683 HCRA NOTEBOOK: KODIAK ANNEXATION 8672

for a service district so that the services can be furnished only where they are wanted and needed, and where the residents have indicated a willingness to pay for them. When the City accepted Federal funding for the sewerage treatment plant, it also committed itself to extending sewer service to this entire area regardless of the political boundaries. The costs, of course, are borne by the users and not by the general taxpayer.

Insofar as our not paying our own way, let me cite my specific example. My residence and office on Spruce Cape Road are served by City water. We pay a premium due to our location outside the City. We have our own EPA approved septic system. We are on a State road, which is very well maintained by the Highway Department, and for which the State would continue to pay if we were annexed. The State Troopers responded promptly on the one occassion in twenty-two years when they were called. Our fire protection is through the auspices of a service district. When enough of us feel that we want a higher digree of fire protection, we alone will bear the costs of a sub-station. We enjoy being out of the heavily populated area with our children and our pets. So far, my clients have been willing to drive the extra distance for the accounting services I provide them.

As I see it, I will be paying an additional 6.8 mills, or $1,300 in my particular case, for the privilege of using the City Library, which I do not use at the present time. There will be no reduction in the taxes I pay to the State when the Troopers are replaced by City Police and the costs of road maintenance will continue to be borne by the State. If and when the municipal sewer crosses my land, I will also pay my full share for this (as I would if I remained outside the City). I am an avid reader, but I can buy many books to increase my own library for $1,300.

In addressing the point of efficiency of government, although the existing City-Borough conflict is at times distressing, it is an effective system of checks and balances. I don't need to remind any member of this committee that the most efficient form of government is a dictatorship. One of the beauties of our democratic form of government is that if the people living under that government really don't like it, then we ourselves have the option to change it by opting for unification or simply by "throwing the rascals out".

The Legislature has just appropriated ~~1.172~~ 2 million dollars toward a joint effort with Governor Hammond to convince the great white fathers in Washington, D.C. that even in their infinite wisdom they might not always know just what is right for the people of Alaska. Yet the Boundary Commission has decided that they are the persons best qualified to know what is best for us in Kodiak, despite overwhelming testimony from the people involved that they were opposed to the action being considered. I ask you to consider the implications.

Finally the argument has been advanced that we should be annexed since the City of Kodiak furnishes the shopping facilities for most of us. I do in fact, do most of my buying there, putting approximately $2,000 of sales tax into the City's general fund between business and personal purchases. But please bear in mind that most of the merchandise sold in the City of Kodiak originates in the Port of Seattle. While I have seen some editorializing that Kodiak Island might consider seceeding from the State of Alaska, I haven't heard any serious discussion of the entire island being annexed to Seattle!

Thank you very much for coming so far to hear us out.

Jo Hajdu

THE KODIAK DAILY MIRR

Vol. 37, No. 252 Wednesday, December 28, 1977

from Okie Chandler

City council defers tax issue one year

The Kodiak City Council last night approved the second reading of an ordinance exempting the city from assessing a personal property tax after amending the new statute to go into effect Jan. 1, 1979.

The ordinance, which met strong opposition from fishermen and others during a public hearing, was originally written to go into effect Jan. 1, 1978. Council member Toni Eaton proposed the amendment, which was approved 4-1, after several residents urged that more time be taken to study the city's and borough's taxing methods.

The amended version of the ordinance, which in effect requires city residents to pay their own borough personal property tax in 1979 unless another taxing method is developed, was also approved by a 4-1 vote.

Councilman Dave Woodruff opposed both the amendment and the ordinance which the council initially approved Dec. 22 at their regular meeting. Council member Carol Lechner was not present at the meeting last night which attracted between 60 and 75 city and borough residents.

You have "stirred up a hornet's nest in the community we don't need," longtime Kodiak fisherman Oscar Dyson said to the council. "We'll have an uphill battle to fight," he added, and later charged the council with helping to run the fishing industry out of Kodiak.

United Fishermen's Marketing Assoc., manager Tom Casey vowed to work as hard as he could to remove members of the council should they support the ordinance. If you approve this ordinance you will be "throwing this industry (fisheries) into a crisis situation," he said.

Casey later declined to make any comments after the council passed the amended ordinance which replaces an ordinance earlier approved by the council after a referendum was passed at the October general election asking the city to hold its sales tax to 3 percent and not pay the personal property tax for city residents.

Several persons at the hearing last night discounted that referendum as not being the wishes of the people because of a low voter turnout. "The fishing fleet was out on the seas when the referendum passed," said Harold Jones, owner and skipper of the Marcy J. "We can't play politics and fish at the same time," he added.

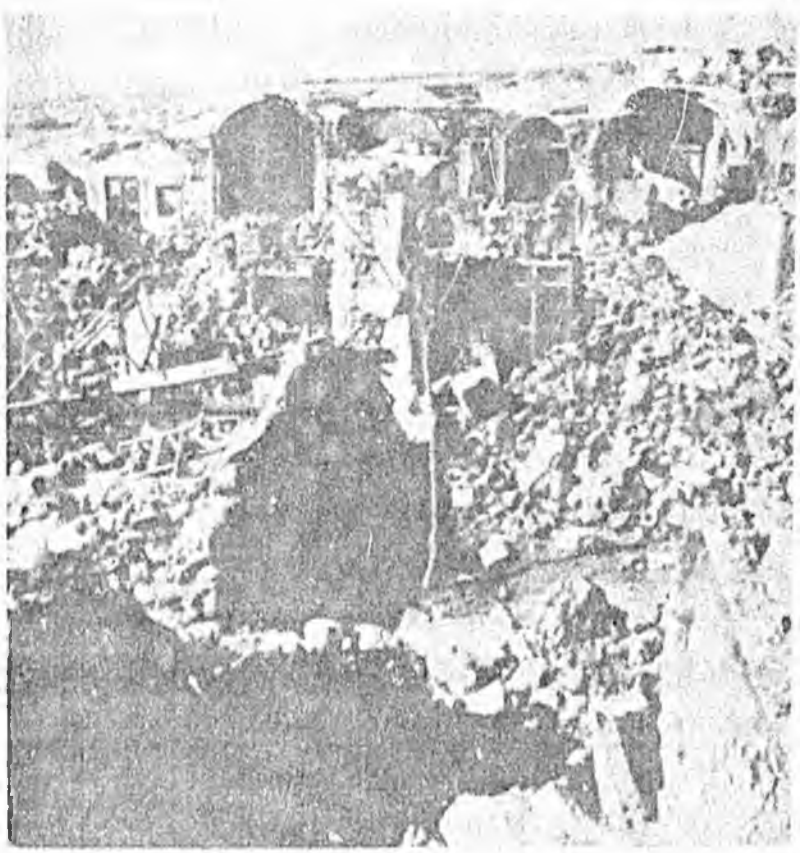
The fishermen, who have long enjoyed the city picking up the borough tax bill for their boats, claim that they could lose their vessels to taxes given one or two bad years.

"We don't want to face a $7,000 tax bill every year," Jones said.

The borough now assesses $7 for every $1,000 of a boat's value. Given a vessel valued at $1 million, the tax would be $7,000.

Borough Mayor Betty Wallin is now forming a citizen

(Continued on Page 2)



Earthquake toll mounts

Rubble fills the street of the village Sar-Asiyab, hard-hit by an earthq miles south of Tehran last week. A second earthquake has struck that to the U.S. Geological survey. Today's quake registers 6.6 on the Richt the Red Sea north of Asmara, Ethiopia.

Oil contract offer deac

JUNEAU (AP) — Competitors for Alaska's royalty share of Prudhoe Bay crude oil have been given until the end of the week to submit any final proposed contract alterations to state negotiators, Natural Resources Commissioner Robert LeResche said today.

Once the "last best offers" are submitted, LeResche said he has set aside a month for final negotiations and an inhouse decision on which of the four rival proposals should be recommended for approval by the Royalty Oil and Gas Development Advisory Board.

"We're still trying for Feb. 1 for submitting a contract to the Legislature," LeResche said.

As the time for a decision approaches, Alaska Petrochemical Co. (Alpetco) remains the apparent leader with an offer which LeResche says meets the administration's double-barreled mandate of

President pla

WASHINGTON (AP) — President Carter begins a six-nation trip to Europe, the Near East and Asia on Thursday. It is a journey that will combine symbolism and serious dialogue.

The president spent time

Committee corrects omissions

Spread Eagle petition is deficient

The Committee for the Eufemio; Pete Danelski, the state Local Boundary

struck at Hargeisa, Somalia's second largest city, while four other jets bombed the port city of Berbera, located along the Gulf of Aden.

According to the Somali radio broadcast monitored here, all casualties occurred at Hargeisa where Somali forces shot down two Ethiopian planes — Soviet-made Mig-21 jets.

Another Ethiopian plane, an American-built F-5 jet, was shot down at Berbera by Somali forces, the radio said, but additional details of the bombing incidents were not disclosed.

Hargeisa, located about 45 miles from the Ethiopian border, was reportedly attacked by Ethiopian jets earlier this month and at least nine persons were said to have died in the bombing incident.

In announcing Tuesday's bombing incidents, a regional secretary of Somalia's Socialist Party called the attacks "barbaric" and said they were

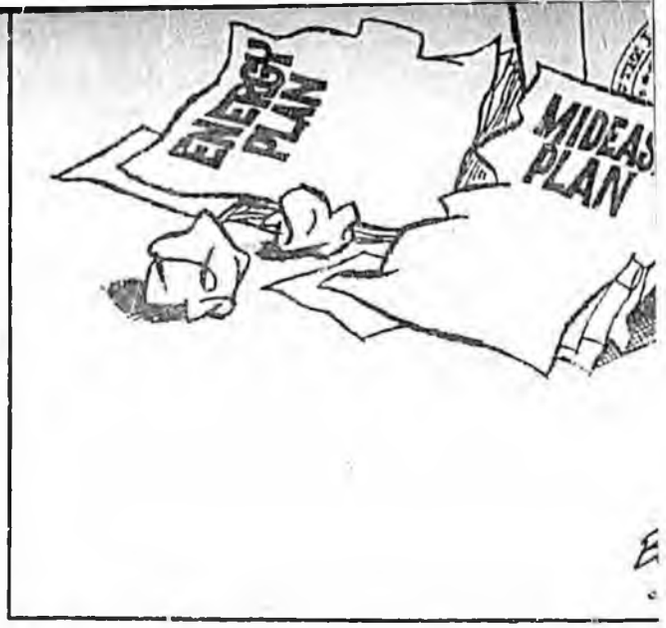
Somali tribesmen are fighting a secessionist war. Somalia provides the secessionists with material support.

Transmitter beams radio

UNALASKA (AP) — Residents of Unalaska will be able to listen to American radio again soon, courtesy of the Armed Forces Radio Network and the Alaska Public Broadcasting Commission.

For the past couple of years Unalaskans have been listening to Radio Moscow, although some U.S. stations could be picked up at night. The Aleutian Island town used to have an AFRN relay transmitter, but it was removed several years ago.

Now the Public Broadcasting Commission has sent an engineer to put up a new transmitter, which will make AFRN available again.



City council

(Continued from Page 1

committee to study the city and borough budgets and different taxing methods.

Names already suggested for the 12-member study group include Wilton White, Dick Berg, Oscar Dyson, Tom Casey, Don Egelus, Dottie Paulson and Chuck Powell. Wallin and city mayor Tommy Frost have been suggested as possible co-chairmen.

At the same time a petition was filed yesterday with the city clerk's office by the Fishermen's Wives asking the council not to support the new ordinance, said Marcy Jones, secretary for the Fishermen's Wives. She said there were 229 names on the petition.

The meeting last night went on for two hours with the council calling two, five-minute recesses.

Police investigate school

The Kodiak Police Department is investigating a break-in at the high school which was discovered this morning at 6:30 a.m. during a routine patrol.

School officials report that $12 was stolen from a cash box, and that $200 to $300 in damage was done to windows and doors in gaining entry to the cafeteria.

Police said entry was made through a side door, and that window panes were broken to get the door open. The break-in apparently occurred sometime after the building was closed following the student-alumni game at the high school last night, police said.

Police arrested Juanito Malpaya, 42, of Kodiak last night on a charge of drunken driving. He was scheduled for arraignment this morning. Malpaya was lodged in jail in lieu of bail.

Juan De Guzman, 63, Kodiak was arrested yesterd for petty larceny following citizens arrest for shoplifting De Guzman was arraigned th morning in district court here that charge and for five traff tickets.

The Kodiak Fire Departme answered two false alarm yesterday, according to a fi department news release

Calls were answered to Mi Bay Road, adjacent to the Lod and Guns shop, and to a garag fire north of the intersection Mill Bay Road and the ne Rezanof extension.

State troopers investigate two auto accidents over th Christmas weekend, accordi to a troopers news release.

Two persons received mino injuries in a Christmas Da accident on Kodiak Island High way just beyond the shipyard Reports state that Warren I Murphy, 31, of Kodiak los control of his vehicle and th 1970 Toyota landcruiser over turned and landed in Women' Bay.

Murphy and his passenger Theresa Brodie, 25, of Kodiak received minor bruises. Th vehicle was considered con plete loss, according t troopers. No citation wa issued.

On Dec. 23, a flatbed truck owned by North Pacifi Processors reportedly struck th rear of a parked vehicle owne by Barry J. DeVol, 17, o

Oil offer deadline

(Continued from Page 1)

LeResche said premiums are allowed as long as they don't exceed the government-imposed ceiling price on oil.

Alaska Petrofining Co. currently trails Alpetco in second place with a contract which is based on the shaky premise of tax exempt bonds to construct its proposed in-state refinery complex.

LeResche said he has asked Alaska Petrofining to seek an independent legal evaluation of its contention that the Internal Revenue Service would approve its tax exempt scheme, but added that the state's own New York bond attorneys continue to insist that the IRS would never sanction such a deal.

LeResche said Alaska Petrofining may come in this week with a "whole new

Meanwhile, the two remaining competitors, Alaska Petroleum Co. and Alaska Oil and Chemical Co, have yet to back away from their unacceptable proposals for further studies as prerequisites to committing themselves to processing the royalty oil in the state, LeResche said.

LeResche said Alaska Petroleum officials have called him repeatedly to object to his calling their proposal a study, but the cabinet official insists "that is what it boils down to."

"They say they would commit to building a refinery, but give them two years to spend $1 million and at that time their board would decide whether it is profitable or not," LeResche said.

"Hopefully, they will submit

now has been on that basis."

LeResche called the Alaska Oil and Chemical proposal "very sincere," but added that it, too, needed major revisions to eliminate offensive study provisions.

"They say it (in-state processing) will never pay economically, but they want to join with the state to figure out the true costs and benefits," LeResche said. "At such time we know the true costs and benefits, then the state would have the sole right to tell them whether to proceed.

"But if we do proceed, they want us to sell them the oil at a cheap enough price so that they can make between 15 and 20 per cent on their investment."

The major unanswered question, even in the two leading

Rescuers seek

(Continued from Page 1)

speculate on what caused the blast, the second explosion at an American grain elevator in five days. An explosion leveled an elevator complex in New

THE KODIAK DAILY MIRRO

Vol. 38 No. 100 Monday, May 22, 1978

esidents resist ity annexation

By JIM DOW
Staff writer of the
Kodiak Daily Mirror

sidents within areas proposed by the City Kodiak for annexation came out overimingly opposed to the petition Saturday t during a six-hour hearing held by the e Local Boundary Commission.

oicing repeated objections, resid.nts ng the stand said that annexation would k efforts to unify the borough and city rnments a' that the matter was not in r hands since no re endum or vote had held on the issue.

nly one private citizen spoke in behalf of exation before the standing room only wd estimated at 100 in the Borough embly Chambers. The hearing went until wee hours Sunday and finally concluded 30 a.m.

he boundary commission set no date for a sional meeting on the annexation, but said ould be more than a week before a second ting would be held.

he City of Kodiak's contention that anation means a logical extension of utility vices paid for from a fair tax base was ntered by Kodiak Island Borough official's ns the action is undemocratic and the ential cause of a political polarization ween the two groups.

reas considered for annexation include the ace Cape area, an extension of the Mill Road area and the Monashka Bay area.

commission also looked at annexation of Coast Guard Support Center, although the had not pressed for its annexation.

ity attorney Bob Mahoney said political trol is not the main issue in the dispute.

said 63 percent of the population lives ide the city limits and 79 percent of the tax e is in the city. Futhermore, he said the is experienced at providing fire, water, er and road service and is the proper up to supply those services.

Mahoney said the city planned a passive role for the Monashka Bay area without full service and differential taxation.

By Jerry D. Martini

Borough Mayor Wallin: Political power is crux of annexation issue.

City Manager Ivan Widom explained the city provides services for non-city residents such as fire and ambulance, parks systems, police backup, library, boat harbor and many other services used by all the people. But Widom said non-city residents are not paying a fair share for the services.

Widom produced a map provided by a borough consultant showing projected growth in the area headed for the areas the city wants to annex. He said there will be an increased need for services int hese areas and the city should provide services for the districts since it already has the needed maintenance department along with sewer and water service.

But Borough Mayor Betty Wallin saw the issue from a different viewpoint. She said the city is in financial trouble and needs more people for its tax base.

(Continued on Page 2)

Commission down Afogna

The state Local Boundary Commission rescinded yesterday an earlier decision approving a petition for a first class development city on Afognak Island during a special meeting here.

The commission rejected the petition filed by Afognak Native Corporation with a 2-1 vote followed with a second vote on an amended motion excluding land owned by the Ouzinkie Native Corporation within the proposed city boundaries.

That motion failed for lack of a majori

Commi Gallagh Anchora grant fi 825 squa Island n the 1972 had be others e a state decision sought.

Erik within t Commu Affairs, office w Attorne opinion ruling.

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A q yesterd held at whethe member the peti mission who is quorum only a needed.

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After decisio groups Island Corp. a the pro objecti action.

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Two killed in air crash

ANCHORAGE (AP) — Two pilots scanning the spring salmon run for fishermen below died Sunday when their single-engine planes slammed into each other over Cook Inlet, about 175 miles southwest of Anchorage, federal authorities said.

Cliff Cernick, a spokesman for the Federal Aviation Administration, said the two persons were the only ones aboard the floatplanes at the time of the crash.

The Alaska State Troopers sent a helicopter to pluck the bodies from the wreckage of the planes, which had plunged into the icy waters. The bodies were taken by fishing boat to the town of Kenai where autopsies were to be performed.

apanese ship turns U.S. processor

By CHRIS BLACKBURN
Staff writer of the
Kodiak Daily Mirror

lvah Hales went to Japan t year to buy freezing ipment and stayed to buy an -foot floating processor nstructed on the hull of a panese stern trawler.

he Wakkanai, which arrived Kodiak from Japan last week, y be the first foreign-built, nerican owned processor to ter the Alaskan fishery.

However, the effect of the Jones Act has been to increase costs for the U.S. fishing industry by preventing fishermen from purchasing low-cost foreign built vessels, though it is these same low cost vessels against which the U.S. fishing industry must compete on the world markets to sell their products.

The Jones Act does not prohibit processing aboard foreign built boats. Hales said he may also be given permission

"The 200-mile limit made this possible," Brenda Hales, Alvah's wife, said Friday. She is staying aboard the Wakkanai while the final outfitting is completed in Kodiak.

Hales said when he went to Japan to buy some freezing equipment which was being taken off surplus vessels he found a whole line of vessels tied up to the dock which were being surplused by the Japanese because the 200-mile limits around the world have

Hales negotiated a price for the Wakkanai and flew to Washington, D.C., to begin the paperwork necessary to import the vessel into the U.S.

Washington, D.C., officials were "very helpful," Hales said.

He specifically menti aed Bill Hannum, Jr., in the National Oceanic and Atmospheric Administration, NOAA, policy office and James K. White in NOAA's General Council Office in Juneau.

Customs officials, the Coast

screamed curses at the pudgy former postal worker.

The girl's mother then broke down crying, and Violante sobbed into his hands.

The victim's father, Jerry Moskowitz, cried, "No Justice!" after Justice Joseph Corso of Brooklyn announced the sentencing delay.

Earlier, as guards tried to bring Berkowitz into the courtroom the first time about 10 a.m., he lunged toward a window and had to be subdued. In the struggle, he bit and kicked several of the guards and one of them was taken to a hospital, according to a police source.

The extent of the guard's injuries was not known.

Edward McCarthy, aide to Bronx District Attorney Mario Merola, said Berkowitz told court authorities he did not want to be sentenced — "at least not today."

Berkowitz faced prison terms totaling up to 175 years.

Vessel turns processor

From page 1

Guard and the Ad-measurement team which determined the Wakkanai is 887 gross tons were also helpful, Hales said.

The Wakkanai required federal and state licenses before it could operate in Alaskan waters. "It seems like we were constantly applying for licenses," Mrs. Hales said.

Eastern Seafoods was also required by the Alaska Department of Labor to put money on deposit as a performance guarantee. Hales said he deposited with the National Bank of Alaska.

The Wakkanai sleeps 35 in two and one-man rooms. There is one six bunk room in the stern for female employees, and a helicopter deck above the bunkroom.

At full capacity the vessel can process 9,700 salmon a day in a 16-hour working day, Hales said.

On a deck 100,000 pounds of salmon can be held on ice before processing and the ship's freezers will hold 300,000 pounds.

The vessel was gutted to the bulkheads during the conversion from stern trawler to processor, Hales said. Conveyor belts carry the salmon from gutting tables to glazing and packaging tables and then to the freezers.

Before going to the galley or cabins the processing crew passes through a "mud room" where they can leave their boots and coats and wash up.

The galley-recreation room is paneled in an orange-brown wood with a TV video-tape player in one corner.

The Wakkanai is steered by dial controls from the bridge. As well as two radars, public address system and telephones, and VHF radios, the Wakkanai has its own telex system which can print out weather reports as well as other communications.

Hales, who now lives in Oregon, fished crab in Alaska from 1963 to 1967 and was part owner of the vessel Diver I. He went to work for a vertically integrated" processing firm and learned sales.

He has opened processing plants in South America, Mexico and the Carribeen, and a two million pound cold storage warehouse in Brazil which Hales currently has leased out.

In the British West Indies he processed lobster and conch, a large snail which Hales called "a starch staple" in the area.

Last year he was in Kodiak buying salmon. At one point Hales said he had problems getting the salmon processed and "Chuck Jensen at Pacific Pearl really helped me out."

Hales has a contract to deliver salmon to Eastern Products in Wakkanai on the island of Hokkaido in Japan.

"I came for fish and I intend to get fish," he said. "We'll be very competitive." Hales said he intends to stay in the Kodiak area into September for the late salmon run.

Under the terms of his permits the Wakkanai is not allowed to dock at Sand Point, Dutch Harbor or Kodiak because of the overcrowding at those ports Hales said.

He has formed no definite plans for his floating processor after salmon season.

"I'm not going to do king crab," he said. Hales indicated he might stay in Alaska for tanner crab or might take the Wakkanai to the East Coast for lobster.

The Wakkanai is currently skippered by Stan Lee, who has been running the Columbia. Frank Gonzales is chief engineer and Hales is serving as first mate.

Hales has a video tape system aboard the vessel to film the processing lines in action. "I want to do time and motion studies," he said.

Sitting in Hale's office aboard the vessel is a large carved bear with a red salmon in its mouth. "It's my good luck piece," Hales said. "It was given to me in Japan.

Annexation

(Continued from Page 1)

She said the city should either raise taxes or cut back on some services and not "force annexation on the people without a vote."

Wallin claimed unification is the solution to problems between the two governments. "Unification is the only way to go. We can do it," she said.

The borough mayor continued on the unification theme, saying "If there is no annexation I will fight for unification. But if there is annexation, there will never be unification."

"I think it's time they pay their fair share. And it's time they should also have a voice in government," Stevens said.

Dr. David Greene of the University of Alaska, Anchorage, and his colleague, Dr. P. J. Hill, provided a social and economic analysis for the borough, which they presented at the hearing.

Greene said annexation should take place if the residents of the areas were dissatisfied, if the borough could not provide services and if city residents were paying an unfair share of the taxes.

A survey he took indicated the residents were not unhappy with the current services they are receiving. He also said the borough was capable of providing those services.

Hill is a tax specialist and claimed sources outside the city pay at least 40 percent of the city sales taxes.

Afognak

(Continued from Page 1)

Cities Act, said following the decision Sunday. He said he was pleased at having stopped the Afognak petition through the democratic process.

Afognak Native Corporation member Pete Olsen was uncertain whether their corporation would contest the reversed decision, and said the matter would be taken up at the next board meeting.

Afognak Native Corporation manager Richard Wamser was not at the meeting yesterday and could not be reached for comment. Earlier during public hearings held on the petition, Wamser questioned whether the commission had a right to reconsider their previous decision

Woman jailed for destruction

An 18-year-old Kodiak woman was arrested and charged with malicious destruction of private property last night after police received a report of a disturbance at the Waldo's apartments on Mill Bay Road.

Dawn E. Chatterton was arraigned this morning in District Court and remained incarcerated in city jail after her arrest in the incident. She had allegedly kicked some holes in the wall at the apartment and broke the glass out of a fire extinguisher case.

Police also reported a motorcycle was stolen yesterday afternoon from the residence of Penny Carbary in the 1800 block of North Boulevard. The value and exact make of the cycle was not reported.

Two traffic accidents were reported over the weekend.

A 1976 Ford Sedan operated by Gary J. Moore, 28, of Kodiak was struck on the right front door as he attempted to turn right onto Alder Lane from Rezanof Street Saturday afternoon. Moore's car was hit by a 1977 Ford pickup truck driven by Geoffrey M. Peterson, 16, of Kodiak.

Moore's car received $800 in damages and Peterson's $900. Peterson was issued a citation for passing on the right side.

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Budget crisis still looms

By STACIE PETERSON
Staff Writer of the
Kodiak Daily Mirror

The City of Kodiak is now working on an amendatory budget which shows that there is a projected increase in revenues of $146,498 for the remainder of the fiscal year, according to Ivan Widom, city manager.

Widom earlier this month said at a public meeting the city needs more money to operate its government, and that unless something is done, "we're going to have to cut services."

"The problem is not with this year's budget," Widom told the Mirror in an interview yesterday, "the problem is next year when we either raise taxes or cut services because we don't have the savings to fall back on that we had this year."

Widom said yesterday that during the current shortfall in cash flow, the city used money left over from last year's budget which the city had invested.

It is the responsibility of the city's budget officer to keep as much money invested as possible so that the city can draw interest on the money.

Currently the city has $600,000 invested, Widom said. When he first started working here the city had $1,400,000 invested he reported.

Part of the invested money is obligated to Sea-Land, and to bonded indebtedness for principal and interest payments for several city projects.

The $450,000 shortfall Widom reported at the meeting called by Mayor Betty Wallin on Dec. 15, was met by drawing money from the city's investments, Widom said.

Widom reports that the projected increase in the city revenue is being absorbed by projected increases in expenditures.

Some items making up the increase in revenues include a $100,000 rise in the projection of income from the city sales tax; a $36,938 increase in income from the raw fish tax; a $15,800 refund from the state for boarding prisoners; a $34,734 increase from a projected hike in the sewer rates; and an additional $99,695 from federal revenue sharing trust funds.

Several smaller additions to the projections on last year's budget bring the total to $307,241. Money was returned to the fund balance, drawn out earlier to meet the cash flow shortfall, reducing the amount available for expenditures to $146,498.

Widom said increased expenditures include a proposed five percent cost of living increase to city employees and upgrading their benefits to be comparable to those offered in other Alaskan cities.

Other projected increases in expenditures include a $55,000 payment on the debt service on the principal of bonds for a new fire truck; an additional $18,222 for snow removal and smaller amounts in every department for raises and overtime payments.

The expenditures balance with the projected increase leaving no money to carry over until next year for emergency uses, Widom said.

The city's total estimated revenues through June 30 of this year are $4,215,765. The projection at the time the present operating budget was drawn up was $4,069,267.

Widom said the amendatory budget is being developed by the city council in work session with some of the proposed expenditures approved and others dropped.

Photo by Jerr

Postal employee Lorna Lee Arndt wo
and third class mail which has accum
The mail was moved from the downt
section of the Wien terminal for sortin

Bankruptcy faces some native groups

ANCHORAGE (AP) — An analyst says some of Alaska's 12 regional Native corporations may face bankruptcy within the next five years unless changes are made.

University of Alaska business professor Dr. Dean Olson has completed a three-year financial analysis of the corporations formed under the Alaska Native Claims Settlement Act. Olson has worked with one corporation and still advises some of the Native firms. His analysis appeared in the Alaska Native Management Report, a publication of the Alaska Native Foundation.

Olson said some the corporations need to develop rational planning and decision-making guidelines for more productive future operations. He said internal problems and external handicaps have combined to produce the shaky status of some corporations.

He said the financially-troubled corporations suffer from a lack of comprehensive planning and objective analysis, and what he calls "patrimonial" elements – employment policies influenced by family or kinship relationships.

Additional frustrations have resulted from the confusing nature of the claims act. That, "coupled with the naive expectations of the onlooking public," seems to have led to a need to "get something, anything, going in these early years," he said.

He added that the cost of implementing the claims act and setting up the companies has been high, and he estimates that at least 10 per cent of the settlement money has been used for legal expenses.

Uncertainty about what lands will finally be conveyed has slowed resource development, he said, and financial relief that may be provided by such development is "distant at best."

Olson said the companies must establish "routinely sustainable operations" by 1982 or "they will be unable to preserve the land estate intact, and share values in 1991 will be profoundly disappointing to those who own them." Shareholders in the corporations may not sell their shares until 1991 — 20 years after the act was passed.

Postal emplo clear mail b

Kodiak postal employees are now working to clean up a backlog of second and third class mail which has piled up since last September, according to Joe Mellin, officer in charge.

Mellin reports that all second and third class mail was moved to the airport during the second week of December to make room for the Christmas rush.

A temporary postal employee is presently doing the rough sorting of the mail at the airport in the freight section. She began working on the backlog last Thursday, he said.

After the sorting, the mail is then moved to the downtown post office to be delivered to individual boxes.

Mellin said that in order to expedite mail delivery employees are not checking the names on the 2nd and 3rd class mail, but simply delivering it to the box number on the address.

Carter expected to name pension study

WASHINGTON (AP) — President Carter may announce panel's agenda will be the Civil Service retirement system for

report said.

Even in its present condition,

KODIAK DAILY MIRROR

Friday, May 12, 1978 20 cents

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By Jerry D. Martini

Onion Bay resident Dodd Shay

Besides Local Boundary Commission chairman Sheila Gallagher, who is an attorney in Anchorage, Sigvold Strandberg from Anchorage, Sid Hopson from Barrow and Charles Bettisworth from Fairbanks are expected to arrive in Kodiak today for the hearings.

Bettisworth and Hopson, however, were not on the commission when it initially approved the petition.

According to that original petition, only a dozen residents were believed to live within the affected area, which includes Raspberry and Whale Islands. Since that time the Department of Community and Regional Affairs has learned that roughly 90 people live on Afognak including 50 employees at the Danger Bay logging camp.

Outspoken critic of the Development Cities Act, Dodd Shay who owns five acres and a house on Onion Bay of Raspberry Island, has been deeply involved in trying to stop the petition.

During the Democratic Convention, held in Kodiak April 21-23, Shay was successful in obtaining a party-endorsed resolution op-

(Continued on Page 2)

City council tables sales tax increase

The Kodiak City Council voted last night to table an ordinance that would raise the city sales tax from three percent to five percent after a recommendation to that effect was made by City Manager Ivan Widom who had earlier placed the ordinance on the agenda.

When the issue came before the council, Widom began with an explanation of how an election last October indicated city residents did not want an increase in sales tax, but instead wanted to pay their own borough personal property tax.

The property tax is a major reason behind the need for a sales tax hike. The city currently pays the borough tax for all city residents, and in December the council chose to continue payment of the tax.

Widom contends the city can't afford to pay the tax without an increase of revenue.

After his comments on the election and subsequent council action, Widom immediately recommended the council study the proposed city budget for possible cuts and consideration of a one percent sales tax increase and that the council table the ordinance.

Council voted to table the ordinance 4-0 with Councilman Leroy Mayberry absent.

An ordinance related to sales taxes was defeated just before vote on the tax increase. The ordinance would have defined the word "solicitation" in the current sales tax laws as meaning solicitation by catalogues specifically. The city could then tax items purchased through catalogues.

Councilmember Toni Eaton said that the ordinance "can't be enforced and would cost more than it's worth to enforce."

In other action before the council, a first reading on a resolution to increase boat harbor rates passed 4-0. The resolution would raise exclusive moorage rates from $8 per foot yearly to $10 a foot and increase transient rates from $4 per foot to 80 percent of the exclusive rate of $10 or $8 per foot.

There was a public hearing on the matter before the vote. Four people spoke to the council and all of them said they thought the rate increase was acceptable, but they added that they hoped some of the cost increase would go to increased security for the harbor.

The council also passed a resolution that said it "recognized and appreciated" the services of former mayor Thomas Frost, Jr., who resigned two weeks ago because of health reasons.

(Continued on Page 2)

Candidate asks for oil liability

State senate candidate Ed Naughton today urged congressional members from Alaska to amend the 1920 mineral leasing act, which includes provisions affecting shipment of Prudhoe Bay crude oil, to provide full protection of the state fishery.

Naughton said this morning that he sent telegrams to Sens. Ted Stevens and Mike Gravel, and Rep Don Young, cautioning that no matter where oil is delivered, strict liability for spills and disasters must be required.

Under the current Trans-Alaska Pipeline amendment of the Mineral Leasing Act, Naughton said, liability is

arns against royalty sale

ommittee came as an ed blow to Alpetco

after the House voted to approve the contract only *if it was*

say how I feel," grumbled Alpetco lobbyist Henry Pratt.

ODIAK DAILY MIRROR

Wednesday, December 6, 1978 25 cents

By Martinl

mentary, and Kathy Wooten, a student at East, show given out Thursday at the schools. They may be at- herever they can be seen by motorists to give the ty. Extra dingles may be purchased for 50 cents.

Hearing tonight on proposed tax

By DEBORAH NELSON
Mirror Staff Writer

Borough residents will have a chance to air their views in the borough assembly chambers tonight at 6:30 regarding the elimination of the borough personal property tax, and two alternate tax proposals under consideration by the borough assembly.

The first proposal in the resolution would request voters to decide if the borough may be authorized to levy sales taxes in the manner required by law, and the alternate proposal pertains to a tax which would be levied on the sale of raw or unprocessed resouces within the borough, commonly known as the "raw fish tax."

It is the later proposal which generated the most discussion at the Nov. 2 regular borough assembly meeting, which led to the decision that the tax proposals should be aired at tonight's public hearing.

At the Nov. 2 meeting, assembly member Ed Jack spoke in favor of the tax, saying that the proposed tax on raw resources such as timber and fish would be a "value added tax." The taxation on these natural resources would raise the value of the resources with the subsequent increase in price being passed on to the consumer, Jack said. He said in Kodiak the majority of the costs would be passed on to Japanese consumers, Kodiak's primary consumer of these resources.

Borough resident Oscar Dyson spoke out at the Nov. 2 meeting against the tax proposal, stating that it was an attempt to strip the fishermen of their profits, and that the tax would make Kodiak an unpopular locale for the bottomfishing industry.

re a crab: court to count the ways

all other regions of

the Alaska Board of revised the crab for Prince William defined legal sized six inches in width

dova and Valdez ed suit at the end arging that the new rendered 75 to 85 crabs which would gal sized under the s undersized now. hermen also sought place income lost

here

ounted. Miller and ole, the rural court because of the new crab measuring regulations, according to the Nov. 2 Cordova Times.

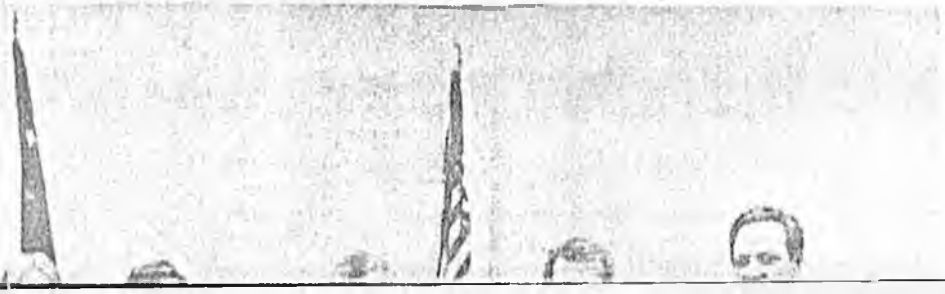
The fishermen also charged they had been deprived of 75 to 85 percent of their income and had suffered a loss of good will from their patrons because they were unable to supply enough blue king crab to meet the demand, according to the Cordova Times.

Filing suit were Ray and Sandra Cesarini, Chuck Baim, Mike Lopez and Roy Alley, all of Valdez, and Nat Butcher, Chet Cheshier, Lew Cocran and Dennis Nolan, all of Cordova.

On Nov. 3 Judge Ralph Moody upheld the state's new crab measuring regulation and refused to issue a temporary restraining order against the state.

Though the state's position had been upheld, the Department of Fish and Game stipulated the Prince William Sound fishermen could continue to use the carapace length, measured from the eye notch to the rear center

(Continued on Page 2)



days of consultation with the Baranof Museum staff and to tour the facility last week. "The state is in the process of starting a statewide plan for Alaska museums," Monroe said. "It's necessary to visit museums and get some concept of their problems."

The state hopes to expand its technical, financial and informational services to local museums, Monroe said.

"Lots of improvements" on the Erskine house are planned

(Continued on Page 2)

By Jerry D. Martini, staff photographer

Alaska State Museum deputy chief curator Dan Monroe tours the Baranof Museum as part of the state's program to expand services to local museums.

area and petroleum reservoir and source-rock potential," state geologists call the oil and gas potential within three miles of Kodiak Island "poor to fair."

Both the younger Miocene rocks and the older pre-Miocene rocks around Kodiak are not porous or permeable enough to hold reservoirs of oil or allow oil to be pumped out, state geologist Ross G. Schaff said in a telephone interview today from Anchorage.

However, the Miocene rocks show a good potential for being oil sources, Schaff said, and the Petroleum geologist Bill Lyle, who headed the state part of the joint state-federal project said the test results showed "there is very little possiblity of finding oil on Kodiak Island itself."

Karluk plan puts students in Kodiak

Kodiak Island School district officials have come up with a short range solution to providing education to the children of Karluk whose village was ravaged last week during violent winds and high seas.

Seven older children from the south side of the village will be moved into town to become the youngest members of the Kodiak Area Native Association's cottage program while a temporary school facility has been set up in Karluk for the children in

(Continued on Page 2)

City attorney to rule on taxing issue

A ruling is expected this week by city attorney Robert Mahoney on the legality of a city sales tax ordinance which went into effect last summer and is being questioned by borough residents.

Mahoney was scheduled to arrive here Friday from Anchorage to confer with city finance director H. R. Hyde over the ordinance, but poor weather delayed his arrival.

Contacted today, Hyde said he has still not discussed the ordinance with Mahoney.

Last week Peter Jackson, a borough resident who lives on Mill Bay Road outside the city limits said he questions whether the city can charge him tax on a washer and dryer he received at city dock, which he believes to be outside the city limits.

"I ordered that washer and dryer direct from Seattle, paying them in full the price of the items plus shipping."

"A month later," Jackson said, "the items arrived at city dock. I noticed on the bill that the city had charged me city sales tax.

"I question whether the city can do this. I ordered it in Seattle, the city dock is outside the city limits."

Edward Nelson, a city resident, ordered some parts for a range from Sears. Nelson, who posted and received his order through the Fleet Post Office at the Coast Guard Support Center also questions that the city can legally charge the 96 cents tax he was charged on his order.

The ordinance, which states that the three percent city sales tax can be collected on an item if the "sale is made by a business located within the city, the order is received or solicited within the city, or payment is received within the city and delivery is made to a purchaser on or adjacent to the road system within the Kodiak Island Borough."

The ordinance also states that the tax can be collected if "the sale is made by a business located outside of the city as a result of solicitation inside the city" and payment or delivery occur within the city."

Hyde said Friday that the ordinance is being interpreted by the city to mean that items ordered via catalogues received through the Kodiak Post Office are valid for taxation.

"We believe that the catalogues are received "at a point within the city limits," he added.

Crowds pay tribute to Humphrey

ST. PAUL, Minn. (AP) — The powerful with whom Hubert H. Humphrey served so long, and the humble whom he served with such boundless energy, are paying final tribute to the Minnesota senator.

Vice President Walter F. Mondale, a fellow Minnesotan and a Humphrey protege, accompanied the senator's body and the Humphrey family on the return trip to Minnesota for today's funeral.

President Carter, who led the tributes at a memorial service in the U.S. Capitol on Sunday, also flew here for the funeral.

Humphrey's body lay in state in a flag-draped coffin in the rotunda of the Minnesota Capitol while, through the night, the people who elected him five times to the Senate slowly walked by. Many wept silently.

By midmorning more than 20,000 persons had filed past the coffin, including many state employees who [illegible]

Americans."

Former Presidents Gerald R. Ford and Richard M. Nixon, and Lady Bird Johnsen, widow of President Lyndon B. Johnson, were among the mourners who heard Carter say: "We and our families are here today to testify that Hubert Humphrey may well have blessed our country more than any of us."

Carter and Mondale noted that Humphrey had asked that memorials to him be celebrations rather than mourning.

Teacher, school district negotiators begin talks

Kodiak Island Borough teacher contract negotiations began last weekend with representatives from the

The two groups met both Friday evening and Saturday at the borough offices during sessions open to the public

TESTIMONY OF OKEY CHANDLER
BEFORE THE HOUSE AND SENATE
COMMITTEES ON COMMUNITY AND
REGIONAL AFFAIRS REGARDING
THE PROPOSED ANNEXATION BY
CITY OF KODIAK OF THE MILL BAY
ROAD AND MISSION ROAD AREAS

I, Okey Chandler, have been a citizen of Kodiak for 33 years. I have a tremendous personal investment in the democracy of this country, with over five years in the military, and a personal expenditure between $4,000 and $5,000 in public information efforts to keep it alive in Kodiak.

The root of our problem is that the City Council under its Home Rule Charter, has absolute powers. They can and do override referendums. At the focus of today's meeting I say to you emphatically, I resent the forced annexation effort.

The Mission Road and Spruce Cape Road area contains about 350 acres and is the resident place of 2/3 of the people who would be impacted negatively by the annexation effort. Between 75% and 80% of the people live in trailers. In the Island Lake area containing approximately 150 acres, the majority of the people live on the front side of Island Lake and in the vicinity of Naughton's Trailer Court on Mill Bay. The remaining area under consideration within the proposed annex area has very few people and some very large parcels of land with no people at all.

My personal experiences with the City have been very poor. When I lived in the Leite Addition at 1520 Mission Road, the City was engaged in building the sewer line. During the process of installation they broke the old sewer line and I of course asked

the City to hook me up. More than a year later, they completed the installation and during that time I was without sewer. When the installation was made, it didn't work. They told me the trunk line wasn't deep enough and it was necessary to install a line above ground. I asked the City to cover the line to keep it from freezing. The City Manager said "You can cover it yourself as it's on your land". The facility is still there today - above ground.

The history of real estate in the area is of considerable interest. More than thirty lots in the area have been repossessed for default of payments. These lots originally sold for prices ranging from a few hundred dollars to $2,000 or $3,000. Most of the lots beyond Mill Bay to the north are bought on the long-term installment plan. The people who live in this area are happy with what they have and most cannot afford, nor do they need, anything the City has to offer.

From the City's perspective, they continue to claim they are broke and as a result, they are incapable of taking care of the people currently living within the City, let alone those many persons in the proposed annex area. If this annexation becomes a reality, it will shatter the hopes and dreams of a lot of people. Many will lose their land and their homes as a result of tax burdens imposed by services that they neither need, nor can afford to pay for.

In 1969, it was discovered that about one half of the business establishments in the downtown area were not paying any taxes on their land. When the Borough tax assessor sent them a tax bill for 1969, they refused to pay and demanded to be excused

from the tax payment. The Borough Assembly, which at that time was dominated by City-oriented weighted voting, accommodated their request. This should be ample evidence that big business and the Chamber of Commerce completely dominated the local governments at the expense of the working people, even to the point that they have to pay City sales tax on their rent.

O. Key Chandler
2-10-79

Okey Chandler
P.O. Box 1635
Kodiak, Alaska 99615

P.S. It is an interesting fact that there are over 3,500 acres of land in the City of Kodiak. Included in this land are hundreds of prime building lots, which to date have nothing constructed on them. So why do we need annexation?

Rosharon, Texas 77583
10 Feb 1979

Dear Sirs:

Due to a prior commitment, my husband and I are unable to attend this meeting but want to go on record as being against this proposed annexation, Lots 13 & 15, Survey 3103 on the back side of Island Lake.

The city seems to conveniently forget why we have a water line in this area and more than once have been reminded at public meetings. I testified at the Boundary Commission meeting last fall that during the time Pete Dewean was mayor, the city did some work at the reservoir that put blue clay into the lake system. This blue clay was plugging filters on washers, and furnaces and was only a matter of time until these appliances would be ruined beyond repair. In order to avoid a law suit, a water line was run out here by the city. We were informed we would be charged a higher rate, the fees to be used for the maintenance and repair of the line.

When Jack Isadore was city manager, he called a meeting of the Island Lake and Shahafka Acres residents and tried to stampede us into asking for annexation. This meeting was held at East

Elementary school. He pointed out the inadequacies of the water line, the need for sewers etc. The final topper however was the statement that the city could not offer anything in the way of utilities at that time - I can't remember his exact words, but that was the gist of it.

We don't feel that the city can offer us ~~anything~~ anymore at this time than they could then and therefore are against this proposed action.

Thank you very much

Ellen Ross (Ellen Ross)

William Ross (William W. Ross)

Carol Lechner
Public Testimony

I keep hearing that the democratic process has not been properly executed because the area in question for annexation did not get to vote on whether they wanted or did not want annexation. What about the person who wants annexation because his neighbor's sewer is running in his front yard and the same neighbor does not want annexation because he lives at the top of the hill? Or, the people that want annexation because Island Lake can no longer be used as a true recreational site because of polution? What are these victims' rights?

The vote on service districts narrowly passed, the vote on non-area wide powers failed, this means several thing to me--either the people already have the services provided by the City, or they want to continue existing with the problems they have, or they do not want the Borough to provide the services, or they feel it will cost them too much additional money. The problems will not go away and it will cost the people no matter who provides these services.

Who is better able to provide these services? The City presently has full services, sure they have some problems but nobody is perfect. I would venture to say every city in the U.S. has their problems. The City has vested many dollars in equipment and manpower, in my opinion, to have good, well trained personnel in these departments. People that know and understand the day to day routine of working and running these departments. In my opinion, it is beyond belief that a municipality who has never been in the business of public works, streets, fire or police could have the same knowledge--in 5 years time--to efficiently and effectively operate these services more economically then an established municipality with 39 years experience.

Services are costly enough without setting up two duplicate, full-service municipalities next door to one another. The area in question does not have the population or the bonding capacity based on their assessed valuation to warrent a separate full-service municipality. I feel the legislature would be doing a disservice to the whole area to create a situation such as that.

As an example, according to a breakdown by the City Finance Department, the City resident pays out of real property tax, .96 mills for fire services; whereas, the fire service district pays 2.23 mills for this service.

I believe further information on financing has been furnished to you in your information packet.

The City has, I feel, shown good faith in attempting to pre plan should annexation take place and has also addressed the concerns of the residents of the area. More information on this has also been provided to you.

It is questionable, according to State law, whether a new service district can legally be established if the new service can be provided by annexation to a City.

Thank you.

TESTIMONY OF BETTY WALLIN,
MAYOR OF THE KODIAK ISLAND BOROUGH
BEFORE THE HOUSE AND SENATE COMMITTEES ON
COMMUNITY AND REGIONAL AFFAIRS
REGARDING THE PROPOSED ANNEXATION
BY THE CITY OF KODIAK OF
THE MILL BAY ROAD & MISSION ROAD AREAS

I am Betty Wallin, Mayor of the Kodiak Island Borough. I'd like to welcome you to Kodiak and take this opportunity to thank you for bringing your hearing here so that the people affected may speak to you directly.

The citizens living in the annexation area have very specific grievances against the City and reasons for believing that annexation would be contrary to their interests. As mayor for all the citizens of the Borough, inside and outside the City, my perspective on annexation is perhaps more broadly based. I firmly believe that annexation should not be allowed to proceed for two reason: first, it would constitute a travesty of our democratic processes; second, it would sound the death knell for unification.

It is possible that you will hear today from a few individuals claiming to support annexation. But virtually all who have contacted me -- and there have been many -- have expressed strong opposition to this proposal. They have argued over and over again against the unfairness of having this decision made without the benefit of a vote of the people concerned. (We complain about the federal government controlling our lands without understanding our needs and heeding our voice. How different will it be if the State, through its Local Boundary Commission, decides the fate of the residents of the annexation territory without appreciation for their needs and knowledge of how they might vote?)

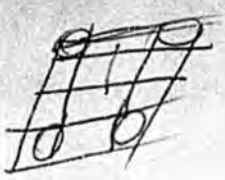
I have had no answer for the citizens who approached me with their concern. I have found myself in complete accord with their views. Were this a case where residents were clearly in support of annexation, or apathetic in their attitude, the Local Boundary Commission's omnipotent role would be more palatable. But, obviously, this is not such a case. We ask the help of you, our elected representatives in bringing democracy to the annexation process.

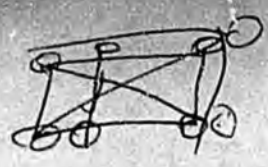
I have, as indicated, a second problem with this annexation. It derives from an aspiration I hold for Kodiak, a hope for its future which would avoid problems such as this in the days and years to come. This hope is for unification.

We held an election on unification last October, in the midst of all this controversy. The proposition was defeated. But the tallies on either side were not terribly far apart. Given a little more time to explain to the people what unification could do for Kodiak Island, I am convinced the outcome would be different. I am equally convinced that unification is the only sensible, constructive way to go for this City and this Borough. And I am just as firmly convinced that it will not come to pass if this annexation takes place.

For the sake of democracy, for the sake of all those people whose interests would be adversely affected, and for the hope for the future -- unification -- I ask that Committee members recommend passage of Senator Mulcahy's and Representative Zharoff's respective resolutions.

Thank you for your consideration.





29-53-025

(2) Provided That Home Rule of Historic City is may pay Borough taxes for residents

Would like to See This repealed.

JACK CHENOWITH, LAA

ART X SEC 12

- LOCAL GOV'T UNIT APPLIES TO DEPARTMENT (SIGNATURE)
  1) EFFECT ON MATTERS OF STATE INTEREST
  2) ABILITY OF APPLYING UNIT TO PROVIDE SERVICES
  3) TAX EQUITY
  4) CITY-BOROUGH RELATIONS (POLITICAL) APPORTIONMENT
  5) COMMISSION COMPLIED WITH LBC STANDARDS.

- PASS RESOLUTION
- DIRECT COMMISSION TO RECONSIDER < AMEND RESOLUTION / NEW RESOLUTION
- LET IT STAND

HUGH MALONE

1) IS THE STATE'S INTEREST INVOLVED? IS IT A PRECEDENT?

2) IS IT FAIR, DOES IT MAKE SENSE?

TURNER MCCARTER

2) SERIOUS REASONS REQUIRED

3) COURT

JOINT PUBLIC HEARING BY THE SENATE AND HOUSE COMMUNITY
AND REGIONAL AFFAIRS COMMITTEES
CO-CHAIRED
SENATOR ARLISS STURGULEWSKI
AND
REPRESENTATIVE BILL PARKER

2:00 P.M.
FEBRUARY 10, 1979
EAST ELEMENTARY SCHOOL AUDITORIUM
KODIAK, ALASKA

PURPOSE: Consideration of "Recommendation for Annexation of Territory to the City of Kodiak" as submitted to the Eleventh Legislature by the Alaska Local Boundary Commission; Senate Joint Resolution 12 and House Joint Resolution 10.

Agenda:

2:00 Call to Order

Introductory Remarks

2:15 Alaska Local Boundary Commission Presentation

2:35 City of Kodiak Presentation

2:55 Borough of Kodiak Island Presentation

3:15 Public Testimony (Groups-5 minute / Individuals 3-minute limitations)

Adjournment

Official Business

Alaska State Legislature

House of Representatives

Committee on

Community & Regional Affairs

Pouch V
State Capitol
Juneau, Alaska 99811

TO: Rep. Pat Carney, Vice Chairman
Charlie Parr
Margaret Branson
Fred Zharoff
Pat O'Connell
Ray Metcalfe

FROM: Rep. Bill Parker, Chairman

DATE: Feb. 8, 1979

Commissioner Lee McAnerney has scheduled the weekly Departmental Community and Regional Affairs staff meeting for Thursday, Feb. 15 at 8:00 A.M. It will be held in the basement Conference Room of the Community Building. All Committee members are invited to attend.

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The C&RA Committee will hold its regular meeting on Friday, Feb. 9 at 8:30 A.M. . Scheduled for hearing are: HB 69, HB 95, and HB 97.

****

KODIAK OUTER CONT. SHELF IMPACT STUDY

VOL. I

KODIAK ISLAND BOROUGH OUTER CONTINENTAL SHELF IMPACT STUDY

VOLUME ONE

- LEVEL OF OIL ACTIVITY
- POLICY ALTERNATIVES
- SUMMARY OF IMPACT

prepared by

SIMPSON USHER JONES, INC.
ARCHITECTS / PLANNERS
ANCHORAGE ALASKA

JUNE 1977

The preparation of this report was financed in part by funds from the Alaska Coastal Management Program and the Office of Coastal Zone Management, National Oceanic and Atmospheric Administration, U. S. Department of Commerce, administered by the Division of Community Planning, Alaska Department of Community and Regional Affairs

P R E F A C E

During the last five years the United States has engaged in an intensive search for new oil and natural gas sources. Spurred by the Arab oil embargo and the resultant national shortage of oil, the United States heightened its efforts to reduce dependence on foreign oil through exploration and development of resources within this country. Inevitably the quest for new oil sources led to Alaska.

Oil exploration and development are not new to Alaska, however. Over the past twenty years the oil industry has explored much of Alaska in a search for new deposits. The first Alaskan deposits of developable oil were found in the Cook Inlet Basin. Offshore platforms were located in Cook Inlet in the early 1960's. At the same time, rigs were drilling in the nearby Swanson River drainage. Refining operations were set up near Kenai to process some of the Cook Inlet oil and are still producing petroleum products.

While the Cook Inlet fields were being developed, the oil industry turned its exploration attention to other parts of Alaska. In the late 1960's large quantities of oil were discovered on the North Slope. The crude oil found there was low grade and heavily laden with sulfur, but quantities were so great that extraordinary methods were sought to bring the oil to market. The Trans-Alaska Pipeline resulted.

Now that the development stage of oil production is underway on the North Slope, the oil industry has directed its exploratory energies toward what it considers the next area of great potential for oil production - the Alaskan Outer Continental Shelf (OCS). Government and industry experts have estimated that one-fifth of the nation's undiscovered recoverable oil may lie under Alaska's OCS.

Preparation for Gulf of Alaska oil development has not happened over night. The possibilities of oil deposits in the Gulf of Alaska have been studied by private industry and the state and federal governments for over a decade. Until recently, however, there has been little effort to develop oil production in this area due to adverse cost and technical considerations.

The present need for national oil sources coupled with recent technological advances in the field of offshore production have prompted the federal government and the oil industry to agree that oil production in this area is now feasible. Firm evidence that development of the oil resources in the Gulf of Alaska will occur was evidenced by a major oil lease sale held April 13, 1976, in which 409,057 acres in the Northern Gulf of Alaska were leased to the oil industry. Offshore exploratory drilling of this land is expected to begin in the summer of 1977.

A new lease sale of up to 3.2 million acres of land located on the Kodiak Shelf, east of Kodiak Island, has been tentatively scheduled for November, 1977. The oil industry originally nominated 12.8 million acres in this area as having strong potential for developable oil deposits, and it is expected that initial exploration for oil will begin shortly following the lease sale. See Map 2 on page 33.

Offshore oil development on the Kodiak Shelf will generate substantial onshore development. During the initial exploration stage the onshore facilities will be relatively minor since the oil companies will avoid substantial capital expenditures until the existence of economically viable oil deposits is verified. However, once oil is found development of the oil fields will occur. Consequently, the onshore facilities will swell in size and their activities will intensify to the point that their presence will severely impact the surrounding area and communities. The impacts will involve both air and marine transportation activity; population increases; demands on housing, community facilities and infrastructural services as well as economic impacts and changes in the basic life style of the surrounding residents. Because of Kodiak Island's proximity to this area, it is inevitable that the Kodiak area will thus be affected.

The purpose of this study is to help determine what impact oil exploration will have on Kodiak and to provide recommendations designed to help plan for and mitigate adverse conditions that such impact might create.

For years Kodiak has been a relatively self-sufficient community. As the largest city on the island it has functioned as a regional economic and cultural center as well as a base for the fishing industry. Both the City and Island of Kodiak have experienced a steady trend of growth and anticipate a continuation of growth in the foreseeable future. Now, with the advent of oil exploration and possible production, the Kodiak area is faced with the possibility of major changes. The importance of planning for these changes is emphasized by the following quote from the Draft EIS for the OCS Lease Sale in the northern Gulf of Alaska.

> "As the development of offshore oil and gas proceeds from the initial exploratory phase through drilling, production, and transport, substantial onshore activity will be generated, from which both positive and negative impacts can be expected.
>
> "The degree to which on balance these effects are positive is related to the ability of public officals to plan for and direct the onshore development that is integral to OCS development and to

plan for the growth that onshore facilities generate throughout the region. OCS operations will result in massive development in areas where there is little or no experience in land use planning or regulatory activities. Unless this capability is quickly developed in such areas, the result could be permanent degradation of the environment and unnecessary disruption of traditional values and life styles for those living there now." (CEQ 1974)

The process of preparing the study was divided into four Phases. Phase one of the study process was a compilation of base line data assessing the current level of community services, utilities, facilities and housing. The end result is a summary profile of the community and a generalized projection of the growth trends that have been established and that could be expected to continue regardless of OCS development.

Phase two involved review and projections of expected oil industry activity in the Kodiak area. Many external factors will affect the level of this activity: the amount of recoverable oil discovered, the degree of oil industry reliance upon Kodiak as a transportation and staging area for OCS development, and Kodiak's capability to provide services and facilities necessary for oil development.

The first of these factors is a large unknown greatly affecting employment, land needs, transportation and utility requirements, and community facilities. Consequently, this report examines these associated impacts for each of three levels of oil discovery and production. These levels correspond to the U.S.G.S. high, low, and middle estimates of recoverable oil reserves.

Phase three related information in the community inventory to the various levels of expected oil industry activity. It identifies potential problems in the availability of community facilities and utilities, housing, and other vital community services. The report then reviews available means of solving those problems. It indicates alternative policies and programs for fulfilling needs generated by OCS development and, at the same time, minimize negative impacts on Kodiak. The City and Borough of Kodiak, various village governments, state and federal governments, and private industy should consider these alternatives.

Phase four of the study process considered the final outcome of OCS development in terms of impacts. In essence, the study develops through phases one, two and three, a forecast of oil activity as it will relate to the community existing today. Phase four describes the long-term impacts that will result from OCS development if it occurs.

For the purpose of publication, the study has been organized into two volumes. Volume I begins with the summary profile that resulted from the Community Inventory. It also contains phases two, three and four of the study profile. Volume II contains the complete Community Inventory developed in phase one of the study process. It is a useful reference document and should be updated frequently.

The majority of the work within this report is based on data compiled prior to the instigation of this study. The limited time frame and budget of this study have precluded research into new areas and development of totally original data. Even so, gathering and condensing existing information from the many sources available into this document has been a worthwhile effort. It provides a picture of Kodiak as it now exists and a scenario for the development of the Outer Continental Shelf in Kodiak.

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COMMUNITY PROFILE

Through the process of preparing this study, a large body of information has been assembled that is descriptive of the social and economic characteristics of the Kodiak Island Borough. That information comprises Volume II of the OCS Impact Study for Kodiak.

The study has shown us that Kodiak is a very unique and vital community, both within the metropolitan area and throughout the outlying portions of the islands. The economy in Kodiak is strong, and the future holds promise of continued prosperity and economic independence. Unlike many other isolated communities in Alaska, Kodiak's size and economic importance has resulted in the provision of the full range of community facilities, utilities, and services that are necessary for a growing self-sufficient community. Table 1 shows who provides the basic public services available in Kodiak.

The study has also shown us that Kodiak has a number of problems that may negatively affect the community's quality of life and its ability to to maintain its growth pattern in the future. These problems, if not addressed promptly, will be compounded with the advent of OCS oil activity.

The following profile briefly summarizes the information presented in Volume II which describes the community as it exists today and gives an indication of how its strengths and weaknesses will be affected by or will affect future development.

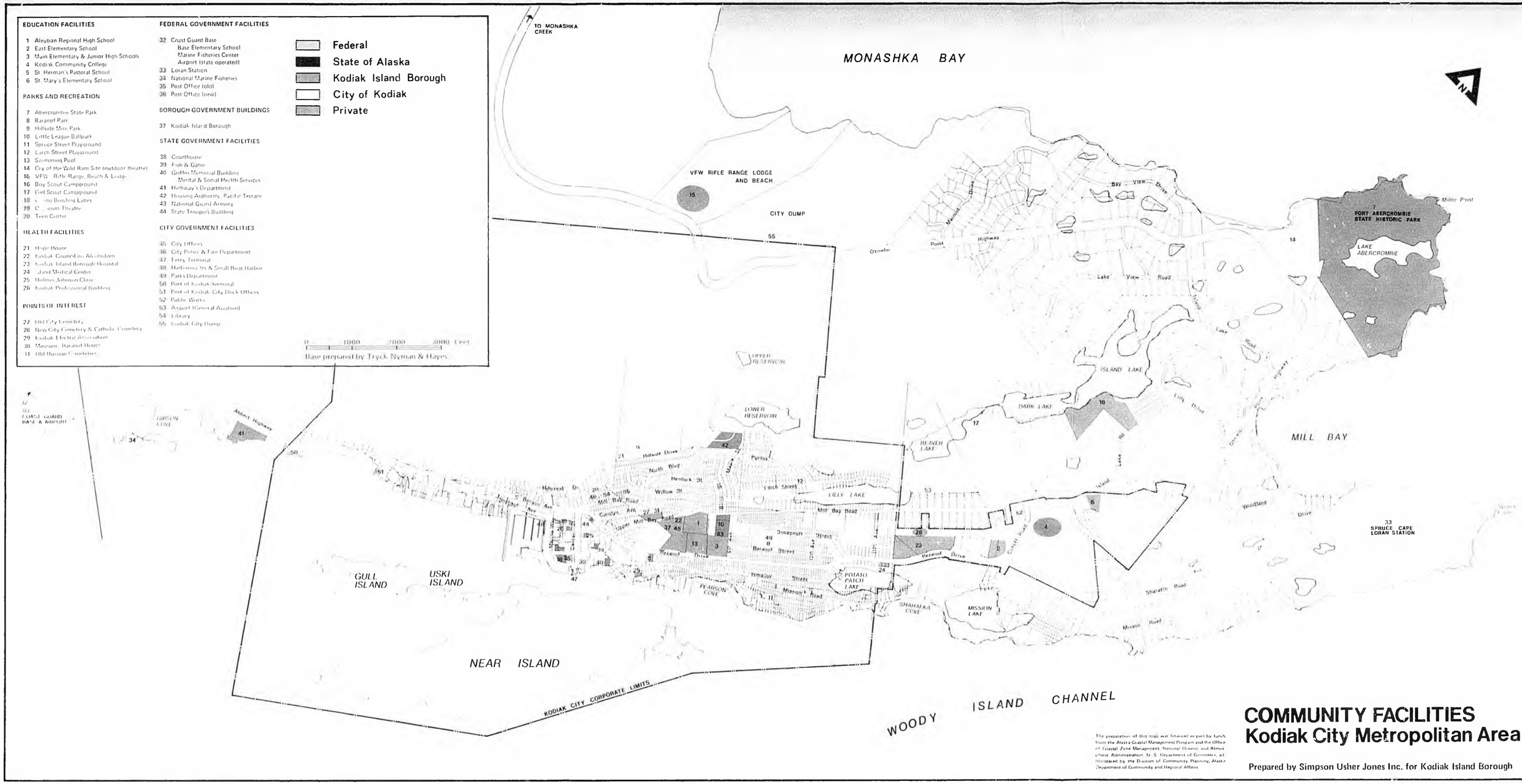
ECONOMIC OUTLOOK

With an estimated current population of 9,620 people, Kodiak is among the five largest population centers in Alaska. Currently the Kodiak Island Borough is growing at a rate of approximately three percent per year. This is a healthy growth rate and one that demonstrates the economic vitality of Kodiak. The community has the potential to continue growing as long as the basic industries continue to maintain their strength. In fact, based on historical trends and the current condition of the economy, it is estimated that the population of Kodiak will double within the next twenty years. It is especially important to note that these estimates are made without consideration of any possible OCS development impact on the population. This means that Kodiak does not need the economic boom that OCS activity would bring. The community is healthy; the population and economic base are growing; and the prospects for the future are bright.

Table 1: Summary -- Services by Provider

Service	Borough	City	State	Federal	Other
Electric					X
Telephone					X
Water		X			
Sewer		X			
Radio, TV					X
Roads		X	X		
Airports		X	X		
Marine Freight Terminal		X			
Ferry Terminal			X		
Police		X	X		
Fire		X			
Emergency		X		X	
Hospital	X				
Clinics	X		X		X
Public Health	X		X	X	
Mental Health	X		X	X	
Alcholism Treatment	X	X	X	X	X
Public Assist.			X		
Legal Assist.			X		
Education:					
Primary	X				X
Secondary	X				
Higher			X		
Recreation		X	X	X	
Parks	X	X			
Camping			X		
Open Space	X	X	X	X	
Cultural		X	X		X

Source: Simpson Usher Jones, Inc., 1976



COMMUNITY FACILITIES
Kodiak City Metropolitan Area

Prepared by Simpson Usher Jones Inc. for Kodiak Island Borough

The preparation of this map was financed in part by funds from the Alaska Coastal Management Program and the Office of Coastal Zone Management, National Oceanic and Atmospheric Administration, U. S. Department of Commerce, all administered by the Division of Community Planning, Alaska Department of Community and Regional Affairs.

MAP 1

EXISTING FACTORS AFFECTING FUTURE TRENDS

There are several important factors that could affect the ability of Kodiak to maintain its growth rates and realize its potentials. The factors described below could have a stifling effect on the economy and could also adversely affect the living environment. Each of them is individually significant and should be addressed regardless of OCS development.

Crime

Criminal activity is normally one of the first and most serious impacts experienced as a result of a "boom" economy. Recent history in Fairbanks, Valdez and a variety of smaller communities along the Trans-Alaska Pipeline route have borne this out. In Kodiak the industrialization and rapid economic growth anticipated to accompany OCS development is already being preceded by an increase in crime. Between 1975 and 1976 total criminal activity was up and the more serious and violent crimes (Part I Offenses) increased.

This situation presents a serious threat to the quality of life in Kodiak. Immediate action by local, state and federal governments is necessary in order to prepare for and combat this problem.

The potential for further rises in criminal activity is increased due to the completion of the Trans-Alaska Pipeline in the near future. As economic activity and population growth decrease in towns and cities along the pipeline, the people who found them easy places to make an illicit living will look for new places to operate. They perceive that Kodiak offers the opportunities they seek. This, along with changes in the internal characteristics of the community, could allow crime to rival fishing as Kodiak's largest industry.

It is incumbent on the community to take action that will create an atmosphere that discourages the criminal, both resident and nonresident.

Housing

Another serious problem facing Kodiak today is a housing shortage. As indicated above, the population is currently growing at approximately three percent per year. However, over the last five years housing starts, including multifamily units, have averaged less than three percent per year. In addition, over 40 percent of the housing units in Kodiak are in fair to poor condition. Analysis of these statistics indicates that the housing market is not keeping pace with population growth. There is no surplus housing stock on the market from which a prospective home buyer or renter can choose, thus costs are high. This is evident by the small number of dwelling units for sale or for rent in Kodiak at any given time. In addition new homes built in Kodiak are normally sold and/or occupied very quickly. For example, single family homes under construction are generally sold before they are fifty percent complete.

An already inadequate housing supply coupled with an ever present desire by residents to upgrade their housing (a practice most generally achieved by moving into newer homes) creates a discouraging outlook for supplying the housing needs for Kodiak's normal population growth. Fulfilling housing needs resulting from OCS development would be impossible at the current level of housing starts.

There are several reasons why the growth in the housing market has been slow in Kodiak. First, areas available for development which have a full range of utilities are extremely limited. The areas currently served by sewer and water are developed to near capacity, and high utility installation costs discourage development of new areas.

Land availability is another problem in the Kodiak city area. Much of the land surrounding the city is owned by the government and private land available for residential development is limited both in terms of quantity and quality. Much of the available property is either too steep or too boggy to attract development.

The cost of housing is another factor which affects the housing stock in Kodiak. The average new three-bedroom house in Kodiak ranges between $60,000 and $80,000. In 1974 the average wage in Kodiak was just over $1,000 per month. Applying an average increase in salaries of twelve percent per year, this same salary would be about $1,260 per month in 1976. The purchase of a $70,000 home, however, would require a monthly mortgage payment of approximately $650 per month, much too high to be accommodated by the average wage. Therefore, for the average wage earner to purchase the average home in Kodiak, it would require that at least two persons within that household be employed. It may be concluded that housing costs are escalating faster than wages, thus creating a shortage of buyers for the Kodiak housing market. This in turn discourages speculative housing starts and drives up the value of existing homes and the cost of custom-built houses.

Commercial And Industrial Land Use

Another problem which will affect the future growth of Kodiak is a shortage of commercial and industrial property. New businesses in Kodiak have a difficult time locating on properly zoned land. This results in higher land costs thus higher consumer prices and finally a higher cost of living. In addition, a less efficient growth pattern is created within the community when businesses are forced to locate on any available commercial or unzoned property they can find rather than in places that are logical and well-suited for that particular type of business. As a point in fact, commercial services are now beginning to appear in places scattered throughout the community. Each time this happens, the potential for conflicts among land uses is increased. This can compound the shortage of prime residential land as well as inhibit the planning and evolution of efficient transportation systems.

Industrial land is also needed to accommodate growth in the fishing industry, as well as to support the nonbasic industrial activities

within the community which are a direct result of basic industry growth. There are no industrial parks in Kodiak, either planned or unplanned. Warehouse space is in short supply, and the potential for new space is limited.

These land use considerations must be addressed by the community in order to maintain the growth patterns and economic development rates that have been established. If they are ignored, they will become more serious and will have an accelerating negative impact on the economic system in Kodiak. In addressing the problems, careful planning must be considered in adopting fiscal policies which will encourage the development of additional moderately priced housing, and the provision of more commercial and industrial areas in proper locations. Considerations such as access, effect on surrounding land uses, neighborhood character, and future land use demands must be taken into account in order to effectively deal with these concerns without creating new problems.

Social Services

In addition to these land use and economic considerations affecting the future of Kodiak, social factors affecting the quality of life in the community should also be monitored. While these factors may not directly affect the employment rates, housing costs and other developmental characteristics of the community, they do have a direct effect on the living environment in terms of convenience, esthetics and the social well-being of the residents.

Social services are particularly important to a well-balanced community. While there are many such services available in Kodiak, their capabilities to cope with some of the more serious problems is currently impaired by a lack of funds and personnel support on the part of the governmental agencies involved. This is especially true of the health and social services provided by the State of Alaska in spite of recent increases in personnel and budgets. For the most part, those agencies are still underfunded and undermanned. While programs have been established to handle many serious problems such as mental health, alcoholism and public assistance, they can actually accommodate only a relatively small part of the persons currently in need of assistance.

At present there is no indication that the demand for these services will accelerate over and above normal population growth rates. However, if in the near future Kodiak is faced with an extraordinary increase in population due to OCS development, the problems already associated with the social service programs will be further compounded by a larger demand for services and the probability of more complex problems to solve. The community and the State should address these inadequate services as an immediate priority. The level of services offered must be upgraded to adequately meet the current needs of the community and plans should also be made to prepare for the impact that may occur with the advent of a population boom due to OCS development. If not resolved, the inadequacies in the social services could have one of the most serious and most deleterious OCS related impacts on the Kodiak community.

Recreation Facilities

Another community component that is currently below standard is adequate recreational facilities. Kodiak now falls short of meeting the community demand for neighborhood parks, indoor and outdoor winter recreational facilities, and weekend and vacation facilities around the island. Through provision of these facilities, Kodiak can mitigate many of the social problems which plague many other growing communities. The potential for rapid population growth due to OCS development makes the need for parks and recreational facilities even more acute.

OUTLYING VILLAGES

The various villages located around Kodiak Island have many divergent characteristics while at the same time having a number of common concerns and features. Their populations range in size from over 300 to under 100. Their locational characteristics are similar in that each is located adjacent to salt water and each is near rivers or streams that offer fresh water sources.

The degree or level of development varies between the villages. Port Lions is the most highly developed with a relatively wide range of community facilities and services including, but not limited to, lighted and maintained city streets, local police protection, modern community-wide telephone service and a comparatively high level of commercial services. The other villages have far less in the way of community facilities and government services. None of the others have maintained streets, community telephone service, or local police. Most have some degree of commercial services and all have schools operated by the Kodiak Island Borough School District. The level of community water and sewer service varies from village to village.

The relationship of the villages to OCS development also varies. Some have the potential of a high level of direct impact. Old Harbor has already been approached by oil industry personnel as a possible site of an onshore service base. The village corporation sought and recieved assistance from the Koniag Regional Native Corporation in dealing with the oil industry; as yet no facilities are definitely planned for Old Harbor.

Ouzinkie and Port Lions also have potential for direct OCS impacts; but because of their location, they are less likely candidates for service base facilities than is Old Harbor. Like Old Harbor, the rest of the village corporations on Kodiak Island will deal with the oil industry in cooperation with Koniag, Incorporated.

The probability of indirect impacts from OCS development is high in all of the villages. All offer scenic surroundings, hunting and fishing in relative abundance. This will draw tourists and sportsmen in their off-time who seek seclusion, as well as opportunities for trophies and food.

Preparation for these impacts is imperative. The villages can gain from the impacts if that is their desire. However, the implications in terms of economic change, alteration of life styles and physical modification of the villages are extreme. With the notable exception of Port Lions, none of the villages are at all prepared for what could ultimately be the largest influx of people in their histories.

CONCLUSION

The factors described above are significant and deserve special attention. The assets of the Kodiak Island Borough and its communities are uniquely valuable and should be protected and enhanced. The problems faced by the communities are not insoluble; they are the types of problems that are normally to be expected in a time of rapid growth. They are also the type that can be dealt with through community awareness, local action and proper planning and implementation.

OCS oil development has the potential for either strengthening already healthy communities or creating problems that could result in economic and social disruption for many years to come. The result of OCS impact will depend upon the level of oil industry activity which will occur in Kodiak and the methods that are used in planning for and coping with the impact.

A number of trends can be predicted for Kodiak regardless of OCS development. First, Kodiak will continue to grow. Along with that growth, the cost of living will undoubtedly rise moderately. Housing costs will increase until adequate, buildable land is available to accommodate a growing housing market. The residents of Kodiak can expect their problems with respect to crime, housing, recreational and open space facilities and social services to continue to worsen unless the government steps up its efforts to deal with these issues. Inherent in such an effort, would be the possibility of some increase in the cost of government and a resultant rise in taxes. This situation is one that is common to growing communities.

There are a number of ways in which these concerns can be addressed through proper planning and management tools. Regardless of whether OCS development occurs, these should be addressed as part of the upcoming Kodiak comprehensive plan.

The components of the community that would be most affected by an economic and population boom resulting from OCS development would be those problems which are already most serious. Without exception, the problems described above would become worse at an accelerated rate. Also, increased demands for transportation facilities would place an additional demand on the existing facilities, both internal and external.

In order to determine the proper methods of dealing with the impacts that OCS development might bring, it will be necessary to determine the level of oil industry impact, the resultant population increases to be

expected, and the demands that that economic and population growth will place on the basic community infrastructure. Volume I of this report assesses the demand that the oil industry will place on Kodiak. This assessment is used to determine the types of policy alternatives that are available to the community internally and what policies should be endorsed and encouraged in the state and federal governments in order to protect Kodiak's quality of living and economic viability in the forthcoming years.

DEVELOPMENT SCENARIO

ASSUMPTIONS: MAGNITUDE OF RESERVES

Three development scenarios, representing the U.S.G.S. high, low, and middle level of recoverable oil reserves on the Kodiak Shelf are examined in Table 2.

Table 2: Estimated Oil and Gas Reserves

	Oil Reserves	Gas Reserves
Case 1	250 million barrels	0.125 x $10^{12} ft^3$
Case 2	1200 million barrels	0.5 x $10^{12} ft^3$
Case 3	2100 million barrels	0.95 x $10^{12} ft^3$

Source: U.S.G.S. estimates in draft EIS-Western Gulf.

In Case 1, development of oil discoveries of this size would be uneconomic. Explorations are curtailed early on, and no development takes place. Case 3 represents the maximum estimate of recoverable oil and would involve a reasonable amount of development, including an offshore oil pipeline and land terminal. Case 2 is a mid-point between the two other estimates. Two methods of developing this volume of reserves are evaluated here: Case 2a using pipelines and an onshore terminal, and Case 2b using S.B.M.S., or offshore storage requiring no pipeline to shore. In each case, gas reserves are too low to warrant development. Hence no scenario involves gas pipelines or a L.N.G. (liquified natural gas) plant.

ESTIMATED TIMETABLE OF DEVELOPMENT

Table 3 indicates what offshore development is necessary to recover the range of reserves estimated above.

Table 3: Offshore Development Plans

	# Oilfields Developed	# Oil Platforms	# Gas Platforms	Peak Oil Output	Peak Gas Output
Case 1	---	---	---	---	---
Case 2	3	3	---	250,000 bpd*	---
Case 3	4	5	---	450 bpd	---

* bpd = barrels per day

Source: Niall Trimble, Department of Community and Regional Affairs, Division of Community Planning, State of Alaska, 1977.

In Case 1, results from drilling are disappointing and so exploration work ceases after four years. No further offshore work is carried out.

In Cases 2 and 3, production follows exploratory drilling. Platforms are installed offshore and, in Cases 2a and 3, oil pipelines are laid to an offshore storage terminal, presumably on Kodiak Island. These pipelines are 140 and 300 miles in length, respectively, and necessitate the lay-barge and bury-barge activity.

Probable Timetable of Development

Assumptions used in computing a timetable for development include:

1. Sale of federal leases will be in January, 1989.
2. Upon discovery of a developable oilfield, construction of a permanent drilling platform capable of delivering oil will take five years.
3. Oilfield discovery dates, platform delivery dates, and construction timetable are as outlined in Table 4.

Oil output for each year is estimated in Table 5. Oil output levels are lower than those postulated for other parts of the Gulf of Alaska, as one may expect. However, they are still considerable in terms of American offshore oil production. Case 2 and Case 3 peak production, occurring in 1993, is equivalent to 25.9% and 46.9%, respectively, of the total 1974 U.S. offshore production.

Table 4: Estimated Timetable of Development

	Case 1	Case 2	Case 3
Lease Sale	1980	1980	1980
Discovery Date			
Field #1	---	1981	1981
Field #2	---	1982	1982
Field #3	---	1984	1983
Field #4	---	---	1984
Platform Delivery Date			
Field #1	---	1986	1986,1987
Field #2	---	1987	1987
Field #3	---	1989	1988
Field #4	---	---	1989

Service Base Operations		Case 2a	Case 2b	
Base #1	---	1979-1980	1979-1980	1979-1980
Base #2	---	1982-1983	---	1981-1982
Base #3	---	---	---	1982-1983
Oil Terminal Construction		1985-1988	---	1984-1987

Peak Production (bpd)		Case 2	
Field #1	---	100,000/1986	200,000 (100,000 each in 1986,1987)
Field #2	---	100,000/1987	100,000/1987
Field #3	---	55,000/1989	100,000/1988
Field #4	---	---	55,000/1989

Source: Niall Trimble, Dept. of Community and Regional Affairs, Division of Community Planning, State of Alaska, 1977.

Table 5: Oil Output -- Western Gulf of Alaska
(in barrels per day)

Year	Case 1 Output	Case 2 Output	Case 3 Output
1987	---	5,000	5,000
1988	---	40,000	45,000
1989	---	105,000	145,000
1990	---	165,000	270,000
1991	---	215,000	380,000
1992	---	240,000	435,000
1993	---	255,000	455,000
1994	---	245,000	445,000
1995	---	226,000	416,000
1996	---	204,000	355,000

Source: Niall Trimble, Dept. of Community and Regional Affairs, Division of Community Planning, State of Alaska, 1977.

OFFSHORE DEVELOPMENT PLAN

Offshore Activity

Given the above assumptions regarding recoverable reserves, necessary development, and probably timetable of events, one can estimate the level of offshore activity over time. This information is presented in Table 6 below. Section A shows activity during the exploration phase; Section B, platform installation dates for those oilfields developed in Cases 2 and 3. In Cases 2a and 3, oil pipelines of 140 and 200 miles in length, respectively, will be laid offshore. Sections C and D give the lay-barge and bury-barge activity necessary to these operations; Section E, the number of supply boats required for each level of activity.

Offshore Employment

Total employment levels offshore on rigs, platforms, barges, and supply boats is set out in Table 7, while Table 8 breaks down this total by activity. Oil companies are expected to recruit personnel for this work exclusively from the lower 48. As such, the impact of these jobs on the Kodiak area should be fairly minimal. If offshore workers did move to Alaska, it would probably be to the Anchorage area.

Table 6: Estimated Level of Offshore Activity

Year	Case 1	Case 2	Case 3
# of Exploration Rigs Drilling:			
1980	1	1	1
1981	2	3	4
1982	3	6	6
1983	1	4	8
1984	---	3	8
1985	---	2	5
1986	---	1	3
1987	---	---	1
TOTAL	7	20	36
# Platforms Installed			
1986	---	1	1
1987	---	1	2
1988	---	-	1
1989	---	1	1
TOTAL	-0-	3	5

Year	Case 1	Case 2a	Case 2b	Case 3
# Lay-barges Working				
1984	---	1	---	1
1985	---	1	---	2
1986	---	1	---	2
1987	---	1	---	1
# Bury-barges Working				
1985 1985	--- ---	1	---	1
1986	---	1	---	2
1987	---	1	---	1
# Supply Boats Working:				
1980	2	2	2	2
1981	4	6	6	8
1982	6	12	12	12
1983	2	8	8	16
1984	---	14	6	24
1985	---	15	4	29
1986	---	20	9	35
1987	---	21	10	30
1988	---	5	5	15
1989	---	11	11	16
1990	---	7	7	11
1991	---	6	6	10
1992	---	5	5	9

Source: Niall Trimble, Dept. of Community & Regional Affairs, Div. of Comm. Planning, 1977.

Table 7: Total Offshore Employment - Western Gulf OCS Area

Year	Case 1	Case 2a	Case 2b	Case 3
1980	139	139	139	139
1981	278	417	417	556
1982	417	834	834	834
1983	139	556	556	1,112
1984	---	763	417	1,458
1985	---	760	278	1,523
1986	---	1,005	523	1,765
1987	---	1,202	720	1,725
1988	---	610	610	1,330
1989	---	932	932	1,542
1990	---	884	884	1,432
1991	---	822	822	1,370
1992	---	700	700	1,248

Source: Niall Trimble, Department of Community and Regional Affairs, Division of Community Planning, State of Alaska, 1977.

Table 8: Offshore Employment by Activity

	Rigs	Platforms	Supply Boats	Lay-Barge	Bury-Barge	Total
Case 1						
1980	115	---		---	---	139
1981	230	---	48	---	---	278
1982	345	---	72	---	---	417
1983	115	---	24	---	---	139
1984	-0-	---	-0-	---	---	-0-

Table 8: Offshore Employment by Activity, Continued

	Rigs	Platforms	Supply Boats	Lay-Barge	Bury-Barge	Total
Case 2a						
1980	115	---	24	---	---	139
1981	345	---	72	---	---	417
1982	690	---	144	---	---	834
1983	460	---	96	---	---	556
1984	345	---	168	250	---	763
1985	230	---	180	250	100	760
1986	115	300	240	250	100	1005
1987	---	600	252	250	100	1202
1988	---	550	60	---	---	610
1989	---	800	132	---	---	932
1990	---	800	84	---	---	884
1991	---	750	72	---	---	844
1992	---	640	60	---	---	700
Case 2b						
1980	115	---	24	---	---	139
1981	345	---	72	---	---	417
1982	690	---	144	---	---	834
1983	460	---	96	---	---	556
1984	345	---	72	---	---	417
1985	230	---	48	---	---	278
1986	115	300	108	---	---	523
1987	---	600	120	---	---	720
1988	---	550	60	---	---	610
1989	---	800	132	---	---	932
1990	---	800	84	---	---	884
1991	---	750	72	---	---	822
1992	---	640	60	---	---	700
Case 3						
1980	115	---	24	---	---	139
1981	460	---	96	---	---	556
1982	690	---	144	---	---	834
1983	920	---	192	---	---	1112
1984	920	---	288	250	---	1458
1985	575	---	348	500	100	1523
1986	345	300	420	500	200	1765
1987	115	900	360	250	100	1725
1988	---	1150	180	---	---	1330
1989	---	1350	192	---	---	1542
1990	---	1300	132	---	---	1432
1991	---	1250	120	---	---	1370
1992	---	1140	108	---	---	1248

Source: Niall Trimble, Dept. of Community and Regional Affairs, Division of Community Planning, State of Alaska, 1977.

ONSHORE DEVELOPMENT PLAN

Offshore oil production will require onshore facilities, notably service bases with supply boat berths and, in Cases 2a and 3, pipelines and oil terminals. The size of the find determines the number of service bases and the size of the storage facilities. Choice of method in transporting the oil, i.e. either by pipeline as in 2a or by S.B.M. offshore as in 2b, also makes a big difference in onshore facility needs. Facility construction and its associated land, employment, and other needs are discussed below.

Facility Construction

Given the January 1980 lease sale, the oil industry plans on construction onshore facilities according to the schedule outlined in Table 9.

Table 9: Onshore Construction Schedule

Case 1	Nil
Case 2a	1 base (2 berths) built 1980-1981 1 base (3 berths) built 1982-1983 1 oil terminal, capacity 250,000 bpd, built 1985-1988
Case 2b	1 base (2 berths) built 1980-1981
Case 3	1 base (2 berths) built 1980-1981 2 bases (3-4 berths) built 1981-1982; 1982-1983 1 oil terminal, capacity 450,000 bpd, built 1984-1987

Source: Simpson Usher Jones, 1977.

Service bases, with berths for supply boats, are essential to OCS development from the exploration phase through the production phase. Onshore oil storage and marine terminals are also required during the production phase of Cases 2a and 3.

The number of working supply boats determines the demand for onshore berths, and hence the necessary number of service bases. This demand is set out in Table 10.

The pattern of berth demand parallels that of the Northern Gulf: it increases rapidly over 6 or 7 years to a peak. This peak lasts but one year; then requirements fall steadily to around 2 to 3 berths -- apparently the long term demand. Communities such as Kodiak should be wary of accepting supply-boat bases if this development damages other local industries. After the first ten years or so, activity and hence employment drop to a fairly low level.

Table 10: Demand for Supply Boat Berths

Year	Case 1	Case 2a	Case 2b	Case 3
1980	1	1	1	1
1981	1	1	1	2
1982	1	2	2	2
1983	1	2	2	3
1984	0	4	1	6
1985	0	4	1	8
1986	0	5	2	9
1987	0	5	2	7
1988	0	2	2	3
1989	0	2	2	4
1990	0	2	2	3
1991	0	2	2	3
1992	0	2	2	3

Source: Niall Trimble, Dept. of Community and Regional Affairs, Division of Community Planning, State of Alaska, 1977.

In addition to supply boat berths, a service base includes other basic and supplementary facilities. These are listed below.

Basic Facilities

Berths
Staging Areas
Floodlighting
Warehousing
Open Storage
Fueling Facilities
Water (potable and drilling)
Mud and Cement Supplying Facilities
Mobile Equipment
Agency Facilities (ship chartering, freight forwarding, customs, etc.)
Office Accommodation
Communications
Refuse Removal Facilities

Spare service base facilities are now non-existent in the parts around the Western Gulf. As such, additional facilities will be needed from the start of exploration. All levels of offshore activity except Case 1 will require one small base of two berths from the beginning of exploration. No further bases are needed in Case 2b. However, Cases 2a and 3 both require one more medium base by 1984, and Case 3 would need another medium sized service facility the following year.

Land Acquisition

Land is needed for the above additional service bases and oil storage terminals noted above. In addition, land may be required near a commercial airport.

Land needs for marine service bases have been well defined through experience in the North Sea offshore oil fields. The State Department of Community and Regional Affairs recently published the study "Marine Service Bases for Offshore Oil Development" (Tom Smyth; Alaska Consultants, July, 1976). In this study, Smyth divided land requirements into two categories: 1) land immediately adjacent to the port facilities; and 2) backup land for ancillary uses. The land adjacent to the port is needed for the quay apron, silos, transportation corridors, tank storage, and warehousing. The backup lands are necessary for open storage, office facilities and other supplementary facilities. The space required to accommodate these facilities during the exploration phase of development at a North Sea service base location is shown in Table 11.

Table 11: Land Use, Space Per Offshore Rig, and Space Per Berth*

Selected Service Base Servicing Exploration Phase

Scottish Sector, North Sea

	Area	Space per Rig	Space per Berth	Space per Berth (2)
Recurring Requirements:				
Quay apron & silos	1.50	.38	.50	.50*
Warehousing	1.25	.31	.42	.62
Open storage	11.50	2.87	3.83	5.75
Offices	.50	.12	.17	.25
Non-Recurring Requirements:				
Workshops	.00	.00	.00	.00
Tank Storage	.25	.06	.08	.12
Other	.00	.00	.00	.00
TOTAL	15.00	3.75	5.00	7.25

* Space calculated in acreage
(1) Assuming two (2) berths
(2) Assuming the apron behind the third berth is unused.

Source: Alaska Consultants, Inc.

It is assumed that the North Sea average of 7.25 acres of land per berth during the exploration period will apply to the Western Gulf of Alaska. As drilling progresses at a more rapid rate during development, Smyth estimates that each berth would require approximately 8 acres at the service base.(1) Using this figure, additional land needs for service bases are outlined in Table 12.

Table 12: Land Requirements - Service Bases

Case 1	Nil
Case 2a	40 acres - (16 acres in 1979, +24 acres in 1982)
Case 2b	16 acres in 1979
Case 3	72 Acres (16 acres in 1979, +24 in 1981, +32 in 1982)

Source: Niall Trimble, Dept. of Community and Regional Affairs, Division of Community Planning, State of Alaska, 1977.

Land needs for crude oil storage and terminal depends upon the level of production. Case 2a requires an oil terminal capacity of 250,000 bpd; Case 3, a capacity of 450,000 bpd. According to the previously referenced draft Crude Oil Storage and Marine Terminals profile, the smaller terminal would require about 100 acres; the larger about 150 acres. However, if the only land available is hilly or unstable, as is common in Kodiak, storage capacity could be reduced some 60 percent. Consequently, a larger site may be necessary: some 250 acres in Case 2a, and 375 acres in Case 3.

Additional land may also be required near a commercial airport, as indicated in Table 13. According to a forecast by the Gulf of Alaska Operators' Committee, approximately half as much land is required at the airport as is required at the marine service base. Using this assumption, the following additional land would be needed near the Kodiak airport.

Table 13: Additional Land Requirements

Airport

Case 1	Nil
Case 2a	20 acres (8 in 1979 + 12 in 1982)
Case 2b	8 acres in 1979
Case 3	36 acres (8 in 1979; +12 in 1981; +32 in 1982)

Oil Terminals

	Suitable Ground	Hilly or Unstable Ground
Case 1	Nil	---
Case 2a	100 acres	250 acres
Case 2b	Nil	---
Case 3	150 acres	375 acres

Source: Simpson Usher Jones, Inc. (Sontag), 1977.

Total estimated land requirements for each level of development are summarized in Table 14.

Table 14: Total Land Requirements

	Case 1	Case 2a	Case 2b	Case 3
Service Bases	---	40 ac.	16 ac.	72 ac.
Airport	---	20	8	36
Oil Terminals	---	100-250	---	150-375
Total Acreage Needed		160-310	24	258-513

Source: Simpson Usher Jones, Inc. (Sontag), 1977.

Onshore Employment

Labor needs for construction, administration, and facility operations are examined here. These are then combined with offshore employment needs to get total labor requirements. Finally, using the percentage of total jobs occurring in the coastal zone, employment levels in that area are set out by year. The labor force required to build the oil terminal is outlined in Table 15.

Table 15: Oil Terminal Labor Force

	Year 1*	Year 2	Year 3	Year 4
Case 2a - 250,000 bpd	150	600	1,200	300
Case 3 - 450,000 bpd	200	1,000	1,900	600

* As mentioned in the previous section, Year 1 is 1985 in Case 2a and 1986 in Case 3.

Source: Niall Trimble, Dept. of Community and Regional Affairs, Division of Community Planning, State of Alaska, 1977.

Terminal operations employment is: Case 2a, 150 personnel; Case 3, 250 personnel.

These figures enable us to calculate onshore employment by activity. Table 16 below gives onshore employment figures for administration jobs; rig, platform, service base, and terminal associated jobs; and construction work for each case.

Table 16: Onshore Employment by Activity

Year	Administration	Service Bases	Rig Associated	Platform Associated	Terminal	Construction	Total
Case 1 - Low Find:							
1980	15	15	25	---	---	---	55
1981	30	15	50	---	---	---	95
1982	45	15	75	---	---	---	135
1983	15	15	25	---	---	---	55
Case 2a - Moderate Find (pipeline)							
1980	15	15	25	---	---	75	130
1981	45	15	75	---	---	150	285
1982	90	30	150	---	---	100	370
1983	60	30	100	---	---	200	390
1984	45	60	75	---	---	---	180
1985	30	60	50	---	---	150	290
1986	55	75	25	100	---	600	855
1987	80	75	---	200	---	1200	1555
1988	80	30	---	180	75	300	665
1987	120	30	---	260	150	---	560
1990	120	30	---	260	150	---	560
1991	120	30	---	240	150	---	540
1992	120	30	---	200	150	---	500
Case 2b - Moderate Find (S.M.B.):							
1978	15	15	25	---	---	75	130
1979	45	15	75	---	---	150	285
1980	90	30	150	---	---	---	270
1981	60	30	100	---	---	---	190
1982	45	15	75	---	---	---	135
1983	30	15	50	---	---	---	95
1984	55	30	25	100	---	---	210
1985	80	30	---	200	---	---	310
1986	80	30	---	180	---	---	290
1987	120	30	---	260	---	---	410
1988	120	30	---	260	---	---	410
1989	120	30	---	240	---	---	390
1990	120	30	---	200	---	---	350
Case 3 - High Find (Pipeline):							
1978	15	15	25	---	---	75	130
1979	60	30	100	---	---	250	440
1980	90	30	150	---	---	300	570
1981	120	45	200	---	---	200	565
1982	120	90	200	---	---	200	610
1983	75	120	125	---	---	1000	1320
1984	85	135	75	100	---	1900	2295
1985	135	105	25	300	125	600	1290
1986	160	45	---	380	250	---	835
1987	200	60	---	440	250	---	950
1988	200	45	---	420	250	---	915
1989	200	45	---	400	250	---	895
1990	200	45	---	360	250	---	855

Source: Niall Trimble, Dept. of Community and Regional Affairs, Division of Community Planning, State of Alaska, 1977.

A summary of total onshore employment levels follows (Table 17). These figures, added to the offshore employment numbers (Table 7 on page 16) produces total direct employment from OCS development, Table 18.

Table 17: Total Onshore Employment

Year	Case 1	Case 2a	Case 2b	Case 3
1980	55	130	130	130
1981	95	285	285	285
1982	135	370	270	570
1983	55	390	190	565
1984	---	180	135	610
1985	---	290	95	1320
1986	---	855	210	2295
1987	---	1555	310	1290
1988	---	665	290	835
1989	---	560	410	950
1990	---	560	410	915
1991	---	540	390	895
1992	---	500	350	855

Source: Niall Trimble, Department of Community & Regional Affairs, Div. of Community Planning, 1977.

Table 18: Total Employment - Onshore and Offshore

	Case 1			Case 2a			Case 2b			Case 3		
Year	On	Off	Total	On	Off	Total	On	Off	Total	On	Off	Total
1980	55	139	194	130	139	269	130	139	269	130	139	269
1981	95	278	373	285	417	702	285	417	702	440	556	996
1982	139	417	552	370	834	1204	270	834	1104	570	834	1404
1983	55	139	194	390	556	946	190	556	746	565	1112	1677
1984	---	---	---	180	763	943	135	417	552	610	1458	2068
1985	---	---	---	290	760	1050	95	278	373	1320	1523	2843
1986	---	---	---	855	1005	1860	210	523	733	2295	1765	4060
1987	---	---	---	1555	1202	2757	310	720	1030	1290	1725	3015
1988	---	---	---	655	610	1275	290	610	900	835	1330	2165
1989	---	---	---	560	932	1492	410	932	1342	950	1542	2492
1990	---	---	---	560	884	1444	410	884	1294	915	1432	2347
1991	---	---	---	540	822	1362	390	822	1212	895	1370	2265
1992	---	---	---	500	700	1200	350	700	1050	855	1248	2103

Source: Niall Trimble, Dept. of Community & Regional Affairs, Div. of Community Planning, State of Alaska, 1977.

SUMMARY OF EMPLOYMENT

The pattern of employment growth and decline is similar to that shown for the Northern Gulf licenses in many respects:

1. The different scenarios vary considerably in expected levels of employment. In 1986, the number of Western Gulf jobs could be 0, 1,900, 700, or 4,100 depending on whether Cases 1, 2a, 2b, or 3 came about. Obviously an accurate forecast of employment in this area is still impossible.

2. Employment rises rapidly to a peak, generally around 1986-1987, and then falls sharply. However, the number of jobs does not fluctuate so rapidly in Case 2b.

3. Choice of method of transportation, pipeline or S.B.M., once again makes a critical difference to the impact on the economy. In Case 2a the job count reaches almost 2,800 in 1987, when the count for Case 2b, the S.B.M. mode, is only 1,000 jobs.

Despite the similarities between the Northern and Western Gulf, there are two distict differences in employment:

1. The general level of activity is much smaller. The highest employment figure recorded for the top scenario, Case 3, is just over 4,000. In the Northern Gulf, equivalent figures for the two top scenarios were 6,800 and 10,600. This is partly because oil reserves are probably smaller; primarily, though, gas reserves are so limited in the waters around Kodiak Island that there is virtually no possibility of a gas pipeline or L.N.G. plant.

2. The absence of gas developments cushions the severe decline from the peak level of employment found in the Northern Gulf. There, employment by 1990 was generally around 40 percent of peak. In comparison, the proportions in the West are 43.3 percent and 51.8 percent of peak for Cases 2b and 3, respectively. Clearly the reduced level of construction will mean that employee reductions will not be quite so dramatic as they might in the Northern Gulf experience.

Employment in the Coastal Zone

Separate calculations for employment in the coastal zone have also been performed for the Western Gulf. That portion of onshore employment which occurs in the coastal zone is outlined in Table 19.

Relating the figures in Table 19 to Table 16, Onshore Employment by Activity, gives the total coastal zone employment. Results are summarized in Table 20 and Table 21.

Table 19: Onshore Employment in Coastal Zone

Activity	% of Jobs in Coastal Zone
Administration	0%
Base Operations	100%
Rig-Associated	50%
Platform-Associated	50%
Terminal Operations	100%
Construction	100%

Source: Niall Trimble, Dept. of Community and Regional Affairs, Div. of Community Planning, State of Alaska, 1977.

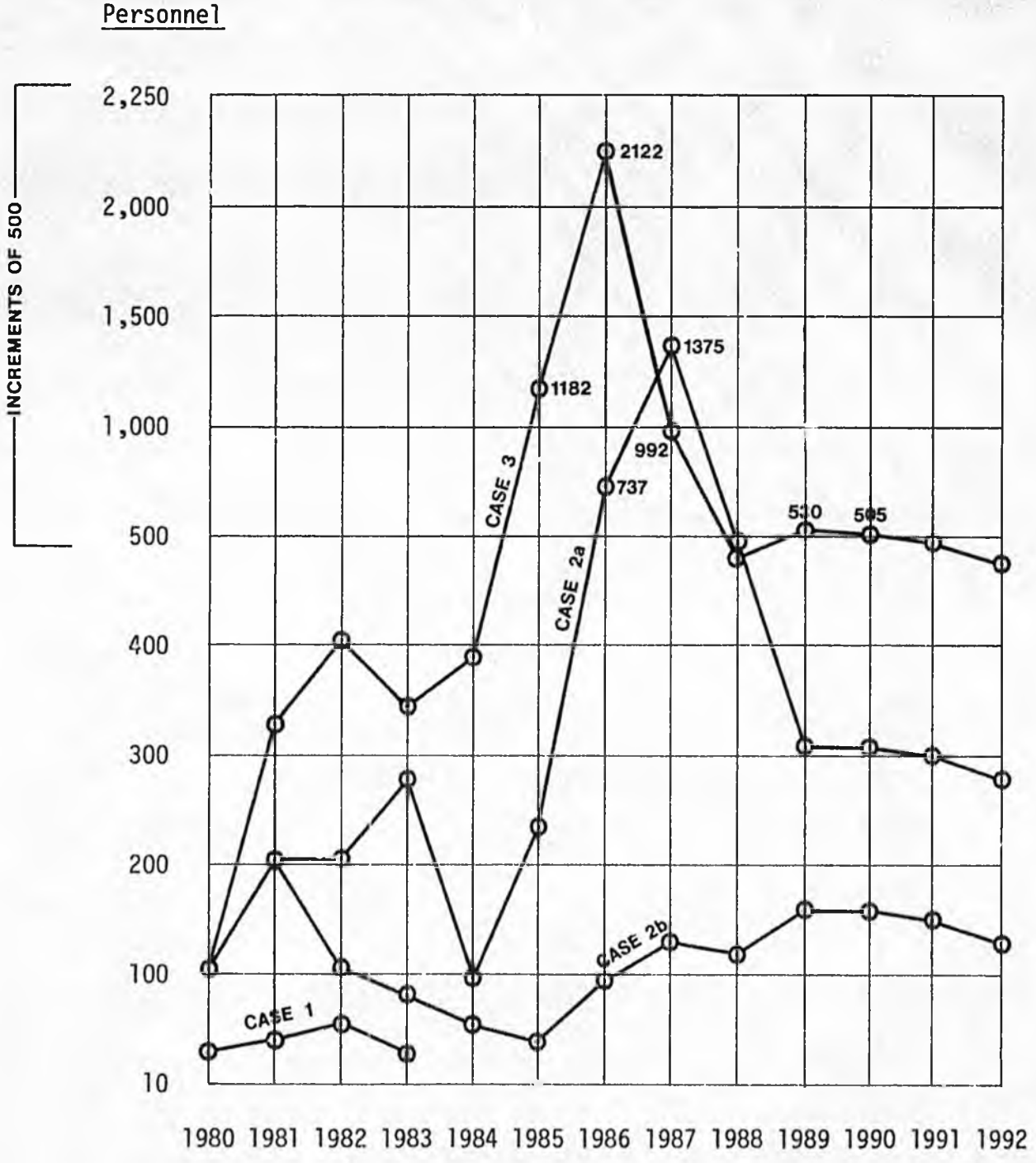
Table 20: Coastal Zone Employment - Western Gulf of Alaska OCS

Year	Case 1	Case 2a	Case 2b	Case 3
1980	27	102	102	102
1981	37	202	202	330
1982	52	205	105	405
1983	27	260	80	345
1984	---	97	52	390
1985	---	235	40	1182
1986	---	737	92	2122
1987	---	1375	130	992
1988	---	495	120	485
1989	---	310	160	530
1990	---	310	160	505
1991	---	300	150	495
1992	---	280	130	475

Source: Niall Trimble, Dept. of Community and Regional Affairs, Div. of Community Planning, 1977.

Table 21: Coastal Zone Employment

From Western Gulf of Alaska OCS Activities



Source: Niall Trimble, Depart. of Community & Regional Affairs, Division of Community Planning, State of Alaska, 1977.

For both Cases 2a and 3, employment grows moderately from 1980 to 1984, and then grows explosively for the short period 1985-1986 while construction labor forces build up. A very sharp decline follows, with employment levels falling by 80 percent. In Case 3, employment in the coastal zone falls from 2,100 in 1986 to 500 in 1988. Thereafter the labor force should remain relatively stable.

MISCELLANEOUS REQUIREMENTS: WATER, GRAVEL

OCS development will generate a variety of less significant needs. Many will not be identified until later in the development process. However, several are predictable now, including water and gravel requirements.

Fresh water is normally used in large quantities for offshore drilling: mixed with chemicals, it makes the drilling fluid or "mud" used to displace rock cuttings. According to the Materials Supply Profile published by the Department of Community and Regional Affairs, approximately 600,000 to 900,000 gallons of "drill water" is utilized for each exploratory well drilled offshore. Since production wells are normally shallower than exploration wells, we assume that 600,000 is the average water requirement for both exploratory and development wells.

According to the development scenarios, in 1989 the peak number of wells will be drilled: an estimated 21 wells in Case 2 and 39 in Case 3. This will require 12.6 million and 23.4 million gallons of water, respectively, or approximately 47,547 or 64,110 gallons per day for drilling operations alone. The Kodiak municipal water system is already used to capacity and could not, therefore, provide anywhere near this amount of water. Consequently, drill water must come from alternate sources, possibly Seward or from water wells drilled on Kodiak Island near the marine service bases. New drilling techniques utilizing salt water could also be used extensively in the Western Gulf to reduce expenses of transport and/or development of water sources. Although salt water in drilling mud is normally somewhat more expensive than fresh water, it may be more economically feasible here considering transportation and development costs.

Most drilling and other industrial supplies will not be shipped from Kodiak, for Kodiak does not have the supply houses necessary to supply materials to drilling operations on a continuing basis. Although materials may be bought in Kodiak in emergencies, this would not be the normal mode of operation.

Large amounts of gravel, primarily for concrete mixing, will be needed for marine service bases, terminals and oil storage facilities. Kodiak has no extensive sources of commercial grade gravel: blasting is the primary source of aggregate. Although it is impossible to determine how much gravel is needed, the Kodiak Island Borough will undoubtedly receive requests for quarry permits. The Borough should be prepared with policies and development standards to apply to these requests.

PROBABLE LOCATION OF ONSHORE DEVELOPMENT

In the Western Gulf, the oil industry must decide where to locate onshore facilties. This decision is affected by Northern Gulf operations as well as factors relating to mode of operation. Basically, three alternate modes of operation are possible: 1) using Seward for onshore service bases throughout both exploration and development phases; 2) using Seward during initial exploration phases with a partial or total move to Kodiak as development and production progress; or 3) using Kodiak Island for onshore facilities throughout the entire exploration, development and production phases. Many decisions must be made and information known before a final decision on one mode.

A number of interrelated factors will affect the oil industry's decisions. No one factor will solely determine which mode is uses; each will contribute to the final decision. An understanding of these factors and their relationships, explained below, is crucial in estimating potential impacts of decisions on operational modes.

Factor 1: Cost of Exploration versus Probability of Discovery

Any time a new oil field is developed, the oil industry is taking a gamble. National averages indicate that only one out of three potential oil fields contain sufficient quantities of petroleum products to economically warrant development. Consequently, oil companies normally utilize as little capital as possible in exploring new fields. Apparently this is the approach they are taking in the Gulf of Alaska.

Oil companies have already taken actions that indicate they will utilize existing facilities during the exploration phases of OCS development as much as possible. In the short run this decision may mean greater inconvenience to the industry due to lengthy transportation distances, expensive short-term land costs, and insufficient onshore facilities. However, if economical quantities of oil are not found, the oil companies will, in the long run, save themselves the expense of developing needless new facilities.

The oil industry took the "minimum investment during exploration" approach in their development of Upper Cook Inlet. As the initial exploration wells were being drilled during the late 1950's and early 1960's, the offshore rigs in Cook Inlet were supplied mainly out of Anchorage. This included the supply boats and the crew boats. This approach shifted, however, when oil deposits were discovered and production platforms went into operation in the mid-1960's. At that time the oil industry selected Kenai as a permanent center for onshore service operations due to its close proximity to the oil fields and other favorable aspects. New facilities were built, subcontractors and supply companies located their operations in Kenai and crew change and material supply operations were carried out there.

Based on the recent industry statements and their past experience both in Alaska and nationally, it is believed the oil industry will once

again depend on existing facilities during the exploration phase of development in the Northern Gulf of Alaska. Communities whose facilities are being considered to supply the exploratory efforts are believed to be Seward, Cordova and Yakutat. Of these sites, recent trends indicate that Seward is favored by some companies as the initial base of operations.

Seward is particularly attractive because it has a year-round deep water port, a railhead, highway access, available industrial land and a relatively favorable political climate. In addition, it is midway between the Northern and Western Gulf lease areas. Exxon has already gained control of 32 acres in Seward. Thirty of those acres are three miles to the north of town and have both road and rail access. The remaining two acres are located on the waterfront within the city limits of Seward. In addition it is reported that Texaco is currently looking for industrial land in the Seward area. Shell and Arco are already depending on Seward to obtain fresh water supplies necessary to support their drilling operations in the Northern Gulf of Alaska. In addition, plans have been made by Dresser Industries, a major oil field supply company, to build a barite plant in Seward. Barite is a primary component of drilling fluid (mud).

While using Seward as a water source, Shell and Arco (formerly with Mobil as the SAM group) have indicated that they intend to utilize Yakutat as a service base for their operations in the Northern Gulf. However, feelings within the oil industry indicate that the adverse political climate and the lack of required facilities in Yakutat have discouraged other OCS operators from locating there.(2)

While Shell and Arco will probably continue to use Yakutat as a base for Northern Gulf development, they will have to establish another, closer service base if they pursue development of the Kodiak Shelf. Seward and Kodiak will be the two most likely sites. If the other major oil companies choose Seward as a base for the exploration of the Kodiak Shelf, Shell and Arco will probably locate there initially. It is a frequent practice for oil companies to locate their onshore service facilities in close proximity to one another. This practice enables them to share facilities such as airports, heliports, and dock facilities. It also means subcontractors and supply companies can serve an entire oil field from one location, a situation far more preferable than establishing numerous, smaller facilities at scattered bases.

As noted above, the oil industry's interest in Seward is only a trend and is a result primarily of their activity in the Northern Gulf. At this point there is still a great deal of speculation, and it is probable that Kodiak will be given more consideration as a service base site for the exploration phase on the Kodiak Shelf in the Western Gulf. That decision will be based on the costs of building and operating facilities in Kodiak compared with the cost of operating out of Seward. The potential results of that comparison are directly related to the following factor.

Factor 2: Location of Service Bases for Northern Gulf Development

Decisions made within the next two years by the oil companies concerning their mode of operation in the Northern Gulf of Alaska could have a tremendous affect on their final decisions on how to handle operations in the Western Gulf. As indicated above, decisions have already been made to provide service bases for the Northern Gulf initially in Seward and Yakutat. As the development phase in the Northern Gulf proceeds, it may become advantageous for the oil companies to abandon the initial exploration phase service bases in Seward and locate comprehensive service bases closer to the oil fields. For the purposes of discussion, one likely site for such a remote comprehensive onshore service facility would be Icy Bay. The Chugach Native Association has land available in Icy Bay for service bases and has indicated an interest in working with the oil companies in locating such bases there. If this were to happen, then the Seward base would tend not to develop into a comprehensive service base although some activity would still originate from there. This could tend to diminish the role of Seward in the development of the Kodiak Shelf. The oil companies would then have the option of developing remote comprehensive service facilities in Kodiak or utilizing the existing although noncomprehensive facilities in Seward.

On the other hand, if the decision is made to continue to operate out of Seward throughout the exploration, development and production phases of the Northern Gulf oil fields, then it can be assumed that the same Seward service base would be appropriate for use in the exploration of the Kodiak Shelf. In that case, the oil industry would not have the necessity of developing new comprehensive service bases for the exploration phase of the Kodiak Shelf, although that alternative would not be eliminated. If oil was subsequently discovered in the Western Gulf, then the industry would have to decide whether or not the development of new service bases on Kodiak Island would be less expensive in the long run than continuing to operate out of a comprehensive service base in Seward.

In summary, if the oil industry decides to utilize Seward as a comprehensive onshore service facility for the development of the Northern Gulf, then the probability is high that they would utilize the same service base for their initial activity in the Western Gulf. If, however, the industry decides to build a remote service facility closer to the lease areas in the Northern Gulf, then it is possible that they would decide to build a similar onshore facility on Kodiak for the development of the Kodiak Shelf. Again, this decision is related to the following factor.

Factor 3: Location of Lease Sale Area in the Western Gulf

This is one of the most obvious determining factors affecting the location of service bases for the Western Gulf. As can be seen in Map 1, the lease area on the Kodiak Shelf extends in a northeasterly southwesterly direction on the eastern side of Kodiak Island from the southern tip of the island almost to the tip of the Kenai Penninsula. If oil reserves are discovered near the northern end of the lease sale area, then the feasibility of using Seward as an onshore service facility during one or

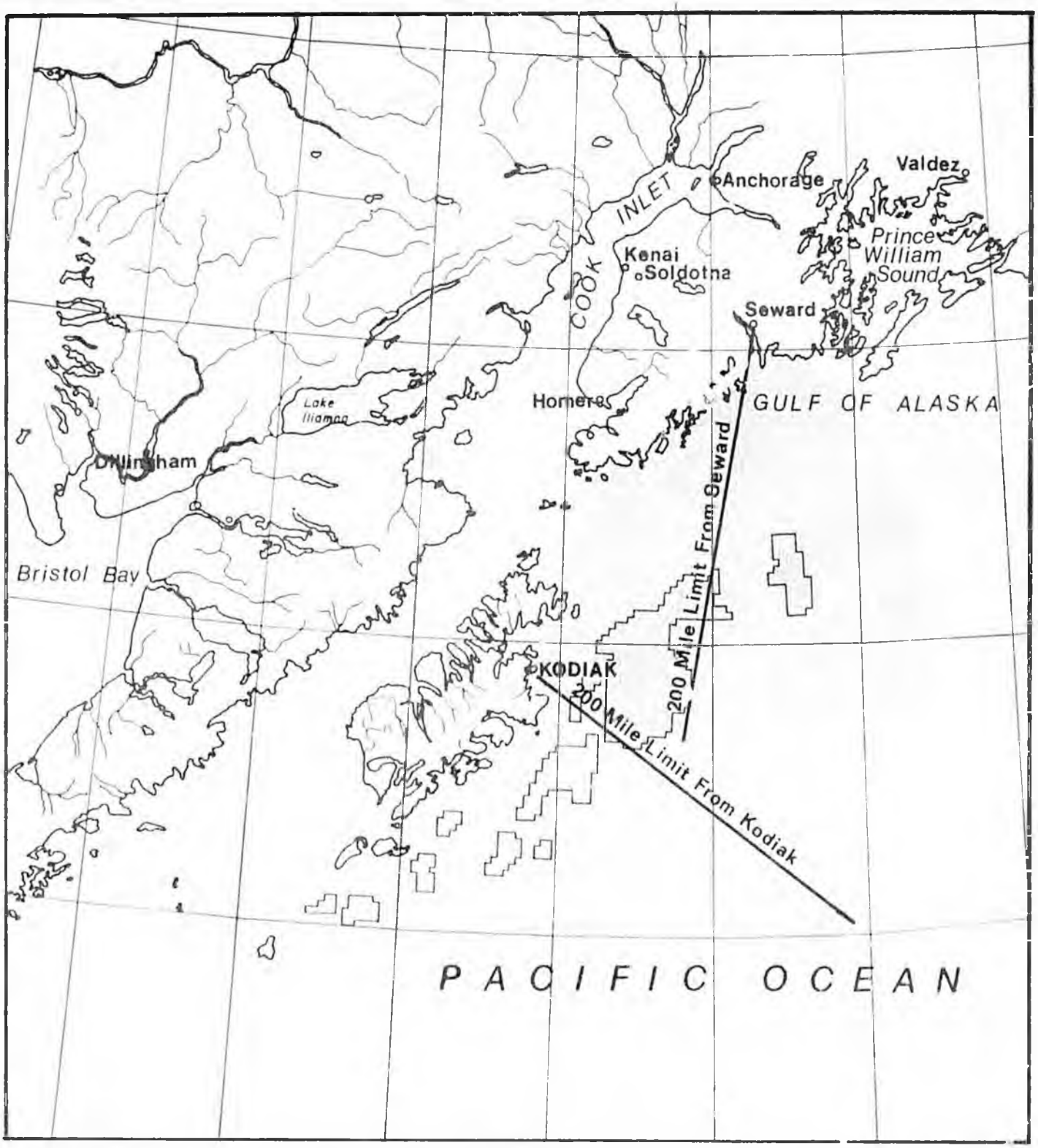
more of the phases will be greatly increased. However, if oil is discovered near the southern tip of the lease area, the utilization of Seward throughout the exploration, development and production phases could easily be infeasible. The oil industry has indicated that the service bases should be within two hundred miles of the oil development areas. Map 1 shows the extent of the two hundred mile radius from both Seward and Kodiak. This two hundred mile figure is not necessarily absolute. Depending upon transportation costs and facility development costs, decisions might be made to operate onshore service facilities further than two hundred miles from the rigs.

This question will be partially answered at the time the lease sales are held. If the industry leases land in the northern half of the lease sale area, then the probability of using Seward will be increased. However, if the majority of leases are in the southern half, then the probability of using Kodiak Island as a service base site would be higher. The final answer to the question will be known only at the time that oil is actually discovered and the delineation wells are drilled that will determine the size of the fields to be developed.

Factor 4: Air Support Facilities

An important consideration in determining the location of onshore service facilities is the capability of the various candidate sites to accommodate both commercial and noncommercial air support services. The majority of the supplies needed to operate the exploration and development rigs will be transported from the service facility via work boat regardless of whether the onshore facilities are located in Kodiak or Seward. However, certain items such as some perishables as well as equipment and personnel needed on the platform for drilling emergencies will come by air. Helicopters will be used to transport these items to the platforms. In most cases, however, the industry will attempt to utilize commercial air carriers between the nearest airport and supply centers such as Anchorage to keep helicopter flight time as low as possible. For instance, assume a particular tool was needed at a platform on the Kodiak Shelf as quickly as possible. Assuming adequate airline schedules, it would be less expensive and faster to put the tool on a commercial jet from Anchorage to Kodiak and then on a helicopter from Kodiak to the oil platform than it would be to ship the tool to Seward and then fly the tool by helicopter from Seward to the oil platform. The same is true of personnel, both in the case of emergency technical personnel as well as entire drilling crews.

Information from the oil industry to date indicates that the helicopters that will be used in the Gulf of Alaska are the Sikorski S61 and the Bell 212.(3) The larger of the two is the S61. It has a maximum range of 450 miles which will allow it to fly a maximum of approximately 200 miles to a platform with a 50 mile reserve range. Thus over half of the lease area on the Kodiak Shelf is out of range of the helicopters if they were to be flown from Seward. On the other hand, almost all of the lease area is within the 200 mile range from Kodiak. See Map 2.



WESTERN GULF OF ALASKA
OIL LEASE SALE AREAS

0 50 100 MILES

Prepared by Simpson Usher Jones Inc. for Kodiak Island Borough

OIL LEASE SALE LOCATION MAP

MAP 2

In addition to helicopter traffic, it will be necessary to utilize Hercules airplanes during the development of the Kodiak Shelf. At present the Seward airport cannot accommodate aircraft of this size. The Seward airport has two runways. Runway 12/30 has a length of 4750 feet. Runway 15/33 is 2300 feet long. The surface on both runways is a light BST with a 40,000 pound maximum load. This will not accommodate a Hercules-type airplane. In addition the Seward airport has no instrument landing system (ILS). Aircraft operating out of Seward must utilize visual flight rules (VFR). According to the State of Alaska Division of Aviation, there is little chance that the Seward airport could ever accommodate ILS equipment because of terrain problems. Kodiak, on the other hand, does have an ILS system capable of handing both helicopters and cargo aircraft traffic. The runways at Kodiak are longer, the longest being 7500 feet, and there is no practical weight limit on the runways. Consequently, from a flight operations standpoint, the Kodiak airport is ideally suited for OCS development related air support while the Seward airport is incapable of providing such air support.

In order to accommodate the air service operations, it is necessary to have a number of onshore facilities located at the airport. These include a number of onshore employees involved with expediting, aircraft maintenance, and loading and unloading aircraft. In addition warehouse space, office space, aircraft maintenance facilities, and apron area would be required. At present the Seward airport has no area available for the development of these types of facilities. The airport is adjacent to land owned by the Alaska Railroad, which is not available for development of support facilities. There is no lease space available on the apron for support facilities and little chance of expansion. Kodiak has ample area for these types of facilities. In addition to the apron that is currently being used for commercial aircraft, the Kodiak airport has at lease two separate apron areas that could be used for air support facilities. Ample land is available around the airport that could be developed with industrial facilities to support OCS development.

Another factor concerning air support services is the lack of adequate commercial air carriers in Seward. Because of the small size of the airport, the lack of facilities, the low weight capacity and the absence of ILS equipment, the Seward airport cannot accommodate commercial jet air carriers. Kodiak is currently served by both Wien Air Alaska and Western Airlines. Wien Air Alaska currently operates an average of two flights a day from Anchorage and Western operates three flights per week from Seattle to Kodiak during the spring and summer months. Therefore, platform crew change operations could easily be carried out in Kodiak but would be difficult and inconvenient to be operated through Seward.

Because of these factors and based on past experiences and indications from the oil industry, it seems logical that Kodiak will be the base of air support operations for the OCS development on the Kodiak Shelf. While there is no absolute necessity that marine support facilities be located in close proximity to the air support facilities, it is assumed that for economic, coordination and convenience purposes the oil industry would prefer to have those facilities located close to each other. This factor will have a significant influence on the industry's decision as to the location of their onshore marine service facilities.

Factor 5: The Availability of Land and Port Facilities

Sources within the oil industry have indicated concern over utilizing Kodiak for onshore marine service bases. Their concerns center around a perceived lack of available land, inadequate port and transportation facilities and inadequate supplies of water to be used in the drilling operation. At present the port facilities within the City of Kodiak are being used to their capacity (see Volume II, Transportation Facilities). In addition, land is not available near these port facilities that could be used for warehousing, office space and outdoor storage necessary for an onshore service base. Consequently, if service bases are located on Kodiak, completely new facilities will have to be built. The one exception to this is the former Chiniak tracking station that is currently controlled by the Koniag Regional Native Corporation. Chiniak does have a number of facilities that would be needed as part of an onshore service facility. These include office structures, housing quarters, repair and maintenance facilities, some warehouse space, an airstrip and an infrastructure of utilities and roads. In addition land is available for additional development of outdoor storage areas and warehousing. The Chiniak facility does not currently have any port facilities, although studies are now being conducted to determine the feasibility of developing a port facility at the site. Preliminary indications from Koniag Corporation are that port facilities to serve rig tenders and general supply boats would cost approximately 25 to 30 million dollars. The Port of Seward, however, does have adequate port facilities to handle the marine services needed to supply the materials to rigs operating during the exploration on the Kodiak Shelf. It will be necessary, if Seward is selected as a comprehensive service base site, to develop additional open storage, warehousing and office space. However, the cost of these is substantially less than the cost of developing new port facilities in Kodiak. A decision on this factor will be heavily influenced by Factor 6.

Factor 6: Transportation Costs

As indicated above, during the exploration phase the oil industry will probably try to minimize their costs by utilizing existing facilities whenever possible. This factor would point to a utilization of Seward during that exploration phase. However, if and when oil is discovered on the Kodiak Shelf, the cost of developing permanent onshore facilities in Kodiak will have to be weighed against the cost of transportation from Seward. This will in turn be affected by the location of the discovery wells in the Western Gulf and the availability of lands and facilities in Kodiak. It may be determined that in the long run the cost of developing new facilities in Kodiak would be too high to outweigh the transportation costs and inconvenience involved in utilizing Seward as a permanent service facility. In that case, the end result would probably be marine service facilities operated out of Seward and air service facilities operated out of Kodiak. However, the amount and location of oil discoveries on the Kodiak Shelf could be such that a new permanent base would be feasible on Kodiak Island.

Factor 7: Political Climate

At present the oil industry has indicated some uncertainty over the political climate in Kodiak with reference to OCS development. The residents and local governments of Kodiak have not made a strong collective statement either for or against the encouragement of oil development facilities on Kodiak Island. If the people of Kodiak were to indicate a strong desire to boost their economy through encouraging OCS development on the island, then the probability of locating permanent service base facilities in Kodiak would be strengthened. However, if the community were to take a hostile position towards oil development, the industry would be less inclined to move there.

One of the most important factors in the development of an oil field is timing. While the oil industry can accommodate and even plan for some delays caused by an unfavorable political climate, they will avoid those delays if possible. Here again, the political climate in Kodiak is not a sole determining factor. Clearly the factors affecting the final decision on service base locations make the issue quite complex. However, that complexity gives the Kodiak community increased influence over the decisions affecting the future development of the area. For instance, if it were made clear to the oil industry that Kodiak welcomed its presence politically and socially, and if the local governments adopted policies that would foster the development of the needed facilities such as ports, additional airport facilities, water supplies and industrial parks, then the oil industry would find it relatively easy to justify moving to Kodiak if other factors so indicated. On the other hand, if Kodiak made it clear that the oil industry was not welcome and if no move was made to accommodate the industry with industrial facilities, then Seward would remain the location of onshore facilities as long as it was economically feasible. Regardless of the direction Kodiak takes, economics will rule the final decision made by the oil industry. However, because of the Kodiak community's location, it has the opportunity to affect those economic considerations to a certain degree by its attitude toward oil development.

Factor 8: Facility Requirements During Production Phase

Facilitiy requirements depend not only on the amount of recoverable oil reserves, but also on the method of production. One method involves transporting oil from the production platforms to shore via pipeline, with an onshore storage terminal. In this case, the onshore pipeline terminal is located as close as possible to the oil fields, thus minimizing costs and oil spill potential. Consequently, when oil companies begin constructing permanent production platforms, Kodiak should prepare for the development of pipeline terminals, onshore crude oil storage facilities, and marine terminals.

Alternately, the single buoy mooring system (S.B.M.S.) method uses offshore marine terminals and storage faciilities. This study examines facility requirements for both methods of production.

Even the high U.S.G.S. estimate of gas reserves is very low and almost certainly insufficient to warrant development. As such, no gas pipelines or L.N.G. plants are anticipated.

Conclusion

Considering the above factors, the "most likely" operational mode for Cases 2 and 3 appears to be the second, which uses Seward as a base during the exploratory phase and transfers to Kodiak during development and production phases. In Case 1, Seward would be the base during exploration, as there is no production, then would move to Kodiak. Specifically, the oil industry would begin initial development in summer of 1980 by providing marine support services to exploratory rigs from Seward and air support services from Kodiak. At the same time it investigates a probable site for an onshore service facility on Kodiak Island should a major oil strike occur. Upon discovery and delineation of a commercially producible oilfield on the Kodiak Shelf in 1981, construction of service bases on Kodiak Island would begin. If the oil industry has agreed with Kodiak residents to locate development away from population centers, it will probably locate the base near the southern end of the existing road system, either at Chiniak or on the north side of Ugak Bay. Less probable is locating it somewhere between Chiniak and the Coast Guard Base, either in Kalsin Bay or Middle Bay. In Cases 2a and 3, an oil storage facility and a marine terminal would probably be sited within this area also, possibly near the service base for convenience.

Information presented in the preceding section should prove extremely useful to the community in determining and gauging the actual schedule of oil activity during the next ten to twenty years. Although based on estimates, it uses oil development experiences in other areas along with data on the Kodiak Island Borough. Actual development should be compared with these estimates to adjust impending impacts, so that the community is always cognizant of the level of activity and associated impacts.

ENVIRONMENTAL IMPACTS

In spite of numerous past and ongoing studies, little concrete knowledge regarding the effects of oil development exists. Kodiak Community College, the Alaska Department of Fish and Game, the Northwest Fisheries Center of the National Marine Fisheries Service, as well as a number of private and public entities are upgrading and expanding the data base. Even so, research is sometimes a slow process and results are often inconclusive. In addition, offshore oil development activities in the North Sea have just begun, and information on impacts, especially long term, is still coming in.

This difficulty in predicting impacts is demonstrated in the rough draft of the BLM/OCS Environmental Impact Statement of the Western Gulf. A tremendous quantity of information about the natural environment discusses potential impacts of OCS development, analyzing numerous species of flora and fauna in the marine and terrestial environment. However, the authors admittedly had difficulty quantifying impacts. Even so, the document is enlightening and should be "required reading" for anyone seriously concerned with short and long term effects of OCS development.

Following is a review of the potential impacts on both the physical and socio-economic environment of Kodiak Island Borough. These were identified in the BLM/OCS document or result from work done in this study.

Physical Environment - Offshore

Two basic sources of impacts could result from OCS development: 1) spills which inject crude oil or other associated substances into the natural environment, and 2) bottom disruption. Impacts of each are discussed in turn.

Oil Spills

The likelihood of spills introducing oil into the natural environment is quite high. If so, there will be impacts, and some could be extreme. However, the relative seriousness of the spill is unknown until it occurs. Pipeline accidents, oil and gas well blowouts, spills resulting from fires, tanker accidents, chronic minor spills and natural seeps, as well as a variety of accidental spills resulting form the malfunction of drilling and transportation equipment, could all cause oil spills. Some potential effects of these spills are extremely negative.

A major oil spill could contaminate or kill fish, a vital concern to the Kodiak economy. Kodiak's economy would definitely be adversely affected

if this contamination caused a loss of catch or gear. The probable frequency of oil spills and the significance of their impacts upon the natural environment has not been quantified. However, the BLM/OCS office, in their Draft Environmental Impact Statement, have estimated that over an assumed 25-year production life of the Kodiak Shelf oil fields, approximately 433,000 barrels of crude oil and other materials will be spilled based on historical data concerning other oil fields in the high find development scenario. They have also indicated that in this same case, during the years of peak activity and production up to 10,700 barrels of oil could be spilled within one year, and that throughout the production period a total of 30,000 barrels could be spilled by tankers, both within this area or along their transportation routes and at their destinations. (4) Historical data indicates that by far the great majority of the oil spilled into the natural environment will be minor in size as well as in environmental impact. It is anticipated, however, that at least a few oil spills will have a major potential impact (over 1,000 barrels) that could have lasting effects. An estimated 5,500 oil spill incidents will occur over the 25-year course of oil production in the Westarn Gulf of Alaska. Because of the distance of the lease areas from shore and the natural characteristics of crude oil including evaporation rates, dispersion characteristics and weathering, the BLM/OCS office has estimated that a spill would have to be 1,000 barrels in size to have a significant ecological impact. (5) It must be remembered that the conclusions of the Draft Environmental Impact Statement are based on averages and probabilities, and that spills much smaller than 1,000 barrels could create significant ecological impact if located in the right place at the right time.

The segments of the natural environment that could be affected by oil spills and malfunctions is extremely broad. They include: 1) modification of the food web due to contamination from petroleum hydrocarbons (PHC); 2) impacts on marine habitats; and 3) impact on primary sources of food and on various organisms. These impacts are not limited just to marine life. An offshore oil spill could easily have a serious effect on land mammals and birds in terms of bodily contact and alteration of the food web. The species most susceptible to the impacts of OCS development are brown bear, deer and elk. (6)

Bottom Disruption

Sea floor disruption can result from two sources: 1) physical disturbances of the surface of the sea floor due to placement of platforms, anchors and other mechanical paraphernalia associated with development and production; and 2) chemical and biological changes resulting from the settling of crude oil products from an oil spill.

Experiments and actual experiences related to OCS development indicate that as oil spills into salt water, certain parts evaporate, some parts dissolve into the water, and others remain relatively intact and settle on the sea floor. According to BLM/OCS, the fouling of sediments on the sea floor in significant quantities results in the lack of production of food and habitat and thus an absence of the normal sea life species. Petroleum hydrocarbons (PHC) can also mix with sand and gravel, forming

a solid material which is deposited on the bottom of the ocean and added to the food web. This obviously depends on the volume, frequency and degree of occurrence of this phenomenon. It is impossible now to determine what the environmental impacts will be due to this type of activity.

The other form of bottom disruption, physical alteration, is somewhat more predictable and its impacts are normally less significant. The area of disruption of a permanent platform is normally confined to within two acres and thus permanently removes an extremely small area from the ocean floor. Each permanent platform would remove 1 to 1.5 acres of sub-sea surface from the habitat available to marine life. The effect of pipeline construction on or below the ocean floor would be more significant, although still relatively minor considering the total area of the Kodiak Shelf. According to a recent study by the Woods Hole Oceanographic Institution, 1976, bottom disruption and removal of sea floor by offshore production platforms will normally have negligible adverse effect on the marine life production capabilities of the area.

Physical Environment - Onshore

Impacts on the natural environment that could result from OCS development would be generated by human activity: construction, operation of OCS development, and population pressures. These impacts would generally be similar to those resulting from any major industrialization effort, and could affect air quality, water quality, habitat, land forms, and the full range of animal and plant life that occupy the area.

Air Quality

The air quality of the area surrounding OCS development on land, as well as at sea, can be impacted through a number of sources. One of the most obvious sources of air pollution is particulate concentrations created by construction activity. It is anticipated that the construction of marine service bases, crude oil storage facilities and tanker terminals will involve intensive construction activity over a number of years. Depending upon soil conditions, atmospheric conditions and mitigating measures taken by construction personnel, the potential for particulate (dust) pollution is high. In addition, construction vehicles and heavy equipment, most of which utilize fossil fuels as a power source, can, if not properly maintained and equipped, pollute the air with exhaust matter. This kind of pollution will also be generated by population increases and the subsequent increase in vehicular usage. Another source of air pollution is fires, both accidental and deliberate. The occurrence of a major crude oil fire at a storage facility could have a devastating effect on air quality over a long period of time. Modern design techniques and safety equipment are thought to be adequate to prevent and/or extinguish any such fires. However, the possibility of their occurrence still exists.

The degree of cumulative impacts as a result of air quality degradation will be determined by the atmospheric conditions and the concentration

of sources. In Kodiak air current movements are strong and frequent, and the projected population concentrations are relatively low in terms of air pollution potential. Thus significant air pollution problems are not anticipated as a result of OCS development. However, it must be remembered that depending upon the magnitude of the source and the atmospheric conditions at the time any one incident could catastrophically affect air quality.

Water Quality

Potential impacts on the quality of fresh water within the Kodiak Island group will also be generated primarily by human activity. Construction projects in or near streams or lakes could result in significant degradation due to alteration of the courses and/or beds of these water bodies as well as through contamination by particulates and chemicals. Special attention must be paid to the location of construction projects and methods of operation with respect to the potential for such impacts.

In addition, construction activity could affect runoff characteristics by altering land forms. Excavation penetrating aquifers could also affect subsurface water quality. Both surface and subsurface water qualities could be adversely impacted by chronic and/or catastrophic onshore spills. Petroleum products spilled on the surface could be carried through runoff or absorption into these water sources. Depending upon the amounts, types and characteristics of these foreign substances, the effects could vary in duration.

Habitat Disruption or Destruction

As indicated in previous sections, the amount of land required for direct and indirect OCS related facilities will be relatively high in terms of other single activities currently on Kodiak Island. Whenever land is disturbed and/or developed, habitat is altered or possibly destroyed. One exception is when facilities are located in already industrialized areas within the City of Kodiak environs. BLM/OCS has estimated in their Draft Environmental Impact Statement that in the event of a high find, up to 1,100 acres of land could be utilized for support and supply facilities, production and treatment facilities, crude oil terminals and pipeline rights-of-way. (7) When compared to the total land area within the Kodiak Island Borough, this acreage is relatively insignificant. Even so, many ecosystems and habitat areas on Kodiak Island are very sensitive and specialized. Location of OCS related industrial facilities on or through relatively small specialized areas could have a significant impact on the future of life forms in the surrounding area. Facilities must be situated where the potential for disruption of significantly sensitive habitat areas is avoided or minimized.

SOCIC-ECONOMIC IMPACTS

Local Population

Population increases in Kodiak correlate to the level of offshore development of the Western Gulf OCS. They are a function of the nature of employment, duration and type of labor requirements, and the extent to which the local community accepts and/or encourages population growth.

As indicated in the Demographic Inventory, Volume II of this study, Kodiak's population is currently growing by approximately 3.4 percent per year. Based on this growth rate, Kodiak's population should double by 1995 without OCS activity in the area. This rate represents a healthy economy and indicates the desirability of Kodiak as a residence.

Projected population increases from OCS development will further increase that population growth rate. Estimated projections are based on the following assumptions:

1. Any new onshore facilities, including service bases and oil terminals, will be located in the Kodiak Borough. Thus the bulk of direct employment required to operate those facilities will also be within the Borough.

2. Anchorage will be the headquarters and work location of the administrative and support staff, as is currently industry practice.

3. All long term onshore operations personnel (service bases, terminals) will reside on Kodiak Island. Workers tend to relocate close to their place of employment when employment is long term. Conversely, jobs of short term duration, such as construction and drilling, will discourage workers from relocating to the job site. Therefore resident population levels do not necessarily correspond to employment levels, especially in the exploration and development phases. However, variances will decrease in magnitude as oil production begins and long term employment increases.

4. Local demand for indirect labor will increase as the population growth from oil activities spawns concommitant growth in supply, transportation, service and other businesses.

These assumptions are all based on practices in the North Sea and are presented in tabular form in Table 22.

Table 22: Formula for Population Change

Employment Activity	Percent of Total Jobs in Kodiak
Onshore:	
Administration	0%
Base Operations	100%
Platform-associated	50%
Rig-associated	50%
Terminal Operations	100%
Construction	100%
Offshore:	
Rigs	0%
Lay-Barge	0%
Bury-Barge	0%
Supply Boats	40% years 1-3; then 80%
Platforms	40% years 1-3; then 80%

Source: Niall Trimble, Depart. of Community & Regional Affairs, Div. of Comm. Planning, 1977

Using the above formula in conjunction with the employment levels by activity (Tables 6 and 8 in previous section), we can determine the OCS-related population changes over time for each development scenario as shown in Table 23.

Combining the population changes resulting from OCS development with the projected population resulting form normal growth (Table 35 in Volume II) gives the projected population with development. These estimates, based on four levels of OCS impact, are presented in Table 24 for the years 1978 through 1992. Also included in Table 25 is the cumulative year-by-year percentage change in population.

As shown in Table 25, population increases will vary from year to year. The average yearly increase for the 15 year period from 1978 to 1992 ranges from 3.46 for Case 1 (no development) to 5.47 for Case 3 (high

find) -- some 61 percent higher than the "normal". The population doubles from the 1975 figure in Case 3, and progressively later for Cases 2a, 2b, and 1. Variations in population increase rates correspond to the labor needs of the oil industry and corresponding characteristics of jobs. For both Cases 2a and 3, employment grows moderately from 1980 to 1984, and then grows explosively for the short period 1985-1986 while construction labor forces build up. A very sharp decline follows, with employment levels falling by 80 percent. In Case 3, employment in the coastal zone falls from 2,100 in 1986 to 500 in 1988. Thereafter the labor force should remain relatively stable. As indicated earlier, the existing growth rate in Kodiak is about 3.4 percent per year.

Table 23: Total OCS-Related Population Changes in Kodiak

	Case #1 No Find			Case #2a Moderate Find (pipeline)			Case #2b Moderate Find (S.M.B.)			Case #3 High Find		
	On	Off	Total	On	Off	Total	On	Off	Total	On	Off	Total
1980	129	64	193	229	63	292	229	63	292	229	38	292
1981	209	126	335	488	189	677	488	189	677	898	154	1052
1982	290	190	480	713	378	1091	581	378	959	977	230	1207
1983	129	92	221	684	363	1047	420	363	783	1054	528	1582
1984	---	---	---	436	590	1026	290	272	562	1199	792	1991
1985	---	---	---	553	620	1173	209	181	390	2110	957	3067
1986	---	---	---	1437	761	2198	500	802	1302	3507	1635	5142
1987	---	---	---	2471	1729	4200	742	1290	2032	2582	2430	5012
1988	---	---	---	1315	1045	2360	677	1045	1722	2177	2335	4512
1989	---	---	---	1420	2563	3983	936	2563	3499	2419	4241	6660
1990	---	---	---	1420	2431	3851	936	2431	3367	2306	3938	6244
1991	---	---	---	1355	2261	3616	871	2261	3132	2241	3768	6009
1992	---	---	---	1226	1925	3151	742	1925	2667	2112	3432	5544

Source: Niall Trimble, Dept. of Community and Regional Affairs, Division of Community Planning, State of Alaska, 1977

Table 24: Kodiak Population - 1978-1992
Under 4 Levels of OCS Impact

Year	Case 1 No Find	Case 2a Pipeline Moderate Find	Case 2b No Pipeline Moderate Find	Case 3 High Find
1978	10,634	10,634	10,634	10,634
1979	10,996	10,996	10,996	10,996
1980	11,563	11,662	11,662	11,662
1981	12,092	12,434	12,434	12,809
1982	12,637	13,248	13,116	13,364
1983	12,791	13,617	13,353	14,152
1984	12,997	14,023	13,559	14,988
1985	13,439	14,612	13,829	16,506
1986	13,896	16,094	15,200	19,038
1987	14,368	18,568	16,090	19,380
1988	14,857	17,217	16,579	19,369
1989	15,362	19,345	18,861	22,022
1990	15,884	19,735	19,251	22,128
1991	16,424	20,040	19,556	22,433
1992	16,982	20,133	19,649	22,526

Source: Simpson Usher Jones, Inc. (Sontag), 1977.

Table 25: Projected Population Growth Rate With OCS

Year	Case 1	Case 2a	Case 2b	Case 3
1978	3.4	3.4	3.4	3.4
1979	3.4	3.4	3.4	3.4
1980	6.0	6.1	6.1	6.1
1981	4.6	6.6	6.6	9.8
1982	4.5	6.5	6.0	4.3
1983	1.2	2.8	1.8	5.9
1984	1.6	3.0	1.5	5.9
1985	3.4	4.2	2.0	10.1
1986	3.4	10.1	9.9	15.3
1987	3.4	15.4	5.9	1.8
1988	3.4	7.2	3.0	-0-
1989	3.4	14.6	13.8	13.7
1990	3.4	2.0	2.1	0.5
1991	3.4	1.5	1.6	1.4
1992	3.4	0.4	0.5	0.4
Average	3.46	4.85	4.51	5.47

Source: Niall Trimble, Department of Regional Affairs, Div. of Community Planning, State of Alaska, 1977

The first significant population increase with OCS is in 1980, when all cases jump to a 6.0 percent growth rate. This represents the initial influx of OCS related work force. Growth rates then return to normal in Case 1. They increase again in 1981 in the other cases, and then decline through 1984 due to the short term nature of exploration jobs. Growth rates then climb abruptly in proportion to the numbers of construction workers building the service bases and terminals, hitting a peak of 15.4 percent in 1987 in Case 2a; 13.8 percent in 1989 in Case 2b; and 15.3 percent in 1986 in Case 3. All three cases have over 13 percent growth rates in 1989, which dramatically drop off to 0.5 percent or less within three years. Development is essentially completed then, and growth rates return to the normal rates established prior to OCS activity.

Population impacts from OCS development are substantial: 1992 population is 18.5 percent more under Case 2a development than with normal growth; 15.7 percent higher under Case 2b; and 32.6 percent higher under Case 3. With a large oil discovery, 1985 population approximates the 1992 population without oil related industrialization.

Obviously this growth will impact all aspects of the Kodiak community. A review of those impacts follows.

Public Services

Water, Sewer, and Road Services

Little information is now available on existing land use, gross areawide densities, and their relationships to existing community utilities and services; data will be developed in the aforementioned comprehensive plan. Ongoing and future engineering studies will determine water, sewer, and road requirements. With more detailed information, more detailed conclusions will result. All this information must be coordinated through a cohesive planning process to determine current trends of development and future development potentials. Only with a coordinated community devleopment planning effort can Kodiak Island Borough and its various communities adequately prepare for OCS development.

Enough information is available, however, to allow generalized estimates of road and public utility required necessary to serve projected population increases. The assumptions used in making these estimates include:

1. Population estimates and estimated population characteristics are based upon the development scenarios of low, medium and high finds. If those scenarios change, population estimates will change correspondingly.

2. Kodiak local governments and residents will want new residential development within the Kodiak metropolitan area to be served with basic public services (water, sewer and roads). This is assumed because rapid community development without these services could lead to serious environmental problems. This trend is evident in Kodiak in the Island Lakes area.

3. A substantial amount of land will be developed or redeveloped, including resubdivision, as a result of rapid population growth. Relatively large areas of the undeveloped land near the City of Kodiak is now subdivided. However, many of those subdivisions represent "paper plats" which do not have the basic community facilities (water, sewer and roads), Consequently, it may be desirable, subject to future decisions upon community goals, to resubdivide some land to accommodate different land uses and densities.

4. When raw land is developed or redeveloped, approximately 28 percent on a gross area basis will be dedicated to road rights-of-way. This percentage is based on extensive experience in land development and application of modern subdivision design techniques. It includes both rights-of-way internal to a subdivision, as well as collector and arterial roads.

5. The average right-of-way width in Kodiak will be 60 feet. This assumption is based on current planning procedures and practices in the Kodiak community.

6. Lineal footage of water and sewer required to serve newly developed land on a gross area basis equals the lineal feet of roads within that same area.

The assumptions described above are based on the most recently available information concerning Kodiak as well as pertinent information typical of public services in general. The relevancy of these assumptions to the level and type of activity that occurs in the future should be monitored so that any adjustments in the estimates that follow can be based upon those changes.

The methodology utilized in making public service impact estimates is not intended to make detailed financial assessments and capital improvement plans. Nor is it intended as an infrastructural design tool. Due to the lack of land use data, information is not available on the lineal footage of existing road and utilities available for development or redevelopment at the present time. This methodology can be utilized, however, as a general guide in demonstrating the magnitude of impacts that can be expected in Kodiak.

In order to determine the impacts of OCS development on public services, the amount of land that will be served by public services and the density of development that is expected to occur must be determined. In the absence of a set of community goals and objectives, estimates have been made based upon the basic residential zoning districts in the Kodiak Island Borough Zoning Ordinance. Density was determined as follows.

First, 28 percent of the land on a gross acreage basis (or 12,197 square feet per acre) was subtracted for the purposes of road rights-of-way. The remaining land, 31,363 square feet per acre, was divided by the lot sizes allowed in the zoning ordinance. Then the dwelling units allowed per lot were allocated based on the requirements of the zoning ordinance. With some simple arithmetic we can then determine the amount of land per dwelling unit. The formula is as follows:

1 Acre - 28% = Developable Land Per Acre (DLA)

DLA/Minimum Lot Size = Number of Lots Per Acre (LPA)

LPA x Maximum Allowed Dwelling Units Per Lot = Dwelling Units Per Acre (UPA)

The Kodiak Zoning Ordinance allows a minimum lot size of 7200 square feet in any residential zone. The densities within the R-1, R-2, and R-3 zones vary, depending upon the zone and the actual lot size involved. An example of the formula described above based on the R-1 zone would be as follows:

43,560 square feet (1 acre) - 12,197 (28%) = 31,363 (DLA)

31,363 sq. ft. divided by 7200 sq. ft. = 4.35 (LPA)

4.35 lots x 1 unit per lot (R-1) = 4.35 (UPA)

An example of a higher density zone is available through a review of the R-3 zone, which requires 2,000 sq. ft. per dwelling unit. If a landowner desires to build a six-unit apartment under the R-3 zone he would be required to provide a 12,000 square foot minimum lot. Thus the last two lines of the formula would read as follows:

31,360 sq. ft. divided by 12,000 sq. ft = 2.61 (LPA)

2.61 lots x 6 units = 15.7 (UPA)

Similar density figures can be developed for all of the zoning districts and any residential development proposal.

To obtain the gross land area required per dwelling unit, including rights-of-way, we divide the square footage in an acre by the number of units per acre. Thus a six-plex in the R-3 zone would result in 43,560 sq. ft. divided by 15.7 units per acre equals 2,774.5 gross square feet of land per dwelling unit.

In order to determine the length of roads, and thus water and sewer lines to serve new residential development, we now go back to the 28 percent of land on a gross acreage basis that was allocated for rights-of-way. A simple arithmatic formula is used.

Length = area divided by width

We have already established that the normal width of road rights-of-way in Kodiak are 60 feet. Therefore, the length of road required to serve developed land is estimated as follows: 12,197 sq. ft. divided by 60