A Socioeconomic Assessment of the Cache Creek Drilling Site

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EXECUTIVE SUMMARY

This report analyzes the potential socioeconomic impacts of drilling two exploratory wells in the immediate vicinity of Jackson, Wyoming in Cache Creek Canyon and Little Granite Creek Canyon.

The following conclusions are derived from a review of population projections, an analysis of secondary socioeconomic information, informal interviews of local residents, and local field observations.

Impacts on Population

Net increases in the population of Teton County from the proposed exploratory wells would occur in 1982, 1983, and 1984 with increases of 54, 162, and 62 persons respectively. Approximately 66 percent of new people in-migrating are expected to locate in the town of Jackson while about 34 percent will probably locate in the unincorporated areas of the county.

Impacts on Employment and Income

Measurable increases in employment caused by proposed drilling occurring from 1982 to 1985 will be 22, 65, 25, and 18 respectively. Included are basic employment of 15 people in 1982 and 40 in 1983 and secondary employment of 7 people in 1982, 25 in 1983, 25 in 1984, and 18 in 1985. Increases in net employment because of projected drilling also will produce net increases in Teton County personal income of $969,000 in 1982, $1,156,000 in 1983, $338,000 in 1984, and $144,000 in 1985.

Impacts on Teton County

There will be a general expansion of Teton County public services due to the total projected growth in the area. But population increases from the proposed exploratory drilling in Cache Creek Canyon and Little Granite Creek Canyon will not require an expansion of public service sectors beyond the expansion dictated by non-project growth. It is projected that, within Teton County in 1982 and 1983, net increases in housing demand because of the proposed drilling will be offset by projected housing availability.

The revenue and expenditure analysis for Teton County indicates that, between 1981 and 1990, revenue will exceed expenditures, but because of the capital facilities program, there will be negative balances during that period without exploration. For the years 1982 to 1984, there will be slightly larger negative balances with exploration than without in the amounts of $1,800, $6,500, and $6,300 respectively. The negative balance between revenue and expenditures, including the small increase from exploration, could be eliminated by one or a combination of three means available to Teton County: 1) the utilization of yearly cash balances, 2) modifications in the capital facilities program, or 3) an increase in property tax mill levies.

Impacts on Town of Jackson

Impacts from proposed drilling in Cache Creek and Little Granite Creek canyons on public service sectors of the town of Jackson will fall within already expanding capacities and will not require additional expansion. It is projected that within the town of Jackson in 1982

and 1983 there will be a net increase in housing demand of 46 units and 7 units respectively from the proposed drilling.

The revenue and expenditure analysis for the town of Jackson also indicates that between 1981 and 1990 revenue will exceed expenditures, but because of the town's capital facilities program, there will be negative balances without exploration. Contrary to Teton County, the town of Jackson will show smaller negative balances from exploration than without in the amounts of $1,200, $3,500, $1,300, and $1,000 for the years 1982, 1983, 1984, and 1985. The negative balance between revenue and expenditures, including the small difference between projections with and without exploration, could be eliminated by one or a combination of four means available to the town of Jackson: 1) utilization of yearly cash balances, 2) securing additional revenue sources, 3) modifications in the capital facilities program, or 4) institution of town property tax.

Impacts of Teton County School District

The increase in school-age children in the Teton County School District from the proposed drilling is projected to be 6 in 1982, 17 in 1983, 6 in 1984, and 5 in 1985. Such increases, in and of themselves, should not require the expansion of existing facilities.

The balance of revenue, expenditures, and debt service for capital expenditures indicates the school district has adequate financial resources to satisfy both operating and capital facility needs for the projected school population in both the base and exploration cases.

Public Opinion Related to Proposed Drilling

Interviews with representatives of local interest groups provide a public opinion profile which yields the following conclusions:

The majority of respondents strongly opposed exploratory drilling in Cache Creek Canyon with minor pockets of support among ranchers and elected officials.

The majority of those interviewed also oppose drilling in Little Granite Creek Canyon but to a lesser degree than their opposition to drilling in Cache Creek Canyon.

Opposition to drilling exploratory wells in the national forest was not nearly so vehement but still not welcomed. More people seemed willing to allow drilling in the national forest because of national needs and because many thought it was already going on or would go on and their opposition would be futile.

The predominant reason for supporting exploratory drilling was the national energy need coupled with a feeling of local responsibility to help. Improving the local economy was mentioned, but the local economy is already booming and few local businessmen would derive much benefit from oil and gas drilling.

The most widely supported reason for opposing drilling was the protection of the natural beauty and recreational image of the Jackson area. This opposition was supported by the perception of many interviewees that neither the revenue gained by the local areas nor the energy gained by the nation was worth the risk of marring the scenic attributes upon which so much of the local economy depends and which so many residents value.

The kinds of reasons for supporting and opposing drilling, as well as comments made by local citizens, led the research team to conclude that those opposing drilling may be willing to incur substantial personal cost to prevent the proposed drilling. Because local opposition is widespread, strongly felt, and often defined in very personal terms, local reaction could well become stronger if the proposed drilling activities were approved. An emotional and extended community conflict surrounding the proposed drilling also might have the potential for encouraging violent local reactions as well as contributing to the further deterioration of the image of the area from the perspective of potential tourists.

Full Field Development

Impacts of full field development on the local economy, public services, and social structure were not directly addressed in the present report.

Projections of full field impact on public services and the local economy cannot be quantified without estimates of the number of wells, time span of development, types of ancillary facilities, methods of transportation, levels of production, satellite industries, and the size of the labor force. In the absence of such data, full field impact projections were not made. The extrapolation of full field impacts from exploratory case projections could be inadequate and misleading. It is the impression of the research team that the greatly expanded scope and duration of full field development would have more profound effects on the local economy and public services than exploratory drilling.

The impact of the full field development on local attitudes and opinion in the area also has not been addressed directly in this report. Limited indirect observations indicate that, if the prospect of full field development in Cache Creek Canyon and, to some degree Little Granite Creek Canyon, was presented to local residents, the intensity of opposition would be likely to increase as would the potential for community conflict. It is probable that to local residents, given the nature of local resistance to exploratory drilling, full field development would represent the certain destruction of valued natural resources, the unavoidable appearance of an oil-gas boom on the streets of Jackson, eventual oil field development in nearby scenic areas, and the probable demise of the scenic/recreational image that the Jackson area has enjoyed.

1.0 Introduction

1.1 Description

This socioeconomic analysis assesses the impact of exploratory drilling for oil in Cache Creek Canyon, which opens directly into Jackson, Wyoming, and Little Granite Creek Canyon, an area in the immediate vicinity of Jackson, Wyoming. (Figure 1.1.1). These exploration activities are being proposed in an area which is heavily dependent on tourism, recreation, and agriculture, and the proposed drilling has the potential to detract from the area, which is nationally esteemed for its scenic value and which is locally prized for the quality of local life styles.

The following assumptions are made regarding the proposed drilling sites: 1) site preparation activities for both sites would begin in the spring of 1982, as soon as the weather allows, with the construction of gravel access roads and drilling pads; 2) construction of access roads and drilling pads for both would be completed during the summer of 1982; 3) access road and drilling pad construction crews would number 15 men per site; 4) drilling activities would start in January of 1983; 5) one year's time would be allowed for drilling the well in Little Granite Creek Canyon because of its proposed depth (17,000 feet), and one year's time would also be allowed to drill the well in Cache Creek Canyon because of complex geological structures even though the proposed depth is only 10,000 feet; and 6) drilling crews would average 20 men per well.

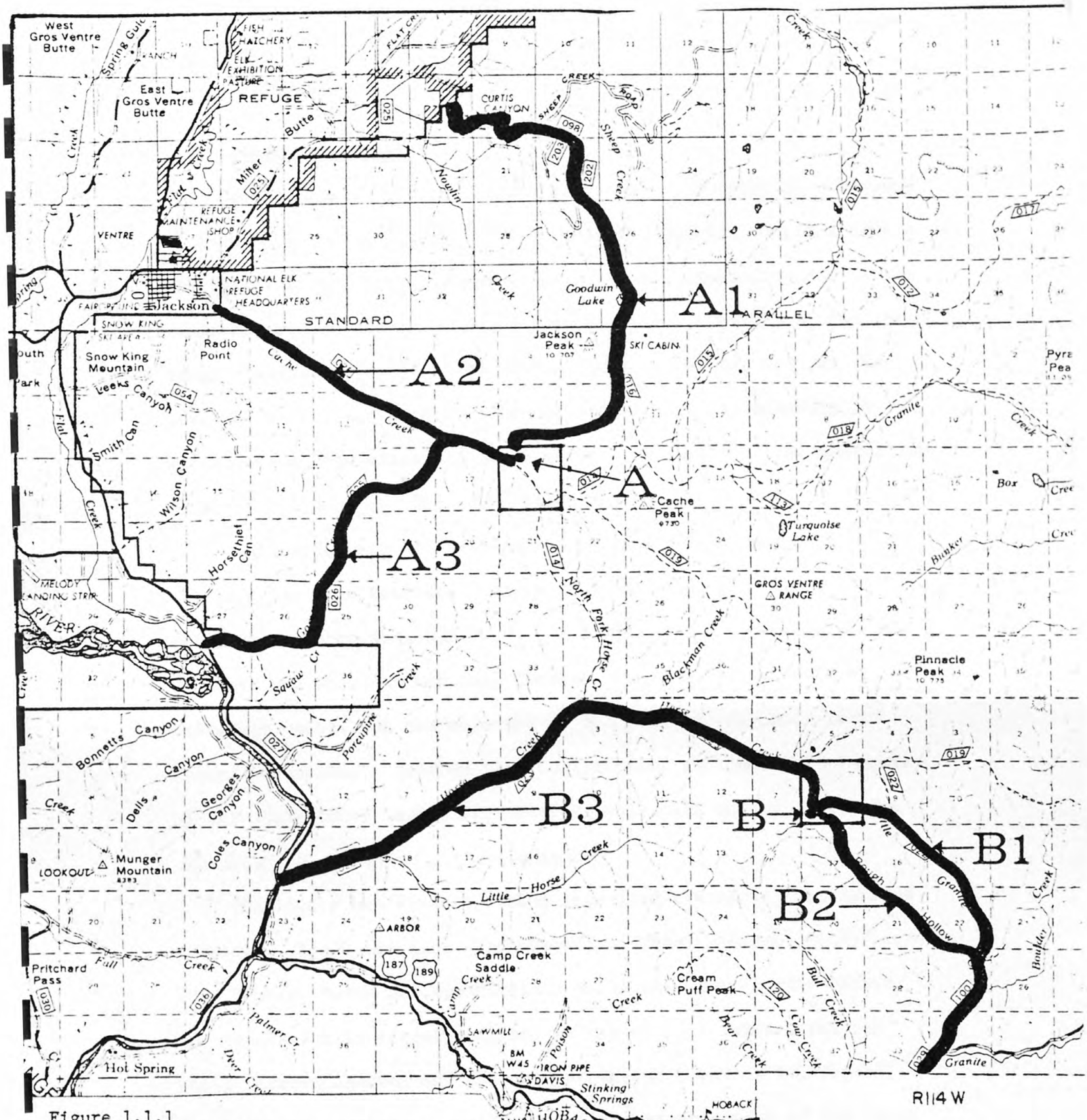

Figure 1.1.1
Location of Drilling Sites and Alternative Access Routes

A. Approximate Cache Creek Site
   A1 - Curtis Canyon Access
   A2 - Cache Creek Access
   A3 - Game Creek Access

B. Approximate Little Granite Creek Site
   B1 - Little Granite Access
   B2 - Rough Hollow Access
   B3 - Horse Creek Access

1.2 Background of Area

Geographically, Teton is a county of great diversity, comprised of a valley surrounded on all sides by four extensive mountain ranges. The valley floor, better known as Jackson Hole, contains most of the residents of the county. In stark contrast to Jackson Hole, the Teton Range rises abruptly from the valley floor, providing much of the attraction of Teton County. The Teton Range is approximately 40 miles long and 10 miles wide with elevations ranging from about 9,000 to almost 14,000 feet above sea level.

The scenic path of the Snake River adds to the magnetic effect the area has upon tourists. Teton County encompasses all of Jackson Hole, Grand Teton National Park, and portions of the Bridger-Teton, Targhee, and Shoshone National Forests. Some 75,000 acres are privately owned, but the majority of the land (97 percent) is in federal ownership. Geographical obstructions and the limited amount of privately owned land place severe constraints on the population distribution and size in the county.

The county has divided itself into five districts for planning purposes. These are Alta, Jackson-Wilson-Teton Village, Slide Lake-Gros Ventre, Moran Junction-Buffalo Fork, and South County-Hoback. The population is largely settled in the town of Jackson and the strip between Jackson and the unincorporated towns of Wilson and Teton Village. Alta, a small unincorporated area west of the Teton Range, is completely isolated from the county as a whole and is oriented economically and socially to the Driggs, Idaho community.

2.0 Changes in Population and Economic Base

2.1 Population Characteristics

Teton County grew from 4,823 residents in 1970 to 9,354 in 1980, according to the preliminary census count (Table 2.1.1). This 93.9 percent growth represents a 6.8 percent annual growth rate over the past decade. Growth in the county was well above the ten-year state increase of 41.1 percent and its average growth rate of 3.4 percent per year. Teton County's rapid growth during the past ten years was primarily from development and expansion of the recreation and tourism industries.

Although the State of Wyoming is experiencing rapid energy-related growth and is expected to increase its population by 42 percent by 1990, Teton County's population is expected to increase by 117 percent in the same period. The county's fastest growing employment sectors will be trade and finance, linked to the area's increasing popularity as a playground and site for second homes.

Over the decade, the county commissioners authorized several studies which project a continuation of this growth. However, the Teton County Growth Study Committee cautioned in its 1978 report, Growth in Teton County, 1967-78, ". . . there is no one number that could reasonably be called an 'average annual growth rate.' Instead, there are many numbers, many growth rates, each reflecting a slightly different aspect of the community's growth: employment, housing, tourism, etc." Differing growth rates will be further compounded by proposed drilling at the Cache Creek and Little Granite Creek sites.

Table 2.1.1: Population Estimates Teton County 1970-1980

Year	Figure	Annual Increase	Annual % Increase
1970	4,823	123	2.62
1971	5,100	277	5.74
1972	5,400	300	5.88
1973	5,792	392	7.26
1974	6,300	508	8.77
1975	6,416	116	1.84
1976	6,800	384	5.99
1977	6,981	181	2.66
1978	7,600	619	8.87
1980	9,354*	877	11.54

* 1980 Preliminary Census Count

Source: United States Department of Commerce/Bureau of the Census, "Current Population Reports", Series P-26, United States Department of Commerce/Bureau of the Census, "Preliminary Census Count", 1980.

Population changes which will result from already announced developments in the present economy were prepared using the growth rates included in the June, 1980 forecasts prepared by the Research and Statistics Division, Wyoming Department of Administration and Fiscal Control, and the preliminary 1980 census estimates. These rates approximate the eight percent annual growth rate used in the September, 1980 report, Capital Facility Needs and Funding Strategies--Teton County, Wyoming, prepared for the Teton County Board of County Commissioners. This rate was used to establish a baseline with which impacts from the development of the Cache and Little Granite Creek drilling sites could be compared (Table 2.1.2).

The baseline population projections shown in Table 2.1.2 provide an estimate of the expected changes in the average year-round residency level at approximately the time of year when the federal census is taken. The time-of-year distinction is highly significant in a seasonal tourist economy such as exists in Teton County. Peak populations which add non-resident tourists to Jackson's population were incorporated into the population base for the capital facilities study.

Access roads and drilling pads are expected to be constructed during the summer of 1982 with drilling activities beginning between December 1982 and January 1983. This work schedule dictates 15 full-time-equivalent workers in 1982 and 50 full-time-equivalent workers in 1983. According to housing surveys conducted in 1979 in Wyoming, 86 percent of workers are heads of households and 14 percent are single. Each of these workers is assumed to generate

Table 2.1.2: Teton County Population Projections from 1980-1990, With and Without Proposed Drilling

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Teton County											
Ave Annual W/Out Project	9,354	9,805	10,439	11,257	12,263	12,807	14,905	16,522	17,912	19,089	20,391
Annual Peak*	22,053	22,985	24,201	25,501	26,893	28,384	29,979	31,689	33,523	35,489	37,598
Ave Annual With Project	9,354	9,805	10,493	11,419	12,325	12,852	14,905	16,522	17,912	19,089	20,391
Net Diff due Project	0	0	54	162	62	45	0	0	0	0	0
Town of Jackson											
Ave Annual W/Out Project	4,508	4,726	5,031	5,426	5,910	6,173	7,184	7,963	8,633	9,201	9,828
Annual Peak*	15,241	15,629	16,256	16,921	17,625	18,374	19,169	20,015	20,914	21,871	22,891
Ave Annual With Project	4,508	4,726	5,067	5,532	5,951	6,202	7,184	7,963	8,633	9,201	9,828
Net Diff due Project	0	0	36	106	41	28	0	0	0	0	0
Unincorporated											
Ave Annual W/Out Project	4,846	5,079	5,408	5,831	6,353	6,634	7,721	8,559	9,279	9,888	10,563
Annual Peak*	6,812	7,356	7,945	8,580	9,268	10,010	10,810	11,674	12,609	13,618	14,707
Ave Annual With Project	4,846	5,079	5,426	5,887	6,374	6,650	7,721	8,559	9,279	9,888	10,563
Net Diff due Project	0	0	18	56	21	17	0	0	0	0	0

*Annual Peak includes resident population plus tourists, skiers and other non-residents.

Source: Wyoming Research Corporation; Laramie, Wyoming (1981).

secondary employment at the rate of 1.36 jobs per worker. Of those employees in-migrating to fill positions in the secondary sector, 86 percent will be heads of households and 14 percent will be single. The average household size in Teton County is estimated to be 2.75 persons with .3 school age children per household. Table 2.1.2 presents projected population increases resulting from the proposed drilling.

The net population increases because of the proposed projects will occur in 1982, 1983 and 1984 with increases of 54, 162 and 62 persons respectively. WRC estimates that 66 percent of those in-migrants will live in the town of Jackson while the remaining 34 percent will live in the unincorporated areas of the county (Table 2.1.2).

2.2 Economic Base

2.2.1 Employment

The first permanent settlers arrived in covered wagons in 1889 and founded the present town of Jackson. Cattle ranching was the major economic activity until tourists began arriving in large numbers after the creation of Grand Teton National Park in 1929. By 1974, some 70 percent of the county's income was derived from tourist-related activities, the remaining generated largely by government spending and agriculture.

Teton County experienced a 90 percent increase in employment between 1970 and 1978, 47 percent greater than the state average of 43 percent (Table 2.2.1.1). Agriculture and state and local government were the two sectors in the county to exhibit the smallest gains in employment. The construction and Finance, Insurance and Real Estate (F.I.R.E.) sectors showed the greatest growth (229 percent and 293 percent respectively), while manufacturing also gained substantially (Table 2.2.1.2). Growth in the service and trade sectors is directly related to the expanding recreation-tourism industry in Teton County and in Grand Teton and Yellowstone National Parks. Growth in construction and finance, insurance, and real estate is, at least in part, a general symptom of the housing requirements of a growing population.

Visitor surveys show that summer visitors are primarily destined for Grand Teton or Yellowstone National Parks. They travel by private automobile or recreational vehicle, lodge in campgrounds, spend 2.5 days in the Jackson area and spend about

Table 2.2.1.1: Historical Employment by Type and Industrial Source for Teton County, 1970-1980

	1970	1975	% Change 1970-75	1976	1977	1978	% Change 1975-78	% Change 1970-78
Agriculture	197	221	12	221	206	201	- 9	2
Mining	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Construction	207	344	66	413	522	681	98	229
Manufacturing	99	106	7	124	255	322	204	225
Transportation & Public Utilities	60	99	65	106	130	167	69	178
Trade	558	1,070	92	1,220	1,289	1,467	37	163
F.I.R.E.*	44	100	127	112	155	173	93	293
Services	1,152	1,584	37	1,706	1,585	1,792	13	56
Government	525	665	27	714	702	772	16	47
Other (includes proprietors)	444	544	22	569	601	655	20	48
TOTAL	3,303	4,746	44	5,196	5,485	6,279	32	90

*Finance, Insurance and Real Estate.

(D): Not shown to avoid disclosure of confidential information. Data included in totals.

Source: Department of Commerce, Bureau of Economic Analysis, Regional Analysis Division. Unpublished computer printout, April, 1980.

$52.44 per party of 3.2 people per day. Winter visitors primarily come to Jackson for downhill skiing. Although the majority travel by automobile or recreational vehicle, nearly one-fourth of the visitors fly into Jackson. Most winter visitors stay in motels or hotels and remain in the area for five days. During this period, the average winter party of 2.7 people spends $91.28 per party per day, according to a study of recreation and tourism in Teton County by the University of Wyoming Agricultural Extension Service published in 1979.

The leading business sectors in terms of total sales, employment and payments to households are trade; resorts; and motels, hotels, and campgrounds. Over 80 percent of sales to non-residents in Teton County are made by businesses directly associated with tourism. The basic sectors (those that sell to people from outside the local economy) include agriculture; manufacturing; service stations; retail and wholesale trade; eating establishments; hotels, motels, campgrounds; resorts, dude ranches, outfitters, guides, and recreational services. With the exception of agriculture and manufacturing, these same sectors are usually considered as non-basic or service industries in economic analysis. However, Teton County is a prime example of the fact that, while basic sectors of an economy are those which export their goods or services primarily to people from outside the local economy, these export goods do not have to be physically transported from the area, or services performed outside the county boundaries.

As in other areas where the economy is largely based on tourism with its attendant fluctuations and relatively low wage levels,

there has been some interest in diversifying employment opportunities in Teton County. However, the prospects are not bright. Because of its great distance from urban market centers and lack of railroad service, many kinds of manufacturing industries would not locate in the county. Even so-called "footloose industries", which can locate almost anyplace where a labor force and truck transportation are available, would be deterred from selecting Teton County because of the long, harsh winters and the high cost of living. However, "footloose" businesses or industries related to Jackson Hole's recreation activities (sporting equipment or apparel manufacture, for instance) and industries based on local resources offer strong possibilities for diversification. The trend toward increasing reliance on recreation and tourism is likely to continue unless development of oil and gas resources within the county increases.

Because of the uncertainties about how rising energy costs of automobile travel will affect the recreation and tourism base upon which Teton County depends, local communities are planning to change Jackson Hole into a year-round "destination resort area". Such a destination resort could be designed to portray a central theme and would offer both recreational and cultural activities during all seasons of the year. Many activities and services would be centrally located and guests would be encouraged to take advantage of a well-developed transportation network. Jackson Hole Ski Area, since its inception in the early 1960's, has had as its central goal the creation of a "major destination ski area"

with a mountain village at the base. The ski area and village were to have qualities that would attract skiers, both nationally and internationally. In recent years, the area has progressed significantly towards this goal and presently attracts the greater portion of its customers from the national and international ski market. The ski area's existing facilities and proposed developments would appear to harmonize with the economic goals of the Jackson Hole business community and could help offset declines in travel to the Greater Yellowstone Area which are a result of the energy-gasoline situation.

Employment forecasts provided by the State of Wyoming show the total number of jobs in the county doubling from 6,535 in 1980 to 14,711 by 1990 (Table 2.2.1.2). In 1980, the job mix showed 52 percent of the employment in the service and trade sectors, followed by 12 percent in government and 11 percent in construction (Table 2.2.1.2). The effects of the rapid changes in tourist travel patterns caused by skyrocketing automobile fuel costs are yet to be measured. However, even with a 16 percent decline in national park visits in 1979, the sales tax receipts for the year remained at previous years' levels. Jackson Hole expects to adapt to changing tourist patterns by becoming a "destination resort" community.

Employment levels, especially in a seasonal economy, are presented in terms of full-time-equivalents (FTE's) rather than directly in jobs. Full-time-equivalent employment allows for comparisons between varying industries such as oil exploration and

Table 2.2.1.2: Projected Teton County Employment from 1980-1990, Without Proposed Drilling

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Agriculture	227	227	227	227	227	227	227	227	227	227	227
Mining	22	22	22	22	22	22	22	22	22	22	22
Construction	694	710	733	764	805	854	913	981	1,038	1,089	1,141
Manufacturing	325	328	331	336	341	346	354	365	373	378	378
Transportation & Public Utilities	167	168	169	171	173	176	178	183	187	189	193
Trade	1,580	1,762	1,953	2,221	2,565	2,981	3,483	4,055	4,688	5,120	5,910
F.I.R.E.*	184	195	212	235	266	300	342	392	431	467	507
Services	1,866	1,954	2,069	2,217	2,378	2,567	2,885	3,129	3,348	3,492	3,520
Government	793	816	850	896	956	1,029	1,116	1,216	1,300	1,374	1,454
Other (includes proprietors)	677	702	737	785	847	921	1,012	1,115	1,202	1,276	1,359
TOTAL	6,535	6,884	7,303	7,874	8,580	9,423	10,532	11,685	12,816	13,634	14,711

* Finance, Insurance and Real Estate.

Source: Wyoming Research Corporation; Laramie, Wyoming (1981).

resorts. Table 2.2.1.2 provides the base employment estimates for the average year around FTE employees. This employment level is consistent with both the "average year-round" and "peak" population levels since the "peak" differs from the "average year-round" only by non-resident tourists.

Project-related employment impacts are displayed in Table 2.2.1.3. These impact projections are based on the assumptions outlined in the final two paragraphs of Section 2.1. The basic employment figure of 55 (employment directly related to project) yields secondary employment of approximately 75 (basic employment times 1.36 as specified in Section 2.1). The secondary employment is then allocated across years with relatively small secondary increases in the first project year (1982), relatively large increases in the second project year (1983), and the remaining increases two years after the termination of the project. Within each year, secondary employment increases are allocated among the major employment categories. The foregoing projections are accomplished by means of computer modeling.

Net employment increases from 1982 to 1985 are 22, 65, 25 and 18 resepectively, as is evident upon inspection of Table 2.2.1.3. These figures include both basic employment of 15 in 1982 and 40 in 1983 as well as secondary employment of 7 in 1982, 25 in 1983, 25 in 1984, and 18 in 1985.

Table 2.2.1.3: Projected Teton County Employment from 1980-1990, with Proposed Drilling

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Agriculture	227	227	227	227	227	227	227	227	227	227	227
Mining	22	22	22	22	22	22	22	22	22	22	22
Construction	694	710	734	767	808	857	913	981	1,038	1,089	1,141
Manufacturing	325	328	331	337	342	347	354	365	373	378	378
Transportation & Public Utilities	167	168	169	172	174	177	178	183	187	189	193
Trade	1,580	1,762	1,955	2,229	2,573	2,987	3,483	4,055	4,688	5,120	5,910
F.I.R.E.*	184	195	212	236	267	301	342	392	431	467	507
Services	1,866	1,954	2,071	2,224	2,385	2,572	2,885	3,129	3,348	3,492	3,520
Government	793	816	851	899	959	1,031	1,116	1,216	1,300	1,374	1,454
Other (includes proprietors)	677	702	737	785	847	921	1,012	1,115	1,212	1,276	1,359
New Development	0	0	15	40	0	0	0	0	0	0	0
TOTAL	6,535	6,884	7,325	7,939	8,605	9,441	10,532	11,685	12,816	13,634	14,711
Net Gains due to Development	0	0	22	65	25	18	0	0	0	0	0

* Finance, Insurance and Real Estate.

Source: Wyoming Research Corporation; Laramie, Wyoming (1981).

2.2.2 Income

The average annual wage of Unemployment Insurance Covered Employment in Teton County during 1979 was somewhat below the state average as shown in Table 2.2.2.1. This wage scale reflects higher employment in lower-paying trade and service sectors as opposed to the higher-paying mining employment seen in mineral development counties.

The latest income data for Teton County were prepared by the Bureau of Economic Analysis, Regional Economic Information System, in which the 1978 per capita income was $10,949. Table 2.2.2.2 shows the baseline changes in personal income projected over the 1980-1990 period in constant 1978 dollars as well as changes in personal income over the same period because of oil exploration and net differences between baseline and impact projections. The reader will note that the net difference section of Table 2.2.2.2 projects increases in Teton County personal income from 1982 to 1985. In 1986 the negative net difference indicates a situation where withdrawal of project-related basic and secondary employment reduces personal income for that year to a level that would have been expected without the proposed drilling. In the following year, personal income will again raise to the level expected for that year.

Table 2.2.2.1: Average Annual Wage of Unemployment Insurance Covered Employment in 1979.

	Teton County	Wyoming
Agriculture	6,520	8,761
Mining	20,946	22,132
Contract Construction	13,164	17,184
Manufacturing	8,484	14,875
Trans., Comm., & Utilities	14,174	17,007
Trade		
Wholesale	11,241	15,829
Retail	6,675	7,744
Finance, Ins., & Real Estate	11,218	12,101
Services	7,987	10,366
Government	12,158	11,974
Average Wage of all Categories	8,790	13,801

Source: Annual Planning Information Review, Employment Security Commission of Wyoming/Research Analysis Section, 1981.

Table 2.2.2.2: Teton County Personal Income (Thousands of 1978 Dollars), With and Without Proposed Drilling

	1980	1981	1982	1983	1984	1985
Without Project	99,774	102,598	106,125	111,018	117,198	124,716
With Project	99,774	102,598	107,094	112,174	117,536	124,860
Net Difference	0	0	969	1,156	338	144

	1986	1987	1988	1989	1990
Without Project	134,783	145,506	156,037	163,936	174,117
With Project	134,730	145,506	156,037	163,936	174,117
Net Difference	-53	0	0	0	0

Source: Wyoming Research Corporation; Laramie, Wyoming (1981).

3.0 Public Service Needs of Local Political Subdivisions: Teton County; Town of Jackson; School District

Initial modeling of the base case projections for the area indicated that an eight percent growth rate approximates anticipated growth without the proposed drilling. When anticipated growth from the proposed drilling activity is projected, it is apparent that those impacts are relatively minor, come early in the decade, and can generally be accommodated within an eight percent growth rate. In light of these facts, WRC decided to utilize the Capital Facility Needs and Funding Strategies - Teton County, Wyoming 1980 to 1990 prepared for the county planning office. This document is also a preferred source because it is the most recent as well as being currently in use in the area.

3.1 Teton County

3.1.1 Utilities

3.1.1.1 Water, Sewer, and Solid Waste

The county provides no water service within Teton County. Sewer facilities are provided for areas outside the town of Jackson which are acceptable to both the town and the county under the Tri-Party Agreement signed with the EPA in 1978. This is discussed more fully under the Town of Jackson Sewer Facilities in Section 3.2.1.2. The landfill operation serving Teton County is similarly discussed in Section 3.2.1.3.

3.1.1.2 Roads and Bridges

The Teton County Road and Bridge Department is responsible

for snow removal and surface maintenance on approximately 71.6 miles of roads: 41.4 miles of paved road and 30.2 miles of gravel-surfaced road. The only road and bridge equipment owned by the county is a 1979 4x4 Chevy pickup which is used by the County Road Supervisor for road inspections. All maintenance and snow removal is contracted to private companies. At the present time, the county has no traffic lights or other traffic control measures.

Currently anticipated capital expenditures for roads over the ten-year period ending 1990 are estimated to be $740,000 for each year for a total requirement of $7,400,000.

Several road-related problems have been identified, but costs to correct the problems have not been calculated. These problems include:

- Inadequate access to subdivisions over private or forest service roads where the right-of-way does not meet county standards. These access roads are one to three miles long at Solitude, Meadows of the Hoback, Squaw Creek, Trails End, and Lost Creek.

- Current roads lack the shoulder width to meet county standards, and the county may or may not own the right-of-way to correct the problems.

- Increased traffic congestion in town may justify a by-pass around the town, and one reasonable location for the by-pass would be in Spring Gulch. This problem may increase with additional traffic through town associated with the proposed oil exploration.

3.1.2 Public Administration

The county has an office staff of 23 (seven in the clerk's office, five in the treasurer's office, five in the assessor's office, five in the planning office, and one road and bridge supervisor) which occupies approximately 4650 square feet on the ground floor of the county courthouse. The county commissioners

meet in Jackson's council chambers which are also located on the ground floor of the courthouse. Criminal justice functions of the county, such as the sheriff's office and the county jail, are also located in the building.

Currently the administrative space in the courthouse is crowded and subject to frequent flooding from prisoners who vandalize the plumbing in the jail overhead. Based on county administrative requirements developed by Stuart/Nichols Associates (a base of 2 in the clerk's and treasurer's department with an additional person for every 3,300 of population, a base of 2.5 in the assessor's and planning department with an additional person for each 6,700 of population, and 225 square feet of office space per employee), Teton County will need additional office space to support an estimated 10 additional county employees by 1990. This increase of 2,250 square feet will bring the county's total administrative space requirements to 6,900 square feet. The proposed drilling will not require the expansion of the Teton County administrative staff.

3.1.3 Public Safety

3.1.3.1 Law Enforcement/Criminal Justice

Law enforcement responsibilities and facilities are shared by the Teton County Sheriff's Department and the Jackson Police Department. The county jail (three cells), dispatch room, jailer's office, and booking room are located on the third floor of the courthouse adjacent to the courtroom. Offices for the staff of 24 employees are located in the courthouse basement. The separation of the administrative, dispatch, and jail facilities creates operating

inefficiencies, and the proximity of the jail to the courtroom creates noise problems in the courtroom.

The existing facility lacks offices for the district judge, district attorney, public defender, and justice of the peace. Also lacking are areas for lawyers and families to meet with the prisoners. The three cells have a combined capacity of 16. Although this total capacity is adequate, the facility is inadequate because of a federal requirement that adult male, adult female, juvenile male, and juvenile female prisoners be separated.

The present criminal justice facilities for Teton County and the town of Jackson are inadequate according to officials in both the county sheriff's department and the Jackson Police Department as well as reports prepared by the Staff of the Wyoming Attorney General's Planning Committee on Criminal Administration ("Consolidation Feasibility Study," March 1978 and "Facility Expansion Study, Teton County Courthouse," April 1979) and emerging standards from court decisions and the American Correctional Association. The estimated cost of a new criminal justice facility to be shared by Teton County and the town of Jackson totals $2,000,000 and is presently required regardless of expected growth rates.

An increase of 11 officers by 1990 will be necessary to maintain a 1:1000 officer-to-population ratio for an eight percent growth in year-round residents. No increase in the required number of officers will result from population increases caused by proposed drilling. Although the possibility of 1) vandalism against drilling operations and 2) increased disturbances by drilling crews was acknowledged

during interviews with county law enforcement officials, no increase in personnel was anticipated to deal with these potential problems.

3.1.3.2 Fire Protection

Teton County is divided into six fire protection districts, and volunteers provide fire protection in four of the districts. The Park Service and the Forest Service provide fire protection in the remaining two districts adjacent to Teton National Park. Fire stations are presently located in Jackson, Wilson, Hoback Junction, and Alta. New firehouses are scheduled to be constructed in Alta in 1980 and Hoback Junction in 1981. Present facilities in Jackson and Wilson are adequate, and when volunteers can be recruited and organized in the Kelly and Moran areas, the Park Service may make its stations and equipment available to county volunteers. Teton Village has a private, independent fire department.

The key to fire protection is response time. County fire stations are located to serve the county's present population adequately. In response to anticipated growth, county officials are currently studying recommendations for the future including organizing the volunteers in the Moran area, building a station in the Moran area, and constructing a station to serve the South Park area.

For the purposes of this analysis, the Moran station is assumed to be constructed in 1981. The building, with equipment, will cost approximately $70,000.

The facility to service the South Park area was assumed to be needed by 1985 under the eight percent growth assumption. The

estimated cost of the new station is $55,000; equipment for the new station includes a tanker truck ($50,000) and one engine ($100,000). Total cost of the South Park facility: $205,000.

Further foreseeable equipment needs include a tanker truck in Hoback which can be purchased for an estimated $100,000. Assuming that this equipment is purchased over the next four years and that additional equipment will be needed in the more distant future, capital expenditures for equipment will equal approximately $100,000 per year through 1990 for a total capital requirement of $1,275,000 (including the Moran and South Park stations).

3.1.3.3 Levees

Although the county has not accepted responsibility for the levee system and thereby has no obligation to improve or maintain the system, this potential public safety area should be addressed in discussions of Teton County.

There are 21 miles of levees along the Snake River in Teton County. The levees were completed by the Army Corps of Engineers in 1958 to protect ranchers and residents of the Wilson area from flood damage. Several problems with the levee design and construction lead to high maintenance costs and potential flood damage problems: 1) the channel is too narrow in places and accelerates the river's flow and erosion during flood periods; 2) at low flow, the river undercuts the levees in several places and erodes the levees' foundations; and 3) the rock used to construct the levees decomposes in sunlight and water.

In April, 1980 there were 27 points in the levee system where a break might possibly occur in highwater periods. If more than one or

two breaks occur simultaneously, the county would have extreme difficulty in meeting the emergency, and the Corps of Engineers cannot give assistance to the county unless more than seven breaks occur. A single break in the levee could result in the flooding of private property. The county employs a dike watcher during the flood season to monitor problems as they develop.

The levee system could become a significant financial burden for the county. To repair each weak point in the system would cost approximately $26,000 per repair, and the estimated total cost to bring the system to prime condition would be $702,000.

The levee system is in disrepair after years in which maintenance has not been funded. Once repaired, an additional three to four repairs per year would probably need to be made at an approximate cost of $75,000 to $100,000 per year. The county refuses to accept responsibility from the Corps of Engineers for maintenance of the levee system until the structural problems are rectified. However, the county will continue to maintain this position with a careful eye to its legal responsibility for flood damage to private property should the levee break.

3.1.4 Housing

Historically, Jackson Hole (Teton County) has been a rural area with a small population. In 1960, the permanent population was 3,062. Housing was confined to the town of Jackson and scattered dude and cattle ranches, and the people were largely long-term residents living in single family units, associated with cattle ranches, dude ranches,

and motels and merchants serving the visitors traveling to Yellowstone National Park.

While single-family units still predominate, the greatest gains have been made in multiple-family units. The dual effect of rapid increase in demand and high construction costs has been to produce a serious shortage of "low-priced housing" in Teton County. Teton County has consistently led the State of Wyoming in cost of housing for the past decade; virtually all of the newly constructed units in the county are priced beyond the range of seasonal employees. While the availability of apartment-type housing has increased 277 percent from 1970 to 1978 (Table 3.1.4.1), many seasonal service employees cannot afford the rentals by themselves. Approximately 10 percent are forced to share crowded apartments or commute long distances from Victor or Briggs, Idaho.

Teton County's preliminary housing count by the 1980 census was 4,885 units. The distribution throughout the county according to county census division showed Alta Division contained 95 units, while Jackson Division had 4,790 of which 2,074 were in the town of Jackson.

The type of housing distribution is not yet available from the Census Bureau; however, the May, 1979 Housing Study of Teton County by the Teton County Housing Committee showed 91 percent of the county's housing was suitable for year-round occupancy while 9 percent was suitable for summer occupancy only. Teton County's year-round housing consists of 63.6 percent single family, 24 percent multi-family, 12.2 percent mobile homes, and 0.26 percent dorms/bunkhouses.

Table 3.1.4.1: Changes in Teton County Housing, 1960-1978

	Single Family Units	Multi Family Units	Mobile Homes	Total
1960	1367	81	68	1516
1970	1295	283	304	1882
1978	2373	1068	578	4019
% Change				
1960-70	- 5%	+ 249%	+347%	+ 24%
1970-78	+83%	+ 277%	+ 90%	+114%
1960-78	+74%	+1218%	+750%	+165%

Source: 1960 Detailed Housing Characteristics for Wyoming; Current Popular Reports. United States Department of Commerce, Bureau of Census.
Wyoming Housing Monitoring System. State of Wyoming Department of Economic Planning and Development, Oct. 1979.

There are also motel units which are used for long-term housing; however, these are very seasonal in nature and amount to only one percent of the available year-round housing stock.

In Teton County, a new three-bedroom home of 1,000 square feet with an unfinished basement and one-car garage is estimated to cost from $75,000 to $95,000 by the Wyoming Department of Economic Planning and Development. The average monthly rental of a three-bedroom house is estimated to cost from $450-$600 per month while one- to three-bedroom apartments rent for $200-$360 per month.

The change in the number of residential structures in Teton County from 4,019 in 1978 to 4,885 in 1980 represents an average annual increase of 10 percent. Teton County population is expected to continue to increase in the next decade as is the housing supply. Projections of housing supply are generally not made because they involve complex and difficult to predict changes in interest rates, changes in the supply of building materials, and the ability of the private sector to purchase housing stocks. Although estimates from one year to the next can be made, extended projections become more tenuous the further they extend into the future. For the purposes of the present study, and with the preceeding cautions in mind, relatively simple housing supply projections have been made for Teton County (see Table 3.1.4.2). These projections are based on the number of housing units available at the beginning of 1980 and assume the construction of new structures at the rate of 10 percent per year (the rate of growth in housing supply from 1978 to 1980). New housing is then added to the number of vacant base units for that year.

Table 3.1.4.2: Annual Housing Availability Projections for Teton County.*

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
1) Residential Structures Beginning of Year	4,885	5,374	5,911	6,502	7,152	7,867	8,654	9,519	10,471	11,518	12,670
2) New Residential Structures (10% increase/year)	489	537	591	650	715	787	865	952	1,047	1,152	1,267
3) Total Residential Structures End of Year	5,374	5,911	6,502	7,152	7,867	8,654	9,519	10,471	11,518	12,670	13,937
4) Vacancies (.0088 of line 1)	43	47	52	57	63	69	76	84	92	101	111
5) Residential Structures Available for Rent/Purchase (lines 2 + 4)	532	584	643	707	778	856	941	1,036	1,139	1,253	1,378

*Figures represent total structures which include multi-unit structures (motels, hotels, condominiums and apartments).

Source: Wyoming Research Corporation; Laramie, Wyoming (1981).

Lower Valley Power and Light, the utility supplying electric power to a three-county area which includes Teton County, estimates a .88 percent vacancy rate for the early spring of 1981. While this vacancy rate is for the whole service area and includes usage other than residential, it is viewed by Teton County officials as a much more accurate estimate than the state average vacancy rate of 3.8 percent. Housing vacancies must also be understood as being highly susceptible to seasonal variation. The total of new construction during that year and vacancies is defined as the total housing available for rent or purchase. This figure is conservative insofar as it does not take into account the conversion of existing single-family dwellings to multi-family use and is based on a total number of single structures, some of which contain multiple housing units. The anticipated county housing demand, based on the projected growth from 1980-1990 and the impact of proposed drilling, is shown in Table 3.1.4.3.

Average annual demand with the proposed drilling will exceed average annual demand without proposed drilling in 1982 and 1983 (Table 3.1.4.3). The relocation of oil workers from 1984 to 1986 will cause a decrease in housing demand. This diminished demand will exist until population increases have absorbed excess housing stock (Table 3.1.4.3). Comparison of housing availability projections in Table 3.1.4.2 with housing demand projections in Table 3.1.4.3 demonstrates that there will be housing available in sufficient numbers to meet projected demand with or without drilling. No estimates have been made concerning the range of prices of projected available

Table 3.1.4.3: Average Annual Housing Demand Projections for Teton County, Without and With Proposed Drilling.*

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Without Drilling											
Single Family	0	33	18	45	68	44	161	143	168	102	170
Multi-Family	30	125	198	240	284	175	559	430	336	307	311
Mobile Home	138	18	23	28	41	29	85	61	48	44	44
Other	0	15	23	28	27	13	42	41	40	37	30
Total	168	191	262	341	420	261	847	675	592	490	555
With Drilling											
Single Family	0	33	28	46	56	43	159	143	168	102	170
Multi-Family	30	125	244	248	250	170	552	430	336	307	311
Mobile Home	138	18	30	29	35	28	84	61	48	44	44
Other	0	15	29	29	23	12	42	41	40	37	30
Total	168	191	331	352	364	253	837	675	592	490	555
Net Difference											
Single Family	0	0	10	1	-12	-1	-2	0	0	0	0
Multi-Family	0	0	46	8	-34	-5	-7	0	0	0	0
Mobile Home	0	0	7	1	-6	-1	-1	0	0	0	0
Other	0	0	6	1	-4	-1	0	0	0	0	0
Total	0	0	69	11	-56	-8	-10	0	0	0	0

*Projections are based on average year round population and do not include tourist demand.

Source: Wyoming Research Corporation; Laramie, Wyoming (1981).

housing. Even though the number of available units exceeds demand, a large proportion of the corresponding rental or purchase prices may be beyond the financial capability of many of those in need of housing.

Tourists are expected to be housed in the commercial rather than the residential sector of the housing market in Teton County. In 1980, the county contained 65 motels and hotels totaling 1,940 rooms; 5 convention facilities with room capacity of 1,000 per convention; over 300 condominiums; and 20 campgrounds.

3.1.5 Health

3.1.5.1 Hospital

St. John's Hospital was built in 1960 on a sixteen-acre tract of land adjacent to the Elk Refuge in the town of Jackson. The original structure was built with four wings which were completed over the years as the space was needed. The hospital now has 55 beds, 12 of which are occupied by nursing home patients. Occupancy in the nursing home is virtually 100 percent, as all beds are filled and there is a waiting list. There are two ambulances which are operated by a volunteer corps of emergency medical technicians.

The hospital has a staff of 170 (equaling 120 full-time positions) and 17 physicians. The range of care is surprisingly complete for a small-town hospital: there are specialists in almost all fields except cardiology and neurology. However, St. John's does have some problems managing the seasonal variations in population. The nature of health care requires St. John's to plan for peak demand. The tourist population in the summer can cause overcrowding in facilities which are vacant at other times of the year.

If the hospital maintains the current level of 1.8 physicians and 4.6 hospital beds per thousand population, by 1990 an additional 20 physicians and 51 hospital beds will be required. The proposed drilling will not necessitate the addition of physicians or hospital beds.

James White/Associates is preparing a 1980-1990 Master Plan for the Hospital. The capital needs assessment is based on their preliminary findings which may change after the study has been published. There are five parts to the Hospital Capital Facility Plan:

1)	Long-term care (including a 40-bed nursing home and expansion of food preparation, mechanical improvements, ambulance garage, adequate physical therapy department, and bulk storage space meeting applicable criteria)	$2,584,100
2)	Remodeling of existing facility (limited to those areas disturbed by new construction and reassignment of existing space)	480,500
3)	Expansion of facilities (emergency rooms, surgical suites, obstetrics, administrative, laboratory, and new ancillary supporting programs)	3,250,000
4)	Office building for 30 physicians (4,000 square feet)	3,000,000
	TOTAL CAPITAL NEEDS THROUGH 1990	$9,314,650
5)	New equipment and replacement	585,400
	TOTAL	$9,900,000

This expenditure should be adequate through 1995 for the eight percent growth rate. The capital expenditures for the hospital are therefore expected to be $660,000 annually.

3.1.5.2 Public Health Nursing Services

Public Health Nursing Services are funded by county and state governments each paying 50 percent of the total; Teton County's share for 1979-1980 was approximately $27,300. The Public Health Nursing staff consists of two full-time RN's plus a home health aide and one clerical person. They provide home health care, health maintenance and immunization clinics, prenatal classes, new baby and mother clinics,

well-child services and epidemiological services to the area. Demand for services has increased over the last few years: 11.3 percent increase in total home visits from 1978 to 1979, and 41.3 percent increase from 1979 to 1980. According to the supervising public health nurse, office facilities are adequate, but one additional nurse will be hired in 1981 to administer the Well-Infant and Well-Child Program, and another office will be needed. If the present level of .3 professionals per 1,000 population is maintained, three additional Public Health Nurses (PHN) will be needed by 1990 with an eight percent growth rate. The proposed drilling will not require the expansion of the number of Public Health Nurses. The PHN is located on the third floor of the County Social Services building which was completed in 1977.

3.1.6 Social Welfare (Human Services)

Teton County contributes to many different human service agencies, but these contributions represent only a small portion of the total county budget. Most of these services rely on human rather than capital resources, but they do have basic office space needs which will be affected by continued population growth. A summary of the human services is below.

Mental Health Services are provided by the Western Wyoming Mental Health Association. The Association has five clinics for a four-county area, and its administrative headquarters are in the Teton County Clinic. The Association's major source of funding is a federal Initial Operations Grant, but county and state governments and patient fees supplement those funds.

Teton County contributed $10,000 to the Mental Health Association in 1979-1980, only a fraction of the Teton Clinic's $163,416 budget. Six full-time clinicians carry twice the normal caseload of patients.

The present office facilities in the clinic are spacious. However, if additional personnel are required, a larger building will be needed to house the operation. Maintaining the present level of .64 professionals per 1,000 population will require the addition of 6 professionals by 1990 with or without proposed drilling.

Youth Services are provided by the Van Vleck House, a non-profit corporation. Van Vleck has a staff of four professionals and one clerical worker. They provide family counseling, substance abuse programs, and youth diversion alternatives. The majority of their funds come from the state and private foundation grants, but Teton County contributed $15,000 (1979-1980). While current office facilities are adequate for the near future, county financial support is vital to their continued operation and credibility in obtaining other monies. Maintaining the present level of .43 professionals per 1,000 population will require the addition of 4 professionals by 1990 with or without proposed drilling.

Day Care and Preschool Services are provided by two separate programs. The Community Children's Project is a private organization which provides day care for infants through ten-year olds. With a current staff of 22, approximately 100 children receive services every day. The majority of their monies come from fees, but the county contributed $5,500 (1979-1980). The demand for day care is

growing rapidly, and the program has grown 600% since its inception four years ago. Recent growth has brought the program to full capacity and a new facility is needed. Probably needed facilities will be rented and included in operating budgets. Maintaining the present level of 3 professionals per 1,000 population will require the addition of 25 professionals by 1990 with or without the proposed drilling.

The Learning Center is a private non-profit pre-school program for developmentally disabled and handicapped children. The Center serves three counties but derives most of its funds from the state and the school districts. Teton County contributed $10,000 (1979-1980) and also leases two floors of its social services building to the Center where a staff of six serves the Teton County area. The Center has a 25-year lease on the space, and the director feels it is adequate for that period of time. Maintaining the present level of 3 professionals per 1,000 population will require the addition of 8 professionals by 1990 with or without proposed drilling.

Alcohol Outreach is provided by the Teton County 170 Corporation. There is only one full-time staff member for the program. She provides counseling, crisis intervention, detoxification, and outreach services. The program has a very small budget ($30,500 in 1979-1980), and approximately one-third ($11,500) comes from the town and county. The program rents space in St. John's Church which is adequate in size but expensive for the limited budget. In 1978 the program served 305 alcoholics and 45 non-alcoholics. Maintaining the present level of .11 professionals per 1,000 population will require the addition of 1 professional by 1990 with or without proposed drilling.

Senior Meals. The county also contributed $4,000 to the Senior Meals Program which with a staff of five, provides transportation and approximately 45 hot lunches per day for senior citizens five days a week. The majority of the senior center's funding comes from the federal government. No capital facilities are involved. Maintaining the present level of .54 workers per 1,000 population will require the addition of 6 workers by 1990 with or without proposed drilling.

There are no capital expenditures projected for Human Services through 1990, although operating expenses could increase significantly.

3.1.7 Cultural

3.1.7.1 Recreation

Teton County is well known for its year-round recreational activities which attract tourists from all over the world. The presence of these facilities provides abundant recreational opportunities for year-round residents. The many activities readily available within the county include alpine and nordic skiing, snowmobiling, mountain climbing, hiking, fishing, hunting, camping, float trips, boating, golfing, racquetball, tennis, polo, gliding, and horseback riding.

The Teton County-Jackson Parks and Recreation Department is managed by a Recreation Board and a full-time director, and the county currently funds 50 percent of the department. The consolidated capital facility needs through 1990 will be discussed in section 3.2.7.1 as it pertains to its joint operation with the town of Jackson.

3.1.7.2 Fair

The Teton County Fair is held during four days in August at the 18-acre rodeo grounds in Jackson. Although the fairgrounds are operated by an appointed Fair Board, all facilities are owned by the town. The county makes an annual appropriation to the fair, and the remaining revenues required to operate the fair are paid by admission fees, entry fees and donations. The capital facility needs of the fair will be discussed in section 3.2.6.2 as they pertain to the town of Jackson.

3.1.7.3 Libraries

The Teton County Library is located in Jackson. The library presently has an estimated 42,000 volumes. In 1979, circulation was 78,835, and it is increasing annually. The present space is utilized to capacity; however, expansion of the present site is not possible because of the building's local value as a historic place. There are no county branch libraries.

Three alternatives exist for providing much-needed library space: branch libraries, bookmobile, or storefront book drops. Construction of a 15,000-volume branch library in Wilson should begin soon to allow occupancy in 1981 or 1982. (A 15,000-volume branch library is considered a good-sized branch by the Wyoming State Librarian).

Considering the present county standard of 3.7 volumes per person, if the county grows at eight percent per year there will be a demand for 80,000 volumes in 1990, and the current

facilities (with the Wilson Library addition) will be at capacity in 1986. If a 15,000-volume branch is built in 1986, the system will again be at capacity in 1989.

As library facilities again reach capacity, the county should decide whether to construct additional branch libraries or to open storefront book drops. If future county populations concentrate in growth centers, additional branches may be preferable. If growth is more dispersed, the storefront book drops can better serve the population.

The book drops contain about 200 to 300 volumes and could be located in elementary schools or other existing space. A librarian can travel periodically to each drop to change the selection and check books in and out. The costs of operating a book drop system are far less than constructing new branch libraries. The State Librarian does not recommend bookmobiles for use in Wyoming because of their constant maintenance problems, especially in winter. For the purpose of the capital facility study, it was assumed that branch libraries will be added to the system as population increases indicate their need. A new branch is estimated to require building space of 1,250 square feet costing $90,000 and 15,000 volumes which cost $135,000 for a total cost of $225,000. New branches necessary to support an eight percent growth rate will be required in Wilson in 1981 and throughout the county in 1984, 1986, 1988 and 1989. This expansion program is estimated to cost $675,000 through the decade.

3.1.8 Revenue and Expenditure Projections for Teton County

Projected revenue and expenditures for the Teton County government for FY80 through FY85 and for FY90 are provided in Table 3.1.8.1. The table shows the projections of a baseline constructed for an eight percent growth rate through 1990, the exploration scenario, and the differences which are attributable to the exploration. The revenue and expenditure changes resulting from the exploration scenario amount to about a one percent increase in each category during the most heavily impacted year. Since the population growth due to the exploration is within the overall eight percent average annual growth assumption for the baseline, the capital facilities and resultant debt service projections remain the same for both cases.

Revenues are expected to grow slightly faster than operating expenditures for the county throughout the decade when each are projected using recent per capita revenue and expenditure patterns. Revenue and expenditures resulting directly from grants and gifts were excluded from ths analysis. However, the capital facilities expansion program separates total expenditures from revenue throughout the decade. It is apparent that, should Teton County continue growing at an average annual rate of eight percent, additional sources of financing the capital expenditure program may be necessary regardless of exploration. Alternatively, if the capital facility program is modified, a positive balance between revenue and total expenditures may be restored. Also, if the cash on hand at the end of FY80 is available to offset

Table 3.1.8.1

Teton County Revenue* and Expenditure* Projections (Thousands, 1980 Dollars)

	FY80	FY81	FY82	FY83	FY84	FY85	FY90
Assessed Valuation (with exploration)	47,859.7	65,317.7	82,854.6	100,524.9	119,567.7	135,688.0	225,880.9
Assessed Valuation (baseline)	47,859.7	65,317.7	82,854.6	100,435.8	118,152.5	135,643.6	225,880.9
Mill Levy (estimated from 1980)	9.90	9.90	9.90	9.90	9.90	9.90	9.90
Revenue (baseline)							
Property Tax	356.7	473.8	583.9	740.5	897.9	1056.3	1858.6
Sales Tax	849.2	932.3	987.9	1059.6	1147.9	1195.6	1860.9
Gasoline Tax	145.7	164.1	173.8	186.5	202.0	210.4	327.5
Cigarette Tax	5.1	6.4	6.7	7.2	7.8	8.1	12.7
Government Transfers	541.6	524.4	555.6	596.0	645.6	672.5	1046.7
Other Sources	706.8	592.5	627.9	673.4	729.4	759.8	1182.6
Total Revenue**	2605.1	2693.5	2935.8	3263.3	3630.8	3902.8	6288.9
Revenue (with exploration)							
Property Tax	356.7	473.8	583.9	740.7	898.6	1068.9	1858.6
Sales Tax	849.2	932.3	992.7	1073.9	1153.3	1199.9	1860.9
Gasoline Tax	145.7	164.1	174.7	189.0	203.0	211.1	327.5
Cigarette Tax	5.1	6.4	6.8	7.3	7.9	8.2	12.7
Government Transfers	541.6	524.4	558.4	604.0	648.7	674.7	1046.7
Other Sources	706.8	592.5	630.8	682.4	732.9	762.3	1182.6
Total Revenue**	2605.1	2693.5	2947.3	3297.4	3644.4	3924.7	6288.9
Revenue (due to exploration)							
Property Tax	0	0	0.0	0.2	0.7	12.6	0
Sales Tax	0	0	4.8	14.3	5.4	4.3	0
Gasoline Tax	0	0	0.9	2.5	1.0	0.7	0
Cigarette Tax	0	0	0.1	0.1	0.1	0.1	0
Government Transfers	0	0	2.8	8.0	3.1	2.2	0
Other Sources	0	0	2.9	9.0	3.5	2.5	0
Total Revenue**	0	0	11.5	34.1	13.6	21.9	0

Table 3.1.8.1 (cont.)

Teton County Revenue* and Expenditure* Projections (Thousands, 1980 Dollars)

	FY80	FY81	FY82	FY83	FY84	FY85	FY90
Operating Expenditures (baseline)							
Administration	251.7	271.5	287.8	308.7	334.4	348.3	542.2
Public Safety	874.9	833.0	882.7	946.7	1025.6	1068.4	1662.7
Human Services	235.9	229.7	243.5	261.2	282.9	294.6	458.6
Public Works	244.1	410.9	435.5	467.1	506.1	527.0	820.3
Other Accounts	848.9	818.6	867.4	930.4	1008.0	1049.7	1634.0
Total**	2455.5	2563.7	2716.9	2914.1	3157.0	3288.0	5117.8
Operating Expenditures (with exploration)							
Administration	251.7	271.5	289.2	313.0	336.5	350.2	542.2
Public Safety	874.9	833.0	887.1	959.9	1032.0	1074.1	1662.7
Human Services	235.9	229.7	244.7	264.9	284.4	296.2	458.6
Public Works	244.1	410.9	437.7	473.7	509.3	529.4	820.3
Other Accounts	848.9	818.6	871.7	944.0	1014.3	1055.2	1634.0
Total**	2455.5	2563.7	2730.2	2954.7	3176.9	3305.6	5117.8
Operating Expenditures (due to exploration)							
Administration	0	0	1.4	4.3	2.1	1.9	0
Public Safety	0	0	4.4	13.2	6.4	5.7	0
Human Services	0	0	1.2	3.7	1.5	1.6	0
Public Works	0	0	2.2	6.6	3.2	2.4	0
Other Accounts	0	0	4.3	13.6	6.3	5.5	0
Total**	0	0	13.3	40.6	19.9	17.6	0

Table 3.1.8.1 (cont.)

Teton County Revenue* and Expenditure* Projections (Thousands, 1980 Dollars)

	FY80	FY81	FY82	FY83	FY84	FY85	FY90
Capital Expenditures (baseline and with exploration)							
Administration	0	0	0	0	0	0	0
Public Safety	0	1100.0	100.0	170.0	100.0	305.0	100.0
Human Services	0	368.5	183.5	147.5	71.0	71.0	71.0
Public Works	0	740.0	740.0	740.0	740.0	740.0	740.0
Total	0	2208.5	1023.5	1057.5	911.0	1116.0	911.0
Debt Service on Capital Expenditure	0	192.6	281.8	374.0	453.4	550.7	1091.7
Balance*** (baseline)	1207.2	-62.8	-62.9	-24.8	20.4	64.1	79.4
Balance (with exploration)	1207.2	-62.8	-64.7	-31.3	14.1	68.4	79.4
Balance (due to exploration)	0	0	-1.8	-6.5	-6.3	+4.3	0

*The revenue and expenditure projections do not include revenue and expenditure from grants or gifts.

**Totals may not sum because of rounding.

***Balances represent an annual (not cumulative) surplus (+) or deficit (-).

Source: Wyoming Research Corporation; Laramie, Wyoming (1981).

capital facilities costs, a positive balance can be maintained.

Although health care is considered in this discussion of Teton County, the hospital is a separate special district for tax purposes. St. John's Hospital is estimated to require capital facility expenditures of $660,000 per year for the ten years in addition to those of the county government. The debt service associated with this expenditure would be about $57,500 in FY81 and would increase to $470,000 by FY90. Currently, the hospital district levies a 3 mill property tax. In FY80, this generated about $120,000. Although the revenue and expenditure analysis of the hospital district will be affected by the results of the 1980-1990 master plan prepared by James White/Associates, the impact from the oil exploration will be of minor magnitude associated with other public services in this report.

Teton County is presently taxing less than the statutory 12 mills on assessed property valuation. The rate in effect for FY80 was 9.9 mills (excluding the mill levy for the special fire district and the general school). The mill rate in effect during FY80 was assumed for projecting property tax revenue beyond 1980. If Teton County were to tax at its legal 12 mill limit, it could generate sufficient additional revenue to accommodate the projected capital facilities.

Throughout the entire time period, the fiscal impact of the population increases from drilling remains minor. Even in the years of highest population influx from drilling, the necessary increase in the county budget would be only 3 percent.

3.1.9 Summary

As the preceding review of Teton County public service sectors indicates, there will be a general expansion within these sectors due to the projected growth in the area. Population increases from the proposed drilling in Cache Creek Canyon and Little Granite Canyon will not require an expansion of public service sectors beyond the expansion dictated by non-project growth (see Summary Table 3.1.9.1).

Table 3.1.9.1: Teton County Public Service Needs:
With and Without Proposed Drilling

		Avail	1980	1981	1982	1983	1984	1985	1986
Water:	W/out Project		NA	NA	NA	NA	NA	NA	NA
	With Project								
	Net Difference								
Sewer:	W/out Project		NA	NA	NA	NA	NA	NA	NA
	With Project								
	Net Difference								
Solid Waste:	W/out Project		NA	NA	NA	NA	NA	NA	NA
	With Project								
	Net Difference								
Roads & Bridges:	W/out Project		740,000	740,000	740,000	740,000	740,000	740,000	740,000
(Expenditures)	With Project		740,000	740,000	740,000	740,000	740,000	740,000	740,000
	Net Difference		0	0	0	0	0	0	0
Public Administration:	W/out Project		23	23	25	25	27	27	29
(Personnel)	With Project		23	23	25	25	27	27	29
	Net Difference		0	0	0	0	0	0	0
Law Enforcement:	W/out Project		24	24	26	26	28	28	30
(Personnel)	With Project		24	24	26	26	28	28	30
	Net Difference		0	0	0	0	0	0	0

Table 3.1.9.1 (cont.)

Teton County Public Service Needs: With and Without Proposed Drilling

		Avail 1980	1981	1982	1983	1984	1985	1986
Fire Protection:	W/out Project	100,000	100,000	100,000	170,000	100,000	305,000	100,000
(Expenditures)	With Project	100,000	100,000	100,000	170,000	100,000	305,000	100,000
	Net Difference	0	0	0	0	0	0	0
Total Housing Demand:	W/out Project	168	191	262	341	420	261	847
	With Project	168	191	331	352	364	253	837
	Net Difference	0	0	69	11	-56	-8	-10
Hospital:	W/out Project	660,000	660,000	660,000	660,000	660,000	660,000	660,000
(Expenditures)	With Project	660,000	660,000	660,000	660,000	660,000	660,000	660,000
	Net Difference	0	0	0	0	0	0	0
Public Health Nursing:	W/out Project	3	3	3	3	4	4	4
(Personnel)	With Project	3	3	3	3	4	4	4
	Net Difference	0	0	0	0	0	0	0
Social Welfare:	W/out Project	44	46	49	53	58	60	70
(Personnel)	With Project	44	46	49	53	58	60	70
	Net Difference	0	0	0	0	0	0	0
Recreation:	W/out Project	NA	NA	NA	NA	NA	NA	NA
	With Project	NA	NA	NA	NA	NA	NA	NA
	Net Difference	NA	NA	NA	NA	NA	NA	NA

Table 3.1.9.1 (cont.)

Teton County Public Service Needs: With and Without Proposed Drilling

		Avail 1980	1981	1982	1983	1984	1985	1986
Fair:*	W/out Project	NA	NA	NA	NA	NA	NA	NA
	With Project	NA	NA	NA	NA	NA	NA	NA
	Net Difference	NA	NA	NA	NA	NA	NA	NA
Library Volumes:	W/out Project	42,000	43,000	44,000	45,000	46,000	47,000	55,000
	With Project	42,000	43,000	44,000	45,000	46,000	47,000	55,000
	Net Difference	0	0	0	0	0	0	0

*Discussed in Section 3.1.7.2

Source: Wyoming Research Corporation; Laramie, Wyoming (1981).

3.2 Town of Jackson

3.2.1 Utilities

3.2.1.1 Water Supply

The town of Jackson provides water service to its residents and to specified areas outside the limits from four wells northeast of Jackson (three on the National Elk Refuge and one on the hospital grounds). The water supply is high in mineral content yet requires no treatment other than chlorination at the wellhead pumps.

The water system supplies approximately 8.93 million gallons per day when all four wells are pumping at their rated capacities. This supply is sufficient for a resident population of 16,000 and a tourist population of 25,000 assuming the 1980 average daily consumption rate for the town of Jackson of 396 GPCD (gallons per capita per day) for residents and 100 GPCD for tourists. The water demand in 1990 at the above consumption rates is estimated to be 3,891,888 GPCD total average daily consumption or 5,198,188 GPCD total maximum daily consumption. The system's design capacity is 4,201,000 GPCD average daily consumption of 8,930,000 GPCD total maximum daily consumption. The system will adequately serve Jackson's projected population through 1990 (see Table 2.1.2), either with or without proposed drilling. However, growth above the eight percent rate may cause demand to exceed this capacity prior to 1990.

When additional water supplies are needed, another well can be drilled at a cost similar to the $168,000 spent for the 1978 well drilled on the hospital property. The next well's cost

would be approximately this amount plus inflation.

If water service beyond the town limits is expanded, the resulting consumption should be added to the present consumption rates to determine future needs.

The town's water distribution system is divided into three pressure zones. Gravity flow is supplemented in four areas by booster pumps, two operated by the town at the Aspen Highlands and Hillside subdivisions and two operated privately at the Ramada Inn and Snow King Estates. The pipe in the system is generally adequate with two exceptions. Much of the 11.25 miles of 4-inch pipe will need to be replaced to provide increased pressure and fire flow, and a 12-inch main must be extended from Powderhorn Lane 6,900 feet to the urban expansion area. The town has adequate trunk lines to areas of potential development within the incorporated town. Developers will be required to pay for the installation of distribution lines within these undeveloped areas. The town administrator projects that $15,000 will be spent to replace 600 feet of 4-inch line per year and that the water line extension from Powderhorn Lane will cost $238,000 as estimated in 1979.

The town has an 800,000-gallon water storage tank on the east side and a 2,000,000-gallon tank on the west side. The smaller tank is in need of repairs which are estimated to cost $50,000. The Ramada Inn has a private 30,000-gallon tank for fire protection. Storage facilities are designed for the same total population as the water supply facilities and will be adequate through 1990 for an eight percent growth rate but may need to be increased in 1988

if growth exceeds eight percent per year. Given the patterns of vacant land in town, future growth can be expected on all sides of town with the greatest potential to the south and west. For this reason, additional storage capacity should be located with the 2,000,000-gallon tank to the west of town. The estimated cost, based on the 2,000,000-gallon tank recently installed, is $600,000.

The town has approximately 110 hydrants of various sizes and types. Many of the hydrants and lines need to be upgraded to provide adequate flow and pressure. The town administrator estimates that the system can be upgraded at a cost of $6,000 per year.

The improvements in the water supply which will be necessary to support an eight percent growth rate are estimated to be $15,000 per year to replace 4-inch lines plus $6,000 per year to replace hydrants. This $21,000 per year from 1981-1990 is a total requirement of $210,000.

3.2.1.2 Sewer

Jackson has a newly-constructed sewage treatment facility in Lower South Park, north of the elk feeding grounds. The plant serves the incorporated town of Jackson and those areas outside of town that are acceptable to the town and the county under the Tri-Party Agreement signed with the EPA in 1978.

The facility includes a three-cell aerated lagoon and rapid infiltration basin with an emergency outfall bypassing the infiltration basins. The plant is designed for a flow rate of 3.65

million gallons per day. Given significant ground water infiltration problems in the collection system and an annual load of 440 gallons per day per residence, the facility is adequate to serve the equivalent of 5,593 housing units. This is 2,795 more units than the 2,798 units that are currently receiving sewer service. If fully developed to its highest expected density, the town of Jackson would need an estimated 4,959 additional taps and the treatment facility would need to be expanded. Home sites adjacent to town will require 759 units and the expanded industrial area will require 1,119 units for a total need of 6,837 units in and around Jackson at full development. If the town grows at eight percent per year, the system will adequately serve the town's estimated 2,378 single-family equivalent units in 1990. The housing demand increase caused by the proposed drilling (46 units in 1982 and 6 units in 1983 (see Table 3.2.4.1)) would not necessitate the expansion of the sewage treatment facility in and of itself. However, if the town grows much faster, the system will need expansion before 1990. Although engineering studies of the facility assume 440 gallons per day per residence, that figure is a conservatively high estimate. A lower actual usage would mean greater unused capacity than reported here.

Under the Tri-Party Agreement, housing units outside the town limits can tap into the sewer interceptor line where authorized by the county and the town. The unused capacity of the facility will be reduced by the number of residences outside the town limits that are allowed to tap into the system. The commissioners and the council

have agreed to sell 500 taps to the Rafter J Subdivision and recently adopted an interim policy of allowing 150 units per year to tap into the system. If the tap policy is continued over ten years, it would add 2,000 units to the system which would exceed the projected 1990 unused capacity by 1,583 units if the town grows at eight percent. The time by which a new sewage treatment plant will be needed, therefore, will be significantly affected by the policy towards sewer taps in the unincorporated areas of the county.

Once capacity is reached, the design plan is to double the plant's capacity. The 80-acre parcel of land on which the plant is located will accommodate this expansion. The cost of the expansion will approximate the cost of the current plant, $3.4 million.

The town is planning to construct a main sewer interceptor from the urban expansion area to Flat Creek Drive which will alleviate some overflow situations in the existing collection system. The estimated cost of the interceptor is $1,200,000. The interceptor will be funded with a 75 percent EPA grant in the amount of $900,000, and $300,000 will be funded from local sources. Construction is expected to begin in the summer of 1981.

As part of the Tri-Party Agreement, the town and the county are determining tap fees which will generate sufficient revenues to insure that funds are available to finance the plant's expansion. Assuming that the sewer plant can accommodate an additional 2,795 housing units and that the cost of the expansion will be $3.4 million, a tap fee of $1,200 would be required to fund a new sewer plant. This figure must be increased annually to account for the effects of inflation.

The capital needs for sewage treatment over the next decade under the eight percent growth assumption includes $1,200,000 in 1981 for an interceptor and $3,400,000 in 1986 for plant expansion. The total requirements for sewage treatment is estimated to be $4,600,000.

3.2.1.3 Solid Waste

The town has granted a franchise to R.V. Peters of Jackson for the collection and disposal of garbage and other solid waste within the sanitary landfill district. Both agreements expire in 1983 but include an option for a negotiated renewal of the contract. Additional solid waste is generated by the concessions and campgrounds in the national forests and Grand Teton National Park. These government agencies use their own transportation to move their solid waste to the landfill site.

A single sanitary landfill is operated as a combined private-public enterprise where the majority of the day-to-day operating costs are paid by the landfill operator and the major long-term improvements are paid by government agencies including the town, county, Grand Teton National Park, Bridger-Teton National Forest, and the Elk Refuge. The landfill is located 8 miles south of Jackson, east of Highway 89-26 in Horse Thief Canyon. The site consists of approximately 28 acres of land which are leased to the county from the Forest Service and the Bureau of Land Management. About six acres are not usable for landfill purposes because of the canyon's steep hillsides.

The site has been operated as a sanitary landfill since June, 1972 when the first Special Use permits were issued to the county by the Forest Service and BLM. A limited amount of waste dumping occurred in the area prior to this time. In June, 1973 an agreement between Teton County and R.V. Peters was signed, granting Peters a license for a period of ten years to operate and maintain the landfill. Since the beginning of its operation, approximately 15.4 acres or 70 percent of the available site has been consumed.

Waste such as automobile bodies, bulk machinery, and old appliances are excluded from the fill and stored in a separate area of the landfill. Tree stumps, scrap lumber, and other burnable items are also segregated from the fill and burned periodically with permission from the Wyoming Department of Environmental Quality (DEQ). A sludge disposal pit was constructed in the fall of 1978 and expanded in 1979 for the disposal of waste from Teton Village and other small treatment plants in the area. None of the special disposal sites occupy significantly large areas of land.

The existing landfill has a life expectancy of three to five years according to current projected consumption of .27 acres per 1,000 population with or without the proposed drilling. Consequently, the county, with cooperation from the various public agencies involved, has been investigating new disposal sites throughout the area.

The projected cost of $120,000 assumes that a site will be found on public lands to avoid large costs of land acquisition. Agreements for operation of the landfill and construction of major improvements have not been written, so it is difficult to project how expenses will be shared by the public agencies. For the purposes of making

projections, it is assumed that the town, county, and federal governments will each share one-third of the projected cost ($40,000 each) and that the expenditure must be made in 1984 assuming an eight percent growth rate.

3.2.2 Public Administration

Administrative offices of the town are located on the ground floor of the county courthouse. The town has an office staff of six (administrator, clerk, assistant clerk, planner, building inspector and secretary) who occupy approximately 1,400 square feet. The town's council chambers are also located on the ground floor of the courthouse. Additional space in the courthouse is used for criminal justice functions with the basement housing the police department.

As the town grows, a staff increase to 12 employees has been projected for 1990, based on the current staff to population ratio of 1:25:1000. Assuming that the current level of 225 square feet per employee will be adequate for office, storage and miscellaneous requirements, the additional office space requirement will be 1,350 square feet for a total of 2,750 square feet. Population increases caused by proposed drilling will not require the expansion of the town administrative staff.

3.2.3 Public Safety and Transportation

3.2.3.1 Law Enforcement/Criminal Justice

The Jackson Police Department is located in the basement of the county courthouse. The 10-officer department uses approximately 1,200 square feet for a reception area, the chief's office, interrogation office, juvenile office, and photo lab. Dispatch facilities and the jail are shared with the County Sheriff's Department.

An additional ten officers will be needed by 1990 to maintain a 2:1000 officer-to-population ratio for an eight percent growth rate of the annual year-round population. Population increases resulting from proposed drilling will not require the addition of any officers to the police force (see Table 3.2.8.1). Although the possibility of vandalism against drilling enterprises in Cache Creek and disturbances involving drillers was acknowledged during interviews with town law enforcement officials, no increases in personnel are anticipated to deal specifically with these issues.

The town of Jackson's share of the $2,000,000 proposed criminal justice facility is $1,000,000 which constitutes a current requirement.

3.2.3.2 Fire Protection

Currently the fire protection district serving the town of Jackson consists of a 32-volunteer department with a full-time assistant fire warden and a six-person emergency response team. The town's share of the county-wide capital facility needs through 1990 include an aerial ladder truck and a pumper truck which are estimated to cost $325,000.

3.2.3.3 Streets and Alleys

There are approximately 26 miles of streets within the town of Jackson. Approximately 36 percent of the streets have curb and gutter, 30 percent have sidewalks, and 93 percent are paved. The town performs routine maintenance and snow removal with its staff of 9 and 13 pieces of equipment but relies on outside contractors to perform major tasks. Maintaining the present personnel to population ratio of 2:1000 and equipment to personnel ratio of 1.4:1 would necessitate 11 additional

personnel and 15 additional pieces of equipment, with or without proposed drilling. Equipment replacement and acquisition costs are assumed to be $50,000 per year.

The town operates a shop near the rodeo grounds. The 2,400 square foot, 5-bay, metal building was built in 1965 and is heated electrically. There is insufficient storage in the building for winter operations; thus, the town administrator feels the need for a new shop in the near future. He proposes a 7,000 square foot building that would cost approximately $313,000. A site has not yet been selected, but the facility is currently needed.

New street construction costs identified for the period 1980 to 1990 will require an average annual expenditure of $105,000 for a total of $1,054,000.

Street maintenance costs are not particularly sensitive to changes in traffic volume but weather is the primary factor causing street maintenance problems. An annual expenditure of $350,000 should be adequate for improvements to streets.

There are seven major storm drainage systems in the town which service approximately 300 acres of developed and undeveloped land. The storm sewers are separate from the sanitary sewers, and they all currently discharge into Flat Creek. Four general storm drainage problems have been identified that should be addressed in a storm drainage master plan:

1. Improve drainage at the 5-way intersection;
2. Improve drainage in several areas of town (including Meadowbrook Condominiums, Western Thriftway parking, and others) which have had drainage problems:

3. Reduce the stress of storm drainage on water quality in Flat Creek; and,

4. Develop a storm drainage plan for the undeveloped areas of town and future annexation areas.

The cost of the drainage plan and cost of the improvements have not yet been established; however, for the purposes of the capital facility study, it was estimated that the total cost would be $1,500,000. Over a 10-year period this averages $150,000 per year.

The total capital facility needs for the town of Jackson to provide equipment, construction, and improvements to meet the street and alley service requirements of an eight percent growth rate, in addition to a new shop, have been estimated at $6,863,000 through 1990. The annual average is approximately $655,000 without the new shop.

3.2.3.4 Transportation

Several transporation-related facility needs have been identified at present:

- Parking space in Jackson
- Bus or mass transit
- Bicycle paths.

Parking. To relieve traffic congestion and parking problems in the town square area, the town proposes to purchase land for off-street parking. Approximately 8 lots (50 ft. x 100 ft.) have been identified which will accommodate 200 parking spaces. Assuming a purchase price of $5.00 per square foot, or $25,000 per lot,

the 8 lots will cost $200,000. Paving and stripping will cost an additional $50,000. Town officials project that the facility will be completed in 1981 and that it will be adequate through 1990.

Bus. The mass transit system currently involves a town and county subsidy to a private operator who owns two buses. The town and county are being urged by private citizens to apply for an 80 percent Section III grant from the Urban Mass Transportation Administration (UMTA) for the purchase of new buses. Citizens argue that with these grants the system could be operated on a self-supporting basis and that funds contributed by the town and county could be used to expand the service. To initiate the system the town and county will each have to invest fifty percent ($20,000) of the $40,000 costs to be incurred in 1981 and 1982 for mass transit.

Bicycle Paths. Bike paths have been suggested and are very popular in towns oriented toward outdoor recreation. They could be incorporated in the design of road expansions or constructed in the right-of-way of existing roads.

The total cost through 1990 for all these transportation services has been estimated at $330,000.

3.2.4 Housing

The distribution of housing units in the town of Jackson generally follows the pattern existing in Teton County (see Section 3.1.4) with single-family units accounting for the largest number but with the largest increase being in multi-family units (Table 3.1.4.1).

According to the preliminary housing count by the 1980 Census, the town of Jackson accounted for 2,074 units of the county's 4,885. The May, 1979 Housing Study of Teton County by the Teton County Housing Committee showed that, of the total units within the town of Jackson, 52.7 percent were single-family, 29.9 percent were multi-family (apartments and condominiums), and 17.3 percent were mobile homes. Some motel units are also used for long-term housing on a seasonal basis but only amount to about one percent of the available year-round housing stock.

The Wyoming Department of Economic Planning and Development estimates a new three-bedroom home of 1,100 square feet with an unfinished basement and one-car garage costs between $75,000 and $95,000. Average monthly rentals for one to three bedroom apartments are $200 to $360 per month while three-bedroom homes rent for $450 to $600 per month.

As does Teton County, Jackson also suffers from a serious shortage of "low-priced housing" with new construction in both the sale and rental market being priced beyond the range of seasonal employees and many new permanent residents.

The change in the number of residential structures in the town of Jackson from 1,733 in 1978 to 2,074 in 1980 represents an average annual increase of 10 percent. Both Jackson's population and housing supply are expected to expand in the coming decade. For the purposes of this study and with the cautions expressed in section 3.1.4 in mind, housing supply projections have been prepared for the town of Jackson (see Table 3.2.4.1). The same methodology was used for Table 3.2.4.1 as was described for Table 3.1.4.2.

Table 3.2.4.1: Annual Housing Availability Projections for the Town of Jackson*

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
1) Residential Structures Beginning of Year	2,074	2,281	2,509	2,760	3,036	3,340	3,674	4,041	4,445	4,890	5,379
2) New Residential Structures (10% increase/year)	207	228	251	276	304	334	367	404	445	489	538
3) Total Residential Structures End of Year	2,281	2,509	2,760	3,036	3,340	3,674	4,041	4,445	4,890	5,379	5,917
4) Vacancies (.0088 of line 1)	18	20	22	24	26	29	32	36	39	43	47
5) Residential Structures Available for Rent/Purchase (lines 2 + 4)	225	248	273	300	330	363	399	440	484	532	585

*Figures represent total structures which include multi-unit structures (motels, hotels, condominiums and apartments.

Source: Wyoming Research Corporation; Laramie, Wyoming (1981).

Housing demand for the town of Jackson projected by WRC and based upon expected growth from 1980 to 1990 and impacts of proposed drilling is shown in Table 3.2.4.2.

Average annual demand with the proposed drilling will exceed average annual demand without proposed drilling at modest levels in 1982 and 1983 (Table 3.2.4.2). Because of the relocation of oil workers, there will be a decrease in housing demand in 1984, 1985, and 1986, and a housing surplus will exist until population increases have absorbed excess housing stocks (Table 3.2.4.2).

Comparison of housing availability projections in Table 3.2.4.1 with housing demand projections in Table 3.2.4.2 indicates that there will be housing available in sufficient numbers to meet projected demand with or without proposed drilling. Estimates have not been made regarding the range of prices of projected available housing. Even though supply appears to exceed demand, the price range of available housing may exceed the financial capability of many of those in need of housing.

3.2.5 Health

Health care in the town of Jackson is provided by the personnel and facilities available to Teton County. A detailed discussion of these services was provided in Section 3.1.5 as they pertain to Teton County.

3.2.6 Cultural

3.2.6.1 Recreation

The town of Jackson participates with the Teton County-Jackson Parks and Recreation Department by funding 50 percent of the department.

Table 3.2.4.2: Average Annual Housing Demand Projections for Town of Jackson, Without and With Proposed Drilling*

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Without Drilling											
Single Family	0	16	9	22	33	21	78	69	81	49	82
Multi-Family	14	60	95	116	137	85	270	207	162	148	150
Mobile Home	66	9	11	13	20	14	41	30	23	21	21
Other	0	7	11	13	13	6	20	20	19	18	14
Total	80	92	125	164	203	126	409	326	285	236	267
With Drilling											
Single Family	0	16	15	22	25	20	76	69	81	49	82
Multi-Family	14	60	126	121	114	81	266	207	162	148	150
Mobile Home	66	9	16	14	16	13	40	30	23	21	21
Other	6	7	15	14	10	6	20	20	19	18	14
Total	80	92	172	171	165	120	402	326	285	236	267
Net Difference											
Single Family	0	0	6	0	-8	-1	-2	0	0	0	0
Multi-Family	0	0	31	5	-23	-4	-4	0	0	0	0
Mobile Home	0	0	5	1	-4	-1	-1	0	0	0	0
Other	0	0	4	1	-3	0	0	0	0	0	0
Total	0	0	46	7	-38	-6	-7	0	0	0	0

*Projections are based on average year-round population and do not include tourist demand.

Source: Wyoming Research Corporation; Laramie, Wyoming (1981).

The current standards of 1.25 acres per 1,000 population (town) for neighborhood parks and playgrounds and 0.8 acres per 1,000 population (county) for playfields indicate a need for an additional 7.0 acres of neighborhood parks and 9.3 acres of playfields under an eight percent growth rate through 1990. The average cost per acre to buy and develop suitable flat park land has been estimated at $40,000 per acre. In addition, the town administrator has identified land the town would like to buy for a greenbelt. The cost of the greenbelt is estimated at $5,000 per acre for 43 acres or a total cost of $215,000. The land cost for neighborhood parks, playfields, and a greenbelt totals $867,000 through 1990.

Recreation facility standards adapted from a Recreation Plan for Sweetwater County, Wyoming, designed by THK Associates, indicate the total facility needs for tennis courts, softball and baseball diamonds, swimming pools, athletic fields, skating rinks, gymnasiums, and other athletic facilities and community recreation centers. These will cost $284,000 annually through 1990 for a total cost of $21,842,000 over the next decade.

3.2.6.2 Fair (including rodeo)

Town recreational facilities include the 18-acre fairgrounds where rodeos are held four times per week through the summer and four multi-purpose parks totaling approximately 6 acres. Another 8.07 acres of multi-purpose park area is located in Jackson and owned by Teton County.

The rodeo arena is the only permanent fair structure on the fairgrounds. The livestock barn recently burned down. The city maintenance shops, located on the fairgrounds, are cleaned out annually

for use as an exhibit hall during fair time. Additional facilities which are needed immediately include a livestock barn to replace the destroyed building, a 25,000 square foot building for use as an exhibit hall and covered show arena, and 100 horse stalls.

The cost of the facility assuming $17.00 per square foot would be $442,000. It will be shared equally between the town and county and will be built in 1983 with funds contributed over a three-year period from 1981 to 1983.

3.2.7 Revenue and Expenditures for the Town of Jackson

Projected revenue and expenditures for the town of Jackson are provided in Table 3.2.7.1. The table shows the projection of a baseline constructed for an eight percent growth rate through 1990, the exploration scenario, and the differences which are due to the exploration. The revenue and expenditure balance change resulting from the exploration scenario amounts to about two percent in FY83, the year with the greatest change. Contrary to the expected county experience, the net impact in FY82 through FY85 is a small positive gain for Jackson. As with Teton County, Jackson can expect revenue to rise slightly faster than operating expenditures over the decade under the current public finance patterns. Revenue and expenditures associated with grants and gifts were not considered in this analysis.

Jackson has no town property tax although statutes provide for an eight-mill levy. If this tax were instituted, the projected deficits could be eliminated and the FY90 projected deficit reduced by $669,700 or 87 percent. Reduction in the capital facilities program or attaining other sources of equivalent revenue could eliminate the projected FY90 deficit.

Table 3.2.7.1

Town of Jackson Revenue* and Expenditure* Projections (Thousands, 1980 Dollars)

	FY80	FY81	FY82	FY83	FY84	FY85	FY90
Assessed Valuation (Baseline & Exploration)	17,809.2	24,220.5	30,711.6	37,240.9	43,795.3	50,277.0	83,711.2
Mill Levy	0	0	0	0	0	0	0
Revenue (Baseline)							
Property Tax	0	0	0	0	0	0	0
Sales Tax	1400.0	1513.9	1604.2	1720.7	1864.0	1941.5	3021.9
Gasoline Tax	80.0	92.8	98.3	105.4	114.2	118.9	185.2
Cigarette Tax	69.0	82.1	86.9	93.3	101.0	105.2	163.8
Government Transfers	423.0	300.9	318.8	341.9	370.5	385.8	600.6
Other Sources	966.1	1284.2	1360.8	1459.7	1581.3	1647.0	2563.5
Total Revenue**	2938.1	3273.8	3469.1	3721.1	4031.0	4198.6	6534.9
Revenue (With Exploration)							
Property Tax	0	0	0	0	0	0	0
Sales Tax	1400.0	1513.9	1614.8	1752.4	1876.1	1950.3	3021.9
Gasoline Tax	80.0	92.7	98.9	107.4	114.9	119.5	185.2
Cigarette Tax	69.0	82.1	87.5	94.9	101.7	105.7	163.8
Government Transfers	423.0	300.9	320.9	348.3	372.9	387.6	600.6
Other Sources	966.1	1284.2	1369.8	1486.5	1391.5	1654.4	2563.5
Total Revenue**	2938.1	3273.8	3492.1	3789.5	4057.1	4217.6	6534.9
Revenue (Due to Exploration)							
Property Tax	0	0	0	0	0	0	0
Sales Tax	0	0	10.6	31.7	12.1	8.8	0
Gasoline Tax	0	0	0.6	2.0	0.7	0.6	0
Cigarette Tax	0	0	0.6	1.6	0.6	0.5	0
Government Transfers	0	0	2.1	6.4	2.4	1.8	0
Other Sources	0	0	9.0	26.8	10.2	7.4	0
Total Revenue**	0	0	23.0	68.4	26.1	19.0	0

Table 3.2.7.1 (Cont.)

Town of Jackson Revenue* and Expenditure* Projections (Thousands, 1980 Dollars)

	FY80	FY81	FY82	FY83	FY84	FY85	FY90
Operating Expenditures (baseline)							
Administration	101.4	119.2	126.4	135.5	146.8	152.9	238.0
Public Safety	416.7	449.4	476.3	510.9	553.4	576.4	897.1
Human Services	65.3	72.9	77.2	82.8	89.7	93.5	145.5
Public Works	1474.0	1473.7	1561.6	1675.0	1814.5	1889.9	2941.6
Other Accounts	1078.9	989.2	1048.2	1124.0	1217.9	1268.6	1974.6
Total**	3136.3	3104.9	3289.7	3528.6	3822.5	3981.4	6196.9
Operating Expenditures (with exploration)							
Administration	101.4	119.2	127.2	138.0	147.8	153.6	238.0
Public Safety	416.7	449.4	479.4	520.2	556.9	579.0	897.1
Human Services	65.3	72.9	77.7	84.4	90.3	93.9	145.5
Public Works	1474.0	1473.7	1571.9	1705.8	1826.6	1898.5	2941.6
Other Accounts	1078.9	989.2	1055.2	1145.1	1225.9	1274.4	1974.6
Total**	3136.3	3104.9	3311.5	3593.5	3847.3	3999.4	6196.9
Operating Expenditures (due to exploration)							
Administration	0	0	0.8	2.5	1.0	0.7	0
Public Safety	0	0	3.1	9.3	3.5	2.6	0
Human Services	0	0	0.5	1.6	0.6	0.4	0
Public Works	0	0	10.3	30.8	12.1	8.6	0
Other Accounts	0	0	7.0	21.1	8.0	5.8	0
Total**	0	0	21.8	64.9	24.8	18.0	0

Table 3.2.7.1 (Cont.)

Town of Jackson Revenue* and Expenditure* Projections (Thousands, 1980 Dollars)

	FY80	FY81	FY82	FY83	FY84	FY85	FY90
Capital Expenditures (baseline & with exploration)							
Administration	0	0	0	0	0	0	0
Public Safety	0	1000.0	0	0	0	0	0
Human Services	0	433.5	143.5	147.0	71.0	71.0	71.0
Public Works	0	976.0	334.0	676.0	716.0	676.0	676.0
Current Indebtedness	277.0						
Total**	277.0	2409.5	477.5	823.0	787.0	747.0	747.0
Debt Service on Capital Expenditures	24.2	234.2	275.9	374.6	416.2	481.3	1103.4
Balance*** (baseline)	80.2	-65.3	-96.5	-182.1	-207.7	-264.1	-765.4
Balance (with exploration)	80.2	-65.3	-95.3	-178.6	-206.4	-263.1	-765.4
Balance (due to exploration)	0	0	+1.2	+3.5	+1.3	+1.0	0

*The revenue projections do not include revenue from grants or gifts.

**Totals may not sum because of rounding.

***Balances represent an annual (not cumulative) surplus (+) or deficit (-).

Source: Wyoming Research Corporation; Laramie, Wyoming (1981).

Throughout the entire time period, the fiscal impact of the population increases from drilling remains minor. Even in the years of highest population influx from drilling, the necessary increase in the city budget would be only 2 percent.

3.2.8 Summary

Public service sectors of the town of Jackson will be expanding in response to projected growth in the area as preceding sections of this report indicate. The impacts due to proposed drilling in Cache Creek and Little Granite Canyons will fall within already expanding public service sectors capacities and will not require additional expansion (See Summary Table 3.2.8.1).

Table 3.2.8.1

Town of Jackson Public Service Needs: With and Without Proposed Drilling

		Avail 1980	1981	1982	1983	1984	1985	1986
Average Water Demand	W/out Project	2.85	2.96	3.11	3.30	3.51	3.66	4.04
M gal/day	With Project	2.85	2.96	3.13	3.34	3.53	3.68	4.04
	Net Difference	-	-	.02	.04	.02	.02	-
Maximum Wastewater Flow	W/out Project	1.23	1.33	1.44	1.55	1.67	1.81	1.95
M gal/day	With Project	1.23	1.33	1.46	1.55	1.67	1.81	1.95
	Net Difference	-	-	.02	-	-	-	-
Solid Waste Facility	W/out Project	6.6	5.3	3.9	2.4	.8	0	0
Acres/Yr	With Project	6.6	5.3	3.9	2.4	.8	0	0
	Net Difference	-	-	-	-	-	-	-
Streets-Alleys	W/out Project	9	9	10	11	12	12	14
(Personnel)	With Project	9	9	10	11	12	12	14
	Net Difference	-	-	-	-	-	-	-
(Equipment)	W/out Project	13	13	14	15	17	17	20
	With Project	13	13	14	15	17	17	20
	Net Difference	-	-	-	-	-	-	-
(Expenditures)	W/out Project	655,000	655,000	655,000	655,000	655,000	655,000	655,000
	With Project	655,000	655,000	655,000	655,000	655,000	655,000	655,000
	Net Difference	-	-	-	-	-	-	-
Public Administration	W/out Project	6	6	6	7	7	8	9
(Personnel)	With Project	6	6	6	7	7	8	9
	Net Difference	-	-	-	-	-	-	-

Table 3.2.8.1 (continued)

Town of Jackson Public Service Needs: With and Without Proposed Drilling

		Avail 1980	1981	1982	1983	1984	1985	1986
Law Enforcement (Sworn Officers)	W/out Project	10	10	10	11	12	12	14
	With Project	10	10	10	11	12	12	14
	Net Difference	-	-	-	-	-	-	-
Fire Protection (Expenditures)	W/out Project	32,500	32,500	32,500	32,500	32,500	32,500	32,500
	With Project	32,500	32,500	32,500	32,500	32,500	32,500	32,500
	Net Difference	-	-	-	-	-	-	-
Housing Demand	W/out Project	80	92	126	164	203	126	409
	With Project	80	92	172	171	165	120	402
	Net Difference	-	-	46	7	-38	-6	-7
Hospital* (Expenditures)	W/out Project	NA	NA	NA	NA	NA	NA	NA
	With Project	NA	NA	NA	NA	NA	NA	NA
	Net Difference	NA	NA	NA	NA	NA	NA	NA
Public Health Nursing* (Personnel)	W/out Project	NA	NA	NA	NA	NA	NA	NA
	With Project	NA	NA	NA	NA	NA	NA	NA
	Net Difference	NA	NA	NA	NA	NA	NA	NA
Social Welfare* (Personnel)	W/out Project	NA	NA	NA	NA	NA	NA	NA
	With Project	NA	NA	NA	NA	NA	NA	NA
	Net Difference	NA	NA	NA	NA	NA	NA	NA

Table 3.2.8.1 (continued)

Town of Jackson Public Service Needs: With and Without Proposed Drilling

		Avail 1980	1981	1982	1983	1984	1985	1986
Recreaction	W/out Project	284,000	284,000	284,000	284,000	284,000	284,000	284,000
	With Project	284,000	284,000	284,000	284,000	284,000	284,000	284,000
	Net Difference	-	-	-	-	-	-	-
Fair	W/out Project	0	73,666	73,666	73,666	0	0	0
	With Project	0	73,666	73,666	73,666	0	0	0
	Net Difference	-	-	-	-	-	-	-
Library Volumes*	W/out Project	NA	NA	NA	NA	NA	NA	NA
	With Project	NA	NA	NA	NA	NA	NA	NA
	Net Difference	NA	NA	NA	NA	NA	NA	NA
Transportation (Expenditures)	W/out Project	60,000	60,000	60,000	60,000	60,000	60,000	60,000
	With Project	60,000	60,000	60,000	60,000	60,000	60,000	60,000
	Net Difference	-	-	-	-	-	-	-

*Discussed in Section 3.1

Note: Totals may not sum because of rounding.

Source: Wyoming Research Corporation; Laramie, Wyoming (1981).

3.3 Teton County School District

3.3.1 Enrollment Projections and Classroom Requirements

Teton County School District provides public education to grades kindergarten through twelve. District fall enrollment increased approximately 9.8 percent between 1975 and 1980, compared with an estimated county population increase of 46 percent. A large percentage of the county's population increase is people without children. School district personnel feel that the school district (particularly at the elementary level) could grow dramatically if the commissioners allowed a great influx of mobile homes into the county. Even though the district enrollment has not increased rapidly and the 1980 district pupil/teacher ratio of 17:1 compares favorably with the state average ratio of 17.7:1, crowded conditions exist at some of the district's schools.

All grade levels in Teton County are not expected to grow at an equal rate. Total district fall enrollment increased from 1558 to 1717 between 1957 and 1980. During this period, enrollment in grades kindergarten through five increased 14.8 percent; middle school (grades 6-8) decreased 5.4 percent, and high school enrollment increased 13.7 percent.

The assistant district superintendent estimates that the large increase in secondary enrollment with a simultaneous decrease in middle school enrollment and minor increase in elementary school enrollment are a result of the type of families which move to an expensive, recreation-oriented county. These families are usually older, purchasing second homes or retirement homes, and their

children, if any, are usually in the secondary grades.

Under currently existing conditions, the assistant superintendent does not see any changes in the enrollment pattern. Because enrollment will continue to increase slowly, with most of the increase at the secondary level, the ten-year enrollment projections for each school were made assuming only a five percent annual increase over the fall 1980 enrollment.

A brief description of each school in the district follows with its capacity and future capacity problems based on the enrollment projection assumption. The description is based on information contained in the facilities study prepared by the Wyoming Department of Education in 1977. Information on the present capacity of each school was contained in the Teton County capital facility needs study. The need for new classrooms assumes 25 students per elementary classroom and 30 students per middle and high school classrooms.

Alta Elementary School provides education for grades kindergarten through six. Junior and senior high students are bused to Driggs, Idaho, for school. The Alta school has two classrooms, a library, a community center, and a gymnasium. Fall, 1980 enrollment was 33 students. The superintendent estimates the capacity of the school to be 40 students.

Alta Elementary has sufficient capacity through 1984 under the five percent growth assumption. One additional room would be required at that time which would be a sufficient capacity increase to last through 1990. (Table 3.3.1.1)

Table 3.3.1.1: Elementary Projections, Fall Enrollment and New Classroom Needs - Based on 5% Growth Assumption

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	TOTAL
Alta(k-6)												
1979 Cap.-40												
Enrollment	30	34	36	38	40	42	44	46	48	51	53	
New Clsrms.	-	-	-	-	1	-	-	-	-	-	-	1
Kelly(k-6)												
1979 Cap.-25												
Enrollment	39	40	43	45	47	50	52	55	57	60	64	
New Clsrms.	-	1	-	-	-	1	-	-	-	-	-	2
Moran(k-6)												
1979 Cap.-40												
Enrollment	44	46	49	51	53	56	59	62	65	68	72	
New Clsrms.	-	1	-	-	-	-	-	-	1	-	-	2
Wilson(k-5)												
1979 Cap.-170												
Enrollment	151	158	166	174	183	192	202	212	223	234	246	
New Clsrms.	-	-	-	1	-	-	1	-	1	-	1	4
Jackson(k-4)												
1979 Cap.-500												
Enrollment	433	454	477	501	526	553	580	609	640	671	705	
New Clsrms.	-	-	-	1	1	1	1	1	1	2	1	9
Jackson(5-6)												
1979 Cap.-250												
Enrollment	257	270	283	298	312	328	344	362	379	399	418	
New Clsrms.	-	1	1	-	1	-	1	-	1	-	1	6

Source: Wyoming Research Corporation; Laramie, Wyoming (1981).

The two-room Kelly Elementary School (K-6) is presently overcrowded. The estimated capacity of the school is 25 students; fall 1980 enrollment was 39. The school has no library or gymnasium space for possible conversion to classroom space. Kelly Elementary would have sufficient room through the 1980 projection period, under the five percent growth assumption, with the additon of one classroom in 1981 and another in 1985. (Table 3.3.1.1).

Moran Elementary has three classrooms and a gymnasium providing a capacity of 40 students. Fall, 1979 enrollment was 35 students. Moran Elementary School has sufficient capacity, assuming five percent growth, until 1981 and then one additional classroom will be needed. That number of classrooms will then be adequate until 1988 when another classroom must be added. (Table 3.3.1.1).

Wilson Elementary is located in the unincorporated area of Wilson, west of Jackson. Students attending grades six through twelve are bused to Jackson for school. Wilson Elementary consists of five classrooms, a music and art room, a gymnasium, and a library. The school's capacity is estimated at 170 students; fall, 1980 enrollment was 151. The school has a temporary increase in enrollment each ski season which increases classroom density and raises the student-teacher ratio. Wilson Elementary will require additional classroom space if enrollment increases five percent annually. Additional classrooms will be needed in 1983, 1986, 1988 and again in 1990. (Table 3.3.1.1).

Jackson Elementary with an estimated capacity of 599 is the largest elementary in the district. The school has 19 classrooms and nine special instruction rooms (e.g., gymnasium, music

practice, special eduaction). To reduce overcrowding in the district, and at Jackson Elementary School in particular, a decision was made by the school board in April, 1980 to transfer the fifth graders attending Jackson Elementary to available facilities in the old high school beginning in fall 1980. Fifth graders from Jackson Elementary and sixth graders from Jackson Middle School will attend classes in the new wing of the old high school. This area has an estimated capacity of 250 students. Fall, 1980 enrollment of fifth and sixth graders was 257. The fall, 1980 enrollment of K-4 was 433.

Enrollment projections for Jackson Elementary assume that the school will remain a K-4 school. Under the five percent growth assumption, a total of nine classrooms will be needed between 1983 and 1990. (Table 3.3.1.1).

Jackson 5-6 in the wing of the old high schoool will have the need for six additional classrooms, one each in 1981, 1982, 1984, 1986, 1988, and 1990 if enrollment increases according to medium growth (five percent) projections. (Table 3.3.1.1).

Beginning in the fall, 1980, all seventh and eighth grade students in the district (excluding Alta) will attend Jackson Middle School. The facility has 19 classrooms including science, shop, and home economics rooms. The district superintendent estimates the capacity of the school at 500 students. Fall, 1980 seventh and eighth grade enrollment was 229. Jackson Middle School has sufficient capacity through 1990 if enrollment increases at five percent annually. (Table 3.3.1.2).

Table 3.3.1.2: Secondary Projections, Fall Enrollment and New Classroom Needs - Assuming 5% Growth

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	TOTAL
Jackson Middle School (6-8) Capacity - 500												
Enrollment	229	240	252	265	278	292	307	322	338	355	373	
New Classrooms	-	-	-	-	-	-	-	-	-	-	-	0
Jackson High School (9-12) Capacity - 531												
Enrollment	531	558	585	614	645	677	711	747	785	823	865	
New Classrooms	-	-	-	-	-	-	-	-	1	2	1	4

Source: Wyoming Research Corporation; Laramie, Wyoming (1981).

The new Jackson Senior High School was occupied in fall of 1980. The new school has a design capacity for 750 students. Senior high enrollment in fall, 1980 was 531 students. If enrollment increases at the five percent rate, four additional classrooms will be needed by the new Jackson High School between 1987 and 1990. (Table 3.3.1.2).

The increase in school age children resulting from the proposed drilling is estimated to be 6 in 1982, 17 in 1983, 6 in 1984 and 5 in 1985. (See Table 3.3.1.3 for derivation). Since little or no definitive data exists regarding the demographic profile of oil-field workers, the assumptions specified in Section 2.1 regarding general population characteristics in Wyoming and Teton County were used in obtaining the above estimates. In light of the preceding qualification, the above estimates are regarded as only liberal approximations. The lack of data also does not facilitate the subdivision of these estimates into primary and secondary grade levels. It becomes clear that the distribution of even such liberal approximations throughout the whole school district would not require the expansion of existing facilities beyond that which is currently anticipated (see Table 3.3.1.4).

For the purposes of determining capital needs and school land requirements, two sets of assumptions have been made.

1. The school district would like to provide 11 acres for a 250-student (10-classroom) elementary school. Some of the schools have less land than this standard would indicate. For the purposes of this study, WRC assumes

Table 3.3.1.3: Projected Increases in School Age Children in Teton County As a Result of Proposed Drilling

	1982	1983	1984	1985
New Employment Due to Proposed Drilling (From Table 2.2.1.3)	22	65	25	28
New Households Resulting From Proposed Drilling (86% of New Workers, see Section 2.1)	19	56	21	15
New School Age Children Resulting From Proposed Drilling) (.3 of New Households, see Section 2.1)	6	17	6	5

Source: Wyoming Research Corporation; Laramie, Wyoming (1981).

Table 3.3.1.4: Teton County School District Classroom Need Summary - 5% Annual Growth

School	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total
Alta	-	-	-	-	1	-	-	-	-	-	1
Kelly	1	-	-	-	1	-	-	-	-	-	2
Moran	1	-	-	-	-	-	-	1	-	-	2
Wilson	-	-	1	-	-	1	-	1	-	1	4
Jackson Elementary	-	-	1	1	1	1	1	1	2	1	9
Jackson 5 and 6	1	1	-	1	-	1	-	1	-	1	6
Jackson Middle School	-	-	-	-	-	-	-	-	-	-	0
Jackson High	-	-	-	-	-	-	-	1	2	1	4
Total	3	1	2	2	3	3	1	5	4	4	28

Source: Wyoming Research Corporation; Laramie, Wyoming (1981).

one acre of land will be needed for each new classroom that is needed.

2. The cost of constructing and furnishing a new school can be expressed as $175,000 per classroom. This assumption is based on $75 per sq. ft. to build and furnish a school, 80 sq. ft. per student for classroom, non-instructional and ancillary space, and a classroom size of 25 students. Adding land costs at $25,000 per acre brings the total to $175,000 per classroom as follows:

$75 x 80 x 25	=	$150,000
Plus land		25,000
Total		$175,000

The capital needs in the next table (Table 3.3.1.5) are developed with these assumptions and the classroom needs summarized in the preceding table. (Table 3.3.1.4).

Table 3.3.1.5: Teton County School District
Capital Needs Summary

Year	Facility	Annual Growth Rate 5%
1981	3 Classrooms	$ 525,000
1982	1 Classroom	175,000
1983	2 Classrooms	350,000
1984	2 Classrooms	350,000
1985	3 Classrooms	525,000
1986	3 Classrooms	525,000
1987	1 Classroom	175,000
1988	5 Classrooms	875,000
1989	4 Classrooms	700,000
1990	4 Classrooms	700,000
Total		4,900,000
Land Required		28 acres

Source: Wyoming Research Corporation; Laramie, Wyoming (1981).

3.3.2 Revenue and Expenditure Projections for Teton County School District #1

Projected revenue and expenditures for Teton County School District #1 for FY80 to FY85 and FY90 (shown in Table 3.3.2.1) are based on levels of funding and expenditures in effect for the fall of 1980. (Subsequent alterations in school district revenue and/or expenditures because of changes in local or state policies would be reflected on both the base and exploration cases, therefore having no impact on the net change caused by the proposed drilling). The balance of revenue, expenditures, and debt service for capital expenditures indicates the school district has adequate financial resources to satisfy both operating and capital facility needs for the projected school population in both the base and exploration cases.

Property tax revenue for the school district were projected using the 1980 mill levy assumption in order to be consistent with the other jurisdictions analyzed.

The financial impacts caused by exploration will reduce the surplus by less than one percent in the year with the highest drilling-related population influx.

3.4 Summary of Capital Needs Through 1990

According to revenue and expenditures projected in Sections 3.1.8 and 3.2.7, local government jurisdictions of Teton County may face a problem in generating $40 million through 1990 to provide required capital facilities to meet an eight percent growth rate. It seems reasonable to expect that only five to ten percent

Table 3.3.2.1

Teton County School District #1 Revenue* and Expenditure* Projections (Thousands, 1980 Dollars)

	FY80	FY81	FY82	FY83	FY84	FY85	FY90
Assessed Valuation (with exploration)	47,859.7	65,317.7	82,854.6	100,524.9	119,567.7	135,688.0	225,880.9
Assessed Valuation (baseline)	47,859.7	65,317.7	82,854.6	100,435.8	118,152.5	135,643.6	225,880.9
Mill Levy	44.2	44.2	44.2	44.2	44.2	44.2	44.2
Revenue (baseline)							
Property Tax	1,821.4	2,125.0	2,887.3	3,661.1	4,439.6	5,222.8	9,189.8
Local Other	289.5	296.5	306.3	318.9	334.5	342.0	459.3
County Other	290.3	297.2	307.1	319.8	335.4	342.9	460.5
State Transfers	1,828.0	1,871.5	1,933.7	2,013.6	2,111.7	2,158.9	2,899.2
Federal Transfers	23.9	24.5	25.3	26.3	27.6	28.2	37.9
Total Revenue**	4,253.1	4,614.7	5,459.7	6,339.7	7,248.8	8,094.8	13,046.7
Revenue (with exploration)							
Property Tax	1,821.4	2,125.0	2,887.3	3,662.5	4,443.6	5,285.3	9,189.8
Local Other	289.5	296.5	307.3	321.6	335.6	342.7	459.3
County Other	290.3	297.2	307.9	322.2	336.2	343.5	460.5
State Transfers	1,828.0	1,871.5	1,939.2	2,029.9	2,117.8	2,163.2	2,899.2
Federal Transfers	23.9	24.5	25.4	26.6	27.7	28.3	37.9
Total Revenue**	4,253.1	4,614.7	5,467.1	6,362.8	7,260.9	8,163.0	13,046.7
Revenue (due to exploration)							
Property Tax	0	0	0.0	1.4	4.0	62.5	0
Local Other	0	0	1.0	2.7	1.1	0.7	0
County Other	0	0	0.8	2.4	0.8	0.6	0
State Transfers	0	0	5.5	16.3	6.1	4.3	0
Federal Transfers	0	0	0.1	0.3	0.1	0.1	0
Total Revenue**	0	0	7.4	23.1	12.1	68.2	0

Table 3.3.2.1 (Cont.)

Teton County School District #1 Revenue* and Expenditure* Projections (Thousands, 1980 Dollars)

	FY80	FY81	FY82	FY83	FY84	FY85	FY90
Operating Expenditures (baseline)							
Elementary Program	956.6	980.0	1,012.3	1,054.4	1,105.3	1,129.8	1,517.5
Secondary Program	1,097.5	1,122.8	1,159.4	1,206.9	1,265.5	1,293.8	1,737.5
Exceptional Program	0.6	2.1	2.2	2.2	2.3	2.3	3.1
Adult Program	0.0	0.4	0.5	0.5	0.5	0.5	0.7
Institutional Support	591.6	606.1	625.8	652.1	683.7	699.5	939.3
School Administration	371.2	379.1	392.7	408.5	428.9	437.9	588.4
Maintenance/Operations	411.2	421.2	434.8	452.9	475.5	486.8	653.6
Transportation	242.2	248.2	256.2	266.2	280.3	286.3	385.1
Other General Support	13.0	13.2	13.6	14.1	14.8	15.2	20.3
Community Support	0	0	0	0	0	0	0
Non Program Charges	155.2	158.2	164.2	186.9	195.0	199.9	268.2
Total**	3,848.3	3,931.3	4,061.7	4,244.7	4,451.7	4,552.0	6,113.7
Operating Expenditures (with exploration)							
Elementary Program	965.6	980.0	1,015.5	1,062.9	1,108.8	1,132.6	1,517.5
Secondary Program	1,097.5	1,122.8	1,162.4	1,275.9	1,270.2	1,297.8	1,737.5
Exceptional Program	0.6	2.2	2.2	2.3	2.3	2.3	3.1
Adult Program	0.0	0.5	0.5	0.5	0.5	0.5	0.7
Institutional Program	591.6	606.1	627.7	658.0	686.6	701.6	939.3
School Administration	371.2	379.1	393.8	412.3	430.8	439.5	588.4
Maintenance/Operations	411.2	421.2	436.0	479.5	477.3	488.5	653.6
Transportation	242.2	248.2	257.0	268.8	281.9	287.9	385.1
Other General Support	13.0	13.2	13.6	14.2	14.8	15.2	20.3
Community Support	0	0	0	0	0	0	0
Non Program Charges	155.2	158.2	164.8	188.4	195.8	200.6	268.2
Total**	3,848.3	3,931.3	4,073.6	4,281.6	4,468.9	4,566.7	6,113.7

Table 3.3.2.1 (Cont.)

Teton County School District #1 Revenue* and Expenditure* Projections (Thousands, 1980 Dollars)

	FY80	FY81	FY82	FY83	FY84	FY85	FY90
Operating Expenditures (due to exploration)							
Elementary Program	0	0	3.2	8.5	3.4	2.8	0
Secondary Program	0	0	3.0	10.4	4.7	4.0	0
Exceptional Program	0	0	0	0.1	0	0	0
Adult Program	0	0	0	0	0	0	0
Institutional Program	0	0	1.9	5.9	2.9	2.1	0
School Administration	0	0	1.1	3.8	1.9	1.6	0
Maintenance/Operations	0	0	1.2	4.0	1.8	1.7	0
Transportation	0	0	0.8	2.6	1.6	1.6	0
Other General Support	0	0	0	0.1	0	0	0
Community Support	0	0	0	0	0	0	0
Non Program Charges	0	0	0.6	1.5	0.8	0.7	0
Total	0	0	11.9	36.9	17.1	14.7	0

Source: Wyoming Research Corporation; Laramie, Wyoming (1981).

Table 3.3.2.1 (Cont.)

Teton County School District #1 Revenue* and Expenditure* Projections (Thousands, 1980 Dollars)

		FY80	FY81	FY82	FY83	FY84	FY85	FY90
Capital Expenditures (baseline and with exploration)								
Classrooms		0	525.0	175.0	350.0	350.0	525.0	700.0
Current indebtedness	4,048,000							
Debt Service (baseline and with exploration)		352.9	398.7	413.9	444.5	475.0	520.7	780.1
Balance*** (baseline)		51.9	284.7	984.1	1,650.5	2,322.1	3,022.1	6,152.9
Balance (with exploration)		51.9	284.7	979.6	1,636.7	2,317.0	3,075.6	6,152.9
Balance (due to exploration)		0	0	-4.5	-13.8	-5.1	+53.5	0

*The revenue and expenditure projections do not include revenue and expenditure from grants or gifts.

**Totals may not sum because of rounding.

***Balances represent an annual (not cumulative) surplus (+) or deficit (-).

Source: Wyoming Research Corporation, Laramie, Wyoming (1981).

of this amount can be financed through federal or state grants. The remainder of the funding must be generated locally. Approximately five percent of the total amount can be raised through general obligation bonds. The balance must be raised with a combination of general fund surpluses and non-revenue fiscal devices. The revenue and expenditure analysis of each local government jurisdiction shows a positive surplus in each instance until the debt service associated with the capital facility improvement program is deducted. The margin between surplus and deficit is quite narrow for Teton County and the town of Jackson. However, the school district appears capable of financing the required increase in classrooms. Table 3.4.1 shows the projected dollar value of the capital facility needs through 1990 for each local government jurisdiction.

Table 3.4.1: Summary of Capital Needs Through 1990, 8% Annual Growth Rate (5% Annual School Growth Rate)

	State or Federal*	Teton County	Town of Jackson	Teton School District	Total Need
Administration	$ -	$ -	$ -	$ -	$ -
Public Safety					
Criminal Justice	-	1,000,000	1,000,000	-	2,000,000
Fire Protection	-	1,275,000	-	-	1,275,000
Human Services					
Transportation	-	40,000	290,000	-	330,000
Recreation	1,422,000	710,000	710,000	-	2,842,000
Library	-	675,000	-	-	675,000
Hospital	-	6,600,000	-	-	6,600,000
Fair	-	221,000	221,000	-	442,000
Convention Center	-	-	2,100,000	-	2,100,000
Education	-	-	-	4,900,000	4,900,000
Public Works					
Water	-	-	210,000	-	210,000
Sewer	900,000	-	3,700,000	-	4,600,000
Solid Waste	40,000	40,000	40,000	-	120,000
Roads	-	7,404,000	6,863,000	-	14,267,000
TOTAL	$2,362,000	$17,965,000	$15,134,000	$4,900,000	$40,361,000

*Projected Share

Source: Capital Facility Needs and Funding Strategies-Teton County, Wyoming 1980-1990, Stuart/Nichols Associates, September 1, 1980.

4.0 Perception of Issues Related to the Proposed Drilling Sites

4.1 Introduction

In addition to population, economic, and service infrastructure effects, the social meaning of oil and gas exploration for members of the local community must be addressed. Social reality is grounded in the perceptions, expectations, and preferences of individuals and groups. This perceived reality gives definition to the value of community resources, patterns of social interaction and life styles, and, at times, predisposes people to a certain course of action. In this instance, perceptions of the impacts of oil exploration on the local community and the physical landscape are important effects that must be evaluated since members of the community have not only the right but also the potential to exert influence on the decision-making process.

4.2 Unstructured Field Observation

Fifty-nine observations were collected for this part of the study using an informal unstructured technique. Rather than administering a structured survey instrument which requires that each respondent be asked the same set of identically-phrased questions, interviewers used broad guides which simply delineated general categories of inquiry. These categories included: beliefs about the need for exploratory drilling in Cache Creek Canyon, Little Granite Creek Canyon and in Bridger-Teton National Forest in general; reasons for supporting drilling activities; reasons for opposing drilling; preferences for access to the Cache

Creek site and the Little Granite Creek site; interest groups the respondents represented; general age of respondents; and length of residence in the Jackson area.

The unstructured field observation method which enables a researcher to explore issues in depth with any given respondent offers several advantages: the researcher is not limited to a predetermined format which can impede discovery of crucial issues or perceptions; observations are not limited to personal interviews, so the field worker is free to include observations gained in a variety of ways; and, members of the target population are better able to communicate the full meaning of issues of importance to them.

However, observations of this type also have the following limitations: not all respondents comment on all subjects; statistical analyses of the data cannot be utilized to the same degree as it can with data collected by use of a structured instrument; respondents may register more than one perception in response to a particular inquiry, sometimes resulting in problems of analysis.

The number of people to be interviewed was determined by using a technique known as "theoretical sampling". Theoretical sampling, as discussed by Norman K. Denzin in his book The Research Act: A Theoretical Introduction to Research Methods, is an appropriate technique when the purpose of the inquiry is to discover, or reveal, the types of social processes and/or perceptions present in a population and to derive possible explanations of why these social processes are occurring as they are. If one wants to know

as precisely as possible the distribution of a particular social characteristic in a population, then a statistically derived sampling technique, such as stratified random sampling, is appropriate. Even though theoretical sampling can provide rough estimates of the distribution of a social characteristic in a population, its primary purpose is the identification of social processes ongoing in a population and discovery of explanations.

The logic of theoretical sampling is that observations of the population should continue until the researchers are discovering no new issues or perceptions and no new explanations for these processes. The researchers continue observing the population until the information they are receiving becomes repetitive. They then should have a valid understanding of salient issues and appropriate explanations.

In the case at hand, theoretical sampling was the appropriate technique because the purpose was to inform decision makers of the issues related to oil and gas drilling at the two proposed sites as perceived by the major groups which comprise the affected communities. Because of the small size of the communities, the theoretical sampling technique also provides a rough estimate of the salience and distribution of perceptions among major community groups and for the community as a whole.

Names of people to be contacted were gathered from lists of participants at public meetings, personal contact in Jackson Hole, and publicly visible members of interest groups and organizations. New contacts were made from references by persons already contacted.

Field workers made extensive notes following each field observation session. Content analysis resulted in a listing of key issues and major interest groups present in the community.* By comparing reports of issues and characteristics of respondents, common themes were revealed along with rough estimates of their salience and distribution among various interest groups in the community.

4.3 Characteristics of Respondents

Respondents were classified, for analytical purposes, according to three characteristics: primary interest group affiliation of the respondent, age of respondent, and length of residence in the project area. The distribution of these characteristics among the 59 respondents is summarized in table 4.3.1. As the table reflects, the sample of people from interest groups is unevenly distributed. People with business interests are highly overrepresented in the sample of respondents. The over-sampling of this interest group was deliberate. It was obvious to the research team after attending the scoping meetings, reading the comments sent in response to an earlier EIS hearing, and reading issues in the local paper that opposition to oil and gas drilling was wide-spread among most identifiable interest groups in the community.

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* For purposes of this study the community is taken to mean the totality of Jackson Hole, including the town of Alta.

Table 4.3.1: Characteristics of Fifty-nine Respondents Interviewed About Their Perceptions of Proposed Oil and Gas Exploration in the Bridger-Teton National Forest

Age of Respondents	Number
16 to 35 Years of Age	13
36 to 50 Years of Age	31
51 plus Years of Age	15
Total	59
Length of Residence of Respondents	
1 to 10 Years	19
11 to 20 Years	12
21 plus Years	25
Part-time resident or tourist	3
Total	59
Primary Interest Group Identification of Respondent	
Business People and Professional	25
Dude Ranchers, Guides	3
Elected Official	5
Local Employee	9
Environmentalist	5
Rancher	8
Other (retired person, tourist , absentee property owner)	4
Total	59

Source: Field Observations by Wyoming Research Corporation; Laramie, Wyoming (1980).

Thus, it was believed that if any major interest group supported oil and gas exploration it would be the business community. Hence, the focus on this interest group.

Findings from conversations with the 59 respondents are summarized in the following sections, along with summaries of several types of field observations, including analysis of a local opinion poll and of local elections held in the fall of 1980.

4.4 Summary of Field Observations

Preliminary content analysis of field observations can be summarized in four general categories: 1) response to exploratory drilling; 2) reasons supporting exploratory drilling; 3) reasons opposing exploratory drilling; and 4) preferred access routes.

4.4.1 Responses to the Proposed Drilling in Cache Creek Canyon

Table 4.4.1.1 summarizes responses to the proposed drilling in Cache Creek Canyon. (See Figure 1.1.1 for location of drilling site). As the table shows, the majority of people interviewed are opposed to any drilling in Cache Creek. The most interesting finding, which is reflected in Table 4.4.1.1, is that the business and professional group, elected officials and local employees are quite divided on this issue. Since these groups are usually most favorably disposed toward development, this strong division reflects that the Cache Creek site is a special case. Many of the business people indicated this was the case, stating that they were not opposed to drilling in the Bridger-Teton National Forest in general but were specifically opposing drilling in Cache Creek. Many of

Table 4.4.1.1: Support for and Opposition to Proposed Drilling at the Cache Creek Site by Primary Interest Group Identification of Respondent

	Business People and Professionals	Dude Ranchers, Guides	Elected Officials	Local Employees	Environmentalists	Rancher	Other	Totals
Favor the Proposed Drilling	9	1	3	4	0	7	1	25
Opposed to the Proposed Drilling	15	2	2	5	5	0	3	32
No Opinion or Refused to Respond	1	0	0	0	0	1	0	2
Total	25	3	5	9	5	8	4	59

Source: Field Observations by Wyoming Research Corporation; Laramie, Wyoming (1980).

the business people who favored drilling in Cache Creek believed they were in a minority even among fellow businessmen. The research team believes that a majority of the business community opposes drilling in Cache Creek and a fairly large majority of the total community (60 to 80 percent) opposes drilling in this area.

As the table suggests, it appears that a majority of every interest group except ranchers and possibly elected officials opposes drilling in Cache Creek Canyon. Elected officials were highly divided by their own admission (see further discussion in section 4.4.2 below). The ranchers were the single group to express clear support for drilling in Cache Creek.

The reader needs to be reminded at this point that the numbers reported in the tables in this section are only crude indicators. It was the observation of all four members of the field research team that a clear majority of the community is opposed to drilling in Cache Creek.

4.4.2 Responses to the Proposed Drilling in the Little Granite Creek Area

As Table 4.4.2.1 reflects, opposition to drilling in the Little Granite Creek area is not as strong in the community as a whole as the opposition to Cache Creek. (See Figure 1.1.1 for location of drilling site). While the actual numbers in Table 4.4.2.1 are not drastically different from those in Table 4.4.1.1, the research team perceived that responses to questions about proposed drilling were quicker, more detailed and more clearly differentiated in the case of drilling in Cache Creek than in the

Table 4.4.2.1: Support for and Opposition to Proposed Drilling in the Little Granite Creek Area by Primary Interest Groups Identification of Respondents.

Response	Business People and Professionals	Dude Ranchers, Guides	Elected Officials	Local Employees	Environmentalists	Rancher	Other	Totals
Favor the Proposed Drilling	11	1	3	4	0	7	1	27
Opposed to the Proposed Drilling	13	2	2	4	5	0	3	29
No Opinion or Refused to Respond	1	0	0	1	0	1	0	3
Totals	25	3	5	9	5	8	4	59

Source: Field Observations by Wyoming Research Corporation; Laramie, Wyoming (1980).

case of drilling in either Little Granite Creek or the Bridger-Teton National Forest. Still, the majority of people in the local community probably also oppose drilling in Little Granite Creek. It must be remembered that the majority of local residents have no reason to support oil exploration anywhere near Jackson Hole. Their livelihoods and personal life-styles are more likely to be hurt by drilling than helped.

Again, there are exceptions both in the community at large and within specific groups such as elected officials, local businessmen, local employees, and ranchers.

An important point here is that it is difficult to assess people's perceptions of two proposed actions during a single interview. People's reactions to one proposed action affects their perception, or at least their stated perception, of another. A person who opposes Cache Creek may feel some "obligation" not to be an obstructionist, so he downplays his opposition to drilling in Granite Creek. If Cache Creek had not been proposed, then the community might have been highly opposed to Granite Creek or might have been indifferent. Thus, caution must be exercised in interpreting responses to drilling in Granite Creek or to drilling anywhere in the Bridger-Teton National Forest. Responses toward drilling in Cache Creek are probably more reliable than are responses received by the research team toward drilling in Little Granite Creek or in the Bridger-Teton National Forest in general.

4.4.3 Responses to Additional Drilling in the Bridger-Teton National Forest

Opinions of the respondents toward drilling in the Bridger-Teton National Forest in general are summarized in Table 4.4.3.1. The most pronounced shift in opinions appears to occur in the business community. Local businessmen appear to be more willing to accept drilling throughout the Bridger-Teton Forest because, 1) they believe there is a national need, and 2) they appear to believe it will occur in any event because of the value of the resources, so their opposition is futile.

While Table 4.4.3.1 appears to reveal some shift in opinion among other interest groups such as guides and public employees, the interview team sensed these differences were slight, if existent at all. Simply put, few people in the Jackson Hole area have any reason to want oil and gas drilling in the national forest. Local people are not as vehement in their opposition to drilling generally in the national forest, but they do not welcome it either. And again, if opinion on this issue were solicited with no proposals extant for Cache Creek and Little Granite Creek, it is difficult to forecast what opinions would be in that case.

4.4.4 Reasons Given for Supporting or Opposing Oil and Gas Exploratory Drilling

Reasons for support or opposition to drilling are reported only for drilling in general and not by proposed drilling site because of the small number of respondents. It is obvious, however,

Table 4.4.3.1: Support for and Opposition to Additional Drilling in Bridger-Teton National Forest by Primary Interest Group Identification of Respondent

	Business People and Professionals	Dude Ranchers, Guides	Elected Officials	Public Employees	Environmentalists	Ranchers	Others	Totals
Favor Additional Drilling	14	1	3	4	3	7	1	33
Oppose Additional Drilling	5	0	1	2	1	0	2	11
No Opinion or Refused to Respond	6	2	1	3	1	1	1	15
Totals	25	3	5	9	5	8	4	59

Source: Field Observations by Wyoming Research Corporation; Laramie, Wyoming (1980).

that the substantive meaning of the responses would not change if the responses were analyzed for each site.

The reasons people gave for supporting exploratory drilling are given in Table 4.4.4.1. The primary reason for supporting drilling was the feeling that the nation needs energy and the local region should make available its natural resources. Some respondents mentioned improving the local economy, but the interviewers did not feel this was a reason shared by many local residents inasmuch as the economy of Jackson Hole is already booming. A few local businessmen could directly benefit from oil and gas drilling, but the majority already have all the business they need. On the other hand, the idea of the property rights of the lease holder probably does have considerable support among those who favor drilling, especially businessmen.

Reasons for opposing drilling are presented in Table 4.4.4.2. By far the strongest reason given is to protect the natural beauty and recreational image which the Jackson Hole area is presently known for world wide. This result is certainly not surprising. Clearly almost everyone living in the area values the natural beauty of the area in a multitude of ways. Several businessmen made it quite clear that they were opposed to the proposed drilling even though it could mean less business for them if no drilling occurs. They felt the marginal value of any additional revenue was simply not worth the risk to the major portion of their business which comes from tourism and recreation or the risk of losing the personally valued aesthetic characteristics of the area.

Table 4.4.4.1: Primary Reason for Supporting Drilling by Primary Interest Group Identification of Respondent

Primary Reason for Supporting Drilling	Business People and Professionals	Dude Ranchers, Guides	Elected Officials	Public Employees	Environmentalists	Ranchers	Others	Totals
No Supporting Reason	16	2	2	5	5	1	3	34
Improve Local Economy	2	0	1	0	0	0	0	3
Nation Needs Energy	5	1	2	4	0	7	1	20
Local Energy Supply	1	0	0	0	0	0	0	1
Property Rights of Lease Owners	1	0	0	0	0	0	0	1
Totals	25	3	5	9	5	8	4	59

Source: Field Observations by Wyoming Research Corporation; Laramie, Wyoming (1980).

Table 4.4.4.2: Primary Reasons for Opposing Drilling by Primary Interest Group Identification of Respondent

Reasons for Opposing	Business People and Professionals	Dude Ranchers/Guides	Elected Officials	Public Employees	Environmentalists	Ranchers	Other	Totals
Protect Jackson Recreation/ Scenic Image	7	1	2	2	3	0	2	17
Traffic Problem in Town	1	0	0	1	0	1	0	3
Negative Effect on Tourism	3	0	0	0	0	0	1	4
Other Area More Suitable	2	0	0	0	1	0	0	3
Access Problems/New Roads Not Acceptable	1	0	0	0	0	0	0	1
Housing Shortage/problems	0	0	0	1	0	0	0	1
Environmental Impacts	1	1	0	1	1	0	0	4
No Reason Given	10	1	3	4	0	7	1	26
Totals	25	3	5	9	5	8	4	59

Source: Field Observations by Wyoming Research Corporation; Laramie, Wyoming (1980).

Reasons for supporting and opposing the proposed drilling offer some insight into possible future public opposition. Supporters of drilling state abstract, impersonal reasons such as national energy needs or property rights of others. Such distant, impersonal reasons are not likely to be sufficient to motivate supporters to incur personal costs to support the proposed drilling.

But those opposed offer reasons which have high cost for them both in terms of their personal economics and closely held values. Thus, they may well be willing to incur substantial personal costs to prevent the proposed drilling.

Thus, the results of these interviews, even though they were unstructured and few in number, suggest very strongly that local opposition is both widespread in the local area and is strongly felt. Thus, if the proposed drilling activities are approved, local opposition should be expected to become stronger and more active, while local support will probably remain minimal, at least in the public arena.

4.4.5 Expressed Preferences for Access Routes

Table 4.4.5.1 summarizes preferences expressed by respondents for four possible access routes to the Cache Creek site by whether the respondent favored, opposed, preferred none of the alternatives, or had no opinion about drilling in Cache Creek Canyon. (See Figure 1.1.1 for location of alternative access routes).

The dominant expression was one of uncertainty or no preference. Many people interviewed would not express a preference for an access route because they are simply opposed to the drilling

Table 4.4.5.1: Preferred Access Routes to the Cache Creek Site by Respondents Response to Drilling in Cache Creek

Access Routes	Favor Drilling in Cache Creek	Oppose Drilling in Cache Creek	No Opinion	Totals
Curtis Canyon	0	1	0	1
Cache Creek Canyon	13	2	0	15
Game Creek Canyon	4	3	0	7
Helicopter	2	12	0	14
Don't Know/No Preference	6	7	2	15
None of the Above	0	7	0	7
Totals	25	32	2	59

Source: Field Observations by Wyoming Research Corporation; Laramie, Wyoming (1980).

and, hence, to any access route. Thus, the responses in Table 4.4.5.1 must be viewed cautiously. In fact, no preferred route can be identified until a decision is made on the proposed drilling. In the opinion of the research team, an additional opportunity to express preferences should be offered to local people if the proposed drilling is approved.

Legitimate reasons were expressed for all of the access routes. Each route clearly has some advantages and disadvantages which are known only to a few people. If the drilling proposal is approved, an information program on access routes should be conducted, then preferences should be reassessed.

Table 4.4.5.2 summarizes preferences for routes into the Little Granite Creek site. (See Figure 1.1.1 for location of alternate access routes). But the above analysis also applies to this site. If drilling in the canyon is approved, information on the access routes should be supplied to the local public and then opinions should be resolicited.

Table 4.4.5.2: Preferred Access Routes to the Little Granite Creek Site, by Respondents Response to Drilling in Little Granite Creek Canyon

Access Routes	Favor Drilling in Little Granite Creek Canyon	Oppose Drilling in Little Granite Creek Canyon	No Opinion	Totals
Little Granite Creek Canyon	12	2	0	14
Rough Hollow	4	1	0	5
Helicopter	2	11	1	14
Don't Know/No Preference	9	10	2	21
None of the Above	0	5	0	5
Totals	27	29	3	59

Source: Field Observation by Wyoming Research Corporation; Laramie, Wyoming (1980).

4.5 Emergence of Issues Relating to Proposed Drilling in Local Affairs

Proposed drilling in Cache Creek and Little Granite Creek has been a topic of local conversation since it was announced in November 1977, with public response most generally taking one of the following forms: informal conversation, newspaper articles, letters to the editor.

Reaction to proposed drilling has also surfaced more formally in local affairs. Both the Town Council of Jackson and the County Commissioners of Teton County have formally opposed the proposal.

In 1979 the Jackson Hole Chamber of Commerce polled its 653 members about various issues of local interest. Of those polled, 266 or 41 percent returned completed questionnaires. Generalizations based on these responses should most appropriately be made regarding only the members of the Jackson Hole Chamber of Commerce and then with reservations based on the relatively high proportion of non-respondents (59 percent). With the foregoing qualifications in mind, it is interesting to note that in response to the question "Do you support keeping Cache Creek Canyon as a recreation area only", 126 individuals responded in the affirmative (69 percent of those who responded) and 57 responded in the negative (31 percent of those who responded). If the reader accepts the contention of the Chamber of Commerce that this question measures respondents' acceptance of drilling in Cache Creek and the assertion that those responding accurately reflect the position of all of the membership, then approximately 69 percent of the members of the Jackson Hole Chamber of Commerce oppose drilling. This survey

does not provide information about response to drilling in Little Granite.

In the local elections of 1980 in Teton County, candidates for Jackson Town Council positions and candidates for mayor of the Town of Jackson responded to the issue of proposed drilling in Cache and Little Granite Creek.

During the campaign a committee supporting one of the candidates for mayor of Jackson mailed a questionnaire to all 2400 registered voters. Only 240 questionnaires were returned (10 percent), which casts some doubt on the generalizability of these findings. Respondents were presented with a list of statements and asked whether they agreed or disagreed. In response to the statement, "Oil well drilling should be allowed in Cache Creek", 28 percent of the 240 individuals responding answered in the affirmative while 71 percent of those responding answered in the negative. A later item which instructed the respondents to rank the issues listed in order of their priority resulted in oil well drilling in Cache Creek being listed in third place following the airport location and town master plan. While this poll, like the previously mentioned Chamber of Commerce poll, did not elicit responses about drilling in Little Granite Creek and could be faulted on the basis of methodological considerations and response rate, it does, nonetheless, generally demonstrate that drilling in Cache Creek, and by inference in Little Granite Creek, is a salient local issue that is probably opposed by a majority of the citizens.

Even though the relationship between issues raised during an

election campaign and election outcome is tenuous, the results of the 1980 local elections in Teton County may be instructive. Of the four candidates for seats on the Jackson Town Council, three were opposed to drilling in Cache Creek and the fourth favored drilling, with one of those being an incumbent favoring drilling and one an incumbent opposing drilling. The incumbent councilman opposing drilling was relected and the incumbent favoring drilling was replaced by a candidate who opposed drilling. In the mayor's race the candidate elected was also the candidate who sponsored the public opinion poll referred to above and whose media campaign more clearly stated his opposition to drilling than did his opponent's.

5.0 Summary, Implications and Mitigation

It should be kept in mind that, should the proposed drilling take place, it would be against a background of substantial expansion of tourist and recreational industries in the Jackson area over the next ten years.

5.1 Population and Economic Base

Population increases due to the proposed drilling are relatively minor in magnitude and very restricted in duration. In the peak year, the population increase due to the proposed project amounts to only .6 percent of the annual peak population of Teton County (see Table 2.1.2). In the years preceding and following the peak year, the population increase from the proposed project is only .2 percent of the annual peak county population (Table 2.1.2).

Employment increases from the proposed drilling are also small in size and limited in duration. In the peak project year, 1983, for only .8 percent of all employment for that year in Teton County (Table 2.2.1.3). Employment increases from proposed drilling are smaller than the peak year for the year preceding and the two years following the peak year (Table 2.2.1.3).

Personal income from proposed drilling would also increase in direct proportion to primary and secondary employment resulting from proposed drilling (Table 2.2.2.2).

5.2 Public Service Infrastructure

The impact of population and employment increases from proposed drilling on the public service infrastructure of Teton County

and the town of Jackson will be minimal. As the discussion in Sections 3.1 and 3.2 point out, the increased public service needs attributable to proposed drilling should be able to be met by the expansion of public service sectors to meet growing needs independent of proposed drilling. Increases from the proposed drilling in and of themselves should not require the expansion of any sectors of the public service infrastructure.

In Sections 3.1.4 and 3.2.4 the housing situation in Teton County and the town of Jackson was described as exhibiting a serious shortage of "low-priced housing" as a result of high demand and high construction costs. The proposed drilling will add to an already critical need for "low-priced housing" over what it would have been without drilling. Proposed drilling will cause a net increase in housing demand during 1982 (26 percent increase in Teton County, 37 percent increase in the town of Jackson - Tables 3.1.4.3 and 3.2.4.2) and during 1983 (three percent increase in Teton County and four percent increase in the town of Jackson - Tables 3.1.4.3 and 3.2.4.2). By 1984 individuals associated with drilling will begin to move from the area, bringing housing demand due to drilling below demand without drilling. The number of projected available housing units is expected to be sufficient to meet the moderate and very brief increase in housing demand resulting from the proposed drilling in both Teton County and the town of Jackson (Tables 3.1.4.2 and 3.2.4.1).

The impact of population and employment increases on revenue and expenditures of Teton County and the town of Jackson

from proposed drilling are slight. The net fiscal balance for Teton County from proposed drilling will be changed by about three percent in 1983 and 1984 preceded by a one percent change and followed by a two percent change in 1985 (Table 3.1.8.1). The net fiscal balance for the town of Jackson from proposed drilling will change by about one percent in 1982, two percent in 1983, .6 percent in 1984 and .4 percent in 1985 (Table 3.2.7.1). Both the town of Jackson and Teton County are expected to generate greater revenue than expenditures for the decade of the 1980's, and both have the potential for increasing their revenue by levying taxes up to their maximum mill levy.

Expansion within Teton School District #1 to meet projected growth without the proposed drilling will be sufficient to meet additional demands imposed by growth generated from the proposed drilling.

5.3 Social Structure - Community Process

While impacts of proposed drilling on the population, economic base, and public service infrastructure are expected to be minimal, drilling activities in Cache Creek and Little Granite Creek could well have greater impact on the social fabric of the area. As is evident from the discussion in Section 4.0, there is reason to believe that a clear majority of area residents oppose drilling, and, should drilling be approved, they would be willing to incur substantial personal cost to prevent drilling. Direct overt action against drillers, in the event drilling were approved, was mentioned during interviews with interest group members. During

interviews by the research team, local law enforcement officials acknowledged that vandalism of drilling company property as well as harassment of drilling crews could accompany the initiation of drilling in Cache Creek Canyon.

The primary reason for opposition relates to a predominant local perception that the proposed drilling would devalue the recreational and scenic image of the area. This perception is often interwoven with more specific objections: spoiling the recreational potential of Cache Creek Canyon; unsightly congestion of city streets by oil traffic; and a possible negative effect on tourism.

Such an issue as this, when fueled by perceived threat to cherished values, frustration at inability to effectively deal with threat, a broad base of popular support and continued media coverage, can become elevated to the level of a general community process. A community process or social movement taking place in a restricted and highly charged social setting often leaves few untouched. In the midst of community conflict, some experience positive results and may or may not decide to relocate while others experience negative results and may or may not decide to relocate. This movement can also be fed by public participation in the very process of project review and approval intended to ameliorate community conflict.

It is also possible that the area's scenic and recreational image could be further eroded if local dissatisfaction escalates

into resistance and activism. If such activities are protracted and receive extended local and national media coverage, an impact might be felt in local tourism. In addition to impacts on the image of the area, drilling could directly affect the profitability of outfitters' operations in Cache Creek and motels near the mouth of Cache Creek.

The impact of drilling on the scenic and recreational potential of the area will be greatly influenced by the choice of alternative access routes. Because the choice of alternative access routes is complex and difficult to react to in the hypothetical, it should be addressed again if drilling is approved.

One basic underlying assertion of many residents is that oil and gas production cannot coexist without seriously diminishing the scenic and recreational potential of the whole area. No empirical or local popular consensus exists about what degree of oil exploration and production, if any, would be compatible with the area's scenic and recreational attractions. Sufficient data to answer such a question is beyond the scope of the present study and would require substantial investments of expertise, time and funds. If the issues of prolonged exploration and/or full field development are to be seriously addressed, the answers to critical questions bearing on the changing image of the local area and the relative values of local petro-chemical resources versus local national scenic resources become imperative.

5.4 Mitigation

Population and employment increases caused by the proposed drilling will not require the expansion of any sectors of the public service infrastructure in Teton County or the town of Jackson, and, hence, no mitigation in any of these areas will be required.

The net amount of projected housing demand in Teton County and the town of Jackson caused by proposed drilling will be exceeded by the projected number of available housing units and therefore not require mitigation.

Projected population increases caused by proposed drilling will not require expansion within Teton County School District #1, and no mitigation will be required.

While impacts of proposed drilling on the population, economic base, and public service infrastructure of Teton County and the town of Jackson will go largely unnoticed within the context of the general tourist-related expansion, drilling activities themselves could provoke public opposition as well as private actions directed at drilling operations. Because the public involvement process is critical, complex, and mercurial, it is recommended that if drilling is approved the advice of public involvement experts should be solicited to facilitate an understanding of and response to local concerns. Some of the concerns that should be addressed are: determination of public preference for access route; resolution of problems surrounding access (closures, service, traffic scheduling, reclamation); understanding provisions of lease agreement; and monitoring issues. Concerns related to a possible full-field scenario could also be profitably addressed in the same manner.

REFERENCES

1. Bryson, Andrew M. and Blevins, Audie L., "Teton County's Tourism Boom", Wyoming Issues, Vol.3, No.2, pg. 2, Spring 1980.

2. Denzin, Norman K. The Research Act: A Theoretical Introduction to Sociological Methods. Aldine Publishing Company, Chicago, 1970.

3. Jackson Hole Chamber of Commerce, "Economic Trends in Teton County in the "70's". February 1980.

4. Livingston and Associates, Teton County Growth and Development Alternatives, May 1976.

5. Livingston and Associates, Teton County Proposed Water Quality Management Program: Appendices, April 1977

6. Stuart/Nichols Associates, Capital Facility Needs and Funding Strategies-Teton County, Wyoming 1980 to 1990, September 1980

7. Teton County Board of County Commissioners, Teton County Comprehensive Plan and Implementation Program, December 1977.

8. Teton County Growth Study Committee, Growth in Teton County 1967-1978, October 1978.

9. Teton County Housing Committee, A Housing Study of Teton County, May 1979.

10. U.S. Department of Agriculture, Forest Service, Bridger-Teton National Forest, Environmental Assessment, Proposed Revision to Jackson Hole Ski Area Master Plan, Teton County, Wyoming, June 1980.

11. U.S. Department of Agriculture, Rocky Mountain Forest and Range Experiment Station, General Technical Report RM-69, "Capitalization of Environmental Benefits into Property Values; Literature Review". December 1979.

12. U.S. Department of Energy, A Summary and Report on Four National Environmental Workshops, July 1980.

13. U.S. Department of Energy, Regional Energy-Environment Data Book, Rocky Mountain Region, September 1978.

14. U.S. Department of the Interior, Geological Survey, Ocala National Forest FES-Proposed Oil Exporation, June 1974.

15. U.S. Environmental Protection Agency, Energy from the West-Energy Resource Development Systems Report Vol. 5: Oil and Natural Gas, March 1979.

16. University of Wyoming, Agricultural Extension Service, Community Services Divison, Recreation and Tourism in the Teton County Economy, July 1979.

17. University of Wyoming, Agriculture Extension Service, Community Services Division, Selected Social-Economic Data - Teton County, Wyoming, March 1978.

18. University of Wyoming, Agricultural Extension Service, Community Services Division, The Economic Value of Recreation and Tourism - Park County, Wyoming, 1976, March 1978.

19. University of Wyoming, Institute for Policy Research and Wyoming Department of Administration and Fiscal Control, Census Retrieval and Information Service, 1980 Census - Preliminary Population and Housing Unit Counts, October 1980.

20. Wyoming Department of Administration and Fiscal Control, Division of Research and Statistics, Wyoming Population and Employment Forecast Report, June 1980 and unpublished computer printouts of population and employment 1980-1990.

21. Wyoming Department of Economic Planning and Development, Jackson, Wyoming - 1980 Community Profile, Summer 1980.

22. Wyoming Department of Economic Planning and Development, Unpublished, "Update and Revision of Wyoming Housing Monitoring System", September 1980.

23. Wyoming Department of Education, Statistical Report Series No. 1, No. 2, and No. 3, Annual Report series 1975, 1980.

24. Wyoming Division of Health and Medical Services, Wyoming Health Profiles, 1979.

25. Wyoming Employment Security Commission, Annual Planning Information Review, 1981, September 1980.

26. Wyoming Employment Security Commission, Wyoming Labor Force Trends, monthly publication, January 1975-October 1980.

27. Wyoming Health Systems Agency, Wyoming 1980 Health Systems Plan and Annual Implementation Plan, 1980.

28. Wyoming Department of Revenue and Taxation, Ad Valorem Tax Division, Annual Report, Annual Series 1975-1980.

29. Wyoming Department of Revenue and Taxation, Annual Report, Annual Series 1975-1980.

30. Wyoming Taxpayers Association, Wyoming Property Tax Rates, Annual Series 1975-1979.