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FINAL REPORT

SOCIOECONOMIC ASSESSMENT FOR
THE SAGE POINT MINE PERMIT
APPLICATION BY EUREKA ENERGY
COMPANY

Submitted to:
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U.S. Office of Surface Mining
Denver, Colorado
November 11, 1981

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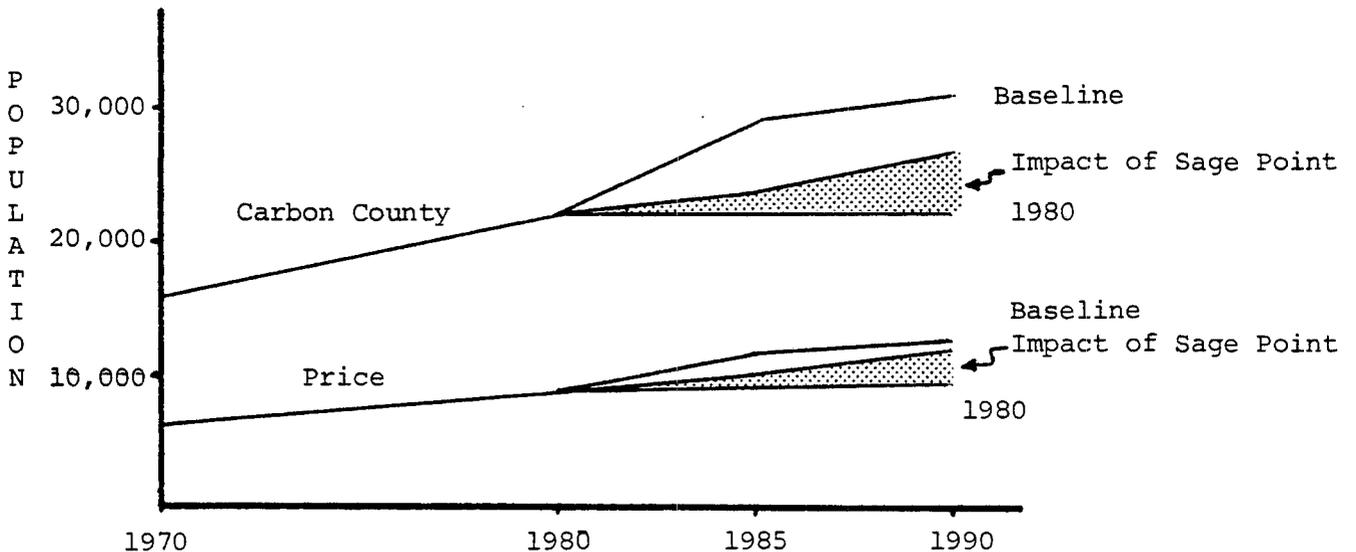
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SUMMARY

- Eureka Energy Company, a wholly-owned subsidiary of the Pacific Gas and Electric Company, proposes to develop the Sage Point Mine complex in central Carbon County, Utah.
- Development would begin in 1982, with construction to span 5 years. The estimated productive life of the mine complex exceeds 40 years.
- A maximum of 200 construction workers and 1,300 permanent workers would be employed at the facility.
- Peak annual coal production would be approximately 4.8 million tons in 1990. Total production over the life of the project would exceed 119 million tons.
- The development of Sage Point would have a socioeconomic sphere of influence centered on Carbon County, Utah, and the communities of Price and Wellington.
- The region has a history of coal mining and has recently become a major center of coal-fired electrical generation.
- State and local planning officials anticipate that additional mining and energy-related development will increase Carbon County's population by nearly 42 percent by 1990, up from approximately 23,000 at the present time.
- The Sage Point Project would result in a total increase in employment of over 2,000 jobs by 1990. The associated population increase would be approximately 5,300 persons. Of this total, 90 percent are expected to reside in Carbon County. Price and Wellington would be the most severely impacted communities.
- The Sage Point impacts would account for the equivalent of 84 percent of the total population increase expected between 1980 and 1990 under the baseline scenario (see the chart at the top of the next page).
- These impacts are significant and would translate into equally severe secondary impacts. The primary areas of concern include housing, education, and water and wastewater system capacity. Nearly 1,500 new homes would be required before 1990 just to accommodate the growth related to Sage Point.
- Local financial resources are already limited and might not be able to increase rapidly enough to meet the increased needs for public facilities and services.

POPULATION IMPACT OF THE SAGE POINT MINE
 CARBON COUNTY, UTAH, 1980-1990



- An aggressive and active mitigation plan by the applicant could significantly reduce the adverse nature of these impacts.

A RECENT ARTICLE IN THE SUN ADVOCATE (9/30/81) INDICATED THAT PACIFIC GAS AND ELECTRIC COMPANY, THE PARENT COMPANY OF EUREKA ENERGY COMPANY, INTENDS TO SELL THE SAGE POINT PROPERTIES. IF COMPLETED, THE SALE OF THE PROPERTY COULD ALTER THE TIMING, SCHEDULE OF DEVELOPMENT, AND IMPACTS ASSOCIATED WITH THIS MINE. DEPENDING ON THE DEGREE AND MAGNITUDE OF THE CHANGES, THE VALIDITY AND ACCURACY OF THIS ASSESSMENT MAY NEED TO BE REEXAMINED. HOWEVER, AT THE CURRENT TIME, THE PERMIT APPLICATION REMAINS ON FILE AT THE U.S. OFFICE OF SURFACE MINING (OSM) IN DENVER AND NO OFFICIAL STATEMENT TO WITHDRAW THE APPLICATION HAS BEEN FILED WITH THE OSM.

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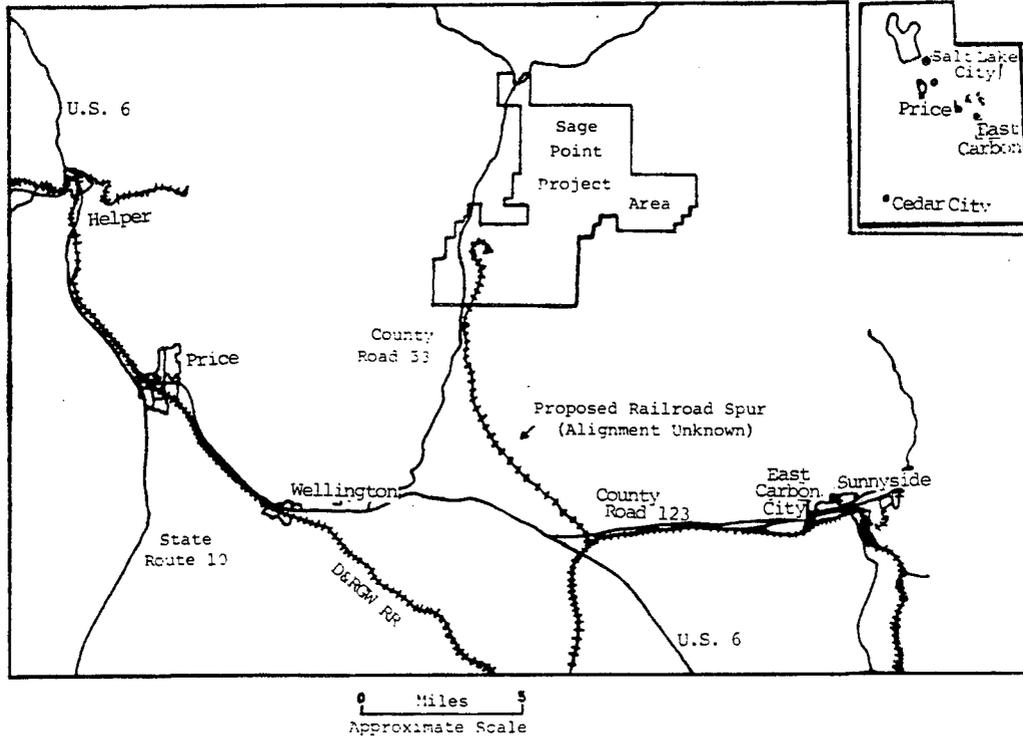
I. Description of the Proposed Action

Eureka Energy Company, a wholly-owned subsidiary of the Pacific Gas & Electric Company (PG&E), proposes to develop four new underground mines north of Wellington in the Books Cliffs coal fields of Carbon County, Utah. The coal is intended for use by PG&E to fuel one of its electric generating plants in California. The combined mines, named Fish Creek #1 and #2 and Dugout Canyon #1 and #2, would be known as the Sage Point-Dugout Canyon Project, hereafter referred to as Sage Point (Pt.). Fish Creek #1 and #2 would be located in the Fish Creek Canyon; approximate location Section 16, Township 13 S., Range 12 E. Dugout Canyon #1 and #2 would be located in Section 23, Township 13 S., Range 12 E. Central mine and rail loadout facilities are planned in Section 30, T. 13 S., R. 12 E.^{1a}

The Sage Pt. project site is located approximately 15 miles east-northeast of Price, Utah (see Figure 1). Over 10,000 acres of land are included within the project's boundaries. Of the total, approximately 85% is in Federal leases with 15% being either State leases or fee land held by PG&E. The fee land and leases were obtained through purchases from the Island Creek and Kennecott Coal Companies, and local interests.^{1b}

The mine plan proposes to begin development of Fish Creek #1 and #2 to begin in 1982, with Dugout Canyon #1 development starting in 1983 and Dugout Canyon #2 beginning in the fourth year, 1985.^{2,3,4} Approximately the first two years of operation of each mine would be involved with preliminary mine development with only limited coal production occurring. Thus, the total construction period would span five years with a peak construction employment level of 200 workers in the third year.⁵

Figure 1
Location Map
Sage Point Project



Once the preliminary development is completed, production would increase in each mine until the peak production capacity of approximately 4.8 million tons per year is reached in the twelfth year of operation.⁴ After maintaining that production level for eight years, total production and employment will decline over the 40 year anticipated life of the project. A total of 1300 permanent employees would be employed by the project at peak production. Lower levels of employment would occur both before and after the peak production period (years 12 through 20). A summary of each mine's operations is provided below, followed by a summary of total employment for the project through 1990.^{1c,4}

Figure 2
OPERATION SUMMARY
Sage Point Project^{1c,2,4}

	<u>First Operations Begin</u>	<u>Mine Life</u>	<u>Number of Yrs to Peak Production</u>	<u>Peak Annual Production</u>	<u>Total Production Over Life Of the Mine</u>
Fish Creek #1	1982	36 Yrs	12 Yrs	1.49 mmt.	30.6 mmt.
Fish Creek #2	1982	28 Yrs	9 Yrs	1.49 mmt.	26.5 mmt.
Dugout Canyon #1	1983	31 Yrs	8 Yrs	.82 mmt.	18.8 mmt.
Dugout Canyon #2	1985	46 Yrs*	7 Yrs	1.13 mmt.	43.2 mmt.

mmt = Million tons

*The anticipated mine life exceeds 40 years because the applicant expects to gain access to other properties to extend the operation.

Sage Point Project Employment, 1981-1990

	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Construction	0	50	100	200	100	50	0	0	0	0
Permanent	0	100	100	210	300	520	690	820	1080	1200*

*From 1991 to 2000, permanent employment will be approximately 1300 persons. After the year 2000, employment will decline as production is reduced.

The permit application also indicates that a railroad spur would be built from the Denver and Rio Grande Western Railroad line east of Wellington to a central loadout facility at the project site (see Figure 1). Coal would be transported from the mines to the loadout facility via a series of overland conveyors (see map 003-0002 in the permit application).^{1a}

Access to the Sage Point project would be via County Road 53 connecting to U.S. 6 just east of Wellington. County Road 53 is a bituminous-surfaced road which lies on the western border of the project and is currently used as the haul road for the Soldier Creek mine located northwest of the project. The applicant proposes to build two new access

roads connecting County Road 53 to two existing dirt and gravel roads
providing access to the Fish Creek and Dugout Canyons.^{1a}

II. Description of Site Influence/Existing Socioeconomic Environment

Eureka Energy Company's proposed Sage Point project would be located near the geographic center of Carbon County, Utah. Carbon County is a predominantly rural county with a limited number of communities. The two largest, Price and Helper, accounted for over 50 percent of the county's total population in 1980. The local economy has historically been, is currently, and will continue to be heavily dependent on coal mining. Its history thus parallels the role of coal in America's energy picture. In the late 1800's and early 1900's, local coal produced to supply manufacturing and transportation needs helped create a strong economy. As the use of petroleum resources increased in the 1950's and 1960's, the local economy declined as coal production decreased. Beginning in the late 1970's, coal again became a valuable resource, particularly Utah's high Btu, low sulfur coal. Locally, this resurgence of coal mining has led to tremendous population and economic growth in the region.⁶

Along with Emery County to the south, Carbon County is considered the energy center of Utah. In 1979, coal mines in the two counties produced approximately 10.05 million tons of coal, accounting for over 80 percent of the total production in Utah.⁵ These two counties are also the sites of 3 power generating plants, which when all are completed, will have a total generating capacity exceeding 2500 Megawatts.⁵ The importance of the energy industry is reflected in the employment levels in major economic sectors in Carbon County (see Figure 3).

Of the major economic sectors, mining was the second largest and experienced the greatest absolute growth between 1970 and 1978. Employment in the Trade and Services sectors also increased significantly during the

Figure 3
Carbon County Employment by Sector

	<u>1970</u>	<u>1978</u>
Total Employment	5,386	8,406
Proprietors	604	746
Farm	837	46
Agri. Services	9	20
Mining	990	1,668
Construction	132	322
Manufacturing	191	301
Trade	940	1,614
T.P.U.C. ^a	489	696
F.I.R.E. ^b	138	238
Services	405	991
Government	1,405	1,764

^aT.P.U.C. = Transportation, Public Utilities, and Communication

^bF.I.R.E. = Finance, Insurance, and Real Estate

Source: U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Information System, selected years.

same period. This secondary growth was induced by the increased need for industrial support and the demand for services by the local population. Employment data for 1980 indicates that total Carbon County employment in non-agricultural sectors in 1980 was 8,507. Of these, mining was the single largest employer with 2,325 jobs, or more than one-fourth of the total non-agricultural jobs in the county. Similar patterns are apparent in Emery County where mining accounts for nearly 1 out of every 2 non-agricultural jobs.⁷

The effects of increased energy development are also apparent in another indicator of economic health, the unemployment rate. In 1970, the unemployment rate in both counties exceeded 9 percent, significantly above the average rates of 6.1 percent and 4.9 percent for Utah and the

U.S., respectively. By 1980, the unemployment rate in Carbon County was 5.2 percent; that in Emery County was 4.5 percent, while the Utah and U.S. unemployment rates were 6.1 and 7.1 percent, respectively. In contrast to these figures, the unemployment level in Sanpete County to the west, an economy more dependent upon manufacturing, was 8.2 percent for 1980.⁸

Coal mining and other energy-related employment has another major effect on the local economy by making major contributions to local personal income. Wage scales in these industries are higher than the regional average, thereby increasing local income levels.⁹ In 1979, Carbon County had the second highest level of per capita income in Utah, \$7,813. Salt Lake County had the highest per capita income of \$8,204, while the state as a whole averaged \$7,182. However, all of these figures were less than the national average of slightly over \$8,700 per capita income.¹⁰

Population in Carbon County totalled 22,179 persons in 1980. This was a 41.7 percent increase over the 1970 population of 15,647 and a dramatic reversal of trend between 1950 and 1970 when total population had declined by nearly 40 percent due to a decrease in mining activity. Total population levels are presented for Carbon County (Figure 4) for the period 1920-1980.¹¹

Figure 4
County Population Trends

	<u>1920</u>	<u>1930</u>	<u>1940</u>	<u>1950</u>	<u>1960</u>	<u>1970</u>	<u>1980</u>
Carbon Cty	15,849	17,798	18,459	24,901	21,135	15,647	22,179

Source: U.S. Department of Commerce, Bureau of the Census, selected years.

The rapid population growth between 1970 and 1980 is also reflected in the population of its largest communities, Price, Helper, Wellington and

East Carbon City/ Sunnyside (see Figure 5).

Figure 5
Community Populations 1970 and 1980

	<u>1970</u>	<u>1980</u>	<u>Percent Change</u>
Price	6,218	9,407	51.3
Helper	1,964	2,724	37.4
Wellington	922	1,406	52.5
East Carbon City/Sunnyside	2,099 ^a	2,554	21.7

^aEstimated; no official census available

Source: U.S. Department of Commerce, Bureau of the Census,
Census of Population, 1980.

Even these figures do not illustrate the actual rate of growth in the Price area, or the lack of population in the remainder of Carbon County. Much of the recent growth actually occurred near Price, but beyond its incorporated municipal boundary in the area between Price and nearby Helper and Wellington. Including this outlying population, the population of the Price area exceeded 15,000 persons.¹² Thus, these communities and the outlying area surrounding Price accounted for over 95 percent of the total county population in 1980. The remainder was located in several small communities and on farms and ranches throughout the county.

Additional mining operations in Carbon County are likely to effect primarily the population of existing communities in Carbon County, although there are reports of miners commuting from from Emery and Sanpete Counties to work in Carbon County. A brief discussion of the role of each community is provided below. Information regarding the ability of each community to provide public services is provided in Appendix 1.

Price's size and location establishes it as the trade and services center, not only for Carbon and Emery Counties, but also portions of other surrounding counties, particularly to the southeast. Price offers a full range of shopping and service opportunities; a new 70 bed hospital with over 20 physicians; a two-year college, the College of Eastern Utah, which offers a variety of academic, vocational, and continuing education courses; and is the center of regional government activity. Not only is Price the Carbon County county seat, but it is the location of a number of state offices serving southeastern Utah, including the Manti-LaSal National Forest Headquarters, a BLM district office, and the Southeastern Utah Association of Governments. Price can expect to maintain, if not expand its role as the population and trade center of southeastern Utah.^{13,14}

Located 7 miles north of Price, Helper City is the second largest community in Carbon County. Helper's role in the local economy is as a residential center for miners and a transportation center. Helper is a crew change point on the Denver and Rio Grande Western Railroad's main line between Denver, Colorado and Ogden, Utah. There is limited passenger service available, general freight and coal being the major commodities transported on this line. While additional coal development in the future will maintain Helper as a transportation center, the surrounding topography severely limits the physical expansion of Helper. Any future population growth will thus occur either on the minimal vacant land in and near Helper or it will affect the Price area to the south.^{13,14}

Wellington City is a small community functioning primarily as a residential community for persons associated with mining and agricultural activity. Located approximately 6 miles southeast of Price, Wellington has limited commercial development, relying instead on the variety of services

available in Price. Wellington's location near the proposed Sage Point project and the availability of land suitable for residential development will probably lead to additional population growth in Wellington. However, in order for this to occur, Wellington will have to improve its public facilities and infrastructure. Particularly critical are the community's water and wastewater systems and the public works department's inability to maintain and improve Wellington's street system. Major improvements would be needed in these areas to accommodate future growth without adversely affecting the current quality of service being provided to residents.^{13,14,15}

The remaining concentration of population in Carbon County is located in the East Carbon City/Sunnyside area. Technically, these are two separate municipalities with some contiguous boundaries and integrated delivery systems for several basic services. East Carbon City/Sunnyside are located approximately 25 miles east of Price. This isolation has resulted in the development of their own public service delivery systems, schools, and very limited basic commercial opportunities, i.e., several general merchandise/trade stores. The communities developed originally as residential centers for nearby coal mines operated by Kaiser Steel Corporation and the U.S. Steel Company. The potential for future growth depends on the development of other nearby coal reserves. Due to the relative isolation of East Carbon City/Sunnyside, and the lack of commercial development, these communities are not expected to attract a significant number of new residents from mines not in the immediate vicinity.^{13,14}

In view of the historical growth experienced in Carbon Counties and various municipalities prior to 1980, the delivery systems for public services and facilities have been severely strained. Water treatment, storage,

and delivery as well as wastewater treatment are among the services most seriously impacted. Problems have resulted from insufficient lead time to plan and build facilities and lack of financial resources. These problems have affected every municipality and utility in the area. While progress is being achieved, the concern is that the delivery systems will be unable to catch up to current demand and then keep pace with future growth.¹³

The Carbon County School District is responsible for all primary and secondary education in the county, although there is one private school in the county. Enrollment in the district exceeded 5,000 for the first time in September, 1981, up from 4,088 in 1970.¹⁶ While this increase is significant, it is only about one-half the rate of increase observed in the general population. In response to this growth, the school district has been involved in a construction program to increase classroom capacity. A more critical problem has been the hiring and retention of teachers. Many teachers are leaving teaching for jobs in other professions, including mining, where they can earn higher wages and salaries. As with local government programs, the school district faces budget constraints when trying to deal with their problems.^{13,17}

Another area of concern is the provision of housing. Although the 1980 Census preliminary counts indicate a total of 8,192 housing units in Carbon County, an increase of 45.2 percent over 1970, the Southeastern Utah Association of Governments (SEUAOG) reports that the vacancy rate is very low. SEUAOG also reports a large number of inadequate units in need of improvement or replacement. Given the current high mortgage rates, not only will such improvements be unlikely, but future residents will have difficulty obtaining mortgages. One of the results of this will be an increase in the number of mobile homes in the community. While such housing

comfortable, well built and is increasingly accepted as a form of adequate and satisfactory housing, they do not contribute as much as traditional housing to local government finances to offset the costs of providing services. This can aggravate other growth management problems.¹⁸

Further discussions of the public services and facilities and needed improvements therein can be found in the following reports:

- Four Corners Regional Commission, Four Corners Regional Commission Regional Report and Investment Strategy, 1980,
- Southeastern Utah Association of Governments, South-eastern Utah Housing Element, 1981 Update,
- Southeastern Utah Economic Development District, Overall Economic Development Program, 1980, and
- United States Geological Survey, Final Environmental Statement - Development of Coal Resources in Central Utah, 1979.

Copies of these materials are available for review at the OSM's office in Denver and the SEUAOG offices in Price.

Another element of the socioeconomic environment concerns the local social structure and the human services programs designed to address problems which occur during periods of rapid growth. Rapid growth in a region can lead to "...disintegration of the traditional informal support system...", which must be replaced by a formal service delivery system. Resulting problems can include depression, increased alcoholism, and juvenile delinquency, among others. Some evidence of this occurring in Carbon and Emery Counties can be seen in increased adult corrections program demand and an increase in the number of reported criminal offenses in Carbon County in 1980. This continues an upward trend which has been going on since 1978. Other indicators of social change and problems are reflected in reports of 5 to 10 cases of spouse abuse treated monthly at

the Price Crisis Center for Battered Women and the doubling of the demand for day care centers during the period 1978-1979. Not only have local programs have not been able to keep pace with such increasing demands, but such patterns are expected to continue with on-going growth, although not necessarily in proportion to the population growth.¹⁹

A final element of the existing socioeconomic environment is the local transportation network. Price is at the hub of this network (see Figure 1). The main east-west highway access is U.S. Highway 6, which not only connects Price with major mining areas in Carbon County, but is the main route to Provo and connections to Salt Lake City, as well as Grand Junction, Colorado. Utah State Route 10 connects Price with the coal operations, power generating plants, and communities in Emery County to the south. State routes 96 and 123, and County road 53 also connect U.S. 6 to other mining areas in Carbon County. Once again the Denver and Rio Grande Western Railroad (D&RGW) parallels U.S. 6 fairly closely through Carbon County. The D&RGW is the main transportation of coal out of the region. However, several existing operations in Carbon County do not have direct access to the D&RGW. Therefore, several of the roads carry a significant volume of heavy truck traffic, as the companies move their production to market. This traffic has at times contributed to congestion along some highway segments and in some communities and lead to more rapid and severe deterioration of the highway system. It is an area of concern for which there is only limited apparent solution.^{13,14}

Other transportation services available locally include daily bus service, primarily in an east-west direction and limited passenger rail service. There is a general aviation airport in Price although there is no scheduled air service. Charter air service is however available.^{13,14}

III. Socioeconomic Impacts of the Proposed Action

Eureka Energy Company's proposed Sage Point mine is only one of several proposed mines in the central Utah region. In addition to these new operations, several existing operations are anticipating increases in production and employment throughout the decade 1980-1990. Along with other energy-related developments and the induced growth in the trades, services, and other residentiary and support services, these developments mean that Carbon County will continue to experience high rates of employment and population growth, and the associated demands for housing, commercial services, and so forth.

The following material provides a brief overview of the local changes in employment, population, and related socioeconomic variables which would be expected to be associated with the development of Sage Point. The effects of Sage Point are presented both in absolute terms and relative to established baseline projections of anticipated growth in the region, under a specified set of assumptions. The baseline is the standard against which the relative significance of the effects of this particular project are assessed.

The projections used as the standard for this analysis are the 1979 BASELINE projections, hereafter cited as UPED-BASELINE or simply BASELINE, of the Utah Process Economic and Demographic Impact Model (UPED). The period of analysis is from 1980 to 1990. UPED is maintained and operated by the Bureau of Business and Economic Research, College of Business, University of Utah located in Salt Lake City. UPED typically produces alternative projection series for the Utah State Planning Coordinator's Office, the Utah multi-county planning districts (MCD's) - such as the

Southeastern Utah Association of Governments which includes Carbon County and Price, and for various state and federal agencies. For example, the U.S. Bureau of Land Management typically uses UPED projection data in its regional environmental statements on Utah development. The UPED-BASELINE is used here because it reflects a consensus of local planning officials in the likely future development activities in the region. Its results are therefore generally accepted by local officials, planners, and other interested parties in the region. The selection of the BASELINE series, as opposed to one of the alternative runs, was done by Abt/west in consultation with the OSM Project Scientist.

The UPED-BASELINE represents a "best" approximation of future coal production in the region, along with estimates of expected uranium production, electric generation, and other activity in the region. These assumptions are then utilized by the UPED model to derive projections of total employment and employment by sector, total population, number of households, and population by age-cohort. Other projections are also produced, but the above outputs are the most significant for this analysis.²⁰ Major assumptions during the BASELINE projections include:

- 1) Construction of units 3 and 4 of the Hunter Power Plant in Emery County would commence in 1981.
- 2) Total Utah coal production would rise to 16.4 million tons per year by 1985 and 24.0 million tons per year by 1990. The majority of this would be from Carbon and Emery Counties.²¹
- 3) White Mesa Uranium Mill would commence operations in 1980 (south San Juan County).

All of the events have occurred or are currently occurring.

Based on these assumptions, the UPED model produced the BASELINE projections of key socioeconomic variables. Several key projections are presented in Figure 6 below.

Figure 6
Summary of Key UPED-BASELINE Projections²⁰
1980-1990

	<u>1980</u>	<u>1985</u>	<u>1990</u>
<u>Population:</u>			
Southeastern Utah MCD (Carbon, Emery, San Juan and Grand Counties)	58,200	73,500	80,500
Carbon County ²²	22,179	29,100	31,400
Price City	9,407	11,640	12,560
Helper City	2,724	4,074	4,396
Wellington City	1,406	2,328	2,512
E. Carbon City/Sunnyside	2,554	3,201	3,297
<u>Employment:</u>			
Total Southeastern Utah MCD	21,980	28,114	30,518
Mining	5,525	7,786	9,039
<u>Households:</u>			
Total Number	18,100	22,800	24,500
Average Size (persons)	3.22	3.22	3.29
<u>Housing Needs:</u> ^{23,24}			
Carbon County	8,192	9,037	9,544

There are two especially interesting results in these projections. First, Carbon County's population is expected to increase by nearly 42 percent between 1980 and 1990. This is approximately the same rate of growth as was experienced between 1970 and 1980 and well above the 10-12 percent commonly accepted as rapid, but manageable growth from a planning point of view. Second, while total employment is projected to increase by nearly 40 percent, employment in mining is expected to increase by 64 percent.

Over time, this implies that the local economy is going to become increasingly reliant on mining for their continued economic health. Typically, a reduced dependency and more diverse economy is considered to be more desirable and more stable.

Estimates of the impacts associated with Sage Point were derived using similar, but simplified coefficients to those in the UPED-BASELINE. The coefficients express the relationships between mining employment and total employment, total employment and population, and population and households. The total population and employments impacts are presented in Figure 7 (also see Appendix II).²⁵

Figure 7
Total Estimated Impacts of Sage Point, 1980-1990

	<u>1980</u>	<u>1985</u>	<u>1990</u>
<u>Population:</u>	0	1,610	5,300
<u>Employment:</u>			
Direct	0	400	1,200
Induced	0	250	840
Total	0	650	2,040
<u>Households:</u>	0	544	1,611

The proposed development schedule includes a peak construction work force of 200 employees in 1984. Using the same approach as above, the total population impact associated with Sage Point would be approximately 1,500 persons in 1984. Of this total, slightly over 560 persons would be attributed to the construction work force and construction-related induced growth.²⁵

A gravity model approach was used to allocate the direct mine employment to the various communities in the region. Induced employment

growth was assumed to be concentrated in the Price area due to its role as a regional trade and services center, with limited induced growth in service employment occurring elsewhere. Using this approach, the following allocations of employment and population were produced (see Figure 8).²⁵

Figure 8
Assumed Allocation of
Employment and Population Growth
Associated with Sage Point

<u>Population Allocation*</u>	<u>Percent of Total</u>
Price	50
Helper	10
Wellington	13
E. Carbon/Sunnyside	7
Other Carbon County	10
Total Carbon County	90
Other	10

*This distribution is based on the gravity model. Local factors, such as the relative availability of housing in the different communities or moratoriums on new construction, could result in a significantly different residency pattern.

Combining these allocation coefficients with the estimated changes in total population yields the estimated population impacts of the Sage Point mine on local communities. These are presented in Figure 9, along with BASELINE projections for local community populations.^{18,24}

When compared to the BASELINE, the impacts associated with Sage Point are significant. In terms of population, the project would account for 11 percent of the total growth in the Southeastern Utah region through 1985 and nearly 24 percent of the total growth expected by 1990. Its relative impacts on Price and Carbon County are even greater. By 1990,

Figure 9
Population Projections, 1980-1990
BASELINE and Sage Point

	<u>1980</u>	<u>1985</u>		<u>1990</u>	
		<u>BASELINE</u>	<u>Sage Pt.</u>	<u>BASELINE</u>	<u>Sage Pt.</u>
Price	9,407	11,640	805	12,560	2,650
Helper	2,724	4,074	161	4,396	530
Wellington	1,406	2,328	209	2,512	689
E. Carbon/Sunnyside	2,554	3,201	113	3,297	371
Other/Unincorporated*	6,380	7,857	161	8,635	530
Total Carbon County	22,179	29,100	1,449	31,400	4,770
Other Counties	N.A.	N.A.	161	N.A.	530

*The majority of this population is located in the unincorporated area surrounding Price and between Price and nearby Helper and Wellington. This pattern would be expected to continue, although some of this area is likely to be annexed into these communities. Such annexation would result in a shift of population from the "Other" category to the communities but the total would no change.

Sage Point would account for approximately 60 percent of the total growth projected for Carbon County and 84 percent of the growth in Price. The total direct and induced population growth of 4,770 persons in the county would equal to 15 percent of the total county population in 1990. Helper and Wellington would also be significantly impacted. Respective project-related increases of 530 and 689 persons in 1990 would account for 32 and 62 percent of the total anticipated growth. The anticipated population impacts on other areas are expected to be diffuse and less significant because they are likely to be distributed over a number of communities and rural areas.

The distribution of households and housing needs, i.e., one-dwelling unit per household, would be the same as the distribution of the population. Assuming an average household unit size of 3.29 persons in 1990, total project-related housing needs would equal 1,611 units.

Of those, 1,450 would be in Carbon County, 805 of which would be required in Price.²⁷ Total demand was not disaggregated by dwelling unit type. However, a recent study by the Southeastern Utah Association of Local Governments indicated that nearly 14 percent of the current housing stock are mobile homes and 80 percent are conventional homes. Given the high interest rates for housing, it is likely that the mobile home will account for an increasing share of the total housing stock in the future.²⁸

One area of special concern would be the housing needs of the construction work force. In 1984 the direct need would be approximately 200 units. Typically these employees are highly mobile and often tend to bring their housing with them in the form of recreation vehicles, travel trailers, and so forth. They also prefer to locate near the construction site. Since no facilities for such vehicles are planned at the site, and facilities in Wellington are limited, there is a potential for sporadic, haphazard development, problems with litter and sanitation, etc., in the open areas surrounding the construction site. Efforts should be made by all parties involved to minimize such development and the associated problems.²⁹

The 1,200 employees anticipated at Sage Point in 1990 would account for one-third of the additional 3,415 mining employees expected in the Southeastern MCD under the BASELINE. Including the induced growth, the total employment of 2,040 jobs associated with Sage Point would account for approximately 24 percent of the cumulative projected change in regional employment by 1990.

Although the direct impacts are stated in terms of people, the real effects on local communities would be in attempting to plan for and meet the additional demands for housing and services. From this perspective,

Price , Wellington and Helper would be most significantly impacted. The major effects would be in the area of housing and primary utilities. Total housing demand in these communities will exceed 1,000 dwelling units by 1990, along with water, wastewater, and solid waste disposal. Both Price and Wellington would need major improvements in their utility systems in order to accommodate such growth without adversely affecting the quality of service to other residents. Helper's utility system appear to have adequate capacity, but the lack of vacant land suitable for residential construction would require the development of a sound growth management plan and possibly the annexation of additional lands.

Typically, it is assumed that the private housing market and service providers will respond to meet the demand. In recent times, however, high land costs, high construction costs and high interest rates, have severely restricted the ability of the private market to respond. In order to meet the projected housing needs, it is likely that assistance would be required from local and/or state government, and possibly the mining industry itself.

Not only is the issue how to meet the demand for housing, but where it should be built. Some potential problems can be mitigated or avoided simply by having growth occur in the right locations. For instance, the development of adequate housing in Wellington could create a residency distribution pattern significantly different than that generated by the gravity model (see Figure 8). Such action would not lessen the impacts, but it would transfer the location of incidence. In this case, the impacts may actually be perceived as more severe since the magnitude of the growth would more than equal the existing population of Wellington. It would also put more of the burden on local utility systems and exceed the current

capacity of the commercial, retail, and government entities to provide adequate service. At the present time, the extension of the utility delivery and collection systems and providing adequate water storage would for future growth is probably be the primary issue of local concern, regardless of the community affected.

Another area of severe impact would be maintaining a quality education program in light of significantly increased enrollments. Under the UPED-BASELINE projection, school age children and young adults would account for between 22 and 26 percent of total local population.²⁰ Using the low end of this range, the BASELINE implies an expected increase in student enrollments of over 1,900 students in the Carbon County School District by 1990. Of this total, 1,050 would be project-related.²⁷ This is in a school district which has just exceeded total enrollments of 5,000 students for the first time and has had to build and expand facilities to accommodate the recent increases. The occurrence of such growth would require the school district to provide additional capacity equivalent to 3 new elementary schools and 1 junior/senior high school.

The anticipated level of growth in Carbon County would continue to strain the human and social service delivery systems. As a major element of growth, Sage Point would contribute to these impacts. However, magnitudes of change, types of specific impacts, or which delivery systems and agencies would be effected can not be identified or defined.¹⁹

The remaining public and private services would experience similar increases in demand. However, since several of these systems either have excess capacity, e.g., the new hospital, or are less critical, e.g., additional park space, either the effects would be less severe or a response could be delayed more significant problems are resolved.

The local transportation network would also be impacted by the proposed action. County Road 53, the primary access road would have the additional traffic of 1,200 employees travelling to and from the mine, along with the traffic of service companies, visitors, and the existing traffic from the Soldier Creek mine. Likely effects include congestion and slowing of traffic at shift changes. Due to the higher levels of traffic an increase in vehicle accidents would be expected. However, this would most likely be due to an increase in volume, not the rate of accidents. Little change is expected at other times of the day. The increased traffic at shift changes would also effect traffic flows at other points on the network, especially at the junction of County Road 53 and U.S. 6 and the main intersection in downtown Price. Traffic flowing through Wellington on U.S. 6 would also increase significantly. This would result in increased separation of the developments north and south of U.S. 6, increased problems with pedestrian safety in Wellington, and possibly the need for one or more traffic signals on U.S. 6 in Wellington. The local collector system in Wellington would also become congested, particularly in the areas of new residential development. Ultimately, U.S. 6 between Wellington and Price and east of Wellington may need to be upgraded and a bypass route for U.S. 6 around Wellington could be required.³⁰

The obvious constraint to meeting the additional demands is limited financial resources. Over the past decade, the local service providers have been attempting to keep pace with the increasing demands of already rapid growth. Their ability to generate sufficient tax revenues to finance this growth is limited. First, there is currently no severance tax levied on coal production in Utah. Several attempts to impose such a tax have been defeated in the legislature. Another problem lies in the method

which Utah law only allows local governments to collect property taxes from residential and commercial property. Property tax assessments for industrial, utility, and railroad facilities are collected by the State and are then redistributed. However, the revenues are not redistributed fully back to the county of origin. Thus, the recent increases in mining and electric generation in Carbon and Emery Counties have made them net "exporters" of state property tax assessments, i.e., receiving considerably less than they have produced. They have thus been receiving only limited benefits from this development, while being burdened with the costs of providing service to an expanding population. Unless the distribution formula for state collected property taxes is altered or a severance tax on coal is passed, with a major portion of revenues returned to the locality of production, these problems will continue in the future.^{29,31}

Another element of the local financial situation deals with the bonding capacity and bonding obligation of local government entities. According to a report from the Southeastern Utah Association of Governments, no non-school taxing district in Carbon County, other than the Price River Water Improvement District, had any significant outstanding debt obligations in 1978. This is unusual in an area which has experienced the growth that occurred locally since 1970. Federal and state grants provided much of the financing in the past. Such funding will not be as readily available in the future. Thus, local officials would like to see those responsible for the growth bear the responsibility for financing the improvements. At the present time, there is no local ordinance or permitting process which allows this the local government to enforce any such requirement. However, a local special use permit ordinance which could require some industry participation is being considered in Carbon County.^{31,32}

Unfortunately, industry already feels that is bearing a high enough tax burden. Industry's attitude is that it is the allocation mechanism for distributing tax revenues that are creating the problems, not the lack of adequate tax revenues.³¹

Combining the anticipated demands of future growth, both in total and relative to the impacts of Sage Point, it is apparent that difficulties will occur in the future. While additional financial resources are not the only element required to address local needs, they are certainly a critical factor. Thus, it is likely that one or more of the following alternative actions will occur as a means of addressing the problems.

- 1) The allocation process for state versus local property taxes will change.
- 2) A state coal mineral severance tax will be implemented.
- 3) A local coal mineral severance tax will be created.
- 4) Local property taxes will increase (unless prevented from doing so by law).
- 5) Local governments will have to resort to bonded debt to finance capital improvements.
- 6) Carbon County will institute a special use permit system which will allow them to require coal operators to actively assist in mitigating problems.
- 7) Public facilities and services will not keep pace with demand and the quality of service will diminish.

A final element of this assessment included a brief review of the applicant's "Socioeconomic Impacts" found on pages II-448 to II-464.³³ The applicants submission relies on data presented in the Final Environmental Statement, Development of Coal Resources in Central Utah-1979 for its description of the existing and baseline socioeconomic environments.

This presentation provides an adequate overview of the region to be impacted. However, the applicant's submission does not adequately address the likely impacts of the proposed mine. Insufficient data are provided regarding employment and population impacts, and the likely distribution of impacts. The presentation states that much of the growth would occur in the Wellington area. It goes on to acknowledge that there would be severe problems in the area of housing, water supply and sewage treatment if this would occur. Unfortunately, the application stops short of indicating how, or if, the applicant plans to mitigate these impacts. It indicates that a number of possible programs are being considered for housing, ranging from "passive" programs, which include no major participation by the applicant, to more "active" programs which might be undertaken with participation by the applicant. These include conditional market guarantees and direct equity investment to ensure that enough decent housing is available for a growing work force. The application addresses the problems in the areas of water and sewer simply by stating that the Price River Water Improvement District (PRWID) would be responsible for providing adequate capacity. Initially, the applicant proposes to cooperate with the PRWID by supplying data on the number and location of housing to be built. If needed, other forms of assistance would be investigated.

If the applicant decides to undertake the development of residential subdivisions and assisting the planning and provision of utilities, it is possible that much of the impact would be concentrated in Wellington. However, even this occurs, much of the induced employment and population growth would be expected to occur in Price, in light of its role as the regional commerce and trade center. If the applicant decides against an "active" role in housing, the problems could be even more severe because

there would not be as much coordination between housing contractors, the PRWID, and the applicant to ensure that adequate, affordable housing is available when and where it is needed. The resulting development would be more dispersed and less efficient in planning and design.

It should be noted that the applicant's presentation of overall housing and population impacts associated with the proposed action are considerably higher than those presented here --the applicant estimates that a total of 2,700 households and 8,000 persons would be associated with the project by 1991. The reasons are not entirely clear although it appears that a higher multiplier of mining to induced employment was used in the applicant's submission.³³

Due to all of these factors, a more definitive statement of the applicant's development and mitigation plans is required. Only then can local planners adequately assess whether or not residual impacts would occur, and if so, how best to plan for them.

IV. Potential Mitigation Measures

The development of the Sage Point mine would cause significant socioeconomic impacts in Carbon County and local communities, especially Price and Wellington. Particular areas of concern are housing, water and wastewater systems, and education facilities. As pointed out in the applicant's submission there are a number of alternative mitigation measures available for consideration. These range from "passive" means involving no direct company participation to "active" programs which have significant company involvement and support.³³

Given the significance of the project-related impacts, one or more of the following mitigation actions should be considered for implementation. Parties to the program should include the applicant, local government officials, and state and federal regulatory agencies.

- 1) Development, submission, and implementation of a formal mitigation plan for dealing comprehensively with all major areas of significant, adverse impact.
- 2) Formal quarterly reports to the County Commissioners, Planners and SEUAOG through 1990. The reports should detail current status of the project, anticipated deviations in scheduling and production from the original schedule, the number and residency of employees, and any proposed or anticipated changes in any mitigation programs. These reports would provide valuable input to the planning process.
- 3) An "active" program by the company to provide for housing for their employees. Several alternative are apparently under consideration by the applicant, e.g., conditional market guarantees to developers.
- 4) The possible prepayment of residential hook-up fees for water and sewer to help finance additional expansion and construction.
- 5) The applicant should consider the prepayment of local ad valorem taxes to help provide revenues for addressing problem areas.

- 6) Explore the possibility of a number of companies purchasing a pool of 'water shares' for the Price River Water Improvement District. This pool could then be sold at a fixed price to new employees who can demonstrate that they have arranged mortgage financing. This pool would allow the employee a hook-up on the utility system. Such an arrangement would not only provide revenues to the PRWID, but would also eliminate possible increases in the cost of water shares due to speculation.
- 7) Support the vocational training programs at the College of Eastern Utah to help local residents receive training to enter the labor market with marketable skill--if they desire to. Not only does this help the worker and the company, but it can help reduce the amount of immigration needed to meet the labor demands of increased mining, thereby reducing the population impacts.
- 8) Meet with local planners to discuss the possible need for a separate plan to deal with the housing needs during the construction period.
- 9) Should the impacts on the local transportation become severe, e.g., major congestion and delays on U.S. 6 between County Road 53 and Price, especially in and around Wellington, a transportation mitigation plan may be required. Several examples of alternatives include company sponsored bussing and a ride-sharing program. Such a plan would not be required until the situation had been analyzed following the hiring of a majority of the permanent work force.

References and Footnotes

1. Eureka Energy Company; Sage Point - Dugout Canyon Project: Permit Application - Surface Mining Control and Reclamation Act, 1980. On file as the U.S. Office of Surface Mining, Denver, Colorado
 - a.) See Map D03-0002.
 - b.) See Page I-5.
 - c.) See Page I-204.
2. Abt/west; Denver, Colorado, 1981. Abt/west is responsible for some interpretation, calculation, or assumptions in items as referenced.
3. Southeastern Utah Economic Development District; Overall Economic Development Program - 1980, Page 73, 1980, Price Utah.
4. Eureka Energy Company, Mr. Nicolas Temnikov; Personal Correspondence to the U.S. Office of Surface Mining, October 7, 1981.
5. John Short & Associates, Inc. under contract to the Utah Energy Office; Utah Energy Developments - A Summary of Existing and Proposed Activity, 1981-1990, 1981, Salt Lake City, Utah.
6. Southeastern Utah Association of Governments and Economic Development and Economic Development District; Four Corners Regional Commission Southeastern Utah Regional Report and Investment Strategy, 1980, Chapters 1 and 2, 1980, Price, Utah.
7. Utah Department of Employment Security; Castle Country Community Profile, 1981, Price, Utah.
8. Utah Department of Employment Security; selected data, Salt Lake City, Utah.
9. Sun Advocate newspaper; "Mines make Carbon County 2nd richest in state", July 3, 1981, Price, Utah.
10. U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Information System; Personal Income by Type and Industrial Source, 1979, as reported in "Utah Economic and Business Review", April-May 1981, University of Utah, Salt Lake City, Utah.
11. U.S. Department of Commerce, Bureau of the Census; Census of Population, selected years, Washington, D.C.
12. Ibid. Preliminary Population Counts, Utah - 1980, 1981; and Sun Advocate newspaper; "Population growing slower than expected", September 23, 1981, Price, Utah.

13. Abt/west; Denver, Colorado, 1981. The comments so referenced are based on the accumulated knowledge and personal observation of the region by Abt/west staff.
14. Southeastern Utah Association of Governments and Economic Development District; op. cit.
15. Sun Advocate newspaper; assorted articles, 1981, Price, Utah.
16. Ibid. "School enrollment climbs a bit higher", September 30, 1981, Price, Utah.
17. Ibid. "Summer recess nears end", August 21, 1981, Price, Utah.
18. Southeastern Utah Association of Local Governments; Southeastern Utah Housing Element, 1981, Update, 1981, Price, Utah.
19. Sun Advocate newspaper; "Socioeconomic Impacts of the Energy Industry on Carbon-Emery Counties", January 28, 1981; "Crime rates inch higher in County", September 3, 1981; and "Spouse abuse takes heavy toll - physical, mental, emotional", October 21, 1981, Price, Utah.
20. Utah Office of the State Planning Coordinator; Utah: 2000, A High Development Scenario, 1980, Salt Lake City, Utah.
21. The original BASELINE did not specifically include the Sage Point mine. However, given the uncertainty regarding which mines will be developed, which will be expanded, and which will be closed, it was felt that there was sufficient growth in production under the BASELINE scenario to allow its use as the standard for comparison.
22. The community populations are from the 1980 Census. The UPED-BASELINE community estimates were significantly higher than the census figures in all cases except Price city.
23. 1980 Census data are shown. A 1980 estimate of the housing inventory contained in Southeastern Utah Association of Local Governments; Southeastern Utah Housing Element, 1981 Update, 1981, Price, Utah, was over 20 percent lower than the census count.
24. The 1985 and 1990 estimates were calculated by Abt/west using the UPED-BASELINE data found in #20 above. These are higher than the estimates found in #23. This is a result of using a lower average household size to calculate housing needs.
25. Calculations by Abt/west, 1981. The major coefficients used are:
 - Construction Induced Residential Emp. = 0.4 x Construction Emp.
 - Operations Induced Residential Emp. = 0.7 x Permanent Emp.
 - Permanent Population Impacts = 2.6 x Total Employment Changes
 - Construction Related Population = 1.8 x Construction Emp.
 - Average jobs/household for permanent residents is about 1.26
 - The gravity model is based on linear distance, 1980 population and an exponent of 1.7.

26. The BASELINE population estimates for 1980 are those derived by UPED and are thus slightly higher than the 1980 census data. They were used in the interest of consistency so that adjustments would not be required in the 1985 and 1990 estimates. The Sage Point estimates are considered as part of the Baseline projections and should not be added to them to derive total population.
27. Calculations by Abt/west, 1981.
28. Southeastern Utah Association of Local Governments; Southeastern Utah Housing Element - 1980 Update, 1981, Price, Utah.
29. These observations have resulted from contacts with local officials by Abt/west staff, several of the reports cited above, and various articles in the local newspaper - The Sun Advocate.
30. Abt/west and Utah Department of Transportation; Transportation Plan - District 4, 1978, Salt Lake City, Utah.
31. Sun Advocate newspaper; "Solons kill tax on coal" and "Semken raps tax policies", February 27, 1981, "Forces still fighting over coal tax", July 15, 1981, "Commissioner like mine ordinance", October 23, 1981, Price, Utah.
32. Southeastern Utah Association of Governments and Economic Development District; Four Corners Regional Commission Report and Investment Strategy, 1980, 1980, Price, Utah.
33. Eureka Energy Company; Sage Point - Dugout Canyon Project: Permit Application - Surface Mining Control and Reclamation Act, 1980. On file as the U.S. Office of Surface Mining, Denver, Colorado.

APPENDIX 1

The following pages contain brief overviews of the local communities in the region most likely to be directly effected by the development of additional coal mining operations. Without providing detailed needs assessments in each service area, the overviews are intended to summarize the roles of the various communities in the regional socioeconomic environment and to provide some indicators concerning areas of future need. The data presented here were compiled from the following sources:

- o Southeastern Utah Association of Governments and Economic Development District; Four Corners Regional Commission Southeastern Utah Regional Report and Investment Strategy, 1980, 1980, Price, Utah.
- o United States Geological Survey; Final Environmental Statement, Development of Coal Resources in Central Utah, 1979, Washington, D.C.
- o University of Utah, Bureau of Business and Economic Research, Community Economic Facts, 1980, Salt Lake City, Utah.
- o Various articles contained in the local newspapers: "The Sun Advocate" serving Carbon County, Utah, and "The Pyramid" serving northern Sanpete County.
- o Observations by Abt/west personnel and discussions with local officials.

Data are presented for various broad categories of public services and infrastructure, historical population and housing data, and estimated future population and housing needs under the baseline described in Chapter III. To keep each summary brief, a set of codes was used to describe both the current level of service and the adequacy thereof. These codes are described below:

Health Care: The number of physicians (MD), dentists (DDS), registered and licensed nurses (R/LPN), and nurse practitioners (NPR) are shown. Also the existence of a nursing home (NH), or the nearest hospital are also shown. If the hospital is located in that particular community, the number of beds (B) is also shown.

Fire Dept.: All fire departments in the region are volunteer (Vol.) organizations. The adequacy of the department is shown by an (A), while an (I) reflects some type of inadequacy. In several cases there are also some statements of needed improvements, e.g., need 4 Vol. These indicate local plans for further improvements and are not necessarily an indication of inadequacy.

Law Enforcement: An indication of the number of police officers (PO) and their status, full-time (FT) or part-time (PT). Reliance on the county sheriff's offices is shown by (CSH). Statements of (in)adequacy and needs are also shown. In several cases, 'SDS' indicates a service being provided under a special district service arrangement.

School District and Education: First the name of the school district is given, followed by summary data on the number and location of schools, their approximate enrollment and design capacity. Special symbols include 'PR' for private school followed by the grade level offered; 'JC' for a local junior college; and 'VS' for vocational school.

Water System: Most systems are community owned (CO), although there are the Castle Gate special service districts (SDS) and the Price River Water Improvement District (PRWID) systems. Where available, levels of capacity (DC=delivery capacity), usage (DF=daily flow), or service population (PE=population equivalents in number of persons) are shown. MGD=millions of gallons/day. 'FCP/years' indicates a future construction plan

in the indicated years. Finally, the symbols for (in)adequacy are supplemented by (AC)-adequate, for existing population only, (AD)-adequate but deteriorating, and (A,N)-adequate, new facility. Finally, if a particular type of improvement is planned, it is shown.

Wastewater System: Similar to water system. TF=Trickling Filter system, while L=lagoon system, CP=capacity figure, either in terms of population or MGD.

Solid Waste: Two items of data are shown. First, the type of collection service provided: PUB=Public, PRV=Private, followed by a designation for the operator; CNTY=County, CO=City, and the adequacy of the facility.

Recreation: The opportunities for local recreation are indicated by a number between 1 and 4. A "1" indicates only one facility from the following list; a "2" indicates 2 or 3 facilities; a "3" for 4 or 5 different types; and a "4" for 6 or more. The possible types of recreation opportunities include:

Baseball fields	Country Clubs	Fair Grounds	Riding Facilities
Movie Theatre	Golf Course	Community Center	Roller Rink
Boating/Fishing	City Park	Indoor/Outdoor	Bowling Alley
		Swimming Pool	

Social Services: A partial listing of facilities, organizations, and services. In most cases there are indications for a public library (PL) or bookmobile (BK), and a stake of the Church of Jesus Christ of Latter Day Saints (LDS), a very active participant. An office of the Job Service is shown by JS while a senior citizens center is shown by SR. An SS denotes an office of the Utah Department of Social Services (welfare programs, counseling, etc.). If facilities are not available locally, some reference is made to the nearest location.

Commercial Base: "Minimal" is used to represent the existence of very limited services, e.g., a general store and post office. "Local" indicates a slightly higher level of service availability, possibly including a service station, a grocery store, a liquor store, and a bank. These would serve essentially the local community only.

A more completely developed service base is represented by "Regional." These economies provide shopping opportunities and services beyond stores considered essential. These include hardware/appliances, new vehicle dealerships, etc., and some degree of selection/competition. These centers serve not only the local population, but also the surrounding areas.

Finally, a brief section for special comments is provided.

Community:	Price		County:	Carbon
Population:	1970	1980	1985*	1990*
City:	6,218	9,407	11,640	12,560
County:	15,647	22,179	29,100	31,400
Housing (City):	2,082	3,202	3,615	3,817

Community Services:

Health Care:	23 MD, 11 DDS 48 R/LPN 1 Hospital, 70 B (A), NH	Water System:	A(C) FCP/1980-85, storage system up- grade, CO, DC=4MGD
Fire Dept :	Vol. (A); Need 4 Vol. & larger station	Wastewater System:	A(C), FCP/1980-85 (upgrade) CP=1.8MGD 24000=PE, PRWID
Law Enforcement:	12 PO/FT; need jail, 4 PO & vehicles	Solid Waste :	PUB,PRV/CNTY (A,N)
School District:	Carbon County	Recreation :	4
Education :	H.S.: 1 E=833, C=900 J.H.S.: 1 E=618, C=600 Elem.: 3 E=1216, C=1250 Other: JC,E=970; PR 1-9 E=285; VS E=25	Social Services:	PL, BK, SR, LDS, JS SS
		Commercial Base:	Regional

Comments: Price would experience significant impacts from the Sage Point mine. Price recently annexed additional land. Problems will be in the area of extending utilities to this area. A new school has increased capacity.

*Estimated Population and Housing Needs Under the Baseline Scenario.

Community:	Helper		County:	Carbon
Population:	1970	1980	1985*	1990*
City:	1,964	3,290	4,074	4,396
County:	15,647	22,179	29,100	31,400
Housing (City):	826	1,072	1,265	1,336

Community Services:

Health Care:	2 MD, 1 DDS 21 R/LPN Price Hospital	Water System:	CO, AD, FCP/1980-82/ System Upgrade DC=4MGD
Fire Dept :	Vol. (A) Need equip & station	Wastewater System:	TF, CP=1.8 MGD (A) 24K=PE (A), PRWID FCP/1980-83 Upgrade
Law Enforcement:	5 PO/FT; CSH Need 2 PO & 1 vehicle	Solid Waste :	PUB/CNTY (A)
School District:	Carbon County	Recreation :	3
Education :	H.S.: Price J.H.S.: 1 E=235, C=250 Elem.: 1 E=411, C=400 Other: 1 PR 1-9, Price	Social Services:	PL, LDS; JS, SR, NH in Price
		Commercial Base:	Local

Comments: Helper could be relatively heavily impacted by Sage Point with nearly one-half of the expected growth between 1980-1990 due to the project. Residential expansion space is limited.

*Estimated Population and Housing Needs Under the Baseline Scenario.

Community:	Wellington		County:	Carbon
Population:	1970	1980	1985*	1990*
City:	922	1,406	2,328	2,512
County:	15,647	22,179	29,100	31,500
Housing (City):	277	433	723	764

Community Services:

Health Care:	Price Hospital	Water System:	A (C), FCP/1980-82 (system upgrade) PRWID
Fire Dept :	Vol. (A)	Wastewater System:	A(C), FCP/1980-83 sewer system up- grade. PRWID
Law Enforcement:	1 PO; CSH	Solid Waste :	N.A./CNTY (A)
School District:	Carbon County	Recreation :	3
Education : H.S.:	Price	Social Services:	SR, JS, NH, PL, SS in Price
J.H.S.:	Price	Commercial Base:	Local
Elem.:	1 E=296, C=300		
Other:	1 PR 1-9, Price		

Comments: Wellington would be severely impacted by Sage Point. The expected allocation of persons would add a minimum of 640 persons to Wellington. If the company builds houses, more growth would occur, Major improvements needed,

*Estimated Population and Housing Needs Under the Baseline Scenario.

Community:	East Carbon City/Sunnyside		County:	Carbon
Population:	1970	1980	1985*	1990*
City:	2,099	2,554	3,201	3,297
County:	15,647	22,179	29,100	31,500
Housing (City):	N.A.	928	994	1,002

Community Services:

Health Care:	1 MD, 2 DDS 6 R/LPN 1 Day Clinic Price Hospital	Water System:	CO, DC=1.5 MGD, (I) FCP/1980-82, Total upgrade underway
Fire Dept :	Vol. (A)	Wastewater System:	CO, L, CP=2.2 MGD, ADF=.3 MGD, (A,N)
Law Enforcement:	5 PO/FT, (A)	Solid Waste :	PUB/CO (I)
School District:	Carbon County	Recreation :	4
Education : H.S.:	1 J/HS, E=195,	Social Services:	LDS, PL, BK; JS, SR in Price
J.H.S.:	C=250	Commercial Base:	Minimal
Elem.:	1 E= 236, C=250		
Other:	1 PR 1-9, Price		

Comments: East Carbon City/Sunnyside would experience limited growth from Sage Point. On-going utility improvements would provide adequate capacity. If other nearby mines open or expand, problems may arise, e.g., housing.

*Estimated Population and Housing Needs Under the Baseline Scenario.

Community: Huntington County: Emery

Population:	1970	1980	1985*	1990*
City:	847	2,316	3,150	3,312
County:	5,137	11,451	15,750	18,400
Housing (City):	267	773	978	1,007

Community Services:

Health Care:	8 R/LPN Price Hospital	Water System:	CO, DC=1.0 MGD (A,N), SDS
Fire Dept :	Vol. (A)	Wastewater System:	L, CP=3,000 PE (A,N), SDS
Law Enforcement:	1 CSH, SDS (A)	Solid Waste :	PUB/CNTY, (I)
School District:	Emery County	Recreation :	2
Education : H.S.:	Castle Dale	Social Services:	PL, BK, SR, LDS; JS in Castle Dale/ Price
J.H.S.:	1 E=235, C=NA	Commercial Base:	Minimal
Elem.:	1 E=418, C=550		
Other:			

Comments: Huntington would not experience major impacts due to the development of Sage Point, although some employees of the mine may choose to live there. Local growth will occur due to mining growth in Emery County.

*Estimated Population and Housing Needs Under the Baseline Scenario.

Community: Scofield County: Carbon

Population:	1970	1980	1985*	1990*
City:	71	105	N.A.	N.A.
County:	15,647	22,179	29,100	31,500
Housing (City):	74	89	N.A.	N.A.

Community Services:

Health Care:	Price Hospital	Water System:	CO, FCP/1980-82 (Water system up-grade) (I)
Fire Dept :	Vol. (I)	Wastewater System:	Ind. Septic, (I) system development needed, FCP/1980-83
Law Enforcement:	CSH	Solid Waste :	None/CNTY (A)
School District:	Carbon County	Recreation :	1
Education : H.S.:	Bused	Social Services:	No local; All in Price/Helper
J.H.S.:	Bused	Commercial Base:	Minimal
Elem.:	Bused		
Other:			

Comments: Scofield would not be impacted by Sage Point. Existing problems with water, wastewater, and solid waste disposal will adversely affect Scofield's ability to accommodate any growth until improvements are made.

*Estimated Population and Housing Needs Under the Baseline Scenario.

Community:	Castle Dale		County:	Emery
Population:	1970	1980	1985*	1990*
City:	541	1,910	2,835	3,312
County:	5,137	11,451	15,750	18,400
Housing (City):	201	626	880	1,007

Community Services:

Health Care:	2 MD, 2 DDS Price Hospital 1 County Clinic	Water System:	CO, DC=.75, FCP/ 1980-82, (SDS up- grade underway), (A)
Fire Dept :	Vol. (A)	Wastewater System:	L, CP=7,500 PE (A) ADF=.5 MGD, FCP/1980 -82 (upgrade) SDS
Law Enforcement:	1 CSH, SDS (A)	Solid Waste :	PRV/CNTY, (I)
School District:	Emery County	Recreation :	4
Education : H.S.:	1 E=470, C=850	Social Services:	PL, BK, JS, LDS;
J.H.S.:	1 E=NA, C=350	Commercial Base:	Local
Elem.:	1 E=236, C=350		
Other:			

Comments: Castle Dale is not expected to experience major impacts due to the development of Sage Point, although some employees of the mine may live there. Local growth will occur due to mining growth in Emery County.

*Estimated Population and Housing Needs Under the Baseline Scenario.

Community:	Green River		County:	Emery
Population:	1970	1980	1985*	1990*
City:	696	956	1,575	1,840
County:	5,137	11,451	15,750	18,400
Housing (City):	342	358	489	559

Community Services:

Health Care:	1 MD, 1 NPR 4 R/LPN; 1 Day Clinic Moab Hospital	Water System:	CO, DC=1.5 MGD, (A,N) FCP/1980-82 (storage upgrade)
Fire Dept :	Vol.	Wastewater System:	FCP/1980-82 (system upgrade), TF, DF= .15 MGD, CP=.1600 PE
Law Enforcement:	1 PO/FT, CSH (I)	Solid Waste :	PRV/CNTY (A)
School District:	Emery County	Recreation :	2
Education : H.S.:	J/H.S E=160, C=250 (N)	Social Services:	PL, BK, LDS; Others in Moab
Elem.:	1 E=167, C=230 (N)	Commercial Base:	Local
Other:			

Comments: Green River would not experience any major impacts due to the development of Sage Point. Its isolation from most of the activity in Carbon and Emery Counties has left its economy stagnant. Some growth actually good

*Estimated Population and Housing Needs Under the Baseline Scenario.

Community: Mt. Pleasant

County: Sanpete

Population:	1970	1980	1985*	1990*
City:	1,516	2,049	3,030	3,560
County:	10,996	14,900	18,950	20,950
Housing (City):	584	788	956	1,092

Community Services:

Health Care: 7 MD, D DDS
 7 R/LPN, NH
 1 Hospital, 25 B

Water System: CO, DC= 2 MGD,
 DE=.54 MGD, (A)

Fire Dept : Vol. (A)

Wastewater System: CP=.36 MGD
 PE=10,000 (A)
 L

Law Enforcement: 5 PO/FT (A)
 Need Jail (I)

Solid Waste : PRV/CO (I)

School District: North Sanpete

Recreation : 4

Education : H.S.: 1 E=417, C=327
 J.H.S.: Moroni E=240, C=327
 Elem.: 1 E=400, C=360
 Other: 1 PR J/HS, E=140

Social Services: PL, BK, JS, SR, LDS
 NH

Commercial Base: Local/Regional

Comments: Mt. Pleasant would not be impacted by the development of Sage Point. To date, some growth has been related to mining in Pleasant Valley. Local facilities (except schools) in reasonably good shape.

*Estimated Population and Housing Needs Under the Baseline Scenario.

Community: Fairview

County: Sanpete

Population:	1970	1980	1985*	1990*
City:	696	916	1,520	1,890
County:	10,996	14,900	18,950	20,950
Housing (City):	295	358	479	580

Community Services:

Health Care: Hospital and Medical
 Facilities in Mt.
 Pleasant

Water System: CO, DC=.5 MGD,
 DF=.3 MGD (A)

Fire Dept : Vol. (A)

Wastewater System: Septic Systems,
 central treatment
 needed to grow, (I)

Law Enforcement: 2 PO/FT, CSH (A)

Solid Waste : PRV/CNTY (I)

School District: North Sanpete

Recreation : 2, Mt. Pleasant

Education : H.S.: Mt. Pleasant
 J.H.S.: Moroni
 Elem.: 1 E=215, C=300 (N)
 Other: Mt. Pleasant

Social Services: LDS, BK; SR, JS, NH
 in Mt. Pleasant

Commercial Base: Minimal

Comments: Fairview would not be impacted by the development of Sage Point.. To date some growth has been related to mining in Pleasant Valley (Scofield). Public infrastructure in need of improvement to accommodate much growth.

*Estimated Population and Housing Needs Under the Baseline Scenario.

APPENDIX II
Derivation of Sage Point Impacts

	<u>1984*</u>	<u>1985</u>	<u>1990</u>
<u>Employment:</u>			
1) Direct Construction	200	100	-0-
2) Direct Permanent	210	300	1,200
3) Induced Construction (0.4 x #1)	80	40	-0-
4) Induced Permanent (0.7 x #2)	147	210	840
5) Construction Population (#1 x 1.8)	360	180	-0-
6) Permanent & Induced Population [(#2 + 4 + #3) x 2.6]	1,136	1,430	5,304
7) Construction Households (#1)	200	100	-0-
8) Permanent & Induced Households (#6 - 3.22 1984, 1985) (#6 - 3.29 (1990))	353	444	1,612

*Peak Construction Year

there would not be as much coordination between housing contractors, the PRWID, and the applicant to ensure that adequate, affordable housing is available when and where it is needed. The resulting development would be more dispersed and less efficient in planning and design.

It should be noted that the applicant's presentation of overall housing and population impacts associated with the proposed action are considerably higher than those presented here --the applicant estimates that a total of 2,700 households and 8,000 persons would be associated with the project by 1991. The reasons are not entirely clear although it appears that a higher multiplier of mining to induced employment was used in the applicant's submission.³³

Due to all of these factors, a more definitive statement of the applicant's development and mitigation plans is required. Only then can local planners adequately assess whether or not residual impacts would occur, and if so, how best to plan for them.