain Consolidated	477	9 36 600
Tillamook part of Aspen Consolidated Lode	673	6 48 1600
Tin Horn part of Old Middleman & Tin Horn Quartz Claims & Mill Sites	367 A & B	8 37 2600
Tin Horn M. S. part of Old Middleman & Tin Horn Quartz Claims & Mill Sites	367 A & B	8 37 2600
Tip Top part of Elkhorn Consolidated	418	8 38 4800
Tom Payne Quartz Mine	192	9 39 2500
Top Hand part of Imperial Consolidated Quartz Claim & Mill Sites (part in Grant Co.)	461 A & B	8 36 400
Trail part of Valley View group	801	6 45 200
Trojan part of Dunn & Norton group	778	6 45 28 200
Turk part of Equinox group	780 Sheet No. 2	6 45 27 200
Uncle Dan Consolidated Lode Carrie; Goodluck; Ida; Michigan; Spadra; Uncle Dan	703	9 41 4400
Uncle Sam part of Goldridge Consolidated Lode	609	8 44 3900

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NAME	Mineral Survey Number	Account Number Map, Tax Lot No.
Union part of McDougall group	587	6 48 200
Union Consolidated Quartz Alaska; Crown Point; Independence; Protection; Richmond	508	10 35½ 300
Union Quartz Claim	310	6 45 28 200
Union Quartz Claim	220	8 44 1300
University part of Equinox group	780 Sheet No. 1	6 45 28 200
Valley View Group Valley View No. 1; Valley View No. 2; Valley View No. 3; Mountain View; Trail; Black Eagle	801	6 45 200
Van Winkle part of Mountain Robin Consolidated	571	6 45 28 600
Venture part of Sampson Consolidated	493	8 37 1700
Victor part of Pathfinder group	867 Sheet No. 2	7 43 1300
Victor Placer Claim part of Eureka Consolidated Placer	194	8 37 3000
Villard Quartz Claim	267	8 37 400
Violet part of Iron Dyke group	466	6 48 1600
Virgin part of Carpenter group (part in Grant Co.)	458	10 35 200
Virgin Lode Claim (part in Grant Co.)	458	10 35 200
Virginia Consolidated Quartz Claim Sunset; Virginia	318	9 41 2900
Virginia Extension part of Sunset Extension Consolidated Quartz Claim	333	9 41 2900

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NAME	Mineral Survey Number	Account Number Map, Tax Lot No.
Virtue Extension No. 1; Virtue Extension No. 2; Virtue Extension No. 3 part of	858	9 41 2800
Virtue Gold Mining Co. Rock Claim (see 399)	Lot #53	9 41
Virtue Valley part of Clipper Consolidated Lode	732	9 41 2600
W. R. Curtis & Co.	77	12 41 2200
W. W. C. part of Mountain View Consolidated	436	8 37 300
Walter Fernald Gold Bearing Placer	Lot #54 A Lot #54 B	12 42 3200 12 42 3400
Webfoot Placer Claim	190	8 37 400
West Gem part of	798	8 44 4400
White Elephant part of Boone Consolidated	384	10 35½ 400
White Swan part of Last Chance group	771	6 45 28 200
White Swan Consolidated White Swan No. 1 Quartz Claim; White Swan No. 2 Quartz Claim	248	9 41 3500
Whitehall part of Bald Mountain Consolidated	477	8 36 1100
Whitman Quartz Mine	Sur. No. 1	6 45 27 200
Wide West, Century, Charleston & Telephone Lodes part of	378	8 37 2500
Wild Buck No. 1 part of Spring Consolidated group	643	6 43 300
Willamette part of Elkhorn Consolidated	418	8 38 4800
Willamette Placer Claim	191	8 37 400

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NAME	Mineral Survey Number	Account Number Map, Tax Lot No.
William L. Sutton, George W. Lake & Joel E. Meachum Placer	Lot #51	12 41 1700
Williams Quartz Claim & Mill Site	182 A & B	8 37 400
Winchester part of Imperial Consolidated (part in Grant Co.)	461 A & B	8 36 400
Winning Hand part of California Mine	449	8 36 600
Winterville Placer Claim	37	10 35½ 600
Wonder part of Montie Consolidated	385	9 41 2500
Yankey Jack part of Yankey Jim	490	8 37 600
Yankey Jim Yankey Jack; Yankey Jim	490	8 37 600
Yellow Jacket part of Buckeye group	656	7 40 1400
Yellow Jacket part of Golden Eagle Consolidated	555	10 35 800
Young American	353	9 39 8 900
Zelda part of Snow Creek Mine	541	10 35 900

VIII. SUMMARY GOAL V OPEN SPACES, SCENIC AND HISTORIC AREAS, AND NATURAL RESOURCES FINDINGS and CONCLUSIONS

A. Summary Open Spaces, Scenic and Historic Areas, and Natural Resources Findings

Based upon the information in Sections I through VII of the Goal V element of this Plan and/or knowledgeable resource people, the county governing body finds that:

1. Some of the resources identified by this goal have been inventoried and analyzed according to the Goal 5 Administrative Rule (OAR 660-16-000). However it is recognized by the County that in some instances a more detailed and conclusive inventory must be done. Such an inventory shall be provided at periodic updates to this plan.

2. Conflicting or potentially conflicting uses of land exist in the county, sometimes involving the resources of this goal one with another; sometimes involving Goal 5 resources with land uses addressed by other goals.

3. Economic diversification and improvement in the county will require the development and utilization of all natural resources.

4. Coordination, cooperation, and development of natural resources, properly executed, will have acceptable environmental consequences.

B. Summary Open Spaces, Scenic and Historic Areas, and Natural Resources Policies

The County Governing body declares that a program for conserving and protecting the resources of this land use goal shall include:

1. The appropriate planning and regulation of land for compatible primary uses. For purposes of ORS 496.012, "primary uses" are those uses permitted outright under the local zoning ordinance.

2. The use of land exchanges, fee acquisition of land, conservation easements or tax incentives where appropriate and necessary to conserve and protect a natural resource.

3. The support of air, land, and water quality laws where appropriate and necessary to protect a natural resource.

4. The protection of potential sites for energy production, reservoirs, mineral resources and other particular resource sites against irreversible loss.