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## **Review of Gates to the Arctic appraisal, prepared for : Conrad Bagne, Esq., Arctic Slope Regional Corp.. August 22, 1983**

Landmark Research, Inc.

[s.l.]: [s.n.], August 22, 1983

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REVIEW OF  
GATES TO THE ARCTIC APPRAISAL

Landmark  
Research  
Inc.

REVIEW OF  
GATES TO THE ARCTIC APPRAISAL

PREPARED FOR:  
CONRAD BAGNE, ESQ.  
ARCTIC SLOPE REGIONAL CORP.

PREPARED BY:  
LANDMARK RESEARCH, INC.  
MICHAEL L. ROBBINS  
JAMES A. GRAASKAMP

AUGUST 22, 1983

Landmark  
Research  
Inc.

James A. Graaskamp, Ph.D., S.R.E.A., C.R.E.

Jean B. Davis, M.S.

Date August 14, 1983

Mr. Conrad Bagne  
Special Counsel  
Arctic Slope Regional Corp.  
P.O. Box 129  
Barrow, Alaska 99723

Re: Review of Gates of the Arctic Appraisal

Dear Mr. Bagne

In response to your request, we have reviewed the appraisal of lands owned by the Arctic Slope Regional Corporation located in the Gates of the Arctic National Park and Preserve. Our findings indicate that while the appraiser followed accepted appraisal techniques, the unique characteristics represented by the subject properties, both in location and physical attributes, suggest the need for a more sensitive appraisal methodology.

Our previous work in this type of appraisal assignment suggests that a contemporary appraisal method, one which utilizes the characteristics of the subject property in a very prescribed manner, could provide a vastly different, i.e. higher, value estimate for the subject properties. Our experience in the valuation of wilderness land suggests the appraiser has undervalued the subject properties by ignoring wilderness as an economic commodity.

Due to the complexity of a review such as this, we have divided the review into three general sections. The first section describes the differences between the contemporary appraisal and appraisals done under the traditional format and how these differences impact upon the value estimate for the subject properties. The second section describes the premise of wilderness as highest and best use. This section is derived from the Ph.D. thesis of Michael Robbins which includes original work done in wilderness valuation. This section is provided to give an initial insight into the concept of wilderness as an economic commodity.

The final section provides some general estimates of per acre prices which have been documented for wilderness transactions. These are researched transactions in which the buyer was buying for wilderness purposes and the seller was selling fully aware that the land was to be preserved as wilderness. You are cautioned, that the average per acre prices presented in this section are provided to inform you of amounts currently being paid for quality wilderness. The actual methodology of applying the valuation model to a particular property requires a detailed physical inventory of the subject property. Considering the wilderness landuse information that we have been able to gather concerning the quality of the subject properties, we feel that if the subject properties were to be valued using the wilderness

evaluation model, the results would support the assumption that superior combinations of attributes command a superior price.

If you chose not to pursue the extra cost and time of the valuation under the wilderness use assumption, there is still a basis for negotiation of alternative value estimates. The appraisal indicates that the appraiser reviewed a minimum of 50 sales, from which 4 were chosen as being similar to the subject. It was the evaluation of these 4 sales from which the price estimate for the subject properties was derived. An alternative method would be to utilize quantitative techniques to evaluate the majority of the pool of 50 sales, and from this analysis, use the resulting pricing model to infer the value of the subject properties.

It should be possible to increase the sensitivity of the attribute matching characteristic of the market comparison method by researching the characteristics of both the subject properties and the pool of comparables. Then, through a point method, relate the development and environmental attributes of the subject to the comparables in a consistent method. At the very least, comparative prices could be done on the mean price per point per 640 acre unit of comparison based on water quality, vegetative cover, mountain quality and accessibility by trail, water,

or bush plane. The appraisal provides no basis, other than opinion and judgment, for the discount between the subject and the comparables chosen by the appraiser.

In summary, we believe there are several weaknesses in the appraisal, both in function and form, that warrant further evaluation of the subject properties. For example, photographs of the property in summer, as opposed to winter, significantly alter perceptions of the property. In light of the unique character and special conditions surrounding the subject properties, we believe that a rejection of the initial value estimates would be in order.

We hope that the attached review will be useful and informative. Given the limited amount of data provided within the appraisal, we are unable to provide you with any realistic estimates of the subject properties' market value. If you feel that this is something that you would like to discuss further, feel free to contact us at any time via Landmark Research, Inc.

Thank You



Michael L. Robbins



James A. Graaskamp

## Contemporary Vs. Traditional Appraisal Methods

## INTRODUCTION

The concept of "highest and best use" and "most fitting use" are many times used in a somewhat interchangeable form, suggesting that the use of one over the other would result in the same value conclusion. While it is not the intent of this review to detail the differences between the two concepts, the selection of one over the other could bring about vastly different appraisal results. For the purpose of this review, it is important to recognize that there is a difference between the typical definition of highest and best use and most fitting use.

## HIGHEST AND BEST USE CONCEPT

The concept of highest and best use is introduced as a link between the need to estimate fair market value and the recognition of land as an economic good.

The central premise to fair market value is determination of the highest and best use or most probable use which, in the opinion of the appraiser, will serve to focus selection of market comparison sales, or illustrate the economic logic of other approaches to value. Historically, the concept of highest and best use focused only on wealth maximization for the owner of the land,

regardless of the external costs or opportunity costs imposed on society as a whole.[1] The rise of consumerism and environmentalism in the '60s and '70s has meant that the official definitions of the appraisal professional societies now recognize a land ethic. Consider the basic definition and discussion in the fundamental textbook THE APPRAISAL OF REAL ESTATE (7th Edition):

Highest and best use for land is the use that, at the time of appraisal, is the most profitable likely use. It is the use that will provide the greatest return to the land after the requirements of labor, capital and coordination have been satisfied. Thus it may also be defined as the available use and program of future utilization that produces the highest present land value.

The most profitable likely use cannot always be interpreted strictly in terms of money. Return sometimes takes the form of amenities. A wooded urban site, for example, may have its highest and best use as a public park; or the amenities of living in a private dwelling may represent to its owner satisfaction that outweighs a monetary net rental yield available from rental to a typical tenant. In this time of increasing concern over the environmental effects of land use, environmental acceptability is becoming an addition to the highest and best use concept.[2]

A somewhat more detailed definition of highest and best use is found in the revised edition of the AIREA-SREA joint publication REAL ESTATE APPRAISAL TERMINOLOGY HANDBOOK:

...that use, from among reasonable probable and legal alternative uses, found to be physically possible, appropriately supported, financially feasible, and which results in highest land value.

...Implied within these definitions is recognition of the contribution of that specific use to community environment or to community development goals in addition to wealth maximization of individual property owners. Also implied is that the determination of highest and best use results from the appraiser's judgment and analytical skill, i.e., that the use determined from analysis represents an opinion, not a fact to be found.[3]

Not only does the Terminology Handbook avoid the ambiguity of the term highest and best use, a real estate anachronism from 19th century laissez-faire economics[4], but it is more explicit in recognizing collective values as distinct from social values when it refers to a community of interests. With growing frequency, it is recognized that maximizing values for single individuals may be the result of externalizing cost on the community of other landowners quite unintentionally. Reasonable behavior by one landowner may in the aggregate be unacceptable if practiced by the community of landowners. For example, the home owner on the lake who cuts down trees on the shore to enjoy the view of the wooded shoreline is quickly frustrated by all the other cottage owners who do the same, thus decimating the shoreline. The Institute definition hints at the aggregate creation of value as it speaks of return in the form of amenities. However, the Terminology Handbook is more

specific in dealing with the aggregate value created by concern for the collective environment, and therefore, this definition is felt more applicable to the subject case.

An appraisal prepared using this review would utilize the term highest and best use to communicate with the value reference of the intended audience; the term highest and best use, in this case, does mean most probable use.

#### CONTEMPORARY VS. TRADITIONAL METHOD

Since the 1960's, the professional appraisal organizations have been critiquing their own theoretical concepts and have proposed what they perceive to be needed changes in appraisal format. This reevaluation has caused a division within the appraisal membership, resulting in two appraisal camps being identified. The older, conservative, more dogmatic group is commonly referred to as the traditional school and the opposing group is commonly referred to as the contemporary school.

Suggestions by Ratcliff, as well as Kinnard, Wendt, Smith, Racster, Case and Graaskamp, form the conceptual basis for the "Contemporary School" of appraisal thought and lead directly to the evolving debate in appraisal.[5] The two major areas of debate are concerned with conceptual conflicts of value and valuation theory and conflicts in the application of appraisal procedure. For the purpose of this

review, the conflicts in the application of appraisal procedure are most important, as it is the contemporary school procedure that will be followed.

The contemporary model is more issue-oriented than the traditional model. Ratcliff saw that the empirical techniques used in appraisal could be expanded from simple straight statistical, descriptive analyses to other approaches suggested by the scientific method. Ratcliff perceived that there was some need for cause and effect determination into the whys of market behavior. He also implied that, given appropriate judgment by the appraiser, observational analytical techniques are applicable in appraisal.[6]

Ratcliff summarized the case against the traditional concept of highest and best use and the distortion of its semantics as follows:

There seems to be little doubt that most investors optimize or satisfy and that few of them rely on the single classical criterion of maximizing net income. To the extent that this is true, the "highest and best use" determined by maximization of net income is an unrealistic concept because it does not reflect actual human behavior. Actual decisions are complex but the primary skill of the appraiser is to predict human behavior in terms of the probable outcome. The "highest and best use" thus becomes the "most probable use" and the prediction of market behavior in general, for whatever purpose, must be founded on the manner in which real people arrive at decisions rather than the unreal assumption of the single maximization text."[7]

The current definition of highest and best use recognizes the need to adapt use selection to community requirements, but also expressly recognizes selection of a most probable alternative from among several alternatives. In short, alternatives that are physically possible must be screened for compatibility with:

1. Legal-political restraints on use.
2. Market trends and effective demand levels for selected merchandising targets.
3. Compatibility with community standards.
4. Financial justification in terms of revenue, costs, and financial measures of risk and yield applied by those expected to fund the venture.[8]

Thus, it can be seen that the concept of most probable use (followed by the contemporary school) reflects the general framework of feasibility and is a broader concept of real estate than the parcel-by-parcel narrowness of the traditional school. Graaskamp has defined this process of real estate evaluation as a dynamic interaction of three groups: space users (consumers), space producers (suppliers), and various agencies (infrastructure) that provide services and capital to support the consumer needs.[9] Graaskamp further states that each of these three decision groups represent an enterprise, an organized undertaking, of which all are on a cash cycle basis

constrained by a need for cash solvency, both short-and long-term.[10]

With this information, it is possible to define the concept of highest and best use in a broader context of use to distinguish between ideal long-term land use solutions and pragmatic short-term solutions:

1. The most fitting use is the use that is the optimal reconciliation of effective consumer demand, the cost of production, and the fiscal and environmental impact on third parties within physical capacities of the land. Reconciliation involves financial impact analysis on "who pays" and "who benefits."
2. The most probable use is something less than the most fitting use depending upon topical constraints imposed by current political factors, the state of real estate technology, and short-term solvency pressures on consumer, producer, or public agencies.[11]

The recognition of the difference between the most fitting use and the most probable use suggests an element of uncertainty, which suggests that a conclusion regarding value based on probable use must also contain an element of uncertainty. The definition of most probable sales price would then be that price at which a property would most probably sell if exposed to the market for a reasonable time and under market conditions prevailing at the time of the appraisal.[12]

## CONTEMPORARY APPRAISAL FORMAT

The format followed for a contemporary real estate appraisal has been influenced strongly by the work of Professor Richard U. Ratcliff, who made his most comprehensive statement in his book, Valuation for Real Estate Decisions. Following the lead of Ratcliff, Professor James A. Graaskamp has shown the way to operationalize the format proposed by Ratcliff in his book, The Appraisal Of 25 N. Pinckney: A Demonstration Case For Contemporary Appraisal Methods.

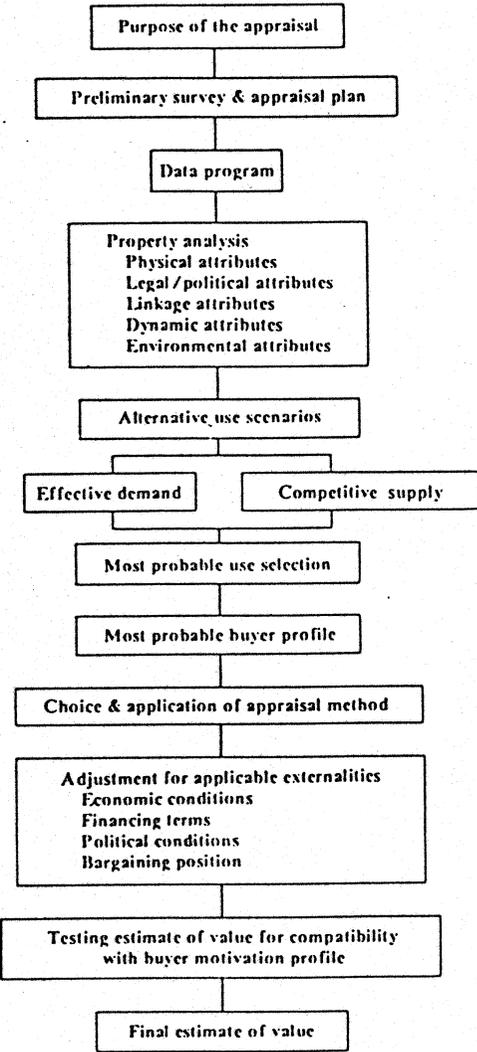
The structure of a contemporary appraisal is displayed in Figure 1.1. From this figure it can be seen that the general organizational form of the contemporary appraisal is a continual sifting of information and facts until a final estimate of value emerges. Before detailing the contemporary appraisal process, a few statements concerning the final estimate of value need to be made. The final estimate of value derived from the appraisal process is a function of the purpose of the appraisal.

The purpose of the reviewed appraisal was identified as being an estimate of fair market value. But what is the contemporary definition of fair market value? Ratcliff argues that the great majority of appraisals require the appraiser to predict the transaction price at which the property would probably sell. Therefore, market value is

synonymous with the definition of most probable price and terms at which a transaction would occur:

The most probable price is that selling price which is most likely to emerge from a transaction involving the subject property if it were to be exposed for sale in the current market for a reasonable time at terms of sale which are currently predominant for properties of the subject type.[13]

Figure 1.1  
Contemporary Appraisal Process as  
Organized by Ratcliff



Data from The Appraisal of 25 N. Pinckney: A Demonstration Case for Contemporary Appraisal Methods, James A. Graaskamp, 1977.

The Ratcliff approach converts the traditional single value conclusion of a traditional appraisal into an explicit statement of the central tendency around which the transaction price is likely to fall. In a few situations, the transaction zone might be a statistical statement of standard error, but in most cases it represents an economic statement of how high the buyer might be willing to go in the negotiation process and how low a price the seller would be willing to accept.[14] Therefore, the statement of probable price within a transaction zone is neither a clean statistical measure of random dispersion nor a measure of fairness to one party or the other. It is a pragmatic recognition that forecasting is imperfect, that bargaining talents are unequally distributed among the participants, and that the appraiser must resort to presumptions and unreliable observations.[15]

The acceptance of a transaction zone for the final value estimate causes the contemporary appraisal process to become very dependent upon the data utilized and analysis techniques applied to the data. Graaskamp has organized the priorities of appraisal information proposed by Ratcliff into the following three general classes:

1. The fundamental concepts of value and price which are central to appraisal are at the heart of the social science of economics. Economic goods are valuable because of their utility (productivity) and scarcity. Thus in analyzing the value of a parcel of real estate, the starting point is with its inherent utility - the characteristics and qualities which can make it productive and desirable, and for which people are willing to pay. (Thus, an appraisal starts with analysis of the real estate and its alternative uses.)
2. But price is set in the marketplace. To serve his client's needs, the appraiser seeks to predict the price at which the subject property will probably sell. Viewing the property as a package of potentially productive qualities, the appraiser must predict the outcome of the interaction of the market forces of demand and supply to which the property might be exposed and which could trigger a transaction from which market price will emerge. (A land use must be marketed to both political groups and individual consumers. Thus, alternative uses are screened for legal-political constraints and then screened for supply and demand characteristics.)
3. Economics is a behavior science, descriptive of the economic behavior of people under various conditions. It is the appraiser's task to predict how people, both buyers and sellers, will behave with respect to the subject property when it is exposed for sale. People make values and determine prices. (People's perceptions affect offers and acceptances, and so bargaining position and changing market moods become significant externalities.)[16]

#### APPRAISAL ORGANIZATION

The contemporary appraisal process displayed in Figure 1.1 illustrates six general topical areas. This review has

been directed toward and within each of the general areas.

1. The Purpose of the Appraisal

"The purpose of the appraisal leads to specification of a value definition and assignment of subject matter."[17]

The stated purpose of the appraisal has been defined as being the estimation of the fair market value of land owned by the Artic Slope Regional Corporation (ASRC), located in the Brooks Range in the state of Alaska approximately 250 air miles southwest of Barrow.

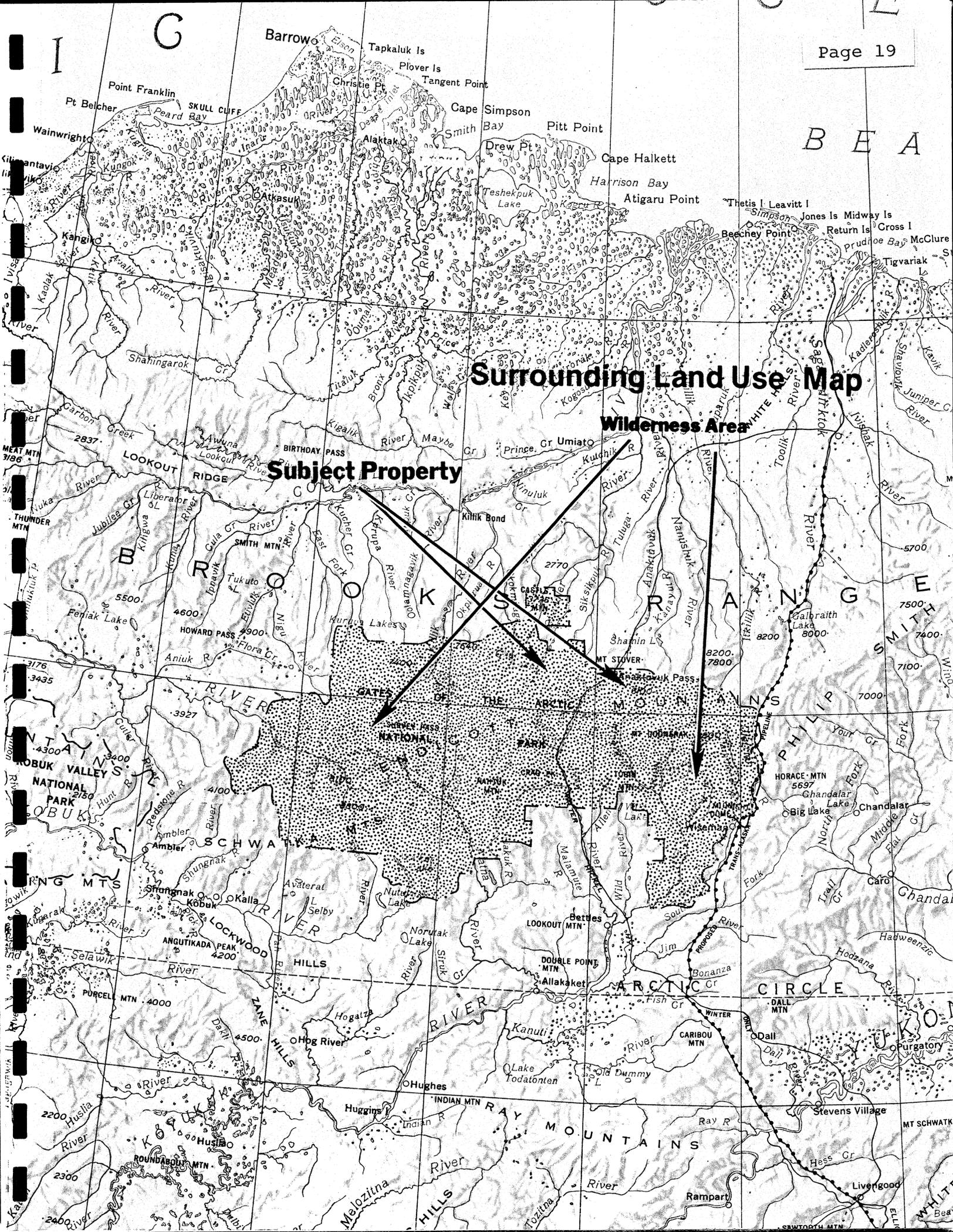
2. Identification of possible alternative uses.

"Identification of possible alternative uses through detailed analysis of the real estate. While the present use of a property might be its most probable use in a majority of cases, the appraiser must consider alternative scenarios that are suggested by the productivity attributes of the subject property."[18]

No information was provided to identify the combination of possible alternative uses evaluated by the appraiser. We believe that an alternative should include wilderness, as there is an organized market for that use for properties of special significance to conservation organizations.

It is important to note that on pages 21 - 22 of the appraisal, under the heading "Neighborhood Data", the appraiser did not indicate that the subject properties are

almost completely surrounded by the Gates of the Artic National Park and Preserve, of which almost all the land is designated as being Wilderness (See maps on following pages). This failure to correctly identify the "Neighborhood" in which the subject property is located impacts directly upon the correct identification of highest and best use (most fitting use) for the subject properties.



# Surrounding Land Use Map

Wilderness Area

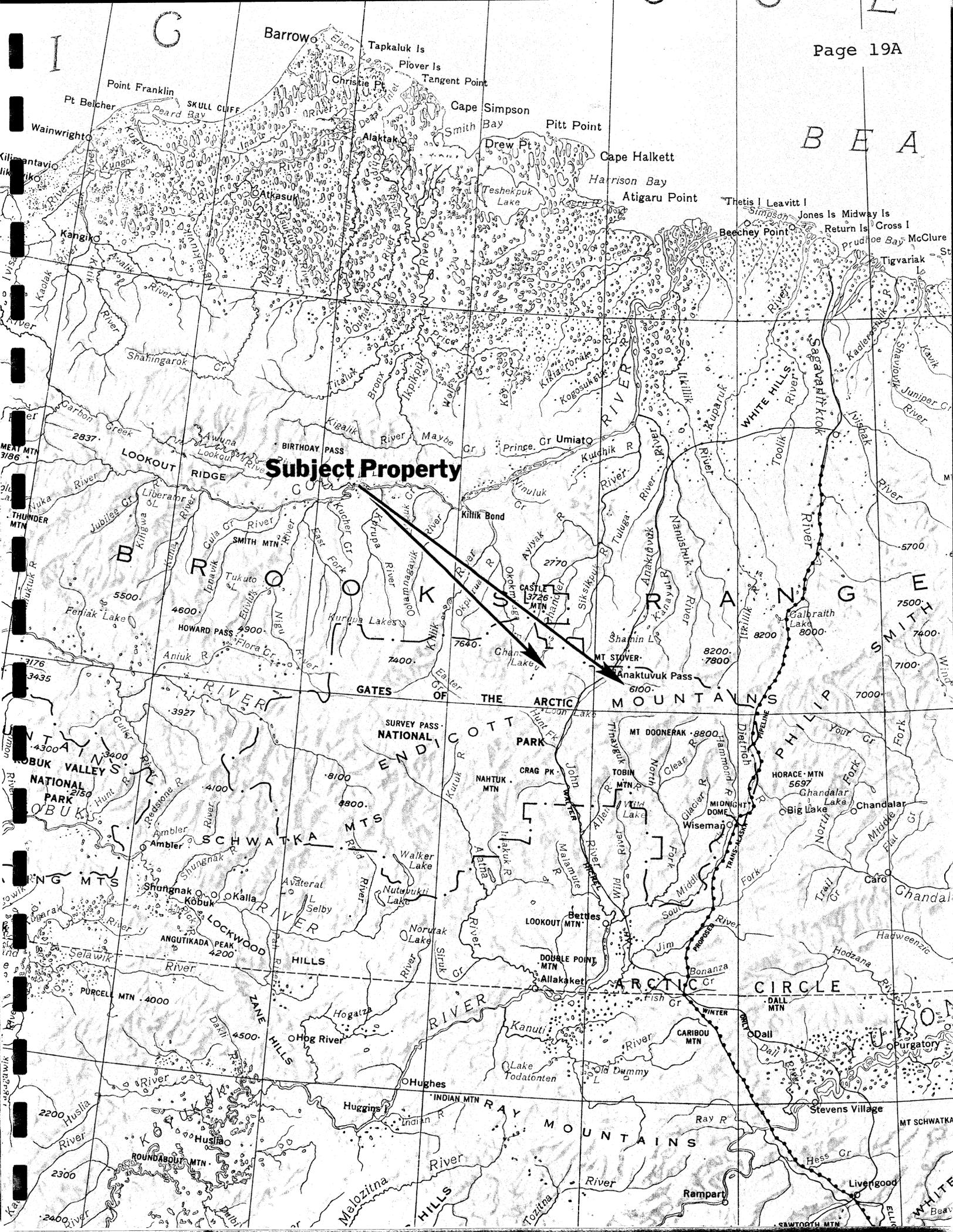
**Subject Property**

GATES OF THE ARCTIC NATIONAL PARK

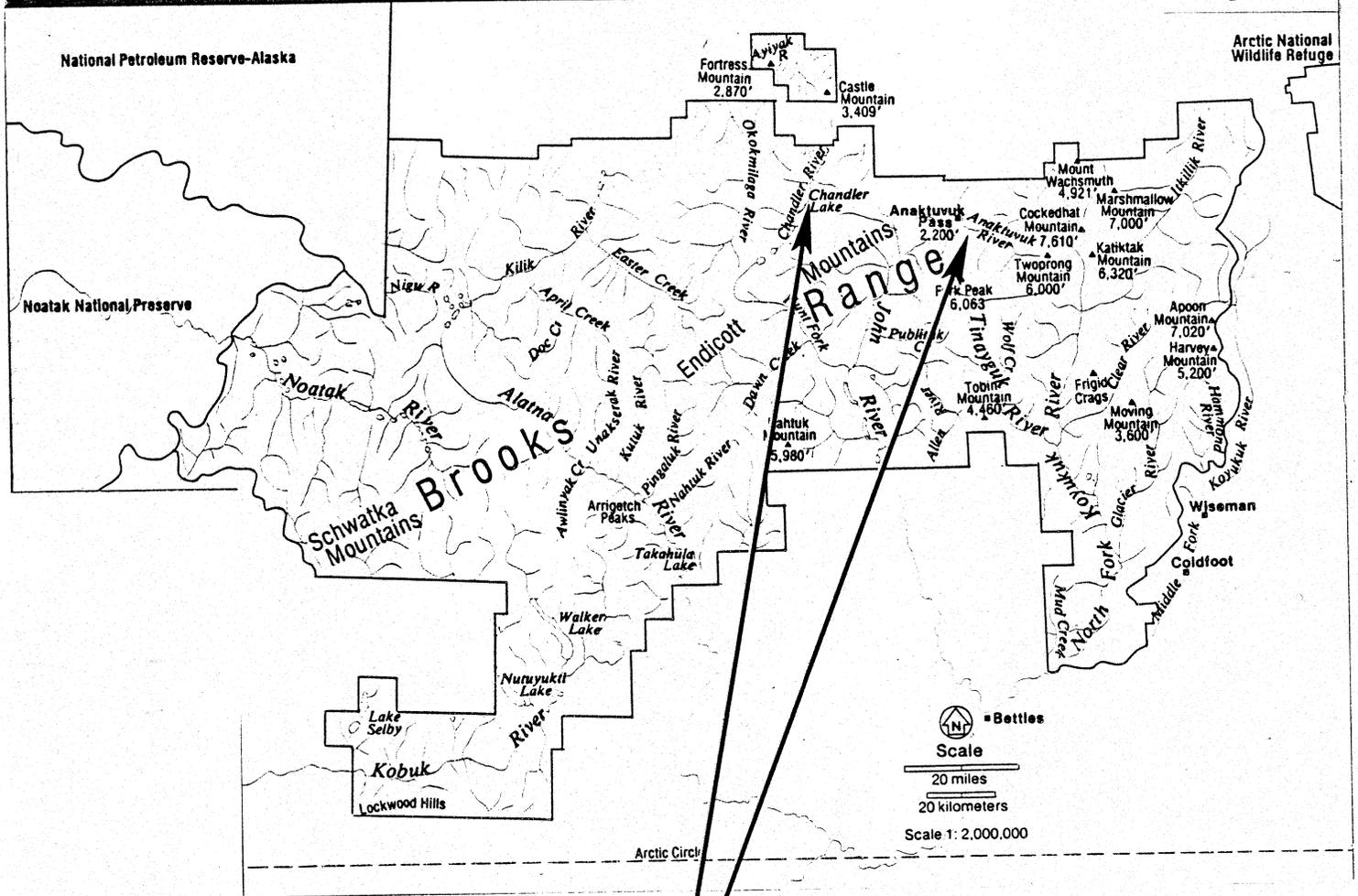
ARCTIC CIRCLE

RAY MOUNTAINS

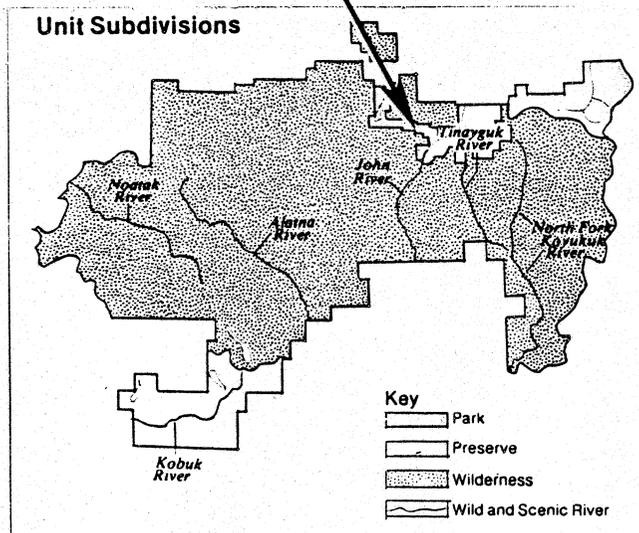
MT SCHWARTZ



**Subject Property**



**Subject Property**



3. Ranking Alternative Uses

"Ranking of alternative uses regarding their fit within the context of market supply and demand, legal and political restraints, and financial risk and return potentials leads to a conclusion about most probable productive use of the property at the time of the appraisal." [19]

No information was provided in the appraisal as to a ranking between alternative uses for the site.

By employing the contemporary appraisal method and the added information concerning the neighborhood of the subject properties, it can be readily seen that the identification, by the appraiser, of the highest and best use of the subject properties as recreational hunting, fishing, hiking, camping and for potential recreational homesites (see pages 26 - 27 of appraisal) is inconsistent with the legal and political restraints imposed by society upon the entire neighborhood in which the subject properties are located. The appraiser's proposal of best use is about as reasonable as proposing building a solid waste treatment plant in the middle of a high quality residential neighborhood, upon land zoned for single family use only. The likelihood of getting building permits for recreational homes, even if there was a market, is almost zero. Especially in light of the fact that society recognizes that the Gates of the Arctic National Park and Preserve is one of the best unspoiled wilderness

tracts left in North America (see appendix A). The fact that there will be public use should not be confused with the federal precedent in eminent domain that value in use for the public cannot be considered. First it is a negotiated transaction and secondly there are many private agencies such as the Audubon Society, The Nature Conservancy, or Sierra Club which purchases wilderness to be used as wilderness.

#### 4. Most Probable Buyer Profile

"Selection of a most probable use conclusion leads to recognition of alternative buyer types. Basic selection criteria of these types can be matched to specific property attributes to suggest the most probable buyer type or types who can afford to make the most fitting use of the property."  
[20]

The only buyer profile information provided by the appraiser was through the indirect relationship to the chosen comparables.

The identification of the neighborhood in which the subject properties reside, and subsequent constraints imposed by society, suggests that the search for a buyer profile should logically include public, semi-public and private organizations who acquire this type of land for preservation purposes. Previous research into this special topic of appraisal has indicated that there is a viable market for mountainous wilderness land and the better the

quality of wilderness the more viable the market (see following discussion on Wilderness as highest and best use).

5. Market Area Identification

"Identification of the buyer type provides a general definition of the market area in which to search for comparables or to interview for motivations." [21]

The information provided in the appraisal indicates that the appraiser reviewed a minimum of 50 different sales, from which four (4) were chosen as being comparable to all of the subject parcels. At a minimum it would seem reasonable that a review of these sales would be in order. The review could provide a basis for the full range of recreational land prices.

By including wilderness as an economic good the total market for quality wilderness land should include not only wilderness transactions in Alaska, but because of the scarcity of quality mountainous wilderness, the market area, at a minimum, might be expanded to include mountainous transactions acquired to complete designated wilderness areas in the lower 48 states, at least those in the Northwest.

6. Valuation Method Selection

"Choice of valuation method must interact with availability of relevant data about past activities or current needs of the most probable buyer group. Unlike the traditional appraisal, which presumes many potential buyers of equal need and means, the Ratcliff approach can conclude from the most probable use determination that one specific buyer might be the likely candidate. For example, it might be the existing tenant, or the contiguous property owner who has few options but purchase, or specific buyer whose use value is unique enough to justify monopoly pricing." [22]

General Valuation Methods

Throughout the development of the review process it was recognized that, to a large extent, the search and application of collected data must be utilized in methods that most accurately represent buyer and seller behavior. It is well recognized in appraisal practice that a priority exists in the utilization of pricing data. The priority of pricing methods is as follows:

1. Prediction from what buyers had done in prior transactions (inference).
2. Simulation from how buyers would calculate offering price (simulation).
3. Demonstration of how buyers should determine price (normative economics).

The appraiser correctly indicated that the cost and income methods of valuation would be inconsistent with the characteristics of the subject properties and therefore utilized the remaining valuation method, i.e. the market comparison approach. It should be noted, that with 50 plus sales it should have been possible to introduce a fourth valuation method, a regression approach. While the regression approach may not be as reliable as a good market approach, it does provide a good estimate of what the average expected value should be. Also, depending on the type of regression utilized, it might be possible to identify and rank the more important physical attributes of the sites making up the data pool.

To value the subject properties under the wilderness landuse policy, previous research indicates that the same valuation method, i.e. market comparison, can result in very reliable value estimates.

## SUMMARY

This section has shown that within the appraisal profession there is no consensus as to how an appraisal for property such as the subject property should be structured. With this in mind, an evaluation of the traditional and contemporary appraisal methods was outlined. The recognition that the contemporary appraisal method provides a smooth transition and data flow from the specification of the value being sought to the estimation of the transaction zone in which the final price is expected to fall is of critical importance to this review. Finally, this section has shown that the valuation method most acceptable is the procedure which relies on what buyers of similar properties have recently done. This procedure, commonly known as market comparison, should be the primary valuation method utilized by the appraisal.

## Wilderness As Highest And Best Use

Recent interest in public purchase of natural environments and concurrent competition for finite public resources has paralleled the development of a market for the acquisition and preservation of natural landscapes. As an example, the Alpine Lakes Management Act (ALMA), passed by

Congress on July 12, 1976, created a wilderness area of slightly less than one million acres. The ALMA required the Forest Service to negotiate for acquisition through trade, donation, or purchase at fair market value.

Sec. 2. (a) The Congress finds that:

(1) The Cascade Mountains of the State of Washington between Stevens Pass and Snoqualmie Pass, commonly known as the Alpine Lakes region, comprise an environment of timbered valleys rising to rugged, snowcovered mountains, dotted with over seven hundred lakes, displaying unusual diversity of natural vegetation, and providing habitat for variety of wildlife.....

Sec. 4. (c)...

(2) The United States will pay just compensation to the owner of any lands and interests acquired by and pursuant to this Act....

(3) Just compensation shall be the fair market value of the lands and interests acquired by and pursuant to this Act....[23]

The general issue, for which this previous research was directed, was the development of a pricing methodology to assist in the estimation of the fair market value of properties being acquired by the U.S. Forest Service for wilderness, in mountain areas. The specific issue requiring fair market value stemmed from the ALMA which authorized and directed the Secretary of Agriculture to acquire more than 41,000 acres of nonfederal lands in the Alpine Lakes wilderness and the "intended wilderness". These purchases primarily impacted on the interests of six property owners; the Pack River Company being the largest. The research was

initiated to assist the appraiser in the valuation of the land owned by the Pack River Company. The appraisal was requested by the successors of the Pack River Company, which was dissolved after passage of the statutory intent to acquire.

Negotiation, prior to the appraisal, ruled out acquisition of lands outside the defined wilderness area but within the management area, the possibility of exchange of timber for other timber lands in the National Forest, and discouraged the probability of donation. Therefore, the assumption of the appraisal was that acquisition would be by purchase for cash and would include the surface rights only.[24]

#### Legal Setting of Appraisal/Research

It should be pointed out, that while the ALMA used the term "just compensation", there was no condemnation action at that time. This unusual situation required the appraiser, and thus, the research to develop a pricing methodology, to set up some initial working assumptions. The research was based on the fact that the appraisal of roadless wilderness lands of great topographical and ecological diversity is a specialty within general appraisal practice which has not received much theoretical or practical development. Therefore, in the absence of

precedent or instruction from the bench the research (in cooperation with the appraiser) developed operational assumptions relying on logic, common sense, and the UNIFORM APPRAISAL STANDARDS FOR FEDERAL LAND ACQUISITIONS (U.S. Printing Office, Catalog #Y3.L22: 8 AP/6/1973) as guides when applicable.

#### WILDERNESS DEFINED

The term wilderness is anything but clearly defined. Wilderness has a variety of meanings, depending on the context in which it used. Thus, it may be useful to recognize some significant variations in the definitions of wilderness.

A Wilderness as a component of the National Wilderness Preservation System (NWPS) was first defined by the 1964 Wilderness Act as a land use category having both quantitative and qualitative parameters which by their nature would limit the qualified supply within the continental United States:

1. Wilderness is defined by the 1964 Act "as an area where the earth and its community of life are untrammelled by man, where man himself is a visitor who does not remain..."

2. The Act further defined Wilderness to mean an area of undeveloped Federal land retaining its primeval character and influence, without permanent improvements or human inhabitation, which is protected and managed so as to preserve its natural conditions and which generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable.

3. Wilderness must provide outstanding opportunities for solitude or a primitive or nonconfined type of recreation.

4. A Wilderness tract (once assembled from existing ownerships) must have at least 5,000 acres of land or be of sufficient size to make practicable its preservation and use in an unimpaired condition.

5. Wilderness may also contain ecological, geological or other features of scientific, education, scenic or historic value.

#### WILDERNESS AS A SCARCE COMMODITY

Of more than 1,100 candidates for Wilderness designation by Congress, only 240 remain under review for

future selection, and since 1964 fewer than 100 sites have qualified to be designated by Congress.[25] Lands so qualified or still in review would therefore seem to be in short supply, sufficiently rare, and unique for recognition as economic commodities. But where is the market other than the Forest Service?

The concern for preservation of all classifications of wilderness has created a significant number of foundations as well as private patrons who will acquire wilderness properties to frustrate development, to anticipate future funding of Federal acquisition programs, to create watersheds, to protect scenic vistas, and to interface ponderous government with transient needs of individual property owners.[26]

Contiguity of nonfederally owned lands to Wilderness defined by Congress means that private lands cannot be considered as Wilderness unless they are already part of a prescribed Wilderness boundary. NWPS is continuing its review to establish new areas which puts some pressure on private owners to develop candidates prematurely, a possibility which precipitates immediate demand for purchase among conservationist groups to prevent "trammeling" of future Wilderness components. Herein lies the basic dynamics creating markets for small pieces of prized wilderness to conserve them for a future designation as Wilderness.

## SUMMARY

This section has introduced the general and specific actions of congress which caused the specific issue of the previous research to be defined, i.e. the determination of fair market value for wilderness land. This section has shown that the central premise of the value being sought is the identification of appropriate alternative land uses for the property, by the appraiser. Within these alternative use scenarios, one use is usually sought which best meets the overall objectives. This use is usually defined as the highest and best use or in more contemporary appraisal, most fitting use.

Within the accepted definitions of highest and best use, it was shown that there is recognition that the use selected by the appraiser for highest and best use must be compatible with community, environmental, and use goals within which the property is located. By recognizing the need for compatibility between community needs and use selection, the appraiser is trading value maximization to individuals with long range community objectives. This indicates that the central issue, in highest and best use selection, in the context of this review, is not value maximization to the property owner, but solvency, measured in tangible and intangible returns to all participants impacted by the use selection.

Following the introduction of the central issue, fair market value, and the analysis structure, highest and best use, the remainder of the section established the fact that an active and dynamic market for wilderness land exists. Therefore, it can be stated that there is both a need and an interest in developing a pricing methodology for this type of land transaction.

Previous research has shown that the acceptance of wilderness as an economic good leads the appraisal of wilderness land to contain a definition of use alternatives as follows:

THEREFORE, IN ADDITION TO ALTERNATIVE USES FOR TIMBER AND RESIDENTIAL RECREATIONAL, "WILDERNESS" WILL BE CONSIDERED AN ECONOMIC USE FOR WHICH THERE IS A FUNCTIONING MARKET.[27]

#### Value Estimates - Wilderness Land

Our previous research into the valuation of mountainous wilderness land indicates that the mean price paid (by both government and private buyers) is \$1,990 per acre. The settlement of the PACK River acquisition by the U.S. Forest Service resulted in an average price per acre of \$1,167 being paid. In comparison, the indicated appraised value of the subject properties is \$50.38 per acre.

The vast differences in these per acre estimates begs the question:

Is prime wilderness land, especially land as special and unique as Gates of the Arctic land, worth less than 2.5% of comparable lands in the lower 48 states (\$50.38 / \$1,990)?

If, as our review suggests, the acceptance of a discount greater than 97.5% of comparable prices is excessive, due primarily to location, a more extensive evaluation seems warranted.

End Notes

[1] Ernest M. Fisher and Robert M. Fisher, Urban Real Estate, p. 481.

[2] The Appraisal of Real Estate, 7th Edition, (Chicago, IL: Textbook Review Committee, AIREA, 1978), p. 44.

[3] Byrl N. Boyce, comp. & ed. Real Estate Appraisal Terminology, Revised Edition, (Cambridge, MA: AIREA/SREA, Bollinger Publishing Co., 1981), p. 188.

[4] The Appraisal Of Real Estate, pp. 9-20.

[5] Terry Grissom, Analysis Of The Appraisal Process As Applied To Land Corridors, (Madison, WI: Unpublished Ph.D. Thesis, University of Wisconsin, 1981), p. 6.

[6] H.R. 7792, Public Law 94-357, Alpine Lakes Area Management Act, 94th Congress, July 12, 1976.

[7] Richard U. Ratcliff, Valuation for Real Estate Decisions, (Santa Cruz, CA: Democrat Press, 1972), p. 69.

[8] James A. Graaskamp, The Appraisal of 25 N. Pinckney: A Demonstration Case for Contemporary Appraisal Methods, (Madison, WI: Landmark Research Inc., 1977), p. 7.

[9] Ibid.

[10] Ibid.

[11] Ibid.

[12] Ibid.

[13] Ratcliff, p. 55.

[14] Graaskamp, p. 8.

[15] Ibid.

[16] Ratcliff, p. 14.

[17] Graaskamp, p. 9.

[18] Ibid.

[19] Ibid.

[20] Ibid.

[21] Ibid.

[22] Ibid.

[23] H.R. 7792, Public Law 94-357, Alpine Lakes Area Management Act, 94th Congress, July 12, 1976.

[24] It was the hope of Congress and the intent of ALMA Act that compensation agreements could be negotiated which included exchange of other federally owned property or donations. Timber trades for national forest lands were considered probable, but when Pack River sold its saw mill operations in the Wenatchee, Washington, area of the intended wilderness, the Forest Service found it expedient to withdraw any trade offers from Pack River. (See Section 4 (c) (2) of ALMA Act and Alternatives B1, B2 and E, Final Environmental Statement: Alpine Lakes Area Acquisitions, USDA-FS-FES (Adm) 78-06, pp. 50-59.)

[25] Graaskamp and Robbins, p. I-50.

[26] Ibid., p. I-51.

[27] Ibid.

Gates of the Arctic National Park and Preserve

The following is taken from:

ALASKA NATIONAL INTEREST LANDS

Alaska Geographic, Vol. 8, No. 4/1981

LOCATION

Northcentral Alaska, north of the Arctic Circle; 200 miles northwest of Fairbanks, 200 miles southeast of Barrow and 40 miles north and west of Bettles. Straddles the Brooks Range for about 200 miles from 157 degrees to 150 degrees longitude.

SIZE

7,952,000 acres (7,052,000 in park; 900,000 acres in preserve), with 7,052,000 acres designated wilderness.

The following is taken from:

ADVENTURING IN ALASKA

By Peggy Wayburn

Published by SIERRA CLUB BOOKS, 1982

The Gates of the Arctic National Park embrace the heartland of the Brooks Range, including the Endicott Mountains to the east and the Schwatka Mountains to the southwest. Between these two ranges soar the Arregitch peaks, a fantastic array of fiercely steep, slick and smooth-faced granitic spires - an alpinist's dream.

(Arregitch is an Eskimo word meaning "fingers of a hand outstretched," as though the earth here were literally reaching up to touch the skies.) To the north, the parklands also include a small portion of the strangely lovely Artic foothills with their pale green tundra and layers of sediments stacked nearly on end. Within the parklands are some magical lakes - Chandler, Walker, and Takahula among them. And among the most outstanding features of this reserve, of course, are Mount Boreal and Frigid Crags, the two splendid alpine guards that flank the North Fork of the Koyukuk River. These landmark mountains were named "The Gates of the Arctic" by Robert Marshall because they open the way to a more or less unobstructed path northward to the polar region itself.

These Arctic parklands, the Gates of the Arctic Park and Preserve, offer beauty and wildness on, literally, an overwhelming scale. They offer the chance to observe the alpine Arctic wilderness in all its moods. They offer challenging mountaineering, excellent backpacking, and fine river-running. They also require a thoughtful approach on the part of the wilderness traveler: this Arctic wilderness, for all its ruggedness, is extraordinarily delicate. The nest you trample on so carelessly along the shore of Takahula Lake contains a new generation of yellow-legs; the tundra you trample or lay bare for your fire can take years

to recover, if it ever does; the wood you scrounge could take decades to be replaced. The Arctic is an area to visit with wonder but also with special respect.

